90% STORMWATER MANAGEMENT REPORT

I-4 (SR 400) Interim Daryl Carter

Orange County, Florida

Financial Project ID No.:
441113-1-52-01



Prepared for:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 5
719 South Woodland Boulevard
DeLand, FL 32720
386-943-5000

Prepared by:

AECOM Technical Services, Inc.
150 North Orange Avenue, Suite 200
Orlando, FL 32801
Certificate of Authorization No. 8115

August 2019

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Tuy Kim Duong, P.E.
Florida Registration No. 66461

Material contained within Appendices A, B, and D through I of this report is included solely for reference purposes and is not incorporated under the seal of this document.

INTERIM DARYL CARTER
ORANGE COUNTY

FINANCIAL PROJECT ID: 441113-1-52-01

S.R. 400 (I-4) from east SR 535 to west of Central Florida Parkway

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1.0 EXECUTIVE SUMMARY

The FDOT District 5 is proposing to construct a new diversion diamond interchange (DDI) at Daryl Carter Parkway with minor widening between stations 568+26 and 583+50 to accommodate restriping of an additional eastbound auxiliary lane. The new interchange will utilize the existing Daryl Carter Parkway Bridge over S.R. 400 also known as I-4 (Bridge No. 754115). Three ramps are proposed at this location (Ramp I-B, Ramp I-C, and Ramp D) as well as a collector (CD) road to connect the traffic flow from Interstate 4 and Central Florida Parkway to Daryl Carter Parkway. The FDOT is also proposing minor widening on Daryl Carter Parkway north-bound outside travel lane between Regency Village Drive and Ramp IC-DCP to accommodate an extra right turn lane. The project lies within FDOT District 5, South Florida Water Management District (SFWMD), Reedy Creek Improvement District (RCID), Valencia Water Control District (VWCD), and local jurisdiction (Orange County). The project limits are within a 3.05-mile segment of S.R. 400 (I-4) which extends from Milepost 2.46 to Milepost 5.509 in Orange County.

In addition to the roadway improvements at the new interchange, FDOT is proposing to modify one (1) existing offsite facility (pond PNDMODC) and to construct eight (8) new wet detention systems plus one (1) new flood-plain compensation pond to accommodate the additional impervious area within the current project limits as well as the future S.R. 400 (I-4) Beyond the Ultimate Project. Three of the eight detention facilities are inter-connected (ponds PND140B1, PND140B2, and PND140B3) by dual 48-inch equalizer pipes. The equalizer pipes will be constructed at minimal slope to minimize siltation build up. These ponds will be constructed to replace the existing pond EX_PND140 (permitted under SFWMD application no. 011109-7 and modified under SFWMD application no. 080205-41) located at the north east quadrant of I-4 and Daryl Carter Parkway which will be impacted due to the proposed interchange improvements.

A modified type E inlet is proposed to be installed within the perimeter of pond PND140B3 to control the water level. An 18-inch outflow pipe positively discharges the treated water from the interconnected ponds (PND140B1 to PND140B3) into a new downstream pond PND141B1.

A series of new wet detention ponds (PND141B1 to PND141B4 and FPC141) is proposed to be constructed along the project corridor between Daryl Carter Parkway and Central Florida Parkway for the ultimate build out of the S.R. 400 (I-4) Beyond the Ultimate Project. The footprint of these ponds is designed with minimal or no future revisions. An onsite outfall collection system is proposed within FDOT property, bordering the southern Palm Parkway right-of-way, to provide positive drainage for these five ponds. The new outfall system will tie into an existing collection system that discharges into Big Sand Lake.

In addition to accepting the stormwater runoff from the current and future I-4 widening, Pond PND141B1 is de-signed to accommodate the development bordering to the west of it (O-Town West – referred to as basin BSL0130). The O-Town West Development is proposed to discharge into the wet detention system with an estimated allotted impervious area of 85%. The development will design an onsite collection system to tie into one of three proposed structures located east of its eastern most property line.

Runoff from basin BSN139 is conveyed by a collection system to a new wet detention facility identified as PND141B2 for treatment and attenuation. Pond PND141B2 is a proposed wet stormwater management facility (SMF) to replace the existing interconnected ponds (EX_PND139) located south of the eastbound I-4 on either side of Daryl Carter Parkway. The existing ponds were constructed under SFWMD application no. 011109-7 as one wet detention system; but it was later modified under SFWMD application no. 080205-41 into two inter-

connected ponds as shown today. With the interchange improvements, existing pond EX_PND139 will be impacted and replaced to accommodate the new ramps. Pond PND141B2 is designed with a modified type E inlet to regulate the water level and an 18-inch pipe for positive drainage to Big Sand Lake.

Pond PND142 is currently under review by the South Florida Water Management District (SFWMD) application 171004-11. It was submitted as a part of the CH2M (Jacobs) S.R. 400 (I-4) Beyond the Ultimate Segment 2 Project to treat and to attenuate basins BSN200A and BSN200C as well as basin BSN142 from the S.R. 400 (I-4) Beyond the Ultimate Segment 1 Project. This project proposes to modify the SFWMD application no. 171004-11. This modification will include the construction of the new pond PND142 as permitted and related infrastructures associated with the design of the pond (control structure and outflow pipes) that change for these improvements. A modified type E inlet is proposed to be installed to allow water to leave the pond. An 18-inch outflow pipe will take the water to a ditch south of Big Sand Lake.

The onsite floodplain compensation pond PNDFPC141 will be constructed as part of this development to provide treatment and attenuation to a portion of the existing I-4. Not only will the pond be constructed to compensate for the future floodplain impacts frontage to Lake Willis, it is designed to equalize with Lake Willis via a 60-inch pipe. A new 30-inch pipe at the northeast quadrant of pond FPC141 will replace the existing 30-inch pipe that currently provides positive drainage for Lake Willis. There will be no floodplain impacts for this project. Calculations are provided for the compensation storage available within the pond, but no impacts are provided at this time.

Several dry treatment swales are proposed within the median between S.R. 535 and Daryl Carter Parkway to provide treatment for the untreated paved shoulder to compensate for the additional impervious areas due to the widening along the outside eastbound shoulder. To minimize increase in normal depth within the existing median swales, ditch blocks are set at grade. The existing ditch behind the ditch block will be cut to a depth no more than nine inches deep; enough to provide treatment for the additional impervious areas.

Two ICPR-3 models are developed for this project. One involves the drainage basin within the project limits and its contributing offsite areas that discharge downstream of CD-1 (upstream of the Black Lake watershed); while the second involves the drainage basins within the Lake Willis, Big Sand Lake, and Valencia Water Control District outfalls. Both models are extensive and involve significant offsite basins. The offsite basins (obtained from historical permitted output reports from SFWMD archives) were incorporated into the models to accurately ascertain the tailwater and headwater elevations for some of the onsite upstream junctions only. This model is not intended as a watershed study so results for these offsite basins should not be construed as current data and be used as supporting documentation for another model.

FDOT critical durations per Chapter 14-86 F.A.C. as well as SFWMD design criteria were used to design the wet detention ponds. The dry retention swales are designed to provide treatment only. They were not designed to meet any of FDOT or SFWMD design event. However, the FDOT critical durations were modeled in the Black Lake outfall to determine the headwater for CD-1.

The project is designed using the North American Vertical Datum of 1988 (NAVD ’88). The conversion for the National Geodetic Vertical Datum of 1929 (NGVD ’29) to North American Vertical Datum of 1988 (NAVD ’88) is -0.80’: Elev. NAVD’ 88 = Elev. NGVD’ 29 – 0.80’.

2.0 SITE CONDITIONS

2.1 Project Description (I-4 from East of S.R. 535 to West of Central Florida Parkway)

The Florida Department of Transportation (FDOT) District 5 is proposing improvements to State Road 400 (Interstate 4) between State Road 535 (S.R. 535) and Central Florida Parkway, with the major improvements focus at Daryl Carter Parkway. The project is located within Sections 13, 14, 15, 21, 22, 23, 28 and 33 of Township 24 South, and Range 28 East. The limits of the project are illustrated on the Project Location Map **Figure 1**.

2.2 Soils

The Web Soil Survey of Orange County, Florida was published by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) and has been reviewed for the project vicinity. There are seventeen (17) different soil types in the project vicinity. **Table 1** lists the soil types and their hydrologic soil group rating. The USDA NRCS Soils Map for the project vicinity is show in **Figure 2**.

2.3 Land Use

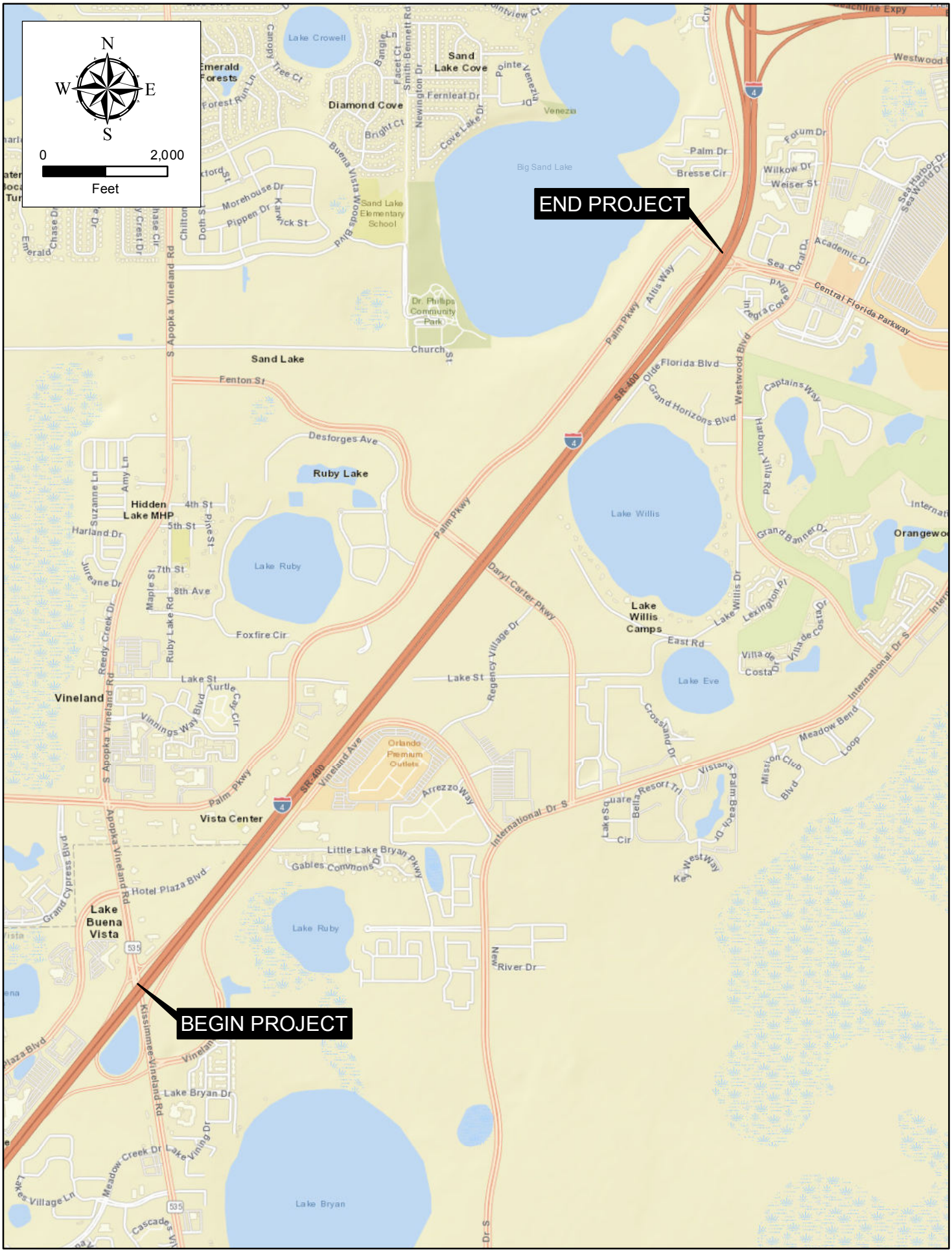
The existing land uses for the project area are agricultural, acreage not zoned for agricultural, residential, retail/office, recreation, ROW, public/semi-public, parcels with no values, vacant nonresidential and vacant residential, industrial, institutional and other. Future land uses include commercial, conservation, medium and low density residential, hotel, motel and timeshare, planned development and mixed use. The widening of I-4 does not alter the existing or future land uses in the area. The existing land uses are shown in **Figure 3** and the future land uses are shown in **Figure 4**.

2.4 Watershed

The project area lies within the Reedy Creek (Reedy Creek Improvement District) and Shingle Creek (Valencia Water Control District) watershed. These watersheds are upstream of the Lake Okeechobee basin (WBID 3212). The water body is impaired for nutrients, more specific Total Phosphorus (TP). As such, the stormwater management proposed within this project focuses on net improvement by providing treatment for all proposed pavement and collecting existing untreated roadway pavement and draining the runoff into the proposed ponds for treatment where feasible. The Existing/Proposed Outfall Calculations presented in **Appendix C** document the existing and proposed untreated pavement within the sub-basins contributing to each outfall location within the project limits.

Table 1 - USDA Soils Survey Information

Soil No.	Orange County USDA Soil Name	Depth to Water Table Depth* (feet)	HSG	Soil No.	Orange County USDA Soil Name	Depth to Water Table Depth* (feet)	HSG
2	Archbold fine sand, 0 to 5 percent slopes	3.5 to 5.0	A	42	Sanibel muck	0.0 to 0.5	A/D
3	Basinger fine sand, depressional,0 to 1 percent slopes	0.0 to 0.5	A/D	43	Seffner fine sand, 0 to 2 percent slopes	0.0 to 0.5	A/D
4	Candler sand, 0 to 5 percent slopes	3.5 to 5.0	A	44	Smyrna-smyrna, wet, fine sand, 0 to 2 percent slopes	0.5 to 2.5	A/D
20	Immokalee fine sand	0.0 to 0.5	B/D	46	Tavares fine sand, 0 to 5 percent slopes	3.5 to 5.0	A
26	Ona fine sand, 0 to 2 percent slopes	0.0 to 0.5	B/D	47	Tavares fine sand, 0 to 5 percent slopes	3.5 to 5.0	A
33	Pits			50	Urban land		
34	Pomello fine sand, 0 to 5 percent slopes	3.5 to 5.0	A	54	Zolfo fine sand, 0 to 2 percent slopes	3.5 to 5.0	A
37	St. Johns fine sand	0.0 to 0.5	B/D	99	Water	99	Water
38	St. Lucie fine sand, 0 to 5 percent slopes	3.5 to 5.0	A				



Location Map
Source: Esri Street Map Base Map

FIGURE 1



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

USDA NRCS
SOILS MAP

FIGURE
2

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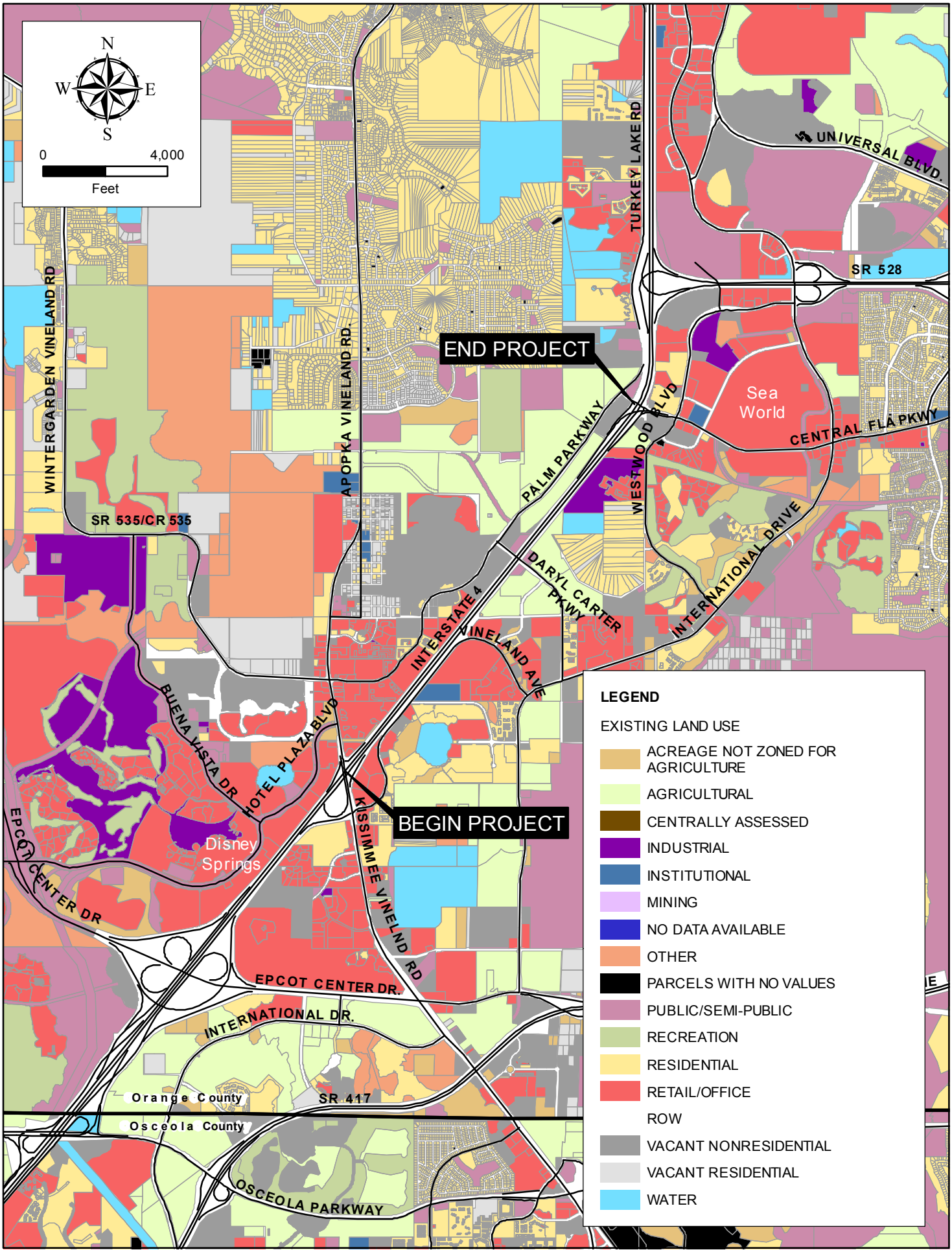
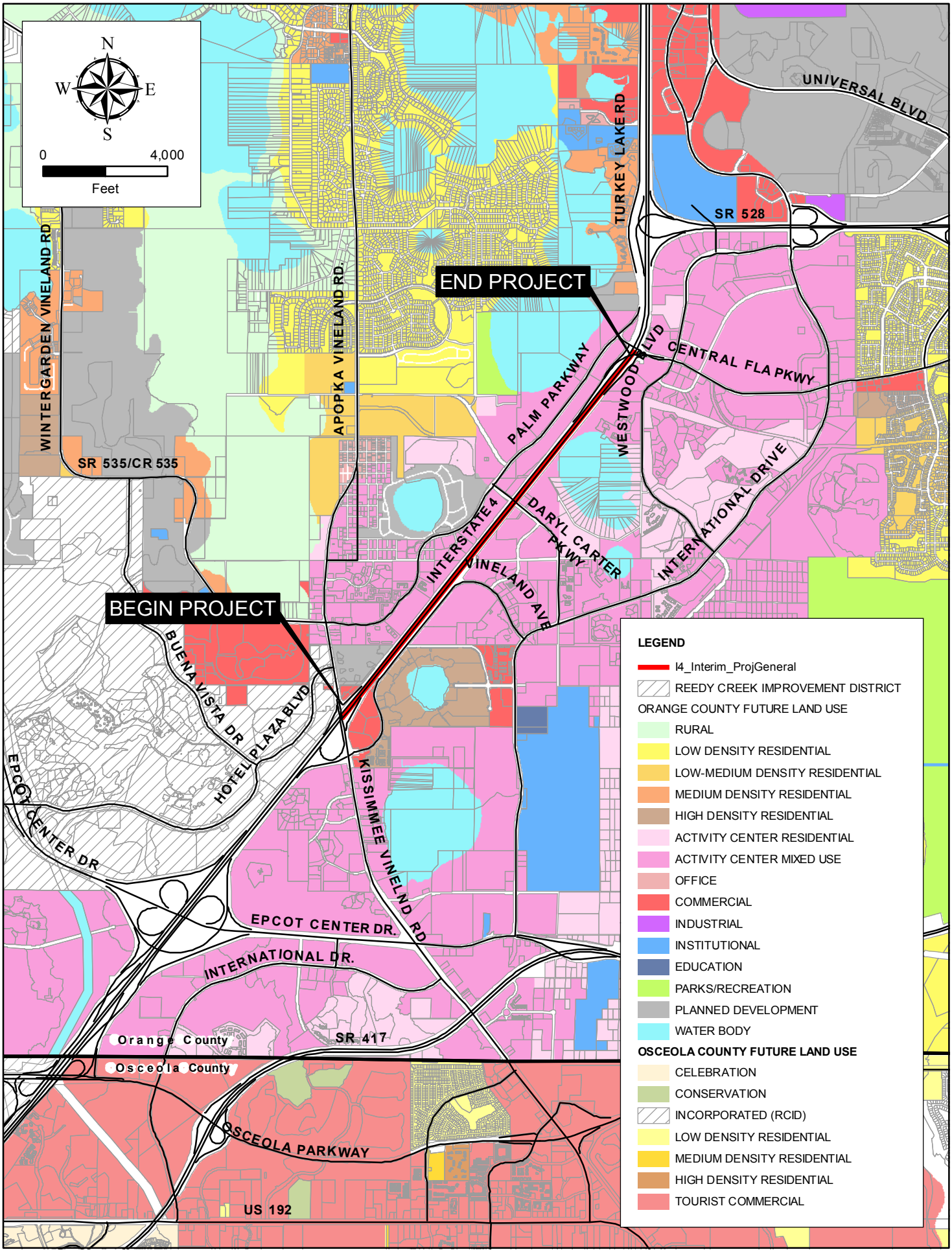


Existing Land Use Map

FIGURE 3

Source: Florida Geographic Data Library Generalized Parcel Land Use by FDOT District; 2015



Future Land Use Map

FIGURE 4

Source: Orange County Planning; 2018. Osceola County Planning; 2017.

3.0 EXISTING CONDITIONS

The project corridor is located within the South Florida Water Management District. The project lies within the Reedy Creek and Shingle Creek watershed (open basins) and is separated into six main outfalls (Black Lake, Ruby Lake, Lake Willis, Big Sand Lake, Big Sand Lake/ Valencia Water Control District, and Valencia Water Control District). The Black Lake outfall (Reedy Creek Improvement District) consists of nine (9) onsite drainage basins, three (3) offsite drainage basins, and one 48-inch cross drain under Interstate 4 (S.R. 400) at roughly station 575+00. Two existing ponds (at the southwest intersection of S.R. 535 and I-4 interchange) and several roadside swales currently provide treatment for most of the onsite runoff. Drainage within this outfall utilizes a combination of open and close drainage systems to convey the runoff to existing stormwater management facilities (SMF) or directly offsite.

One drainage basin (EX_BSN140A) is located within the Lake Ruby outfall; and drainage is primary overland flow in a northwest direction toward adjacent property.

The Lake Willis, Big Sand Lake and Valencia Water Control District outfalls are interconnected systems. The Lake Willis basin positively outfalls into Big Sand Lake through a combination of an existing 30-inch cross drain under I-4 at roughly station 679+50, an existing offsite open ditch system within an open parcel (basin BSNPND141) between I-4 and Palm Parkway, and 54-inch pipe system under Palm Parkway. The existing 54-inch pipe continues in a northwest direction under an existing offsite dry pond and connects to the pond's control structure. The outfall pipe from the control structure connects the 54-inch to Big Sand Lake.

Similarly, the Big Sand Lake basin discharges into Valencia Water Control District (VWCD) through a series of open and close drainage systems running parallel to Central Florida Parkway southbound lanes.

Three onsite basins directly discharge to Lake Willis; five onsite basins directly drain to Big Sand Lake; two onsite basins flow directly into the Valencia Water Control District system; and four basins discharge into the system that ties Big Sand Lake to VWCD. The majority (approximately 90% or more) of the onsite runoff directly drains to one of these three outfalls via a combination of open and closed drainage systems. The runoff from the remainder of the site (mostly at the Daryl Carter Parkway bridge) is intercepted in a roadside swale and DBI and is directed to one of the three existing ponds for treatment prior to discharging into Lake Willis and Big Sand Lake.

Two ICPR Version 3.1 (ICPR-3) models were created to analyze the hydrology and hydraulics that currently take place within these six outfalls. Black Lake outfall, which is in the Reedy Creek Improvement District (RCID), has a stand-alone model that includes offsite basins from developments that were permitted in the early 1980s. Most of these basins are master planned developments that provide attenuation ponds/ lakes that meet the allowable discharge into RCID. Any required treatment volume would be provided as each individual parcel acquires a permit modification. While the permit for the master plan is available on the SFWMD website, the individual parcel data was not obtainable. As such, the ICPR-3 model utilized the available permitted information to analyze these offsite basins.

The remaining five outfalls (Ruby Lake, Lake Willis, Big Sand Lake, Big Sand Lake/ Valencia Water Control District, and Valencia Water Control District) are combined into one ICPR-3 model. A small open space area (located west of Daryl Carter Parkway on the westbound side of I-4) drains toward the adjacent property and eventually discharges into Ruby Lake. There is no proposed work within this area for this project. However, it

was included in the model to determine the rate of discharge for comparison to the future S.R. 400 (I-4) Beyond the Ultimate post development condition.

Also, the second ICPR-3 model includes the Lake Willis, Big Sand Lake, and Valencia Water Control District (VWCD) outfalls. These outfalls, as discussed previously, are all linked together hydraulically. To correctly determine the stages and rate of discharge entering the existing CD-2 from Lake Willis, a watershed study of the area needs to be performed. FDOT jurisdiction is limited to S.R. 400 right-of-way. As such, extensive coordination was done with the local government, Orange County, to ascertain recent studies of the area to assist in the development of this model.

In April 2017, Orange County commissioned Geosyntec to prepare a Technical Memorandum for the Big Sand Lake Watershed Management Plan (included in Appendix H of this report). The objective of the plan was to develop a comprehensive drainage and flood level of service for the Big Sand Lake Watershed. Information from outside of the Florida Department of Transportation (FDOT) right-of-way was extrapolated from the Technical Memorandum and used in the ICPR-3 model, including: the drainage basins and associated connectivity contributing to Lake Willis, the drainage basins and connectivity contributing to the outfall system from Lake Willis to Big Sand Lake, and the peak stages in Big Sand Lake and Valencia Water Control District for the 100-year/ 24-hour and 100-year/ 72-hour storm.

The offsite basins from the Technical Memorandum are critical to the overall results at Lake Willis. They determine the water level in Lake Willis and dictate the discharge rate leaving it and passing under I-4 to an existing lateral ditch that hydraulically connects to Big Sand Lake. The analysis of the existing CD-2 relies on this value as there is not enough data available to delineate a basin for traditional method of analyzing cross-drains.

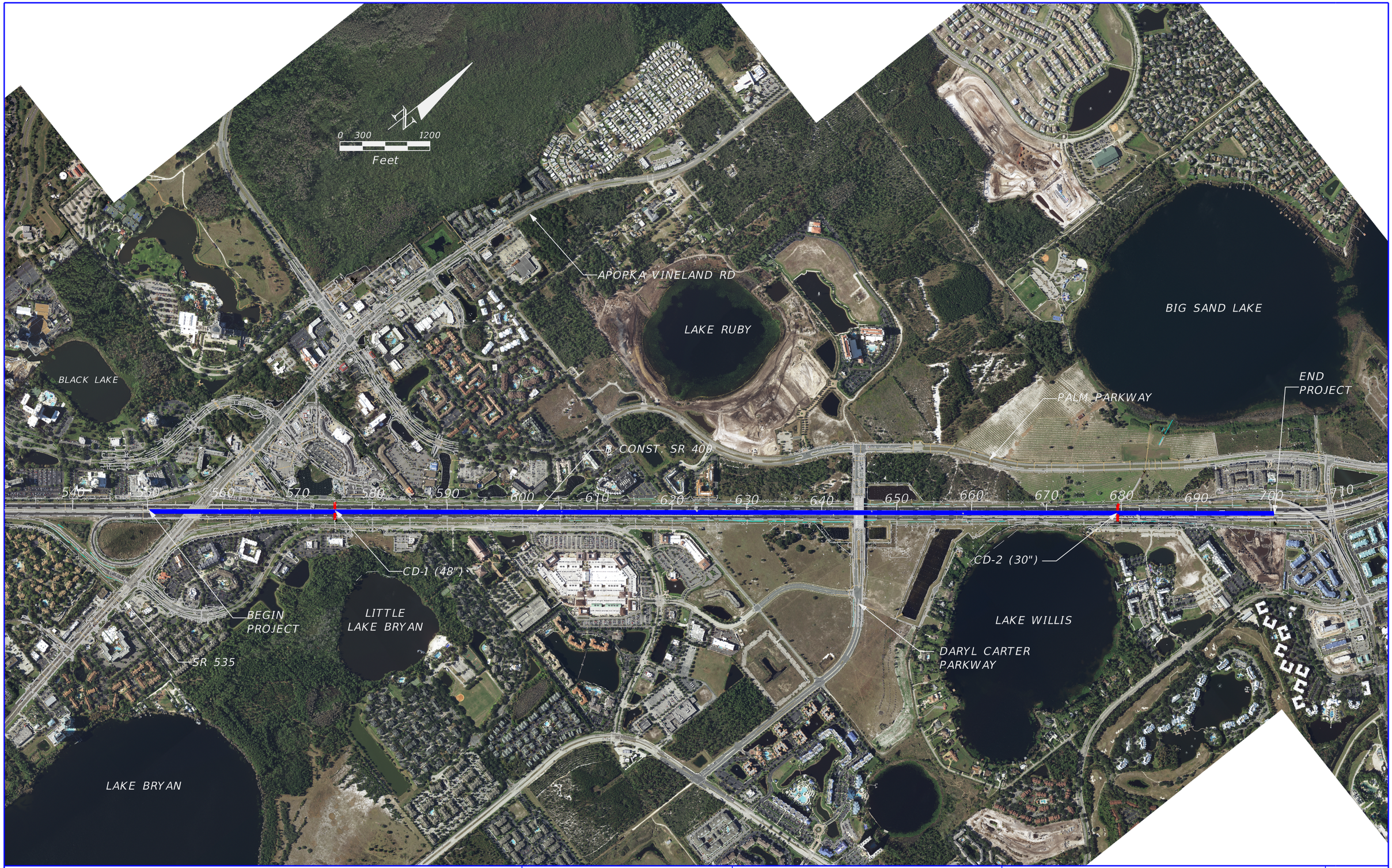
Extrapolating the peak stages from the Technical Memorandum for Big Sand Lake and Valencia Water Control District for the generation of boundary hydrographs is a conservative approach. The peak stages in Geosyntec's model already included the drainage areas within the project's limits as well as the offsite drainage basins.

Although the major component of the model is the interaction with these offsite basins; the discussion in this report will mainly focus on the onsite basins and how it relates to the watershed. Additionally, the onsite basins discussed within this section will only be applied to the limits of the project.

3.1 Cross drains

Existing cross drains have been analyzed using historic offsite basins as they were defined on November 12, 1986 when the Florida Administrative Code 14-86 was established. Historic plans and calculations were referenced in development of the basin areas and can be found in **Appendices D, F and G**. Due to the interconnectivity of the drainage basins, the cross drains were incorporated into larger basin models to evaluate the hydraulics. Runoff methodology and software used to perform the analysis was selected based on the contributing basin characteristics, previous/historic analysis performed, and overall connectivity to other systems in the area. The calculations for the cross drains can be found in **Appendix C.2**.

Existing cross drains within the project area that are under existing roadway to remain or required limited rework shall remain. Existing Cross drains within the project area that required significant realignment shall be replaced. Existing cross drain extensions are not proposed for this project. Please refer to **Figure 5** for the



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

LOCATION MAP
EXISTING CROSS-DRAIN

FIGURE 5

Table 2 - Existing Cross Drain Summary

Structure NO.	Station	Baseline Alignment Name	Contributing Basin	Size
CD-1	575+00.00	BL SURVEY	Black Lake Basin	48”
CD-2	679+50.00	BL SURVEY	Lake Willis Basin	30”

general location of the cross drains and **Table 2** for the existing cross drain information.

3.1.1 CD-1

CD-1 consists of a single forty-eight (48) inch pipe at station 575+00.00 BL Survey that conveys stormwater runoff from the south to the north side of S.R. 400 (I-4). CD-1 was constructed prior to State Job No. 75280-3422 and is the outfall for the existing pond EX_PND137. An overall ICPR-3 model of the Black Lake basins was developed to establish the 50-year and 100-year headwater of the existing cross-drain. The tailwater elevation used in the model was extrapolated from the RCID UNET model for the 100-year/ 72-hour storm event peak stage. Hydrographs for the FDOT 50-year and 100-year were generated based on the peak stage to more accurately depict the fluctuation of the stage during the storm.

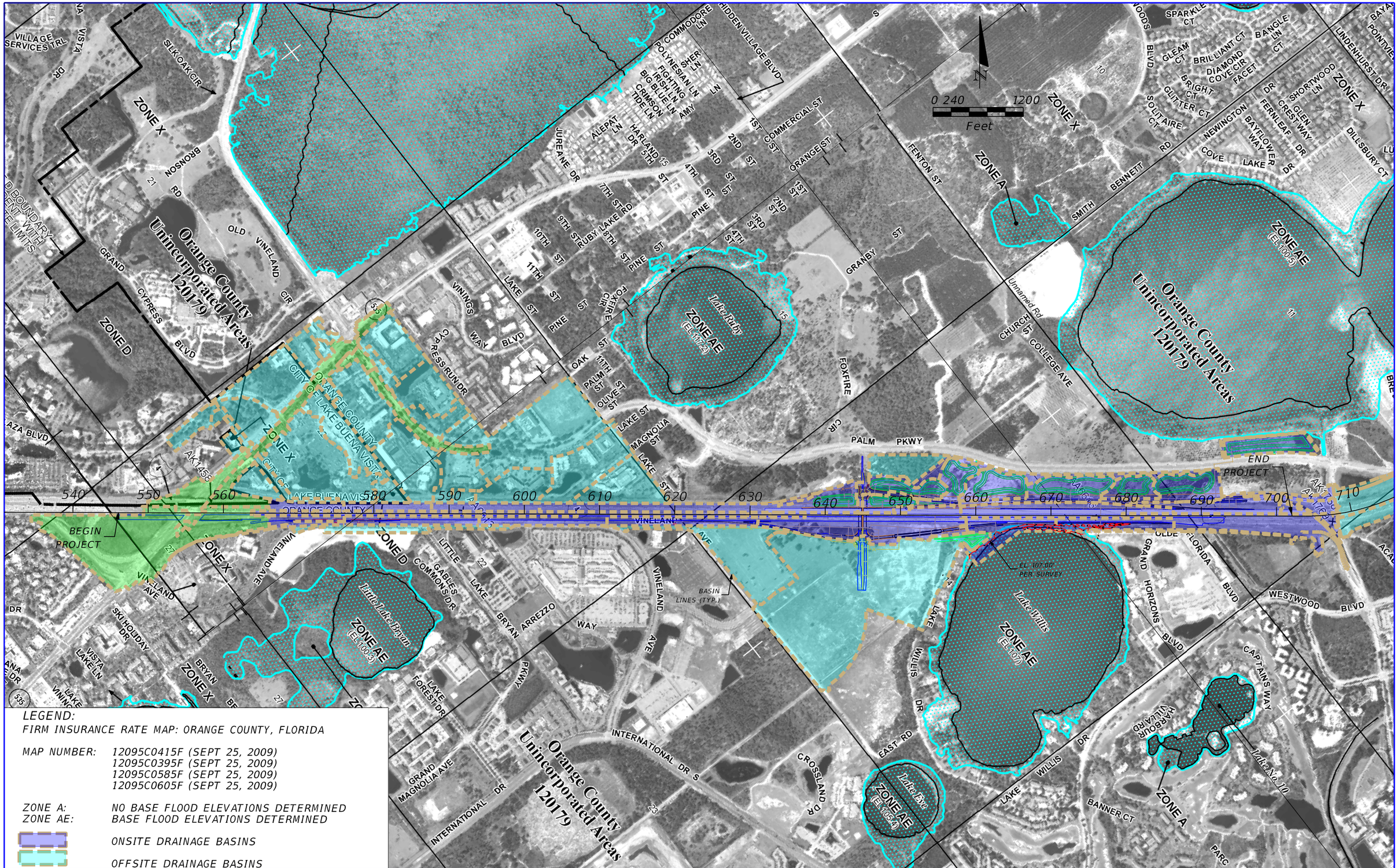
3.1.2 CD-2

The existing CD-2 is a single thirty (30) inch pipe at station 679+50 BL Survey that provides positive drainage for not only a portion of the S.R. 400 eastbound travel lanes but also for Lake Willis. CD-2 was constructed prior to State Job No. 75280-3422. An overall ICPR-3 model of the Lake Willis/ Big Sand Lake basins was developed to establish the 50-year and 100-year headwater of the existing cross-drain. The tailwater elevation used in the model was extrapolated from the April 2017 Technical Memorandum for the Big Sand Lake Watershed Management Plan for the 100-year/ 24-hour storm event peak stage. Hydrographs for the FDOT 50-year and 100-year were generated based on the peak stage to more accurately depict the fluctuation of the stage during the storm event.

3.2 Floodplain/Floodway

The Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) for Orange County (refer to **Figure 6 FEMA Flood Insurance Rate Maps (FIRM))**. According to FEMA Map Numbers 12095C0415F and 12095C0395F, dated September 25, 2009, a small portion of the roadway within the project corridor frontage to Lake Willis (basin EX_BSN142B) is located within the designated Zone AE (Elev 107.0’ NAVD). Additionally, a small portion of the easement to Big Sand Lake is within the designated Zone AE (Elev 101.5’ NAVD).

There is no wetland impacts proposed within the project limits. A floodplain compensation pond FPC141 will be constructed to serve as connectivity between Lake Willis and Big Sand Lake and the future I-4 Beyond the Ultimate floodplain impacts frontage of Lake Willis.


Orange County
Unincorporated Areas
120179
ZONE X
ZONE D
ZONE AE
(EL 100.5)
(EL 107)
(EL 105.4)
(EL 100.3)
(EL 111.2)
ZONE A
Lake Ruby
Little Lake Bryn
Lake Willis
Lake Bye
Lake No. 10
EL 107.00
PER SURVEY
BEGIN
PROJECT
END
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0 240 1200
Feet
N
BASIN
LINES (TYP.)
ORANGE COUNTY
CITY OF LAKE BUENA VISTA
VINELAND
PALM PKWY
COLLEGE AVE
CHURCH ST
FENTON ST
COMMERCIAL ST
ORANGE ST
GRANBY ST
FOXFIRE CIR
INTERNATIONAL DR S
INTERNATIONAL DR
VINELAND AVE
LAKE WILLIS DR
EAST RD
CROSSLAND DR
WESTWOOD BLVD
HORIZONS BLVD
CAPTAINS WAY
HARBOUR VILLA RD
BANNER CT
GRAND MAGNOLIA AVE
LITTLE GABLES COMMONS DR
BRYAN ARREZZO WAY
LAKE FOREST DR
SKI HOLIDAY DR
VISTA LAKE LN
VILLAGE SERVICES TRL
SILK OAK CIR
BRONSON RD
OLD VINELAND CIR
GRAND CYPRESS BLVD
CYPRESS RUN DR
VININGS WAY BLVD
LAKE ST
PINE ST
OAK ST
PALM ST
OLIVE ST
MAGNOLIA ST
FOXFIRE CIR
HIDDEN VILLAGE BLVD
COMMODORE LN
POLYNESIAN LN
FIGHTING IRISH LN
BIG BLUE LN
CRIMSON TIDE LN
SHERLYN
AMY LN
JUREANE DR
ALEPAT LN
HARLAND DR
1ST ST
2ND ST
3RD ST
4TH ST
5TH ST
7TH ST
9TH ST
10TH ST
11TH ST
RUBY LAKE RD
SPARKLE CT
GLEAM CT
BRILLIANT CT
DIAMOND COVE CIR
BANGLE LN
CT
FACET CT
BRIGHT CT
GLITTER CT
SOLITAIRE CT
NEWINGTON DR
BAYFLOWER WAY
FERNLEAF DR
SHORTWOOD LN
GLEN CREST WAY
DILLSBURY CT
LINDENHURST DR
SMITH
BENNETT
Unnamed Rd
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AK1458
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AK1463
AK1464
AK1465
AK1466
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3.3 Existing Basins

The Pre-Development Basins were established based on design survey data, historical construction plans, and available environmental resource permit documentation. Information obtained on drainage concrete structures within the project limits was referenced from design survey data. Information on volumetric storage or stage area of existing swales or ponds and time of concentration was attained from the previous environmental resource permit and was confirmed with design survey.

Table 3 - Summary of Existing Onsite Drainage Basins

Outfall Name	Basin Name	Drainage Area (ac)	CN
Reedy Creek Outfall (Black Lake)	EX_BSN137B	39.96	51.39
	EX_BSN138B1A	2.78	84.00
	EX_BSN138B1B	4.21	75.84
	EX_BSN138B2	3.06	68.42
	EX_BSN138B3	5.97	49.00
	EX_BSN138B4	8.51	66.13
	EX_BSN138C1	3.05	61.63
	EX_BSN138C2	4.96	59.89
	EX_BSN138C3	9.15	70.25
	EX_BSN138C4	6.26	73.86
Lake Ruby Outfall	EX_BSN140A	0.55	84.00
Shingle Creek Outfall (Lake Willis)	EX_BSN139	7.45	77.17
	EX_BSNFPC141	2.37	76.47
	EX_BSN142B	14.13	78.03
Shingle Creek Outfall (Big Sand Lake)	EX_BSN140B	12.60	72.06
	EX_BSNPND141	40.64	56.43
	EX_BSNPND142	6.88	75.45
	EX_BSN142A	20.45	79.31
	EX_BSN142C	3.66	72.33
Shingle Creek Outfall (Big Sand Lake/ VWCD)	EX_BSN142E1	1.52	84.00
	EX_BSN142E2	1.83	89.58
	EX_BSN142E3	10.70	82.06
	EX_BSN200A	9.17	55.27
Shingle Creek (VWCD Outfall)	EX_BSN142D	13.91	84.96
	EX_BSNVWCD	0.97	85.30
Note: Basin EX_BSN200A is provided by CH2M (Jacobs) and is permitted under SFWMD application # 171004-11			

The Pre-Development basins are divided into twenty-five (25) drainage basins which are defined by "outfalls" from the FDOT right-of-way. The outfalls are locations which currently receive stormwater runoff from the existing project area. The outfalls are defined by a single location where the runoff leaves the FDOT right-of-way. There are six (6) main outfalls (Black Lake, Lake Ruby, Lake Willis, Big Sand Lake, Big Sand Lake/ Valencia

Water Control District, and Valencia Water Control District) within the project limits. **Table 3** summarizes the existing onsite drainage basins within each of the five outfalls. Some of the basins are categorized under an outfall designated as the Big Sand Lake/ VWCD Outfall. These basins are placed in this category because it discharges into a system that hydraulically links Big Sand Lake to Valencia Water Control District.

The Pre-Development condition was modeled for each major basin using ICPR Version 3.1 and the discharge rates for the design storm events were documented at the "outfall" location from FDOT right-of-way. Rainfall values used are referenced from the NOAA Atlas 14 Point Precipitation Frequency Estimate for the SFWMD and FDOT storms (refer to **Appendix A**).

3.3.1 Reedy Creek Outfall (Black Lake)

The Black Lake outfall (Reedy Creek Improvement District) is defined at an existing ditch downstream of CD-1 (north of Interstate 4 and east of S.R. 535) that is hydraulically connected to Black Lake within Reedy Creek Improvement District (RCID). There are nine (9) onsite drainage basins, two (2) offsite drainage basins, and one 48-inch cross drain under Interstate 4 (S.R. 400) at roughly station 575+00 within this outfall. Two existing interconnected ponds EX_PND137 (at the southwest intersection of S.R. 535 and I-4 interchange) and several roadside swales currently provide treatment for most of the onsite runoff. Drainage within this outfall utilizes a combination of open and closed drainage systems to convey the runoff to existing stormwater management facilities (SMF).

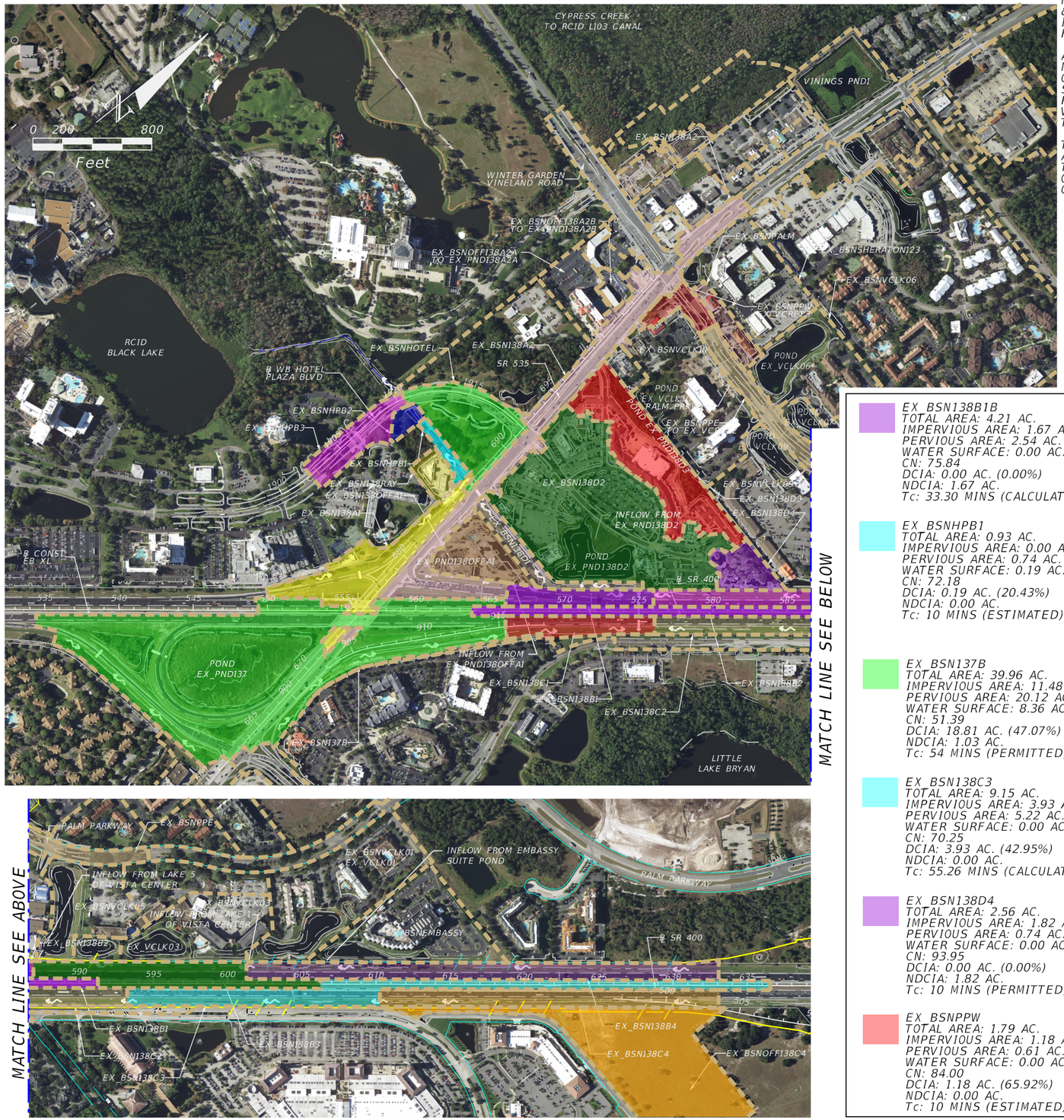
An overall ICPR-3 model of this outfall was developed from data obtained from several available sources (existing SFWMD permits, RCID UNET model, design survey, and site visits). All offsite information that was available was incorporated to accurately depict the hydraulics of the area. The tailwater elevation used to generate the hydrograph for the boundary node was taken from information provided by the Reedy Creek Improvement District (RCID). The peak stage for the 100-year/ 72-hour was used to analyze the critical storms as well as the required SFWMD storms. **Figure 7** and **Figure 8** provide an overall view of the drainage basins and Nodal Network of the ICPR-3 model respectively for Black Lake Outfall.

3.3.1.1 EX_BSN137B

EX_BSN137B is one of the largest basins within the roadway corridor. It encompassed approximately 1200-feet of S.R. 535 south of the S.R. 535 and S.R. 400 interchange (up to Vineland Road), existing Ramp B-535, existing Ramp D-535, and roughly 1450-feet of mainline S.R. 400 (within the interchange). Stormwater runoff from this basin is collected in a combination of roadside ditch and storm sewer system to an onsite SMF (pond EX_PND137) for treatment and attenuation.

The information for this basin was obtained from SFWMD Permit Documentation and supplemented by design survey.

- SFWMD Permit GHP #88-34, Application #04118-1 (Interstate 4/ S.R. 535),
- SFWMD Permit #48-000592-S, Application #920616-1, Issued 27 of July 1992 (I-4/ S.R. 535 Interchange), and
- SFWMD Permit #48-000592-S, Application #900113-1, Issued 30 of November 1990 (I-4/ S.R. 535 Interchange),



MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

NOTE: INFORMATION SHOWN FOR THE OFFSITE BASINS ARE BASED ON AVAILABLE EXISTING CONSTRUCTION PLANS & PERMITTED DOCUMENTATIONS. DESIGN SURVEY DOES NOT EXTEND BEYOND THE PROJECT LIMITS. AS SUCH, THE INFORMATION SHOWN ARE REPRESENTATIVES AND SHOULD NOT BE CONSTRUED AS DESIGN DATA. ALL ONSITE BASINS HAVE BEEN ADJUSTED AS NEEDED TO BEST REFLECT THE CURRENT SITE CONDITION PER DESIGN SURVEY PROVIDED.

ALL OFFSITE BASINS WERE EXTRAPOLATED FROM HISTORICAL PERMIT DATA. SMALL ADJUSTMENT, AS NEEDED, WERE MADE TO REFLECT FIELD RECONNAISSANCE. CN SHEETS WERE PROVIDED FOR MOST OF THE OFFSITE BASINS INCLUDED IN THE ICPR-3 MODEL. THESE SHEETS WERE TAKEN DIRECTLY FROM THE PERMITS DOCUMENTATION FROM SFWMD ARCHIVE. EX_BSN138D4 IS PART OF THE CROSSROAD COMMERCIAL DEVELOPMENT. HOWEVER, THERE ARE NO PERMIT INFORMATION OR APPLICACATION (MODIFICATION) FOR THIS IMPROVEMENT. IT IS AN EXISTING MINI-GOLF WITH ONSITE STORAGE PROVIDED. FOR PURPOSES OF THE ICPR ROUTING, THE AREA IS PROPOSED TO DISCHARGE TO THE EXISTING POND EX_PNDD2.

THE PERMIT APPLICATIONS ASSOCIATED WITH THIS DRAINAGE BASIN TO REEDY CREEK IMPROVEMENT DISTRICT ARE AS FOLLOWS: BASIN EX_BSN137B – SFWMD #04118-1; BASIN EX_BSN138B3, EX_BSN138B4, AND EX_BSN138C2 TO EX_BSN138C4 – SFWMD #011109-7; BASIN EX_BSN138D2 AND BSN138D3 – SFWMD #140612-17; BASIN EX_BSN-OFF138A1 – SFWMD #X000007612; BASIN EX_BSN138RAY – SFWMD #991015-3. ADDITIONAL OFFSITE PERMIT ASSOCIATED WITH THE MODELING ARE: #891130-2, #12168-S, #891226-2, AND #120203-11.

BONNET CREEK (L101 BLACK LAKE) OUTFALL

UNTREATED BASINS:

EX_BSN138A1
TOTAL AREA: 7.35 AC.
IMPERVIOUS AREA: 3.46 AC.
PERVIOUS AREA: 3.89 AC.
WATER SURFACE: 0.00 AC.
CN: 72.07
DCIA: 0.00 AC. (0.00%)
NDCIA: 3.46 AC.
Tc: 20 MINS (CALCULATED)

EX_BSN138A2
TOTAL AREA: 13.71 AC.
IMPERVIOUS AREA: 9.31 AC.
PERVIOUS AREA: 4.40 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 9.31 AC. (67.91%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138B1A
TOTAL AREA: 2.78 AC.
IMPERVIOUS AREA: 1.79 AC.
PERVIOUS AREA: 0.99 AC.
WATER SURFACE: 0.00 AC.
CN: 93.01
DCIA: 1.79 AC. (64.39%)
NDCIA: 0.00 AC.
Tc: 23.58 MINS (CALCULATED)

EX_BSN138B1B
TOTAL AREA: 4.21 AC.
IMPERVIOUS AREA: 1.67 AC.
PERVIOUS AREA: 2.54 AC.
WATER SURFACE: 0.00 AC.
CN: 75.84
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.67 AC.
Tc: 33.30 MINS (CALCULATED)

EX_BSN138B2
TOTAL AREA: 3.06 AC.
IMPERVIOUS AREA: 1.51 AC.
PERVIOUS AREA: 1.55 AC.
WATER SURFACE: 0.00 AC.
CN: 68.42
DCIA: 1.51 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 27.66 MINS (CALCULATED)

EX_BSN138C1
TOTAL AREA: 3.05 AC.
IMPERVIOUS AREA: 1.47 AC.
PERVIOUS AREA: 1.58 AC.
WATER SURFACE: 0.00 AC.
CN: 61.63
DCIA: 1.47 AC. (48.20%)
NDCIA: 0.00 AC.
Tc: 22.20 MINS (ESTIMATED)

EX_BSN138D1
TOTAL AREA: 2.49 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 2.24 AC.
WATER SURFACE: 0.25 AC.
CN: 84.00
DCIA: 0.25 AC. (10.04%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB1
TOTAL AREA: 0.93 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.19 AC.
CN: 72.18
DCIA: 0.19 AC. (20.43%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB2
TOTAL AREA: 0.78 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: .73 AC.
WATER SURFACE: 0.05 AC.
CN: 73.93
DCIA: 0.05 AC. (6.41%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB3
TOTAL AREA: 3.44 AC.
IMPERVIOUS AREA: 1.55 AC.
PERVIOUS AREA: 1.89 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.55 AC. (45.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNOFF138C4
TOTAL AREA: 18.82 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 18.82 AC.
WATER SURFACE: 0.00 AC.
CN: 63.25
DCIA: 0.00 AC.
NDCIA: 0.00 AC.
Tc: 30.06 MINS (CALCULATED)

TREATED BASINS:

EX_BSN137B
TOTAL AREA: 39.96 AC.
IMPERVIOUS AREA: 11.48 AC.
PERVIOUS AREA: 20.12 AC.
WATER SURFACE: 8.36 AC.
CN: 51.39
DCIA: 18.81 AC. (47.07%)
NDCIA: 1.03 AC.
Tc: 54 MINS (PERMITTED)

EX_BSN138B3
TOTAL AREA: 5.97 AC.
IMPERVIOUS AREA: 2.73 AC.
PERVIOUS AREA: 3.24 AC.
WATER SURFACE: 0.00 AC.
CN: 49.00
DCIA: 2.73 AC. (45.73%)
NDCIA: 0.00 AC.
Tc: 43.20 MINS (CALCULATED)

EX_BSN138B4
TOTAL AREA: 8.51 AC.
IMPERVIOUS AREA: 4.20 AC.
PERVIOUS AREA: 4.31 AC.
WATER SURFACE: 0.00 AC.
CN: 66.13
DCIA: 4.20 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 50.76 MINS (CALCULATED)

EX_BSN138C2
TOTAL AREA: 4.96 AC.
IMPERVIOUS AREA: 2.39 AC.
PERVIOUS AREA: 2.57 AC.
WATER SURFACE: 0.00 AC.
CN: 59.89
DCIA: 2.39 AC. (48.19%)
NDCIA: 0.00 AC.
Tc: 26.76 MINS (CALCULATED)

EX_BSN138C3
TOTAL AREA: 9.15 AC.
IMPERVIOUS AREA: 3.93 AC.
PERVIOUS AREA: 5.22 AC.
WATER SURFACE: 0.00 AC.
CN: 70.25
DCIA: 3.93 AC. (42.95%)
NDCIA: 0.00 AC.
Tc: 55.26 MINS (CALCULATED)

EX_BSN138C4
TOTAL AREA: 6.26 AC.
IMPERVIOUS AREA: 3.05 AC.
PERVIOUS AREA: 3.21 AC.
WATER SURFACE: 0.00 AC.
CN: 73.86
DCIA: 3.05 AC. (48.72%)
NDCIA: 0.00 AC.
Tc: 18.96 MINS (CALCULATED)

EX_BSN138D2
TOTAL AREA: 27.71 AC.
IMPERVIOUS AREA: 19.98 AC.
PERVIOUS AREA: 5.24 AC.
WATER SURFACE: 2.49 AC.
CN: 77.00
DCIA: 22.47 AC. (81.09%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D3
TOTAL AREA: 9.82 AC.
IMPERVIOUS AREA: 3.20 AC.
PERVIOUS AREA: 6.62 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 3.20 AC. (32.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D4
TOTAL AREA: 2.56 AC.
IMPERVIOUS AREA: 1.82 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.00 AC.
CN: 93.95
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.82 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138RAY
TOTAL AREA: 1.40 AC.
IMPERVIOUS AREA: 0.91 AC.
PERVIOUS AREA: 0.49 AC.
WATER SURFACE: 0.00 AC.
CN: 83.01
DCIA: 0.91 AC. (64.86%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSNHOTEL
TOTAL AREA: 6.77 AC.
IMPERVIOUS AREA: 2.48 AC.
PERVIOUS AREA: 3.98 AC.
WATER SURFACE: 0.31 AC.
CN: 77.76
DCIA: 2.79 AC. (41.21%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPALM
TOTAL AREA: 1.91 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 1.91 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPW
TOTAL AREA: 1.79 AC.
IMPERVIOUS AREA: 1.18 AC.
PERVIOUS AREA: 0.61 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.18 AC. (65.92%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPE
TOTAL AREA: 5.74 AC.
IMPERVIOUS AREA: 3.65 AC.
PERVIOUS AREA: 2.09 AC.
WATER SURFACE: 0.00 AC.
CN: 79.98
DCIA: 3.65 AC. (63.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

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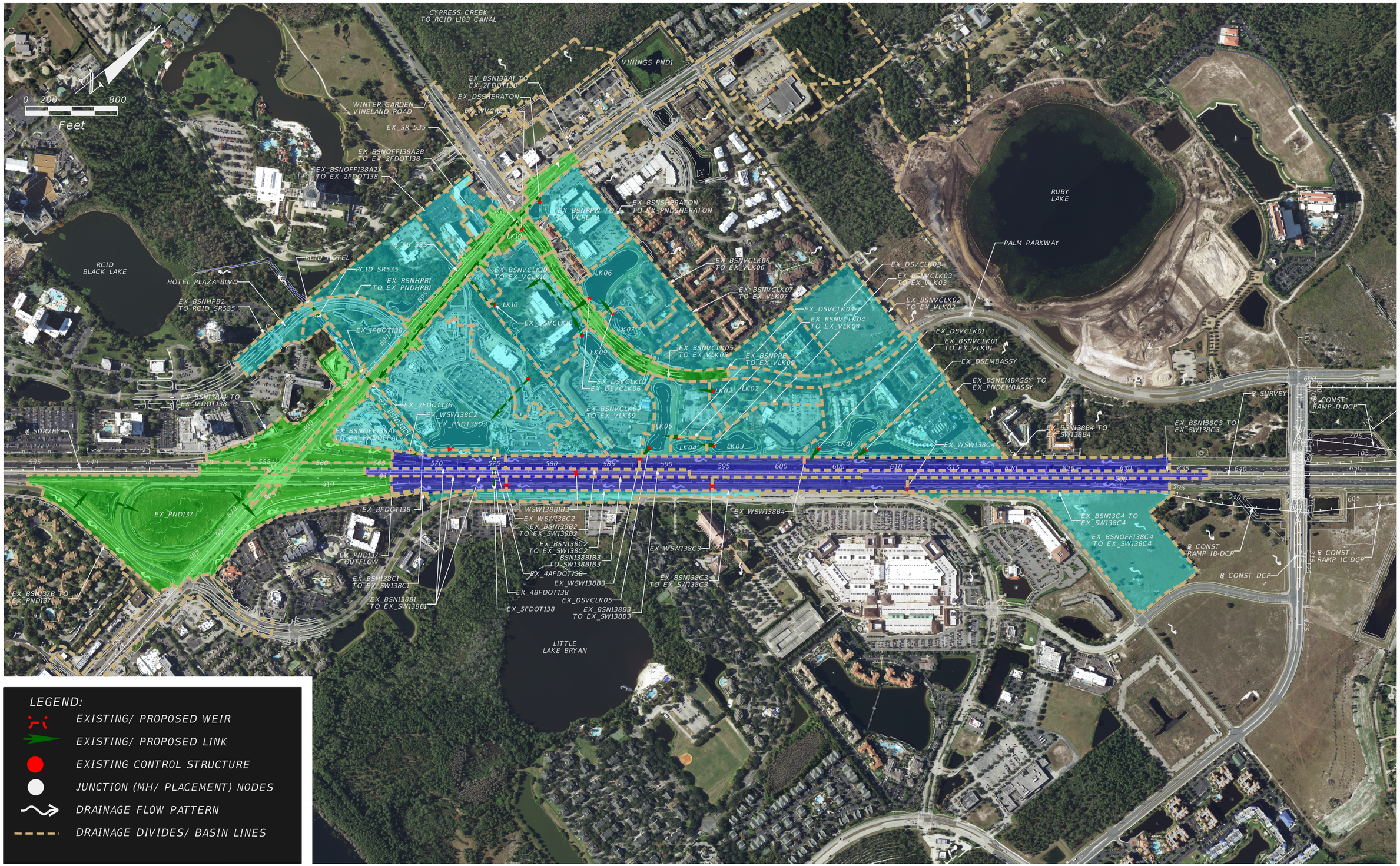
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) EXISTING BASIN MAP

FIGURE 7



LEGEND:

- EXISTING/ PROPOSED WEIR
- EXISTING/ PROPOSED LINK
- EXISTING CONTROL STRUCTURE
- JUNCTION (MH/ PLACEMENT) NODES
- DRAINAGE FLOW PATTERN
- DRAINAGE DIVIDES/ BASIN LINES

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BONNET CREEK OUTFALL (L101 BLACK LAKE) EXIST NODAL NETWORK

FIGURE 8

Relevant documents from these three historic permits are included in Appendix D.

3.3.1.1 EX_PND137

Existing pond EX_PND137 was constructed as a dry detention pond under SFWMD Permit Application No. 04118-1 1A. It is located at the southwest quadrant of the intersection of S.R. 535 and S.R. 400. It provides treatment and attenuation for a small segment of S.R. 400, eastbound off ramp to S.R. 535, eastbound on ramp from S.R. 535, and south S.R. 535 from the bridge to Vineland Road. An existing concrete weir at roughly station 566+00 was constructed to control the water level in the pond for the design storm of 25-year/ 24-hour. It also provides a positive outlet for the pond and contributes flows to the upstream end of existing CD-1; which is hydraulically connected to Black Lake through a series of ditches and pipe systems.

3.3.1.2 EX_BSN138B1 to EX_BSN138B4

Basins EX_BSN138B1 to EX_BSN138B4 are basins within the project corridor that contribute runoff to the downstream end of existing CD-1. Drainage from these basins typically sheet flow from the roadway into roadside swales or treatment swales. The roadside swales convey the onsite and offsite runoff to the downstream end of CD-1 and ultimately to Black Lake. Of the four basins, only basin EX_BSN138B1 drains in an easterly direction toward the CD-1; while runoff from the other three basins flow in a westerly direction to CD-1. Two existing onsite detention swales (EX_SW138B3 and EX_SW138B4) provide treatment for part of the westbound travel lanes (mainly basins EX_BSN138B3 and EX_BSN138B4). These detention swales were designed to cascade into one another via a concrete ditch block with 3" orifices.

The information for these basins was obtained from SFWMD Permit Documentation and supplemented by design survey.

- SFWMD Permit #48-01243-P, Application #011109-7, Issued 4 of January 2002 (I-4 Auxiliary Lane S.R. 535 to S.R. 528)

Relevant documents from these three historic permits are included in **Appendix D.**

3.3.1.3 EX_SW138B3 and EX_SW138B4

Existing detention swales EX_SW138B3 and EX_SW138B4 were constructed as part of the I-4 Auxiliary Lane from S.R. 535 to S.R. 528 project (FDOT FPID #405515-1-5-01) to provide treatment for basins EX_BSN138B3 and EX_BSN138B4 respectively. Although there are contributing runoffs from adjacent offsite ponds, the permitted data does not include these contributing areas. To rectify this, the model incorporated historical permitted data from these offsite basins to accurately determine the peak stage within these swale systems.

3.3.1.4 EX_BSN138C1 to EX_BSN138C4

Basins EX_BSN138C1 to EX_BSN138C4 are basins within the project corridor that contribute runoff to the upstream end of existing CD-1. Similar to the mainline westbound, drainage from these basins typically sheet flow from the roadway into roadside swales or treatment swales. The roadside swales convey the onsite and

offsite runoff to the upstream end of CD-1, under I-4 through the existing 48-inch pipe to comingle with runoff from the mainline westbound, and ultimately to Black Lake. Of the four basins, only basin EX_BSN138C1 drains in an easterly direction toward the CD-1; while runoff from the other three basins flow in a westerly direction to CD-1. Three existing onsite detention swales (EX_SW138C2, EX_SW138C3, and EX_SW138C4) provide treatment for part of the eastbound travel lanes (mainly basins EX_BSN138C2 to EX_BSN138C4). These detention swales were designed to cascade into one another via a concrete ditch block with 3" orifices.

The information for these basins was obtained from SFWMD Permit Documentation and supplemented by design survey.

- SFWMD Permit #48-01243-P, Application #011109-7, Issued 4 of January 2002 (I-4 Auxiliary Lane S.R. 535 to S.R. 528)

Relevant documents from these three historic permits are included in **Appendix D.**

3.3.1.5 EX_SW138C2 to EX_SW138C4

Existing detention swales EX_SW138C2, EX_SW138C3, and EX_SW138C4 were constructed as part of the I-4 Auxiliary Lane from S.R. 535 to S.R. 528 project (FDOT FPID #405515-1-5-01) to provide treatment for basins EX_BSN138C2, EX_BSN138C3, and EX_BSN138C4 respectively. Although there are contributing runoffs from an offsite adjacent parcel, the permitted data does not include this contributing area. To rectify this, the model incorporated this offsite basin to accurately determine the peak stage within these swale systems.

3.3.2 Lake Ruby Outfall

One drainage basin (EX_BSN140A) is located within the Lake Ruby outfall; and drainage is primary overland flow in a northwest direction toward adjacent property. Refer to **Figure 9** for the Existing Drainage Map of this outfall.

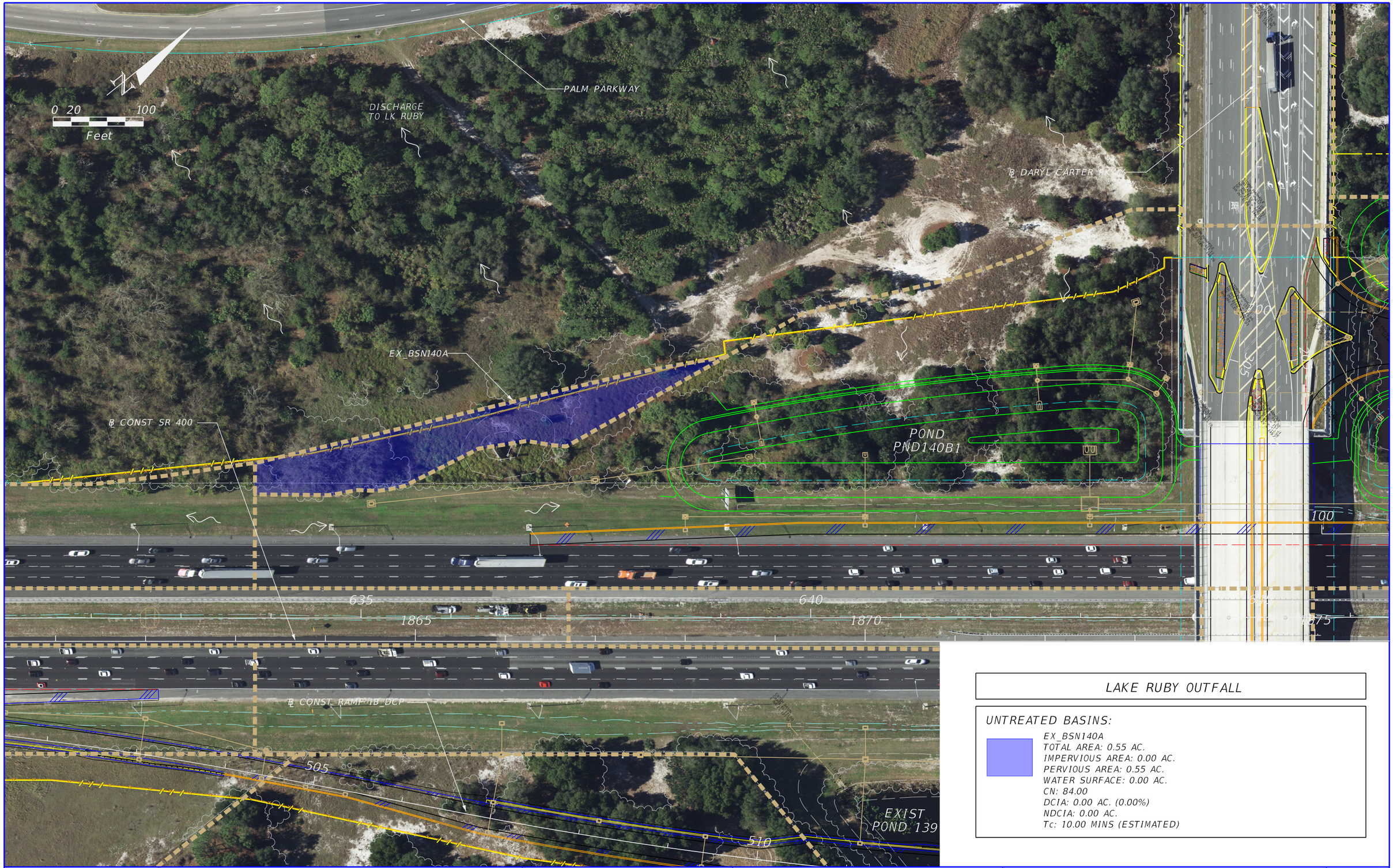
3.3.2.1 EX_BSN140A

Basin EX_BSN140A is a small open area within project limit that drains toward the adjacent property and eventually out to Ruby Lake.

3.3.3 Shingle Creek Outfall (Lake Willis)

As previously discussed, Lake Willis is the upstream water body of Shingle Creek. It is hydraulically connected to Big Sand Lake through an existing 30-inch outfall pipe under S.R. 400 at station 679+50 BL Survey. Three onsite basins along the corridor currently contribute stormwater runoff to the Lake. Of these three basins, only runoff from basin EX_BSN139 discharges into an existing wet detention pond EX_PND139 for treatment and attenuation prior to draining into Lake Willis. Even with runoff from two onsite basins discharging directly to Lake Willis (node LK_WILLIS), it is a small percentage compared to the overall watershed into the lake.

Orange County commissioned Geosyntec to prepare a Technical Memorandum for the Big Sand Lake Watershed Management Plan. The analysis was completed in April 2017 and documented the 100-year/ 24-hour



LAKE RUBY OUTFALL

UNTREATED BASINS:

EX_BSN140A
TOTAL AREA: 0.55 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.55 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

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SHINGLE CREEK OUTFALL (RUBY LAKE) EXIST/ PROP BASIN MAP

FIGURE 9

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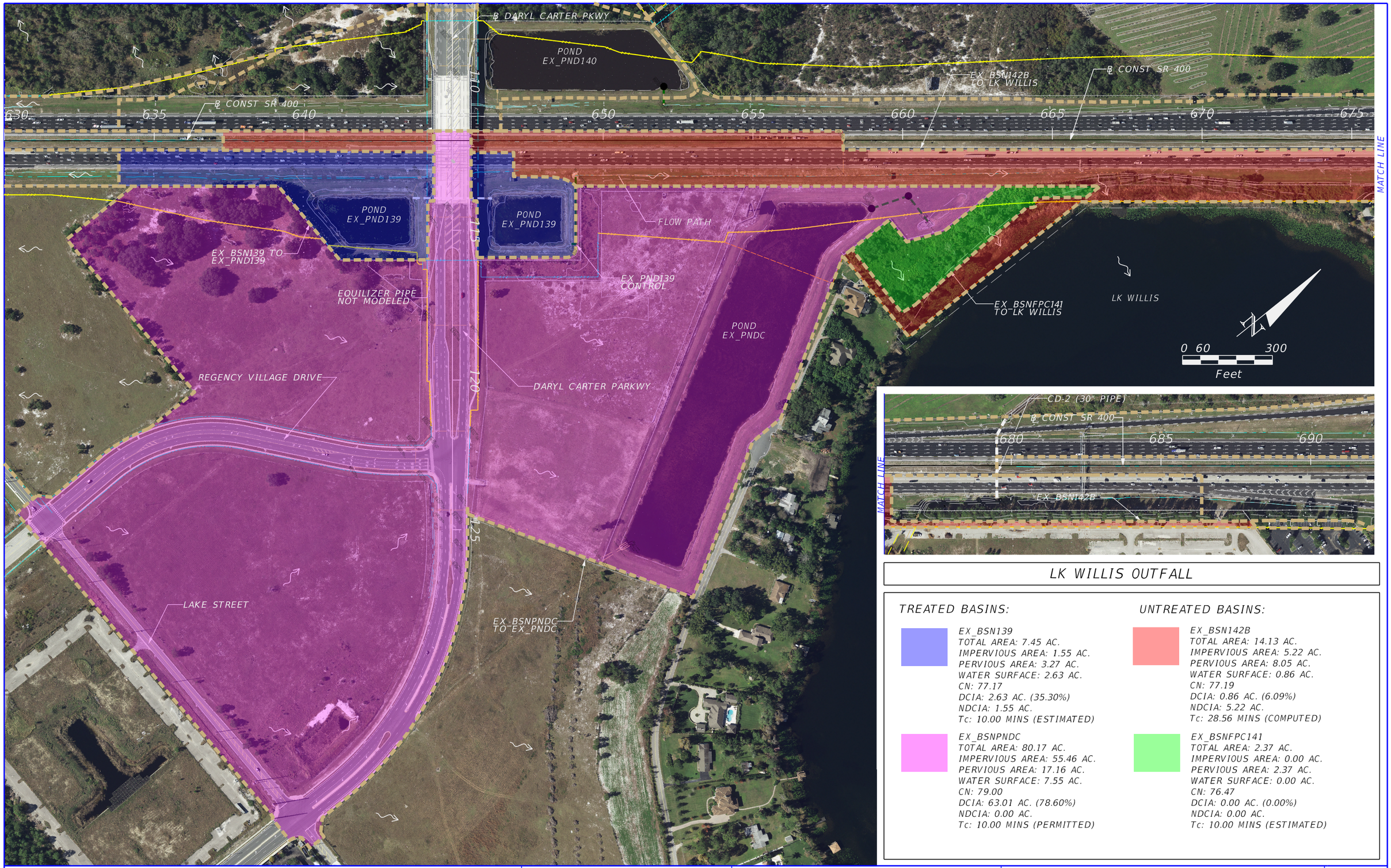

LK WILLIS OUTFALL

TREATED BASINS:

EX_BSN139
TOTAL AREA: 7.45 AC.
IMPERVIOUS AREA: 1.55 AC.
PERVIOUS AREA: 3.27 AC.
WATER SURFACE: 2.63 AC.
CN: 77.17
DCIA: 2.63 AC. (35.30%)
NDCIA: 1.55 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSNPNDC
TOTAL AREA: 80.17 AC.
IMPERVIOUS AREA: 55.46 AC.
PERVIOUS AREA: 17.16 AC.
WATER SURFACE: 7.55 AC.
CN: 79.00
DCIA: 63.01 AC. (78.60%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (PERMITTED)

UNTREATED BASINS:

EX_BSN142B
TOTAL AREA: 14.13 AC.
IMPERVIOUS AREA: 5.22 AC.
PERVIOUS AREA: 8.05 AC.
WATER SURFACE: 0.86 AC.
CN: 77.19
DCIA: 0.86 AC. (6.09%)
NDCIA: 5.22 AC.
Tc: 28.56 MINS (COMPUTED)

EX_BSNFPC141
TOTAL AREA: 2.37 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 2.37 AC.
WATER SURFACE: 0.00 AC.
CN: 76.47
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

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SHINGLE CREEK OUTFALL (LAKE WILLIS) EXISTING BASIN MAP

FIGURE 10

peak stage in both Lake Willis and Big Sand Lake. The information from this report (in existing condition) was used to develop the existing and proposed ICPR models for this outfall as well as the Big Sand Lake and Valencia Water Control District outfalls. As this is the most upstream water body, all drainage areas outside of FDOT right-of-way contributing to this lake were extrapolated from the Geosyntec model and incorporated into AECOM model to more accurately determine the rate of discharge leaving the lake through the existing 30-inch cross drain (CD-2 or link EX_PSW142C) under Interstate 4. Figure 10 illustrates the existing drainage basins within this outfall.

3.3.3.1 EX_BSN139

Basin EX_BSN139 encompassed a small segment of the eastbound mainline directly east and west of the Daryl Carter Parkway Bridge. Stormwater runoff from this basin typically sheet flows away from the roadway into a combination of roadside swales and storm sewer system. The existing collection systems conveyed the runoff to two interconnected wet ponds EX_PND139 for treatment and attenuation prior to discharging into Lake Willis. An existing control structure regulates the water level in the pond for 25-year/ 24-hour design storm.

The information for this basin was obtained from SFWMD Permit Documentation and supplemented by design survey.

- SFWMD Permit #48-01243-P, Application #011109-7, Issued 4 of January 2002 (I-4 Auxiliary Lane S.R. 535 to S.R. 528),
- SFWMD Permit #48-01583-P, Application #070307-6, Issued 10 of October 2008 (Wildwood Area Roadway Network Road "B"), and
- SFWMD Permit #48-01243-P, Application #080205-41, Issued 12 of October 2008 (Wildwood Area Road Network; I-4 Pond Modification)

Relevant documents from these three historic permits are included in **Appendix D.**

3.3.3.2 EX_PND139

Existing pond EX_PND139 was originally constructed under SFWMD Permit #48-01243-P (FDOT FPID #405515-1-52-01) as a part of the I-4 Auxiliary Lane S.R. 535 to S.R. 528 project. It provides treatment and attenuation for a small segment of S.R. 400. In 2008, Orange County proposed to construct a connector road to provide access between Lake Street and Palm Parkway. A bridge was proposed over Interstate 4 near the pond, and thus reducing the pond capacity. To compensate for the loss in volume, Orange County proposed to widen the eastern remnant into a bigger pond and interconnected the two ponds with a single 36-inch pipes under Daryl Carter Parkway as it is currently out there.

3.3.3.3 EX_BSNFPC141

Basin EX_BSNFPC141 is currently an open area located at the northwest corner of Lake Willis and northeast corner of existing Pond C that will be used for the expansion of pond C to capture the volume impacted due to the construction of Ramp IC-DCP. The drainage of the basin is overland flow directly into Lake Willis.

3.3.3.4 EX_BSN142B

Basin EX_BSN142B encompassed the eastbound S.R. 400 from Daryl Carter Bridge to 300-feet west of CD-2. Stormwater runoff from the basin overland flows into roadside swale that is hydraulically connected to Lake Willis.

The information for this basin was obtained from SFWMD Permit Documentation and supplemented by design survey.

- SFWMD Permit #48-01243-P, Application #011109-7, Issued 4 of January 2002 (I-4 Auxiliary Lane S.R. 535 to S.R. 528),

Relevant documents from these three historic permits are included in **Appendix D.**

3.3.4 Shingle Creek Outfall (Big Sand Lake)

Big Sand Lake is not only the receiving water body for the watershed from Lake Willis, but it is also hydraulically connected to Valencia Water Control District through a series of ditches, pipes, and box culverts. The Big Sand Lake watershed encompassed the majority of S.R. 400 between Daryl Carter Parkway and beyond Central Florida Parkway and an offsite development (O-Town West). For this project, the drainage area is limited to what is shown on the existing drainage map. The peak rate of discharge provided will reflect just these basins. There are four onsite drainage basins contributing stormwater runoff to this water body. Of the three, only one drainage basin (EX_BSN140B) discharges into a stormwater management facility (EX_PND140) for treatment and attenuation prior to entering Big Sand Lake (node BSL_OUTFALL1). An overall existing drainage map of this outfall is provided as **Figure 11**. **Figure 12** provides the existing nodal network framework for the Shingle Creek Outfalls (Lake Willis, Big Sand Lake, and Valencia Water Control District).

Orange County commissioned Geosyntec to prepare a Technical Memorandum for the Big Sand Lake Watershed Management Plan. The analysis was completed in April 2017 and documented the mean annul, the 10-year/ 24-hour, the 25-year/ 24-hour, the 100-year/ 24-hour, and the 100-year/ 72-hour peak stages for both Lake Willis and Big Sand Lake. The information from this report was used to develop the existing and proposed ICPR models for this outfall. Unlike Lake Willis, all drainage areas outside of FDOT right-of-way contributing to the lake was not included in the model. Instead, the 100-year/ 24-hour and the 100-year/ 72-hour peak stages of the lake were extrapolated from Geosyntec report and used to generate hydrographs for the boundary node. The 72-hour and above frequencies storms will utilize the hydrograph with the 100-year/ 72-hour peak stage; while all 24-hour and less frequencies storms will use the 100-year/ 24-hour peak stage.

3.3.4.1 EX_BSN140B

Basin EX_BSN140B encompassed a small segment of the westbound mainline directly east and west of the Daryl Carter Parkway Bridge. Stormwater runoff from this basin typically sheet flows away from the roadway into a combination of roadside swales and storm sewer system. The existing collection systems conveyed the runoff to a wet detention pond EX_PND140 for treatment and attenuation prior to discharging into Big Sand Lake. An existing control structure regulates the water level in the pond for 25-year/ 24-hour design storm.

The information for this basin was obtained from SFWMD Permit Documentation and supplemented by design survey.

- SFWMD Permit #48-01243-P, Application #011109-7, Issued 4 of January 2002 (I-4 Auxiliary Lane S.R. 535 to S.R. 528),
- SFWMD Permit #48-01583-P, Application #070307-6, Issued 10 of October 2008 (Wildwood Area Roadway Network Road "B"), and
- SFWMD Permit #48-01243-P, Application #080205-41, Issued 12 of October 2008 (Wildwood Area Road Network; I-4 Pond Modification)

Relevant documents from these three historic permits are included in **Appendix D.**

3.3.4.2 EX_PND140

Existing pond EX_PND140 was originally constructed under SFWMD Permit #48-01243-P (FDOT FPID #405515-1-52-01) as part of the I-4 Auxiliary Lane S.R. 535 to S.R. 528 project. It provides treatment and attenuation for a small segment of S.R. 400. In 2008, Orange County proposed to construct a connector road to provide access between Lake Street and Palm Parkway. A bridge was proposed over Interstate 4 near the pond, and thus reducing the pond capacity. To compensate for the loss in volume, Orange County proposed to reconfigure the pond and expand it in all directions to what is there currently.

An existing control structure was designed and installed to regulate the water level in the pond for the design 25-year/ 24-hour storm event. The existing pond discharges into the westbound roadside swale where it comingles with untreated runoff from basin EX_BSN142A. The swale conveyed the runoff to the downstream end of the existing 30-inch cross drain (CD-2).

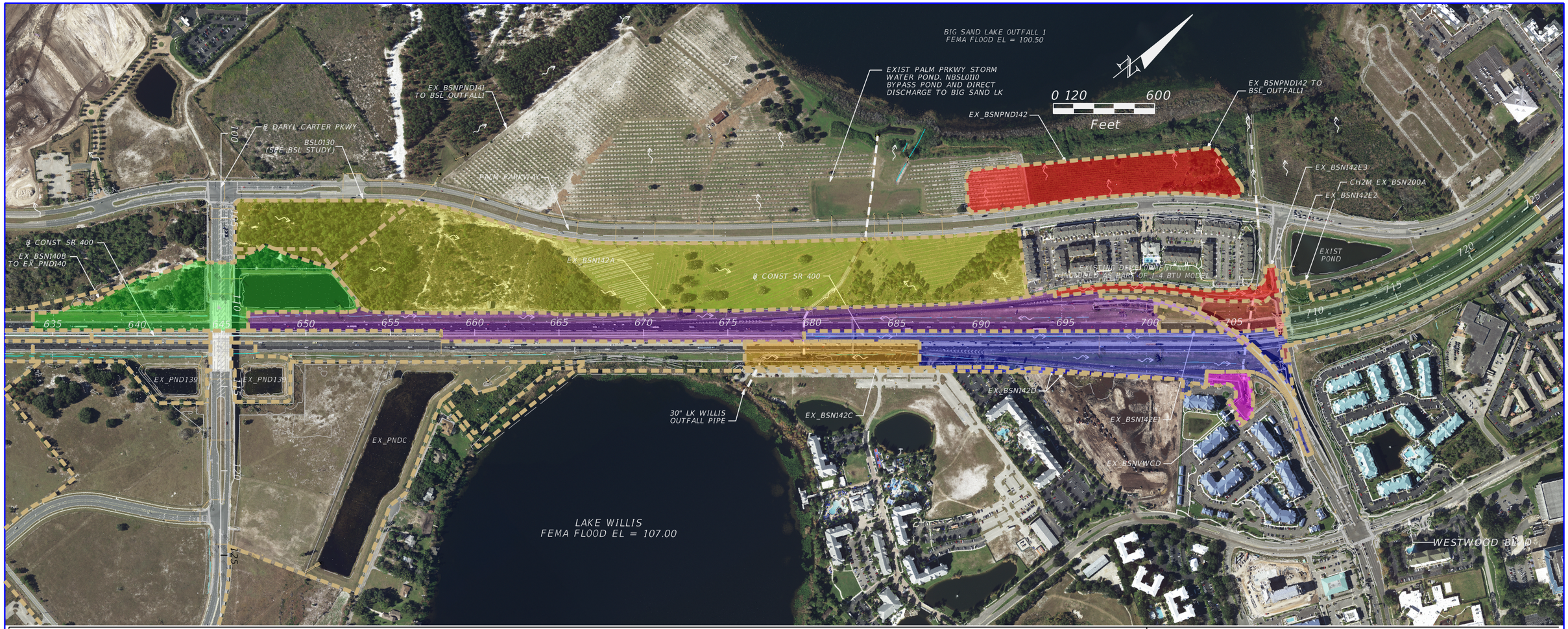
3.3.4.3 EX_BSNPND141

Basin EX_BSNPND141 is in a large open parcel south of Palm Parkway, east of O-Town West Development, north of Interstate 4, and west of an existing multifamily development. The basin will be utilized as stormwater management facilities to not only to replace the existing interconnected pond EX_PND139; but to also provide treatment and attenuation for part of the existing Interstate 4, proposed improvements to Interstate 4 specific to this project, and the future proposed improvements along Interstate 4 (S.R. 400 (I-4) Beyond the Ultimate).

An existing onsite ditch bisects the basin and provides drainage for Interstate 4, Lake Willis and onsite runoff.

3.3.4.4 EX_BSNPND142

The drainage area identified as EX_BSNPND142 is an open parcel to be utilized as a stormwater detention pond for the current improvement as well as the future S.R. 400 (I-4) Beyond the Ultimate widening project. Runoff from the basin overland flows directly to Big Sand Lake.



BSL OUTFALL 1

ONSITE TREATED:

EX_BSN140B
TOTAL AREA: 12.60 AC.
IMPERVIOUS AREA: 2.82 AC.
PERVIOUS AREA: 6.98 AC.
WATER SURFACE: 2.80 AC.
CN: 72.06
DCIA: 2.80 AC. (22.22%)
NDCIA: 2.82 AC.
Tc: 10.00 MINS (PERMITTED)

OFFSITE UNTREATED:

EX_BSL0130
TOTAL AREA: 7.02 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 7.02 AC.
WATER SURFACE: 0.00 AC.
CN: 76.52 (INTERPOLATED)
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 56.90 MINS (BSL STUDY)

ONSITE UNTREATED:

EX_BSNPND141
TOTAL AREA: 40.64 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 40.57 AC.
WATER SURFACE: 0.07 AC.
CN: 56.43
DCIA: 0.07 AC. (0.17%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN142A
TOTAL AREA: 20.45 AC.
IMPERVIOUS AREA: 10.27 AC.
PERVIOUS AREA: 10.18 AC.
WATER SURFACE: 0.00 AC.
CN: 79.31
DCIA: 0.00 AC. (0.00%)
NDCIA: 10.27 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN142C
TOTAL AREA: 3.66 AC.
IMPERVIOUS AREA: 1.40 AC.
PERVIOUS AREA: 2.26 AC.
WATER SURFACE: 0.00 AC.
CN: 72.33
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.40 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSNPND142
TOTAL AREA: 6.88 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 6.88 AC.
WATER SURFACE: 0.00 AC.
CN: 75.45
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BIG SAND LAKE OUTFALL 2/ VWCD

ONSITE UNTREATED:

EX_BSN142E3
TOTAL AREA: 2.03 AC.
IMPERVIOUS AREA: 0.32 AC.
PERVIOUS AREA: 1.71 AC.
WATER SURFACE: 0.00 AC.
CN: 65.41
DCIA: 0.11 AC. (5.42%)
NDCIA: 0.21 AC.
Tc: 10.00 MINS (ESTIMATED)

ONSITE TREATED:

EX_BSN142E1
TOTAL AREA: 1.52 AC.
IMPERVIOUS AREA: 0.67 AC.
PERVIOUS AREA: 0.85 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.67 AC. (44.08%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

VWCD OUTFALL

ONSITE UNTREATED:

EX_BSN142D
TOTAL AREA: 13.91 AC.
IMPERVIOUS AREA: 5.88 AC.
PERVIOUS AREA: 8.03 AC.
WATER SURFACE: 0.00 AC.
CN: 84.96
DCIA: 0.00 AC. (0.00%)
NDCIA: 5.88 AC.
Tc: 33.33 MINS (CALCULATED)

EX_BSNVWCD
TOTAL AREA: 0.97 AC.
IMPERVIOUS AREA: 0.09 AC.
PERVIOUS AREA: 0.88 AC.
WATER SURFACE: 0.00 AC.
CN: 85.30
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.09 AC.
Tc: 10.00 MINS (ESTIMATED)

BSL OUTFALL 2

ONSITE UNTREATED:

EX_BSN142E2
TOTAL AREA: 1.89 AC.
IMPERVIOUS AREA: 0.79 AC.
PERVIOUS AREA: 1.10 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.79 AC. (41.80%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN200A
TOTAL AREA: 9.17 AC.
IMPERVIOUS AREA: 5.32 AC.
PERVIOUS AREA: 3.85 AC.
WATER SURFACE: 0.00 AC.
CN: 55.27
DCIA: 5.32 AC. (58.02%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

NOTE: THE OFFSITE BASIN BSL0130 WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE STUDY AND ADJUSTED TO DEPICT ONLY THE OFFSITE AREA. FDOT ROW WAS TAKEN OUT AND IS INCLUDED AS BSN142A. THE CN FOR THE BASIN WAS INTERPOLATED TO REFLECT THE OFFSITE CONTRIBUTING AREA ONLY.

INFORMATION FOR BASINS BSN200A WAS PROVIDED BY CH2M AND IS INCLUDED AS REFERENCES TO SUPPORT THE MODELING INFORMATION.

BASINS BSN200B, BSNCFP1, AND BSNCFP2 ARE INCLUDED AS PART OF THE CH2M ICPR ROUTING, BUT IS SHOWN HERE FOR REFERENCES AND CONNECTIVITIES BETWEEN THE TWO SEGMENTS.

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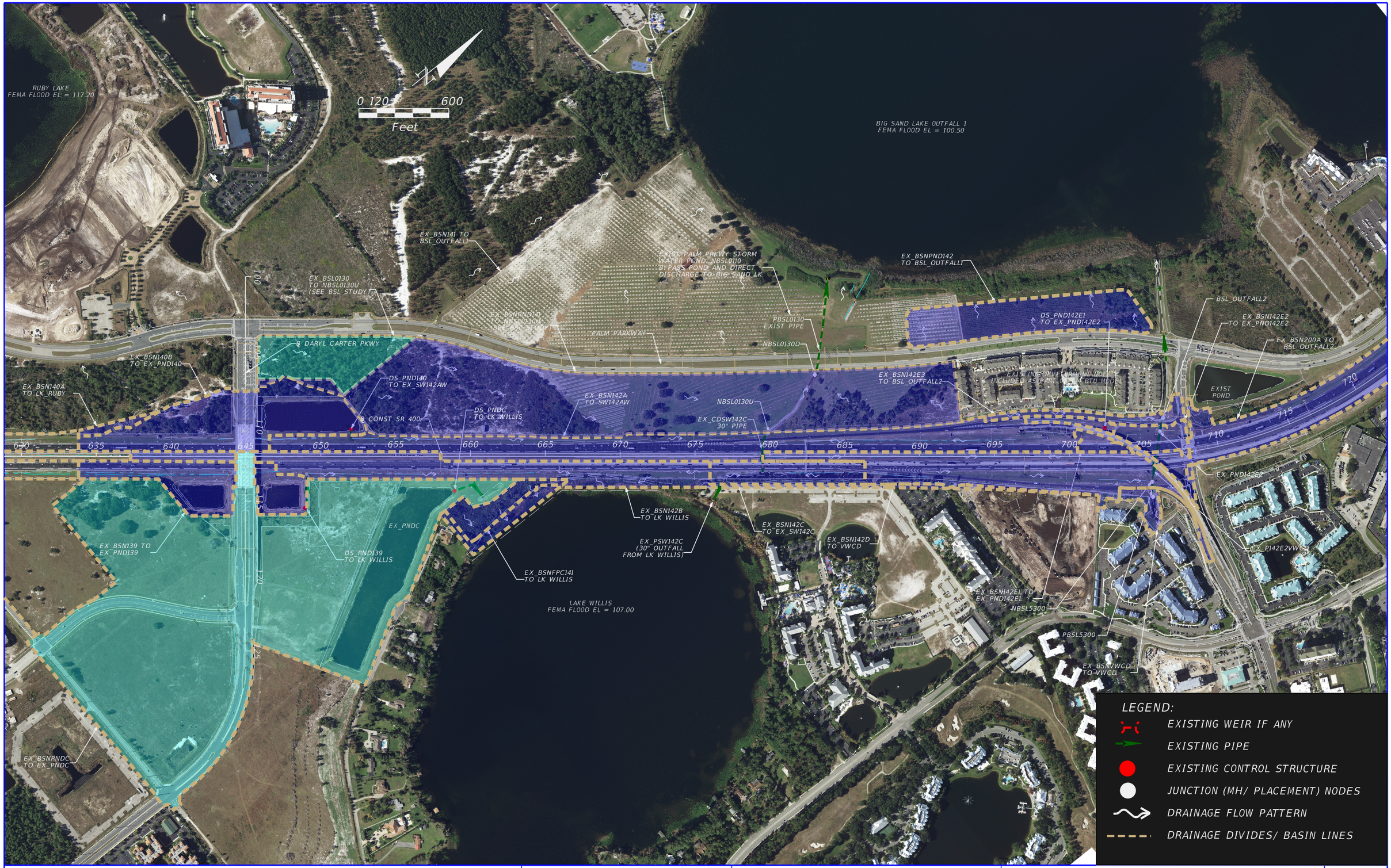
SHINGLE CREEK OUTFALL (BIG SAND LK/ VWCD) EXISTING BASIN MAP

FIGURE 11



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SHINGLE CREEK OUTFALLS EXISTING NODAL NETWORK

FIGURE 12

3.3.4.5 EX_BSN142A

Basin EX_BSN142A encompassed a large segment of S.R. 400 westbound between Daryl Carter Parkway and Central Florida Parkway. Stormwater runoff from the basin will sheet flow from the road into existing road-side swales with DBI to intercept the water and convey it to the downstream end of CD-2. Drainage pattern within this basin is either from the west to the east direction or east to west direction and meeting at the low point at the CD-2.

3.3.5 Shingle Creek Outfall (Big Sand Lake/ Valencia Water Control District -VWCD)

The Big Sand Lake/ Valencia Water Control District (VWCD) Outfall is defined at the downstream end of the double 48-inch pipe under the existing Ramp IA-CFP (S.R. 400 westbound on ramp from Central Florida Park-way). This outfall is unique as it is located roughly half way within the link that connects Big Sand Lake to VWCD. Stormwater runoff discharging at this location could drain northerly to Big Sand Lake (node BSL_OUTFALL2) or southerly under Interstate 4 to the Valencia Water Control District outfall (node VWCD).

There are four drainage basins contributing runoff to this outfall. One onsite dry detention pond EX_PND142E1 provides treatment and attenuation for a segment of westbound S.R. 400 (basin EX_BSN142E1). Historical permit information for this SMF was not available; therefore, design survey information and site visit data were used to establish both the stage/ storage and control structure for the pond to be included in the overall ICPR model. Please refer to **Figure 11** for an overall existing drainage map of this outfall.

The ICPR model for this segment used two boundary conditions (nodes BSL_OUTFALL2 and VWCD). The hydrographs for these boundary conditions were taken from the Geosyntec April 2017 Technical Memorandum for the Big Sand Lake Watershed Management Plan. The discharge rates to this outfall will be added to the Big Sand Lake Outfall (BSL_OUTFALL1) to obtain a total rate of discharge to Big Sand Lake for pre versus post comparison.

3.3.5.1 EX_BSN142E1

EX_BSN142E1 is a small drainage basin west of Central Florida Parkway. It encompassed approximately 350-feet of S.R. 400 westbound travel lanes. Drainage for this basin is typical to an urban roadway segment. Stormwater runoff sheet flows into a gutter to be conveyed to an inlet system that takes it to an existing pond EX_PND142E1 for treatment and attenuation.

This basin was last improved in 2001 under FPID #405515-1-52-01 as shown on the historical plans. However, permit documentation obtained from the SFWMD website do not contain information for this basin.

3.3.5.2 EX_PND142E1

Existing pond EX_PND142E1 is the only treatment pond within this outfall. There is no historical permit documentation for the construction of this pond. All information used in the model was taken from the design survey and confirmed in the field.

3.3.5.3 EX_BSN142E2

Basin EX_BSN142E2 bordered to the north by existing Ramp IA-CFP, to the east by the center line of Central Florida Parkway, to the south by S.R. 400 median, and to the west by basin EX_BSN142E1 eastern boundary line. Stormwater runoff from this basin is collected in a storm sewer system and discharges directly into a small ditch segment (node EX_PND142E2) that is a part of the link between Big Sand Lake and VWCD.

3.3.5.4 EX_BSN142E3

EX_BSN142E3 is a small sliver of open area between Ramp IA-CFP and the adjacent offsite multifamily development. The stormwater runoff from this basin is conveyed by an existing road side swale that outfalls directly to the downstream end of the double 48-inch pipe (node BSL_OUTFALL2).

3.3.5.5 EX_BSN200A

Basin EX_BSN200A is an onsite drainage basin east of Central Florida Parkway. The information for this basin was provided by CH2M (Jacobs) to be included in the model as it contributes runoff to node BSL_OUTFALL2. Stormwater runoff from this basin sheet flows off the roadway into shoulder gutter with shoulder gutter inlets to intercept the water and convey it to a conveyance ditch that ultimate outfalls to node BSL_OUTFALL2. No treatment or attenuation is provided for this basin currently.

3.3.6 Shingle Creek Outfall (Valencia Water Control District - VWCD)

The Valencia Water Control District (VWCD) Outfall contains a much larger drainage area than what is shown on the Existing Drainage Map. For the purpose of this project, only the onsite basins within the limits will be analyzed. The outfall is defined at the existing headwall south of Ramp IB-CFP. Hydrographs for this node were generated using the information obtained from the Geosyntec April 2017 Technical Memorandum for node NBSL5350. This outfall will be linked to the Big Sand Lake/ Valencia Water Control District outfall to accurately depict the hydraulics of the system linking Big Sand Lake to Valencia Water Control District.

There are two basins that directly discharge into this outfall (basins EX_BSN142D and EX_BSNVWCD). Combination of open and closed drainage systems convey the water generated from the basins to the outfall. There are no onsite detention systems to provide treatment or attenuation for these two basins. **Figure 11** provides a schematic of the existing drainage basins for this outfall.

3.3.6.1 EX_BSN142D

Basin EX_BSN142D encompassed approximately a third of the east bound mainline S.R. 400 from Daryl Carter Parkway to Central Florida Parkway. The drainage area includes the majority of Ramp IB-CFP and a small portion of Central Florida Parkway. The information for this basin was established using historical permit documentations as well as design survey.

3.3.6.2 EX_BSNVWCD

Basin EX_BSNVWCD is a small basin that encompassed the VWCD Outfall. Runoff from the basin is collected

in a collection system that conveys the water directly to the outfall. No treatment is provided for this basin.

4.0 PROPOSED CONDITIONS

In general, the proposed conditions mirror the existing conditions. The project continues to be separated into six main outfalls (Black Lake, Ruby Lake, Lake Willis, Big Sand Lake/ Valencia Water Control District, and Valencia Water Control District) within the Reedy Creek and Shingle Creek watershed (open basins). The Black Lake outfall (Reedy Creek Improvement District) consists of fifteen (15) onsite drainage basins, two (2) offsite drainage basins, and one 48-inch cross drain under Interstate 4 (S.R. 400) at roughly station 575+00.00.

The onsite drainage basins increase from existing conditions to the proposed conditions mainly due to the addition of median treatment swales. The treatment swales will intercept and treat existing untreated paved shoulder to compensate for the widening within eastbound travel lanes within basins BSN138C1B, BSN138C2 and BSN138C4. The total additional impervious area resulted from the widening is approximately 0.53 acres; while the unpaved shoulder proposed to be treated is approximately 1.67 acres (three times the added impervious). Additional treatment swales were introduced at the very upstream end of basin BSN138C3B to provide additional treatment and attenuation for the overall corridor as existing treatment swales within BSN138C2 are being impacted due to project improvements. The marginal reduction in SW138C2 (0.01 ac-ft) could be offset with the additional treatment swales provided along the corridor (0.80 ac-ft). From the modeling results (provided on **Table 4** – Summary of Peak Stage Comparison), all existing/ modified onsite treatment swales – with the exception to two (SW138B4 and SW138C2) – experience no rise in water level. Swales SW138B4 and SW138C2 water level marginally increased in the post-development condition by approximately 0.18-ft and 0.24-ft respectively during the design 25-year/ 72-hour storm. The increase in depth does not encroach onto the shoulder or the offsite area to the south.

Table 4 – Summary of Peak Stage Comparison

Node Name	Existing Peak Stage (ft)		Proposed Peak Stage (ft)	
	25-year/ 24-hour	25-year/ 72-hour	25-year/ 24-hour	25-year/ 72-hour
EX_SW138B1	103.03	103.46	103.03	103.43
EX_SW138B2	103.84	105.87	102.53	103.42
EX_SW138B3	114.48	114.86	114.48	114.86
EX_SW138B4	114.59	114.96	114.69	115.14(1)
EX_SW138C1	106.63	106.66	106.81	106.85
EX_SW138C2/ SW138C2	103.84	105.87	104.14	106.18(1)
EX_SW138C3/ SW138C3	113.83	114.27	113.82	114.26(2)
EX_SW138C4/ SW138C4	114.70	115.17	114.69	115.14(3)

Note:
(1) The increase is a factor of the reduction in the capacity in the existing treatment swale or timing.
(2) The reduction is contributed to the additional treatment swales (SW138C3B1 and SW138B3B2) provided upstream of the basin.
(3) The reduction shown is contributed to the decrease in drainage area to the overall drainage basin.

Basin EX_BSN138B1B is subdivided into three basins (BSN138B1B1, BSN138B1B2, and BSN138B1B3).

Each of these basins drains directly to the onsite swale treatment (SW138B1B1, SW138B1B2, and SW138B1B3) for treatment prior to leaving the site through an existing ditch bottom inlet and the 48-inch cross drain. Additionally, basin EX_BSN138C1 is subdivided into two basins (BSN138C1A and BSN138C1B) to accurately depict the hydraulics of this basin. With the introduction of shoulder gutter, part of the existing basin EX_BSN138C1 is now being intercepted in a storm sewer collection system that directly connect to the existing 48-inch cross drain and is identified as BSN138C1B. The remainder of the area (BSN138C1A) continues to drain into an existing roadside ditch to be taken to the upstream end of CD-1 (48-inch cross drain).

Basin EX_BSN138C3 is subdivided into three basins (BSN138C3A, BSN138C3B1, and BSN138C3B2). The existing basin is currently being treated in a roadside swale. However, to overcompensate for the increase in impervious area to a basin (BSN138C4) upstream of it, two median swales were added to intercept and provide additional treatment to compensate for the new impervious that will overflow into this basin. The additional treatment provided is marginally shy of the required (approximately 0.02 ac-ft). This volume will be offset within treatment swales SW138B1B1 to SW138B1B3.

The existing 48-inch cross drain within the Black Lake Outfall will not be extended nor replaced for this project. There is a new collection system that will be connected to it, but overall, it will continue to function as it currently does today. The inflow upstream of the cross drain, as shown on the ICPR-3 model is less in the proposed condition as it is in the pre-development, but the headwater elevation increases marginally. The increase in headwater elevation is the result of some instability in the model. The projection of the 500-year headwater elevation of 104.60' is still less than the overtopping elevation of 107.27'. **Table 5** – Cross drains Analysis Comparison summarized the pre/ post headwater at CD-1 (EX_5FDOT138).

No change will take place within the Lake Ruby outfall. The drainage basin (EX_BSN140A) will continue to overland flow away from the roadway toward adjacent property and out to Ruby Lake as it does currently.

The major component of the project centered around the last four outfalls (The Lake Willis, Big Sand Lake, Big Sand Lake/ Valencia Water Control District, and Valencia Water Control District). These outfalls are interconnected systems as previously discussed in the existing conditions. The Lake Willis basin positively outfalls into Big Sand Lake through a combination of a 60-inch equalizer pipes under S.R. 400 at roughly station 676+60, a 30-inch outfall pipe from pond FPC141, and 54-inch pipe system. The Big Sand Lake basin discharges into Valencia Water Control District (VWCD) through a series of open and closed drainage systems. The 60-inch cross-drain (CD-2) serves more as an outlet for Lake Willis than as a cross drain in the proposed condition; hence, this cross-drain will not be analyzed in the proposed condition.

Table 5 – Summary of Cross drains Analysis Comparison

Cross Drain ID	Existing Peak Stage (ft)		Proposed Peak Stage (ft)	
	50-year/ 24-hour	100-year/ 24-hour	50-year/ 24-hour	100-year/ 24-hour
CD-1 (EX_P5FDOT138)	102.33(1)	102.80(1)	102.46(1)	102.99(1)
CD-2 (EX_CDSW142C/ P_MHS494B)	104.77(2)	105.01(2)	N/A(2)	N/A(2)

Note: (1) The elevation was taken at the headwater of the cross-drain.
(2) No analysis.

The overall connectivity of these basins will not change in the proposed condition. The improvements will require construction of eight new treatment ponds, reconfiguration of one existing pond, construction of one flood compensation pond, and completely filling in two existing ponds. The drainage areas within these outfalls are being reconfigured to best fit in with the functionality of the watershed.

In existing condition, basin BSN139 (identified as EX_BSN139 on the Existing Drainage Map and outlined in Section 3.0) drains to two interconnected wet detention ponds for treatment and attenuation prior to discharging into Lake Willis. These two ponds will be impacted as a direct result of the proposed interchange improvements (Ramp IB_DCP and Ramp IC_DCP). With development constraints (built out within the surrounding area) the proposed replacement pond (PND141B2) will be located between S.R. 400 and Palm Parkway. The pond will be designed to provide pollutant abatement volume and attenuation for both this phase of development and the future S.R. 400 (I-4) BTU. The overflow discharge will flow into an onsite outfall system and out to Big Sand Lake in lieu of to Lake Willis and a series of pipes and ditches before it flows to Big Sand Lake as in the existing condition. To offset this minor basin diversion, basin BSN142C (existing EX_BSN142C) will be discharging to Lake Willis first prior to Big Sand Lake as it did in existing condition.

The flood compensation pond (FPC141), constructed to accommodate the future flood impacts, will treat a small basin BSNFPC141 that encompassed a portion of existing/ proposed S.R. 400 (I-4) eastbound widening travel lane between stations 657+00 and 686+00 in this phase of development. A 60-inch equalizer pipe under S.R. 400 and a 30-inch outfall pipe at the northeast corner of the pond will hydraulically connect Lake Willis to Big Sand Lake.

Within Lake Willis watershed, there are several offsite basins. The offsite basin that would be impacted as a direct result of the S.R. 400 (I-4) improvements is basin BSNPNDC. This basin includes a large development east of Daryl Carter Parkway between proposed Ramp IC_DCP and Regency Village Drive; a future development west of Daryl Carter Parkway between proposed Ramp IB_DCP and Regency Village Drive; a future development encapsulated by Daryl Carter Parkway, Lake street, and Regency Village Drive; a part of Lake Avenue between Regency Village Drive and Daryl Carter Parkway; a part of Regency Village Drive between Daryl Carter Parkway and Lake Street; Daryl Carter from the new interchange to Lake Street; and modified pond PNDC. The major impact to this basin is the existing pond PNDC. The northern tip of the pond, including the control structure and spreader swale, will be impacted, reducing the pond capacity. To offset this encroachment, the pond will be expanded into an upland area northwest of Lake Willis.

Additionally, the drainage area contributing to modified pond PNDMODC is also reduced in the proposed condition. The required treatment, based on the reduced drainage area, is less than the provided treatment volume in the reconfigured pond C.

The ICPR-3 model will demonstrate to SFWMD and FDOT that the overall rate to Lake Willis in the post development condition will be less than the existing condition. The model will also demonstrate to the reviewing agencies that the peak stage in pond PNDMODC will not exceed the existing design high water for the 25-year/ 24-hour storm event.

In proposed condition, the Big Sand Lake outfall encompassed a large portion of S.R. 400 between Daryl Carter Parkway and Central Florida Parkway. There are eight (8) wet detention ponds (ponds PND140B1, PND140B2, PND140B3, PND141B1, PND141B2, PND141B3, PND141B4, PND142) to be constructed within this outfall to accommodate the S.R. 400 improvements (Interim and Ultimate). Ponds PND140B1 to

PND140B3 are interconnected wet detention ponds constructed as a replacement to the existing wet detention pond EX_PND140. These ponds are designed to provide treatment and attenuation to the northern portion of the interchange. A modified type E inlet with an 18-inch pipe is proposed to control the water level in the pond and provide positive outlet for the water to Big Sand Lake.

Runoff from ponds PND140B1 to POND140B3 does not directly outfall to Big Sand Lake. Instead, it discharges into pond PND141B1, which outfalls into a collection system that also intercepts runoff from basin BSN142A and a series of proposed ponds (PND141B2, PND141B3, PND141B4, and FPC141) with hydraulic connection to Big Sand Lake. A collection system intercepts and conveys the runoff from basin BSN142 to pond PND142 before outfall to Big Sand Lake. These ponds, with the exception to pond PND141B1, are designed to provide treatment for the onsite basins only. Offsite drainage (BSL0130 – O-Town West Development) will be treated within pond PND141B1. The treatment volume provided is based on an estimated 85% impervious.

Pond PND142 is currently under review by SFWMD application #171004-11 for the S.R. 400 (I-4) Beyond the Ultimate Segment 2 Project. FDOT is proposing to modify the permit to allow for the construction of this phase of development (which requires less treatment than established in the current application). The model for this pond has been updated and refined so that the control structure proposed will serve this phase as well as the Ultimate S.R. 400 (I-4) Beyond the Ultimate phase.

The Big Sand Lake/ Valencia Water Control District outfall has one small change. Basin BSN142E3 is marginally reduced from 2.03 acres to 1.66 acres. The rest of the drainage basins (EX_BSN142E1 and EX_BSN142E2) will remain the same. No change will take place within the Valencia Water Control District outfall. The drainage basins EX_BSN142D and EX_VWCD will continue to flow into a combination of open and closed collection systems that direct the runoff to the Valencia Water Control District outfall.

Two ICPR Version 3.1 (ICPR-3) models were created to illustrate the hydrology and hydraulics proposed to take place within these six outfalls for this project. Black Lake outfall, which is in the Reedy Creek Improvement District (RCID), has a stand-alone model that includes offsite basins from developments that were permitted in the early 1980s. As previously discussed, most of these basins are master planned developments that provide attenuation ponds/ lakes that meet the allowable discharge into RCID. Any required treatment volume would be provided as each individual parcel acquires a permit modification. While the permit for the master plan is available on the SFWMD website, the individual parcel data was not obtainable. As such, the ICPR-3 model utilized the available permitted information to analyze these offsite basins.

The model for this outfall introduces five new treatment swales (nodes). The swales, like the existing roadside treatment swales, will cascade from the upstream to the downstream and eventually outlet to the downstream of the existing 48-inch cross drain (CD-1) at station 575+00.00.

The remaining five outfalls (Ruby Lake, Lake Willis, Big Sand Lake, Big Sand Lake/ Valencia Water Control District, and Valencia Water Control District) are combined into one ICPR-3 model. Basin EX_BSN140A will continue, as it currently does today, toward adjacent property and eventually discharges into Ruby Lake. As there is no work proposed within the limits of this basin, the runoff remains unchanged from the existing conditions. However, it was included in the model to determine the rate of discharge for comparison to the future S.R. 400 (I-4) Beyond the Ultimate post development condition.

The second ICPR-3 model, as outlined in Section 3 of the report, includes the Lake Willis, Big Sand Lake, and

Valencia Water Control District (VWCD) outfalls. These outfalls are all linked together hydraulically. To correctly determine the rate of discharge entering the existing Lake Willis, extensive coordination with the local government, Orange County was performed to ascertain recent studies of the area to assist in the development of this model. With the most recent study prepared on behalf of Orange County by Geosyntec for the Big Sand Lake Watershed, offsite basins contributing to the Lake Willis were extrapolated and added to the ICPR-3 model of the project. Additionally, the peak stages in Big Sand Lake and Valencia Water Control District for the 100-year/ 24-hour and 100-year/ 72-hour storms were taken from the study to generate hydrographs for the model's boundary conditions.

These basins are critical to the overall results at Lake Willis. They determine the water level in Lake Willis and dictate the rate of discharge entering and leaving it and passing under I-4 to through a 60-inch equalizer pipe to pond FPC141. A 30-inch pipe within pond FPC141 replaces the existing 30-inch outlet pipe for Lake Willis and control the rate of discharge entering Big Sand Lake from Lake Willis.

Extrapolating the peak stages from the memorandum for Big Sand Lake and Valencia Water Control District for the generation of boundary hydrographs is a conservative approach. The peak stages in Geosyntec's model already included the drainage areas within this project limits as well as the offsite drainage basins.

Although the major component of the model is the interaction with these offsite basins; the discussion therein will mainly focus on the onsite basins and how it relates to the watershed. Additionally, the onsite basins discussed within this section will only be applied to the limits of the project.

The ICPR-3 model for these outfalls presents several new nodes (PND140B1 to PND140B3, PND141, PNDFPC141, PND142 and SW142C. The pre/ post results comparison for each outfall are provided in **Table 6** – Summary of Rate of Discharge Comparison and **Table 7** – Summary of Volume of Discharge Comparison.

Table 6 – Summary of Rate of Discharge Comparison

Outfall/Node Name	Existing Rate of Discharge (cfs)		Proposed Rate of Discharge (cfs)	
	25-year/ 24-hour	25-year/ 72-hour	25-year/ 24-hour	25-year/ 72-hour
Reedy Creek Outfall (Black Lake)/ EX_4AFDOT138	106.51	166.40	103.38	160.92
Ruby Lake Outfall/ LK_RUBY	0.87	2.39	0.87	2.39
Shingle Creek Outfall (Lake Willis)/ LK_WILLIS	370.98	648.24	358.97	629.15
Shingle Creek Outfall (Big Sand Lake)/ BSL_OUTFALL1	62.14	181.36	40.33	78.61
Shingle Creek Outfall (Big Sand Lake/ VWCD)/ BSL_OUTFALL2	157.94	156.11	142.03	121.26
Shingle Creek Outfall (VWCD)/ VWCD	3.71	13.14	3.64	12.97
The rate of discharge for each of the outfalls was taken from the Node Maximum Report. This is the maximum inflow into each of the node. In general, the post rate of discharge is less in the post development as compared to the pre-development.				

Table 7 – Summary of Volume of Discharge Comparison

Outfall/Node Name	Existing Volume of Discharge (ac-ft)		Proposed Volume of Discharge (ac-ft)	
	25-year/ 24-hour	25-year/ 72-hour	25-year/ 24-hour	25-year/ 72-hour
Reedy Creek Outfall (Black Lake)/ EX_4AFDOT138	77.20	95.60	76.40	94.60
Ruby Lake Outfall/ LK_RUBY	0.30	0.40	0.30	0.40
Shingle Creek Outfall (Lake Willis)/ LK_WILLIS	177.80	218.10	170.60	208.90
Shingle Creek Outfall (Big Sand Lake)/ BSL_OUTFALL1	36.50	55.00	33.90	44.80
Shingle Creek Outfall (Big Sand Lake/ VWCD)/ BSL_OUTFALL2	57.30	178.90	51.50	169.00
Shingle Creek Outfall (VWCD)/ VWCD	-42.20	-160.70	-40.90	-156.00
The volume of discharge for each of the outfalls was taken from the Node Time Series by Node Report. This is the total volume of discharge into each of the node. In general, the post rate of discharge is less in the post development as compared to the pre development. The negative states that the flow is reverse				

4.1 Cross drains

Proposed cross drains have been analyzed using historic offsite basins as they were defined on November 12, 1986 when the Florida Administrative Code 14-86 was established. Historic plans and calculations were referenced in development of the basin areas and can be found in **Appendices D, F and G**. Due to the interconnectivity of the drainage basins, the cross drains were incorporated into larger basin models to evaluate the hydraulics. Runoff methodology and software used to perform the analysis was selected based on the contributing basin characteristics, previous/historic analysis performed, and overall connectivity to other systems in the area. The calculations for the cross drains can be found in **Appendix C**.

Proposed cross drains are designed to maintain existing drainage patterns through the project corridor. The design frequency as outlined in the FDOT Drainage Manual Sec 4.3.1 is a 50-year for mainline interstates. The 100-year will also be analyzed to check for offsite impacts. Please refer to **Figure 13** for the general location of the cross drains and **Table 8** for the proposed cross drain information.

Table 8 - Proposed Cross Drain Summary

Structure NO.	Station	Baseline Alignment Name	Contributing Basin	Size
CD-1	575+00.00	BL SURVEY	Black Lake Basin	48”
CD-2	676+60.00	BL SURVEY	Big Sand Lake Basin	60”

0 300 1200
Feet

APOPKA VINELAND RD

LAKE RUBY

BIG SAND LAKE

BLACK LAKE

PALM PARKWAY

POND FPC141

END PROJECT

CL CONST SR 400

540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710

CD-1 (48")

BEGIN PROJECT

LITTLE LAKE BRYAN

SR 535

CD-2 (60" EQUILIZER)

LAKE WILLIS

DARYL CARTER PARKWAY

LAKE BRYAN

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

LOCATION MAP
PROPOSED CROSS-DRAIN

FIGURE 13

4.1.1 CD-1

CD-1 is to remain in place as there is limited work within the area that would require replacement or culvert extension. However, the widening of the eastbound travel lanes required the construction of shoulder gutter with storm sewer collection system to intercept and to convey the runoff to minimize existing conveyance ditch capacity. The storm sewer system will connect directly to the 48-inch cross drain.

The overall ICPR-3 Model discussed in Section 3 was modified to represent post-development conditions. This ICPR-3 model was used to compute post-development discharge rates and headwater elevations for CD-1.

4.1.2 CD-2

CD-2 is proposed to be relocated to accommodate the S.R. 400 (I-4) Beyond the Ultimate widening project as well as to optimize construction. CD-2 is proposed to be a single 60-inch outfall equalizer pipe between Lake Willis and pond FPC141.

No proposed analysis will be performed for this equalizer connection.

4.2 Floodplain/Floodway

No floodplains were impacted within the project corridor.

4.3 Proposed Basins

The existing development basins as well as proposed roadway profiles were used as the basis to establish the proposed development basins. Water quality and quantity requirements for the project will be provided within existing stormwater management systems (SMF) or proposed new ones. All impervious area proposed to drain into a stormwater management facility or pond is treated in accordance with the Regulatory Division of the South Florida Water Management District. Where there is limited right-of-way to expand existing facilities to provide additional storage for the widening, compensation of existing untreated paved shoulders will be provided within the proposed median treatment swales.

Generally, all roadways proposed for reconstruction are collected within a proposed stormwater management facility. Areas within the project limits where roadway reconstruction was not proposed, but existing pavement was untreated, were collected for treatment in a proposed stormwater management facility where feasible. Like the existing conditions, the proposed basins are divided into six (6) major project basins which are defined by "outfalls" from the FDOT right-of-way. The outfall locations are consistent with the pre-development conditions. This section will only discuss drainage basins that are affected by the widening. Existing basins that are not impacted along the corridor will not be outlined as it has been discussed in Section 3 of the report.

The Post-Development condition was modeled for each major basin using ICPR Version 3.1.1 and the discharge rates for the design storm events were documented at the "outfall" location from FDOT right-of-way. Rainfall values used are referenced from the NOAA Atlas 14 Point Precipitation Frequency Estimate. See **Table 9** for the Summary of Proposed Onsite Drainage Basins.

Table 9 - Summary of Proposed Onsite Drainage Basins

Outfall Name	Basin Name	Drainage Area (ac)	CN
Reedy Creek Outfall (Black Lake)	EX_BSN137B	39.96	51.39
	EX_BSN138B1A	2.78	84.00
	BSN138B1B1	1.02	68.70
	BSN138B1B2	1.71	86.70
	BSN138B1B3	1.48	68.20
	EX_BSN138B2	3.06	68.42
	EX_BSN138B3	5.97	49.00
	EX_BSN138B4	8.51	66.13
	BSN138C1A	1.91	57.43
	BSN138C1B	1.14	84.00
	BSN138C2	4.96	57.82
	BSN138C3A	8.06	68.77
	BSN138C3B1	0.44	74.93
	BSN138C3B2	0.66	84.00
	BSN138C4	5.50	74.51
Lake Ruby Outfall	EX_BSN140A	0.55	84.00
Shingle Creek Outfall (Lake Willis)	BSNFPC141	15.20	72.22
	BSN142B	8.40	78.78
	BSN142C	5.74	74.60
Shingle Creek Outfall (Big Sand Lake)	BSN139	20.52	71.16
	BSN140B1	6.03	72.17
	BSN140B2	3.44	67.89
	BSN140B3	6.00	64.54
	BSN141B1	5.75	52.26
	BSN141B2	6.68	49.00
	BSN141B3	9.60	71.31
	BSN141B4	8.50	50.10
	BSN142	13.96	79.42
	BSNPND142	0.48	79.42
	BSN142A	3.39	62.11
	BSN200A	12.04	67.53
	BSN200C	1.20	0.00
Shingle Creek Outfall (Big Sand Lake/ VWCD)	EX_BSN142E1	1.52	84.00
	EX_BSN142E2	1.89	84.00
	BSN142E3	1.66	83.20
Shingle Creek Outfall (VWCD)	EX_BSN142D	13.91	84.96
	EX_BSNVWCD	0.97	85.30
Note: Basin EX_BSN200A is provided by CH2M (Jacobs) and is permitted under SFWMD application # 171004-11			

4.3.1 Reedy Creek Outfall (Black Lake)

The Black Lake outfall (Reedy Creek Improvement District), as outlined in Section 3 of the report, is defined at an existing ditch downstream of CD-1 (north of Interstate 4 and east of S.R. 535) that is hydraulically connected to Black Lake with Reedy Creek Improvement District (RCID). Due to the addition of median treatment swales, there are now fifteen (15) onsite drainage basins, two (2) offsite drainage basins, and one 48-inch cross drain under Interstate 4 (S.R. 400) at roughly station 575+00 within this outfall. In addition to the two existing ponds (at the southwest intersection of S.R. 535 and I-4 interchange) and several roadside swales, five additional treatment swales are proposed within this outfall to provide treatment to existing untreated median paved shoulder to compensate for the proposed widening. Several storm sewer systems are proposed to collect and convey the storm water to existing roadside swales.

The existing ICPR-3 model was modified to reflect the proposed condition. All offsite information and onsite basins that did not change in the proposed conditions will remain the same and will not be further discussed in this section. The tailwater elevation used to generate the hydrograph for the boundary node was taken from the April 2017 Technical Memorandum for the Big Sand Lake Watershed. The peak stage for the 100-year/ 24-hour and the 100-year/ 72-hour storms were used to analyze the critical storms as well as the required SFWMD storms. The post-development analysis of this outfall is included in **Appendix C** of this report. **Figure 14** and **Figure 15** provide the proposed drainage basins and nodal network diagram for the Black Lake Outfall respectively.

4.3.1.1 BSN138B1B1 to BSN138B1B3

Basins BSN138B1 to BSN138B3 are individual small basins within the median between stations 564+00 to 592+00 that directly drain to SW138B1B1 to SW138B1B3 for treatment and attenuation prior to discharging to an existing inlet that is connected to the existing 48-inch cross drain (CD-1). Drainage is typically in a west to east direction for basin BSN138B1B1; both east to west direction and west to east direction for basin BSN138B1B2; and in an east to west direction for basin BSN138B1B3.

4.3.1.2 SW138B1B1 to SW138B1B3

The proposed treatment swales SW138B1B1 to SW138B1B3 will be constructed to provide treatment for the existing median paved shoulder to compensate for the additional impervious within basins BSN138C1B, BSN138C2, and BSN138C4.

4.3.1.3 BSN138C1A

The portion of existing basin EX_BSN138C1 that encompass the existing roadside swale and pavement to remain untouched is labeled as basin BSN138C1A. Drainage from this basin overland flows away from the roadway into existing roadside swale that discharges to the upstream end of CD-1.

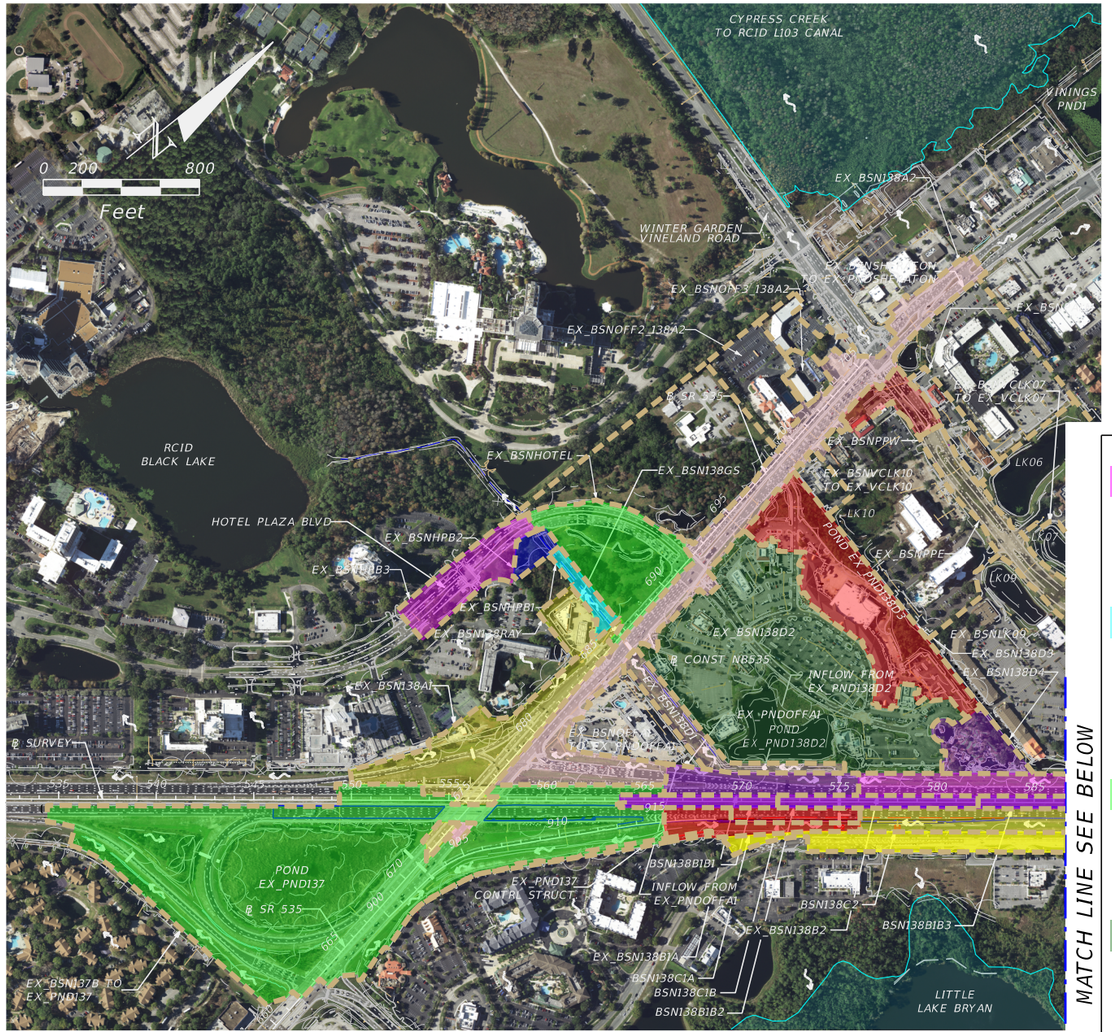
4.3.1.4 BSN138C1B

The portion within existing basin EX_BSN138C1 that will be widened to accommodate a new auxiliary lane is

NOTE: INFORMATION SHOWN FOR THE OFFSITE BASINS ARE BASED ON AVAILABLE EXISTING CONSTRUCTION PLANS & PERMITTED DOCUMENTATIONS. DESIGN SURVEY DOES NOT EXTEND BEYOND THE PROJECT LIMITS. AS SUCH, THE INFORMATION SHOWN ARE REPRESENTATIVES AND SHOULD NOT BE CONSTRUED AS DESIGN DATA. ALL ONSITE BASINS HAVE BEEN ADJUSTED AS NEEDED TO BEST REFLECT THE CURRENT SITE CONDITION PER DESIGN SURVEY PROVIDED.

ALL OFFSITE BASINS WERE EXTRAPOLATED FROM HISTORICAL PERMIT DATA. SMALL ADJUSTMENT, AS NEEDED, WERE MADE TO REFLECT FIELD RE-CONNAISSANCE. CN SHEETS WERE PROVIDED FOR MOST OF THE OFFSITE BASINS INCLUDED IN THE ICPR-3 MODEL. THESE SHEETS WERE TAKEN DIRECTLY FROM THE PERMITS DOCUMENTATION FROM SFWMD ARCHIVE. EX_BSN138D4 IS PART OF THE CROSSROAD COMMERCIAL DEVELOPMENT. HOWEVER, THERE ARE NO PERMIT INFORMATION OR APPLICACATION (MODIFICATION) FOR THIS IMPROVEMENT. IT IS AN EXISTING MINI-GOLF WITH ONSITE STORAGE PROVIDED. FOR PURPOSES OF THE ICPR ROUTING, THE AREA IS PROPOSED TO DISCHARGE TO THE EXISTING POND EX_PNDD2.

THE PERMIT APPLICATIONS ASSOCIATED WITH THIS DRAINAGE BASIN TO REEDY CREEK IMPROVEMENT DISTRICT ARE AS FOLLOWS: BASIN EX_BSN137B – SFWMD #04118-1; BASIN EX_BSN138B3, EX_BSN138B4, AND EX_BSN138C2 TO EX_BSN138C4 – SFWMD #011109-7; BASIN EX_BSN138D2 AND BSN138D3 – SFWMD #140612-17; BASIN EX_BSNOFF138A1 – SFWMD #X000007612; BASIN EX_BSN138RAY – SFWMD #991015-3. ADDITIONAL OFFSITE PERMIT ASSOCIATED WITH THE MODELING ARE: #891130-2, #12168-S, #891226-2, AND #120203-11.



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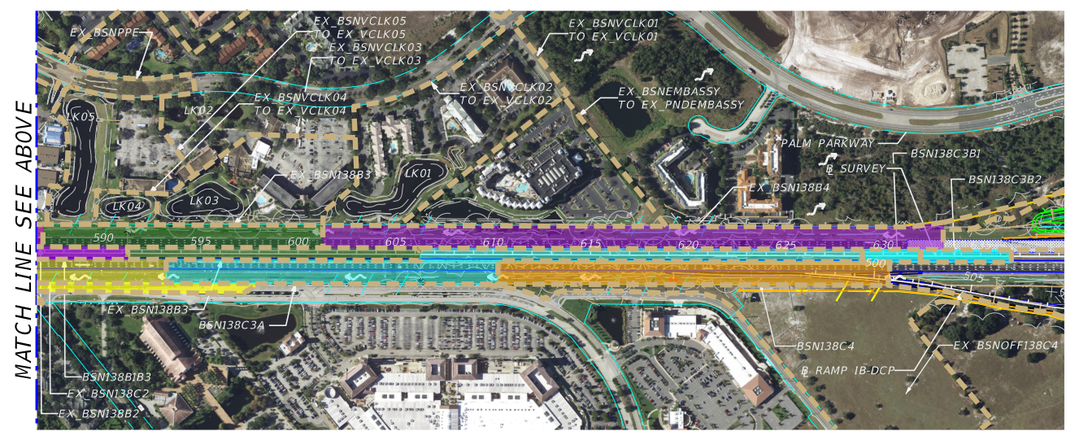

BONNET CREEK (L101 BLACK LAKE) OUTFALL

UNTREATED BASINS:

EX_BSN138A1 (I-4 BTU)
TOTAL AREA: 6.25 AC.
IMPERVIOUS AREA: 2.90 AC.
PERVIOUS AREA: 3.35 AC.
WATER SURFACE: 0.00 AC.
CN: 88.26
DCIA: 0.00 AC. (0.00%)
NDCIA: 2.90 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138A2 (I-4 BTU)
TOTAL AREA: 13.66 AC.
IMPERVIOUS AREA: 10.10 AC.
PERVIOUS AREA: 3.56 AC.
WATER SURFACE: 0.00 AC.
CN: 59.03
DCIA: 10.10 AC. (73.95%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138B1A
TOTAL AREA: 2.78 AC.
IMPERVIOUS AREA: 1.79 AC.
PERVIOUS AREA: 0.99 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.79 AC. (64.39%)
NDCIA: 0.00 AC.
Tc: 23.58 MINS (CALCULATED)

EX_BSN138B2
TOTAL AREA: 3.06 AC.
IMPERVIOUS AREA: 1.51 AC.
PERVIOUS AREA: 1.55 AC.
WATER SURFACE: 0.00 AC.
CN: 68.42
DCIA: 1.51 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 27.66 MINS (CALCULATED)

BSN138C1A
TOTAL AREA: 1.91 AC.
IMPERVIOUS AREA: 0.54 AC.
PERVIOUS AREA: 1.37 AC.
WATER SURFACE: 0.00 AC.
CN: 57.43
DCIA: 0.54 AC. (28.27%)
NDCIA: 0.00 AC.
Tc: 16.22 MINS (DITCH CALC)

BSN138C1B
TOTAL AREA: 1.14 AC.
IMPERVIOUS AREA: 1.14 AC.
PERVIOUS AREA: 0.00 AC.
WATER SURFACE: 0.00 AC.
CN: ----
DCIA: 1.14 AC. (100.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138D1 (I-4 BTU)
TOTAL AREA: 2.49 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 2.24 AC.
WATER SURFACE: 0.25 AC.
CN: 84.00
DCIA: 0.25 AC. (10.04%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB1
TOTAL AREA: 0.93 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.19 AC.
CN: 72.18
DCIA: 0.19 AC. (20.43%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB2
TOTAL AREA: 0.78 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: .73 AC.
WATER SURFACE: 0.05 AC.
CN: 73.93
DCIA: 0.05 AC. (6.41%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB3
TOTAL AREA: 3.44 AC.
IMPERVIOUS AREA: 1.55 AC.
PERVIOUS AREA: 1.89 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.55 AC. (45.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNOFF138C4
TOTAL AREA: 18.82 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 18.82 AC.
WATER SURFACE: 0.00 AC.
CN: 49.52
DCIA: 0.00 AC.
NDCIA: 0.00 AC.
Tc: 20.96 MINS (CALCULATED)

TREATED BASINS:

EX_BSN137B (I-4 BTU)
TOTAL AREA: 39.96 AC.
IMPERVIOUS AREA: 11.48 AC.
PERVIOUS AREA: 20.12 AC.
WATER SURFACE: 8.36 AC.
CN: 51.39
DCIA: 18.81 AC. (47.07%)
NDCIA: 1.03 AC.
Tc: 54 MINS (PERMITTED)

BSN138B1B1
TOTAL AREA: 1.02 AC.
IMPERVIOUS AREA: 0.41 AC.
PERVIOUS AREA: 0.61 AC.
WATER SURFACE: 0.00 AC.
CN: 68.70
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.41 AC.
Tc: 31.69 MINS (DITCH CALC)

BSN138B1B2
TOTAL AREA: 1.71 AC.
IMPERVIOUS AREA: 0.68 AC.
PERVIOUS AREA: 1.03 AC.
WATER SURFACE: 0.00 AC.
CN: 86.70
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.68 AC.
Tc: 88.77 MINS (DITCH CALC)

BSN138B1B3
TOTAL AREA: 1.48 AC.
IMPERVIOUS AREA: 0.58 AC.
PERVIOUS AREA: 0.90 AC.
WATER SURFACE: 0.00 AC.
CN: 68.20
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.58 AC.
Tc: 18.60 MINS (CALCULATED)

EX_BSN138B3
TOTAL AREA: 5.97 AC.
IMPERVIOUS AREA: 2.73 AC.
PERVIOUS AREA: 3.24 AC.
WATER SURFACE: 0.00 AC.
CN: 49.00
DCIA: 2.73 AC. (45.73%)
NDCIA: 0.00 AC.
Tc: 43.20 MINS (CALCULATED)

EX_BSN138B4
TOTAL AREA: 8.51 AC.
IMPERVIOUS AREA: 4.20 AC.
PERVIOUS AREA: 4.31 AC.
WATER SURFACE: 0.00 AC.
CN: 66.13
DCIA: 4.20 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 50.76 MINS (CALCULATED)

BSN138C2
TOTAL AREA: 4.96 AC.
IMPERVIOUS AREA: 2.62 AC.
PERVIOUS AREA: 2.34 AC.
WATER SURFACE: 0.00 AC.
CN: 57.82
DCIA: 2.62 AC. (52.82%)
NDCIA: 0.00 AC.
Tc: 17.62 MINS (DITCH CALC)

BSN138C3A
TOTAL AREA: 8.06 AC.
IMPERVIOUS AREA: 3.51 AC.
PERVIOUS AREA: 4.55 AC.
WATER SURFACE: 0.00 AC.
CN: 68.77
DCIA: 3.51 AC. (43.55%)
NDCIA: 0.00 AC.
Tc: 49.74 MINS (CALCULATED)

BSN138C3B1
TOTAL AREA: 0.44 AC.
IMPERVIOUS AREA: 0.17 AC.
PERVIOUS AREA: 0.27 AC.
WATER SURFACE: 0.00 AC.
CN: 74.93
DCIA: 0.17 AC. (38.64%)
NDCIA: 0.00 AC.
Tc: 38.30 MINS (DITCH CALC)

BSN138C3B2
TOTAL AREA: 0.66 AC.
IMPERVIOUS AREA: 0.25 AC.
PERVIOUS AREA: 0.41 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.25 AC. (37.88%)
NDCIA: 0.00 AC.
Tc: 34.99 MINS (DITCH CALC)

BSN138C4
TOTAL AREA: 5.50 AC.
IMPERVIOUS AREA: 3.14 AC.
PERVIOUS AREA: 2.36 AC.
WATER SURFACE: 0.00 AC.
CN: 74.51
DCIA: 3.14 AC. (57.09%)
NDCIA: 0.00 AC.
Tc: 18.96 MINS (CALCULATED)

EX_BSN138D2 (I-4 BTU)
TOTAL AREA: 27.71 AC.
IMPERVIOUS AREA: 19.98 AC.
PERVIOUS AREA: 5.24 AC.
WATER SURFACE: 2.49 AC.
CN: 77.00
DCIA: 22.47 AC. (81.09%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D3 (I-4 BTU)
TOTAL AREA: 9.82 AC.
IMPERVIOUS AREA: 3.20 AC.
PERVIOUS AREA: 6.62 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 3.20 AC. (32.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D4 (I-4 BTU)
TOTAL AREA: 2.56 AC.
IMPERVIOUS AREA: 1.82 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.00 AC.
CN: 93.95
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.82 AC.
Tc: 10 MINS (PERMITTED)

EX_BSNPALM
TOTAL AREA: 1.91 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 1.91 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPW (I-4 BTU)
TOTAL AREA: 2.06 AC.
IMPERVIOUS AREA: 1.45 AC.
PERVIOUS AREA: 0.61 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.45 AC. (70.39%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPE (I-4 BTU)
TOTAL AREA: 5.74 AC.
IMPERVIOUS AREA: 3.65 AC.
PERVIOUS AREA: 2.09 AC.
WATER SURFACE: 0.00 AC.
CN: 79.98
DCIA: 3.65 AC. (63.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

BSN138B3B
TOTAL AREA: 2.18 AC.
IMPERVIOUS AREA: 0.83 AC.
PERVIOUS AREA: 1.35 AC.
WATER SURFACE: 0.00 AC.
CN: 49.00
DCIA: 0.83 AC. (38.07%)
NDCIA: 0.00 AC.
Tc: XX.XX MINS (CALCULATED)

EX_BSN138RAY
TOTAL AREA: 1.40 AC.
IMPERVIOUS AREA: 0.91 AC.
PERVIOUS AREA: 0.49 AC.
WATER SURFACE: 0.00 AC.
CN: 83.01
DCIA: 0.91 AC. (64.86%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSNHOTEL
TOTAL AREA: 6.77 AC.
IMPERVIOUS AREA: 2.48 AC.
PERVIOUS AREA: 3.98 AC.
WATER SURFACE: 0.31 AC.
CN: 77.76
DCIA: 2.79 AC. (41.21%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
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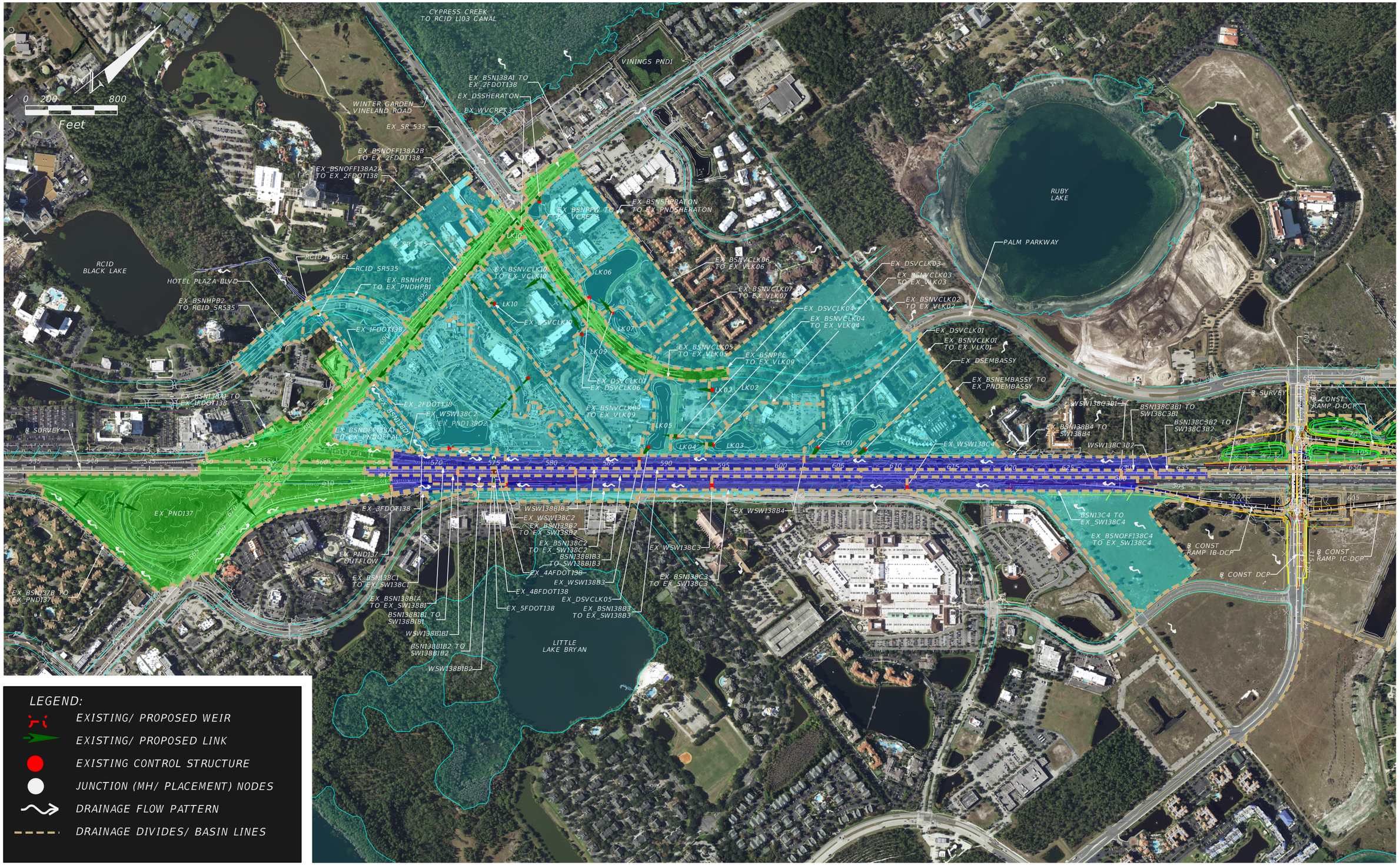
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) PROPOSED BASIN MAP

FIGURE 14



LEGEND:

- EXISTING/ PROPOSED WEIR
- EXISTING/ PROPOSED LINK
- EXISTING CONTROL STRUCTURE
- JUNCTION (MH/ PLACEMENT) NODES
- DRAINAGE FLOW PATTERN
- DRAINAGE DIVIDES/ BASIN LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL, 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) PROPOSED NODAL NETWORK

FIGURE 15

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identified as basin BSN13C1A. Storm water runoff from this basin will be captured in a new collection system that will tie directly to the existing 48-inch cross drain. The impervious areas, existing and new, will direct discharge into Black Lake as there is limited right-of-way to construct any treatment system.

4.3.1.5 BSN138C2

Basin BSN138C2 encompasses the drainage area that was EX_BSN138C2. The total basin area is the same, but the impervious area is greater due to the proposed widening to the I-4 eastbound travel lanes. Additionally, the widening marginally impacted the existing treatment swale (EX_SW138C2), reducing its capacity by approximately 0.01 ac-ft. Drainage from this basin is captured in a collection system along the shoulder and discharges to the modified treatment swale SW138C2 for treatment and attenuation. The reduced capacity in this swale is being compensated downstream in treatment swales SW138B1B1 to SW138B1B3.

4.3.1.6 SW138C2

Existing swale EX_SW138C2 will be impacted due to the widening along I-4 eastbound travel lanes, reducing its capacity by approximately 0.01 ac-ft. The regraded/ modified treatment swale is called SW138C2, and it accepts runoff from basin BSN138C2 and is the very downstream end of the series of treatment swales along the eastbound travel lanes between SR 535 and Daryl Carter Parkway.

4.3.1.7 BSN138C3A to BSN138C3B2

Existing basin EX_BSN138C3 is subdivided into three basins (BSN138C3A, BSN138C3B1, and BSN138C3B2) in the proposed condition. The division is to provide additional treatment within this basin to overcompensate for the additional impervious areas within the basin BSN138C4 upstream of it. The existing impervious areas proposed to drain to the two new swales SW138C3B1 and SW138C3B2 is equivalent to the new impervious area within basin BSN138C4.

4.3.1.8 EX_SW138C3 to SW138C3B2

Treatment swale EX_SW138C3 will treat and attenuate basin BSN138C3A. Upstream of this treatment swale, within the median, are two proposed new treatment swales SW138C3B1 and SW138C3B2 that intercept water from basins BSN138C3B1 and BSN138C3B2 respectively. Minimal treatment is proposed within these two new swales to compensate for the additional impervious within an upstream basin BSN138C4.

4.3.2 Ruby Lake Outfall

There are no proposed developments within this outfall. As such there is no change to the proposed condition of the drainage basin (EX_BSN140A) within the Ruby Lake Outfall.

4.3.3 Shingle Creek Outfall (Lake Willis)

The Lake Willis Outfall deviates from the existing condition. The interchange improvement impacted the existing interconnected stormwater management facilities (ponds EX_PND139) at the southwest and southeast

quadrant of the intersection Daryl Carter Parkway and I-4. To replace these ponds FDOT obtained an open area between Palm Parkway and Big Sand Lake (basin BSN141A) to construct a new wet detention pond PND141 that will discharge to Big Sand Lake. To offset basin EX_BSN139 runoff that is now being taken to Big Sand Lake, basin BSN142C will drain to Lake Willis instead to Big Sand Lake as it does in the existing conditions. **Figure 16** provides the proposed basins for this outfall.

The existing ICPR-3 model was modified to reflect the proposed condition. All offsite information and onsite basins that did not change in the proposed conditions will remain the same and will not be discussed in this section. The tailwater elevation used to generate the hydrograph for the boundary node was taken from the April 2017 Geosyntec's Technical Memorandum to Orange County for the Big Sand Lake Watershed. The peak stage for the 100-year/ 24-hour and 100-year/ 72-hour storms were used to analyze the critical storms as well as the required SFWMD storms. The post-development analysis of this outfall is included in **Appendix C** of this report.

4.3.3.1 BSNFPC141

Basin BSNFPC141 is an area that encompassed a portion of S.R. 400 that currently directly discharges to Big Sand Lake. Runoff from this basin is being collected in a new storm sewer system and is taken to a newly constructed wet detention system that will provide flood compensation for the S.R. 400 (I-4) Beyond the Ultimate impacts at the northern tip of Lake Willis. For this project, the pond will be constructed to provide treatment and attenuation for the basin draining to it. The pond is designed with a 60-inch equalizer under S.R. 400 and a 30-inch pipe to provide hydraulic connectivity with Lake Willis and Big Sand Lake respectively.

4.3.3.2 PNDFPC141

Pond PNDFPC141 is a future flood compensation pond that is constructed as part of this project to treat and attenuate basin BSNFPC141. In the future, the pond will serve as a flood compensation pond and provide hydraulic connectivity between Lake Willis and Big Sand Lake. No future roadway (S.R. 400) will discharge into this pond.

4.3.3.3 BSN142B

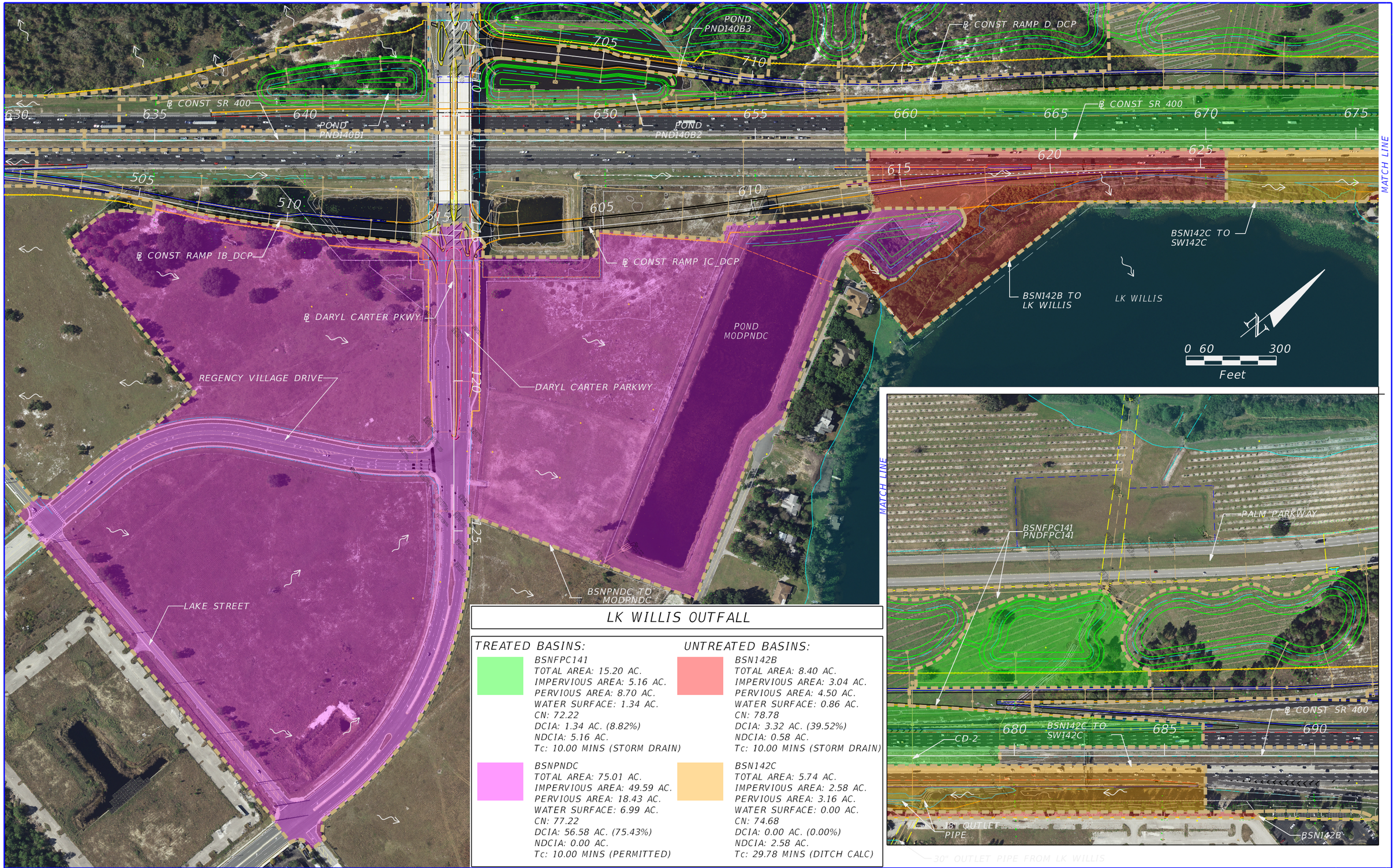
Basin BSN142B is drainage area northwest of Lake Willis and it encompassed the eastbound travel lanes of S.R. 400 and a portion of Ramp IC-DCP. Runoff from this basin is intercepted in a collection system and discharged directly to Lake Willis.

4.3.3.4 BSN142C

Basin BSN142B is drainage area northeast of Lake Willis and it encompassed the eastbound travel lanes of S.R. 400. Two conveyance swales intercept and convey the runoff from the roadway to two 18-inch pipes that connect to a junction hydraulically linked to Lake Willis and Big Sand Lake. The runoff discharges into this junction which outlets to Lake Willis.

4.3.3.5 SW142C

Swale SW142C intercept and convey the runoff from basin BSN142C to two 18-inch pipes that connect to a



LK WILLIS OUTFALL

TREATED BASINS:

BSNFPC141
TOTAL AREA: 15.20 AC.
IMPERVIOUS AREA: 5.16 AC.
PERVIOUS AREA: 8.70 AC.
WATER SURFACE: 1.34 AC.
CN: 72.22
DCIA: 1.34 AC. (8.82%)
NDCIA: 5.16 AC.
Tc: 10.00 MINS (STORM DRAIN)

BSNPNDC
TOTAL AREA: 75.01 AC.
IMPERVIOUS AREA: 49.59 AC.
PERVIOUS AREA: 18.43 AC.
WATER SURFACE: 6.99 AC.
CN: 77.22
DCIA: 56.58 AC. (75.43%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (PERMITTED)

UNTREATED BASINS:

BSN142B
TOTAL AREA: 8.40 AC.
IMPERVIOUS AREA: 3.04 AC.
PERVIOUS AREA: 4.50 AC.
WATER SURFACE: 0.86 AC.
CN: 78.78
DCIA: 3.32 AC. (39.52%)
NDCIA: 0.58 AC.
Tc: 10.00 MINS (STORM DRAIN)

BSN142C
TOTAL AREA: 5.74 AC.
IMPERVIOUS AREA: 2.58 AC.
PERVIOUS AREA: 3.16 AC.
WATER SURFACE: 0.00 AC.
CN: 74.68
DCIA: 0.00 AC. (0.00%)
NDCIA: 2.58 AC.
Tc: 29.78 MINS (DITCH CALC)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (LAKE WILLIS) PROPOSED BASIN MAP

FIGURE 16

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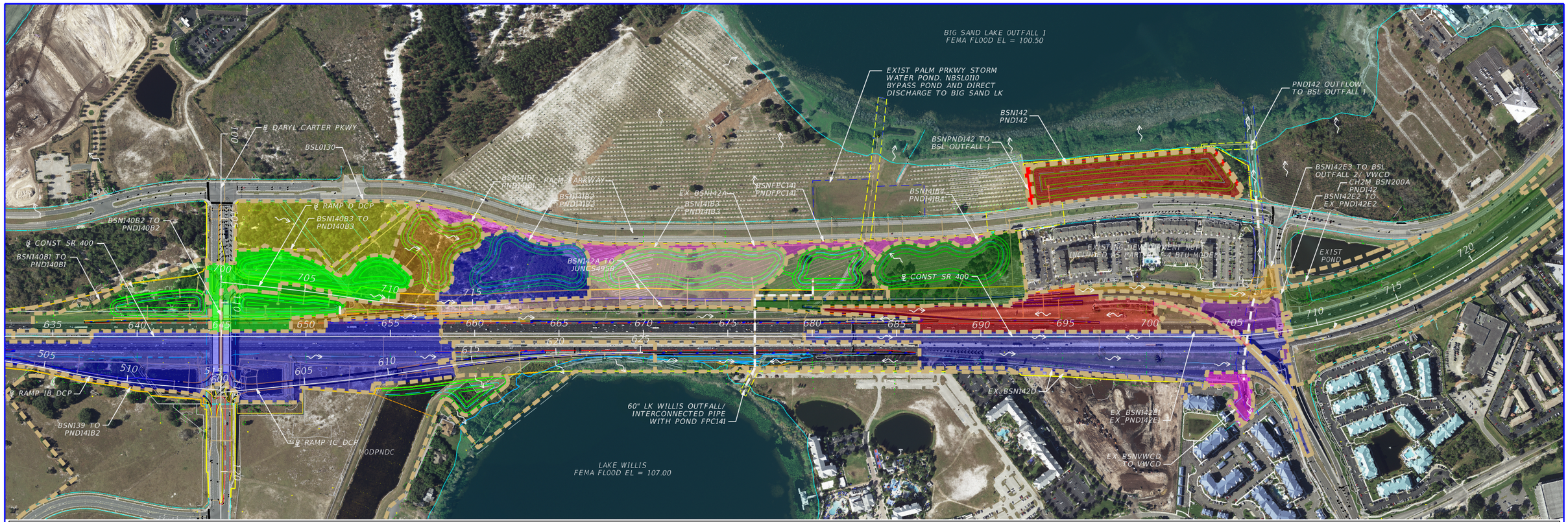


BSL OUTFALL 1

ONSITE TREATED:

BSN139
TOTAL AREA: 20.52 AC.
IMPERVIOUS AREA: 9.76 AC.
PERVIOUS AREA: 10.76 AC.
WATER SURFACE: 0.00 AC.
CN: 71.16
DCIA: 5.18 AC. (25.24%)
NDCIA: 4.58 AC.
Tc: 25.44 MINS (TAB)

BSN140B1
TOTAL AREA: 6.03 AC.
IMPERVIOUS AREA: 3.08 AC.
PERVIOUS AREA: 2.19 AC.
WATER SURFACE: 0.76 AC.
CN: 72.17
DCIA: 3.42 AC. (56.72%)
NDCIA: 0.42 AC.
Tc: 17.62 MINS (TAB)

BSN140B2
TOTAL AREA: 3.44 AC.
IMPERVIOUS AREA: 1.51 AC.
PERVIOUS AREA: 1.13 AC.
WATER SURFACE: 0.80 AC.
CN: 67.89
DCIA: 2.31 AC. (67.15%)
NDCIA: 0.00 AC.
Tc: 11.24 MINS (TAB)

BSN140B3
TOTAL AREA: 6.00 AC.
IMPERVIOUS AREA: 1.65 AC.
PERVIOUS AREA: 2.59 AC.
WATER SURFACE: 1.76 AC.
CN: 64.54
DCIA: 3.41 AC. (56.83%)
NDCIA: 0.00 AC.
Tc: 11.00 MINS (TAB)

BSN141B1
TOTAL AREA: 5.75 AC.
IMPERVIOUS AREA: 1.25 AC.
PERVIOUS AREA: 2.68 AC.
WATER SURFACE: 1.82 AC.
CN: 52.26
DCIA: 3.07 AC. (53.39 %)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSN141B2
TOTAL AREA: 6.68 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 3.78 AC.
WATER SURFACE: 2.90 AC.
CN: 49.00
DCIA: 2.90 AC. (43.41 %)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSN141B3
TOTAL AREA: 9.60 AC.
IMPERVIOUS AREA: 2.42 AC.
PERVIOUS AREA: 3.75 AC.
WATER SURFACE: 3.43 AC.
CN: 71.31
DCIA: 5.85 AC. (60.94%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (TAB)

BSN141B4
TOTAL AREA: 8.50 AC.
IMPERVIOUS AREA: 1.90 AC.
PERVIOUS AREA: 3.81 AC.
WATER SURFACE: 2.79 AC.
CN: 50.10
DCIA: 4.69 AC. (55.18%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSN142
TOTAL AREA: 13.96 AC.
IMPERVIOUS AREA: 3.83 AC.
PERVIOUS AREA: 7.56 AC.
WATER SURFACE: 2.57 AC.
CN: 79.42
DCIA: 3.16 AC. (22.64%)
NDCIA: 3.24 AC.
Tc: 39.50 MINS (TAB)

ONSITE UNTREATED:

BSN142A
TOTAL AREA: 3.39 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 3.39 AC.
WATER SURFACE: 0.00 AC.
CN: 62.11
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSNPND142
TOTAL AREA: 0.48 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.48 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

CH2M ONSITE TREATED:

BSN200A
TOTAL AREA: 12.04 AC.
IMPERVIOUS AREA: 11.87 AC.
PERVIOUS AREA: 0.17 AC.
WATER SURFACE: 0.00 AC.
CN: 67.53
DCIA: 11.87 AC. (98.59%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN200C
TOTAL AREA: 1.20 AC.
IMPERVIOUS AREA: 1.20 AC.
PERVIOUS AREA: 0.00 AC.
WATER SURFACE: 0.00 AC.
CN:
DCIA: 1.20 AC. (100%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

OFFSITE UNTREATED:

BSL0130
TOTAL AREA: 7.56 AC.
IMPERVIOUS AREA: 5.13 AC.
PERVIOUS AREA: 2.43 AC.
WATER SURFACE: 0.00 AC.
CN: 65.11
DCIA: 5.13 AC. (67.91%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BIG SAND LAKE OUTFALL 2/ VWCD

ONSITE UNTREATED:

BSN142E3
TOTAL AREA: 1.66 AC.
IMPERVIOUS AREA: 0.52 AC.
PERVIOUS AREA: 1.14 AC.
WATER SURFACE: 0.00 AC.
CN: 83.20
DCIA: 0.18 AC. (10.84%)
NDCIA: 0.34 AC.
Tc: 23.58 MINS (DITCH CALC)

ONSITE TREATED:

EX_BSN142E1
TOTAL AREA: 1.52 AC.
IMPERVIOUS AREA: 0.67 AC.
PERVIOUS AREA: 0.85 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.67 AC. (44.08%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

VWCD OUTFALL

ONSITE UNTREATED:

EX_BSN142D
TOTAL AREA: 13.91 AC.
IMPERVIOUS AREA: 5.88 AC.
PERVIOUS AREA: 8.03 AC.
WATER SURFACE: 0.00 AC.
CN: 84.96
DCIA: 0.00 AC. (0.00%)
NDCIA: 5.88 AC.
Tc: 33.33 MINS (CALCULATED)

EX_BSNVWCD
TOTAL AREA: 0.97 AC.
IMPERVIOUS AREA: 0.09 AC.
PERVIOUS AREA: 0.88 AC.
WATER SURFACE: 0.00 AC.
CN: 85.30
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.09 AC.
Tc: 10.00 MINS (ESTIMATED)

BSL OUTFALL 2

ONSITE UNTREATED:

EX_BSN142E2
TOTAL AREA: 1.89 AC.
IMPERVIOUS AREA: 0.79 AC.
PERVIOUS AREA: 1.10 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.79 AC. (41.80%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

0 120 600
Feet

NOTE: THE OFFSITE BASIN BSL0130 WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE STUDY AND ADJUSTED TO DEPICT ONLY THE OFFSITE AREA. FDOT ROW WAS TAKEN OUT AND IS INCLUDED AS BSN142A. THE CN FOR THE BASIN WAS INTERPOLATED TO REFLECT THE OFFSITE CONTRIBUTING AREA ONLY.

INFORMATION FOR BASIN BSN200A WAS PROVIDED BY CH2M AND IS INCLUDED AS REFERENCES TO SUPPORT THE MODELING INFORMATION.

BASINS BSN200B, BSNCFP1, AND BSNCFP2 ARE INCLUDED AS PART OF THE CH2M ICPR ROUTING, BUT IS SHOWN HERE FOR REFERENCES AND CONNECTIVITIES BETWEEN THE TWO SEGMENTS.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

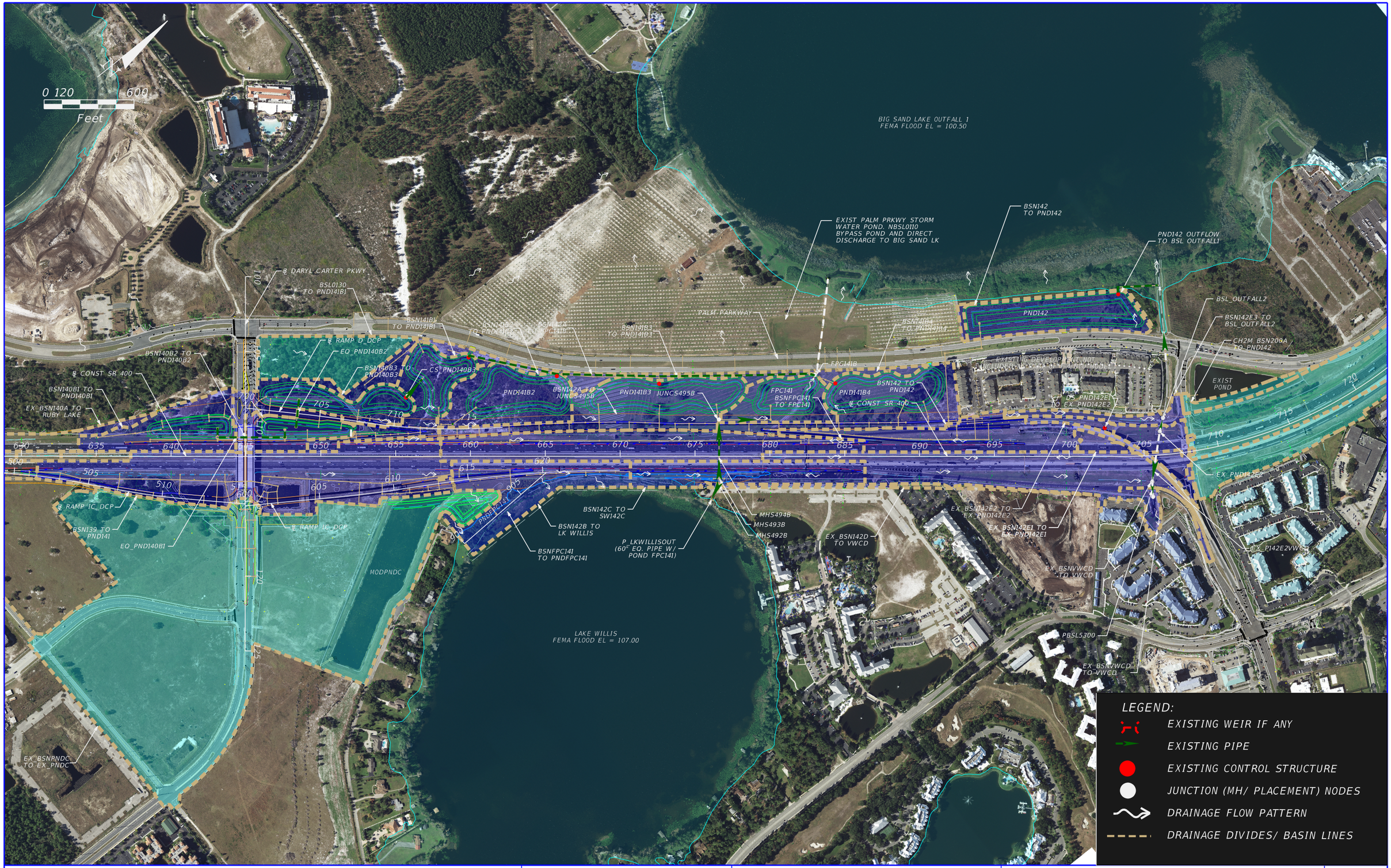
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (BIG SAND LAKE/ VWCD) PROPOSED BASIN MAP

FIGURE 17

duongt2 7/28/2019 6:00:39 PM c:\pwworking\aecom_na\duongt2\d0166315\OUTFALL_3_DCP_PST_BASIN_MAP.DGN



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DEPARTMENT OF TRANSPORTATION

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SHINGLE CREEK OUTFALL PROPOSED NODAL NETWORK

FIGURE 18

junction that outlet to Lake Willis. This junction also provides positive outlet for Lake Willis and connects Lake Willis to Big Sand Lake.

4.3.4 Shingle Creek Outfall (Big Sand Lake)

The only addition to the Big Sand Lake Outfall is the contributing area from basin BSN139. In existing condition, this basin drains to two interconnected wet detention ponds that outfall to Lake Willis. The ponds will be impacted due to the interchange improvements and a new wet detention pond PND141 will be constructed to replace them. This pond will have a positive outlet to Big Sand Lake instead of to Lake Willis. To offset this contributing basin, basin BSN142C (which drains to Big Sand Lake in the existing condition) will be directed to Lake Willis.

The ICPR-3 model will reflect the changes that take place within this outfall, which includes five new storage nodes (ponds PND140B1 to PND140B3, PND141 and PND142). The tailwater elevation used to generate the hydrograph for the boundary node was taken from the April 2017 Geosyntec's Technical Memorandum to Orange County for the Big Sand Lake Watershed. The peak stage for the 100-year/ 24-hour and 100-year/ 72-hour storms were used to analyze the critical storms as well as the required SFWMD storms. The post-development analysis of this outfall is included in **Appendix C** of this report. Refer to **Figure 17** and **Figure 18** for the proposed basin map of this outfall and the Shingle Creek Outfalls (Lake Willis, Big Sand Lake, and Valencia Water Control District) nodal network diagram respectively.

4.3.4.1 BSN139

Runoff from this basin is being collected in a combination of roadside swales and storm sewer collection systems. The runoff is conveyed to a new pond PND141B2 that will outlet to Big Sand Lake.

4.3.4.2 BSN140B1 to BSN140B3

Basins BSN140B1 to BSN140B3 are the drainage areas at the northwest and northeast quadrant of Daryl Carter Parkway and S.R. 400. Stormwater runoff from this basin is collected in onsite storm sewer systems and conveyed to ponds PND140B1 to PND141B3 for treatment and attenuation.

4.3.4.3 PND140B1 to PND140B3

Ponds PND140B1 to PND140B3 are interconnected wet ponds designed to provide treatment and attenuation for the drainage basins BSN140B1 to BSN140B3. A control structure within the perimeter of pond PND140B3 regulates the water level in the pond.

4.3.4.4 BSN141B1

Basin BSN141B1 is the drainage area that encompassed pond PND141B1, I-Slip1, and a short segment of the proposed connector road. The runoff from this basin directly discharges into the pond for treatment and attenuation prior to entering Big Sand Lake.

4.3.4.5 PND141B1

Pond PND141B1 is designed to provide treatment and attenuation for basins BSN141B1 and offsite BSL0130 (O-Town West Development) in the current phase of development as well as the ultimate buildout of S.R. 400 (I-4) Beyond the Ultimate project. It is designed to meet FDOT critical storm criteria as well as SFWMD criteria.

4.3.4.6 BSN141B2

Basin BSN141B2 is the drainage area that encompassed pond PND141B2. The runoff from this basin directly discharges into the pond for treatment and attenuation prior to entering Big Sand Lake.

4.3.4.7 PND141B2

Pond PND141B2 is designed to provide treatment and attenuation for basins BSN139 and BSN141B2 in the current phase of development as well as the ultimate buildout of S.R. 400 (I-4) Beyond the Ultimate condition. It is designed to meet FDOT critical storm criteria as well as SFWMD criteria.

4.3.4.8 BSN141B3

Basin BSN141B3 is a basin that encapsulates a large segment of the proposed connector road and pond PND141B3 itself. Drainage is by closed drainage system to pond PND141B3 for treatment and attenuation prior to entering Big Sand Lake.

4.3.4.9 PND141B3

Pond PND141B3 is designed to provide treatment and attenuation for basin BSN141B3 in the current phase of development as well as the ultimate buildout of S.R. 400 (I-4) Beyond the Ultimate condition. It is designed to meet FDOT critical storm criteria as well as SFWMD criteria.

4.3.4.10BSN141B4

Basin BSN141B4 is the drainage basin west of the existing multifamily development. It consists of portion of I-Slip2, the proposed connector road, and pond PND141B4. Runoff from the basin is intercepted and collected by a closed drainage system to pond PND141B4 for treatment and attenuation prior to entering Big Sand Lake.

4.3.4.11PND141B4

Pond PND141B4 is designed to provide treatment and attenuation for basin BSN141B4 in the current phase of development as well as the ultimate buildout of S.R. 400 (I-4) Beyond the Ultimate condition. It is designed to meet FDOT critical storm criteria as well as SFWMD criteria.

4.3.4.12BSN142

Basin BSN142 encompasses part of the existing S.R. 400 between stations 686+00 and 700+00. Roadway

runoff drains off the road and is intercepted in roadside swale and storm sewer systems. These systems convey the runoff to a new detention system for treatment and attenuation prior to entering Big Sand Lake.

4.3.4.13PND142

Pond PND142 is an onsite pond is designed to provide treatment and attenuation for basin BSN142 of this project and S.R. 400 (I-4) Beyond the Ultimate project. Additionally, it is designed to provide water quality and quantity for CH2M basins BSN200A and BSN200C. The pond is currently under review by South Florida Water Management District under application #171004-11. The permit will be modified as part of this project.

4.3.4.14BSN142A

The portion of open area, between Daryl Carter Parkway and Central Florida Parkway, south of Palm Parkway that contains the proposed onsite outfall collection system could not be directed to one of the proposed eight (8) wet detention systems within the Big Sand Lake outfall. Instead, it will continue to direct discharge into a pipe system that hydraulically connects to Big Sand Lake. This same system provides positive drainage for Lake Willis.

4.3.5 Shingle Creek Outfall (Big Sand Lake/ Valencia Water Control District - VWCD)

There are no changes to this outfall.

4.3.6 Shingle Creek Outfall (Valencia Water Control District - VWCD)

There are no changes to this outfall.

4.4 Water Quality and Water Quantity

All stormwater management facilities (SMF) are designed in accordance with applicable rules of the Florida Department of Transportation (FDOT) and South Florida Water Management District (SFWMD). Criteria for the basins are based on the pond discharging to Reedy Creek Improvement District and Shingle Creek, within an open basin. All stormwater management facilities are designed to accommodate the future build out of the S.R. 400 (I-4) Beyond the Ultimate Project.

4.4.1 SFWMD Retention Systems

Dry Retention: SFWMD Volume 2 Section 5.3.3 outlines that dry retention/ detention areas shall have the mechanism for returning the groundwater level in the area to the control elevation. The bleed-down rate for these systems is the same as in section 5.2.(a).

Wet Detention: SFWMD Volume 2 Section 5.4 outlines that the design of a wet detention system must maximize the flow path of the water from the inlets to the outlets of the pond. This approach is to minimize short circuiting, promote mixing with no dead spots, and maximizing pollutant removal efficiency. Additionally, the min-

imum (surface water) area is no smaller than 0.5 acres for irregular shapes. For rectangular ponds, the pond width shall be no smaller than 100-feet and length to be greater than 200-feet. Littoral shelfs are preferred for water quality enhancement but is not required. The required side slope is no steeper than 1:4 (vertical: horizontal) from the inside berm down to two feet below the control elevation (water level). Below that, the side slope could be maximized up to 1:2 (vertical: horizontal).

4.4.2 SFWMD Pollutant Abatement Volume

Dry Detention: SFWMD Volume 2 Section 4.2.1(a) outlines that the water quality volume shall be equal to 75 percent of the computed wet detention requirement.

Dry Retention: SFWMD Volume 2 Section 4.2.1(a) outlines that the water quality volume provided shall equal to 50 percent of the computed wet detention requirement.

Wet Detention: SFWMD Volume 2 Section 4.2.1(a) outlines that water quality volume shall be provided for the greater of the following: (1) first inch of runoff from the developed project; or (2) total runoff from 2.5 inches times the percentage of imperviousness.

Outstanding Florida Waters: SFWMD Volume 2 Section 4.1.3 established that an additional 50 percent of the required treatment volume shall be provided.

Impaired Waters: SFWMD Volume 2 Section 4.1.4 required the pond to be designed in accordance to procedure outlines in Appendix E: Section E states that for systems discharging to a water body that does not meet standards, the applicant must demonstrate that the proposed activity will not contribute to the existing violation.

In general, SFWMD Volume 2 Section 4.2.1(b) discussed a credit up to 0.2 inches of the required wet detention amount for contributing area with inlets in grassed areas.

4.4.3 SFWMD Attenuation

The stormwater management facilities (SMF), proposed within the limit of construction, are designed to discharge offsite to open basins: (1) Peak discharge is limited to existing conditions computed discharge rate using the 25-year/ 72-hour storm event (intensity of 10.00-inches); (2) Limited discharge as outlined in the Reedy Creek Improvement District Watershed is 13-csm(cubic feet per square mile) or 0.02-cfs/acre for the 50-year/ 72-hour storm event (intensity of 12.91-inches); and (3) Limited discharge as outlined in Shingle Creek Watershed is 192-csm (cubic feet per square mile) or 0.30-cfs/acre for the 25-year/ 24-hour (intensity of 8.60-inches).

4.4.4 SFWMD Recovery of Treatment Volume

Control Devices/ Bleed-down mechanisms for detention systems: SFWMD Volume 2 Section 5.2 discusses the Agency's criteria for gravity control devices. The devices shall be sized based upon the maximum design discharge of one-half inch of the detention volume in 24 hours. It shall incorporate dimensions no smaller than six (6) square inches of cross-sectional area (2 inches minimum). For "V" notches, it shall not be less than 20 degrees.

It is recommended that either a "V" or circular shaped configuration for the gravity control devices to increase detention time.

Retention systems: Recovery for dry retention pond shall infiltrate within 72-hours after the storm event.

4.4.5 FDOT Chapter. 14-86, Critical Duration (DM, Sect 5.3.1.2)

Ponds located in open basins shall be sized such that the post development discharge rate does not exceed the pre-development discharge rate for the critical duration (1 hour through 3 days) storm. A "storm per storm" approach as outlined in the Department's Stormwater Management Facility Handbook is the preferred method of comparing the pre and post runoff. This method is to ensure no increase of runoff for a particular design storm (frequency and duration) in post-development to pre-development. Another comparison is the "peak rate" approach. This method is to establish a pre-development peak rate of discharge for a particular storm frequency and compare it to the post-development peak rate of discharge for that same particular storm frequency.

Ponds located in closed basins or areas subject to historical flooding shall be sized such that the developed rate of discharge will not surpass the existing condition rate of discharge for the critical duration (1 hour through 10 days) storm. Recovery for these systems must be in such that one-half of the volume is available in seven days and the total volume available within 30 days.

4.5 Storm Drain Design

Interstate roadway storm drain systems are sized for the 10-year frequency to meet the Florida Department of Transportation (FDOT) District 5's design requirements. In addition, the 50-year frequency event is analyzed for storm sewer networks that contain inlets in a sag location, constrained by barrier wall, with no other outlet than the inlet. All networks are analyzed with minor losses and hydraulic grade lines were kept at or below the gutter elevation for the inlets. Tailwater for the 10-year and 50-year storm events are established at the time of max inflow into the ponds or the normal depth in the ditch to which the system inflow into. **Table 10** summarizes the tailwaters used in the storm sewer designs. Note that the software Geopak Drainage uses different rainfall intensities for both the 10-year and 50-year storms. Geopak Drainage provides an intensity of 7.40-inches for the 10-year and 8.92-inches for the 50-year as opposed to NOAA's 6.26-inches and 9.10-inches for the 10-year and 50-year storms respectively.

With the design speed of 70-mph on the mainline and 45-mph on the ramps, inlets spacing are such that the spread resulting from a rainfall with an intensity of four inches per hour did not encroach onto the travel lane. Shoulder gutters are spaced such that the spread from the 10-year storm did not exceed 1'-3" outside the gutter in the direction of the front slope. All storm sewers are sized with GeoPak Drainage; and inlet time of concentration is assumed to be 10 minutes unless basin characteristics indicated the possibility of a longer travel times. At which, the times are computed for those basins.

Runoff Coefficients used to analyze the systems are based on FDOT Storm Drain Handbook Table 2-2. The impervious and pervious area will utilize the runoff coefficient of 0.95 and 0.25 respectively.

Hydraulic grade calculations and gutter spread calculations are included in **Appendix C** of the report. The

storm drain systems are designed so that the main trunk line can accommodate the ultimate build out of S.R. 400 (I-4) Beyond the Ultimate Project.

Table 10 – Summary of Stage at Peak Inflow

Outfall/Node Name	10-year/ 1-hour(1)		50-year/ 1-hour(2)	
	Inflow (cfs)	Stage (ft)	Inflow (cfs)	Stage (ft)
Reedy Creek Outfall (Black Lake)				
Node EX_4AFDOT138(3)	72.31	101.84	96.57	102.20
Node EX_5FDOT138(3)	37.35	102.69	51.04	103.56
Node SW138C2(3)	37.10	102.70	55.42	103.13
Node EX_SW138C4(3)	23.09	114.61	34.94	114.78
Shingle Creek Outfall (Lake Willis)				
Node PNDFPC141(3)	4.30	103.79	44.16	103.73
Node LK_WILLIS(3)	392.65	103.51	540.45	103.53
Shingle Creek Outfall (Big Sand Lake)				
Node PND140B1(3)	15.14	127.65	19.93	127.78
Node PND140B2(3)	15.78	127.40	20.59	127.46
Node PND140B3(3)	22.39	127.40	29.27	127.46
Node PND141B1(3)	41.02	116.36	52.71	116.47
Node PND141B2(3)	40.13	113.13	56.11	113.29
Node PND141B3(3)	31.85	108.65	41.77	108.69
Node PND141B4(3)	22.84	105.93	28.78	105.97
Node PND142(3)	24.43	96.78	33.29	96.87
Node BSL_OUTFALL1(3)	13.07	94.94	14.94	94.94

Note: All storm drain designs are based on tailwater condition for the Interim only. The Ultimate condition tailwater will be different and a new tailwater will be applied for the Ultimate analysis.

(1) This tailwater elevation is used as a basis to analyze all storm drain systems within the roadway corridor, but a higher value may be used to be conservative in the overall analysis of the system.

(2) This tailwater elevation is used as a basis to analyze storm drain systems within the roadway corridor that is in a sag location without any other mean of outlet beside the inlet, but a higher value may be used to be conservative in the overall analysis of the system.

(3) Information is taken from the Node Time Series by Node Reports from the proposed ICPR-3 Model.

4.6 Open Channel Design (Ditch Analysis)

All onsite ditch analysis is based on the 10-year storm event; while ditch analysis and design for outfall system and offsite systems are based on the 25-year storm event. Similar to the storm sewer, analysis of the onsite/ offsite ditches is based on the rainfall intensity that were outlined on the Drainage Manual instead of the newly accepted NOAA intensities. As such, the rainfall intensities used in the ditch calculations area 7.40-inches for the 10-year and 8.60-inches for the 25-years as opposed to 6.26-inches and 7.77-inches for the 10-year and 25-year storm respectively. The manning's "n" values, as outlined in the FDOT Drainage manual 2.4.1 and 2.7, is 0.06. When the normal depth in the ditch exceed 0.7-ft, the Manning's "n" will be reduced by 30% or (n = 0.042).

The design of the ditch conveyance will also be in accordance to FDOT Drainage Manual 2.4.2, 2.4.4 and 2.4.5. The minimum physical slope to maintain a positive flow condition will not be less than 0.05%; Minimum ditch bottom shall be 5-feet to accommodate mitered end sections and maintenance mowers; A one foot of freeboard is required above the peak design stage of the downstream hydraulically connected pond or proposed ditch that is in fill; while one-half foot of freeboard is required for a ditch system that is in cut.

Ditch calculations are provided in **Appendix C**.

4.7 Bridge Deck Drainage

No bridge deck drainage is proposed for this construction package.

4.8 Optional Pipe Material Analysis

Optional pipe material analysis will not be performed at this time; but it will be performed to evaluate adequate pipe materials that meet the required 100-year Design Service Life (DSL). The Department's Culvert Service Life Estimator software will be used to compute the design life based on the following corrosive parameters and inputs: chlorides, sulfates, resistivity, pH, Manning's coefficient of 0.012 and pipe diameter.

APPENDIX A: Drainage Design Criteria

SR 400 (I-4) Beyond the Ultimate
From E. OF SR 522 (Osceola Parkway) TO W. OF SR 528

Financial Project ID: 242484-8-32-02
Federal Aid Project No.: 0042 266 i
Orange County

DRAINAGE DESIGN CRITERIA

The following criteria were collected from applicable portions of:

1.	SFWMD	SWERP Environmental Resource Permit Information Manual (2014)
2.	FDOT	Drainage Manual (01/16) Stormwater Management Facility Handbook (01/04) Drainage Handbook Culvert Design (01/04) Drainage Handbook Storm Drains (10/14) Drainage Handbook Optional Pipe Materials (08/14) Drainage Handbook Temporary Drainage Design (11/13) Erosion and Sediment Control Designer and Reviewer Manual (07/13) Drainage Handbook Hydrology (02/12) Plans Preparation Manual Volume I and II (01/15) Design Standards (2016) District 5 Drainage Department Review Checklists
3.	Orange County	Orange County Subdivision Regulations (Amended 11/19/2003)

I. STORM DRAIN DESIGN

*For roadways owned and/or maintained by Orange County refer to attached county criteria

A. Design Frequency (*FDOT Drainage Manual Sec. 3.3)*

1. The design storm frequency for storm drains should be consistent with the frequency selected for other components of the drainage system.

2.	General design	-	3- year
	General design (Orange County Road)	-	10- year
3.	Interstate facilities	-	10-year

4. Interstate facilities for sag vertical curves which have no outlet other than a storm drain system - 50-years

B. Rational Method is required for performing hydrologic calculations for storm drains. (*FDOT Drainage Manual Sec. 3.5)*

C. The physical slope shall be that which will produce a velocity of at least 2.5 feet per second (fps) when the storm drain is flowing full. In areas of flat terrain where 2.5 fps is not feasible, an absolute minimum velocity of 2.0 fps for full flow shall be obtained. (*FDOT Drainage Manual Sec. 3.6.1)*

D. Minimum pipe diameters for trunk lines and laterals is 18" inches. (*FDOT Drainage Manual Sec. 3.10.1)*

E. Maximum pipe lengths without maintenance access structures: (*FDOT Drainage Manual Sec. 3.10.1)*

18 in.	300 ft
24 in. to 36 in.	400 ft
42 in. and larger, and all box culverts	500 ft

F. Minimum longitudinal gutter grade is 0.3 percent. (*FDOT Drainage Manual Sec. 3.8.1)*

G. Spread Standards - Roadway and Bridge (*FDOT Drainage Manual Sec. 3.9)*

Shoulder Typical	Design Speed (mph)	Spread Criteria*
Parking Lane of Full Width Shoulders	All	No encroachment
All Other	Design ≤ 45	½ lane clear
	45 < Design Speed ≤ 55	8' of lane clear
	Design Speed ≥ 55	No encroachment

*The criteria in this column apply to travel, turn, or auxiliary lanes adjacent to barrier wall or curb, in normal or super elevation sections.

1. Based on rainfall intensity of 4.0 inches per hour

2. For spread standards in shoulder gutter sections, see Section H below.

H. Shoulder Gutter (*FDOT Drainage Manual Sec. 3.7.3)*

1. Shoulder gutter is required on embankment higher than 20 feet and on embankment higher than 10 feet where the longitudinal slope is greater than 2 percent. See the Plans Preparation Manual for standard slopes.

2. Unless site specific experience indicates that slopes are resistant to erosion, shoulder gutter is required on interchange and grade separation embankments higher than 5 feet with slopes steeper than 1:6 to minimize erosion.

3. Shoulder gutter is required at bridge ends where concentrated flows from the bridge deck would otherwise run down the fill slope.

4. Shoulder gutter is not required adjacent to barrier walls, unless justified.

5. Spread resulting from a 10-year frequency storm shall not exceed 1.25 feet outside the gutter in the direction toward the front slope. This distance limits the spread to the face of guardrail posts. See Standard Index 400. For spread calculations in left turn lanes per Index 310, assume a turn lane entry speed of 10 mph less than the roadway design speed. (*FDOT Drainage Manual Sec. 3.9.1)*

I. Inlet Spacing (*FDOT Drainage Manual Sec. 3.7.1)*

1. Inlets spacing shall meet spread criteria.

2. The inlet at the down gradient shoulder gutter terminus shall provide 100% interception of all flow coming to it for the 10 year storm event, as demonstrated by the appropriate calculations. (*FDOT Storm Drain Handbook Sec. 3.2.3)*

3. Inlets shall be placed 10 ft to 20 ft prior to the level section in superelevation transitions, to avoid concentrated flows across the pavement. (*FDOT Drainage Manual Sec. 3.7.1.1)*

4. Inlets shall be placed at all low points in the gutter grade and/or ditch. Inlets in sag vertical curves that have no overflow outlet other than the storm drain system, must have flanking inlets on one or both sides. The flanking inlets shall be located to satisfy spread criteria when the sag inlet is blocked. (*FDOT Drainage Manual Sec. 3.7.1.1)*

J. Base Clearance to the Base Clearance Water Elevation

Interstate, Expressway & Rural type Section Multiline Mainline	3 ft
Ramps	2 ft
Ramp Terminals at Cross Roads	1 ft
Rural Two-lane with Design Year ADT Greater than 1500 VPD	2 ft
All Other Facilities including Urban	1 ft

(*FDOT Plans Preparation Manual Volume I - Table 2.6.3)*

Base Clearance Water Elevation is generally defined as the standing water elevation for a period of 24 hours or more. In most cases, the base clearance water elevation will be the higher of the seasonal high groundwater elevation, or the 24 hour duration elevation during the 25 year-24 hour event associated with stormwater management facilities which are adjacent to the roadway, or which have a hydraulic connection to a surface water adjacent to the roadway, such as a ditch or similar drainage facility.

K. Maximum Hydraulic Grade Line

1. Design tailwater elevations shall be based upon the greater of the crown elevation of the pipe at the outlet, or the Stormwater Management facility peak stage for the storm drain design event (starting elevation at the weir and assuming the orifice to be clogged. (*FDOT Drainage Manual Sec. 3.4)*

2. Storm drain systems shall be checked considering junction losses with no separation between inlet elevation and hydraulic grade line. Temporary ponding of ditch bottom inlets is acceptable when accounting for junction losses. Ditch section shall be checked to ensure capacity is provided to account for the normal depth plus the surcharge. (*FDOT Drainage Manual Sec. 3.6.2 and DSS Checklist)*

3. The minimum physical slope for pressure flow storm drain systems is 0.1%. The minimum physical slope for non-pressure flow shall produce a velocity of 2.5 fps. (*FDOT Drainage Manual Sec. 3.6.1)*

4. Maximum hydraulic gradient should be that which will produce a velocity of approximately 8 fps. (*FDOT Storm Sewer Checklist)*

5. When outlet velocity exceeds 4 fps, the need for special channel lining and/or energy dissipation shall be considered, unless the outlet is submerged. (*FDOT Drainage Manual Sec. 3.6.3)*

L. Manning's Roughness Coefficient (Concrete Pipe manning's will be used for all systems)

Concrete Box Culverts	n = 0.012
Concrete Pipes	n = 0.012

M. Pipes within or Adjacent to Retained Earth (Walled) Embankment Sections (*FDOT Drainage Manual Section 3.11)*

The design requirements of this section pertain to all pipes that are to be constructed within or adjacent to embankments confined by retaining walls. Avoid the placement of drainage pipes through retaining walls and similar structures when possible. If pipes must be placed within or adjacent to retaining walls, coordinate the design of the drainage system with the geotechnical and structural engineers.

The drawings in Appendix F of the Structures Design Bulletin detail three categories of pipes within retained earth (walled) embankments. Pipes proposed for installation within these wall zones are defined as Wall Zone Pipes.

The Optional Pipe Summary Sheet must note those pipes that are deemed Wall Zone Pipes. When steel pipes are listed as an option for Wall Zone Pipes, the minimum pipe wall thickness, meeting the requirements of Appendix F, shall also be shown on the Optional Pipe Summary Sheet.

Pipes used as vertical drains passing under or through retaining walls, must satisfy the structural requirements of AASHTO LRFD Bridge Design Specifications, Chapter 12.

When existing pipes are to be incorporated within or adjacent to retained earth embankments sections, assess the condition of the pipe – both water tightness and structural adequacy under the proposed loading – and confer with the geotechnical and structural engineers.

N. Clearances

Minimum cover for pipe shall be provided in accordance with Appendix E of the FDOT Drainage Manual.

O. Utilities

1. Criteria and standards are contained in the English PPM, Volume I, Chapter 5 and FDOT Drainage Manual, Sec. 3.10.2.

2. Gas mains and other petroleum product pipelines shall not pass through inlets and manhole structures.

P. Optional Culvert Materials (Optional Pipe Design on FDOT maintained areas)

N/A

NOTE: Preliminary design under this contract assumes all concrete pipe, and installation methods are not specified.

Q. Minimum Time of concentration is 10 minutes. (*FDOT Drainage Manual Sec. 3.5.1)*

R. Runoff Coefficients (*FDOT Storm Drain Handbook Table 2-2)*
- Impervious Areas C=0.95
- Pervious Areas C=0.20

S. Zone 7 IDF (Intensity-Duration-Frequency) curves shall be used for this project.

II. CROSS DRAINS

*For roadways owned and/or maintained by Orange County refer to attached county criteria

A. Design Frequency Permanent Facilities *(FDOT Drainage Manual Sec. 4.3.1)*

1. Mainline Interstate - 50 years
(Check offsite impacts for 100 year)

2. High use or Essential - 50 years
(Projected ADT (20 year) > 1500 or
required for emergency access or evacuation)

3. Other facilities - 25 years
(Projected ADT (20 year) < 1500 and not
required for emergency access or evacuation)

4. Roadside Ditch Culverts - 10 years
Pedestrian and Trail Bridges

B. Hydrologic Analysis (shall be consistent with analysis used in pond routings if TW in culvert drainage way is used).

Drainage area < 600 acres - Rational Method

Drainage area > 600 acres - Regression Equation

C. Minimum Culvert Size (*FDOT Drainage Manual Sec. 4.10.4.1)*

Culvert Type	Minimum Size
1. Cross drain	18 in.
2. Median drain	15 in.*, **
3. Side drain	15 in.*
4. Drain from inlet on high fill (e.g. gutter drain)	15 in.**
5. Box Culvert (precast)	3 ft x 3 ft
6. Box Culvert (cast in place)	4 ft x 4 ft

* Some locations require 18 in. minimum. The designer shall consider future improvements, hydraulic requirements, debris control, and maintenance access.
** When debris control is not provided by grates, use 18 in. minimum.

D. Vertical Roadway Clearance to Water Elevations *(FDOT Drainage Manual Sec. 4.4)*

1. The backwater for design frequency conditions shall be kept at or below the outside edge of travel lanes.

E. For Orange County Culverts – the maximum slope allowable shall be a slope that produces 10 fps velocity within the culvert barrel Erosion protection and/or energy dissipators may be required to properly control entrances and outlet velocities. *(Orange County Sec. 34-268)*

F. Maximum lengths of culvert conveyance structure without access shall be as identified in the table below. *(Orange County Sec. 34-268)*

Pipe Size (inches)	**Maximum (feet)**
15	200
18	300
24-36	400
42 and larger	500

G. Allowable headwater of a culvert installation should be set by the design engineer for an economical installation. When endwalls are used, the headwater should not exceed the top of the endwall at the entrance. If the top of the endwall is inundated, special protection of the roadway embankment and/or ditches slope may be necessary for erosion protection. *(Orange County Sec. 34-268)*

III. OPEN CHANNEL DESIGN

*For roadways owned and/or maintained by Orange County refer to attached county criteria

A. Design Frequency (*FDOT Drainage Manual Sec. 2.2)*

Type of Channel	Frequency
Roadside, Median, and Interceptor ditches or swales	10 year
Outfall ditches (piped or open) and Canals	25 year

B. Manning's "n" Values (*FDOT Drainage Manual 2.4.1 and Sec. 2.7)*

Seed and mulch	--	n = 0.06 (Assume seed will grow)
Sod	--	n = 0.06

Reduce values for depths of flow over 0.7 ft by 30% to n = 0.042.

C. Channel Linings and Velocity - Maximum velocity in accordance with Tables 2.3 and 2.4 in the Drainage Manual, Section 2.7.

D. For ditches where positive flow conditions are required a minimum physical slope of 0.0005 ft/ft shall be used. (*FDOT Drainage Manual Sec. 2.4.2)*

E. Channel Bottom (*FDOT Drainage Manual Sec. 2.4.4)*

1. The minimum ditch bottom elevation should be 1 foot above the estimated seasonal high groundwater elevation.

2. The minimum channel bottom is 5 feet to accommodate mitered end sections and maintenance mowers. V-bottom ditches are not allowed due to their vulnerability to fill with silt unless both front and back slopes are 6:1 or flatter.

F. Channel Freeboard

1. Open channels shall be designed to convey, without damage, stormwater flow with standard design frequency and checked for adverse offsite impacts.

2. Provide a minimum of 1 foot of channel freeboard above the design stage within the channel if in a fill slope and 0.5 ft if the channel is in a cut slope.

3. If a channel is hydraulically connected to or part of the stormwater management facility, a 1 foot freeboard is required above the peak design stage of the downstream hydraulically connected pond. *(FDOT Drainage Manual Sec. 2.4.5)*

4. Roadside, Median, and Interceptor ditches or swales shall have a minimum of 0.3' of freeboard to the top of bank. *(FDOT Ditch Design Checklist)*

IV. STORMWATER MANAGEMENT

*For roadways owned and/or maintained by Orange County refer to attached county criteria

A. Design Storms

Open Basin
1. 25-year 72-hour SFWMD
2. 25-year 24 hour (Orange County)
3. Critical Storm Analysis (FDOT)
   (Closed Basin or Historical Flooding)

B. Hydrologic Methods

1. Rainfall distributions
   a. 10yr/24hr, 25yr/24hr, 50yr/24hr - FDOT
   b. 25yr/24hr - Orange County
   c. 25yr /72hr - SFWMD

2. Runoff Estimation: SCS Unit Hydrograph Method

3. Peak Runoff Factor: 323 – used for pre and post conditions

C. Rainfall Depths

Frequency (Years)	Duration (Hours)	Depth, P (inches)	Comments
10	24	6.26	TW – HGL Computation - FDOT
25	24	8.6	Design Storm – Orange County
25	72	10	Design Storm – SFWMD (Offsite)
50	24	9.1	TW – HGL Computation - FDOT
50	72	12.91	RCID impact fee determination

100	72	13.5	Critical Duration – FDOT Open Basin (FAC 14-86)
100	240	15.9	Critical Duration – FDOT Closed Basin (FAC 14-86)

1. *The 10yr/24hr Rainfall Depth used is estimated from the FDOT Drainage Manual at http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=fl.*
2. *The 25yr/24hr Rainfall Depth used is estimated from the Orange County rainfall distributions.*
3. *The 25yr/72hr Rainfall Depth used is estimated from the SFWMD Figure C-8.*
4. *The 50yr/24hr Rainfall Depth used is estimated from the FDOT Drainage Manual at http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=fl.*
5. *The 50yr/72hr Rainfall Depth used is taken from Table (B) in Section 5-30.11 of RCID Regulations.*
6. *The 100yr/72hr Rainfall Depth used is estimated from the FDOT Drainage Manual at http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=fl.*
7. *The 100yr/240hr Rainfall Depth used is estimated from the FDOT Drainage Manual at http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=fl.*

1. Time of Concentration

   Sheet Flow -- Kinematic Wave Equation (Max. 100 ft)
   Channel Flow – Manning's Equation
   Minimum Time of Concentration is 10 Minutes

2. Assume Antecedent Moisture Condition II

D. Peak Discharge

1. The post-development peak rate of discharge must not exceed the pre-developed peak rate of discharge for the following:

   a. 25 year / 24 hour (Orange County/SFWMD)
   b. 25 year / 72 hour (SFWMD)
   c. Critical Duration Analysis (Chapter 14-86 F.A.C.) (In Closed Basins or areas subject to historic flooding only) (FDOT)

2. Limiting Discharge Rates:

   a. Shingle Creek = 192 CSM = 0.3 CFS/Acre
   b. Reedy Creek = 67 CSM = 0.1 CFS/Acre
   c. RCID = 13 CSM = 0.02 CFS/Acre (50yr/72hr)
   d. Valencia Water Control District = 62 CFS

3. Tailwater for Water Quantity Design (*SFWMD Permit Information Manual Vol. II Sec. 5.7.7*) The stage in the receiving water shall be considered to be the maximum stage which would exist in the receiving water from a storm equal to the project design storm. Lower stages may be used if the applicant can show that the flow from his project will reach the receiving water prior to the time of maximum stage in the receiving water.

   (FDOT Stormwater Management Facility Handbook, Sec. 5.3) The pond must meet the attenuation requirements during the tailwater conditions expected to occur coincident with the design storms. It may be appropriate to model the larger watershed and apply design storms to the both the road project and the larger watershed simultaneously. This way any timing related effects should be addressed. A simpler approach is to estimate the worst case tailwater condition and see if it submerges the control point of the outlet control structures. If it does not the tailwater condition can be ignored in the design of the weir/orifice of the outlet control structure.

E. Water Quality - Retention/Detention Criteria

1. SFWMD only requires the treatment of new impervious areas, regardless of whether or not the roadway is reconstructed. Additionally, they do not require treatment for both new and existing areas when runoff is co-mingled.

2. Treatment Volume: (*SFWMD Permit Information Manual Vol. II Sec. 4.2.1*) Retention, detention, or both retention and detention in the overall system, including swales, lakes, canals, greenways, etc., shall be provided for one of the three following criteria or equivalent combinations thereof:

   a. Wet detention volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage of imperviousness, whichever is greater.

   b. Dry detention volume shall be provided equal to 75 percent of the above amounts computed for wet detention.

   c. Retention volume shall be provided equal to 50 percent of the above amounts computed for wet detention. Retention volume included in flood protection calculations requires a guarantee of long-term operation and maintenance of system bleed-down ability.

3. Discharges to Impaired Waters or OFWs (*SFWMD Permit Information Manual Vol. II Sec. 4.1.4*) Systems that have a direct discharge to an OFW, must provide an additional fifty percent of the treatment volume.

a. For Direct Discharge, nutrient impaired water bodies were not identified. **(Follow up with FDOT regarding direct discharge vs ultimate outfall regarding Lake Okeechobee BMAP)**

4. Pond Configuration and Maintenance:

a. The flow path of water from the inlets to the outlet of the pond must be maximized to promote good mixing with no dead spots, minimize short circuiting, and maximize pollutant removal efficiency and mixing. (*SFWMD Permit Information Manual Vol. II Sec. 5.4*)

b. Area – 0.5 acre minimum at control elevation. (*SFWMD Permit Information Manual Vol. II Sec. 5.4.2*)

c. Width – 100 feet minimum for linear areas in excess of 200 ft length. Irregular shaped areas may have narrower reaches but shall average at least 100 feet. (*SFWMD Permit Information Manual Vol. II Sec. 5.4.2*)

d. Depth – shallow littoral areas (portions of pond shallower than 6 feet deep measured from control) shall compromise the lesser of 20% of the wet retention/detention are or 2.5% of the total retention/detention area (including side slopes plus the basin contributing area. (*SFWMD Permit Information Manual Vol. II Sec. 5.4.2*)

With facilities designed to be wet, provide a minimum permanent pool depth of 6 feet to minimize aquatic growth. (*FDOT Drainage Manual Sec. 5.4.1.1*)

e. Side slopes for wet retention/detention and attenuation areas shall be designed with side slopes no steeper than 4:1 (horizontal:vertical) from top of bank out to a minimum of depth of two feet below the control elevation, or an equivalent substitute. Constructed side slopes steeper than 3.5:1 (horizontal:vertical) shall be considered a substantial deviation during the consideration of operation permit issuance. (*SFWMD Permit Information Manual Vol. II Sec. 5.4.2*)

f. Freeboard - 1.0 ft minimum freeboard is required above the maximum design stage of the pond. The freeboard is the vertical distance above the maximum design stage elevation of the pond and the inside edge of the berm. (*FDOT Drainage Manual Sec. 5.4.4.2*)

g. Ponds or open ditches with at least 1000' of adjacent travelway require 60 ft clearance from edge of traveled way to pond standing water depth of 3 ft for more than 24 hours or top of 4:1 or steeper bank for design speed greater than 50 mph. For design speeds less than 50 mph, 50 feet of clearance is required. (*FDOT PPM Sec .4.2.1)*

h. Access – Water management areas shall be connected to a public road or to other location from which operation and maintenance access is legally and physically available. (*SFWMD Permit Information Manual Vol. II Sec. 5.5*)

i. Maintenance Berms *(FDOT Drainage Manual Sec. 5.4.4.2*)

1. Ponds shall be designed to provide a minimum 20 feet of horizontal clearance between the top edge of the control elevation and the right-of-way line.
2. At least 15 ft adjacent to the pond shall be 1:8 or flatter.
3. Minimum radius of the inside edge of maintenance berm = 30 ft.
4. Inside edge of maintenance berm shall be 1 ft above the maximum design stage elevation.
5. Berm shall be sodded to the control elevation of the pond.

j. Side slopes shall be topsoiled, and stabilized through seeding or planting from 2 feet below to 1 foot above the control elevation to promote vegetative growth. *(SFWMD Permit Information Manual Vol. II Sec. 5.4.1)*

For facilities designed to be dry, sod pond slopes to the bottom of the slope. *(FDOT Drainage Manual Sec. 5.4.4.2.2)*

k. Fencing *(FDOT Drainage Manual Sec. 5.4.4.2)*
Fences shall be installed around ponds only when a documented maintenance need for restricted access has been demonstrated. The use of fencing around stormwater ponds requires a Design Variation approved by the State Roadway Design Engineer. Where approved, fences selected should be context sensitive, and not detract from the appearance of the ponds or adjoining property.

When requesting the approval of a Design Variation to install fence around stormwater management facilities, the conditions below, when properly documented, are typically acceptable justifications for ponds designed to be permanently wet (permanent design water depth of 2 ft. or greater):

- Above water pond slopes steeper than 1:4 are unavoidable. Note: Stormwater permits typically require wet ponds to be fenced when the above water slopes of the pond are steeper than 1:4. Ponds that enjoy the benefit of fence at the right-of-way line need no additional fencing around them.
- A hidden hazard occurs within 5 ft. of the water's edge. Examples of a hidden hazard are a sharp drop off, such as a 1:2 slope, sharp objects, or otherwise potentially injurious, hidden, underwater hazards.
- The site is likely to experience significant exposure to children or the elderly. Examples of such locations are ponds immediately adjacent to schools, daycares, assisted living facilities, nursing homes, public playgrounds, public basketball courts, etc.

In addition, when requesting the approval of a Design Variation to install fence around ponds of any water depth, the conditions below, when properly documented, are typically acceptable justifications:

- Livestock are expected to wander into the stormwater management facility

- Illicit dumping has historically occurred or is expected to occur

F. Outlet Structures

1. Detention and control elevations shall be set to protect wetland elevations, consistency with surrounding land project control elevations and water tables, restrictions by other agencies, consistency with water use permits and a maximum depth of 6' below natural ground. (*SFWMD Permit Information Manual Vol. II Sec. 3.11*)

2. Lake-Wetland Separation – lakes which potentially may adversely affect wetland areas shall be separated from the wetland preservation, creation, or restoration areas by a minimum distance as defined in the criteria in SFWMD Permit Information Manual Vol. II Sec. 3.12

3. All design discharges shall be made through structural discharge facilities and must be non-operable. (*SFWMD Permit Information Manual Vol. II Sec. 5.1*)

4. Discharge structures from areas with greater than 50 percent impervious area or from systems with inlets in paved areas shall include a baffle, skimmer, or other mechanism suitable for preventing oil and grease from discharging to or

from retention/detention areas. (*SFWMD Permit Information Manual Vol. II Sec. 5.1*)

5. Gravity control devices shall be sized based upon a maximum design discharge of 1/2 inch of detention volume in 24 hours. Dimensions shall be no smaller than 6 square inches of cross sectional area, 2" minimum dimension, and 20 degrees for "V" notches. (*SFWMD Permit Information Manual Vol. II Sec. 5.2*)

6. Gravity control devices shall be a "V" or circular shaped configuration wherever possible. (*SFWMD Permit Information Manual Vol. II Sec. 5.2*)

7. For wet detention facilities, if the drawdown device is smaller than 3 inches wide or less than 20 degrees for "V" notches, include a device to eliminate clogging. (*FDOT Drainage Handbook Stormwater Management Facility Sec. 6.4*)

V. FDOT REGULATORY REQUIREMENT *(FDOT Drainage Manual 5.2.1)*

The design of stormwater management systems for Department projects shall comply with the water quality, rate, and quantity requirements of Section 334.044(15), F.S., Chapter 14-86, F.A.C., Rules of the Department of Transportation only in closed basins up to and including the 100-year storm event or areas subject to historical flooding.

VI. FLOODWAYS AND FLOODPLAIN STORAGE

(SFWMD Permit Information Manual Vol. II Sec. 3.6)

No net encroachment into the floodplain, between the average wet seasonal water table and that encompassed by the 100 year event, which will adversely affect the existing rights of others, will be allowed.

(Orange County Sec. 34-228)

All developments within areas of special flood hazard as delineated on the official Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM) or as determine by the county engineer shall provide compensating storage for all floodwater displaced by development below the elevation of the one-hundred-year flood, unless waived by the county engineer.

Compensating storage is to be accomplished between he normal high water of the special flood hazard area and the estimation one-hundred-year flood elevation.

All development within riverine flood hazard areas shall be designed to maintain the flood carrying capacity of the floodway such that the base flood elevations are not increased, either upstream or downstream. However, the county engineer may approve an increase of up to one (1) foot in the base flood profile if the project engineer can satisfactorily demonstrate that such increase in the flood profile will not adversely affect upstream or downstream property.

APPENDIX B: Correspondence

Project: I-4 Beyond the Ultimate

Client: FDOT District 5

FPID: 242484-7, **242484-8, 431456-1**, **201210-3**

Subject: Reedy Creek Improvement District – FDOT ELA Meeting

Date: 07/13/16

Attendees: Karen Snyder (FDOT), Heather Johnstone (FDOT), Kathryn Kolbo (Reedy Creek), Todd Rimmer (Disney Imaginary), Katherine Luetzow (HNTB – Reedy Creek), Teayann Duclos (E-Sciences), Amy Windom (CH2MHILL), Steve Hart (CH2MHILL), Stephen Noppinger (AECOM), Kim Duong (AECOM), Dustin Perkins (AECOM)

Meeting Reported by Kim Duong:

The subject meeting was held at Reedy Creek Improvement District, 1900 Hotel Plaza Blvd, Orlando, Florida 32830. Below is a summary of the discussion, which started at approximately 3:00 pm.

The agenda was distributed and a scroll plot of the project was presented.

Karen Snyder opened the forum with an introduction to the overview of the project limits, history of the Environmental Look Around process at FDOT, and a brief current status of the preliminary engineering. Karen gave examples of past projects where FDOT partnered with adjacent stakeholders for mutual benefit and environmental improvements.

Dustin Perkins gave an overview of the scope for the project. He mentioned that this meeting was a follow up to the previous meeting with RCID held on 3/30/2016 to specifically discuss the opportunities for partnering with RCID to achieve overall stormwater improvements in the area and project corridor.

Kathryn Kolbo asked what type of improvements FDOT would like to partner with RCID for along the corridor.

Dustin Perkins stated that since most of the project corridor was contained within the Lake Okeechobee BMAP, aside from the typical stormwater treatment and attenuation, FDOT would look for opportunities for removal of nutrients, specifically Total Phosphorus. The recent publicity received for the blue green algae from Lake Okeechobee flowing into the St. Lucie River and Caloosahatchee River was mentioned.

Karen Snyder mentioned Rick Scott had declared a state of emergency in some of the counties where the blue green algae was present.

Kathryn Kolbo mentioned that runoff from RCID meets the current requirements for nutrients and generally is kept at high standards since the receiving Lakes within their District are for recreational uses. Kathryn stated the general problems that RCID deals with regarding nutrients comes from offsite runoff discharging into the RCID system with

high loads. Kathryn inquired as to what methodologies / approaches FDOT would consider to minimize Nutrient contribution.

Dustin Perkins and **Karen Snyder** mentioned there are current FDOT projects utilizing Biosorption Activated Media (BAM) filters as a water quality improvement method. They brought up their recent meeting to partner up with Toho Water Authority (TWA) to utilize storm water to artificially recharge the groundwater system. They presented Chuck Walters' recommendation for TWA to pump storm water to their rapid infiltration basins (RIB).

Kathryn Kolbo and **Todd Rimmer** thought that it would not be feasible for the TWA to pump the water to their RIB site due to infrastructure costs associated with the distance to the RIB site and ROW constraints. They suggested that it would be more cost effective to pump the storm water to a RIB site within RCID. They inquired about the total volume available for recharge and the RIB area.

Dustin Perkins and **Karen Snyder** said that they would provide the volume available within the ponds that could be pumped to a RIB site as design progressed.

Todd Rimmer stated that there are limited recharge sites available. However, Island Village between Davenport and Reedy Creek Swamp is an upland site ideal for recharge. The only disadvantage is that it would be likely recharging the surficial aquifer or even daylight into the existing canal system vs. recharging the Floridian aquifer, but it would at a minimum serve as a median for nutrient removal.

Kathryn Kolbo then suggested another alternative for nutrient removal. She preferred to route the storm water from an offsite development east of SR 536 that is currently discharging into FDOT right-of-way and under I-4 to RCID further downstream. Kathryn stated that the downstream ditch has more than enough capacity to accommodate the rerouting of this runoff. She asked Katherine Luetzow to provide the current flow rate as well as the capacity of the ditch at this location. She stated that the nutrient coming from this development is concerning. Additionally, RCID constructed a separate storm sewer system to accept the runoff from the development. Kathryn and Todd both would prefer to see the development runoff taken into wetlands or construct ponds with littoral zones before discharging into the RCID system. She stressed that RCID would offset the stormwater impact fee in other areas that exceed the RCID discharge limit.

Dustin Perkins and **Karen Snyder** said that they would look into it. Dustin mentioned the existing dry detention systems within the SR 536 interchange would be replaced with enlarged Wet Detention ponds that may have the ability to provide additional treatment for the offsite area.

Heather Johnstone commented that the realignment of Bonnett Creek will no longer be an option. Bonnett Creek will be as it is currently. She stated the bridges will be replaced in the same location as they are today.

Kathryn Kolbo was extremely pleased with that statement and expressed concern from past discussions on the realignment.

Karen Snyder stated FDOT will further investigate the rerouting the runoff from the offsite development and recharge volume and get back with RCID regarding the next meeting.

The meeting concluded at 4:30 pm.

Project: I-4 Beyond the Ultimate

Client: FDOT District 5

FPID: 242484-4, 431456-1, 201210-3

Subject: Line & Grade RCID Coordination

Date: 3/27/17

Attendees: Heather Johnstone (FDOT - By Phone), Karen Snyder (FDOT – By Phone), Katherine Luetzow (RCID), Kate Kolbo (RCID), Steve Noppinger (AECOM), Dustin Perkins (AECOM), Jose Pereira (AECOM), Tuy Duong (AECOM), Renato Chuw (Inwood), and Mirta Laos (Inwood).

Meeting Reported by Dustin Perkins:

The subject meeting was held at RCID, 1920 East Buena Vista Drive, Suite A, Lake Buena Vista, FL 32830. Below is a summary of the discussion, which started at approximately 11:00 am.

The agenda was distributed and a scroll plot of the project was presented.

Steve Noppinger provided an overview of the project status which included the recent delivery of the Line and Grade plans to FDOT on March 10th. Steve indicated the Line and Grade plans included the draft bridge hydraulics reports for review by FDOT for Reedy Creek and Bonnet Creek. He mentioned the plans indicate preliminary ponds required for the proposed roadway but the majority of the drainage work is to be performed over the next year in preparation for the final concept plan delivery to FDOT.

Dustin Perkins stated that the purpose of this meeting was to discuss the "next step" items for the drainage design and incorporate RCID into the design phase discussion. Dustin stated that although many of the onsite ponds had preliminary design there were still many questions regarding offsite areas within the Reedy Creek Improvement District boundaries. Main topics to be focused on were the FEMA zone A floodplains and Reedy Creek floodplains, Bridge Hydraulic Reports, offsite drainage patterns, and the SR 535 area. Dustin stated the next deliverable to FDOT is planned for March 2018.

Renato Chuw provided an overview of the SR 429 interchange area focused on floodplains within the interchange. He stated the permitted elevations used for the zone A floodplains within the interchange was determined from the 100 year design high water on the upstream end of each cross drain. Renato stated since there were no changes to the contributing areas or flows the flood elevations used in the previous permit would be used for this project. Renato mentioned the FPC 103 site was still being evaluated since the geotechnical information for the site indicated the estimated seasonal high elevation was above the floodplain elevation. He mentioned that the FPC 103 site was to be discussed with SFWMD for the potential of a canal bank excavation rather than an isolated floodplain

compensation site. Renato also mentioned the FPC 109 site which was previously identified as a potential compensation site was already in the floodplain and not available for compensation.

Steve Noppinger asked what alternatives have been considered for the FPC 109 site.

Renato Chuw stated that the historic permits documented compensation in MVB5 and also added guardrail to minimize the impacts. Renato stated this area was still in review to determine the total volume needed.

Kate Kolbo stated that RCID could help with floodplain compensation but under no circumstance would allow impacts to the conservation area adjacent to the roadway right of way. Kate mentioned RCID could provide the legals for the conservation area and survey information on where the conservation lines were located.

Renato Chuw mentioned that the Reedy Creek BHR was provided to FDOT for review and the model provided a no rise at the face of the bridge. Renato stated that the canal was regraded within FDOT right of way but did not go outside into the conservation easement area.

Jose Pereira provided an overview of the project from east of Reedy Creek to SR 417. Jose discussed the lengthy permitting history of the area and highlighted the historic contributing areas starting as far east as US 192 and draining through two separate culverts under westbound I-4 and into the conspan that runs under eastbound I-4. Jose also mentioned the existing cross drain under eastbound I-4 that drained into the conspan as well.

Dustin Perkins questioned some of the changes in this area over time, stating that the historic I-4 permits Jose mentioned provided compensation for floodplain that has since been modified. Dustin questioned the need for floodplain compensation since per the RCID maps there was no floodplain within the bifurcated area between World Drive and SR 417.

Jose Pereira stated that during his review of the mass grading permit for celebration he was unable to locate the calculations that demonstrated how the historic floodplain was compensated for. Jose stated that the I-4 permit calculated a floodplain elevation on I-4 eastbound and westbound with an overall ICPR model called the “big one”.

Renato Chuw stated this model was based off working data from Mack at RCID during the I-4 CD roads project.

Kate Kolbo stated that if the existing ponds provided “paper” floodplain compensation but were not actually providing and true compensation there was no need to continue to maintain that volume in the I-4 project.

Dustin Perkins stated an example of “paper” compensation could be if the permitted compensation was for a floodplain elevation that is a few feet higher than the current RCID floodplain.

Kate Kolbo agreed that “paper” compensation would be compensation that is not actually being used today. She stated that compensation would not need to be maintained.

Dustin Perkins mentioned that the project would be meeting a pre/post discharge rate for RCID and agreed to provide documentation on the permitted floodplain compensation. Dustin stated it is FDOT’s responsibility to maintain historic basin boundaries and discharge rates for offsite properties. He also stated the project team is

currently documenting these areas and using the discharge rates for design, but questioned the area within RCID and to whether this should be handled differently. Dustin questioned RCID on the model around the bifurcated area and whether the cross drains beneath I-4 were included.

Kate Kolbo mentioned it is possible the RCID model did not include the smaller components of the system.

Dustin Perkins stated this area would be further reviewed and coordinated with RCID and FDOT. He mentioned the potential to reconfigure the connectivity of the area for constructability.

Jose Pereira stated two of the cross drains in the bifurcated area had control structures on them. He mentioned the permitted purpose was to provide compensation. He questioned if the cross drain under the I-4 eastbound was still in use.

Katherine Luetzow stated she believed there was a drainage easement there and that the plans for the adjacent development should document the drainage pattern.

Dustin Perkins gave an overview of the US 192 C-2 canal area. He asked if RCID has a preference as to what flood data be used for establishing the 100 yr floodplain elevations within the interchange. He mentioned the updated corrected effective model submitted to FDOT used design survey of the culverts and RCID Tailwater and discharge information. The other option provided was to use the RCID model output data.

Kate Kolbo stated that if the current model submitted to FDOT used more recent survey then that model should be used to establish the 100 year elevations.

Dustin Perkins gave an overview of the Bonnet Creek BHR. He mentioned that the information provided by RCID from the UNET model did not have any substructure information for the I-4 bridges. He mentioned his duplicate model closely mimicked the UNET model with a small rise in the water surface profile. He then stated that the corrected effective model, which included new design survey and the existing bridge substructure contained a rise of about 2 feet. He then added that the proposed model maintained a no rise, at the face of the existing bridge to remain, from the corrected effective yet required regrading of the overbanks under the proposed bridges.

Kate Kolbo and Katherine Luetzow agreed it is possible that the substructure had such a significant impact. Kate asked how far upstream the impact propagated.

Dustin Perkins could not recall but mentioned it was possible it extended up to the terminus of the new model.

Kate Kolbo asked if it was higher than the upstream Amil Gate and mentioned this would need to be reviewed for potential impacts.

Dustin Perkins agreed and stated that after FDOT comments were incorporated the model would be submitted to RCID for review. Dustin also stated the floodplains at SR 536 may be impacted from the information. He stated the floodplain information used to determined flood elevations within and across I-4 between Osceola Parkway and SR 536 was from the Wetland E model for the adjacent resort. The wetland E model boundary condition was Bonnet

Creek and could be impacted from the results. Dustin stated the drainage team would review the information once the Bonnet Creek model was accepted.

Tuy (Kim) Duong provided an overview of the SR 535 project area. She mentioned the potential of the new Vineland Avenue widening project re-directing some of the historic basin back under I-4. Kim mentioned the drainage team was designing the cross roads ponds to treat and attenuate the runoff from a portion of the widened Vineland section.

Heather Johnstone and Karen Snyder stated the drainage connection permit for the Vineland Ave widening project was under review by FDOT and would be passed on to RCID once it was ready.

Tuy (Kim) Duong mentioned the challenges with hydraulic grades at the cross roads ponds relating to Hotel Plaza and north SR 535 and asked RCID about a potential pond location along Hotel Plaza where two existing ponds could possibly be consolidated into one Pond. Kim mentioned this area would only handle the widened Hotel Plaza area.

Kate Kolbo stated that almost any pond on the West side of SR 535 would not be acceptable since Disney views that area as high priority for future development. Kate mentioned attenuation could possibly be handled in Village Lake but the FDOT drainage team would be responsible for updating the model to show it. Kate also mentioned treatment could be provided by RCID if needed only for a small area like Hotel Plaza.

Tuy (Kim) Duong mentioned the offsite properties draining through the RCID system and status of the current documentation process for the I-4 BTU project. Kim pointed out the boundary between the FDOT Ditch basin and the Ruby Lake Basin and showed flow patterns through the cascading ponds. Kim also mentioned the master permit for the cross roads area stating attenuation was provided but each site was required to provide their own pre-treatment. Kim mentioned we were able to locate the master ponds information but not the information on the pre-treatment facilities.

Kate Kolbo provided an overview of the RCID history and the limited discharge rate of 13 csm. She stated that regardless of if the project is providing the pre/post for the RCID event, they would overlay the areas which have historically paid and those that haven't and fees would be assessed during this permit.

The meeting concluded at 12:30 pm.

Project: I-4 Beyond the Ultimate

Client: FDOT District 5

FPID: 242484-7, **242484-8, 431456-1**, **201210-3**

Subject: Reedy Creek Improvement District – FDOT Hotel Plaza Meeting

Date: 10/11/16

Attendees: Karen Snyder (FDOT), Heather Grubert (FDOT), Kevin Moss (FDOT), Kathryn Kolbo (Reedy Creek), Todd Rimmer (Disney Imagineering), Katherine Luetzow (HNTB – Reedy Creek), Stephen Noppinger (AECOM), Kim Duong (AECOM), Dustin Perkins (AECOM), Laura Prieto (AECOM)

Meeting Reported by Laura Prieto:

The subject meeting was held at Reedy Creek Improvement District Planning and Engineering, 1920 East Buena Vista Drive, Suite A, Lake Buena Vista, Florida 32830. Below is a summary of the discussion, which started at approximately 9:00 am.

A scroll plot of the project was presented showing the area in question along Hotel Plaza, specifically the two ponds associated with the meeting, highlighted in red.

Introductions took place.

Dustin Perkins mentioned previous conversations about Disney's intention of developing the area around Hotel Plaza, close to the two ponds and asked if Disney was still considering developing it.

Todd Rimmer responded that Disney has lot of planning for future growth in that area and they have concept plans for development. He also mentioned Centra Care also has expansion plans in that area.

Kathryn Kolbo mentioned that those two ponds along Hotel Plaza are not permitted, she has not been able to find any permits on file and there is no control structure in those ponds, just pipe.

Todd Rimmer mentioned that even though there are wetlands in that area, Disney can still develop there with their permits.

Steve Noppinger mentioned that based on the proposed plans for that area; there will not be any access to the existing gas station, which will be wiped out, nor to any new hypothetical development in that area close to the two ponds.

Dustin Perkins asked if Disney would still consider developing that area even though there won't be any access.

Todd Rimmer mentioned that Disney would look at it closely but they still had plans to develop that area and would look at access options.

Kathryn Kolbo discussed possible access to development in that area, close to the canal or other options. She also asked about the difference in improvements to be done by Orange County and FDOT. She mentioned RCID would like to see the plans and calculations from Orange County before they reach 100% plans, in case RCID rejects their proposal or wants changes.

Heather Grubert mentioned Orange County is working on those plans and FDOT has told them to share them with RCID once they reach an acceptable level, to make sure all the calculations are there for review.

Karen Snyder mentioned that the plans and calculations from Orange County will go through FDOT'S review as well as AECOM'S review, through Dustin Perkins and then everyone will be able to discuss more about that matter.

Dustin Perkins asked if RCID was aware of other issues, aside from what had already been discussed, in that area of Hotel Plaza.

Kathryn Kolbo responded that the main issue is that the area is built too low and there is standing water. She mentioned that if the new improvements produce additional discharge, the pipe sizes would be affected. There was discussion about the method of Pre and Post development assessments and trying to have the post-development flow conditions match the conditions of the Pre-development so as to not produce additional flow to the system, but that if something in the pre-development condition is not working then the post-condition matching the pre-condition might not be the best approach.

Todd Rimmer asked about the amount of water quantity and quality that would work for the BTU project. He asked the BTU team to provide Disney a volume that the BTU project will need and Disney will also analyze what volume they need to be able to coordinate.

There was discussion about having a Joint-use pond between FDOT and Disney.

Kevin Moss asked if Disney would maintain the pond.

Todd Rimmer agreed that Disney would take over maintenance of the pond.

Dustin Perkins stated the general schedule timeframe of providing concept plans to FDOT around February/March 2018 and the permit would be around June/July. He also mentioned that there is a ditch block in one of the Hotel Plaza ponds that is being undermined and asked RCID if they were aware of this.

Kathryn Kolbo stated that RCID was aware of the existing ditch block and she does not know why it is out there. She mentioned she first noticed it about 20 years ago, but to this day does not know why it was placed there, she has searched for permits and reached out to the construction team that built that area, but has not received any information explaining the purpose of it.

Karen Snyder mentioned that AECOM might have some information that would help from the survey that has been done in that area.

Dustin Perkins said that a preliminary survey had been completed and there is a second wave of survey that will be performed in that area and AECOM can share any data collected about the ditch block with RCID.

Kathryn Kolbo mentioned RCID would like any survey information available and a copy of the detailed construction plans. She also warned AECOM to let the surveyors know that there is a 10x10 drainage conflict box close to the turn lane near the canal and to be aware of utilities in that area.

There was discussion about RCID having to take a look at the impacts to their system, which is a pass-through system instead of a storage system and the issues other systems face to be able to discharge into RCID's system.

Karen Snyder mentioned the effect she has witnessed resulting from Hurrican Irma a few days after the storm and asked if RCID had seen any major impacts.

Kathryn Kolbo and **Todd Rimmer** stated that even though some areas did get high, they did not see any major impacts to their system.

Kathryn Kolbo introduced the topic about drainage fees associated with discharging into RCID's system. She mentioned that once all of the drainage calculations are reviewed and all the drainage coordination is worked out, a one-time fee assessment will be determined. The general criterion that you can drain up to 13 csm for free and any more after that will incur a fee.

The meeting concluded at 10 am.

APPENDIX C: Drainage Design Calculations

APPENDIX C.1: Pre/ Post Basin Calculations

APPENDIX C.1.1: Reedy Creek Outfall (Black Lake) Calculations

REEDY CREEK OUTFALL (BLACK LAKE)

PRE-DEVELOPMENT BASIN SUMMARY

REEDY CREEK OUTFALL (BLACK LAKE):

EX_BSN137B	***To EX_PND137***
Basin Area (ac.)	*39.96*
Curve Number	*51.39*

EX_BSN138B1A	
Basin Area (ac.)	*2.78*
Curve Number	*84.00*

EX_BSN138B1B	
Basin Area (ac.)	*4.21*
Curve Number	*75.84*

EX_BSN138B2	
Basin Area (ac.)	*3.06*
Curve Number	*68.42*

EX_BSN138B3	
Basin Area (ac.)	*5.97*
Curve Number	*49.00*

EX_BSN138B4	
Basin Area (ac.)	*8.51*
Curve Number	*66.13*

EX_BSN138C1	
Basin Area (ac.)	*3.05*
Curve Number	*61.63*

EX_BSN138C2	
Basin Area (ac.)	*4.96*
Curve Number	*59.89*

EX_BSN138C3	
Basin Area (ac.)	*9.15*
Curve Number	*70.25*

EX_BSN138C4	
Basin Area (ac.)	*6.26*
Curve Number	*73.86*

EX_BSNOFFA1	
Basin Area (ac.)	*4.00*
Curve Number	*80.00*

EX_BSNOFF138C4	
Basin Area (ac.)	*18.82*
Curve Number	*63.25*

Pre Onsite Drainage Area Summary

	Onsite	*Offsite*	***Total***
Total Drainage Area (ac.)	*87.91*	*22.82*	*= 110.73*
Total Impervious Area (ac.)	*33.19*	*3.11*	*= 36.30*
Treated (ac.)	*26.75*	*3.11*	*= 29.86*
Untreated (ac.)	*6.44*		*= 6.44*
Total Water Surface (ac.)	*8.36*	*0.00*	*= 8.36*

REEDY CREEK OUTFALL (BLACK LAKE)

POST-DEVELOPMENT BASIN SUMMARY

REEDY CREEK OUTFALL (BLACK LAKE):

EX_BSN137B		**BSN138C1B**	
Basin Area (ac.)	39.96	*Basin Area (ac.)*	1.14
Curve Number	51.39	*Curve Number*	0.00
EX_BSN138B1A		**BSN138C2**	
Basin Area (ac.)	2.78	*Basin Area (ac.)*	4.96
Curve Number	84.00	*Curve Number*	57.82
BSN138B1B1		**BSN138C3A**	
Basin Area (ac.)	1.02	*Basin Area (ac.)*	8.06
Curve Number	68.70	*Curve Number*	68.77
BSN138B1B2		**BSN138C3B1**	
Basin Area (ac.)	1.71	*Basin Area (ac.)*	0.44
Curve Number	86.70	*Curve Number*	74.93
BSN138B1B3		**BSN138C3B2**	
Basin Area (ac.)	1.48	*Basin Area (ac.)*	0.66
Curve Number	68.20	*Curve Number*	84.00
EX_BSN138B2		**BSN138C4**	
Basin Area (ac.)	3.06	*Basin Area (ac.)*	5.50
Curve Number	68.42	*Curve Number*	74.51
EX_BSN138B3		**EX_BSNOFFA1** ***Offsite EX_PNDOFFA1***	
Basin Area (ac.)	5.97	*Basin Area (ac.)*	4.00
Curve Number	49.00	*Curve Number*	80.00
EX_BSN138B4		**EX_BSNOFF138C4** ***Offsite to EX_SW138C4***	
Basin Area (ac.)	8.51	*Basin Area (ac.)*	18.82
Curve Number	66.13	*Curve Number*	63.25
BSN138C1A			
Basin Area (ac.)	1.91		
Curve Number	57.43		

Post Drainage Area Summary

	Onsite	*Offsite*	***Total***
Total Drainage Area (ac.)	87.16	22.82	= 109.98
Total Impervious Area (ac.)	33.72	3.11	= 36.83
Treated (ac.)	28.74	3.11	= 31.85
Untreated (ac.)	4.98		= 4.98
Total Water Surface (ac.)	8.36	0.00	= 8.36

Although the impervious area for this outfall increased by approximately 0.53 acres, the total drainage area is reduced by approximately 0.75 acres as some of basin BSN138C4 is being intercepted and taken to pond PND141. Additionally, less impervious areas are being sent directly offsite in post-development conditions than it did in

REEDY CREEK OUTFALL (BLACK LAKE)

NODE EX_4FDOT138 RATE OF DISCHARGE SUMMARY

Pre-Development Discharge Summary

Peak Discharge (cfs) - Black Lake Outfall @ Node EX_4AFDOT138

	Onsite	Offsite	Total	
25yr/24hr	46.64	59.69	**106.33**	Orange County
25yr/72hr	58.08	108.28	**166.36**	SFWMD
50yr/72hr	63.40	149.22	**212.62**	RCID
100yr/72hr	62.27	163.78	**226.05**	RCID

Runoff Volume (ac-ft) - Black Lake Outfall @ Node EX_4AFDOT138

	Onsite	Offsite	Total	
25yr/24hr	43.05	33.95	**77.00**	Orange County
25yr/72hr	52.44	43.16	**95.60**	SFWMD
50yr/72hr	71.77	62.63	**134.40**	RCID
100yr/72hr	81.16	71.74	**152.90**	RCID

Post-Development Discharge Summary

Peak Discharge (cfs) - Black Lake Outfall @ Node EX_4AFDOT138

	Onsite	Offsite	Total	
25yr/24hr	43.69	59.69	**103.38**	Orange County
25yr/72hr	52.64	108.28	**160.92**	SFWMD
50yr/72hr	53.47	149.22	**202.69**	RCID
100yr/72hr	51.36	163.78	**215.14**	RCID

Runoff Volume (ac-ft) - Black Lake Outfall @ Node EX_4AFDOT138

	Onsite	Offsite	Total	
25yr/24hr	42.55	33.95	**76.50**	Orange County
25yr/72hr	51.74	43.06	**94.80**	SFWMD
50yr/72hr	71.17	62.33	**133.50**	RCID
100yr/72hr	80.06	71.74	**151.80**	RCID

Offsite runoff volume and rate for basin EX_BSNOFFBSN138C4 were taken from the Basin Summary Report; while the runoff volumes and rates for all other offsites basins with SMF were obtained from the Node Maximum Condition Report and Node Time Series by Node Report respectively. The total rate of discharges and volumes were taken from the Node Maximum Report and Node Time Series by Node Report for node EX_4AFDOT138 (existing) or 4AFDOT138 (proposed) respectively.

Onsite runoff volume and rate are taken from the difference between the total and the offsite.

REEDY CREEK OUTFALL (BLACK LAKE)

WATER MANAGEMENT SYSTEM SUMMARY

PROPOSED POND SUMMARY

Swale 138B1B1

Pond Control Elevation (NWL)		*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD*
Edge of Shoulder Elevation	*106.25*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*106.06*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*106.13*	*ft, NAVD*
*Freeboard Provided**	*0.12*	*ft*
10Y01H Peak Inflow Elevation	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*ft, NAVD*

Swale 138B1B2

Pond Control Elevation (NWL)		*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD*
Edge of Shoulder Elevation	*105.96*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*105.18*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*105.32*	*ft, NAVD*
*Freeboard Provided**	*0.64*	*ft*
10Y01H Peak Inflow Elevation	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*ft, NAVD*

Swale 138B1B3

Pond Control Elevation (NWL)		*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD*
Edge of Shoulder Elevation	*107.11*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*106.58*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*106.70*	*ft, NAVD*
*Freeboard Provided**	*0.41*	*ft*
10Y01H Peak Inflow Elevation	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*ft, NAVD*

Ex_Swale 138C1

	Existing	*Proposed*	
Pond Control Elevation (NWL)	*Existing*	*Existing*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation	*Existing*	*Existing*	*ft, NAVD*
Edge of Shoulder Elevation	*110.00*	*110.00*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*106.63*	*106.63*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*106.66*	*106.66*	*ft, NAVD*
*Freeboard Provided**	*3.34*	*3.34*	*ft*
10Y01H Peak Inflow Elevation	---	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	---	*ft, NAVD*

Swale 138C2

	Existing	*Proposed*	
Pond Control Elevation (NWL)	*Permitted*	*Permitted*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation	*Permitted*	*Permitted*	*ft, NAVD*
Edge of Shoulder Elevation	*106.50*	*106.50*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*103.84*	*104.14*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*105.87*	*106.18*	*ft, NAVD*
*Freeboard Provided**	*0.63*	*0.32*	*ft*
10Y01H Peak Inflow Elevation	---	*103.12*	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*103.82*	*ft, NAVD*

The increase in stage for this swale is a direct result of the reduction in swale capacity and additional impervious areas within the basin. However, the increase in stage at this location is minimal and does not exceed the EOP elevation.

REEDY CREEK OUTFALL (BLACK LAKE)

Ex_Swale 138C3	*Existing*	*Proposed*	
Pond Control Elevation (NWL)	*Permitted*	*Permitted*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation	*Permitted*	*Permitted*	*ft, NAVD*
Edge of Shoulder Elevation	*115.51*	*115.51*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*113.83*	*113.82*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*114.27*	*114.26*	*ft, NAVD*
*Freeboard Provided**	*1.24*	*1.25*	*ft*
10Y01H Peak Inflow Elevation	---	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	---	*ft, NAVD*

Swale 138C3B1		
Pond Control Elevation (NWL)		*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD*
Edge of Shoulder Elevation	*130.59*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*130.12*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*130.19*	*ft, NAVD*
*Freeboard Provided**	*0.40*	*ft*
10Y01H Peak Inflow Elevation	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*ft, NAVD*

Swale 138C3B2		
Pond Control Elevation (NWL)		*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD*
Edge of Shoulder Elevation	*133.22*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*131.65*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*131.70*	*ft, NAVD*
*Freeboard Provided**	*1.52*	*ft*
10Y01H Peak Inflow Elevation	---	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*ft, NAVD*

Ex_Swale 138C4	*Existing*	*Proposed*	
Pond Control Elevation (NWL)	*Permitted*	*Permitted*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation	*Permitted*	*Permitted*	*ft, NAVD*
Edge of Shoulder Elevation	*116.55*	*116.55*	*ft, NAVD*
Design High Water Elevation (25yr/24hr)	*114.70*	*114.69*	*ft, NAVD*
Design High Water Elevation (25yr/72hr)	*115.17*	*115.14*	*ft, NAVD*
*Freeboard Provided**	*1.38*	*1.41*	*ft*
10Y01H Peak Inflow Elevation	---	*114.51*	*ft, NAVD*
50Y01H Peak Inflow Elevation	---	*114.67*	*ft, NAVD*

REEDY CREEK OUTFALL (BLACK LAKE)

WATER QUALITY SUMMARY *(Swales Treatments)*

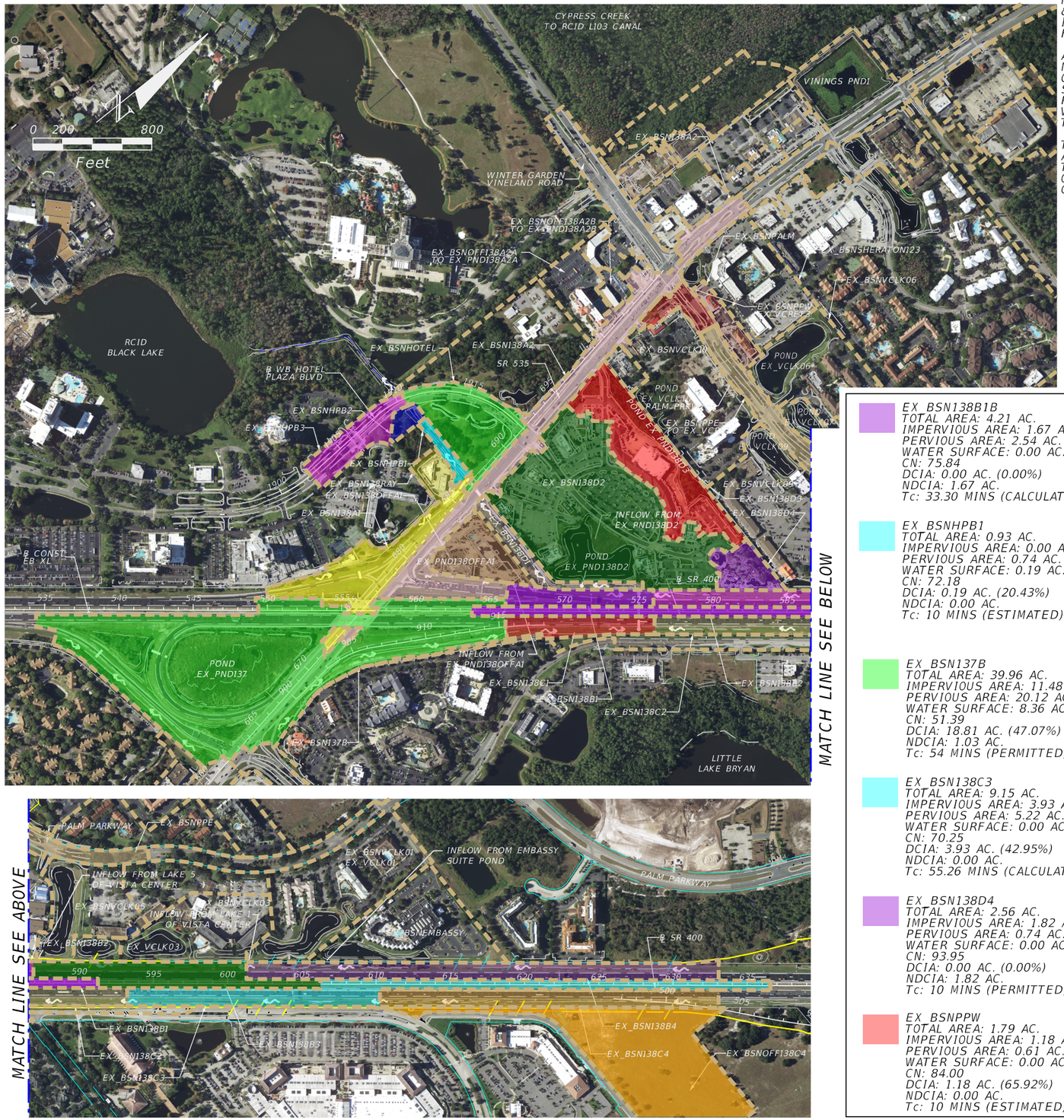
	Existing PAV	Proposed PAV	
EX_PND137	*4.21*	*4.21*	*ac-ft*
SW138B1B	---	*0.38*	*ac-ft*
EX_SW138B3	*0.02*	*0.02*	*ac-ft*
EX_SW138B4	*0.05*	*0.05*	*ac-ft*
EX_SW138C2/ SW138C2	*0.06*	*0.05*	*ac-ft*
EX_SW138C3	*0.16*	*0.16*	*ac-ft*
SW138C3B	---	*0.07*	*ac-ft*
EX_SW138C4	*0.06*	*0.06*	*ac-ft*
Total Treatment Volume	*4.56*	*5.00*	*ac-ft*

REEDY CREEK OUTFALL (BLACK LAKE)

FDOT CRITICAL STORM SUMMARY TO BLACK LAKE OUTFALL NODE 4AFDOT138

STORM EVENT	PRE-RATE	POST-RATE INTERIM DCP	DIFFERENCE INTERIM DCP
002Y001HR	47.72	47.34	-0.38
002Y002HR	52.47	51.25	-1.22
002Y004HR	52.17	49.97	-2.20
002Y008HR	50.36	48.77	-1.59
002Y024HR	23.09	22.21	-0.88
002Y072HR	21.83	21.51	-0.32
005Y001HR	62.88	61.94	-0.94
005Y002HR	68.03	65.94	-2.09
005Y004HR	68.00	64.94	-3.06
005Y008HR	66.37	63.81	-2.56
005Y024HR	30.59	29.30	-1.29
005Y072HR	31.50	31.36	-0.14
010Y001HR	74.89	73.09	-1.80
010Y002HR	80.49	77.54	-2.95
010Y004HR	81.63	78.41	-3.22
010Y008HR	80.30	76.45	-3.85
010Y024HR	38.27	37.76	-0.51
010Y072HR	46.44	46.22	-0.22
025Y001HR	90.54	86.70	-3.84
025Y002HR	98.97	94.47	-4.50
025Y004HR	102.74	99.79	-2.95
025Y008HR	104.02	100.50	-3.52
025Y024HR	50.99	50.31	-0.68
025Y072HR	60.50	60.20	-0.30
050Y001HR	102.75	98.47	-4.28
050Y002HR	111.78	106.53	-5.25
050Y004HR	116.58	112.67	-3.91
050Y008HR	120.88	116.18	-4.70
050Y024HR	67.02	66.70	-0.32
050Y072HR	72.05	71.43	-0.62
100Y001HR	114.33	108.81	-5.52
100Y002HR	122.43	116.98	-5.45
100Y004HR	129.06	125.11	-3.95
100Y008HR	136.33	131.50	-4.83
100Y024HR	84.62	84.13	-0.49
100Y072HR	84.52	83.54	-0.98

From the above summary, the rate of discharge leaving FDOT right-of-way along the I-4 corridor is less than the post development with the storm per storm comparison.



MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

NOTE: INFORMATION SHOWN FOR THE OFFSITE BASINS ARE BASED ON AVAILABLE EXISTING CONSTRUCTION PLANS & PERMITTED DOCUMENTATIONS. DESIGN SURVEY DOES NOT EXTEND BEYOND THE PROJECT LIMITS. AS SUCH, THE INFORMATION SHOWN ARE REPRESENTATIVES AND SHOULD NOT BE CONSTRUED AS DESIGN DATA. ALL ONSITE BASINS HAVE BEEN ADJUSTED AS NEEDED TO BEST REFLECT THE CURRENT SITE CONDITION PER DESIGN SURVEY PROVIDED.

ALL OFFSITE BASINS WERE EXTRAPOLATED FROM HISTORICAL PERMIT DATA. SMALL ADJUSTMENT, AS NEEDED, WERE MADE TO REFLECT FIELD RECONNAISSANCE. CN SHEETS WERE PROVIDED FOR MOST OF THE OFFSITE BASINS INCLUDED IN THE ICPR-3 MODEL. THESE SHEETS WERE TAKEN DIRECTLY FROM THE PERMITS DOCUMENTATION FROM SFWMD ARCHIVE. EX_BSN138D4 IS PART OF THE CROSSROAD COMMERCIAL DEVELOPMENT. HOWEVER, THERE ARE NO PERMIT INFORMATION OR APPLICACATION (MODIFICATION) FOR THIS IMPROVEMENT. IT IS AN EXISTING MINI-GOLF WITH ONSITE STORAGE PROVIDED. FOR PURPOSES OF THE ICPR ROUTING, THE AREA IS PROPOSED TO DISCHARGE TO THE EXISTING POND EX_PNDD2.

THE PERMIT APPLICATIONS ASSOCIATED WITH THIS DRAINAGE BASIN TO REEDY CREEK IMPROVEMENT DISTRICT ARE AS FOLLOWS: BASIN EX_BSN137B – SFWMD #04118-1; BASIN EX_BSN138B3, EX_BSN138B4, AND EX_BSN138C2 TO EX_BSN138C4 – SFWMD #011109-7; BASIN EX_BSN138D2 AND BSN138D3 – SFWMD #140612-17; BASIN EX_BSN-OFF138A1 – SFWMD #X000007612; BASIN EX_BSN138RAY – SFWMD #991015-3. ADDITIONAL OFFSITE PERMIT ASSOCIATED WITH THE MODELING ARE: #891130-2, #12168-S, #891226-2, AND #120203-11.

BONNET CREEK (L101 BLACK LAKE) OUTFALL

UNTREATED BASINS:

EX_BSN138A1
TOTAL AREA: 7.35 AC.
IMPERVIOUS AREA: 3.46 AC.
PERVIOUS AREA: 3.89 AC.
WATER SURFACE: 0.00 AC.
CN: 72.07
DCIA: 0.00 AC. (0.00%)
NDCIA: 3.46 AC.
Tc: 20 MINS (CALCULATED)

EX_BSN138A2
TOTAL AREA: 13.71 AC.
IMPERVIOUS AREA: 9.31 AC.
PERVIOUS AREA: 4.40 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 9.31 AC. (67.91%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138B1A
TOTAL AREA: 2.78 AC.
IMPERVIOUS AREA: 1.79 AC.
PERVIOUS AREA: 0.99 AC.
WATER SURFACE: 0.00 AC.
CN: 93.01
DCIA: 1.79 AC. (64.39%)
NDCIA: 0.00 AC.
Tc: 23.58 MINS (CALCULATED)

EX_BSN138B1B
TOTAL AREA: 4.21 AC.
IMPERVIOUS AREA: 1.67 AC.
PERVIOUS AREA: 2.54 AC.
WATER SURFACE: 0.00 AC.
CN: 75.84
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.67 AC.
Tc: 33.30 MINS (CALCULATED)

EX_BSN138B2
TOTAL AREA: 3.06 AC.
IMPERVIOUS AREA: 1.51 AC.
PERVIOUS AREA: 1.55 AC.
WATER SURFACE: 0.00 AC.
CN: 68.42
DCIA: 1.51 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 27.66 MINS (CALCULATED)

EX_BSN138C1
TOTAL AREA: 3.05 AC.
IMPERVIOUS AREA: 1.47 AC.
PERVIOUS AREA: 1.58 AC.
WATER SURFACE: 0.00 AC.
CN: 61.63
DCIA: 1.47 AC. (48.20%)
NDCIA: 0.00 AC.
Tc: 22.20 MINS (ESTIMATED)

EX_BSN138D1
TOTAL AREA: 2.49 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 2.24 AC.
WATER SURFACE: 0.25 AC.
CN: 84.00
DCIA: 0.25 AC. (10.04%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB1
TOTAL AREA: 0.93 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.19 AC.
CN: 72.18
DCIA: 0.19 AC. (20.43%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB2
TOTAL AREA: 0.78 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: .73 AC.
WATER SURFACE: 0.05 AC.
CN: 73.93
DCIA: 0.05 AC. (6.41%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB3
TOTAL AREA: 3.44 AC.
IMPERVIOUS AREA: 1.55 AC.
PERVIOUS AREA: 1.89 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.55 AC. (45.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNOFF138C4
TOTAL AREA: 18.82 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 18.82 AC.
WATER SURFACE: 0.00 AC.
CN: 63.25
DCIA: 0.00 AC.
NDCIA: 0.00 AC.
Tc: 30.06 MINS (CALCULATED)

TREATED BASINS:

EX_BSN137B
TOTAL AREA: 39.96 AC.
IMPERVIOUS AREA: 11.48 AC.
PERVIOUS AREA: 20.12 AC.
WATER SURFACE: 8.36 AC.
CN: 51.39
DCIA: 18.81 AC. (47.07%)
NDCIA: 1.03 AC.
Tc: 54 MINS (PERMITTED)

EX_BSN138B3
TOTAL AREA: 5.97 AC.
IMPERVIOUS AREA: 2.73 AC.
PERVIOUS AREA: 3.24 AC.
WATER SURFACE: 0.00 AC.
CN: 49.00
DCIA: 2.73 AC. (45.73%)
NDCIA: 0.00 AC.
Tc: 43.20 MINS (CALCULATED)

EX_BSN138B4
TOTAL AREA: 8.51 AC.
IMPERVIOUS AREA: 4.20 AC.
PERVIOUS AREA: 4.31 AC.
WATER SURFACE: 0.00 AC.
CN: 66.13
DCIA: 4.20 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 50.76 MINS (CALCULATED)

EX_BSN138C2
TOTAL AREA: 4.96 AC.
IMPERVIOUS AREA: 2.39 AC.
PERVIOUS AREA: 2.57 AC.
WATER SURFACE: 0.00 AC.
CN: 59.89
DCIA: 2.39 AC. (48.19%)
NDCIA: 0.00 AC.
Tc: 26.76 MINS (CALCULATED)

EX_BSN138C3
TOTAL AREA: 9.15 AC.
IMPERVIOUS AREA: 3.93 AC.
PERVIOUS AREA: 5.22 AC.
WATER SURFACE: 0.00 AC.
CN: 70.25
DCIA: 3.93 AC. (42.95%)
NDCIA: 0.00 AC.
Tc: 55.26 MINS (CALCULATED)

EX_BSN138C4
TOTAL AREA: 6.26 AC.
IMPERVIOUS AREA: 3.05 AC.
PERVIOUS AREA: 3.21 AC.
WATER SURFACE: 0.00 AC.
CN: 73.86
DCIA: 3.05 AC. (48.72%)
NDCIA: 0.00 AC.
Tc: 18.96 MINS (CALCULATED)

EX_BSN138D2
TOTAL AREA: 27.71 AC.
IMPERVIOUS AREA: 19.98 AC.
PERVIOUS AREA: 5.24 AC.
WATER SURFACE: 2.49 AC.
CN: 77.00
DCIA: 22.47 AC. (81.09%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D3
TOTAL AREA: 9.82 AC.
IMPERVIOUS AREA: 3.20 AC.
PERVIOUS AREA: 6.62 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 3.20 AC. (32.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D4
TOTAL AREA: 2.56 AC.
IMPERVIOUS AREA: 1.82 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.00 AC.
CN: 93.95
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.82 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138RAY
TOTAL AREA: 1.40 AC.
IMPERVIOUS AREA: 0.91 AC.
PERVIOUS AREA: 0.49 AC.
WATER SURFACE: 0.00 AC.
CN: 83.01
DCIA: 0.91 AC. (64.86%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSNHOTEL
TOTAL AREA: 6.77 AC.
IMPERVIOUS AREA: 2.48 AC.
PERVIOUS AREA: 3.98 AC.
WATER SURFACE: 0.31 AC.
CN: 77.76
DCIA: 2.79 AC. (41.21%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPALM
TOTAL AREA: 1.91 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 1.91 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPW
TOTAL AREA: 1.79 AC.
IMPERVIOUS AREA: 1.18 AC.
PERVIOUS AREA: 0.61 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.18 AC. (65.92%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPE
TOTAL AREA: 5.74 AC.
IMPERVIOUS AREA: 3.65 AC.
PERVIOUS AREA: 2.09 AC.
WATER SURFACE: 0.00 AC.
CN: 79.98
DCIA: 3.65 AC. (63.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) EXISTING BASIN MAP

FIGURE 7

BONNET CREEK (L101 BLACK LAKE) OUTFALL - SR 535 INTERCHANGE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN137B			
POND/ NODE DESIGNATION:	EX_PND137	**MADE BY:**	DG	02/26/2017
		REVISED BY:	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	8.36	836.00
			TOTALS	**8.36**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	10.45	1024.10
			TOTALS	**10.45**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	1.03	100.94
					0.00
			TOTALS	**1.03**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St Lucie fine sand - 38 Urban land - 50	A	49	20.12	985.88
Time of Concentration for this basin was taken from the permitted documentations.			**TOTALS**	**20.12**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**18.81**	**TOTAL BASIN AREA**	**39.96**	**COMPOSITE CN**	**51.39**
PERCENT DCIA	**47.07%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**73.75**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	3.56	9.44	**31.44**
Orange County	25-year / 24-hour	8.60	3.56	5.44	**18.10**
SFWMD	25-year / 72-hour	10.00	3.56	6.71	**22.36**
FDOT	50-year / 24-hour	9.10	3.56	5.89	**19.61**

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT POND				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN137B			
POND/ NODE DESIGNATION:	EX_PND137	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 920616-1. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The pond bottom elevation was permitted at 107.00 NGVD or 106.20 NAVD. This elevation will continue to be used as the control water elevation in the new interconnected ponds within this interchange. According to the permit, the pond was permitted as a dry detention pond with a broad crested weir outfall located within the Ramp C ditch. An existing 48" pipe under I-4 east of the interchange directs the overflow from this pond as well as the eastbound lanes from Basin 138 to the west ditch where it comingles with runoff from the Basin 138 westbound lanes and several offsite basins. The runoff then ultimately flows under SR 535 and into RCID Black Lake.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
109.20	Outside Berm	9.17				26.29
			9.04	1.00	9.04	
108.20	Inside Berm	8.90				17.26
			8.82	0.56	4.94	
107.64	(ATT)	8.75				12.31
			8.62	0.94	8.10	
106.70	(PAV)	8.49				4.21
			8.43	0.50	4.21	
106.20	(Pond Bot)	8.36				0.00

BONNET CREEK (L101 BLACK LAKE) OUTFALL - MAINLINE I-4				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138B1A			**DATE**
POND/ NODE DESIGNATION:	EX_4AFDOT138	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.79	175.42
Existing Roadway (Treated)	N/A	N/A	98	0.00	
			TOTALS	**1.79**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.00	0.00
Open Spaces (roadway - fair condition)	Basinger fine sand - 3 Smyrna-Smyrna fine sand - 44	A/D	84	0.99	83.16
			TOTALS	**0.99**	

Computed time of concentration is 33.30 minutes.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.79**	**TOTAL BASIN AREA**	**2.78**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**64.39%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**93.01**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	0.75	12.05	**2.79**
Orange County	25-year / 24-hour	8.60	0.75	7.76	**1.80**
SFWMD	25-year / 72-hour	10.00	0.75	9.15	**2.12**
FDOT	50-year / 24-hour	9.10	0.75	8.26	**1.91**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

BONNET CREEK (L101 BLACK LAKE) OUTFALL - MAINLINE I-4				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138B1B			
POND/ NODE DESIGNATION:	EX_4BFDOT138	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.67	163.66
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**1.67**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	1.65	80.85
Open Spaces (roadway - fair condition)	Basinger fine sand - 3 Smyrna-Smyrna fine sand - 44	A/D	84	0.89	74.76
			TOTALS	**2.54**	

Computed time of concentration is 18.90 minutes.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**4.21**	**COMPOSITE CN**	**75.84**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**75.84**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	3.19	9.74	**3.42**
Orange County	25-year / 24-hour	8.60	3.19	5.69	**2.00**
SFWMD	25-year / 72-hour	10.00	3.19	6.99	**2.45**
FDOT	50-year / 24-hour	9.10	3.19	6.15	**2.16**

BONNET CREEK (L101 BLACK LAKE) OUTFALL - MAINLINE I-4				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138B2			
POND/ NODE DESIGNATION:	EX_4AFDOT138	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.51	147.98
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**1.51**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	0.69	33.81
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.85	71.40
Open Spaces (roadway - fair condition)	Immokalee fine sand - 20	B/D	84	0.01	0.84
Computed time of concentration is 27.66 minutes.			**TOTALS**	**1.55**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.51**	**TOTAL BASIN AREA**	**3.06**	**COMPOSITE CN**	**68.42**
PERCENT DCIA	**49.35%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**83.02**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.05	10.74	**2.74**
Orange County	25-year / 24-hour	8.60	2.05	6.55	**1.67**
SFWMD	25-year / 72-hour	10.00	2.05	7.90	**2.02**
FDOT	50-year / 24-hour	9.10	2.05	7.03	**1.79**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

BONNET CREEK (L101 BLACK LAKE) OUTFALL - MAINLINE I-4				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138B3			**DATE**
POND/ NODE DESIGNATION:	EX_SW138B3	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	2.73	267.54
			TOTALS	**2.73**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	3.24	158.76
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.00	0.00
Open Spaces (roadway - fair condition)	St. Johns fine sand -37	B/D	84	0.00	0.00
			TOTALS	**3.24**	

Computed time of concentration is 43.20 minutes.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.73**	**TOTAL BASIN AREA**	**5.97**	**COMPOSITE CN**	**49.00**
PERCENT DCIA	**45.73%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**71.41**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	4.00	9.10	**4.53**
Orange County	25-year / 24-hour	8.60	4.00	5.15	**2.56**
SFWMD	25-year / 72-hour	10.00	4.00	6.41	**3.19**
FDOT	50-year / 24-hour	9.10	4.00	5.60	**2.79**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138B3			**DATE**
POND/ NODE DESIGNATION:	EX_SW138B3	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node W2P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138B3 accepts runoff from overflow from Lake 5 of an adjacent offsite development (Vista Center). Lake 5 accepts flows from upstream dry pretreatment ponds as well as two other lakes (Lake 3 and Lake 4). With limited information, the existing offsite ponds were not included in the model. However, the allowable discharge of 13-cfs for the design storm, as outlined in SFWMD Application #12168-S, will be incorporated into the model as a baseflow. This is a deviation from SFWMD Permit Application 011109-7 as it did not account for this offsite contribution.

In addition, EX_SW138B3 accepts overflow from upstream linear swale treatment EX_SW138B4 (W2P as shown in Permit application no. 011109-7).

The permitted swale bottom was 101.33 NGVD or 100.53 NAVD. The permitted information will establish the basis of our proposed design.The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
104.20	Outside Berm	0.15				0.27
			0.13	1.00	0.13	
103.20	Inside Berm	0.11				0.14
			0.10	0.52	0.05	
102.68	(ATT)	0.09				0.09
			0.06	1.15	0.07	
101.53	(PAV)	0.04				0.02
			0.02	1.00	0.02	
100.53		0.00				0.00

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138B4			**DATE**
POND/ NODE DESIGNATION:	EX_SW138B4	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	4.20	411.60
			TOTALS	**4.20**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	2.20	107.80
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.63	136.92
Open Spaces (roadway - fair condition)	St. Johns fine sand -37	B/D	84	0.48	40.32
			TOTALS	**4.31**	

Computed time of concentration is 50.82 minutes.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**4.20**	**TOTAL BASIN AREA**	**8.51**	**COMPOSITE CN**	**66.13**
PERCENT DCIA	**49.35%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**81.86**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.22	10.59	**7.51**
Orange County	25-year / 24-hour	8.60	2.22	6.41	**4.55**
SFWMD	25-year / 72-hour	10.00	2.22	7.76	**5.50**
FDOT	50-year / 24-hour	9.10	2.22	6.89	**4.89**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138B4			**DATE**
POND/ NODE DESIGNATION:	EX_SW138B4	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node W1P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138B4 accepts runoff from the overflow from Lake 1 of an adjacent offsite development (Vista Center). Lake 1 accepts flows from upstream dry pretreatment ponds. With limited information, the existing offsite ponds as permitted under SFWMD Application #12168-S were incorporated into the model to accurate depict the hydraulic of the areas. No pretreatment ponds were included in the model. This is a deviation from SFWMD Permit Application 011109-7 as it did not account for this offsite contribution.

The permitted pond bottom was 113.83 NGVD or 113.03 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
117.20	Outside Berm	1.38				2.79
			1.00	2.00	2.00	
115.20	Inside Berm	0.72				0.79
			0.61	0.69	0.42	
114.51	(ATT)	0.49				0.37
			0.34	0.93	0.32	
113.58	(PAV)	0.18				0.05
			0.09	0.55	0.05	
113.03		0.00				0.00

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138C1			**DATE**
POND/ NODE DESIGNATION:	EX_5FDOT138	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.47	144.06
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**1.47**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway w/ grass cover 50% to 75%)	St. Lucie fine sand - 38	A	49	1.01	49.49
Open Spaces (roadway w/ grass cover 50% to 75%)	Smyrna-Smyrna fine sand - 44	A/D	84	0.57	47.88
Computed time of concentration is 22.20 minutes.			**TOTALS**	**1.58**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.47**	**TOTAL BASIN AREA**	**3.05**	**COMPOSITE CN**	**61.63**
PERCENT DCIA	**48.20%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**79.16**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.63	10.21	**2.60**
Orange County	25-year / 24-hour	8.60	2.63	6.09	**1.55**
SFWMD	25-year / 72-hour	10.00	2.63	7.41	**1.88**
FDOT	50-year / 24-hour	9.10	2.63	6.56	**1.67**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138C2			
POND/ NODE DESIGNATION:	EX_SW138C2	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	2.39	234.22
			TOTALS	**2.39**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand -54	A	49	1.77	86.73
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.80	67.20
Computed time of concentration is 26.76 minutes.			**TOTALS**	**2.57**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.39**	**TOTAL BASIN AREA**	**4.96**	**COMPOSITE CN**	**59.89**
PERCENT DCIA	**48.19%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**78.26**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.78	10.09	**4.17**
Orange County	25-year / 24-hour	8.60	2.78	5.98	**2.47**
SFWMD	25-year / 72-hour	10.00	2.78	7.30	**3.02**
FDOT	50-year / 24-hour	9.10	2.78	6.45	**2.66**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138C2			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C2	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node D3P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138C2 accepts overflow from upstream linear treatment swale EX_SW138C3.

The permitted swale bottom was 101.73 NGVD or 100.93 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
104.20	Outside Berm	0.37				0.62
			0.32	1.00	0.32	
103.20	Inside Berm	0.26				0.30
			0.26	0.00	0.00	
101.93	(PAV)	0.11				0.06
			0.06	1.00	0.06	
100.93		0.00				0.00

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138C3			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C3	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	3.93	385.14
			TOTALS	**3.93**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	2.05	100.45
Open Spaces (roadway - fair condition)	Sanibel muck - 42 Smyrna-Smyrna fine sand - 44	A/D	84	3.17	266.28
			TOTALS	**5.22**	

Computed time of concentration is 55.26 minutes.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.93**	**TOTAL BASIN AREA**	**9.15**	**COMPOSITE CN**	**70.25**
PERCENT DCIA	**42.95%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**82.17**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.17	10.63	**8.10**
Orange County	25-year / 24-hour	8.60	2.17	6.45	**4.92**
SFWMD	25-year / 72-hour	10.00	2.17	7.80	**5.95**
FDOT	50-year / 24-hour	9.10	2.17	6.93	**5.28**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138C3			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C3	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node D2P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138C3 accepts overflow from upstream linear treatment swale EX_SW138C4.

The permitted swale bottom was 112.83 NGVD or 112.03 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
115.51	Outside Berm	1.11				1.93
			0.90	1.31	1.18	
114.20	Inside Berm	0.69				0.75
			0.67	0.15	0.10	
114.05	(ATT)	0.64				0.65
			0.48	1.02	0.49	
113.03	(PAV)	0.32				0.16
			0.16	1.00	0.16	
112.03		0.00				0.00

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138C4			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C4	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	3.05	298.90
			TOTALS	**3.05**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.93	45.57
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	2.28	191.52
Computed time of concentration is 18.96 minutes.			**TOTALS**	**3.21**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.05**	**TOTAL BASIN AREA**	**6.26**	**COMPOSITE CN**	**73.86**
PERCENT DCIA	**48.72%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**85.62**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	1.68	11.09	**5.79**
Orange County	25-year / 24-hour	8.60	1.68	6.87	**3.58**
SFWMD	25-year / 72-hour	10.00	1.68	8.23	**4.30**
FDOT	50-year / 24-hour	9.10	1.68	7.35	**3.84**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138C4			
POND/ NODE DESIGNATION:	EX_SW138C4	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node D1P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The permitted swale bottom was 113.85 NGVD or 113.05 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
116.55	Outside Berm	0.42				0.74
			0.34	1.35	0.46	
115.20	Inside Berm	0.26				0.28
			0.24	0.39	0.09	
114.81	(ATT)	0.21				0.19
			0.17	0.76	0.13	
114.05	(PAV)	0.12				0.06
			0.06	1.00	0.06	
113.05		0.00				0.00

OFFSITE REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138OFFA1			
POND/ NODE DESIGNATION:	EX_PND138OFFA1	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

Information taken from SFWMD permit Application No. X000007612 for Days Inn

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	3.11	304.78
			TOTALS	**3.11**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St Lucie fine sand - 38 Urban land - 50	A/D	80	0.89	71.20
			TOTALS	**0.89**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.11**	**TOTAL BASIN AREA**	**4.00**	**COMPOSITE CN**	**80.00**
PERCENT DCIA	**77.75%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**94.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	0.64	12.17	**4.06**
Orange County	25-year / 24-hour	8.60	0.64	7.88	**2.63**
SFWMD	25-year / 72-hour	10.00	0.64	9.27	**3.09**
FDOT	50-year / 24-hour	9.10	0.64	8.38	**2.79**

OFFSITE REEDY CREEK OUTFALL (BLACK LAKE) - DRY DETENTION/ EXFILTRATION				
PROJECT TITLE:	Interim Daryl Carter			AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138OFFA1			**DATE**
POND/NODE DESIGNATION:	EX_PND138OFFA1	**MADE BY:**	LCP	07/01/2019
ANALYSIS	PRE	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. X000007612 for the Days In at the northwest quadrant of I-4 and SR 535. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The pond was designed to provide the treatment runoff volume from a 3-year, 1-hour event (1.87") for SFWMD requirements. The pond was also designed to provide the attenuation volume for the Orange County 25-year/ 24-hour storm event. This pond will be impacted as part of the I-4 improvements, but the exfiltration system (which is located onsite with 1890-ft of 36" pipe and trench) will remain. The trench provides a total storage of 0.586 ac-ft from elevation 102.80' to 107.20' NAVD.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
107.20	Outside Berm	INFORMATION UNAVAILABLE				0.93
106.20	Inside Berm					0.86
105.20						0.68
104.20						0.45
103.20						0.22
102.20						0.00
101.70	Pond Bottom					0.00

OFFSITE REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSNOFF138C4			
POND/ NODE DESIGNATION:	EX_SW138C4	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	11.16	546.84
Open Spaces (roadway - good condition)	Smyrna-Smyrna fine sand - 44	A/D	84	7.17	602.28
Open Spaces (roadway - good condition)	St. Johns fine sand - 37	B/D	84	0.49	41.16
A computed time of concentration of 20.96-minute was used for the model.			**TOTALS**	**18.82**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**18.82**	**COMPOSITE CN**	**63.25**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**63.25**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	5.81	7.86	**12.33**
Orange County	25-year / 24-hour	8.60	5.81	4.18	**6.55**
SFWMD	25-year / 72-hour	10.00	5.81	5.33	**8.36**
FDOT	50-year / 24-hour	9.10	5.81	4.58	**7.19**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\EX_SEGF_TC.w55

Date: 5/3/2018
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
EXOFF138C4		Outlet	18.68	61	0.501
EXBSN138B			2.66	93	0.315
EXBSN138B1			2.78	93	0.393
EXBSN138B2			3.04	83	0.461
EXBSN138B3			5.97	71	0.720
EXBSN138B4			8.51	82	0.846
EXBSN138C1			3.05	79	0.370
EXBSN138C2			4.96	78	0.446
EXBSN138C3			9.15	82	0.921
EXBSN138C4			6.26	86	0.316

Total area: 65.06 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

OFFSITE RCID BLACK LAKE OUTFALL				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	242484-8-52-1			**DATE**
BASIN DESIGNATION:	EX_BSNEMBASSY			
POND/ NODE DESIGNATION:	EX_PNDEMBASSY	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

Information gather from Application #900402-3 (Embassy Suites)

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.80	80.00
			TOTALS	**0.80**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Impervious (Untreated)	N/A	N/A	98	0.00	0.00
Existing Impervious (Treated)	N/A	N/A	98	5.22	511.56
			TOTALS	**5.22**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Impervious (Untreated)	N/A	N/A	98	0.00	0.00
Existing Impervious (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	N/A	PERMITTED	39	2.08	81.12
Open Spaces (roadway - fair condition)	N/A	PERMITTED	80	2.34	187.20
			TOTALS	**4.42**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**6.02**	**TOTAL BASIN AREA**	**10.44**	**COMPOSITE CN**	**60.71**
PERCENT DCIA	**57.66%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**82.36**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.14	10.65	**9.27**
Orange County	25-year / 24-hour	8.60	2.14	6.48	**5.63**
SFWMD	25-year / 72-hour	10.00	2.14	7.82	**6.81**
FDOT	50-year / 24-hour	9.10	2.14	6.95	**6.05**

OFFSITE RCID BLACK LAKE OUTFALL (EMBASSY SUITE)				
PROJECT TITLE:	I-4 Beyond the Ultimate			AECOM
PROJECT NUMBER:	242484-8-52-1			DATE
BASIN DESIGNATION:	EX_BSNEMBASSY			
POND/NODE DESIGNATION:	EX_PNDEMBASSY	MADE BY:	LCP	07/01/2019
ANALYSIS	PRE	CHECKED BY:		

The information provided on this sheet was taken directly from SFWMD Permit Application No. 900402-3 for the onsite pond to serve the Embassy Suite Development. The datum at the time of the permit was in NGVD. As such, a conversion factor of -0.80-ft was applied to obtain the elevation in NAVD. The data shown below was extracted from the permitted model.

An allowable discharge rate for the 25-year/ 24-hour storm (including the offsite area that pass through the site) is 10.5 cfs. The data will be used to determine the rates of discharge contributing to an existing storm sewer system or FDOT ROW.

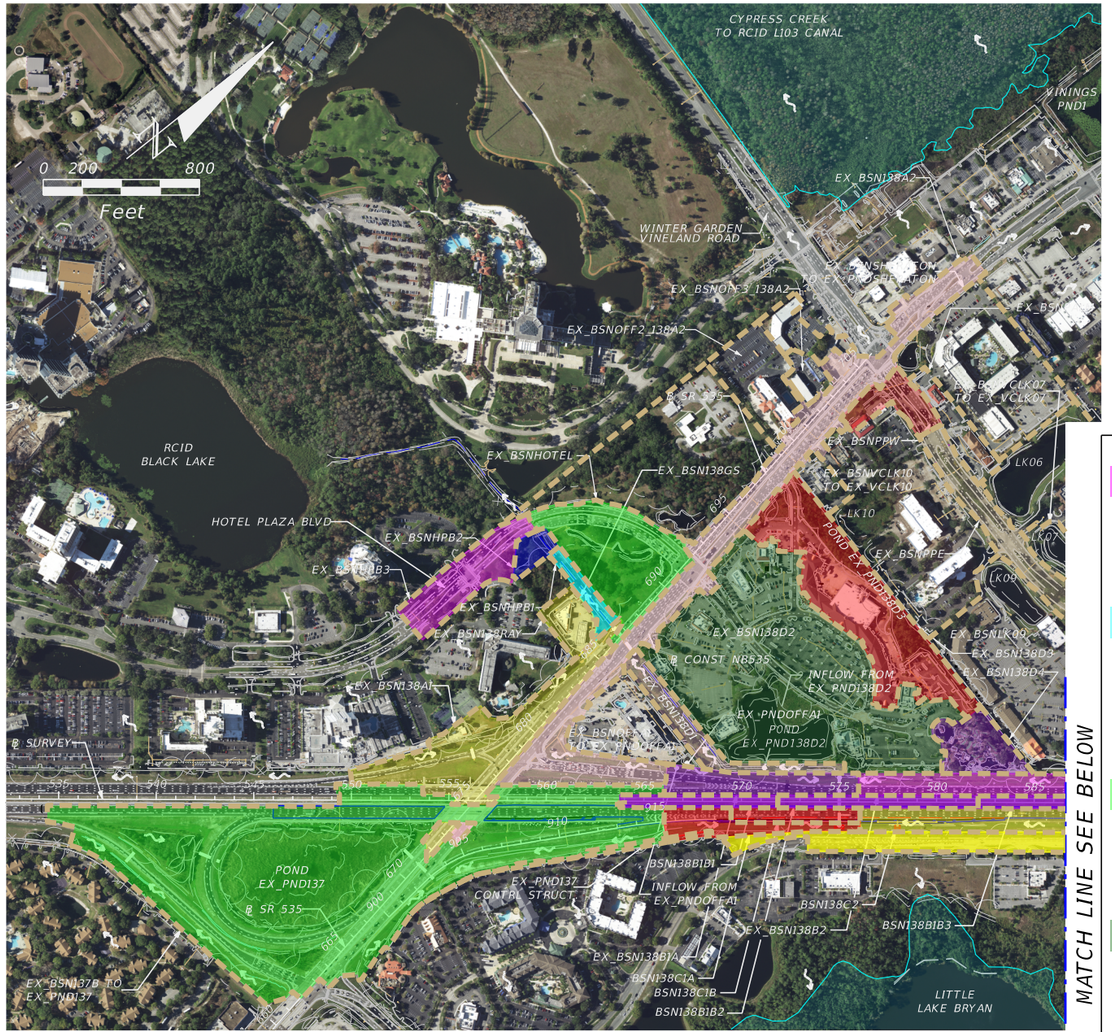
Stage Storage Calculations

ELEV. (ft)	AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
119.30	2.00				5.370
		1.86	0.35	0.65	
118.95	1.72				4.720
		1.64	1.00	1.64	
117.95	1.55				3.080
		1.41	1.00	1.41	
116.95	1.26				1.670
		1.16	0.76	0.88	
116.19	1.07				0.790
		1.00	0.49	0.49	
115.70	0.94				0.300
		0.87	0.35	0.30	
115.35	0.80				0.000

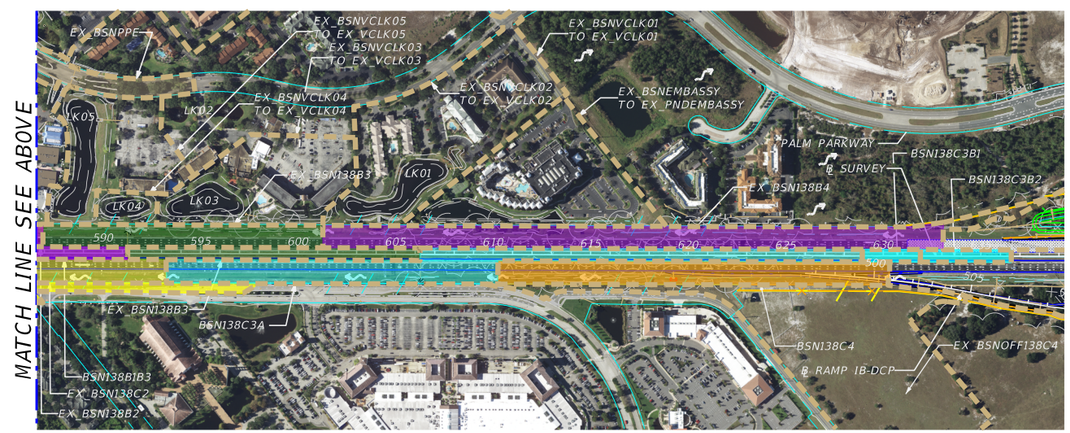
NOTE: INFORMATION SHOWN FOR THE OFFSITE BASINS ARE BASED ON AVAILABLE EXISTING CONSTRUCTION PLANS & PERMITTED DOCUMENTATIONS. DESIGN SURVEY DOES NOT EXTEND BEYOND THE PROJECT LIMITS. AS SUCH, THE INFORMATION SHOWN ARE REPRESENTATIVES AND SHOULD NOT BE CONSTRUED AS DESIGN DATA. ALL ONSITE BASINS HAVE BEEN ADJUSTED AS NEEDED TO BEST REFLECT THE CURRENT SITE CONDITION PER DESIGN SURVEY PROVIDED.

ALL OFFSITE BASINS WERE EXTRAPOLATED FROM HISTORICAL PERMIT DATA. SMALL ADJUSTMENT, AS NEEDED, WERE MADE TO REFLECT FIELD RE-CONNAISSANCE. CN SHEETS WERE PROVIDED FOR MOST OF THE OFFSITE BASINS INCLUDED IN THE ICPR-3 MODEL. THESE SHEETS WERE TAKEN DIRECTLY FROM THE PERMITS DOCUMENTATION FROM SFWMD ARCHIVE. EX_BSN138D4 IS PART OF THE CROSSROAD COMMERCIAL DEVELOPMENT. HOWEVER, THERE ARE NO PERMIT INFORMATION OR APPLICACATION (MODIFICATION) FOR THIS IMPROVEMENT. IT IS AN EXISTING MINI-GOLF WITH ONSITE STORAGE PROVIDED. FOR PURPOSES OF THE ICPR ROUTING, THE AREA IS PROPOSED TO DISCHARGE TO THE EXISTING POND EX_PNDD2.

THE PERMIT APPLICATIONS ASSOCIATED WITH THIS DRAINAGE BASIN TO REEDY CREEK IMPROVEMENT DISTRICT ARE AS FOLLOWS: BASIN EX_BSN137B – SFWMD #04118-1; BASIN EX_BSN138B3, EX_BSN138B4, AND EX_BSN138C2 TO EX_BSN138C4 – SFWMD #011109-7; BASIN EX_BSN138D2 AND BSN138D3 – SFWMD #140612-17; BASIN EX_BSNOFF138A1 – SFWMD #X000007612; BASIN EX_BSN138RAY – SFWMD #991015-3. ADDITIONAL OFFSITE PERMIT ASSOCIATED WITH THE MODELING ARE: #891130-2, #12168-S, #891226-2, AND #120203-11.



MATCH LINE SEE BELOW



BONNET CREEK (L101 BLACK LAKE) OUTFALL

UNTREATED BASINS:

EX_BSN138A1 (I-4 BTU)
TOTAL AREA: 6.25 AC.
IMPERVIOUS AREA: 2.90 AC.
PERVIOUS AREA: 3.35 AC.
WATER SURFACE: 0.00 AC.
CN: 88.26
DCIA: 0.00 AC. (0.00%)
NDCIA: 2.90 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138A2 (I-4 BTU)
TOTAL AREA: 13.66 AC.
IMPERVIOUS AREA: 10.10 AC.
PERVIOUS AREA: 3.56 AC.
WATER SURFACE: 0.00 AC.
CN: 59.03
DCIA: 10.10 AC. (73.95%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138B1A
TOTAL AREA: 2.78 AC.
IMPERVIOUS AREA: 1.79 AC.
PERVIOUS AREA: 0.99 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.79 AC. (64.39%)
NDCIA: 0.00 AC.
Tc: 23.58 MINS (CALCULATED)

EX_BSN138B2
TOTAL AREA: 3.06 AC.
IMPERVIOUS AREA: 1.51 AC.
PERVIOUS AREA: 1.55 AC.
WATER SURFACE: 0.00 AC.
CN: 68.42
DCIA: 1.51 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 27.66 MINS (CALCULATED)

BSN138C1A
TOTAL AREA: 1.91 AC.
IMPERVIOUS AREA: 0.54 AC.
PERVIOUS AREA: 1.37 AC.
WATER SURFACE: 0.00 AC.
CN: 57.43
DCIA: 0.54 AC. (28.27%)
NDCIA: 0.00 AC.
Tc: 16.22 MINS (DITCH CALC)

BSN138C1B
TOTAL AREA: 1.14 AC.
IMPERVIOUS AREA: 1.14 AC.
PERVIOUS AREA: 0.00 AC.
WATER SURFACE: 0.00 AC.
CN: ----
DCIA: 1.14 AC. (100.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSN138D1 (I-4 BTU)
TOTAL AREA: 2.49 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 2.24 AC.
WATER SURFACE: 0.25 AC.
CN: 84.00
DCIA: 0.25 AC. (10.04%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB1
TOTAL AREA: 0.93 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.19 AC.
CN: 72.18
DCIA: 0.19 AC. (20.43%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB2
TOTAL AREA: 0.78 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: .73 AC.
WATER SURFACE: 0.05 AC.
CN: 73.93
DCIA: 0.05 AC. (6.41%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNHPB3
TOTAL AREA: 3.44 AC.
IMPERVIOUS AREA: 1.55 AC.
PERVIOUS AREA: 1.89 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.55 AC. (45.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNOFF138C4
TOTAL AREA: 18.82 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 18.82 AC.
WATER SURFACE: 0.00 AC.
CN: 49.52
DCIA: 0.00 AC.
NDCIA: 0.00 AC.
Tc: 20.96 MINS (CALCULATED)

TREATED BASINS:

EX_BSN137B (I-4 BTU)
TOTAL AREA: 39.96 AC.
IMPERVIOUS AREA: 11.48 AC.
PERVIOUS AREA: 20.12 AC.
WATER SURFACE: 8.36 AC.
CN: 51.39
DCIA: 18.81 AC. (47.07%)
NDCIA: 1.03 AC.
Tc: 54 MINS (PERMITTED)

BSN138B1B1
TOTAL AREA: 1.02 AC.
IMPERVIOUS AREA: 0.41 AC.
PERVIOUS AREA: 0.61 AC.
WATER SURFACE: 0.00 AC.
CN: 68.70
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.41 AC.
Tc: 31.69 MINS (DITCH CALC)

BSN138B1B2
TOTAL AREA: 1.71 AC.
IMPERVIOUS AREA: 0.68 AC.
PERVIOUS AREA: 1.03 AC.
WATER SURFACE: 0.00 AC.
CN: 86.70
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.68 AC.
Tc: 88.77 MINS (DITCH CALC)

BSN138B1B3
TOTAL AREA: 1.48 AC.
IMPERVIOUS AREA: 0.58 AC.
PERVIOUS AREA: 0.90 AC.
WATER SURFACE: 0.00 AC.
CN: 68.20
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.58 AC.
Tc: 18.60 MINS (CALCULATED)

EX_BSN138B3
TOTAL AREA: 5.97 AC.
IMPERVIOUS AREA: 2.73 AC.
PERVIOUS AREA: 3.24 AC.
WATER SURFACE: 0.00 AC.
CN: 49.00
DCIA: 2.73 AC. (45.73%)
NDCIA: 0.00 AC.
Tc: 43.20 MINS (CALCULATED)

EX_BSN138B4
TOTAL AREA: 8.51 AC.
IMPERVIOUS AREA: 4.20 AC.
PERVIOUS AREA: 4.31 AC.
WATER SURFACE: 0.00 AC.
CN: 66.13
DCIA: 4.20 AC. (49.35%)
NDCIA: 0.00 AC.
Tc: 50.76 MINS (CALCULATED)

BSN138C2
TOTAL AREA: 4.96 AC.
IMPERVIOUS AREA: 2.62 AC.
PERVIOUS AREA: 2.34 AC.
WATER SURFACE: 0.00 AC.
CN: 57.82
DCIA: 2.62 AC. (52.82%)
NDCIA: 0.00 AC.
Tc: 17.62 MINS (DITCH CALC)

BSN138C3A
TOTAL AREA: 8.06 AC.
IMPERVIOUS AREA: 3.51 AC.
PERVIOUS AREA: 4.55 AC.
WATER SURFACE: 0.00 AC.
CN: 68.77
DCIA: 3.51 AC. (43.55%)
NDCIA: 0.00 AC.
Tc: 49.74 MINS (CALCULATED)

BSN138C3B1
TOTAL AREA: 0.44 AC.
IMPERVIOUS AREA: 0.17 AC.
PERVIOUS AREA: 0.27 AC.
WATER SURFACE: 0.00 AC.
CN: 74.93
DCIA: 0.17 AC. (38.64%)
NDCIA: 0.00 AC.
Tc: 38.30 MINS (DITCH CALC)

BSN138C3B2
TOTAL AREA: 0.66 AC.
IMPERVIOUS AREA: 0.25 AC.
PERVIOUS AREA: 0.41 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.25 AC. (37.88%)
NDCIA: 0.00 AC.
Tc: 34.99 MINS (DITCH CALC)

BSN138C4
TOTAL AREA: 5.50 AC.
IMPERVIOUS AREA: 3.14 AC.
PERVIOUS AREA: 2.36 AC.
WATER SURFACE: 0.00 AC.
CN: 74.51
DCIA: 3.14 AC. (57.09%)
NDCIA: 0.00 AC.
Tc: 18.96 MINS (CALCULATED)

EX_BSN138D2 (I-4 BTU)
TOTAL AREA: 27.71 AC.
IMPERVIOUS AREA: 19.98 AC.
PERVIOUS AREA: 5.24 AC.
WATER SURFACE: 2.49 AC.
CN: 77.00
DCIA: 22.47 AC. (81.09%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D3 (I-4 BTU)
TOTAL AREA: 9.82 AC.
IMPERVIOUS AREA: 3.20 AC.
PERVIOUS AREA: 6.62 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 3.20 AC. (32.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSN138D4 (I-4 BTU)
TOTAL AREA: 2.56 AC.
IMPERVIOUS AREA: 1.82 AC.
PERVIOUS AREA: 0.74 AC.
WATER SURFACE: 0.00 AC.
CN: 93.95
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.82 AC.
Tc: 10 MINS (PERMITTED)

EX_BSNPALM
TOTAL AREA: 1.91 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 1.91 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPW (I-4 BTU)
TOTAL AREA: 2.06 AC.
IMPERVIOUS AREA: 1.45 AC.
PERVIOUS AREA: 0.61 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 1.45 AC. (70.39%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

EX_BSNPPE (I-4 BTU)
TOTAL AREA: 5.74 AC.
IMPERVIOUS AREA: 3.65 AC.
PERVIOUS AREA: 2.09 AC.
WATER SURFACE: 0.00 AC.
CN: 79.98
DCIA: 3.65 AC. (63.59%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

BSN138B3B
TOTAL AREA: 2.18 AC.
IMPERVIOUS AREA: 0.83 AC.
PERVIOUS AREA: 1.35 AC.
WATER SURFACE: 0.00 AC.
CN: 49.00
DCIA: 0.83 AC. (38.07%)
NDCIA: 0.00 AC.
Tc: XX.XX MINS (CALCULATED)

EX_BSN138RAY
TOTAL AREA: 1.40 AC.
IMPERVIOUS AREA: 0.91 AC.
PERVIOUS AREA: 0.49 AC.
WATER SURFACE: 0.00 AC.
CN: 83.01
DCIA: 0.91 AC. (64.86%)
NDCIA: 0.00 AC.
Tc: 10 MINS (PERMITTED)

EX_BSNHOTEL
TOTAL AREA: 6.77 AC.
IMPERVIOUS AREA: 2.48 AC.
PERVIOUS AREA: 3.98 AC.
WATER SURFACE: 0.31 AC.
CN: 77.76
DCIA: 2.79 AC. (41.21%)
NDCIA: 0.00 AC.
Tc: 10 MINS (ESTIMATED)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) PROPOSED BASIN MAP

FIGURE 14

RCID BLACK LAKE OUTFALL				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN137B			
POND/ NODE DESIGNATION:	EX_PND137	**MADE BY:**	DG	02/26/2017
		REVISED BY:	LCP	07/13/2017
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	8.36	836.00
			TOTALS	**8.36**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	10.45	1024.10
			TOTALS	**10.45**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	1.03	100.94
					0.00
			TOTALS	**1.03**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St Lucie fine sand - 38 Urban land - 50	A	49	20.12	985.88
			TOTALS	**20.12**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**18.81**	**TOTAL BASIN AREA**	**39.96**	**COMPOSITE CN**	**51.39**
PERCENT DCIA	**47.07%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**73.75**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	3.56	9.44	**31.44**
Orange County	25-year / 24-hour	8.60	3.56	5.44	**18.10**
SFWMD	25-year / 72-hour	10.00	3.56	6.71	**22.36**
FDOT	50-year / 24-hour	9.10	3.56	5.89	**19.61**

RCID BLACK LAKE OUTFALL (FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN137B			**DATE**
POND/ NODE DESIGNATION:	EX_PND137	**MADE BY:**	DG	02/26/2017
ANALYSIS	POST	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 920616-1. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The pond bottom elevation was permitted at 107.00 NGVD or 106.20 NAVD. This elevation will continue to be used as the control water elevation in the new interconnected ponds within this interchange. According to the permit, the pond was permitted as a dry detention pond with a broad crested weir outfall located within the Ramp C ditch. An existing 48" pipe under I-4 east of the interchange directs the overflow from this pond as well as the eastbound lanes from Basin 138 to the west ditch where it comingles with runoff from the Basin 138 westbound lanes and several offsite basins. The runoff then ultimately flows under SR 535 and into RCID Black Lake.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
109.20	Outside Berm	9.17				26.29
			9.04	1.00	9.04	
108.20	Inside Berm	8.90				17.26
			8.82	0.56	4.94	
107.64	(ATT)	8.75				12.31
			8.62	0.94	8.10	
106.70	(PAV)	8.49				4.21
			8.43	0.50	4.21	
106.20	#NAME?	8.36				0.00

RCID BLACK LAKE OUTFALL				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			DATE
BASIN DESIGNATION:	EX_BSN138B1A			
POND/ NODE DESIGNATION:	EX_4AFDOT138	MADE BY:	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.79	175.42
Existing Roadway (Treated)	N/A	N/A	98	0.00	
			TOTALS	**1.79**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.00	0.00
Open Spaces (roadway - fair condition)	Basinger fine sand - 3 Smyrna-Smyrna fine sand - 44	A/D	84	0.99	83.16
			TOTALS	**0.99**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.79**	**TOTAL BASIN AREA**	**2.78**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**64.39%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**93.01**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	0.75	12.05	**2.79**
Orange County	25-year / 24-hour	8.60	0.75	7.76	**1.80**
SFWMD	25-year / 72-hour	10.00	0.75	9.15	**2.12**
FDOT	50-year / 24-hour	9.10	0.75	8.26	**1.91**

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138B1B1			**DATE**
POND/ NODE DESIGNATION:	SW138B1B1	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.41	40.18
			TOTALS	**0.41**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.61	29.89
Open Spaces (roadway - fair condition)	Basinger fine sand - 3 Smyrna-Smyrna fine sand - 44	A/D	84	0.00	0.00
Time of Concentration of 31.69-minutes was taken from the BL400 MD 564+00 to 571+75 Calculations			**TOTALS**	**0.61**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**1.02**	**COMPOSITE CN**	**68.70**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**68.70**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	4.56	8.70	**0.74**
Orange County	25-year / 24-hour	8.60	4.56	4.83	**0.41**
SFWMD	25-year / 72-hour	10.00	4.56	6.05	**0.51**
FDOT	50-year / 24-hour	9.10	4.56	5.26	**0.45**

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138B1B2			**DATE**
POND/ NODE DESIGNATION:	SW138B1B2	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.68	66.64
			TOTALS	**0.68**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.14	6.86
Open Spaces (roadway - fair condition)	Basinger fine sand - 3 Smyrna-Smyrna fine sand - 44	A/D	84	0.89	74.76
Time of Concentration of 88.77-minutes was taken from the BL400 MD 575+11 to 582+18 Calculations			**TOTALS**	**1.03**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**1.71**	**COMPOSITE CN**	**86.70**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**86.70**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	1.53	11.24	**1.60**
Orange County	25-year / 24-hour	8.60	1.53	7.00	**1.00**
SFWMD	25-year / 72-hour	10.00	1.53	8.37	**1.19**
FDOT	50-year / 24-hour	9.10	1.53	7.49	**1.07**

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138B1B3			**DATE**
POND/ NODE DESIGNATION:	SW138B1B3	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.58	56.84
			TOTALS	**0.58**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.90	44.10
Open Spaces (roadway - fair condition)	Basinger fine sand - 3 Smyrna-Smyrna fine sand - 44	A/D	84	0.00	0.00
Time of Concentration of 18.60-minutes			**TOTALS**	**0.90**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**1.48**	**COMPOSITE CN**	**68.20**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**68.20**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	4.66	8.62	**1.06**
Orange County	25-year / 24-hour	8.60	4.66	4.77	**0.59**
SFWMD	25-year / 72-hour	10.00	4.66	5.99	**0.74**
FDOT	50-year / 24-hour	9.10	4.66	5.20	**0.64**

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	BSN138B1B1, BSN138B1B2, & BSN138B1B3			
POND/ NODE DESIGNATION:	SW138B1B1, SW138B1B2, & SW138B1B3	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

Water Quality for wet detention

	BSN138B1B1	BSN138B1B2	BSN138B1B3	TOTAL	
Total Basin Area =	**1.02**	**1.71**	**1.48**	**4.21**	ac
Pond Area at NWL =	**0.00**	**0.00**	**0.00**	**0.00**	ac
Paved Area (Treated) =	**0.41**	**0.68**	**0.58**	**1.67**	ac
Paved Area (Untreated) =					ac

A.	1.0	" Over Total Basin Area =	0.35	Ac-Ft
B.	2.5	" Times Treated Paved Area =	0.35	Ac-Ft
		Required PAV =	**0.35**	Ac-Ft

Water Quality for dry detention

75.00 % of Required Wet Detention = **0.26** Ac-Ft

Water Quality for dry retention

50.00 % of Required Wet Detention = **0.18** Ac-Ft

This swale is proposed within the median between stations 564+00.00 and 584+00.00 to intercept existing paved shoulder for treatment to overcompensate for the additional impervious that is being added to the eastbound travel lanes within basins BSN138C1 and BSN138C2. The existing total impervious to be intercepted within this swale is approximately 1.67 ac; while the proposed additional impervious to direct discharge is approximately 0.44 ac for the two basins (approximately 26.34% of the overall impervious area to be treated).

Additionally, the total volume retain behind the ditch block for treatment is approximately 0.38 ac-ft as computed below; while the required treatment for the existing paved shoulder is 0.35 ac-ft. This is a conservative method as well because the computation is for a wet system. The proposed swale is dry and dry treatment criteria is only 75% of the wet detention criteria.

The treatment provided within this swale system is more than enough to compensate for all the proposed widening along the eastbound lanes within the Black Lake Outfall. The total widening is approximately 0.89 ac (approximately 53.29% of the overall impervious area to be treated).

Stage Storage Calculations

SW138B1B1

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average [3]	LENGTH [1] (ft)	AREA [4] (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
106.25		568+37.76	14.19	23.56	337.24	7943.69			0.17
		571+75.00	32.92				7428.98	0.29	
105.96	Ditch block	568+58.05	14.19	21.82	316.95	6914.26			0.14
		571+75.00	29.44				5961.69	0.60	
105.36		569+00.00	14.19	18.22	275.00	5009.13			0.10
		571+75.00	22.24				4244.50	0.15	
105.21		570+00.00	20.44	19.89	175.00	3479.88			0.04
		571+75.00	19.33				1739.94	0.25	
104.96		571+75.00	17.44	17.44	00.00	0.00			0.00
		571+75.00	17.44						

SW138B1B2

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average [3]	LENGTH [1] (ft)	AREA [4] (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
105.96		571+91.00	11.95	21.72	300.00	6514.50			0.13
		574+91.00	31.48				5585.95	0.98	
104.98	Ditch block	571+96.88	11.95	15.84	294.12	4657.39			0.10
		574+91.00	19.72				4178.73	0.52	
104.46		572+00.00	11.95	12.72	291.00	3700.07			0.05
		574+91.00	13.48				2343.48	0.16	
104.30		574+00.00	10.13	10.85	91.00	986.90			0.01
		574+91.00	11.56				493.45	0.07	
104.23		574+91.00	10.72	10.72	00.00	0.00			0.00
		574+91.00	10.72						

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	BSN138B1B1, BSN138B1B2, & BSN138B1B3			
POND/ NODE DESIGNATION:	SW138B1B1, SW138B1B2, & SW138B1B3	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

SW138B1B2

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average [3]	LENGTH [1] (ft)	AREA [4] (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
105.96		575+11.00	20.76	19.31	692.61	13374.30			0.25
		582+03.61	17.86				11040.11	0.98	
104.98	Ditch block	575+11.00	19.85	18.86	461.73	8705.92			0.12
		579+72.73	17.86				5274.41	0.52	
104.46		575+11.00	13.61	13.06	141.11	1842.90			0.03
		576+52.11	12.51				1181.30	0.16	
104.30		575+11.00	11.69	12.10	42.95	519.69			0.01
		575+53.95	12.51				259.85	0.07	
104.23		575+11.00	10.85	10.85	00.00	0.00			0.00
		575+11.00	10.85						

SW138B1B3

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average [3]	LENGTH [1] (ft)	AREA [4] (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
107.11		582+24.00	27.23	18.71	176.00	3292.96			0.05
		584+00.00	10.19				2372.51	0.67	
106.44	Ditch block	582+24.00	19.19	15.56	93.35	1452.06			0.03
		583+17.35	11.92				1285.20	0.14	
106.30		582+24.00	17.51	14.72	76.00	1118.34			0.02
		583+00.00	11.92				807.27	0.30	
106.00		582+24.00	13.91	12.92	38.42	496.19			0.01
		582+62.42	11.92				248.10	0.31	
105.69		582+24.00	12.40	12.40	00.00	0.00			0.00
		582+24.00	12.40						

Provided PAV = **0.38** **ac-ft.**

Note:
(1) The length is equal to the difference between the from station and the to station.
(2) The width is either the width of the bottom at the upstream end or the width at the downstream end plus the depth difference between the station multiply to the side slope (1vert=6hor).
(3) The average width between the from station and the to station.
(4) Surface area is equal to the length times the ave. x-sect width.

RCID BLACK LAKE OUTFALL				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			DATE
BASIN DESIGNATION:	EX_BSN138B2			
POND/ NODE DESIGNATION:	EX_4BFDOT138	MADE BY:	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.51	147.98
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**1.51**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	0.69	33.81
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.85	71.40
Open Spaces (roadway - fair condition)	Immokalee fine sand - 20	B/D	84	0.01	0.84
			TOTALS	**1.55**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.51**	**TOTAL BASIN AREA**	**3.06**	**COMPOSITE CN**	**68.42**
PERCENT DCIA	**49.35%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**83.02**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.05	10.74	**2.74**
Orange County	25-year / 24-hour	8.60	2.05	6.55	**1.67**
SFWMD	25-year / 72-hour	10.00	2.05	7.90	**2.02**
FDOT	50-year / 24-hour	9.10	2.05	7.03	**1.79**

BONNET CREEK (L101 BLACK LAKE) OUTFALL - MAINLINE I-4				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138B3			**DATE**
POND/ NODE DESIGNATION:	EX_SW138B3	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	2.73	267.54
			TOTALS	**2.73**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	3.24	158.76
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.00	0.00
Open Spaces (roadway - fair condition)	St. Johns fine sand -37	B/D	84	0.00	0.00
Computed time of concentration is 43.20 minutes.			**TOTALS**	**3.24**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.73**	**TOTAL BASIN AREA**	**5.97**	**COMPOSITE CN**	**49.00**
PERCENT DCIA	**45.73%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**71.41**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	4.00	9.10	**4.53**
Orange County	25-year / 24-hour	8.60	4.00	5.15	**2.56**
SFWMD	25-year / 72-hour	10.00	4.00	6.41	**3.19**
FDOT	50-year / 24-hour	9.10	4.00	5.60	**2.79**

RCID BLACK LAKE OUTFALL (FDOT DETENTION SWALE)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	BSN138B3A			
POND/ NODE DESIGNATION:	EX_SW138B3	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node W2P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138B3 accepts runoff from overflow from Lake 5 of an adjacent offsite development (Vista Center). Lake 5 accepts flows from upstream dry pretreatment ponds as well as two other lakes (Lake 3 and Lake 4). With limited information, the existing offsite ponds were not included in the model. However, the allowable discharge of 13-cfs for the design storm, as outlined in SFWMD Application #12168-S, will be incorporated into the model as a baseflow. This is a deviation from SFWMD Permit Application 011109-7 as it did not account for this offsite contribution.

In addition, EX_SW138B3 accepts overflow from upstream linear swale treatment EX_SW138B4 (W2P as shown in Permit application no. 011109-7).

The permitted swale bottom was 101.33 NGVD or 100.53 NAVD. The permitted information will establish the basis of our proposed design.The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
104.20	Outside Berm	0.15				0.27
			0.13	1.00	0.13	
103.20	Inside Berm	0.11				0.14
			0.10	0.52	0.05	
102.68	(ATT)	0.09				0.09
			0.06	1.15	0.07	
101.53	(PAV)	0.04				0.02
			0.02	1.00	0.02	
100.53		0.00				0.00

RCID BLACK LAKE OUTFALL				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138B4			
POND/ NODE DESIGNATION:	EX_SW138B4	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	4.20	411.60
			TOTALS	**4.20**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	2.20	107.80
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.63	136.92
Open Spaces (roadway - fair condition)	St. Johns fine sand -37	B/D	84	0.48	40.32
			TOTALS	**4.31**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**4.20**	**TOTAL BASIN AREA**	**8.51**	**COMPOSITE CN**	**66.13**
PERCENT DCIA	**49.35%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**81.86**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.22	10.59	**7.51**
Orange County	25-year / 24-hour	8.60	2.22	6.41	**4.55**
SFWMD	25-year / 72-hour	10.00	2.22	7.76	**5.50**
FDOT	50-year / 24-hour	9.10	2.22	6.89	**4.89**

RCID BLACK LAKE OUTFALL (FDOT DETENTION SWALE)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138B4			
POND/ NODE DESIGNATION:	EX_SW138B4	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node W1P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138B4 accepts runoff from the overflow from Lake 1 of an adjacent offsite development (Vista Center). Lake 1 accepts flows from upstream dry pretreatment ponds. With limited information, the existing offsite ponds were not included in the model. However, the allowable discharge of 2.00-cfs for the design storm, as outlined in SFWMD Application #12168-S, will be incorporated into the model as a baseflow. In addition, the offsite development (Embassy Suites) pond also overflows to this ditch. It's allowable discharge for the design storm, as stated in SFWMD Application #891226-2, is 10.51-cfs. This is a deviation from SFWMD Permit Application 011109-7 as it did not account for this offsite contribution.

The permitted pond bottom was 113.83 NGVD or 113.03 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
117.20	Outside Berm	1.38				2.79
			1.00	2.00	2.00	
115.20	Inside Berm	0.72				0.79
			0.61	0.69	0.42	
114.51	(ATT)	0.49				0.37
			0.34	0.93	0.32	
113.58	(PAV)	0.18				0.05
			0.09	0.55	0.05	
113.03		0.00				0.00

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C1A			**DATE**
POND/ NODE DESIGNATION:	5FDOT138	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.54	52.92
Proposed Roadway Widening (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.54**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway w/ grass cover 50% to 75%)	St. Lucie fine sand - 38	A	49	1.04	50.96
Open Spaces (roadway w/ grass cover 50% to 75%)	Smyrna-Smyrna fine sand - 44	A/D	84	0.33	27.72
Time of Concentration of 16.22-minutes was taken from the BL400 MD 566+00 to 574+80 Calculations			**TOTALS**	**1.37**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.54**	**TOTAL BASIN AREA**	**1.91**	**COMPOSITE CN**	**57.43**
PERCENT DCIA	**28.27%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**68.90**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	4.51	8.73	**1.39**
Orange County	25-year / 24-hour	8.60	4.51	4.85	**0.77**
SFWMD	25-year / 72-hour	10.00	4.51	6.08	**0.97**
FDOT	50-year / 24-hour	9.10	4.51	5.29	**0.84**

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C1B			**DATE**
POND/ NODE DESIGNATION:	J5FDOT138	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.93	91.14
Proposed Roadway Widening (Untreated)	N/A	N/A	98	0.21	20.58
			TOTALS	**1.14**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway w/ grass cover 50% to 75%)	St. Lucie fine sand - 38	A	49	0.00	0.00
Open Spaces (roadway w/ grass cover 50% to 75%)	Smyrna-Smyrna fine sand - 44	A/D	84	0.00	0.00
			TOTALS	**0.00**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.14**	**TOTAL BASIN AREA**	**1.14**	**COMPOSITE CN**	**0.00**
PERCENT DCIA	**100.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**98.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	0.20	12.67	**1.20**
Orange County	25-year / 24-hour	8.60	0.20	8.36	**0.79**
SFWMD	25-year / 72-hour	10.00	0.20	9.76	**0.93**
FDOT	50-year / 24-hour	9.10	0.20	8.86	**0.84**

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C2			**DATE**
POND/ NODE DESIGNATION:	SW138C2	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Treated)	N/A	N/A	98	2.39	234.22
Proposed Roadway (Treated)	N/A	N/A	98	0.23	22.54
			TOTALS	**2.62**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand -54	A	49	1.75	85.75
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.59	49.56
Time of Concentration of 17.62-minutes was taken from the BL400 MD 578+20 to 583+00 Calculations			**TOTALS**	**2.34**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.62**	**TOTAL BASIN AREA**	**4.96**	**COMPOSITE CN**	**57.82**
PERCENT DCIA	**52.82%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**79.05**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.65	10.20	**4.21**
Orange County	25-year / 24-hour	8.60	2.65	6.07	**2.51**
SFWMD	25-year / 72-hour	10.00	2.65	7.40	**3.06**
FDOT	50-year / 24-hour	9.10	2.65	6.55	**2.71**

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	BSN138C2			
POND/ NODE DESIGNATION:	SW138C2	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

Water Quality

Existing EX_SW138C2 =	**0.06**	ac-ft as permitted
Proposed SW138C2 =	**0.05**	ac-ft per cross-sections
SW138B1B surplus =	**0.03**	ac-ft per cross-sections

The regrading along existing eastbound treatment swale reduce the capacity in the swale by approximately 0.01 ac-ft. However, additional treatment provided in SW138B1B is more than overcompensate for this loss capacity.

Stage Storage Calculations

RIGHT SWALE

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average (3)	LENGTH (1) (ft)	AREA (4) (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
102.11		576+08.00	13.52	11.44	392.00	4482.52			0.09
		580+00.00	9.35				3736.30	0.17	
101.94	Ditch block	576+08.00	11.48	10.24	292.00	2990.08			0.05
		579+00.00	9.00				2105.60	0.16	
101.78		576+08.00	7.72	6.36	192.00	1221.12			0.02
		578+00.00	5.00				871.84	0.17	
101.61		576+08.00	6.36	5.68	92.00	522.56			0.01
		577+00.00	5.00				261.28	0.21	
101.40		576+08.00	5.00	5.00	00.00	0.00			0.00
		576+08.00	5.00						

Note:
(1) The length is equal to the difference between the from station and the to station.
(2) The width is either the width of the bottom at the upstream end or the width at the downstream end plus the depth difference between the station multiply to the side slope (1vert=6hor).
(3) The average width between the from station and the to station.
(4) Surface area is equal to the length times the ave. x-sect width.

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C3A			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C3	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	3.51	343.98
			TOTALS	**3.51**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	1.98	97.02
Open Spaces (roadway - fair condition)	Sanibel muck - 42 Smyrna-Smyrna fine sand - 44	A/D	84	2.57	215.88
Time of Concentration of 49.74-minutes			**TOTALS**	**4.55**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.51**	**TOTAL BASIN AREA**	**8.06**	**COMPOSITE CN**	**68.77**
PERCENT DCIA	**43.55%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**81.50**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.27	10.54	**7.08**
Orange County	25-year / 24-hour	8.60	2.27	6.37	**4.28**
SFWMD	25-year / 72-hour	10.00	2.27	7.71	**5.18**
FDOT	50-year / 24-hour	9.10	2.27	6.85	**4.60**

WinTR-55 Current Data Description

--- Identification Data ---

User: KIM DUONG
Project: I-4BTU
SubTitle: BASIN 138 OFFSITE
State: Florida
County: Orange
Filename: C:\pwworking\aecom_na\ICPR\PST_SEG_TC.w55

Date: 5/30/2017
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
BSN138C3			6.26	86	0.676

Total area: 6.26 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
4.31	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C3A			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C3	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node D2P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

Existing EX_SW138C3 accepts overflow from upstream linear treatment swale EX_SW138C4.

The permitted swale bottom was 112.83 NGVD or 112.03 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
115.51	Outside Berm	1.11				1.93
			0.90	1.31	1.18	
114.20	Inside Berm	0.69				0.75
			0.67	0.15	0.10	
114.05	(ATT)	0.64				0.65
			0.48	1.02	0.49	
113.03	(PAV)	0.32				0.16
			0.16	1.00	0.16	
112.03		0.00				0.00

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C3B1			**DATE**
POND/ NODE DESIGNATION:	SW138C3B1	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.17	16.66
			TOTALS	**0.17**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	0.07	3.43
Open Spaces (roadway - fair condition)	Sanibel muck - 42 Smyrna-Smyrna fine sand - 44	A/D	84	0.20	16.80
Time of Concentration of 38.30-minutes was taken from the BL400 MD 629+77 to 632+71 Calculations			**TOTALS**	**0.27**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.17**	**TOTAL BASIN AREA**	**0.44**	**COMPOSITE CN**	**74.93**
PERCENT DCIA	**38.64%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**83.84**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	1.93	10.85	**0.40**
Orange County	25-year / 24-hour	8.60	1.93	6.65	**0.24**
SFWMD	25-year / 72-hour	10.00	1.93	8.01	**0.29**
FDOT	50-year / 24-hour	9.10	1.93	7.14	**0.26**

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C3B2			**DATE**
POND/ NODE DESIGNATION:	SW138C3B2	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.25	24.50
			TOTALS	**0.25**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34 Zolfo fine sand - 54	A	49	0.00	0.00
Open Spaces (roadway - fair condition)	Sanibel muck - 42 Smyrna-Smyrna fine sand - 44	A/D	84	0.41	34.44
Time of Concentration of 34.99-minutes was taken from the BL400 MD 632+75 to 634+75 Calculations			**TOTALS**	**0.41**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.25**	**TOTAL BASIN AREA**	**0.66**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**37.88%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**89.30**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	1.20	11.58	**0.64**
Orange County	25-year / 24-hour	8.60	1.20	7.31	**0.40**
SFWMD	25-year / 72-hour	10.00	1.20	8.69	**0.48**
FDOT	50-year / 24-hour	9.10	1.20	7.81	**0.43**

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	BSN138C3B1 & BSN138C3B2			
POND/ NODE DESIGNATION:	SW138C3B1 & SW138C3B2	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

Water Quality

	BSN138C3B1	BSN138C3B2	TOTAL	
Total Basin Area =	**0.44**	**0.66**	**1.10**	ac
Pond Area at NWL =	**0.00**	**0.00**	**0.00**	ac
Paved Area (Treated) =	**0.17**	**0.25**	**0.42**	ac
Paved Area (Untreated) =				ac

A.	1.0	" Over Total Basin Area =	0.09	Ac-Ft
B.	2.5	" Times Treated Paved Area =	0.09	Ac-Ft
		Required PAV =	**0.09**	Ac-Ft

Water Quality for dry detention

75.00	% of Required Wet Detention =	**0.07**	Ac-Ft

Water Quality for dry retention

50.00	% of Required Wet Detention =	**0.05**	Ac-Ft

This swale is proposed within the median between stations 629+77.02 and 634+75.49 to intercept existing paved shoulder for treatment to overcompensate for the additional impervious (0.45 acres) that is being added to the eastbound travel lanes within basin BSN138C4. Although the provided treatment is less than the required as shown on this page, it will be made up in the treatment swales within basins BSN138B1B1 to BSN138B1B3.

Stage Storage Calculations

SW138C3B1

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average [3]	LENGTH [1] (ft)	AREA [4] (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
130.59		629+77.02	30.70	21.32	181.42	3867.87			0.06
		631+58.44	11.94				2563.00	0.60	
129.99	Ditch block	629+77.02	23.50	17.72	71.00	1258.12			0.03
		630+48.02	11.94				1319.28	0.16	
129.83		629+77.02	21.58	17.38	79.45	1380.44			0.02
		630+56.47	13.17				959.71	0.33	
129.50		629+77.02	17.62	15.40	35.01	538.98			0.01
		630+12.03	13.17				269.49	0.26	
129.24		629+77.02	14.50	14.50	00.00	0.00			0.00
		629+77.02	14.50						

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	BSN138C3B1 & BSN138C3B2			
POND/ NODE DESIGNATION:	SW138C3B1 & SW138C3B2	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

SW138C3B2

ELEV. (ft)		From Station / To Station	WIDTH (ft) Bottom	WIDTH (ft) Average [3]	LENGTH [1] (ft)	AREA [4] (sf)	AVG AREA (sf)	Delta Depth (ft)	Sum Storage (ac-ff)
133.22		632+75.31	31.71	19.78	190.18	3761.76			0.07
		634+65.49	7.85				3149.88	1.00	
132.22	Ditch block	632+75.31	19.71	13.78	184.18	2538.00			0.04
		634+59.49	7.85				1742.21	0.37	
131.85		632+75.31	15.27	11.56	81.87	946.42			0.01
		633+57.18	7.85				607.62	0.20	
131.65		632+75.31	12.87	11.22	23.96	268.83			0.00
		632+99.27	9.57				134.42	0.10	
131.55		632+75.31	11.67	11.67	00.00	0.00			0.00
		632+75.31	11.67						

Provided PAV = **0.07** **ac-ft.**

Note:
(1) The length is equal to the difference between the from station and the to station.
(2) The width is either the width of the bottom at the upstream end or the width at the downstream end plus the depth difference between the station multiply to the side slope (1vert=6hor).
(3) The average width between the from station and the to station.
(4) Surface area is equal to the length times the ave. x-sect width.

REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C4			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C4	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Treated)	N/A	N/A	98	2.69	263.62
Proposed Roadway (Treated)	N/A	N/A	98	0.45	44.10
			TOTALS	**3.14**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.64	31.36
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.72	144.48
			TOTALS	**2.36**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.14**	**TOTAL BASIN AREA**	**5.50**	**COMPOSITE CN**	**74.51**
PERCENT DCIA	**57.09%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**87.92**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	1.37	11.40	**5.22**
Orange County	25-year / 24-hour	8.60	1.37	7.15	**3.28**
SFWMD	25-year / 72-hour	10.00	1.37	8.52	**3.91**
FDOT	50-year / 24-hour	9.10	1.37	7.64	**3.50**

REEDY CREEK OUTFALL (BLACK LAKE) - FDOT DETENTION SWALE				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	BSN138C4			**DATE**
POND/ NODE DESIGNATION:	EX_SW138C4	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. 011109-7 for Node D1P. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The permitted swale bottom was 113.85 NGVD or 113.05 NAVD. The permitted information will establish the basis of our proposed design. The outside berm elevation provided was taken from the permitted ICPR model at the warning stage. The areas to determine the treatment and attenuation volumes were interpolated based on the inside berm data.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
116.55	Outside Berm	0.42				0.74
			0.34	1.35	0.46	
115.20	Inside Berm	0.26				0.28
			0.24	0.39	0.09	
114.81	(ATT)	0.21				0.19
			0.17	0.76	0.13	
114.05	(PAV)	0.12				0.06
			0.06	1.00	0.06	
113.05		0.00				0.00

OFFSITE REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSN138OFFA1			
POND/ NODE DESIGNATION:	EX_PND138OFFA1	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

Information taken from SFWMD permit Application No. X000007612 for Days Inn

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	3.11	304.78
			TOTALS	**3.11**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St Lucie fine sand - 38 Urban land - 50	A/D	80	0.89	71.20
			TOTALS	**0.89**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.11**	**TOTAL BASIN AREA**	**4.00**	**COMPOSITE CN**	**80.00**
PERCENT DCIA	**77.75%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**94.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	0.64	12.17	**4.06**
Orange County	25-year / 24-hour	8.60	0.64	7.88	**2.63**
SFWMD	25-year / 72-hour	10.00	0.64	9.27	**3.09**
FDOT	50-year / 24-hour	9.10	0.64	8.38	**2.79**

OFFSITE REEDY CREEK OUTFALL (BLACK LAKE) - DRY DETENTION/ EXFILTRATION				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			
BASIN DESIGNATION:	EX_BSN138OFFA1			**DATE**
POND/NODE DESIGNATION:	EX_PND138OFFA1	**MADE BY:**	LCP	07/01/2019
ANALYSIS	POST	**CHECKED BY:**		

The information provided on this sheet was obtained directly from SFWMD Permit application no. X000007612 for the Days In at the northwest quadrant of I-4 and SR 535. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The pond was designed to provide the treatment runoff volume from a 3-year, 1-hour event (1.87") for SFWMD requirements. The pond was also designed to provide the attenuation volume for the Orange County 25-year/ 24-hour storm event. This pond will be impacted as part of the I-4 improvements, but the exfiltration system (which is located onsite with 1890-ft of 36" pipe and trench) will remain. The trench provides a total storage of 0.586 ac-ft from elevation 102.80' to 107.20' NAVD.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
107.20	Outside Berm	INFORMATION UNAVAILABLE				0.93
106.20	Inside Berm					0.86
105.20						0.68
104.20						0.45
103.20						0.22
102.20						0.00
101.70	Pond Bottom					0.00

OFFSITE REEDY CREEK OUTFALL (BLACK LAKE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441131-52-01			**DATE**
BASIN DESIGNATION:	EX_BSNOFF138C4			
POND/ NODE DESIGNATION:	EX_SW138C4	**MADE BY:**	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	11.16	546.84
Open Spaces (roadway - good condition)	Smyrna-Smyrna fine sand - 44	A/D	84	7.17	602.28
Open Spaces (roadway - good condition)	St. Johns fine sand - 37	B/D	84	0.49	41.16
A computed time of concentration of 20.96-minute was used for the model.			**TOTALS**	**18.82**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**18.82**	**COMPOSITE CN**	**63.25**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**63.25**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	5.81	7.86	**12.33**
Orange County	25-year / 24-hour	8.60	5.81	4.18	**6.55**
SFWMD	25-year / 72-hour	10.00	5.81	5.33	**8.36**
FDOT	50-year / 24-hour	9.10	5.81	4.58	**7.19**

OFFSITE RCID BLACK LAKE OUTFALL				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	242484-8-52-1			DATE
BASIN DESIGNATION:	EX_BSNEMBASSY			
POND/ NODE DESIGNATION:	EX_PNDEMBASSY	MADE BY:	LCP	07/01/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

Information gather from Application #900402-3 (Embassy Suites)

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.80	80.00
			TOTALS	**0.80**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Impervious (Untreated)	N/A	N/A	98	0.00	0.00
Existing Impervious (Treated)	N/A	N/A	98	5.22	511.56
			TOTALS	**5.22**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Impervious (Untreated)	N/A	N/A	98	0.00	0.00
Existing Impervious (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	N/A	PERMITTED	39	2.08	81.12
Open Spaces (roadway - fair condition)	N/A	PERMITTED	80	2.34	187.20
			TOTALS	**4.42**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**6.02**	**TOTAL BASIN AREA**	**10.44**	**COMPOSITE CN**	**60.71**
PERCENT DCIA	**57.66%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**82.36**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
RCID	50-year / 72-hour	12.91	2.14	10.65	**9.27**
Orange County	25-year / 24-hour	8.60	2.14	6.48	**5.63**
SFWMD	25-year / 72-hour	10.00	2.14	7.82	**6.81**
FDOT	50-year / 24-hour	9.10	2.14	6.95	**6.05**

OFFSITE RCID BLACK LAKE OUTFALL (EMBASSY SUITE)				
PROJECT TITLE:	I-4 Beyond the Ultimate			AECOM
PROJECT NUMBER:	242484-8-52-1			DATE
BASIN DESIGNATION:	EX_BSNEMBASSY			
POND/NODE DESIGNATION:	EX_PNDEMBASSY	MADE BY:	LCP	07/01/2019
ANALYSIS	POST	CHECKED BY:		

The information provided on this sheet was taken directly from SFWMD Permit Application No. 900402-3 for the onsite pond to serve the Embassy Suite Development. The datum at the time of the permit was in NGVD. As such, a conversion factor of -0.80-ft was applied to obtain the elevation in NAVD. The data shown below was extracted from the permitted model.

An allowable discharge rate for the 25-year/ 24-hour storm (including the offsite area that pass through the site) is 10.5 cfs. The data will be used to determine the rates of discharge contributing to an existing storm sewer system or FDOT ROW.

Stage Storage Calculations

ELEV. (ft)	AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
119.30	2.00				5.370
		1.86	0.35	0.65	
118.95	1.72				4.720
		1.64	1.00	1.64	
117.95	1.55				3.080
		1.41	1.00	1.41	
116.95	1.26				1.670
		1.16	0.76	0.88	
116.19	1.07				0.790
		1.00	0.49	0.49	
115.70	0.94				0.300
		0.87	0.35	0.30	
115.35	0.80				0.000

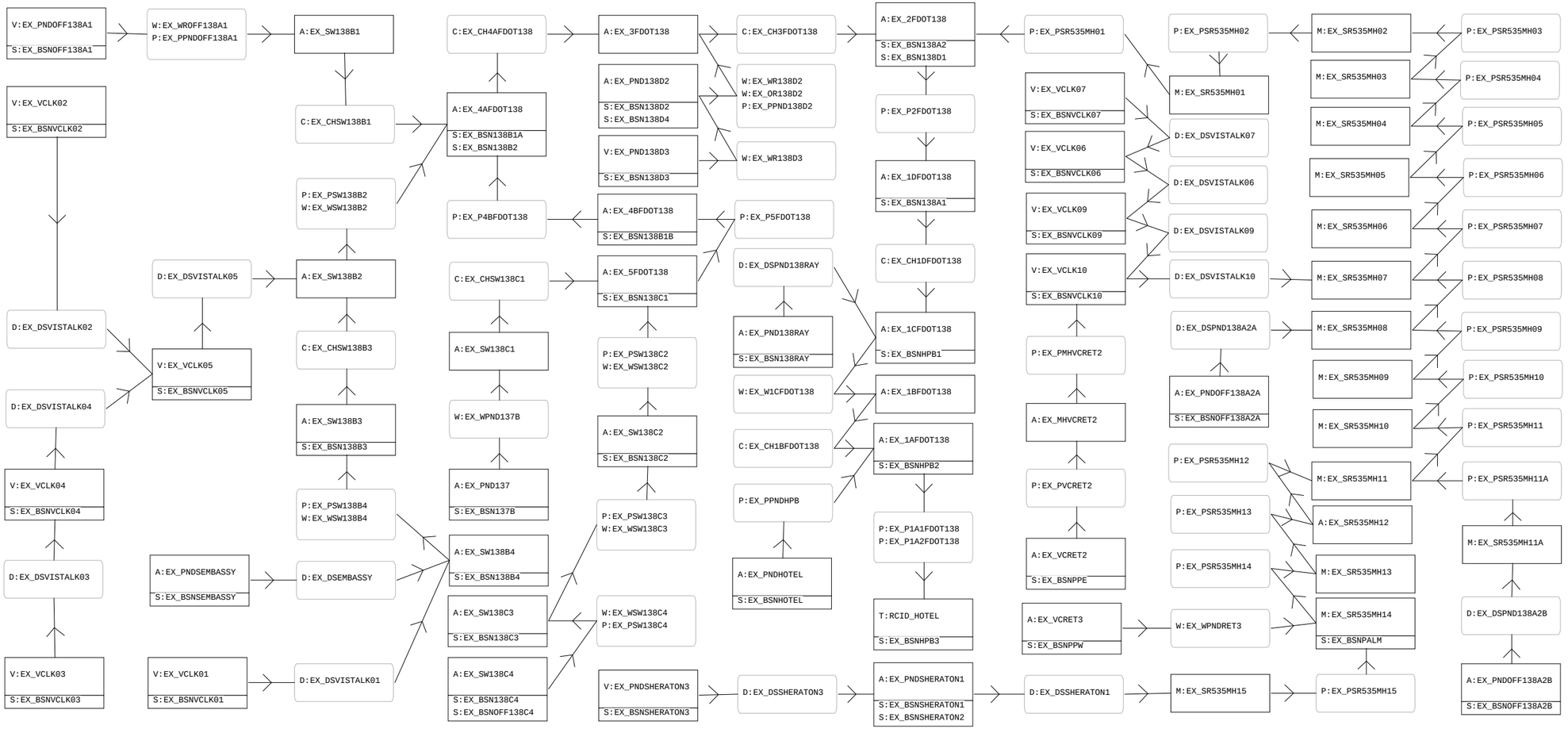
APPENDIX C.1.2: Reedy Creek Outfall (Black Lake) Existing ICPR-3 Model

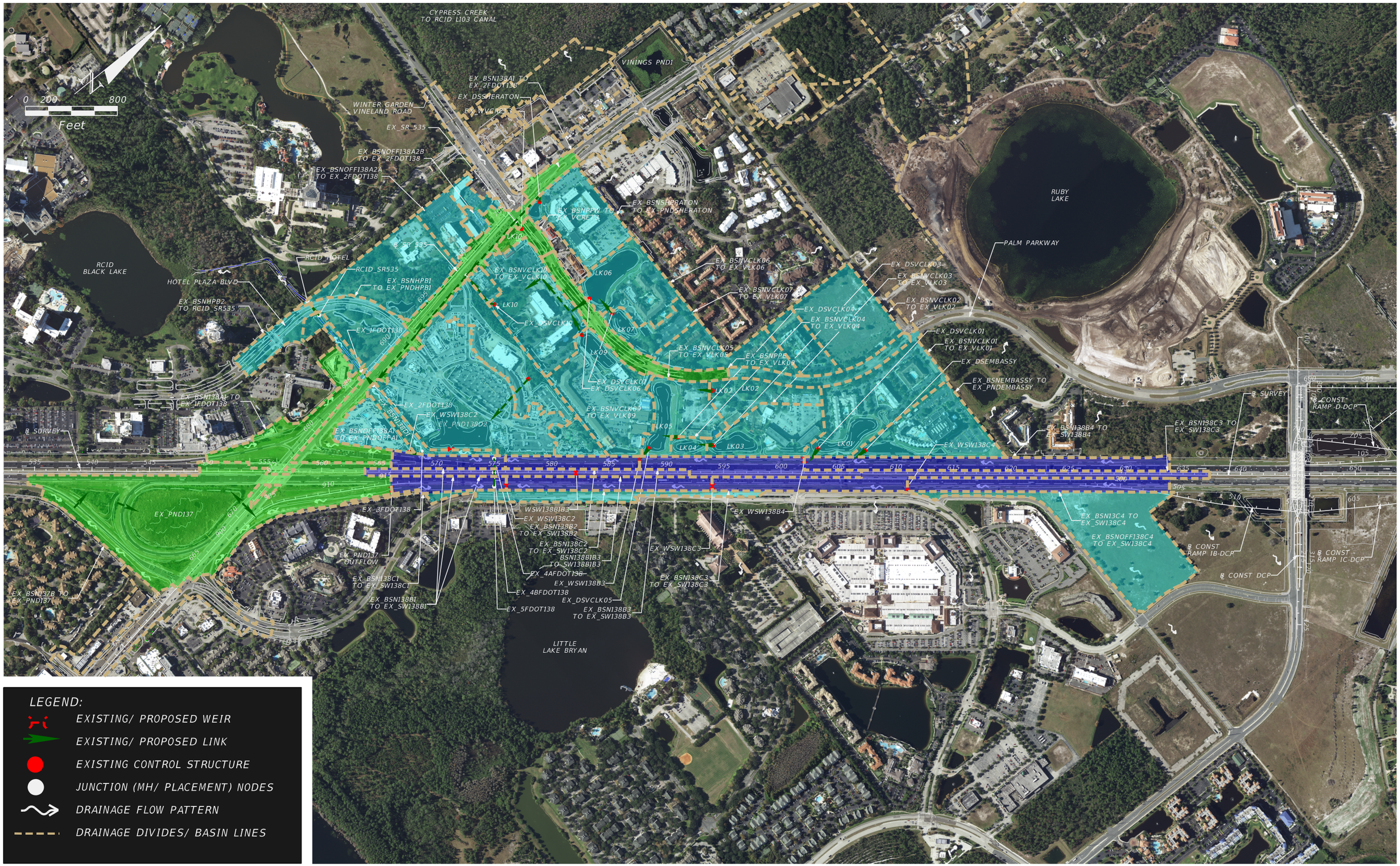
I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Existing Condition: Nodal Network Diagram

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench





LEGEND:

- EXISTING/ PROPOSED WEIR
- EXISTING/ PROPOSED LINK
- EXISTING CONTROL STRUCTURE
- JUNCTION (MH/ PLACEMENT) NODES
- DRAINAGE FLOW PATTERN
- DRAINAGE DIVIDES/ BASIN LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL, 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) EXIST NODAL NETWORK

FIGURE 8

==========
==== Basins ==========
==========

Name: EX_BSN137B Node: EX_PND137 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 54.00
Area(ac): 39.96 Time Shift(hrs): 0.00
Curve Number: 51.39 Time Increment(min): 1.00
DCIA(%): 47.07 Max Allowable Q(cfs): 999999.000

THE INFORMATION PROVIDED ON THIS SHEET WAS TAKEN DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 04118-1.
THE BASIN AREA AND CURVE NUMBER WERE VERIFIED IN CADD WITH UPDATED SURVEY. AS NEEDED, THEY WERE UP-
DATED TO REFLECT CURRENT SITE CONDITION.

PERMITTED WAS 39.17 ACRES,
BASIN DELINEATED BASED ON CURRENT SURVEY WAS 39.93 ACRES,
POND PERMITTED AS DRY WHILE POND APPEARED TO BE WET BASED ON CURRENT TOPOGRAPHIC SURVEY

CN COMPUTED BASED ON PERMITTED/ CURRENT DATA WITH THE ASSUMPTION THAT THE BLEEDER FOR
THE WEIR IS CURRENTLY CLOGGED. AS SUCH POND IS HOLDING WATER ARTIFICIALLY.

INFORMATION FOR THIS BASIN COULD ALSO BE LOCATED IN APPLICATION #90113-1 AS WELL AS #920616-1.

Name: EX_BSN138A1 Node: EX_1DFDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 20.00
Area(ac): 7.35 Time Shift(hrs): 0.00
Curve Number: 72.07 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

INFORMATION TO BE UPDATED WHEN DESIGN SURVEY ARE AVAILABLE.

Name: EX_BSN138A2 Node: EX_2FDOT138 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 13.71 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 67.91 Max Allowable Q(cfs): 999999.000

VARIOUS INFORMATION (EXISTING PERMITS, SURVEY DATA, AND FIELD VISITS) WERE USED TO DELINEATE THIS BASIN BOUNDARY

Name: EX_BSN138B1A Node: EX_4AFDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 23.58
Area(ac): 2.78 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 64.39 Max Allowable Q(cfs): 999999.000

THIS DRAINAGE AREA WAS INCLUDED AS PART OF THE I-4 WIDENING FROM 4 TO 6 LANES. IT COULD NOT BE TAKEN TO
THE PROPOSED NEW POND (CURRENT POND 137) AT THE TIME. IT WAS PROPOSED TO DIRECT DISCHARGE TO THE
EXISTING CROSS DRAIN AND EVENTUALLY DISCHARGES TO RCID UNDER SR 535.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.11% FOR 120-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE
TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.20% SLOPE.

Name: EX_BSN138B1B Node: EX_4BFDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 33.30
Area(ac): 4.21 Time Shift(hrs): 0.00
Curve Number: 75.84 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

THIS DRAINAGE AREA WAS INCLUDED AS PART OF THE I-4 WIDENING FROM 4 TO 6 LANES. IT COULD NOT BE TAKEN TO
THE PROPOSED NEW POND (CURRENT POND 137) AT THE TIME. IT WAS PROPOSED TO DIRECT DISCHARGE TO THE
EXISTING CROSS DRAIN AND EVENTUALLY DISCHARGES TO RCID UNDER SR 535.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.90% FOR 890-FT AND SLOPE OF 0.13% FOR 713-FT TO OBTAIN THE VELOCITY TO BE INPUTTED
INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.90% SLOPE.

Name: EX_BSN138B2 Node: EX_4AFDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 27.66
Area(ac): 3.06 Time Shift(hrs): 0.00
Curve Number: 68.42 Time Increment(min): 1.00
DCIA(%): 49.35 Max Allowable Q(cfs): 999999.000

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.28% FOR 1165-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.60% SLOPE.

Name: EX_BSN138B3 Node: EX_SW138B3 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 43.20
Area(ac): 5.97 Time Shift(hrs): 0.00
Curve Number: 49.00 Time Increment(min): 1.00
DCIA(%): 45.73 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W2B. THE BASIN AREAS, BASED ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED. THE AREA WAS ADJUSTED AND RECOMPUTED TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION. AS SUCH, THE BASIN FOR THIS DRAINAGE AREA IS SHOWN TO BE 5.96 ACRES INSTEAD OF THE PERMITTED 3.87 ACRES.

IT APPEARS THAT THE CALCULATIONS FOR THE BASIN WAS TAKEN AT THE BASELINE OF CONSTRUCTION. BASED ON DESIGN SURVEY, THE ENTIRE MEDIAN SWALE IS PART OF THE BASIN.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.093% FOR 811-FT AND SLOPE OF 0.37% FOR 490-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.20% SLOPE.

Name: EX_BSN138B4 Node: EX_SW138B4 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 50.76
Area(ac): 8.51 Time Shift(hrs): 0.00
Curve Number: 66.13 Time Increment(min): 1.00
DCIA(%): 49.35 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W1B. THE BASIN AREAS, BASED ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED. THE AREA WAS ADJUSTED AND RECOMPUTED TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION. AS SUCH, THE BASIN FOR THIS DRAINAGE AREA IS SHOWN TO BE 8.51 ACRES INSTEAD OF THE PERMITTED 8.92 ACRES.

IT APPEARS THAT THE CALCULATIONS FOR THE BASIN WAS TAKEN AT THE BASELINE OF CONSTRUCTION. BASED ON DESIGN SURVEY, THE MEDIAN SWALE AND INSIDE SHOULDER OF THE WEST BOUND LANES ARE NOT PART OF THE BASIN.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.088% FOR 1133-FT AND SLOPE OF 0.40% FOR 1623-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 1.20% SLOPE.

Name: EX_BSN138C1 Node: EX_5FDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 22.20
Area(ac): 3.05 Time Shift(hrs): 0.00
Curve Number: 61.63 Time Increment(min): 1.00
DCIA(%): 48.20 Max Allowable Q(cfs): 999999.000

THIS AREA WAS PROPOSED TO DIRECT DISCHARGE TO REEDY CREEK WITHOUT TREATMENT PROVIDED.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.50% FOR 570-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.50% SLOPE.

Name: EX_BSN138C2 Node: EX_SW138C2 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 26.76
Area(ac): 4.96 Time Shift(hrs): 0.00
Curve Number: 59.89 Time Increment(min): 1.00
DCIA(%): 48.19 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D3B. THE BASIN AREAS, BASED

ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED. THE AREA WAS ADJUSTED AND RECOMPUTED TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION. AS SUCH, THE BASIN FOR THIS DRAINAGE AREA IS SHOWN TO BE 4.97 ACRES INSTEAD OF THE PERMITTED 5.01 ACRES.

IT APPEARS THAT THE CALCULATIONS FOR THE BASIN WAS TAKEN AT THE BASELINE OF CONSTRUCTION. IN REALITY, THE MEDIAN SWALE AND INSIDE SHOULDER OF THE EAST BOUND LANES ARE NOT PART OF THE BASIN.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.8% FOR 1100-FT AND SLOPE OF 0.30% FOR 590-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT0.80% SLOPE.

Name: EX_BSN138C3 Node: EX_SW138C3 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 55.26
Area(ac): 9.15 Time Shift(hrs): 0.00
Curve Number: 70.25 Time Increment(min): 1.00
DCIA(%): 42.95 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D2B. THE BASIN AREAS, BASED ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED. THE AREA WAS ADJUSTED AND RECOMPUTED TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION, BASED ON DESIGN SURVEY. AS SUCH, THE BASIN FOR THIS DRAINAGE AREA IS SHOWN TO BE 9.14 ACRES INSTEAD OF THE PERMITTED 4.64 ACRES.

IT APPEARS THAT THE CALCULATIONS FOR THE BASIN WAS TAKEN AT THE BASELINE OF CONSTRUCTION. BASED ON DESIGN SURVEY, THE MEDIAN SWALE AND INSIDE SHOULDERS OF BOTH THE EAST AND WEST BOUND LANES ARE PART OF THE BASIN. AS SUCH, THE BASIN IS ALMOST DOUBLE IN ACREAGE AS THE MEDIAN AREA DRAINING TO THE EAST BOUND DITCH EXTEND AS FAR NORTH AS 300-FT BEFORE THE EXISTING POND 139.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.30% FOR 280-FT AND SLOPE OF 0.57% FOR 2650-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.30% SLOPE.

Name: EX_BSN138C4 Node: EX_SW138C4 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 18.96
Area(ac): 6.26 Time Shift(hrs): 0.00
Curve Number: 73.86 Time Increment(min): 1.00
DCIA(%): 48.72 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D1B. THE BASIN AREAS, BASED ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED. THE AREA WAS ADJUSTED AND RECOMPUTED TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION, BASED ON DESIGN SURVEY. AS SUCH, THE BASIN FOR THIS DRAINAGE AREA IS SHOWN TO BE 6.26 ACRES INSTEAD OF THE PERMITTED 6.23 ACRES.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.57% FOR 2057-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 1.00% SLOPE.

Name: EX_BSN138D1 Node: EX_2FDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.49 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 10.04 Max Allowable Q(cfs): 999999.000

THE DRAINAGE AREA OF THE FDOT CONVEYANCE DITCH ITSELF.

Name: EX_BSN138D2 Node: EX_PND138D2 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 27.71 Time Shift(hrs): 0.00
Curve Number: 77.00 Time Increment(min): 1.00
DCIA(%): 81.09 Max Allowable Q(cfs): 999999.000

THE INFORMATION PROVIDED FOR THIS BASIN WAS TAKEN DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17 FOR THE CROSS ROAD COMMERCIAL DEVELOPMENT BASIN B. THE ONLY DIFFERENCE BETWEEN THIS AND THE PERMIT DRAINAGE DOCUMENTATION IS THAT THE PERMITTED MODEL DID NOT ACCOUNT FOR % DIRECTLY CONNECTED IMPERVIOUS AREA.

Name: EX_BSN138D3 Node: EX_PND138D3 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 9.82 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 32.59 Max Allowable Q(cfs): 999999.000

THE INFORMATION PROVIDED FOR THIS BASIN WAS TAKEN DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17 FOR THE CROSS ROAD COMMERCIAL DEVELOPMENT BASIN A. THE ONLY DIFFERENCE BETWEEN THIS AND THE PERMIT DRAINAGE DOCUMENTATION IS THAT THE PERMITTED MODEL DID NOT ACCOUNT FOR % DIRECTLY CONNECTED IMPERVIOUS AREA.

Name: EX_BSN138D4 Node: EX_PND138D2 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.56 Time Shift(hrs): 0.00
Curve Number: 93.95 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

NEED TO INCLUDE INFORMATION

Name: EX_BSN138RAY Node: EX_PND138RAY Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.40 Time Shift(hrs): 0.00
Curve Number: 83.01 Time Increment(min): 1.00
DCIA(%): 64.86 Max Allowable Q(cfs): 999999.000

THE INFORMATION FOR THIS BASIN WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 991015-3.

Name: EX_BSNHOTEL Node: EX_PNDHOTEL Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 6.77 Time Shift(hrs): 0.00
Curve Number: 77.76 Time Increment(min): 1.00
DCIA(%): 41.21 Max Allowable Q(cfs): 999999.000

Name: EX_BSNHPB1 Node: EX_1CFDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.93 Time Shift(hrs): 0.00
Curve Number: 72.18 Time Increment(min): 1.00
DCIA(%): 20.43 Max Allowable Q(cfs): 999999.000

Name: EX_BSNHPB2 Node: EX_1AFDOT138 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.78 Time Shift(hrs): 0.00
Curve Number: 73.93 Time Increment(min): 1.00
DCIA(%): 6.41 Max Allowable Q(cfs): 999999.000

Name: EX_BSNHPB3 Node: RCID_HOTEL Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.44 Time Shift(hrs): 0.00

Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 45.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNOFF138A1 Node: EX_PNDOFF138A1 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 4.00 Time Shift(hrs): 0.00
Curve Number: 80.00 Time Increment(min): 1.00
DCIA(%): 77.75 Max Allowable Q(cfs): 999999.000

THE INFORMATION FOR THE DRAINAGE BASIN WAS INTERPOLATED TO BEST RECIPROCATE THE COMPOSITE CN VALUE USED FOR THE DAY'S INN (SFWMD PERMIT APPLICATION NO. X000007612).

Name: EX_BSNOFF138A2A Node: EX_PNDOFF138A2A Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.64 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 87.21 Max Allowable Q(cfs): 999999.000

THE INFORMATION FOR THIS NODE IS BASED ON DESIGNED SURVEY. STORAGE CAPACITY IS BASED ON THE PERMIT DATA ASSOCIATED OF THE SR 535 PLAZA DEVELOPMENT ADJACENT TO IT. BASED ON PERMIT APPLICATION #891130-2, THE TREATMENT VOLUME REQUIRED IS BASED ON 50% OF 2.5" OF RAINFALL OVER THE IMPERVIOUS AREA OR 1" OVER THE ENTIRE SITE, WHICHEVER IS GREATER. FOR A 3.64 ACRES SITE WITH 3.10 AC OF IT BEING IMPERVIOUS, THE 1" OVER THE SITE IS EQUIVALENT TO 50% OF 2.5" OVER THE IMPERVIOUS. AS SUCH, THE STAGE STORAGE WAS ESTIMATED BASED ON THE LINEAL POND ONSITE.

Name: EX_BSNOFF138A2B Node: EX_PNDOFF138A2B Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.92 Time Shift(hrs): 0.00
Curve Number: 80.00 Time Increment(min): 1.00
DCIA(%): 69.14 Max Allowable Q(cfs): 999999.000

THE INFORMATIO FOR THIS BASIN WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 891130-2 (DRAINAGE AREA 2). THE TOTAL BASIN AT THE TIME OF PERMIT WAS 39,550 SF. THE AREA WAS VERIFIED THROUGH SITE VISIT AND DESIGN SURVEY AND ADJUSTED AS NEEDED.

Name: EX_BSNOFF138C4 Node: EX_SW138C4 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.06
Area(ac): 18.82 Time Shift(hrs): 0.00
Curve Number: 63.25 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNPALM Node: EX_SR535MH14 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.91 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNPPE Node: EX_VCRET2 Status: Offsite
Group: EXISTING Type: Santa Barbara CN

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          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
                Area(ac): 5.74                   Time Shift(hrs): 0.00
           Curve Number: 79.98               Time Increment(min): 1.00
                DCIA(%): 63.59              Max Allowable Q(cfs): 999999.000

LIMITED INFORMATION TO ACCURATELY MODEL THIS BASIN TO DETERMINE THE RATE OF DISCHARGE OUTFALLS TO
THE SR 535 SYSTEM (ALLOWABLE OF 2.0 CFS).



-------------------------------------------------------------------------------------------------
          Name: EX_BSNPPW               Node: EX_VCRET3             Status: Offsite
         Group: EXISTING                Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
                Area(ac): 1.79                   Time Shift(hrs): 0.00
           Curve Number: 84.00               Time Increment(min): 1.00
                DCIA(%): 65.92              Max Allowable Q(cfs): 999999.000

ACCORDING TO PERMIT 12168-S FOR THE VISTA CENTER DEVELOPMENT.  THIS PORTION OF PALM PARKWAY (ALSO KNOWN AS VISTA BLVD AT
THE TIME OF ISSUANCE) WAS ID AS BASIN 400 (SEE PAGE 272 OF THE PERMIT).  THE RUNOFF FROM THIS BASIN WAS DIRECTED TO A DRY DE-
TENTION POND AT THE SE CORNER OF APOPKA VINELAND ROAD AND PALM PARKWAY.  THE POND WAS DESIGNED TO PROVIDE 1" OF RUNOFF
FROM THE BASIN AREA.

PERMIT ALSO SPECIFIED THE LIMITED DISCHARGE FROM THE POND AT 2.0 CFS TO THE SR 535 SYSTEM.  THE BASIN PROVIDED DEVIATES FROM
THE PERMITTED AREA AS A RESULT OF FIELD VERIFICATION.  IT APPEARS THAT PART OF THE ROOF FROM THE ADJACENT BUILDING, WHICH WAS
NOT INTENDED TO DISCHARGE INTO THIS POND, DRAINS INTO THE POND CURRENTLY.  AS SUCH, THE EXISTING POND DOES NOT PROVIDE THE
REQUIRED DETENTION POND CURRENTLY.


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          Name: EX_BSNSEMBASSY          Node: EX_PNDSEMBASSY        Status: Offsite
         Group: EXISTING                Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
                Area(ac): 10.44                  Time Shift(hrs): 0.00
           Curve Number: 60.71               Time Increment(min): 1.00
                DCIA(%): 57.64              Max Allowable Q(cfs): 999999.000

EMBASSY SUITE 900402-3 (PAGE 223)

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          Name: EX_BSNSHERATON1         Node: EX_PNDSHERATON1       Status: Offsite
         Group: EXISTING                Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
                Area(ac): 7.17                   Time Shift(hrs): 0.00
           Curve Number: 74.00               Time Increment(min): 1.00
                DCIA(%): 83.40              Max Allowable Q(cfs): 999999.000

SHERATON (DAYS INN)


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          Name: EX_BSNSHERATON2         Node: EX_PNDSHERATON1       Status: Offsite
         Group: EXISTING                Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
                Area(ac): 1.50                   Time Shift(hrs): 0.00
           Curve Number: 74.00               Time Increment(min): 1.00
                DCIA(%): 63.33              Max Allowable Q(cfs): 999999.000




-------------------------------------------------------------------------------------------------
          Name: EX_BSNSHERATON3         Node: EX_PNDSHERATON3       Status: Offsite
         Group: EXISTING                Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
                Area(ac): 0.77                   Time Shift(hrs): 0.00
           Curve Number: 74.00               Time Increment(min): 1.00
                DCIA(%): 71.43              Max Allowable Q(cfs): 999999.000
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        Name: EX_BSNVCLK01            Node: EX_VCLK01             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
             Area(ac): 13.00                  Time Shift(hrs): 0.00
         Curve Number: 57.14             Time Increment(min): 1.00
              DCIA(%): 87.69            Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 300 PERMIT 12168-S DISCHARGE TO LK1

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        Name: EX_BSNVCLK02            Node: EX_VCLK02             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
             Area(ac): 16.00                  Time Shift(hrs): 0.00
         Curve Number: 55.01             Time Increment(min): 1.00
              DCIA(%): 49.31            Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 210, 240, AND 270 PERMIT 12168-S DISCHARGE TO LK2 PAGE 257 AND 300; THIS BASIN INCLUDES PALM PARKWAY.
PALM PARKWAY RUNOFF IS TAKEN TO RETENTION AREA #1 PRIOR TO DISCHARGING TO INTERCONNECTED LAKES #2 AND ULTIMATELY TO
LAKE #5.


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK03            Node: EX_VCLK03             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
             Area(ac): 8.40                   Time Shift(hrs): 0.00
         Curve Number: 55.01             Time Increment(min): 1.00
              DCIA(%): 88.04            Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 260 PERMIT 12168-S DISCHARGE TO LK6 PAGE 257, 299


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK04            Node: EX_VCLK04             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.00                   Time Shift(hrs): 0.00
         Curve Number: 55.00             Time Increment(min): 1.00
              DCIA(%): 80.00            Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 250 (PAGE 300) PERMIT 12168-S DISCHARGE TO LK4


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK05            Node: EX_VCLK05             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
             Area(ac): 14.90                  Time Shift(hrs): 0.00
         Curve Number: 55.01             Time Increment(min): 1.00
              DCIA(%): 75.03            Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 200, 220, 230 (PAGE 302) PERMIT 12168-S DISCHARGE TO LK5. THIS BASIN INCLUDES THE PART OF PALM PARKWAY
THAT WILL NOT BE IMPACTED AS A RESULT OF THIS PROJECT IMPROVEMENTS.


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK06            Node: EX_VCLK06             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
             Area(ac): 5.30                   Time Shift(hrs): 0.00
         Curve Number: 66.89             Time Increment(min): 1.00
              DCIA(%): 80.00            Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 60  OR BASIN 140 (PAGE 295) PERMIT 12168-S DISCHARGE TO LK6


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK07            Node: EX_VCLK07             Status: Offsite
       Group: EXISTING                Type: Santa Barbara CN
```

```
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 8.50                     Time Shift(hrs): 0.00
         Curve Number: 66.89                 Time Increment(min): 1.00
              DCIA(%): 64.00               Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 70 OR BASIN 130 (PAGE 294) PERMIT 12168-S DISCHARGE TO LK7


-------------------------------------------------------------------------------------------------------
         Name: EX_BSNVCLK09             Node: EX_VCLK09              Status: Offsite
        Group: EXISTING                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 14.50                    Time Shift(hrs): 0.00
         Curve Number: 69.36                 Time Increment(min): 1.00
              DCIA(%): 80.41               Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 90 OR BASIN 110 & 120 (PAGE 295 & 296) PERMIT 12168-S DISCHARGE TO LK9


-------------------------------------------------------------------------------------------------------
         Name: EX_BSNVCLK10             Node: EX_VCLK10              Status: Offsite
        Group: EXISTING                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 12.82                    Time Shift(hrs): 0.00
         Curve Number: 70.76                 Time Increment(min): 1.00
              DCIA(%): 87.91               Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 100 & 150 PERMIT 12168-S DISCHARGE TO LK10; THIS BASIN INCLUDES PALM PARKWAY. THE RUNOFF FROM PALM
PALM PARKWAY IS TAKEN TO RETENTION AREA #2 PRIOR TO DISCHARGING TO LAKE #10.  THE AREA HAS BEEN ADJUSTED SO THAT PALM
PARKWAY BASIN IS NOT PART OF THE BASIN AS THERE IS A SEPARATE SHEET FOR THIS BASIN (EX_BSNPPE).

AS SUCH THE ORIGINAL AREA IS 18.8 ACRES, BUT HAS BEEN REDUCED TO 12.82 AC INSTEAD.


===============================================================================================
==== Nodes ====================================================================================
===============================================================================================

      Name: EX_1AFDOT138        Base Flow(cfs): 0.00          Init Stage(ft): 96.01
     Group: EXISTING                                        Warn Stage(ft): 107.40
      Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

      Stage(ft)        Area(ac)
--------------- ---------------
          96.00        0.000100
          96.30        0.000110
          97.40        0.000410
         100.70        0.000490
         107.40        0.001260

-------------------------------------------------------------------------------------------------
      Name: EX_1BFDOT138        Base Flow(cfs): 0.00          Init Stage(ft): 96.80
     Group: EXISTING                                        Warn Stage(ft): 107.10
      Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

      Stage(ft)        Area(ac)
--------------- ---------------
          96.80        0.000130
          97.30        0.000340
         107.10        0.000750
         108.00        0.001200
         108.30        0.001400

-------------------------------------------------------------------------------------------------
      Name: EX_1CFDOT138        Base Flow(cfs): 0.00          Init Stage(ft): 96.80
     Group: EXISTING                                        Warn Stage(ft): 105.60
      Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

      Stage(ft)        Area(ac)
--------------- ---------------
          95.92        0.000110
          96.12        0.000340
         101.00        0.000620
         104.00        0.000830
```

105.30	0.001080
105.50	0.001190
105.60	0.001310

Name: EX_1DFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Warn Stage(ft): 105.60
Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

Stage(ft)	Area(ac)
95.92	0.000110
96.12	0.000340
101.00	0.000620
104.00	0.000830
105.30	0.001080
105.50	0.001190
105.60	0.001310

Name: EX_2FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Warn Stage(ft): 105.70
Type: Stage/Area

BEND IN THE CHANNEL FLOW HEADING TO SR535 CROSSDRAIN

Stage(ft)	Area(ac)
95.88	0.000110
96.39	0.000340
100.30	0.000670
105.60	0.000920
105.70	0.001070

Name: EX_3FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: EXISTING Warn Stage(ft): 104.80
Type: Stage/Area

EXISTING OUTFALL LOCATION FOR CROSSROAD POND OUTFALL

Stage(ft)	Area(ac)
99.53	0.000110
99.65	0.000340
104.60	0.000710
104.80	0.000920

Name: EX_4AFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: EXISTING Warn Stage(ft): 103.49
Type: Stage/Area

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.63	0.000110
97.96	0.000230
103.49	0.015000

Name: EX_4BFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: EXISTING Warn Stage(ft): 103.49
Type: Stage/Area

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.63	0.000110
97.96	0.000230
103.49	0.015000

Name: EX_5FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: EXISTING Warn Stage(ft): 106.30
Type: Stage/Area

UPSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.86	0.000230

101.44	0.001160
102.70	0.001600
103.93	0.003420
104.32	0.003910
105.72	0.006670
106.30	0.008430

Name: EX_MHVCRET2 Base Flow(cfs): 0.00 Init Stage(ft): 98.70
Group: EXISTING Warn Stage(ft): 103.20
Type: Stage/Area

Stage(ft)	Area(ac)
98.00	0.000900
103.20	0.000900

Name: EX_PND137 Base Flow(cfs): 0.00 Init Stage(ft): 106.20
Group: EXISTING Warn Stage(ft): 108.20
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 90113-1. THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO THE STAGE TO CONVERT IT TO NAVD.

EXISTING POND WAS PERMITTED IN 1988, UNDER APPLICATION #04118-1, AS DRY RETENTION PONDS. RECOVERY FOR THE REQUIRED RETENTION VOLUME WAS PROVIDED WITHIN 41 HOURS, WHICH IS LESS THAN 72 HOURS ALLOWABLE.

IN 1992, UNDER APPLICATION #920616-1 (BUT IS UNDER PERMIT PACKAGE APPLICATION #90113-1) THE PONDS WERE PROPOSED TO BE WET DETENTION. A CONCRETE RECTANGULAR WEIR WITHIN RAMP C OF THE I-4/ SR 535 INTERCHANGE. THE WEIR BOTTOM IS SET AT ELEVATION 107.0 NGVD OR 106.2 NAVD.

Stage(ft)	Area(ac)
106.20	8.360000
108.20	8.900000
109.20	9.170000

Name: EX_PND138D2 Base Flow(cfs): 0.00 Init Stage(ft): 100.50
Group: EXISTING Warn Stage(ft): 105.00
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 140612-17.

Stage(ft)	Area(ac)
93.60	1.780000
95.00	1.870000
98.00	2.080000
100.50	2.490000
104.00	3.080000
105.00	3.260000

Name: EX_PND138D3 Base Flow(cfs): 0.00 Init Stage(ft): 101.50
Group: EXISTING Warn Stage(ft): 105.00
Type: Stage/Volume

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 140612-17.

Stage(ft)	Volume(af)
101.50	0.0000
101.80	0.7000
102.00	1.1600
103.00	3.7200
104.00	6.6100
105.00	9.8300

Name: EX_PND138RAY Base Flow(cfs): 0.00 Init Stage(ft): 103.85
Group: EXISTING Warn Stage(ft): 107.20
Type: Stage/Area

THE INFORMATION FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 991015-3 FOR THE NORTH AND SOUTH

PONDS (NODES POST-1). THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. TO CONVERT THE PERMITTED DATUM TO THE CURRENT DESIGN NAVD, AN ADJUSTMENT OF -0.80-FT WAS APPLIED TO THE PERMITTED ELEVATIONS.

THE FACILITY WAS DESIGNED AS A DETENTION POND WITH A CONCRETE RETAINING WALL ON ONE SIDE OF IT. A 120"X999" DROP STRUCTURE WITH A THREE INCH ORIFICE AND TRAPEZOIDAL WEIR ALLOWS WATER FROM THE POND TO DISCHARGE INTO A 15" PIPE THAT ULTIMATELY OUTFALLS TO RCID BLACK LAKE.

THIS POND, ALONG WITH THE DEVELOPMENT THAT CURRENTLY DISCHARGES TO IT WILL BE UTILIZED AS A STORMWATER POND TO ACCOMMODATE THE WIDENING ALONG SR 535.

Stage(ft)	Area(ac)
103.85	0.110000
104.20	0.120000
104.55	0.130000
105.20	0.140000
105.70	0.150000
106.20	0.160000
106.70	0.170000
107.20	0.180000

Name: EX_PNDHOTEL Base Flow(cfs): 0.00 Init Stage(ft): 100.00
Group: EXISTING Warn Stage(ft): 103.00
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D1P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
100.00	0.310000
103.00	0.600000

Name: EX_PNDOFF138A1 Base Flow(cfs): 0.00 Init Stage(ft): 102.20
Group: EXISTING Warn Stage(ft): 107.20
Type: Stage/Volume

IN 1982, SFWMD ISSUED A PERMIT (APPLICATION # X000007612) TO CONSTRUCT A DAYS IN AT THE NORTHWEST QUADRANT OF I-4 AND SR 535. THE DATUM AT THE TIME OF TEH PERMIT WAS IN NGVD. A CONVERSION FACTOR OF (-0.80 FT) WAS APPLIED TO THE PERMITTED ELEVATIONS TO CONVERT IT TO NAVD. THIS POND, ACCORDING THE PERMIT DOCUMENTATION, WAS DESIGNED TO PROVIDE TREATMENT RUNOFF VOLUME FROM A 3-YR/ 1-HR EVENT (1.87") FOR SFWMD REQUIREMENTS. THE POND WAS ALSO DESIGNED TO PROVIDE THE ATTENUATION VOLUME FOR THE ORANGE COUNTY 25-YR/ 24-HR STORM EVENT.

THIS POND WILL BE IMPACTED AS PART OF THE I-4 IMPROVEMENT, BUT THE EXFILTRATION SYSTEM (WHICH IS LOCATED ONSITE WITHIN THE 1890-FT OF 36" PIPES) WILL REMAIN. THE TRENCH PROVIDES A TOTAL STORAGE OF 0.586 AC-FT FROM ELEVATION 102.80' TO 107.20' NAVD.

INFORMATION FOR THIS WAS TAKEN DIRECTLY FROM THE PERMITTED INFORMATION. NO ADJUSTMENT WERE MADE TO THE OVERALL STORAGE.

Stage(ft)	Volume(af)
102.20	0.0000
103.20	0.2200
104.20	0.4500
105.20	0.6800
106.20	0.8600
107.20	0.9300

Name: EX_PNDOFF138A2A Base Flow(cfs): 0.00 Init Stage(ft): 101.19
Group: EXISTING Warn Stage(ft): 102.60
Type: Stage/Area

THE INFORMATION FOR THIS NODE IS BASED ON DESIGNED SURVEY. STORAGE CAPACITY IS BASED ON THE PERMIT DATA ASSOCIATED OF THE SR 535 PLAZA DEVELOPMENT ADJACENT TO IT. BASED ON PERMIT APPLICATION #891130-2, THE TREATMENT VOLUME REQUIRED IS BASED ON 50% OF 2.5" OF RAINFALL OVER THE IMPERVIOUS AREA OR 1" OVER THE ENTIRE SITE, WHICHEVER IS GREATER. FOR A 3.64 ACRES SITE WITH 3.10 AC OF IT BEING IMPERVIOUS, THE 1" OVER THE SITE IS EQUIVALENT TO 50% OF 2.5" OVER THE IMPERVIOUS. AS SUCH, THE STAGE STORAGE WAS ESTIMATED BASED ON THE LINEAL POND ONSITE.

Stage(ft)	Area(ac)
101.19	0.320000
102.60	0.320000

Name: EX_PNDOFF138A2B Base Flow(cfs): 0.00 Init Stage(ft): 99.73
Group: EXISTING Warn Stage(ft): 103.20
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO.891130-2. THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO THE STAGE TO CONVERT IT TO NAVD.

DESIGN WAS PERMITTED IN 1989. THE INFORMATION FOR THIS BASIN WAS INCLUDED IN THE MODEL TO MORE ACCURATELY DEPICT THE IMPACT TO THE RCID SYSTEM.

Stage(ft)	Area(ac)
99.73	0.010000
100.20	0.020000
101.20	0.030000
102.00	0.050000
103.20	0.080000

Name: EX_PNDSEMBASSY Base Flow(cfs): 0.00 Init Stage(ft): 115.95
Group: EXISTING Warn Stage(ft): 119.30
Type: Stage/Area

Stage(ft)	Area(ac)
115.35	0.800000
115.95	0.940000
116.95	1.260000
117.95	1.550000
118.95	1.720000
119.30	2.000000

Name: EX_PNDSHERATON1 Base Flow(cfs): 0.00 Init Stage(ft): 97.00
Group: EXISTING Warn Stage(ft): 103.40
Type: Stage/Area

THE POND STAGE STORAGE WAS TAKEN FROM PAGE 121 OF THE PERMIT 04104-A FOR THE DAYS IN DEVELOPMENT AND ADJUSTED TO REFLECT CURRENT D

Stage(ft)	Area(ac)
97.00	0.000000
98.20	0.150000
99.20	0.190000
100.20	0.230000
101.20	0.270000
102.20	0.340000
103.20	0.450000
103.40	0.490000

Name: EX_PNDSHERATON3 Base Flow(cfs): 0.00 Init Stage(ft): 100.00
Group: EXISTING Warn Stage(ft): 103.50
Type: Stage/Volume

DETENTION POND AND EXFILTRATION SYSTEM.

Stage(ft)	Volume(af)
99.00	0.0002
100.00	0.0011
100.50	0.0032
101.00	0.0132
101.50	0.0532
102.50	0.1240
103.50	0.1732

Name: EX_SR535MH01 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 104.16
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
104.16	0.000900

Name: EX_SR535MH02 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 103.46
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)

96.00	0.000900
103.46	0.000900

Name: EX_SR535MH03 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 103.89
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
103.89	0.000900

Name: EX_SR535MH04 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 103.98
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

A BASE FLOW OF 8.5 CFS WAS ADDED TO THIS JUNCTION TO ACCOUNT FOR THE OFFSITE 36" PIPE THAT CONNECTS TO THE EXISTING 60" PIPE ALONG SR 535 THAT OUTFALLS TO RCID BLACK LAKE. INFORMATION FOR THIS BASIN IS NOT KNOWN AS THERE IS NO AVAILABLE PERMIT FOR THIS DEVELOPMENT. THE EXISTING PIPE CONNECTION IS NOT CLEAR DUE TO THE CONNECTIVITIY OF THE EXISTING PIPE. IT APPEARS FROM SURVEY DATA, THAT THE EXISTING 36" PIPE MAY HAVE TIED DIRECTLY TO THE EXISTING 60" PIPE WITHOUT ANY PROPOSED JUNCTION. AS SUCH, THE 36" IS ASSUMED TO BE DESIGNED AT MINIMUM SLOPE OF 0.059%. THIS MINIMUM SLOPE YIELD A RATE OF 17 CFS. ONLY HALF OF THE FLOW IS ACCOUNTED IN THE PIPE AS THERE IS AN OVERFLOW DRECTLY DOWNSTREAM INTO RCID BLACK LAKE.

Stage(ft)	Area(ac)
96.00	0.000900
103.98	0.000900

Name: EX_SR535MH05 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 104.03
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
104.03	0.000900

Name: EX_SR535MH06 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.21
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
102.21	0.000900

Name: EX_SR535MH07 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.57
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.50	0.000900
102.57	0.000900

Name: EX_SR535MH08 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.64
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.50	0.000900
102.64	0.000900

Name: EX_SR535MH09 Base Flow(cfs): 0.00 Init Stage(ft): 97.72

Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 102.16

Stage(ft)	Area(ac)
97.00	0.000900
102.16	0.000900
102.30	0.000900

Name: EX_SR535MH10 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 102.03

Stage(ft)	Area(ac)
97.00	0.000900
102.03	0.000900
102.30	0.000900

Name: EX_SR535MH11 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION; MANHOLE TOP IS AT 101.50

Stage(ft)	Area(ac)
97.00	0.000900
101.50	0.000900
102.30	0.000900

Name: EX_SR535MH11A Base Flow(cfs): 0.00 Init Stage(ft): 98.10
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION; MANHOLE TOP IS AT 102.10

Stage(ft)	Area(ac)
98.00	0.000900
102.10	0.000900
102.30	0.000900

Name: EX_SR535MH12 Base Flow(cfs): 0.00 Init Stage(ft): 98.07
Group: EXISTING Warn Stage(ft): 102.30
Type: Stage/Area

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 101.62

Stage(ft)	Area(ac)
97.50	0.000900
101.40	0.000900
101.50	0.012000
101.60	0.030000
101.70	0.070000
101.80	0.110000
101.90	0.160000
102.00	0.210000
102.10	0.280000
102.20	0.380000
102.30	0.490000

Name: EX_SR535MH13 Base Flow(cfs): 0.00 Init Stage(ft): 98.22
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MAHOLE TOP IS AT 102.02

Stage(ft)	Area(ac)
97.50	0.000900
102.02	0.000900
102.30	0.000900

Name: EX_SR535MH14 Base Flow(cfs): 0.00 Init Stage(ft): 98.33

Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 102.39
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANOLE TOP IS AT 102.39

Stage(ft)	Area(ac)
97.50	0.000900
102.39	0.000900

Name: EX_SR535MH15 Base Flow(cfs): 0.00 Init Stage(ft): 98.34
Group: EXISTING Plunge Factor: 0.00 Warn Stage(ft): 103.45
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 103.21

Stage(ft)	Area(ac)
97.50	0.000900
102.30	0.005000
102.50	0.042000
103.00	0.316000
103.21	0.500000
103.45	0.770000

Name: EX_SW138B1 Base Flow(cfs): 0.00 Init Stage(ft): 102.00
Group: EXISTING Warn Stage(ft): 106.38
Type: Stage/Area

UPSTREAM OF JUNCTION NODE FOR CHANNEL FLOW BETWEEN EX_SW

Stage(ft)	Area(ac)
102.00	0.000100
104.33	0.000110
105.00	0.000220
106.00	0.000330
107.00	0.000440
108.35	0.000550

Name: EX_SW138B2 Base Flow(cfs): 0.00 Init Stage(ft): 100.53
Group: EXISTING Warn Stage(ft): 111.07
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W2P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

DOWNSTREAM STREAM OF JUNCTION NODE FOR CHANNEL FLOW BETWEEN EX_SW

Stage(ft)	Area(ac)
100.53	0.000100
103.20	0.110000
104.20	0.150000
105.00	0.160000
108.41	0.161000
109.13	0.171000
111.79	0.175000

Name: EX_SW138B3 Base Flow(cfs): 0.00 Init Stage(ft): 112.55
Group: EXISTING Warn Stage(ft): 117.60
Type: Stage/Area

UPSTREAM JUNCTION OF CHANNEL FLOW IN SWALE

LAKE 05 DISCHARGES TO THIS SWALE

Stage(ft)	Area(ac)
108.00	0.000100
109.00	0.000200
110.00	0.000300
111.00	0.000400
113.00	0.000500
113.26	0.000510
115.55	0.000550
117.60	0.000580
118.09	0.000590

119.20	0.000600

Name: EX_SW138B4 Base Flow(cfs): 0.00 Init Stage(ft): 113.03
Group: EXISTING Warn Stage(ft): 117.20
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W1P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

EMBASSY SUITES POND DISCHARGES TO THIS SWALE

Stage(ft)	Area(ac)
113.03	0.000100
115.20	0.720000
117.20	1.380000

Name: EX_SW138C1 Base Flow(cfs): 0.00 Init Stage(ft): 105.47
Group: EXISTING Warn Stage(ft): 110.00
Type: Stage/Area

EX_SWALE 138C1 IS A JUNCTION NODE AT THE OUTLET OF THE 48" CD UNDER SR 400.

Stage(ft)	Area(ac)
105.20	0.000220
106.20	0.000330
107.20	0.000440
108.20	0.000550
109.20	0.000660
110.20	0.000770

Name: EX_SW138C2 Base Flow(cfs): 0.00 Init Stage(ft): 100.93
Group: EXISTING Warn Stage(ft): 106.00
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D3P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
100.93	0.000100
103.20	0.260000
104.20	0.370000
106.00	0.450000

Name: EX_SW138C3 Base Flow(cfs): 0.00 Init Stage(ft): 112.03
Group: EXISTING Warn Stage(ft): 115.51
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D2P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
112.03	0.000100
114.20	0.690000
115.51	1.110000

Name: EX_SW138C4 Base Flow(cfs): 0.00 Init Stage(ft): 113.05
Group: EXISTING Warn Stage(ft): 116.55
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D1P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
113.05	0.000100
115.20	0.260000
116.55	0.420000

Name: EX_VCLK01 Base Flow(cfs): 0.00 Init Stage(ft): 114.20
Group: EXISTING Warn Stage(ft): 118.20
Type: Stage/Volume

PG 303 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
112.20	0.0000
114.20	1.0800
115.20	2.9300
116.20	4.9800
117.20	7.2400
118.20	9.7000

Name: EX_VCLK02 Base Flow(cfs): 0.00 Init Stage(ft): 114.20
Group: EXISTING Warn Stage(ft): 119.20
Type: Stage/Volume

PG 301 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
110.70	0.0000
114.20	1.0700
115.20	1.6400
116.20	2.3300
117.20	3.1200
118.20	4.0300
119.20	5.0400

Name: EX_VCLK03 Base Flow(cfs): 0.00 Init Stage(ft): 114.20
Group: EXISTING Warn Stage(ft): 117.20
Type: Stage/Volume

PG 299 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
101.20	0.0000
114.20	0.7000
115.20	2.2000
116.20	3.8400
117.20	5.6400

Name: EX_VCLK04 Base Flow(cfs): 0.00 Init Stage(ft): 113.20
Group: EXISTING Warn Stage(ft): 115.20
Type: Stage/Volume

PG 300 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
100.20	0.0000
113.20	0.6900
114.20	1.4600
115.20	2.3200

Name: EX_VCLK05 Base Flow(cfs): 0.00 Init Stage(ft): 107.20
Group: EXISTING Warn Stage(ft): 113.20
Type: Stage/Volume

PG 302 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
101.20	0.0000
107.20	1.1400
108.20	3.2100
109.20	5.4600
110.20	7.8900
111.20	10.5000
112.20	13.3100
113.20	16.3300

Name: EX_VCLK06 Base Flow(cfs): 0.00 Init Stage(ft): 101.70
Group: EXISTING Warn Stage(ft): 104.70
Type: Stage/Volume

PG 131 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
98.20	0.0000

101.70	0.3900
103.20	4.3400
104.70	8.7500

Name: EX_VCLK07 Base Flow(cfs): 0.00 Init Stage(ft): 102.20
Group: EXISTING Warn Stage(ft): 107.20
Type: Stage/Volume

PG 133 OR 294 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
99.20	0.0000
102.20	0.6200
103.20	1.1700
104.20	1.8000
105.20	2.5200
106.20	3.3300
107.20	4.2400

Name: EX_VCLK09 Base Flow(cfs): 0.00 Init Stage(ft): 101.20
Group: EXISTING Warn Stage(ft): 105.20
Type: Stage/Volume

PG 129 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
95.20	0.0000
101.20	0.5800
103.20	2.7500
105.20	5.3000

Name: EX_VCLK10 Base Flow(cfs): 0.00 Init Stage(ft): 98.70
Group: EXISTING Warn Stage(ft): 103.70
Type: Stage/Volume

MODIFICATION TOOK PLACE BEFORE APPLICATION 080229-25. THE INFORMATION OBTAINED FROM APPLICATION 080229-25.

Stage(ft)	Volume(af)
94.20	0.0000
98.70	1.2500
100.60	1.4900
101.70	2.3000
102.20	2.6700
103.70	4.0000

Name: EX_VCRET2 Base Flow(cfs): 0.00 Init Stage(ft): 99.70
Group: EXISTING Warn Stage(ft): 103.00
Type: Stage/Area

THE INFORMATION FOR THIS NODE WAS ESTABLISHED BASED ON THE DESIGNED SURVEY AND NOT THE PERMITTED DATA AS THERE IS LIMITED INFORMATION. PERMIT PROVIDE THE ALLOWABLE/ PROVIDED DETENTION VOLUME ONLY REFER TO PAGE 214 OF PERMIT 12168-S. POND ELEVATIONS AND AREA ARE BASED ON THE PLAN PROVIDED ON PAGE 893 OF THE PERMIT.

Stage(ft)	Area(ac)
99.70	0.250000
103.20	0.500000

Name: EX_VCRET3 Base Flow(cfs): 0.00 Init Stage(ft): 98.20
Group: EXISTING Warn Stage(ft): 103.00
Type: Stage/Area

THE INFORMATION FOR THIS NODE WAS ESTABLISHED BASED ON THE DESIGNED SURVEY AND NOT THE PERMITTED DATA AS THERE IS LIMITED INFORMATION. PERMIT PROVIDE THE ALLOWABLE/ PROVIDED DETENTION VOLUME ONLY REFER TO PAGE 214 OF PERMIT 12168-S.

Stage(ft)	Area(ac)
98.20	0.000000
100.80	0.010000
100.90	0.020000
101.00	0.040000
101.20	0.060000
101.40	0.100000
101.80	0.190000

102.00	0.220000
102.30	0.280000
102.40	0.300000
102.50	0.310000
102.80	0.340000

Name: RCID_HOTEL Base Flow(cfs): 0.00 Init Stage(ft): 95.12
Group: EXISTING Warn Stage(ft): 105.00
Type: Time/Stage

DOWNSTREAM OF HOTEL PLAZA CROSS DRAIN. INFORMATION WAS TAKEN FROM RCID RESULTS.

Time(hrs)	Stage(ft)
0.00	95.12
240.00	95.12

==========
==== Cross Sections ==========
==========

Name: X-1AFDOT138 Group: EXISTING
Encroachment: No

SECTION WAS TAKEN FROM STATION 2807+50 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
9.50	108.800	0.042
21.00	108.100	0.042
39.75	96.300	0.042
56.00	97.400	0.042
61.50	100.700	0.042
76.00	107.400	0.042

Name: X-1BFDOT138 Group: EXISTING
Encroachment: No

SECTION WAS TAKEN FROM STATION 2808+00 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
9.00	108.300	0.042
20.00	108.000	0.042
39.50	96.800	0.042
45.00	96.800	0.042
53.00	97.300	0.042
71.50	107.100	0.042

Name: X-1CFDOT138 Group: EXISTING
Encroachment: No

SECTION WAS TAKEN FROM STATION 2808+00 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
9.00	108.300	0.042
20.00	108.000	0.042
39.50	96.800	0.042
45.00	96.800	0.042
53.00	97.300	0.042
53.10	98.000	0.042
70.30	106.600	0.042
71.50	107.100	0.042
74.50	107.000	0.042

Name: X-1DFDOT138 Group: EXISTING
Encroachment: No

SECTION WAS TAKEN FROM STATION 2812+50 FROM DESIGN SURVEY WITH MINOR MODIFICATION TO INCLUDE THE EXISTING TRIPLE 60" PIPES.

Station(ft)	Elevation(ft)	Manning's N
0.04	105.700	0.042
5.00	105.500	0.042
10.00	105.300	0.042
17.00	104.000	0.042
26.00	101.000	0.042
31.50	97.400	0.042
34.34	95.980	0.042
41.84	95.920	0.042
49.34	96.120	0.042

53.10	98.000	0.042
70.30	106.600	0.042
74.50	107.000	0.042

Name: X-2FDOT138 Group: EXISTING
Encroachment: No

SECTION WAS TAKEN FROM STATION 2815+20 FROM DESIGN SURVEY WITH SOME MINOR MODIFICATION TO FIT THE EXISTING TRIPLE 60" PIPES.

Station(ft)	Elevation(ft)	Manning's N
0.00	105.700	0.042
6.50	105.600	0.042
23.50	96.170	0.042
31.00	95.880	0.042
38.50	96.390	0.042
46.32	100.300	0.042
61.32	107.800	0.042
74.50	108.000	0.042

Name: X-3FDOT138 Group: EXISTING
Encroachment: No

SECTION WAS TAKEN FROM STATION 2821+20 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
0.00	104.800	0.042
7.20	104.600	0.042
16.80	99.650	0.042
25.00	99.530	0.042
30.00	99.600	0.042
39.50	105.400	0.042
56.20	108.000	0.042
69.00	108.000	0.042

Name: X-4FDOT138 Group: EXISTING
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 575+00 BL SURVEY.

Station(ft)	Elevation(ft)	Manning's N
0.00	103.190	0.042
10.46	97.960	0.042
14.46	97.960	0.042
25.36	103.410	0.042

Name: X-5FDOT138 Group: EXISTING
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 575+00 BL SURVEY.

Station(ft)	Elevation(ft)	Manning's N
0.00	106.300	0.042
9.99	105.710	0.042
27.06	103.930	0.042
37.04	102.700	0.042
37.04	97.860	0.042
40.51	97.860	0.042
45.45	101.440	0.042
52.58	104.210	0.042
61.77	106.360	0.042

Name: X-CHSW138B1 Group: EXISTING
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 567+00 BL SURVEY OR 1795+00 ORANGE COUNTY ALIGNMENT.

Station(ft)	Elevation(ft)	Manning's N
0.00	108.350	0.042
18.15	106.000	0.042
20.00	104.330	0.042
25.13	102.000	0.042
26.13	102.000	0.042
27.13	104.470	0.042
42.86	106.380	0.042

Name: X-CHSW138B2 Group: EXISTING
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 587+00 BL SURVEY OR 1817+00 OF ORANGE COUNTY ALIGNMENT.

Station(ft)	Elevation(ft)	Manning's N
0.00	111.070	0.042
14.97	109.490	0.042
20.41	108.460	0.042
31.25	108.410	0.042
34.47	109.130	0.042
59.78	111.790	0.042

Name: X-CHSW138B3 Group: EXISTING
Encroachment: No

I-4/ SR 535 REVISED PLAN SETS STATION 602+00.00 OR 1831+00

Station(ft)	Elevation(ft)	Manning's N
0.00	119.200	0.042
16.54	118.090	0.042
25.25	113.250	0.042
26.25	112.550	0.042
32.06	112.550	0.042
33.06	113.260	0.042
45.15	115.550	0.042
69.44	117.600	0.042

Name: X-CHSW138C1 Group: EXISTING
Encroachment: No

I-4/ SR 535 REVISED PLAN SETS STATION 565+00.00

Station(ft)	Elevation(ft)	Manning's N
0.00	113.760	0.042
40.59	108.650	0.042
53.32	106.180	0.042
59.36	105.470	0.042
65.11	107.930	0.042
70.52	109.310	0.042
73.42	109.530	0.042
76.87	110.150	0.042
109.21	111.620	0.042

Name: X-WR137B Group: EXISTING
Encroachment: No

SEE SECTION B-B PAGE 31 OF I-4/ SR 535 REVISED PLAN SETS

Station(ft)	Elevation(ft)	Manning's N
0.00	109.200	0.013
6.00	108.200	0.013
18.00	108.200	0.013
18.00	106.200	0.013
25.00	106.200	0.013
25.00	108.200	0.013
37.00	108.200	0.013
42.00	109.200	0.013

Name: X-WR1BFDOT138 Group: EXISTING
Encroachment: No

SEE SECTION B-B PAGE 31 OF I-4/ SR 535 REVISED PLAN SETS

Station(ft)	Elevation(ft)	Manning's N
0.00	107.440	0.013
4.83	107.370	0.013
21.36	98.220	0.013
34.58	97.890	0.013
53.73	108.070	0.013
58.61	108.440	0.013

==========
==== Pipes ==========
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```
         Name: EX_P1A1FDOT138      From Node: EX_1AFDOT138       Length(ft): 146.00
        Group: EXISTING              To Node: RCID_HOTEL             Count: 1
                                                        Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 54.00          54.00                     Entrance Loss Coef: 0.20
     Rise(in): 54.00          54.00                         Exit Loss Coef: 0.20
   Invert(ft): 96.01          95.94                         Bend Loss Coef: 0.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION FOR PIPE WAS TAKE FROM RCID REACH BETWEEN XS 49 RM0.8390 AND RM0.8093

-------------------------------------------------------------------------------------------------
         Name: EX_P1A2FDOT138      From Node: EX_1AFDOT138       Length(ft): 143.00
        Group: EXISTING              To Node: RCID_HOTEL             Count: 2
                                                        Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Horz Ellipse   Horz Ellipse                    Flow: Both
     Span(in): 83.00          83.00                     Entrance Loss Coef: 0.20
     Rise(in): 53.00          53.00                         Exit Loss Coef: 0.20
   Invert(ft): 96.31          96.13                         Bend Loss Coef: 0.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

INFORMATION FOR PIPE WAS TAKE FROM RCID REACH BETWEEN XS 49 RM0.8390 AND RM0.8093

-------------------------------------------------------------------------------------------------
         Name: EX_P2FDOT138        From Node: EX_2FDOT138        Length(ft): 157.00
        Group: EXISTING              To Node: EX_1DFDOT138           Count: 3
                                                        Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 60.00          60.00                     Entrance Loss Coef: 0.20
     Rise(in): 60.00          60.00                         Exit Loss Coef: 0.20
   Invert(ft): 96.15          96.00                         Bend Loss Coef: 0.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION FOR PIPE WAS TAKE FROM RCID REACH BETWEEN XS 49 RM0.8390 AND RM0.8093

-------------------------------------------------------------------------------------------------
         Name: EX_P4BFDOT138       From Node: EX_4BFDOT138       Length(ft): 123.00
        Group: EXISTING              To Node: EX_4AFDOT138           Count: 1
                                                        Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                        Flow: Both
     Span(in): 48.00          48.00                     Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                         Exit Loss Coef: 1.00
   Invert(ft): 98.93          97.96                         Bend Loss Coef: 0.00
  Manning's N: 0.011          0.011                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED FOR THIS PIPE CONNECTION WAS TAKEN FROM THE AVAILABLE DESIGN SURVEY. INVERT (97.86') AT THE HEADWALL IS LOWER THAN THE NW INVERT (98.93') OF THE MEDIAN INLET. TO MORE ACCURATELY DEPICT THE CONNECTIVITY OF THE UPSTREAM NODE AND DOWNSTREAM NODE, THE UPSTREAM INVERT USES THE HIGHER INVERT ELEVATION (REPRESENTING POP OVER ELEVATION).

Name:	EX_P5FDOT138	From Node:	EX_5FDOT138	Length(ft):	117.00
Group:	EXISTING	To Node:	EX_4BFDOT138	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Most Restrictive
Geometry:	Circular	Circular		Flow:	Both
Span(in):	48.00	48.00		Entrance Loss Coef:	0.50
Rise(in):	48.00	48.00		Exit Loss Coef:	1.00
Invert(ft):	97.86	98.88		Bend Loss Coef:	0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED FOR THIS PIPE CONNECTION WAS TAKEN FROM THE AVAILABLE DESIGN SURVEY. INVERT (97.86') AT THE HEADWALL IS LOWER THAN THE NW INVERT (98.93') OF THE MEDIAN INLET. TO MORE ACCURATELY DEPICT THE CONNECTIVITY OF THE UPSTREAM NODE AND DOWNSTREAM NODE, THE UPSTREAM INVERT USES THE HIGHER INVERT ELEVATION (REPRESENTING POP OVER ELEVATION).

Name:	EX_PMHVCRET2	From Node:	EX_MHVCRET2	Length(ft):	65.00
Group:	EXISTING	To Node:	EX_VCLK10	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	36.00	36.00		Entrance Loss Coef:	0.20
Rise(in):	36.00	36.00		Exit Loss Coef:	0.20
Invert(ft):	98.20	95.20		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PPND138D2	From Node:	EX_PND138D2	Length(ft):	15.00
Group:	EXISTING	To Node:	EX_3FDOT138	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	6.00	6.00		Entrance Loss Coef:	0.70
Rise(in):	6.00	6.00		Exit Loss Coef:	0.20
Invert(ft):	100.50	100.00		Bend Loss Coef:	0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PPNDHPB	From Node:	EX_PNDHOTEL	Length(ft):	125.00
Group:	EXISTING	To Node:	EX_1AFDOT138	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic

Geometry:	Circular	Circular	Flow:	Both
Span(in):	24.00	24.00	Entrance Loss Coef:	0.20
Rise(in):	24.00	24.00	Exit Loss Coef:	0.20
Invert(ft):	100.05	96.89	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PPNDOFF138A1	From Node:	EX_PNDOFF138A1	Length(ft):	15.00
Group:	EXISTING	To Node:	EX_SW138B1	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	6.00	6.00	Entrance Loss Coef:		0.20
Rise(in):	6.00	6.00	Exit Loss Coef:		0.20
Invert(ft):	102.20	102.00	Bend Loss Coef:		0.00
Manning's N:	0.011	0.011	Outlet Ctrl Spec:		Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:		Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH01	From Node:	EX_SR535MH01	Length(ft):	60.00
Group:	EXISTING	To Node:	EX_2FDOT138	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:		0.20
Rise(in):	60.00	60.00	Exit Loss Coef:		0.20
Invert(ft):	96.27	96.12	Bend Loss Coef:		0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:		Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:		Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH02	From Node:	EX_SR535MH02	Length(ft):	362.00
Group:	EXISTING	To Node:	EX_SR535MH01	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:		0.20
Rise(in):	60.00	60.00	Exit Loss Coef:		0.20
Invert(ft):	96.22	96.14	Bend Loss Coef:		0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:		Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:		Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH03	From Node: EX_SR535MH03	Length(ft): 144.00
Group:	EXISTING	To Node: EX_SR535MH02	Count: 2
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	42.00	42.00	Entrance Loss Coef: 0.20
Rise(in):	42.00	42.00	Exit Loss Coef: 0.20
Invert(ft):	96.55	96.46	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH04	From Node: EX_SR535MH04	Length(ft): 253.00
Group:	EXISTING	To Node: EX_SR535MH03	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	60.00	60.00	Entrance Loss Coef: 0.20
Rise(in):	60.00	60.00	Exit Loss Coef: 0.20
Invert(ft):	96.50	96.55	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH05	From Node: EX_SR535MH05	Length(ft): 38.00
Group:	EXISTING	To Node: EX_SR535MH04	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	60.00	60.00	Entrance Loss Coef: 0.20
Rise(in):	60.00	60.00	Exit Loss Coef: 0.20
Invert(ft):	96.49	96.50	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH06	From Node: EX_SR535MH06	Length(ft): 116.00
Group:	EXISTING	To Node: EX_SR535MH05	Count: 2
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	60.00	60.00	Entrance Loss Coef: 0.20
Rise(in):	60.00	60.00	Exit Loss Coef: 0.20
Invert(ft):	96.69	96.68	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:

Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH07	From Node:	EX_SR535MH07	Length(ft):	260.00
Group:	EXISTING	To Node:	EX_SR535MH06	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow:	Both
Span(in):	45.00	45.00		Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00		Exit Loss Coef:	0.20
Invert(ft):	96.99	97.72		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH08	From Node:	EX_SR535MH08	Length(ft):	28.00
Group:	EXISTING	To Node:	EX_SR535MH07	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow:	Both
Span(in):	45.00	45.00		Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00		Exit Loss Coef:	0.20
Invert(ft):	96.98	97.04		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH09	From Node:	EX_SR535MH09	Length(ft):	159.00
Group:	EXISTING	To Node:	EX_SR535MH08	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow:	Both
Span(in):	45.00	45.00		Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00		Exit Loss Coef:	0.20
Invert(ft):	97.63	97.17		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH10	From Node:	EX_SR535MH10	Length(ft):	37.00
Group:	EXISTING	To Node:	EX_SR535MH09	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow:	Both
Span(in):	45.00	45.00		Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00		Exit Loss Coef:	0.20
Invert(ft):	97.48	97.65		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw

Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH11	From Node: EX_SR535MH11	Length(ft): 133.00
Group:	EXISTING	To Node: EX_SR535MH10	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	45.00	45.00	Entrance Loss Coef: 0.20
Rise(in):	29.00	29.00	Exit Loss Coef: 0.20
Invert(ft):	97.53	97.50	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH11A	From Node: EX_SR535MH11A	Length(ft): 105.00
Group:	EXISTING	To Node: EX_SR535MH11	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	18.00	18.00	Entrance Loss Coef: 0.20
Rise(in):	18.00	18.00	Exit Loss Coef: 0.20
Invert(ft):	98.10	97.70	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH12	From Node: EX_SR535MH12	Length(ft): 46.00
Group:	EXISTING	To Node: EX_SR535MH11	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	45.00	45.00	Entrance Loss Coef: 0.20
Rise(in):	29.00	29.00	Exit Loss Coef: 0.20
Invert(ft):	98.07	97.53	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH13	From Node: EX_SR535MH13	Length(ft): 158.00
Group:	EXISTING	To Node: EX_SR535MH12	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	45.00	45.00	Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00	Exit Loss Coef:	0.20
Invert(ft):	98.22	98.09	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH14	From Node: EX_SR535MH14	Length(ft): 63.00
Group:	EXISTING	To Node: EX_SR535MH13	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	45.00	45.00	Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00	Exit Loss Coef:	0.20
Invert(ft):	98.33	98.22	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH15	From Node: EX_SR535MH15	Length(ft): 312.00
Group:	EXISTING	To Node: EX_SR535MH14	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	45.00	45.00	Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00	Exit Loss Coef:	0.20
Invert(ft):	98.34	98.33	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSW138B2	From Node: EX_SW138B2	Length(ft): 10.00
Group:	EXISTING	To Node: EX_4AFDOT138	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	3.00	3.00	Entrance Loss Coef:	0.70
Rise(in):	3.00	3.00	Exit Loss Coef:	0.20
Invert(ft):	100.53	100.50	Bend Loss Coef:	0.00
Manning's N:	0.011	0.011	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE W20.

Name:	EX_PSW138B4	From Node:	EX_SW138B4	Length(ft): 10.00
Group:	EXISTING	To Node:	EX_SW138B3	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	3.00	3.00		Entrance Loss Coef: 0.70
Rise(in):	3.00	3.00		Exit Loss Coef: 0.20
Invert(ft):	112.58	112.55		Bend Loss Coef: 0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE W10.

Name:	EX_PSW138C2	From Node:	EX_SW138C2	Length(ft): 10.00
Group:	EXISTING	To Node:	EX_5FDOT138	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	3.00	3.00		Entrance Loss Coef: 0.70
Rise(in):	3.00	3.00		Exit Loss Coef: 0.20
Invert(ft):	100.93	100.91		Bend Loss Coef: 0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE D30.

Name:	EX_PSW138C3	From Node:	EX_SW138C3	Length(ft): 10.00
Group:	EXISTING	To Node:	EX_SW138C2	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	3.00	3.00		Entrance Loss Coef: 0.70
Rise(in):	3.00	3.00		Exit Loss Coef: 0.20
Invert(ft):	112.03	112.01		Bend Loss Coef: 0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE D20.

Name:	EX_PSW138C4	From Node:	EX_SW138C4	Length(ft): 10.00
Group:	EXISTING	To Node:	EX_SW138C3	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	3.00	3.00		Entrance Loss Coef: 0.70
Rise(in):	3.00	3.00		Exit Loss Coef: 0.20
Invert(ft):	113.05	113.03		Bend Loss Coef: 0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE D10.

Name:	EX_PVCRET2	From Node: EX_VCRET2	Length(ft): 30.00
Group:	EXISTING	To Node: EX_MHVCRET2	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.20
Rise(in):	30.00	30.00	Exit Loss Coef: 0.20
Invert(ft):	99.70	98.20	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

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==== Channels ==========
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Name:	EX_CH1BFDOT138	From Node: EX_1BFDOT138	Length(ft): 50.00
Group:	EXISTING	To Node: EX_1AFDOT138	Count: 1
	UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm: Automatic
Invert(ft):	96.80	96.01	Flow: Both
TClpInitZ(ft):	107.100	107.400	Contraction Coef: 0.10
Manning's N:			Expansion Coef: 0.30
Top Clip(ft):			Entrance Loss Coef: 0.00
Bot Clip(ft):			Exit Loss Coef: 0.00
Main XSec:	X-1BFDOT138	X-1AFDOT138	Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):	0.00	0.00	Inlet Ctrl Spec: Use dc
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):	0.00	0.00	
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):			
LtSdSlp(h/v):			
RtSdSlp(h/v):			

Name:	EX_CH1DFDOT138	From Node: EX_1DFDOT138	Length(ft): 500.00
Group:	EXISTING	To Node: EX_1CFDOT138	Count: 1
	UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm: Automatic
Invert(ft):	95.92	96.80	Flow: Both
TClpInitZ(ft):	105.700	107.000	Contraction Coef: 0.10
Manning's N:			Expansion Coef: 0.30
Top Clip(ft):			Entrance Loss Coef: 0.00
Bot Clip(ft):			Exit Loss Coef: 0.00
Main XSec:	X-1DFDOT138	X-1CFDOT138	Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):	0.00	0.00	Inlet Ctrl Spec: Use dc
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):	0.00	0.00	
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):			
LtSdSlp(h/v):			
RtSdSlp(h/v):			

Name:	EX_CH3FDOT138	From Node: EX_3FDOT138	Length(ft): 710.00
Group:	EXISTING	To Node: EX_2FDOT138	Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(ft):	99.53	95.88	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.10
Manning's N:			Expansion Coef:	0.30
Top Clip(ft):			Entrance Loss Coef:	0.00
Bot Clip(ft):			Exit Loss Coef:	0.00
Main XSec:	X-3FDOT138	X-2FDOT138	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(ft):	0.00	0.00	Inlet Ctrl Spec:	Use dc
Aux XSec1:			Stabilizer Option:	None
AuxElev2(ft):	0.00	0.00		
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: EX_CH4AFDOT138 From Node: EX_4AFDOT138 Length(ft): 570.00
Group: EXISTING To Node: EX_3FDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(ft):	97.96	99.53	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.10
Manning's N:			Expansion Coef:	0.30
Top Clip(ft):			Entrance Loss Coef:	0.00
Bot Clip(ft):			Exit Loss Coef:	0.00
Main XSec:	X-4FDOT138	X-3FDOT138	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(ft):	0.00	0.00	Inlet Ctrl Spec:	Use dc
Aux XSec1:			Stabilizer Option:	None
AuxElev2(ft):	0.00	0.00		
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: EX_CHSW138B1 From Node: EX_SW138B1 Length(ft): 800.00
Group: EXISTING To Node: EX_4AFDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(ft):	102.00	97.96	Flow:	Both
TClpInitZ(ft):	106.380	9999.000	Contraction Coef:	0.10
Manning's N:			Expansion Coef:	0.30
Top Clip(ft):			Entrance Loss Coef:	0.00
Bot Clip(ft):			Exit Loss Coef:	0.00
Main XSec:	X-CHSW138B1	X-4FDOT138	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(ft):	0.00	0.00	Inlet Ctrl Spec:	Use dc
Aux XSec1:			Stabilizer Option:	None
AuxElev2(ft):	0.00	0.00		
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: EX_CHSW138B3 From Node: EX_SW138B3 Length(ft): 1450.00
Group: EXISTING To Node: EX_SW138B2 Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(ft):	112.55	108.41	Flow:	Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef:	0.10
Manning's N:			Expansion Coef:	0.30
Top Clip(ft):			Entrance Loss Coef:	0.00
Bot Clip(ft):			Exit Loss Coef:	0.00
Main XSec:	X-CHSW138B3	X-CHSW138B2	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(ft):	0.00	0.00	Inlet Ctrl Spec:	Use dc
Aux XSec1:			Stabilizer Option:	None
AuxElev2(ft):	0.00	0.00		
Aux XSec2:				
Top Width(ft):				
Depth(ft):				

```
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-----------------------------------------------------------------------------------------------
          Name: EX_CHSW138C1        From Node: EX_SW138C1         Length(ft): 1000.00
         Group: EXISTING              To Node: EX_5FDOT138             Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(ft): 105.47         97.86                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.10
   Manning's N:                                              Expansion Coef: 0.30
  Top Clip(ft):                                          Entrance Loss Coef: 0.00
  Bot Clip(ft):                                              Exit Loss Coef: 0.00
     Main XSec: X-CHSW138C1    X-5FDOT138                  Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.00           0.00                          Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft): 0.00           0.00
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



=======================================================================================
==== Drop Structures ==================================================================
=======================================================================================

         Name: EX_DSEMBASSY        From Node: EX_PNDSEMBASSY     Length(ft): 100.00
        Group: EXISTING              To Node: EX_SW138B4              Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 24.00          24.00                                   Flow: Both
     Rise(in): 24.00          24.00                     Entrance Loss Coef: 0.50
   Invert(ft): 112.20         111.70                        Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

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REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM



*** Weir 1 of 2 for Drop Structure EX_DSEMBASSY ***
                                                                                  TABLE
                  Count: 1                      Bottom Clip(in): 0.00
                   Type: Horizontal                Top Clip(in): 0.00
                   Flow: Both                    Weir Disc Coef: 3.13
               Geometry: Rectangular           Orifice Disc Coef: 0.60

               Span(in): 4.00                        Invert(ft): 115.85
               Rise(in): 4.00                  Control Elev(ft): 115.85

*** Weir 2 of 2 for Drop Structure EX_DSEMBASSY ***
                                                                                  TABLE
                  Count: 1                      Bottom Clip(in): 0.00
                   Type: Horizontal                Top Clip(in): 0.00
                   Flow: Both                    Weir Disc Coef: 3.13
               Geometry: Rectangular           Orifice Disc Coef: 0.60

               Span(in): 24.00                       Invert(ft): 116.20
               Rise(in): 36.00                 Control Elev(ft): 116.20


-----------------------------------------------------------------------------------------------
         Name: EX_DSPND138A2A      From Node: EX_PNDOFF138A2A    Length(ft): 124.00
```

Group: EXISTING To Node: EX_SR535MH08 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Horz Ellipse	Horz Ellipse	Friction Equation:	Average Conveyance
Span(in):	45.00	45.00	Solution Algorithm:	Automatic
Rise(in):	29.00	29.00	Flow:	Both
Invert(ft):	97.80	97.22	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

*** Weir 1 of 1 for Drop Structure EX_DSPND138A2A ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	101.19
Rise(in):	37.00	Control Elev(ft):	101.19

Name: EX_DSPND138A2B From Node: EX_PNDOFF138A2B Length(ft): 38.00
Group: EXISTING To Node: EX_SR535MH11A Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	15.00	15.00	Solution Algorithm:	Automatic
Rise(in):	15.00	15.00	Flow:	Both
Invert(ft):	98.99	98.59	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure EX_DSPND138A2B ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Vertical: Mavis	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Circular	Orifice Disc Coef:	0.60
Span(in):	6.00	Invert(ft):	99.73
Rise(in):	6.00	Control Elev(ft):	99.73

*** Weir 2 of 2 for Drop Structure EX_DSPND138A2B ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	101.73
Rise(in):	37.00	Control Elev(ft):	101.73

Name: EX_DSPND138RAY From Node: EX_PND138RAY Length(ft): 284.00
Group: EXISTING To Node: EX_1CFDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	15.00	15.00	Solution Algorithm:	Automatic
Rise(in):	15.00	15.00	Flow:	Both
Invert(ft):	103.60	102.74	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
			Outlet Ctrl Spec:	Use dc or tw

```
 Top Clip(in): 0.00          0.00                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00          0.00                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall




*** Weir 1 of 3 for Drop Structure EX_DSPND138RAY ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(in): 0.00
                   Type: Vertical: Mavis           Top Clip(in): 0.00
                   Flow: Both                   Weir Disc Coef: 3.20
               Geometry: Circular             Orifice Disc Coef: 0.60

               Span(in): 3.00                       Invert(ft): 103.35
               Rise(in): 3.00                 Control Elev(ft): 103.85

*** Weir 2 of 3 for Drop Structure EX_DSPND138RAY ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(ft): 0.00
                   Type: Horizontal               Top Clip(ft): 0.00
                   Flow: Both                   Weir Disc Coef: 3.20
               Geometry: Trapezoidal          Orifice Disc Coef: 0.60

       Bottom Width(ft): 0.00                       Invert(ft): 104.90
       Left Sd Slp(h/v): 0.20                 Control Elev(ft): 104.90
      Right Sd Slp(h/v): 0.20            Struct Opening Dim(ft): 0.50

*** Weir 3 of 3 for Drop Structure EX_DSPND138RAY ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(in): 0.00
                   Type: Vertical: Mavis           Top Clip(in): 0.00
                   Flow: Both                   Weir Disc Coef: 3.20
               Geometry: Rectangular          Orifice Disc Coef: 0.60

               Span(in): 120.00                     Invert(ft): 107.10
               Rise(in): 999.00               Control Elev(ft): 107.10


--------------------------------------------------------------------------------------------------
         Name: EX_DSSHERATON1      From Node: EX_PNDSHERATON1    Length(ft): 60.00
        Group: EXISTING              To Node: EX_SR535MH15            Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Circular       Circular                 Solution Algorithm: Automatic
     Span(in): 24.00          24.00                                Flow: Both
     Rise(in): 24.00          24.00                    Entrance Loss Coef: 0.50
   Invert(ft): 98.37          98.34                        Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

DESIGN SURVEY



*** Weir 1 of 2 for Drop Structure EX_DSSHERATON1 ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(in): 0.00
                   Type: Vertical: Mavis           Top Clip(in): 0.00
                   Flow: Both                   Weir Disc Coef: 3.13
               Geometry: Rectangular          Orifice Disc Coef: 0.60

               Span(in): 18.00                      Invert(ft): 98.70
               Rise(in): 33.96                Control Elev(ft): 98.70

*** Weir 2 of 2 for Drop Structure EX_DSSHERATON1 ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(in): 0.00
                   Type: Horizontal               Top Clip(in): 0.00
                   Flow: Both                   Weir Disc Coef: 3.13
               Geometry: Rectangular          Orifice Disc Coef: 0.60

               Span(in): 36.00                      Invert(ft): 101.53
```

Rise(in): 54.00 Control Elev(ft): 101.53

Name: EX_DSSHERATON3 From Node: EX_PNDSHERATON3 Length(ft): 903.00
Group: EXISTING To Node: EX_PNDSHERATON1 Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	12.00	12.00	Flow:	Both
Rise(in):	12.00	12.00	Entrance Loss Coef:	0.50
Invert(ft):	99.00	98.00	Exit Loss Coef:	1.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.00	0.00	Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure EX_DSSHERATON3 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 3.00 Invert(ft): 100.00
Rise(in): 3.00 Control Elev(ft): 100.00

*** Weir 2 of 2 for Drop Structure EX_DSSHERATON3 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Horizontal Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 24.00 Invert(ft): 102.35
Rise(in): 37.00 Control Elev(ft): 102.35

Name: EX_DSVISTALK01 From Node: EX_VCLK01 Length(ft): 140.00
Group: EXISTING To Node: EX_SW138B4 Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	12.00	12.00	Flow:	Both
Rise(in):	12.00	12.00	Entrance Loss Coef:	0.50
Invert(ft):	112.20	111.70	Exit Loss Coef:	1.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.00	0.00	Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

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REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES. ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 2 for Drop Structure EX_DSVISTALK01 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 6.00 Invert(ft): 114.20
Rise(in): 24.00 Control Elev(ft): 114.20

*** Weir 2 of 2 for Drop Structure EX_DSVISTALK01 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	114.20
Rise(in):	36.00	Control Elev(ft):	114.20

Name:	EX_DSVISTALK02	From Node:	EX_VCLK02	Length(ft):	226.00
Group:	EXISTING	To Node:	EX_VCLK05	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	110.70	101.20	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

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SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK02 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	114.20
Rise(in):	36.00	Control Elev(ft):	114.20

Name:	EX_DSVISTALK03	From Node:	EX_VCLK03	Length(ft):	100.00
Group:	EXISTING	To Node:	EX_VCLK04	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	12.00	12.00	Solution Algorithm:	Automatic
Rise(in):	12.00	12.00	Flow:	Both
Invert(ft):	101.20	100.20	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

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SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK03 ***

TABLE

Count:	1	Bottom Clip(in):	0.00

```
                Type: Horizontal               Top Clip(in): 0.00
                Flow: Both                   Weir Disc Coef: 3.13
            Geometry: Rectangular          Orifice Disc Coef: 0.60

            Span(in): 24.00                      Invert(ft): 114.20
            Rise(in): 36.00                Control Elev(ft): 114.20


-------------------------------------------------------------------------------------------------
         Name: EX_DSVISTALK04      From Node: EX_VCLK04          Length(ft): 100.00
        Group: EXISTING              To Node: EX_VCLK05               Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
    Geometry: Circular       Circular                 Solution Algorithm: Automatic
    Span(in): 12.00          12.00                               Flow: Both
    Rise(in): 12.00          12.00                  Entrance Loss Coef: 0.50
   Invert(ft): 109.20        101.20                     Exit Loss Coef: 1.00
  Manning's N: 0.012         0.012                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00          0.00                      Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00          0.00                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

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REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM


*** Weir 1 of 1 for Drop Structure EX_DSVISTALK04 ***
                                                                                    TABLE
                Count: 1                     Bottom Clip(in): 0.00
                 Type: Horizontal               Top Clip(in): 0.00
                 Flow: Both                   Weir Disc Coef: 3.13
            Geometry: Rectangular          Orifice Disc Coef: 0.60

            Span(in): 24.00                      Invert(ft): 113.20
            Rise(in): 36.00                Control Elev(ft): 113.20


-------------------------------------------------------------------------------------------------
         Name: EX_DSVISTALK05      From Node: EX_VCLK05          Length(ft): 100.00
        Group: EXISTING              To Node: EX_SW138B2              Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
    Geometry: Circular       Circular                 Solution Algorithm: Automatic
    Span(in): 24.00          24.00                               Flow: Both
    Rise(in): 24.00          24.00                  Entrance Loss Coef: 0.50
   Invert(ft): 105.20        104.90                     Exit Loss Coef: 1.00
  Manning's N: 0.012         0.012                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00          0.00                      Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00          0.00                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

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SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM


*** Weir 1 of 2 for Drop Structure EX_DSVISTALK05 ***
                                                                                    TABLE
                Count: 1                     Bottom Clip(in): 0.00
                 Type: Horizontal               Top Clip(in): 0.00
                 Flow: None                   Weir Disc Coef: 3.13
            Geometry: Rectangular          Orifice Disc Coef: 0.60
```

```
              Span(in): 6.00                      Invert(ft): 107.20
              Rise(in): 24.00                Control Elev(ft): 107.20

*** Weir 2 of 2 for Drop Structure EX_DSVISTALK05 ***
                                                                        TABLE
                 Count: 1                    Bottom Clip(in): 0.00
                  Type: Horizontal              Top Clip(in): 0.00
                  Flow: Both                  Weir Disc Coef: 3.13
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 36.00                     Invert(ft): 112.43
              Rise(in): 24.00                Control Elev(ft): 112.43


-------------------------------------------------------------------------------------------------
        Name: EX_DSVISTALK06      From Node: EX_VCLK06          Length(ft): 330.00
       Group: EXISTING              To Node: EX_VCLK09               Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
    Geometry: Circular       Circular                 Solution Algorithm: Automatic
    Span(in): 24.00          24.00                                Flow: Both
    Rise(in): 24.00          24.00                    Entrance Loss Coef: 0.50
  Invert(ft): 98.20          95.20                        Exit Loss Coef: 1.00
 Manning's N: 0.012          0.012                      Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.00           0.00                        Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.00           0.00                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY.  AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.

TYPE E


*** Weir 1 of 1 for Drop Structure EX_DSVISTALK06 ***
                                                                        TABLE
                 Count: 1                    Bottom Clip(in): 0.00
                  Type: Horizontal              Top Clip(in): 0.00
                  Flow: Both                  Weir Disc Coef: 3.13
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 105.00                    Invert(ft): 101.70
              Rise(in): 75.00                Control Elev(ft): 101.70


-------------------------------------------------------------------------------------------------
        Name: EX_DSVISTALK07      From Node: EX_VCLK07          Length(ft): 100.00
       Group: EXISTING              To Node: EX_VCLK06               Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
    Geometry: Circular       Circular                 Solution Algorithm: Automatic
    Span(in): 24.00          24.00                                Flow: Both
    Rise(in): 24.00          24.00                    Entrance Loss Coef: 0.50
  Invert(ft): 99.20          94.70                        Exit Loss Coef: 1.00
 Manning's N: 0.012          0.012                      Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.00           0.00                        Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.00           0.00                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY.  AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.
```

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK07 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	102.20
Rise(in):	36.00	Control Elev(ft):	102.20

Name:	EX_DSVISTALK09	From Node:	EX_VCLK09	Length(ft):	1065.00
Group:	EXISTING	To Node:	EX_VCLK10	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	36.00	36.00	Solution Algorithm:	Automatic
Rise(in):	36.00	36.00	Flow:	Both
Invert(ft):	96.60	94.20	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

TYPE E STRUCTURE

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY. AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES. ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK09 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	36.00	Invert(ft):	101.20
Rise(in):	54.00	Control Elev(ft):	101.20

Name:	EX_DSVISTALK10	From Node:	EX_VCLK10	Length(ft):	360.00
Group:	EXISTING	To Node:	EX_SR535MH07	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Horz Ellipse	Horz Ellipse	Friction Equation:	Average Conveyance
Span(in):	45.00	45.00	Solution Algorithm:	Automatic
Rise(in):	29.00	29.00	Flow:	Both
Invert(ft):	97.94	97.39	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY. AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES. ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.

TYPE H STRUCTURE

*** Weir 1 of 3 for Drop Structure EX_DSVISTALK10 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Horizontal Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 79.00 Invert(ft): 103.68
Rise(in): 30.00 Control Elev(ft): 103.68

*** Weir 2 of 3 for Drop Structure EX_DSVISTALK10 ***

TABLE

Count: 2 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 30.00 Invert(ft): 100.60
Rise(in): 6.00 Control Elev(ft): 100.60

*** Weir 3 of 3 for Drop Structure EX_DSVISTALK10 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 6.00 Invert(ft): 98.70
Rise(in): 6.00 Control Elev(ft): 98.70

==========
==== Weirs ==========
==========

Name: EX_OR138D2 From Node: EX_PND138D2
Group: EXISTING To Node: EX_3FDOT138
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Circular

Span(in): 6.00
Rise(in): 6.00
Invert(ft): 100.50
Control Elevation(ft): 100.50

TABLE

Bottom Clip(in): 0.00
Top Clip(in): 0.000
Weir Discharge Coef: 3.13
Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17.

Name: EX_W1CFDOT138 From Node: EX_1CFDOT138
Group: EXISTING To Node: EX_1BFDOT138
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Irregular

XSec: X-WR1BFDOT138
Invert(ft): 97.89
Control Elevation(ft): 97.89
Struct Opening Dim(ft): 9.55

TABLE

Bottom Clip(ft): 0.00
Top Clip(ft): 0.000
Weir Discharge Coef: 3.20
Orifice Discharge Coef: 0.60

Name: EX_WPND137B From Node: EX_PND137
Group: EXISTING To Node: EX_SW138C1
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Irregular

```
                    XSec: X-WR137B
              Invert(ft): 106.20
   Control Elevation(ft): 106.20
  Struct Opening Dim(ft): 3.00
                                        TABLE
         Bottom Clip(ft): 0.00
            Top Clip(ft): 0.000
      Weir Discharge Coef: 3.20
  Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR W1W.

THE INFORMATION PROVIDED ON THIS SHEET WAS TAKEN FROM SFWMD PERMIT APPLICATION #920616-1 (BUT IS DISCUSSED IN DETAIL BETWEEN PAGES 64 TO 74 OF THE PERMIT PACKAGE APPLICATION #90113-1). THE PONDS WERE PROPROSED AS WET DETENTIONS. A CONCRETE RECTANGULAR WEIR WITHIN RAMP C OF THE I-4/ SR 535 INTERCHANGE. THE WEIR BOTTOM IS SET AT ELEVATION 107.0 NGVD OR 106.2 NAVD.

```
        Name: EX_WPNDRET3         From Node: EX_VCRET3
       Group: EXISTING              To Node: EX_SR535MH14
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Circular

                   Span(in): 6.00
                   Rise(in): 6.00
              Invert(ft): 98.20
   Control Elevation(ft): 98.20
                                        TABLE
         Bottom Clip(in): 0.00
            Top Clip(in): 0.000
      Weir Discharge Coef: 3.20
  Orifice Discharge Coef: 0.60
```

THE INFORMATION FOR THIS WEIR/ PIPE WAS TAKEN FROM PERMIT 12168-S (PAGE 214)

```
        Name: EX_WR138D2          From Node: EX_PND138D2
       Group: EXISTING              To Node: EX_3FDOT138
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 90.00
                   Rise(in): 28.80
              Invert(ft): 102.40
   Control Elevation(ft): 102.40
                                        TABLE
         Bottom Clip(in): 0.00
            Top Clip(in): 0.000
      Weir Discharge Coef: 3.13
  Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17.

```
        Name: EX_WR138D3          From Node: EX_PND138D3
       Group: EXISTING              To Node: EX_PND138D2
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 60.00
                   Rise(in): 99999.00
              Invert(ft): 101.80
   Control Elevation(ft): 101.80
                                        TABLE
         Bottom Clip(in): 0.00
            Top Clip(in): 0.000
      Weir Discharge Coef: 3.20
  Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17.

```
        Name: EX_WROFF138A1       From Node: EX_PNDOFF138A1
       Group: EXISTING              To Node: EX_SW138B1
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Rectangular
```

```
                  Span(in): 48.00
                  Rise(in): 48.00
                Invert(ft): 106.20
       Control Elevation(ft): 106.20
                                       TABLE
            Bottom Clip(in): 0.00
               Top Clip(in): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. X000007612.

SEE SHEET 18 OF PERMIT PACKAGE.



-------------------------------------------------------------------------------------------------
         Name: EX_WSW138B2         From Node: EX_SW138B2
        Group: EXISTING              To Node: EX_4AFDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                Invert(ft): 101.53
       Control Elevation(ft): 101.53
      Struct Opening Dim(ft): 9999.00
                                       TABLE
            Bottom Clip(ft): 0.00
               Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED FOR THIS WEIR WAS TAKEN FROM SFWMD APPLICATION NO. 011109-7 FOR WEIR W2W.  THE DATUM AT THE TIME OF THE P
WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO THE ELEVATION.



-------------------------------------------------------------------------------------------------
         Name: EX_WSW138B4         From Node: EX_SW138B4
        Group: EXISTING              To Node: EX_SW138B3
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                Invert(ft): 113.58
       Control Elevation(ft): 113.58
      Struct Opening Dim(ft): 9999.00
                                       TABLE
            Bottom Clip(ft): 0.00
               Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR W1W.

-------------------------------------------------------------------------------------------------
         Name: EX_WSW138C2         From Node: EX_SW138C2
        Group: EXISTING              To Node: EX_5FDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                Invert(ft): 101.93
       Control Elevation(ft): 101.93
      Struct Opening Dim(ft): 9999.00
                                       TABLE
            Bottom Clip(ft): 0.00
               Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR D3W.

-------------------------------------------------------------------------------------------------
         Name: EX_WSW138C3         From Node: EX_SW138C3
        Group: EXISTING              To Node: EX_SW138C2
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
```

```
       Left Side Slope(h/v): 6.00
      Right Side Slope(h/v): 3.00
                 Invert(ft): 113.03
      Control Elevation(ft): 113.03
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.00
               Top Clip(ft): 0.000
         Weir Discharge Coef: 3.20
     Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR D2W.

-------------------------------------------------------------------------------------------------
        Name: EX_WSW138C4         From Node: EX_SW138C4
       Group: EXISTING              To Node: EX_SW138C3
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

           Bottom Width(ft): 14.00
       Left Side Slope(h/v): 6.00
      Right Side Slope(h/v): 3.00
                 Invert(ft): 114.05
      Control Elevation(ft): 114.05
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.00
               Top Clip(ft): 0.000
         Weir Discharge Coef: 3.20
     Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR D1W.

===============================================================================================
==== Hydrology Simulations ====================================================================
===============================================================================================

        Name: 002Y001H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y001H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 1.00
         Rainfall File: Fdot-1
   Rainfall Amount(in): 2.12

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           15.00
2.000           30.00

-------------------------------------------------------------------------------------------------
        Name: 002Y002H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y002H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 2.00
         Rainfall File: Fdot-2
   Rainfall Amount(in): 2.65

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00
4.000           30.00

-------------------------------------------------------------------------------------------------
        Name: 002Y004H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y004H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 4.00
         Rainfall File: Fdot-4
   Rainfall Amount(in): 3.06

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00
6.000           30.00

-------------------------------------------------------------------------------------------------
        Name: 002Y008H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y008H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 8.00
         Rainfall File: Fdot-8
   Rainfall Amount(in): 3.50
```

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 002Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 4.33

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 002Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 5.43

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 002Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 6.86

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 002Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 7.83

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 005Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.53

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 005Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.17

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 005Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.69

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 005Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.25

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 005Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 5.31

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 005Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 6.71

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 005Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 8.12

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 005Y240H

Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 9.11

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 010Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.85

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 010Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.58

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 010Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.21

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 010Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.90

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 6.26

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 7.94

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 010Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 9.34

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 010Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 10.30

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 025Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.26

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 025Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.11

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 025Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.91

Time(hrs)	Print Inc(min)
4.000	15.00

6.000 30.00

Name: 025Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 5.85

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 025Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 7.77

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 025Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 9.91

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 025Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 11.30

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 025Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 12.30

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 050Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.56

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 050Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.48

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 050Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.44

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 050Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 6.62

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 050Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.10

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 050Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 11.60

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 050Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 050Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 14.00

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 100Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.84

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 100Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.83

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 100Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.95

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 100Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.42

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00

Rainfall File: Fdot-24
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 13.50

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 100Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 100Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 15.90

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: ORANGE010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\ORANGE010Y024H .R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 7.50

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: ORANGE025Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\ORANGE025Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
3.000	30.00

6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: ORANGE100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\ORANGE100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: RCID010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\RCID010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 10.19

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: RCID050Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\RCID050Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 12.91

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: RCID100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\RCID100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 14.27

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: SFWMD010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\SFWMD010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 7.94

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: SFWMD025Y072H

```
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\SFWMD025Y072H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 10.00

Time(hrs)       Print Inc(min)
--------------- ---------------
45.000          30.00
65.000          15.00
84.000          30.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 002Y001HR           Hydrology Sim: 002Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           15.000
2.000           30.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------------
         Name: 002Y002HR           Hydrology Sim: 002Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000
4.000           30.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------------
         Name: 002Y004HR           Hydrology Sim: 002Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 6.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000
6.000           30.000
```

Group	Run
EXISTING	Yes

Name: 002Y008HR Hydrology Sim: 002Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y008HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 10.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
10.000	30.000

Group	Run
EXISTING	Yes

Name: 002Y024HR Hydrology Sim: 002Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_002Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	30.000
14.000	15.000
30.000	30.000

Group	Run
EXISTING	Yes

Name: 002Y072HR Hydrology Sim: 002Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_002Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
45.000	30.000
65.000	15.000
84.000	30.000

Group	Run
EXISTING	Yes

Name: 002Y168HR Hydrology Sim: 002Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y168HR.I32

```
     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 170.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_002Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          60.000
125.000         30.000
165.000         15.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 002Y240HR           Hydrology Sim: 002Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\002Y240HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 250.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_002Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
120.000         60.000
160.000         30.000
195.000         15.000
250.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y001HR           Hydrology Sim: 005Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y001HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y002HR           Hydrology Sim: 005Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y002HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 4.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_2                  Boundary Flows:
```

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
EXISTING	Yes

Name: 005Y004HR Hydrology Sim: 005Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y004HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
EXISTING	Yes

Name: 005Y008HR Hydrology Sim: 005Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y008HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	30.000

Group	Run
EXISTING	Yes

Name: 005Y024HR Hydrology Sim: 005Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_005Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
EXISTING	Yes

```
---------------------------------------------------------------------------------------------------
         Name: 005Y072HR           Hydrology Sim: 005Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


---------------------------------------------------------------------------------------------------
         Name: 005Y168HR           Hydrology Sim: 005Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y168HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 170.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


---------------------------------------------------------------------------------------------------
         Name: 005Y240HR           Hydrology Sim: 005Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\005Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


---------------------------------------------------------------------------------------------------
         Name: 010Y001HR           Hydrology Sim: 010Y001H
```

```
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y001HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 010Y002HR           Hydrology Sim: 010Y002H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y002HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 4.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 010Y004HR           Hydrology Sim: 010Y004H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y004HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 8.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 010Y008HR           Hydrology Sim: 010Y008H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y008HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 16.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
```

8.000	15.000
16.000	30.000

Group	Run
EXISTING	Yes

Name: 010Y024HR Hydrology Sim: 010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_010Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
EXISTING	Yes

Name: 010Y072HR Hydrology Sim: 010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run
EXISTING	Yes

Name: 010Y168HR Hydrology Sim: 010Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run

EXISTING	Yes

Name: 010Y240HR Hydrology Sim: 010Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\010Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
EXISTING	Yes

Name: 025Y001HR Hydrology Sim: 025Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y001HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
EXISTING	Yes

Name: 025Y002HR Hydrology Sim: 025Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y002HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
EXISTING	Yes

Name: 025Y004HR Hydrology Sim: 025Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y004HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

```
        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y008HR           Hydrology Sim: 025Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y024HR           Hydrology Sim: 025Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_025Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y072HR           Hydrology Sim: 025Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_025Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
```

50.000 30.000
65.000 15.000
80.000 30.000

Group Run
EXISTING Yes

Name: 025Y168HR Hydrology Sim: 025Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_025Y168H Boundary Flows:

Time(hrs) Print Inc(min)
9.000 30.000
24.000 15.000
48.000 30.000
148.000 15.000
168.000 30.000
170.000 30.000

Group Run
EXISTING Yes

Name: 025Y240HR Hydrology Sim: 025Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\025Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_025Y240H Boundary Flows:

Time(hrs) Print Inc(min)
24.000 15.000
48.000 30.000
168.000 15.000
200.000 30.000
240.000 30.000

Group Run
EXISTING Yes

Name: 050Y001HR Hydrology Sim: 050Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y001HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs) Print Inc(min)
2.000 15.000

Group Run

```
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y002HR           Hydrology Sim: 050Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_2                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y004HR           Hydrology Sim: 050Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_4                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y008HR           Hydrology Sim: 050Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y024HR           Hydrology Sim: 050Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
```

```
       Start Time(hrs): 0.000                   End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_050Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
        Name: 050Y072HR          Hydrology Sim: 050Y072H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y072HR.I32

     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 80.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_050Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
        Name: 050Y168HR          Hydrology Sim: 050Y168H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y168HR.I32

     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 170.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_050Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
        Name: 050Y240HR          Hydrology Sim: 050Y240H
    Filename: C:\pwworking\aecom_na\duongt2\d0190915\050Y240HR.I32

     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 240.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_050Y240H           Boundary Flows:
```

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
EXISTING	Yes

Name: 100Y001HR Hydrology Sim: 100Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y001HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
EXISTING	Yes

Name: 100Y002HR Hydrology Sim: 100Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y002HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
EXISTING	Yes

Name: 100Y004HR Hydrology Sim: 100Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y004HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
EXISTING	Yes

```
--------------------------------------------------------------------------------------------------
         Name: 100Y008HR           Hydrology Sim: 100Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y008HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------
         Name: 100Y024HR           Hydrology Sim: 100Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y024HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_100Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------
         Name: 100Y072HR           Hydrology Sim: 100Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y072HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_100Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------
         Name: 100Y168HR           Hydrology Sim: 100Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y168HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 170.00
```

```
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_100Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 100Y240HR           Hydrology Sim: 100Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\100Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_100Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: ORANGE010Y024HR     Hydrology Sim: ORANGE010Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\ORANGE010Y024HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 50.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: ORANGE_010Y024H         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
3.000           30.000
6.000           15.000
12.000          10.000
15.000          10.000
18.000          15.000
50.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: ORANGE025Y024HR     Hydrology Sim: ORANGE025Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\ORANGE025Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 50.00
```

```
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: ORANGE_025Y024H         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
3.000           30.000
6.000           15.000
12.000          10.000
15.000          10.000
18.000          15.000
50.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: ORANGE100Y024HR     Hydrology Sim: ORANGE100Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\ORANGE100Y024HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 50.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: ORANGE_100Y024H         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
3.000           30.000
6.000           15.000
12.000          10.000
15.000          10.000
18.000          15.000
50.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: RCID010Y072HR       Hydrology Sim: RCID010Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\RCID010Y072HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 144.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: RCID_010Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.000
24.000          10.000
36.000          10.000
48.000          10.000
144.000         15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: RCID050Y072HR       Hydrology Sim: RCID050Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\RCID050Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 144.00
```

```
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: RCID_050Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
45.000          30.000
65.000          15.000
144.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: RCID100Y072HR       Hydrology Sim: RCID100Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\RCID100Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 144.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: RCID_100Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
45.000          30.000
65.000          15.000
144.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: SFWMD010Y072HR      Hydrology Sim: SFWMD010Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\SFWMD010Y072HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: RCID_010Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.000
24.000          10.000
36.000          10.000
48.000          10.000
80.000          15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: SFWMD025Y072HR      Hydrology Sim: SFWMD025Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190915\SFWMD025Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 144.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: SFWMD_025Y072H          Boundary Flows:


Time(hrs)       Print Inc(min)
```

12.000	15.000
24.000	10.000
36.000	10.000
48.000	10.000
144.000	15.000

Group	Run
EXISTING	Yes

Boundary Conditions

Name: FDOT_1 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
0.100	97.130
0.200	97.391
0.300	97.781
0.400	98.367
0.500	98.400
0.600	98.172
0.700	97.716
0.800	97.456
0.900	97.065
1.000	97.033
2.000	97.000

Name: FDOT_2 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
0.200	97.560
0.400	97.840
0.600	98.120
0.800	98.400
1.000	97.560
1.200	97.336
1.400	97.280
1.600	97.224
1.800	97.168
2.000	97.112
4.000	97.000

Name: FDOT_4 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
0.500	97.215
1.000	97.538
1.500	97.969
2.000	98.400
2.500	98.131
3.000	97.754
3.500	97.269
4.000	97.108
8.000	97.000

Name: FDOT_8 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
1.000	97.067
2.000	97.367
3.000	97.500
4.000	98.400
5.000	97.533
6.000	97.200
7.000	97.167
8.000	97.100
16.000	97.000

Name: FDOT_002Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
1.001	97.096
1.999	97.192
3.000	97.288
4.001	97.288
4.999	97.288
6.000	97.384
7.001	97.384
7.999	97.384
9.000	97.576
10.001	97.576
10.999	97.768
12.000	97.960
13.001	97.672
13.999	97.576
15.000	97.576
16.001	97.480
16.999	97.384
18.000	97.384
19.001	97.384
19.999	97.288
21.000	97.288
22.001	97.192
22.999	97.096
24.000	97.096
30.000	97.000

Name: FDOT_005Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
1.001	97.100
1.999	97.200
3.000	97.300
4.001	97.300
4.999	97.300
6.000	97.400
7.001	97.400
7.999	97.400
9.000	97.600
10.001	97.600
10.999	97.801
12.000	98.001
13.001	97.700
13.999	97.600
15.000	97.600
16.001	97.500
16.999	97.400
18.000	97.400
19.001	97.400
19.999	97.300
21.000	97.300
22.001	97.200
22.999	97.100
24.000	97.100
30.000	97.000

Name: FDOT_010Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.001	95.310
1.999	95.490
3.000	95.680
4.001	95.680
4.999	95.680
6.000	95.860
7.001	95.860
7.999	95.860
9.000	96.230
10.001	96.230
10.999	96.600
12.000	96.970
13.001	96.420
13.999	96.230
15.000	96.230
16.001	96.050
16.999	95.860
18.000	95.860
19.001	95.860

19.999	95.680
21.000	95.680
22.001	95.490
22.999	95.310
24.000	95.310
30.000	95.120

Name: FDOT_025Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.001	95.340
1.999	95.570
3.000	95.790
4.001	95.790
4.999	95.790
6.000	96.020
7.001	96.020
7.999	96.020
9.000	96.460
10.001	96.460
10.999	96.910
12.000	97.360
13.001	96.690
13.999	96.460
15.000	96.460
16.001	96.240
16.999	96.020
18.000	96.020
19.001	96.020
19.999	95.790
21.000	95.790
22.001	95.570
22.999	95.340
24.000	95.340
30.000	95.120

Name: FDOT_050Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.220
2.000	95.320
3.000	95.430
4.000	95.430
5.000	95.430
6.000	95.530
7.000	95.530
8.000	95.530
9.000	95.730
10.000	95.730
11.000	95.940
12.000	96.140
13.000	95.830
14.000	95.730
15.000	95.730
16.000	95.630
17.000	95.530
18.000	95.530
19.000	95.530
20.000	95.430
21.000	95.430
22.000	95.320
23.000	95.220
24.000	95.220
30.000	95.120

Name: FDOT_100Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.240
2.000	95.360
3.000	95.480
4.000	95.480
5.000	95.480
6.000	95.600
7.000	95.600
8.000	95.600
9.000	95.840

10.000	95.840
11.000	96.080
12.000	96.310
13.000	95.960
14.000	95.840
15.000	95.840
16.000	95.720
17.000	95.600
18.000	95.600
19.000	95.600
20.000	95.480
21.000	95.480
22.000	95.360
23.000	95.240
24.000	95.240
30.000	95.120

Name: FDOT_002Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
4.003	97.102
7.999	97.355
12.002	98.117
15.998	97.640
20.002	97.223
23.998	97.102
28.001	97.183
31.997	97.365
36.000	98.340
40.003	97.761
43.999	97.274
48.002	97.122
51.998	97.274
56.002	97.548
59.998	99.010
64.001	98.147
67.997	97.406
72.000	97.183
80.000	97.000

Name: FDOT_005Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
4.003	97.103
7.999	97.362
12.002	98.136
15.998	97.651
20.002	97.227
23.998	97.103
28.001	97.186
31.997	97.372
36.000	98.364
40.003	97.775
43.999	97.279
48.002	97.124
51.998	97.279
56.002	97.558
59.998	99.045
64.001	98.167
67.997	97.413
72.000	97.186
80.000	97.000

Name: FDOT_010Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.300
7.999	95.760
12.002	97.120
15.998	96.260
20.002	95.520
23.998	95.300
28.001	95.450
31.997	95.770
36.000	97.520
40.003	96.480
43.999	95.610

48.002	95.340
51.998	95.610
56.002	96.100
59.998	98.720
64.001	97.170
67.997	95.850
72.000	95.450
80.000	95.120

Name: FDOT_025Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.340
7.999	95.890
12.002	97.550
15.998	96.510
20.002	95.610
23.998	95.340
28.001	95.520
31.997	95.920
36.000	98.040
40.003	96.780
43.999	95.720
48.002	95.390
51.998	95.720
56.002	96.310
59.998	99.500
64.001	97.620
67.997	96.010
72.000	95.520
80.000	95.120

Name: FDOT_050Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.360
7.999	95.960
12.002	97.760
15.998	96.630
20.002	95.650
23.998	95.360
28.001	95.550
31.997	95.980
36.000	98.290
40.003	96.920
43.999	95.770
48.002	95.410
51.998	95.770
56.002	96.420
59.998	99.880
64.001	97.830
67.997	96.080
72.000	95.550
80.000	95.120

Name: FDOT_100Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.390
7.999	96.060
12.002	98.060
15.998	96.800
20.002	95.710
23.998	95.390
28.001	95.600
31.997	96.080
36.000	98.650
40.003	97.120
43.999	95.840
48.002	95.440
51.998	95.840
56.002	96.560
59.998	100.410
64.001	98.140
67.997	96.190
72.000	95.600
80.000	95.120

Name: FDOT_002Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.997	97.242
15.994	97.233
24.007	97.242
32.004	97.322
40.001	98.236
47.998	97.233
55.994	97.358
64.008	97.358
72.005	97.358
80.002	97.116
87.998	97.125
95.995	97.116
103.992	97.179
112.006	97.179
120.002	97.179
127.999	97.475
135.996	97.483
143.993	97.475
152.006	97.546
160.003	99.104
168.000	97.394
170.000	97.000

Name: FDOT_005Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.997	97.249
15.994	97.240
24.007	97.249
32.004	97.332
40.001	98.274
47.998	97.240
55.994	97.369
64.008	97.369
72.005	97.369
80.002	97.120
87.998	97.129
95.995	97.120
103.992	97.185
112.006	97.185
120.002	97.185
127.999	97.489
135.996	97.499
143.993	97.489
152.006	97.563
160.003	99.170
168.000	97.406
170.000	97.000

Name: FDOT_010Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.680
15.994	95.660
24.007	95.680
32.004	95.870
40.001	97.990
47.998	95.660
55.994	95.950
64.008	95.950
72.005	95.950
80.002	95.390
87.998	95.410
95.995	95.390
103.992	95.540
112.006	95.540
120.002	95.540
127.999	96.220
135.996	96.240
143.993	96.220
152.006	96.390
160.003	100.000
168.000	96.030

170.000	95.120

Name: FDOT_025Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.780
15.994	95.760
24.007	95.780
32.004	96.000
40.001	98.500
47.998	95.760
55.994	96.100
64.008	96.100
72.005	96.100
80.002	95.440
87.998	95.460
95.995	95.440
103.992	95.610
112.006	95.610
120.002	95.610
127.999	96.420
135.996	96.440
143.993	96.420
152.006	96.610
160.003	100.880
168.000	96.200
170.000	95.120

Name: FDOT_050Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.830
15.994	95.800
24.007	95.830
32.004	96.070
40.001	98.750
47.998	95.800
55.994	96.170
64.008	96.170
72.005	96.170
80.002	95.460
87.998	95.490
95.995	95.460
103.992	95.650
112.006	95.650
120.002	95.650
127.999	96.510
135.996	96.540
143.993	96.510
152.006	96.720
160.003	101.300
168.000	96.280
170.000	95.120

Name: FDOT_100Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.900
15.994	95.870
24.007	95.900
32.004	96.160
40.001	99.100
47.998	95.870
55.994	96.270
64.008	96.270
72.005	96.270
80.002	95.500
87.998	95.520
95.995	95.500
103.992	95.700
112.006	95.700
120.002	95.700
127.999	96.650
135.996	96.680
143.993	96.650
152.006	96.880
160.003	101.900

168.000	96.390
170.000	95.120

Name: FDOT_002Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.099
16.008	97.107
24.000	97.099
31.992	97.305
40.008	98.136
48.000	97.236
55.992	97.206
64.008	97.198
72.000	97.206
79.992	97.053
88.008	97.046
96.000	97.053
103.992	97.053
112.008	97.046
120.000	97.053
127.992	97.053
136.008	97.046
144.000	97.053
151.992	97.152
160.008	97.152
168.000	97.152
175.992	97.549
184.008	99.104
192.000	97.396
199.992	97.252
208.008	97.252
216.000	97.259
223.992	97.099
232.008	97.099
240.000	97.107
250.000	97.000

Name: FDOT_005Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.102
16.008	97.110
24.000	97.102
31.992	97.314
40.008	98.171
48.000	97.244
55.992	97.212
64.008	97.204
72.000	97.212
79.992	97.055
88.008	97.047
96.000	97.055
103.992	97.055
112.008	97.047
120.000	97.055
127.992	97.055
136.008	97.047
144.000	97.055
151.992	97.157
160.008	97.157
168.000	97.157
175.992	97.566
184.008	99.170
192.000	97.409
199.992	97.259
208.008	97.259
216.000	97.267
223.992	97.102
232.008	97.102
240.000	97.110
250.000	97.000

Name: FDOT_010Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.107

16.008	97.116
24.000	97.107
31.992	97.330
40.008	98.231
48.000	97.256
55.992	97.223
64.008	97.215
72.000	97.223
79.992	97.058
88.008	97.050
96.000	97.058
103.992	97.058
112.008	97.050
120.000	97.058
127.992	97.058
136.008	97.050
144.000	97.058
151.992	97.165
160.008	97.165
168.000	97.165
175.992	97.595
184.008	99.280
192.000	97.430
199.992	97.273
208.008	97.273
216.000	97.281
223.992	97.107
232.008	97.107
240.000	97.116
250.000	97.000

Name: FDOT_025Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.123
16.008	97.132
24.000	97.123
31.992	97.378
40.008	98.409
48.000	97.293
55.992	97.255
64.008	97.246
72.000	97.255
79.992	97.066
88.008	97.057
96.000	97.066
103.992	97.066
112.008	97.057
120.000	97.066
127.992	97.066
136.008	97.057
144.000	97.066
151.992	97.189
160.008	97.189
168.000	97.189
175.992	97.681
184.008	99.610
192.000	97.492
199.992	97.312
208.008	97.312
216.000	97.322
223.992	97.123
232.008	97.123
240.000	97.132
250.000	97.000

Name: FDOT_050Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.149
16.008	97.160
24.000	97.149
31.992	97.458
40.008	98.706
48.000	97.355
55.992	97.309
64.008	97.298
72.000	97.309
79.992	97.080
88.008	97.069

96.000	97.080
103.992	97.080
112.008	97.069
120.000	97.080
127.992	97.080
136.008	97.069
144.000	97.080
151.992	97.229
160.008	97.229
168.000	97.229
175.992	97.824
184.008	100.160
192.000	97.595
199.992	97.378
208.008	97.378
216.000	97.389
223.992	97.149
232.008	97.149
240.000	97.160
250.000	97.000

Name: FDOT_100Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.201
16.008	97.216
24.000	97.201
31.992	97.617
40.008	99.300
48.000	97.478
55.992	97.417
64.008	97.401
72.000	97.417
79.992	97.108
88.008	97.093
96.000	97.108
103.992	97.108
112.008	97.093
120.000	97.108
127.992	97.108
136.008	97.093
144.000	97.108
151.992	97.309
160.008	97.309
168.000	97.309
175.992	98.111
184.008	101.260
192.000	97.803
199.992	97.509
208.008	97.509
216.000	97.525
223.992	97.201
232.008	97.201
240.000	97.216
250.000	97.000

Name: RCID_010Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.380
2.000	95.460
3.000	95.470
4.000	95.470
5.000	95.480
6.000	95.480
7.000	95.490
8.000	95.490
9.000	95.500
10.000	95.500
11.000	95.500
12.000	95.510
13.000	95.510
14.000	95.510
15.000	95.510
16.000	95.520
17.000	95.520
18.000	95.520
19.000	95.520
20.000	95.520
21.000	95.520

22.000	95.520
23.000	95.520
24.000	95.570
25.000	95.640
26.000	95.670
27.000	95.670
28.000	95.680
29.000	95.680
30.000	95.680
31.000	95.690
32.000	95.690
33.000	95.700
34.000	95.700
35.000	95.700
36.000	95.710
37.000	95.710
38.000	95.720
39.000	95.720
40.000	95.730
41.000	95.730
42.000	95.740
43.000	95.740
44.000	95.750
45.000	95.760
46.000	95.770
47.000	95.780
48.000	95.820
49.000	95.880
50.000	95.950
51.000	96.040
52.000	96.190
53.000	96.300
54.000	96.360
55.000	96.420
56.000	96.490
57.000	96.590
58.000	96.710
59.000	97.900
60.000	99.280
61.000	99.060
62.000	97.790
63.000	97.400
64.000	97.270
65.000	97.130
66.000	97.060
67.000	97.020
68.000	96.960
69.000	96.870
70.000	96.810
71.000	96.780
72.000	96.680
73.000	96.540
74.000	96.460
75.000	96.420
76.000	96.390
77.000	96.360
78.000	96.330
79.000	96.310
80.000	96.290
81.000	96.270
82.000	96.250
83.000	96.210
84.000	96.120
85.000	96.040
86.000	95.970
87.000	95.900
88.000	95.840
89.000	95.780
90.000	95.730
91.000	95.680
92.000	95.630
93.000	95.590
94.000	95.550
95.000	95.520
96.000	95.490
97.000	95.460
98.000	95.430
99.000	95.400
100.000	95.370
101.000	95.350
102.000	95.330
103.000	95.310
104.000	95.290
105.000	95.270
106.000	95.250
107.000	95.240

108.000	95.220
109.000	95.210
110.000	95.200
111.000	95.190
112.000	95.180
113.000	95.170
114.000	95.160
115.000	95.150
116.000	95.140
117.000	95.140
118.000	95.140
119.000	95.140
120.000	95.140
121.000	95.130
122.000	95.130
123.000	95.130
124.000	95.130
125.000	95.120
126.000	95.120
127.000	95.120
128.000	95.120
129.000	95.120
130.000	95.120
131.000	95.120
132.000	95.120
133.000	95.120
134.000	95.120
135.000	95.120
136.000	95.120
137.000	95.120
138.000	95.120
139.000	95.120
140.000	95.120
141.000	95.120
142.000	95.120
143.000	95.120
144.000	95.120

Name: RCID_050Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.450
2.000	95.540
3.000	95.560
4.000	95.560
5.000	95.570
6.000	95.580
7.000	95.580
8.000	95.590
9.000	95.590
10.000	95.600
11.000	95.600
12.000	95.610
13.000	95.610
14.000	95.610
15.000	95.620
16.000	95.620
17.000	95.620
18.000	95.620
19.000	95.620
20.000	95.620
21.000	95.630
22.000	95.630
23.000	95.630
24.000	95.680
25.000	95.770
26.000	95.810
27.000	95.820
28.000	95.830
29.000	95.840
30.000	95.850
31.000	95.850
32.000	95.860
33.000	95.870
34.000	95.880
35.000	95.900
36.000	95.920
37.000	95.950
38.000	95.980
39.000	96.000
40.000	96.030
41.000	96.050
42.000	96.080

43.000	96.100
44.000	96.110
45.000	96.120
46.000	96.120
47.000	96.130
48.000	96.150
49.000	96.180
50.000	96.210
51.000	96.260
52.000	96.340
53.000	96.430
54.000	96.510
55.000	96.600
56.000	96.700
57.000	96.840
58.000	97.030
59.000	98.540
60.000	99.890
61.000	99.660
62.000	98.450
63.000	97.940
64.000	97.750
65.000	97.580
66.000	97.470
67.000	97.410
68.000	97.320
69.000	97.200
70.000	97.120
71.000	97.070
72.000	96.940
73.000	96.750
74.000	96.640
75.000	96.590
76.000	96.530
77.000	96.490
78.000	96.450
79.000	96.410
80.000	96.380
81.000	96.350
82.000	96.330
83.000	96.300
84.000	96.260
85.000	96.220
86.000	96.180
87.000	96.150
88.000	96.120
89.000	96.060
90.000	95.990
91.000	95.930
92.000	95.870
93.000	95.820
94.000	95.760
95.000	95.720
96.000	95.670
97.000	95.630
98.000	95.590
99.000	95.550
100.000	95.520
101.000	95.490
102.000	95.460
103.000	95.430
104.000	95.400
105.000	95.380
106.000	95.360
107.000	95.340
108.000	95.320
109.000	95.300
110.000	95.290
111.000	95.270
112.000	95.250
113.000	95.240
114.000	95.230
115.000	95.220
116.000	95.200
117.000	95.190
118.000	95.190
119.000	95.180
120.000	95.170
121.000	95.160
122.000	95.150
123.000	95.140
124.000	95.130
125.000	95.130
126.000	95.120
127.000	95.120
128.000	95.120

129.000	95.120
130.000	95.120
131.000	95.120
132.000	95.120
133.000	95.120
134.000	95.120
135.000	95.120
136.000	95.120
137.000	95.120
138.000	95.120
139.000	95.120
140.000	95.120
141.000	95.120
142.000	95.120
143.000	95.120
144.000	95.120

Name: RCID_100Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.480
2.000	95.580
3.000	95.600
4.000	95.600
5.000	95.610
6.000	95.620
7.000	95.630
8.000	95.630
9.000	95.640
10.000	95.640
11.000	95.650
12.000	95.650
13.000	95.660
14.000	95.660
15.000	95.660
16.000	95.660
17.000	95.670
18.000	95.670
19.000	95.670
20.000	95.670
21.000	95.670
22.000	95.670
23.000	95.680
24.000	95.740
25.000	95.830
26.000	95.880
27.000	95.890
28.000	95.900
29.000	95.910
30.000	95.920
31.000	95.930
32.000	95.940
33.000	95.950
34.000	95.960
35.000	95.990
36.000	96.020
37.000	96.050
38.000	96.090
39.000	96.130
40.000	96.160
41.000	96.200
42.000	96.230
43.000	96.260
44.000	96.270
45.000	96.270
46.000	96.280
47.000	96.280
48.000	96.300
49.000	96.310
50.000	96.330
51.000	96.360
52.000	96.410
53.000	96.480
54.000	96.570
55.000	96.680
56.000	96.790
57.000	96.940
58.000	97.170
59.000	98.820
60.000	100.160
61.000	99.920
62.000	98.750
63.000	98.180

64.000	97.970
65.000	97.770
66.000	97.650
67.000	97.580
68.000	97.480
69.000	97.340
70.000	97.250
71.000	97.200
72.000	97.060
73.000	96.850
74.000	96.720
75.000	96.660
76.000	96.600
77.000	96.550
78.000	96.510
79.000	96.460
80.000	96.420
81.000	96.390
82.000	96.360
83.000	96.340
84.000	96.320
85.000	96.300
86.000	96.280
87.000	96.260
88.000	96.250
89.000	96.190
90.000	96.110
91.000	96.040
92.000	95.970
93.000	95.910
94.000	95.860
95.000	95.800
96.000	95.750
97.000	95.710
98.000	95.670
99.000	95.620
100.000	95.580
101.000	95.550
102.000	95.510
103.000	95.490
104.000	95.460
105.000	95.430
106.000	95.410
107.000	95.380
108.000	95.360
109.000	95.340
110.000	95.320
111.000	95.310
112.000	95.290
113.000	95.270
114.000	95.260
115.000	95.240
116.000	95.230
117.000	95.220
118.000	95.210
119.000	95.200
120.000	95.180
121.000	95.170
122.000	95.160
123.000	95.150
124.000	95.140
125.000	95.130
126.000	95.130
127.000	95.120
128.000	95.120
129.000	95.120
130.000	95.120
131.000	95.120
132.000	95.120
133.000	95.120
134.000	95.120
135.000	95.120
136.000	95.120
137.000	95.120
138.000	95.120
139.000	95.120
140.000	95.120
141.000	95.120
142.000	95.120
143.000	95.120
144.000	95.120

Name: SFWMD_025Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)

0.000	95.120
24.000	97.050
36.000	96.520
48.000	96.530
49.000	95.250
50.000	95.250
51.000	95.280
52.000	95.290
53.000	95.340
54.000	95.400
55.000	95.450
56.000	95.500
57.000	95.570
57.500	95.380
58.000	95.410
58.500	95.440
59.000	95.540
59.500	95.780
60.000	99.570
60.500	96.080
61.000	95.620
61.500	95.490
62.000	95.420
62.500	95.340
63.000	95.320
64.000	95.520
65.000	95.360
66.000	95.360
68.000	95.600
70.000	95.440
72.000	95.440
80.000	95.120

Name: ORANGE_010Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
0.500	95.130
1.000	95.130
1.500	95.130
2.000	95.160
2.500	95.160
3.000	95.180
3.500	95.220
4.000	95.230
4.500	95.280
5.000	95.280
5.500	95.280
6.000	95.290
6.500	95.470
7.000	95.510
7.500	95.620
8.000	95.730
8.500	95.890
9.000	95.880
9.500	95.660
10.000	95.640
10.500	95.390
11.000	95.390
11.500	95.300
12.000	95.270
12.500	95.290
13.000	95.280
13.500	95.230
14.000	95.220
14.500	95.160
15.000	95.170
15.500	95.150
16.000	95.160
16.500	95.150
17.000	95.160
17.500	95.160
18.000	95.150
18.500	95.160
19.000	95.150
19.500	95.140
20.000	95.150
20.500	95.130
21.000	95.140
21.500	95.130
22.000	95.140
22.500	95.130
23.000	95.140

23.500	95.130
24.000	95.130
30.000	95.120

Name: ORANGE_025Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
0.500	95.130
1.000	95.130
1.500	95.130
2.000	95.160
2.500	95.160
3.000	95.190
3.500	95.230
4.000	95.250
4.500	95.300
5.000	95.300
5.500	95.310
6.000	95.320
6.500	95.530
7.000	95.580
7.500	95.710
8.000	95.850
8.500	96.030
9.000	96.020
9.500	95.760
10.000	95.730
10.500	95.440
11.000	95.440
11.500	95.330
12.000	95.300
12.500	95.320
13.000	95.310
13.500	95.250
14.000	95.240
14.500	95.170
15.000	95.180
15.500	95.160
16.000	95.160
16.500	95.160
17.000	95.160
17.500	95.160
18.000	95.160
18.500	95.160
19.000	95.160
19.500	95.150
20.000	95.160
20.500	95.140
21.000	95.150
21.500	95.140
22.000	95.150
22.500	95.140
23.000	95.150
23.500	95.130
24.000	95.130
30.000	95.120

Name: ORANGE_100Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.400
2.000	95.690
3.000	95.970
4.000	95.970
5.000	95.970
6.000	96.260
7.000	96.260
8.000	96.260
9.000	96.830
10.000	96.830
11.000	97.400
12.000	97.970
13.000	97.110
14.000	96.830
15.000	96.830
16.000	96.540
17.000	96.260
18.000	96.260
19.000	96.260
20.000	95.970

21.000	95.970
22.000	95.690
23.000	95.400
24.000	95.400
25.000	95.400
50.000	95.120

Name:	EX_BSNOFF138C4	EX_BSNOFF138C4	EX_BSNOFF138C4	EX_BSNOFF138C4
Group:	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	ORANGE025Y024H	RCID050Y072H	RCID100Y072H	SFWMD025Y072H
Node:	EX_SW138C4	EX_SW138C4	EX_SW138C4	EX_SW138C4
Type:	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Sfwmd72	Sfwmd72
Rain Amount(in):	8.60	12.91	14.27	10.00
Duration(hrs):	24.00	72.00	72.00	72.00
Status:	Offsite	Offsite	Offsite	Offsite
TC(min):	30.06	30.06	30.06	30.06
Time Shift(hrs):	0.00	0.00	0.00	0.00
Area(ac):	18.82	18.82	18.82	18.82
Curve Num:	63.250	63.250	63.250	63.250
DCIA(%):	0.000	0.000	0.000	0.000
Time Max(hrs):	9.00	59.98	59.98	59.98
Flow Max(cfs):	18.36	64.55	73.65	45.21
Runoff Volume(in):	4.18	7.86	9.08	5.33
Runoff Volume(ft3):	285282	536994	620462	364287

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Existing Condition: SFWMD Node Min/ Max Condition Reports

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_4AFDOT138	EXISTINGORANGE025Y024HR		9.65	102.42	103.49	0.00	13484	9.45	106.51	9.46	106.33
EX_4AFDOT138	EXISTING	RCID050Y072HR	60.40	104.01	103.49	0.00	16298	60.43	211.97	60.51	213.02
EX_4AFDOT138	EXISTING	SFWMD025Y072HR	60.57	103.31	103.49	0.00	15642	60.54	166.94	60.59	166.94
EX_4BFDOT138	EXISTINGORANGE025Y024HR		10.00	103.15	103.49	-0.00	638	10.00	62.00	10.00	62.00
EX_4BFDOT138	EXISTING	RCID050Y072HR	60.49	105.84	103.49	-0.00	951	60.62	98.71	60.64	98.82
EX_4BFDOT138	EXISTING	SFWMD025Y072HR	60.56	104.67	103.49	-0.00	815	60.54	84.66	60.56	84.65
EX_5FDOT138	EXISTINGORANGE025Y024HR		10.03	103.77	106.30	0.00	10099	10.00	57.56	10.13	57.68
EX_5FDOT138	EXISTING	RCID050Y072HR	60.60	107.35	106.30	0.00	25751	60.11	116.97	60.88	91.53
EX_5FDOT138	EXISTING	SFWMD025Y072HR	60.59	105.82	106.30	0.00	20835	60.15	88.64	60.66	78.24
EX_PND137	EXISTINGORANGE025Y024HR		11.58	107.20	108.20	0.00	375876	9.00	39.91	11.57	19.37
EX_PND137	EXISTING	RCID050Y072HR	61.77	107.68	108.20	0.00	381578	60.00	100.08	61.98	33.53
EX_PND137	EXISTING	SFWMD025Y072HR	62.03	107.25	108.20	0.00	376489	60.00	72.21	62.02	20.78
EX_PNDOFF138A1	EXISTINGORANGE025Y024HR		9.00	106.71	107.20	0.00	3010	8.75	6.85	9.00	6.75
EX_PNDOFF138A1	EXISTING	RCID050Y072HR	60.00	107.60	107.20	0.02	113	60.00	23.40	60.00	23.39
EX_PNDOFF138A1	EXISTING	SFWMD025Y072HR	60.11	107.12	107.20	0.00	1042	60.00	18.02	60.11	13.46
EX_PNDSEMBASSY	EXISTINGORANGE025Y024HR		9.10	116.77	119.30	-0.00	52368	9.00	14.93	9.10	13.96
EX_PNDSEMBASSY	EXISTING	RCID050Y072HR	60.42	117.56	119.30	0.00	62587	60.00	52.40	60.40	21.33
EX_PNDSEMBASSY	EXISTING	SFWMD025Y072HR	60.25	117.14	119.30	0.00	57252	60.00	39.08	60.04	21.02
EX_SW138B1	EXISTINGORANGE025Y024HR		9.08	103.03	106.38	0.00	3372	9.00	6.75	9.06	6.56
EX_SW138B1	EXISTING	RCID050Y072HR	60.23	104.10	106.38	0.00	4591	60.00	23.39	60.03	19.84
EX_SW138B1	EXISTING	SFWMD025Y072HR	60.22	103.45	106.38	0.00	4019	60.11	13.46	60.19	10.04
EX_SW138B2	EXISTINGORANGE025Y024HR		9.60	102.57	111.07	0.00	15663	9.37	32.68	9.48	32.44
EX_SW138B2	EXISTING	RCID050Y072HR	60.41	104.13	111.07	0.00	20882	60.47	91.22	60.52	92.73
EX_SW138B2	EXISTING	SFWMD025Y072HR	60.60	103.45	111.07	0.00	18561	60.64	68.43	60.75	69.28
EX_SW138B3	EXISTINGORANGE025Y024HR		9.37	114.48	117.60	0.00	12077	9.23	32.79	9.37	32.68
EX_SW138B3	EXISTING	RCID050Y072HR	60.43	115.10	117.60	0.00	14997	60.32	56.70	60.43	56.35
EX_SW138B3	EXISTING	SFWMD025Y072HR	60.46	114.86	117.60	0.00	13817	60.34	46.39	60.46	46.10
EX_SW138B4	EXISTINGORANGE025Y024HR		9.35	114.59	117.20	-0.00	22583	9.05	27.86	9.29	27.05
EX_SW138B4	EXISTING	RCID050Y072HR	60.43	115.20	117.20	-0.00	31356	60.00	48.99	60.49	44.17
EX_SW138B4	EXISTING	SFWMD025Y072HR	60.47	114.96	117.20	-0.00	27944	60.00	42.11	60.49	37.50
EX_SW138C1	EXISTINGORANGE025Y024HR		11.61	106.63	110.00	0.00	5705	11.57	19.37	11.61	19.37
EX_SW138C1	EXISTING	RCID050Y072HR	60.69	107.37	110.00	0.00	14068	61.98	33.53	61.86	34.01
EX_SW138C1	EXISTING	SFWMD025Y072HR	62.07	106.66	110.00	0.00	6614	62.02	20.78	62.07	20.77
EX_SW138C2	EXISTINGORANGE025Y024HR		10.03	103.84	106.00	0.00	14381	9.06	44.95	9.19	41.59
EX_SW138C2	EXISTING	RCID050Y072HR	60.59	107.38	106.00	0.00	22284	60.07	130.68	60.19	97.28
EX_SW138C2	EXISTING	SFWMD025Y072HR	60.59	105.86	106.00	0.00	19334	60.07	94.57	60.15	70.70
EX_SW138C3	EXISTINGORANGE025Y024HR		9.08	113.83	115.51	0.00	24896	9.01	39.17	9.08	38.71
EX_SW138C3	EXISTING	RCID050Y072HR	60.08	114.52	115.51	0.00	34520	60.02	117.92	60.08	112.77
EX_SW138C3	EXISTING	SFWMD025Y072HR	60.09	114.27	115.51	0.00	30993	60.02	85.46	60.09	81.45
EX_SW138C4	EXISTINGORANGE025Y024HR		9.02	114.70	116.55	0.00	8711	9.00	28.00	9.02	27.81
EX_SW138C4	EXISTING	RCID050Y072HR	60.03	115.43	116.55	0.00	12536	60.00	95.13	60.02	92.23
EX_SW138C4	EXISTING	SFWMD025Y072HR	60.03	115.17	116.55	0.00	11147	60.00	68.36	60.02	66.29
EX_VCLK01	EXISTINGORANGE025Y024HR		13.04	116.83	118.20	0.00	99456	8.75	21.39	13.95	4.60
EX_VCLK01	EXISTING	RCID050Y072HR	62.35	117.10	118.20	0.00	101933	60.00	69.78	64.32	4.78
EX_VCLK01	EXISTING	SFWMD025Y072HR	62.11	116.40	118.20	0.00	95673	60.00	53.45	63.50	4.24
EX_VCLK05	EXISTINGORANGE025Y024HR		13.09	113.07	113.20	0.00	134934	8.75	40.43	13.09	16.02
EX_VCLK05	EXISTING	RCID050Y072HR	60.67	113.91	113.20	0.00	142653	60.00	90.25	60.67	35.17
EX_VCLK05	EXISTING	SFWMD025Y072HR	61.02	113.28	113.20	0.00	136820	60.00	72.47	61.02	24.35
RCID_HOTEL	EXISTINGORANGE025Y024HR		8.50	96.03	105.00	0.00	1299	10.01	211.68	0.00	0.00
RCID_HOTEL	EXISTING	RCID050Y072HR	60.00	99.89	105.00	0.00	937	60.21	382.68	0.00	0.00
RCID_HOTEL	EXISTING	SFWMD025Y072HR	60.00	99.57	105.00	0.00	1111	60.08	279.86	0.00	0.00

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Existing Condition: FDOT Node Min/ Max Condition Reports

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_4AFDOT138	EXISTING	002Y001HR	1.14	101.36	103.49	0.00	11043	1.05	48.61	1.13	47.72
EX_4AFDOT138	EXISTING	002Y002HR	1.37	101.47	103.49	0.00	11302	1.28	52.89	1.36	52.47
EX_4AFDOT138	EXISTING	002Y004HR	3.01	101.46	103.49	0.00	11302	2.97	52.25	3.01	52.17
EX_4AFDOT138	EXISTING	002Y008HR	4.27	101.42	103.49	0.00	11203	4.19	50.71	4.27	50.36
EX_4AFDOT138	EXISTING	002Y024HR	12.25	100.71	103.49	0.00	6228	12.20	23.11	12.25	23.09
EX_4AFDOT138	EXISTING	002Y072HR	60.05	100.67	103.49	0.00	6175	60.00	21.86	60.05	21.83
EX_4AFDOT138	EXISTING	005Y001HR	1.11	101.69	103.49	0.00	11787	1.02	63.79	1.10	62.88
EX_4AFDOT138	EXISTING	005Y002HR	1.39	101.80	103.49	0.00	12057	1.31	68.44	1.37	68.03
EX_4AFDOT138	EXISTING	005Y004HR	3.03	101.82	103.49	0.00	12107	2.97	68.19	3.01	68.00
EX_4AFDOT138	EXISTING	005Y008HR	4.30	101.77	103.49	0.00	12011	4.21	66.78	4.30	66.37
EX_4AFDOT138	EXISTING	005Y024HR	12.23	100.94	103.49	0.00	6532	12.18	30.63	12.23	30.59
EX_4AFDOT138	EXISTING	005Y072HR	60.22	100.97	103.49	0.00	6556	60.16	31.56	60.21	31.50
EX_4AFDOT138	EXISTING	010Y001HR	1.12	101.93	103.49	0.00	12314	1.05	75.69	1.11	74.89
EX_4AFDOT138	EXISTING	010Y002HR	1.41	102.05	103.49	0.00	12601	1.31	80.97	1.39	80.49
EX_4AFDOT138	EXISTING	010Y004HR	3.03	102.08	103.49	0.00	12683	3.00	81.71	3.03	81.63
EX_4AFDOT138	EXISTING	010Y008HR	4.33	102.06	103.49	0.00	12635	4.23	80.59	4.33	80.30
EX_4AFDOT138	EXISTING	010Y024HR	12.23	101.14	103.49	0.00	6768	12.17	38.34	12.22	38.27
EX_4AFDOT138	EXISTING	010Y072HR	60.09	101.35	103.49	0.00	6990	60.03	46.51	60.08	46.44
EX_4AFDOT138	EXISTING	025Y001HR	1.12	102.20	103.49	0.00	12924	1.07	90.98	1.12	90.54
EX_4AFDOT138	EXISTING	025Y002HR	1.44	102.28	103.49	0.00	13062	1.39	99.23	1.44	98.97
EX_4AFDOT138	EXISTING	025Y004HR	3.03	102.34	103.49	0.00	13263	3.00	102.93	3.02	102.74
EX_4AFDOT138	EXISTING	025Y008HR	4.35	102.36	103.49	0.00	13292	4.30	104.24	4.36	104.02
EX_4AFDOT138	EXISTING	025Y024HR	12.25	101.47	103.49	0.00	11328	12.15	51.19	12.23	50.99
EX_4AFDOT138	EXISTING	025Y072HR	60.09	101.71	103.49	0.00	7392	60.00	60.61	60.07	60.50
EX_4AFDOT138	EXISTING	050Y001HR	1.15	102.33	103.49	0.00	13169	1.09	103.28	1.15	102.76
EX_4AFDOT138	EXISTING	050Y002HR	1.43	102.48	103.49	0.00	13608	1.37	112.07	1.44	111.78
EX_4AFDOT138	EXISTING	050Y004HR	3.04	102.59	103.49	0.00	13913	3.00	116.79	3.05	116.58
EX_4AFDOT138	EXISTING	050Y008HR	4.34	102.65	103.49	0.00	14076	4.30	121.02	4.36	120.92
EX_4AFDOT138	EXISTING	050Y024HR	15.38	101.84	103.49	0.00	12193	15.32	67.05	15.39	67.02
EX_4AFDOT138	EXISTING	050Y072HR	60.02	101.95	103.49	0.00	12363	60.03	72.00	60.04	72.05
EX_4AFDOT138	EXISTING	100Y001HR	1.14	102.51	103.49	0.00	13667	1.09	114.79	1.15	114.33
EX_4AFDOT138	EXISTING	100Y002HR	1.43	102.66	103.49	0.00	14100	1.37	122.57	1.45	122.35
EX_4AFDOT138	EXISTING	100Y004HR	3.03	102.78	103.49	0.00	14410	3.00	130.20	3.05	130.02
EX_4AFDOT138	EXISTING	100Y008HR	4.32	102.89	103.49	0.00	14692	4.30	137.37	4.35	137.44
EX_4AFDOT138	EXISTING	100Y024HR	15.17	102.12	103.49	0.00	12773	15.11	84.63	15.16	84.62
EX_4AFDOT138	EXISTING	100Y072HR	60.12	102.09	103.49	0.00	12668	60.00	84.20	59.33	84.52
EX_4BFDOT138	EXISTING	002Y001HR	1.11	101.46	103.49	-0.00	832	0.95	25.78	0.96	25.48
EX_4BFDOT138	EXISTING	002Y002HR	1.34	101.59	103.49	-0.00	824	1.19	26.91	1.21	26.76
EX_4BFDOT138	EXISTING	002Y004HR	3.01	101.60	103.49	-0.00	821	3.00	27.00	3.00	26.99
EX_4BFDOT138	EXISTING	002Y008HR	4.24	101.55	103.49	-0.00	827	4.17	26.76	4.17	26.70
EX_4BFDOT138	EXISTING	002Y024HR	12.24	100.75	103.49	-0.00	800	12.20	12.07	12.21	12.06
EX_4BFDOT138	EXISTING	002Y072HR	60.05	100.71	103.49	-0.00	796	60.03	12.31	60.04	12.31
EX_4BFDOT138	EXISTING	005Y001HR	1.07	101.88	103.49	-0.00	815	0.91	35.39	0.93	34.95
EX_4BFDOT138	EXISTING	005Y002HR	1.34	102.01	103.49	-0.00	809	1.19	36.32	1.21	36.19
EX_4BFDOT138	EXISTING	005Y004HR	3.02	102.05	103.49	-0.00	807	3.00	36.63	3.00	36.61
EX_4BFDOT138	EXISTING	005Y008HR	4.26	102.00	103.49	-0.00	810	4.17	36.80	4.18	36.72
EX_4BFDOT138	EXISTING	005Y024HR	12.23	101.00	103.49	-0.00	821	12.17	16.84	12.18	16.83
EX_4BFDOT138	EXISTING	005Y072HR	60.19	101.02	103.49	-0.00	823	60.03	16.55	60.04	16.52
EX_4BFDOT138	EXISTING	010Y001HR	1.06	102.21	103.49	-0.00	793	0.93	42.66	0.94	42.34
EX_4BFDOT138	EXISTING	010Y002HR	1.35	102.38	103.49	-0.00	773	1.20	43.70	1.21	43.55
EX_4BFDOT138	EXISTING	010Y004HR	3.02	102.45	103.49	-0.00	767	3.00	44.97	3.01	44.96
EX_4BFDOT138	EXISTING	010Y008HR	4.29	102.43	103.49	-0.00	769	4.20	45.38	4.21	45.30
EX_4BFDOT138	EXISTING	010Y024HR	12.22	101.24	103.49	-0.00	831	12.16	21.85	12.17	21.84
EX_4BFDOT138	EXISTING	010Y072HR	60.08	101.43	103.49	-0.00	834	60.03	21.02	60.04	21.01
EX_4BFDOT138	EXISTING	025Y001HR	1.06	102.65	103.49	-0.00	738	0.93	51.00	0.96	50.69
EX_4BFDOT138	EXISTING	025Y002HR	1.38	102.79	103.49	-0.00	697	1.24	53.49	1.25	53.40
EX_4BFDOT138	EXISTING	025Y004HR	3.04	102.93	103.49	-0.00	613	3.06	55.90	3.07	55.91
EX_4BFDOT138	EXISTING	025Y008HR	4.33	102.98	103.49	-0.00	618	4.28	57.29	4.29	57.25
EX_4BFDOT138	EXISTING	025Y024HR	12.22	101.63	103.49	-0.00	816	12.15	30.30	12.16	30.27

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_4BFDOT138	EXISTING	025Y072HR	60.08	101.84	103.49	-0.00	813	60.03	27.96	60.04	27.95
EX_4BFDOT138	EXISTING	050Y001HR	1.08	102.92	103.49	-0.00	613	0.95	57.15	0.96	56.94
EX_4BFDOT138	EXISTING	050Y002HR	1.42	103.13	103.49	-0.00	636	1.33	58.66	1.35	58.61
EX_4BFDOT138	EXISTING	050Y004HR	3.07	103.36	103.49	-0.00	663	3.10	63.97	3.11	63.99
EX_4BFDOT138	EXISTING	050Y008HR	4.38	103.49	103.49	-0.00	677	4.41	66.41	4.42	66.43
EX_4BFDOT138	EXISTING	050Y024HR	15.31	102.04	103.49	-0.00	805	12.16	37.78	12.17	37.75
EX_4BFDOT138	EXISTING	050Y072HR	60.04	102.15	103.49	-0.00	786	60.05	34.02	60.05	34.03
EX_4BFDOT138	EXISTING	100Y001HR	1.10	103.21	103.49	-0.00	645	0.98	61.41	1.01	61.24
EX_4BFDOT138	EXISTING	100Y002HR	1.44	103.45	103.49	-0.00	673	1.44	64.34	1.46	64.35
EX_4BFDOT138	EXISTING	100Y004HR	3.08	103.76	103.49	-0.00	709	3.12	71.72	3.13	71.74
EX_4BFDOT138	EXISTING	100Y008HR	4.41	103.99	103.49	-0.00	735	4.48	76.18	4.49	76.22
EX_4BFDOT138	EXISTING	100Y024HR	15.13	102.44	103.49	-0.00	768	12.20	46.47	12.20	46.46
EX_4BFDOT138	EXISTING	100Y072HR	60.11	102.38	103.49	-0.00	773	60.00	40.49	60.08	40.46
EX_5FDOT138	EXISTING	002Y001HR	1.06	101.67	106.30	0.00	4157	0.89	25.65	0.96	23.95
EX_5FDOT138	EXISTING	002Y002HR	1.30	101.81	106.30	0.00	4329	1.11	25.73	1.20	24.76
EX_5FDOT138	EXISTING	002Y004HR	3.02	101.83	106.30	0.00	4540	3.00	24.77	3.04	24.74
EX_5FDOT138	EXISTING	002Y008HR	4.22	101.78	106.30	0.00	4436	4.12	24.93	4.18	24.51
EX_5FDOT138	EXISTING	002Y024HR	12.24	100.87	106.30	-0.00	3926	12.15	11.24	12.22	11.19
EX_5FDOT138	EXISTING	002Y072HR	60.06	100.84	106.30	-0.00	3943	60.01	11.46	60.07	11.44
EX_5FDOT138	EXISTING	005Y001HR	1.02	102.17	106.30	0.00	4616	0.85	35.00	0.93	32.54
EX_5FDOT138	EXISTING	005Y002HR	1.29	102.30	106.30	0.00	4844	1.11	34.23	1.21	33.25
EX_5FDOT138	EXISTING	005Y004HR	3.03	102.35	106.30	0.00	5127	3.00	33.60	3.04	33.54
EX_5FDOT138	EXISTING	005Y008HR	4.23	102.31	106.30	0.00	5004	4.13	34.21	4.19	33.64
EX_5FDOT138	EXISTING	005Y024HR	12.22	101.16	106.30	-0.00	4156	12.12	15.65	12.20	15.59
EX_5FDOT138	EXISTING	005Y072HR	60.15	101.18	106.30	-0.00	4217	60.01	15.56	60.07	15.42
EX_5FDOT138	EXISTING	010Y001HR	1.02	102.56	106.30	0.00	5032	0.86	41.47	0.95	39.15
EX_5FDOT138	EXISTING	010Y002HR	1.32	102.72	106.30	0.00	5363	1.12	41.14	1.22	39.86
EX_5FDOT138	EXISTING	010Y004HR	3.04	102.81	106.30	0.00	5951	3.00	41.28	3.06	41.23
EX_5FDOT138	EXISTING	010Y008HR	4.26	102.79	106.30	0.00	5832	4.14	42.25	4.23	41.47
EX_5FDOT138	EXISTING	010Y024HR	12.21	101.45	106.30	-0.00	4373	12.12	20.32	12.19	20.23
EX_5FDOT138	EXISTING	010Y072HR	60.08	101.60	106.30	-0.00	4546	60.01	19.68	60.07	19.62
EX_5FDOT138	EXISTING	025Y001HR	1.04	103.06	106.30	0.00	6686	0.86	49.71	0.98	46.56
EX_5FDOT138	EXISTING	025Y002HR	1.35	103.23	106.30	0.00	7493	1.16	50.08	1.27	48.72
EX_5FDOT138	EXISTING	025Y004HR	3.07	103.43	106.30	0.00	8505	3.00	51.56	3.15	51.54
EX_5FDOT138	EXISTING	025Y008HR	4.33	103.50	106.30	0.00	8741	4.13	54.06	4.33	52.45
EX_5FDOT138	EXISTING	025Y024HR	12.20	101.92	106.30	-0.00	4828	12.10	28.23	12.17	28.06
EX_5FDOT138	EXISTING	025Y072HR	60.08	102.05	106.30	-0.00	4991	60.00	26.22	60.07	26.14
EX_5FDOT138	EXISTING	050Y001HR	1.06	103.42	106.30	0.00	8150	0.88	55.70	1.00	52.09
EX_5FDOT138	EXISTING	050Y002HR	1.42	103.67	106.30	0.00	9349	1.14	55.81	1.43	53.55
EX_5FDOT138	EXISTING	050Y004HR	3.10	104.01	106.30	0.00	10986	3.00	59.31	3.18	59.13
EX_5FDOT138	EXISTING	050Y008HR	4.40	104.19	106.30	0.00	11766	4.16	62.72	4.49	61.10
EX_5FDOT138	EXISTING	050Y024HR	12.22	102.33	106.30	-0.00	5295	12.12	35.23	12.19	35.03
EX_5FDOT138	EXISTING	050Y072HR	60.06	102.40	106.30	-0.00	5392	60.03	31.88	60.07	31.86
EX_5FDOT138	EXISTING	100Y001HR	1.10	103.80	106.30	0.00	9769	0.86	60.93	1.06	56.03
EX_5FDOT138	EXISTING	100Y002HR	1.46	104.10	106.30	0.00	11258	1.14	61.07	1.52	58.97
EX_5FDOT138	EXISTING	100Y004HR	3.13	104.58	106.30	0.00	13899	3.00	66.97	3.22	66.38
EX_5FDOT138	EXISTING	100Y008HR	4.46	104.91	106.30	0.00	15637	4.16	72.81	4.56	70.23
EX_5FDOT138	EXISTING	100Y024HR	12.23	102.80	106.30	-0.00	6111	12.14	43.32	12.22	43.17
EX_5FDOT138	EXISTING	100Y072HR	60.11	102.70	106.30	-0.00	5748	60.00	38.14	60.12	37.97
EX_PND137	EXISTING	002Y001HR	2.00	106.48	108.20	0.00	367479	0.75	29.15	2.00	3.35
EX_PND137	EXISTING	002Y002HR	3.01	106.57	108.20	0.00	368506	1.00	26.66	3.01	5.02
EX_PND137	EXISTING	002Y004HR	4.43	106.62	108.20	0.00	369112	2.50	22.21	4.43	6.11
EX_PND137	EXISTING	002Y008HR	6.61	106.63	108.20	0.00	369270	4.00	21.96	6.60	6.40
EX_PND137	EXISTING	002Y024HR	16.87	106.56	108.20	0.00	368352	12.00	7.79	16.87	4.76
EX_PND137	EXISTING	002Y072HR	64.08	106.52	108.20	0.00	367967	60.00	7.08	64.08	4.12
EX_PND137	EXISTING	005Y001HR	2.00	106.54	108.20	0.00	368171	0.75	35.55	2.00	4.45
EX_PND137	EXISTING	005Y002HR	2.96	106.65	108.20	0.00	369437	1.00	32.76	2.96	6.69
EX_PND137	EXISTING	005Y004HR	4.41	106.72	108.20	0.00	370262	2.50	28.02	4.40	8.13
EX_PND137	EXISTING	005Y008HR	6.54	106.74	108.20	0.00	370496	4.00	28.02	6.54	8.54

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PND137	EXISTING	005Y024HR	16.65	106.64	108.20	0.00	369318	12.00	10.34	16.65	6.48
EX_PND137	EXISTING	005Y072HR	64.02	106.60	108.20	0.00	368858	60.00	9.42	64.02	5.64
EX_PND137	EXISTING	010Y001HR	2.00	106.59	108.20	0.00	368735	0.75	40.92	2.00	5.42
EX_PND137	EXISTING	010Y002HR	2.95	106.71	108.20	0.00	370213	1.00	37.95	2.94	8.05
EX_PND137	EXISTING	010Y004HR	4.39	106.80	108.20	0.00	371263	2.50	33.22	4.38	9.92
EX_PND137	EXISTING	010Y008HR	6.49	106.83	108.20	0.00	371617	4.00	33.77	6.48	10.58
EX_PND137	EXISTING	010Y024HR	16.56	106.72	108.20	0.00	370306	12.00	13.04	16.55	8.21
EX_PND137	EXISTING	010Y072HR	63.68	106.67	108.20	0.00	369701	60.00	11.75	63.67	7.15
EX_PND137	EXISTING	025Y001HR	2.00	106.65	108.20	0.00	369485	0.75	48.22	2.00	6.78
EX_PND137	EXISTING	025Y002HR	2.93	106.80	108.20	0.00	371263	1.00	45.08	2.92	9.92
EX_PND137	EXISTING	025Y004HR	4.37	106.92	108.20	0.00	372662	2.50	40.70	4.36	12.57
EX_PND137	EXISTING	025Y008HR	6.42	106.98	108.20	0.00	373315	4.00	42.81	6.41	13.87
EX_PND137	EXISTING	025Y024HR	16.43	106.86	108.20	0.00	371943	12.00	17.65	16.42	11.19
EX_PND137	EXISTING	025Y072HR	62.59	106.79	108.20	0.00	371098	60.00	15.59	62.58	9.62
EX_PND137	EXISTING	050Y001HR	2.00	106.70	108.20	0.00	370057	0.75	53.84	2.00	7.78
EX_PND137	EXISTING	050Y002HR	2.91	106.87	108.20	0.00	372019	1.00	50.32	2.90	11.33
EX_PND137	EXISTING	050Y004HR	4.35	107.02	108.20	0.00	373752	2.50	46.66	4.34	14.77
EX_PND137	EXISTING	050Y008HR	6.36	107.10	108.20	0.00	374720	4.00	50.60	6.35	16.81
EX_PND137	EXISTING	050Y024HR	16.33	106.99	108.20	0.00	373397	12.00	21.95	16.32	14.04
EX_PND137	EXISTING	050Y072HR	62.24	106.89	108.20	0.00	372286	60.00	18.95	62.23	11.84
EX_PND137	EXISTING	100Y001HR	2.00	106.75	108.20	0.00	370607	0.75	59.26	2.00	8.75
EX_PND137	EXISTING	100Y002HR	2.90	106.93	108.20	0.00	372748	1.00	55.44	2.89	12.74
EX_PND137	EXISTING	100Y004HR	4.33	107.11	108.20	0.00	374816	2.50	52.60	4.32	17.02
EX_PND137	EXISTING	100Y008HR	6.29	107.22	108.20	0.00	376198	4.00	59.05	6.28	20.10
EX_PND137	EXISTING	100Y024HR	16.21	107.12	108.20	0.00	375022	12.00	26.99	16.21	17.47
EX_PND137	EXISTING	100Y072HR	61.98	107.00	108.20	0.00	373594	60.00	22.77	61.97	14.44
EX_PNDOFF138A1	EXISTING	002Y001HR	1.27	104.41	107.20	0.00	9791	0.50	12.02	1.27	1.35
EX_PNDOFF138A1	EXISTING	002Y002HR	1.88	104.75	107.20	0.00	9417	0.75	10.28	1.88	1.47
EX_PNDOFF138A1	EXISTING	002Y004HR	3.20	104.89	107.20	0.00	9272	2.00	5.55	3.15	2.19
EX_PNDOFF138A1	EXISTING	002Y008HR	5.15	104.80	107.20	0.00	9365	3.75	5.33	5.15	1.48
EX_PNDOFF138A1	EXISTING	002Y024HR	15.01	103.53	107.20	0.00	9872	11.75	1.60	15.01	0.98
EX_PNDOFF138A1	EXISTING	002Y072HR	60.17	103.19	107.20	0.00	9797	59.75	1.05	60.17	0.80
EX_PNDOFF138A1	EXISTING	005Y001HR	1.22	104.93	107.20	0.00	9220	0.50	14.66	1.22	2.22
EX_PNDOFF138A1	EXISTING	005Y002HR	1.82	105.33	107.20	0.00	8489	0.75	12.54	1.31	2.31
EX_PNDOFF138A1	EXISTING	005Y004HR	3.25	105.60	107.20	0.00	7541	2.00	6.83	2.62	2.29
EX_PNDOFF138A1	EXISTING	005Y008HR	5.12	105.43	107.20	0.00	8116	3.75	6.59	4.19	2.29
EX_PNDOFF138A1	EXISTING	005Y024HR	15.13	103.95	107.20	0.00	9965	11.75	2.00	15.13	1.17
EX_PNDOFF138A1	EXISTING	005Y072HR	60.20	103.45	107.20	0.00	9856	59.75	1.31	60.20	0.94
EX_PNDOFF138A1	EXISTING	010Y001HR	1.25	105.34	107.20	0.00	8441	0.50	16.74	1.05	2.37
EX_PNDOFF138A1	EXISTING	010Y002HR	1.88	105.97	107.20	0.00	6247	0.75	14.34	1.16	2.42
EX_PNDOFF138A1	EXISTING	010Y004HR	3.15	106.39	107.20	0.00	4542	2.00	7.89	3.15	3.18
EX_PNDOFF138A1	EXISTING	010Y008HR	5.07	106.31	107.20	0.00	4935	3.75	7.69	5.07	2.56
EX_PNDOFF138A1	EXISTING	010Y024HR	15.24	104.41	107.20	0.00	9790	11.75	2.38	15.24	1.35
EX_PNDOFF138A1	EXISTING	010Y072HR	60.23	103.72	107.20	0.00	9914	59.75	1.56	60.23	1.07
EX_PNDOFF138A1	EXISTING	025Y001HR	1.28	106.05	107.20	0.00	5959	0.50	19.44	0.93	2.55
EX_PNDOFF138A1	EXISTING	025Y002HR	1.41	106.54	107.20	0.00	3825	0.75	16.69	1.41	4.64
EX_PNDOFF138A1	EXISTING	025Y004HR	2.71	106.67	107.20	0.00	3193	2.00	9.33	2.70	6.26
EX_PNDOFF138A1	EXISTING	025Y008HR	4.15	106.69	107.20	0.00	3084	3.75	9.31	4.15	6.57
EX_PNDOFF138A1	EXISTING	025Y024HR	13.27	104.92	107.20	0.00	9238	11.75	3.00	12.36	2.18
EX_PNDOFF138A1	EXISTING	025Y072HR	60.31	104.17	107.20	0.00	10012	59.75	1.95	60.31	1.26
EX_PNDOFF138A1	EXISTING	050Y001HR	1.07	106.49	107.20	0.00	4060	0.50	21.44	1.07	4.12
EX_PNDOFF138A1	EXISTING	050Y002HR	1.20	106.75	107.20	0.00	2803	0.75	18.33	1.20	7.39
EX_PNDOFF138A1	EXISTING	050Y004HR	2.53	106.83	107.20	0.00	2426	2.00	10.42	2.53	8.53
EX_PNDOFF138A1	EXISTING	050Y008HR	4.01	106.94	107.20	0.00	1894	3.75	10.62	4.01	10.30
EX_PNDOFF138A1	EXISTING	050Y024HR	15.20	105.74	107.20	0.00	7037	11.75	3.54	11.48	2.20
EX_PNDOFF138A1	EXISTING	050Y072HR	60.42	104.58	107.20	0.00	9608	59.75	2.29	60.42	1.41
EX_PNDOFF138A1	EXISTING	100Y001HR	0.94	106.81	107.20	0.00	2515	0.50	23.31	0.94	8.30
EX_PNDOFF138A1	EXISTING	100Y002HR	1.10	106.94	107.20	0.00	1914	0.75	19.89	1.09	10.26
EX_PNDOFF138A1	EXISTING	100Y004HR	2.42	106.91	107.20	0.00	2038	2.00	11.47	2.41	9.79

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PNDOFF138A1	EXISTING	100Y008HR	3.90	107.03	107.20	0.00	1449	3.75	11.98	3.89	11.87
EX_PNDOFF138A1	EXISTING	100Y024HR	12.83	106.36	107.20	0.00	4680	11.75	4.15	12.82	2.93
EX_PNDOFF138A1	EXISTING	100Y072HR	60.22	104.98	107.20	-0.00	9173	59.75	2.68	59.63	2.17
EX_PNDSEMBASSY	EXISTING	002Y001HR	0.98	116.59	119.30	0.00	49872	0.50	18.02	0.98	8.09
EX_PNDSEMBASSY	EXISTING	002Y002HR	1.22	116.61	119.30	0.00	50111	0.75	16.44	1.22	8.61
EX_PNDSEMBASSY	EXISTING	002Y004HR	2.69	116.58	119.30	0.00	49730	2.00	9.57	2.69	7.79
EX_PNDSEMBASSY	EXISTING	002Y008HR	4.15	116.58	119.30	0.00	49724	4.00	9.96	4.15	7.78
EX_PNDSEMBASSY	EXISTING	002Y024HR	12.14	116.38	119.30	0.00	46913	12.00	3.04	12.14	2.74
EX_PNDSEMBASSY	EXISTING	002Y072HR	60.00	116.35	119.30	0.00	46559	59.75	2.28	60.00	2.25
EX_PNDSEMBASSY	EXISTING	005Y001HR	0.96	116.68	119.30	0.00	51177	0.50	21.85	0.96	11.03
EX_PNDSEMBASSY	EXISTING	005Y002HR	1.19	116.70	119.30	0.00	51372	0.75	20.34	1.19	11.49
EX_PNDSEMBASSY	EXISTING	005Y004HR	2.65	116.66	119.30	0.00	50827	2.00	12.08	2.65	10.21
EX_PNDSEMBASSY	EXISTING	005Y008HR	4.13	116.66	119.30	0.00	50876	4.00	12.76	4.13	10.32
EX_PNDSEMBASSY	EXISTING	005Y024HR	12.12	116.42	119.30	0.00	47481	12.00	3.95	12.12	3.61
EX_PNDSEMBASSY	EXISTING	005Y072HR	59.93	116.39	119.30	0.00	47031	59.75	2.94	59.93	2.91
EX_PNDSEMBASSY	EXISTING	010Y001HR	0.95	116.76	119.30	0.00	52175	0.50	25.03	0.95	13.47
EX_PNDSEMBASSY	EXISTING	010Y002HR	1.17	116.77	119.30	0.00	52338	0.75	23.60	1.17	13.88
EX_PNDSEMBASSY	EXISTING	010Y004HR	2.63	116.72	119.30	0.00	51698	2.00	14.27	2.63	12.28
EX_PNDSEMBASSY	EXISTING	010Y008HR	4.12	116.73	119.30	0.00	51834	4.00	15.29	4.12	12.61
EX_PNDSEMBASSY	EXISTING	010Y024HR	12.11	116.46	119.30	-0.00	48008	12.00	4.87	12.11	4.49
EX_PNDSEMBASSY	EXISTING	010Y072HR	59.89	116.42	119.30	-0.00	47453	59.75	3.59	59.89	3.56
EX_PNDSEMBASSY	EXISTING	025Y001HR	0.93	116.85	119.30	0.00	53428	0.50	29.30	0.93	16.76
EX_PNDSEMBASSY	EXISTING	025Y002HR	1.15	116.85	119.30	0.00	53558	0.75	28.00	1.15	17.12
EX_PNDSEMBASSY	EXISTING	025Y004HR	2.61	116.80	119.30	0.00	52831	2.00	17.36	2.61	15.16
EX_PNDSEMBASSY	EXISTING	025Y008HR	4.11	116.83	119.30	0.00	53182	4.00	19.10	4.11	16.10
EX_PNDSEMBASSY	EXISTING	025Y024HR	12.10	116.51	119.30	-0.00	48805	12.00	6.37	12.10	5.94
EX_PNDSEMBASSY	EXISTING	025Y072HR	59.85	116.46	119.30	-0.00	48080	59.75	4.64	59.85	4.61
EX_PNDSEMBASSY	EXISTING	050Y001HR	0.93	116.91	119.30	0.00	54331	0.50	32.54	0.93	19.21
EX_PNDSEMBASSY	EXISTING	050Y002HR	1.14	116.92	119.30	0.00	54404	0.75	31.17	1.11	19.34
EX_PNDSEMBASSY	EXISTING	050Y004HR	2.60	116.86	119.30	0.00	53665	2.00	19.77	2.59	17.39
EX_PNDSEMBASSY	EXISTING	050Y008HR	4.10	116.90	119.30	0.00	54243	4.00	22.26	4.09	18.89
EX_PNDSEMBASSY	EXISTING	050Y024HR	12.09	116.56	119.30	-0.00	49470	12.00	7.72	12.09	7.25
EX_PNDSEMBASSY	EXISTING	050Y072HR	59.83	116.50	119.30	-0.00	48580	59.75	5.54	59.83	5.51
EX_PNDSEMBASSY	EXISTING	100Y001HR	0.94	116.98	119.30	0.00	55211	0.50	35.65	0.89	20.51
EX_PNDSEMBASSY	EXISTING	100Y002HR	1.17	116.98	119.30	0.00	55301	0.75	34.24	1.09	20.36
EX_PNDSEMBASSY	EXISTING	100Y004HR	2.61	116.92	119.30	0.00	54510	2.00	22.14	2.54	19.16
EX_PNDSEMBASSY	EXISTING	100Y008HR	4.14	117.00	119.30	0.00	55560	4.00	25.60	4.10	20.15
EX_PNDSEMBASSY	EXISTING	100Y024HR	12.08	116.61	119.30	-0.00	50185	12.00	9.28	12.08	8.77
EX_PNDSEMBASSY	EXISTING	100Y072HR	59.81	116.54	119.30	-0.00	49110	59.75	6.56	59.81	6.53
EX_SW138B1	EXISTING	002Y001HR	1.48	102.44	106.38	0.00	2437	1.27	1.35	1.48	1.33
EX_SW138B1	EXISTING	002Y002HR	2.01	102.46	106.38	0.00	2483	1.88	1.47	2.01	1.46
EX_SW138B1	EXISTING	002Y004HR	3.37	102.52	106.38	0.00	2587	3.15	2.19	3.37	1.88
EX_SW138B1	EXISTING	002Y008HR	5.26	102.46	106.38	0.00	2467	5.15	1.48	5.26	1.48
EX_SW138B1	EXISTING	002Y024HR	15.03	102.27	106.38	0.00	1040	15.01	0.98	15.03	0.98
EX_SW138B1	EXISTING	002Y072HR	60.22	102.24	106.38	0.00	1015	60.17	0.80	60.22	0.80
EX_SW138B1	EXISTING	005Y001HR	1.44	102.52	106.38	0.00	2632	1.22	2.22	1.44	1.88
EX_SW138B1	EXISTING	005Y002HR	1.87	102.54	106.38	0.00	2699	1.31	2.31	1.87	1.95
EX_SW138B1	EXISTING	005Y004HR	3.33	102.54	106.38	0.00	2746	2.62	2.29	3.33	1.99
EX_SW138B1	EXISTING	005Y008HR	5.17	102.54	106.38	-0.00	2670	4.19	2.29	5.17	1.97
EX_SW138B1	EXISTING	005Y024HR	15.17	102.30	106.38	0.00	1067	15.13	1.17	15.17	1.17
EX_SW138B1	EXISTING	005Y072HR	60.25	102.27	106.38	0.00	1035	60.20	0.94	60.25	0.94
EX_SW138B1	EXISTING	010Y001HR	1.33	102.54	106.38	0.00	2780	1.05	2.37	1.33	1.95
EX_SW138B1	EXISTING	010Y004HR	3.24	102.67	106.38	0.00	2977	3.15	3.18	3.24	2.98
EX_SW138B1	EXISTING	010Y008HR	5.16	102.61	106.38	-0.00	2839	5.07	2.56	5.16	2.48
EX_SW138B1	EXISTING	010Y024HR	15.35	102.44	106.38	-0.00	2395	15.24	1.35	15.35	1.35
EX_SW138B1	EXISTING	010Y072HR	60.28	102.29	106.38	0.00	1053	60.23	1.07	60.28	1.07
EX_SW138B1	EXISTING	025Y001HR	1.27	102.57	106.38	0.00	2936	0.93	2.55	1.41	2.10
EX_SW138B1	EXISTING	025Y002HR	1.51	102.84	106.38	0.00	3195	1.41	4.64	1.52	4.36
EX_SW138B1	EXISTING	025Y004HR	2.85	102.98	106.38	0.00	3320	2.70	6.26	2.83	5.86

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138B1	EXISTING	025Y008HR	4.25	102.98	106.38	0.00	3329	4.15	6.57	4.24	5.82
EX_SW138B1	EXISTING	025Y024HR	13.34	102.53	106.38	0.00	2601	12.36	2.18	13.34	1.89
EX_SW138B1	EXISTING	025Y072HR	60.36	102.32	106.38	0.00	1078	60.31	1.26	60.36	1.26
EX_SW138B1	EXISTING	050Y001HR	1.19	102.79	106.38	0.00	3182	1.07	4.12	1.19	3.74
EX_SW138B1	EXISTING	050Y002HR	1.31	103.04	106.38	0.00	3426	1.20	7.39	1.30	6.43
EX_SW138B1	EXISTING	050Y004HR	2.64	103.15	106.38	0.00	3519	2.53	8.53	2.62	7.93
EX_SW138B1	EXISTING	050Y008HR	4.09	103.25	106.38	0.00	3624	4.01	10.30	4.08	9.30
EX_SW138B1	EXISTING	050Y024HR	15.25	102.54	106.38	-0.00	2791	11.48	2.20	15.25	2.01
EX_SW138B1	EXISTING	050Y072HR	60.60	102.45	106.38	-0.00	2721	60.42	1.41	60.60	1.41
EX_SW138B1	EXISTING	100Y001HR	1.02	103.05	106.38	0.00	3435	0.94	8.30	1.02	6.43
EX_SW138B1	EXISTING	100Y002HR	1.20	103.22	106.38	0.00	3613	1.09	10.26	1.19	8.76
EX_SW138B1	EXISTING	100Y004HR	2.56	103.27	106.38	0.00	3682	2.41	9.79	2.53	9.39
EX_SW138B1	EXISTING	100Y008HR	4.04	103.41	106.38	0.00	3837	3.89	11.87	4.01	11.42
EX_SW138B1	EXISTING	100Y024HR	13.02	102.67	106.38	-0.00	2966	12.82	2.93	12.96	2.92
EX_SW138B1	EXISTING	100Y072HR	60.20	102.53	106.38	-0.00	2877	59.63	2.17	60.50	1.90
EX_SW138B2	EXISTING	002Y001HR	1.22	102.04	111.07	0.00	13216	1.14	19.05	1.22	18.89
EX_SW138B2	EXISTING	002Y002HR	1.48	102.07	111.07	0.00	13419	1.41	20.26	1.48	20.19
EX_SW138B2	EXISTING	002Y004HR	3.01	102.05	111.07	0.00	13264	2.94	19.20	3.01	19.18
EX_SW138B2	EXISTING	002Y008HR	4.38	102.04	111.07	0.00	13134	4.31	18.43	4.38	18.37
EX_SW138B2	EXISTING	002Y024HR	12.33	101.83	111.07	0.00	11293	12.25	8.39	12.33	8.37
EX_SW138B2	EXISTING	002Y072HR	60.08	101.81	111.07	0.00	11071	60.03	7.39	60.08	7.38
EX_SW138B2	EXISTING	005Y001HR	1.19	102.14	111.07	0.00	13950	1.14	23.66	1.24	23.69
EX_SW138B2	EXISTING	005Y002HR	1.46	102.19	111.07	0.00	14216	1.41	25.17	1.51	25.19
EX_SW138B2	EXISTING	005Y004HR	3.05	102.18	111.07	0.00	14053	2.93	23.95	3.07	23.87
EX_SW138B2	EXISTING	005Y008HR	4.37	102.15	111.07	0.00	13922	4.31	23.16	4.42	23.16
EX_SW138B2	EXISTING	005Y024HR	12.32	101.88	111.07	0.00	11733	12.24	10.48	12.32	10.47
EX_SW138B2	EXISTING	005Y072HR	60.75	101.94	111.07	0.00	11423	60.65	13.42	60.75	13.42
EX_SW138B2	EXISTING	010Y001HR	1.18	102.26	111.07	0.00	14579	1.14	27.44	1.26	27.64
EX_SW138B2	EXISTING	010Y002HR	1.46	102.33	111.07	0.00	14900	1.40	29.22	1.52	29.28
EX_SW138B2	EXISTING	010Y004HR	3.04	102.33	111.07	0.00	14767	2.93	28.03	3.06	27.92
EX_SW138B2	EXISTING	010Y008HR	4.38	102.31	111.07	0.00	14677	4.31	27.44	4.45	27.46
EX_SW138B2	EXISTING	010Y024HR	20.41	101.95	111.07	0.00	11344	20.36	13.85	20.41	13.85
EX_SW138B2	EXISTING	010Y072HR	60.14	102.10	111.07	0.00	12168	60.09	22.44	60.14	22.42
EX_SW138B2	EXISTING	025Y001HR	1.17	102.43	111.07	0.00	15414	1.14	32.47	1.26	32.81
EX_SW138B2	EXISTING	025Y002HR	1.47	102.49	111.07	0.00	15735	1.40	34.66	1.54	34.65
EX_SW138B2	EXISTING	025Y004HR	3.04	102.52	111.07	0.00	15696	2.91	33.73	3.12	33.65
EX_SW138B2	EXISTING	025Y008HR	4.38	102.54	111.07	0.00	15752	4.31	33.97	4.46	34.02
EX_SW138B2	EXISTING	025Y024HR	19.09	102.08	111.07	0.00	12078	19.04	21.30	19.09	21.30
EX_SW138B2	EXISTING	025Y072HR	60.10	102.22	111.07	0.00	12786	60.04	28.83	60.12	28.79
EX_SW138B2	EXISTING	050Y001HR	1.19	102.54	111.07	0.00	15979	1.14	36.28	1.27	36.57
EX_SW138B2	EXISTING	050Y002HR	1.46	102.65	111.07	0.00	16397	1.40	38.56	1.54	38.71
EX_SW138B2	EXISTING	050Y004HR	3.05	102.73	111.07	0.00	16489	2.90	38.18	3.14	38.10
EX_SW138B2	EXISTING	050Y008HR	4.36	102.79	111.07	0.00	16724	4.31	39.42	4.44	39.54
EX_SW138B2	EXISTING	050Y024HR	15.56	102.25	111.07	0.00	13070	15.83	28.78	15.86	28.82
EX_SW138B2	EXISTING	050Y072HR	60.08	102.34	111.07	0.00	13327	60.04	33.52	60.09	33.50
EX_SW138B2	EXISTING	100Y001HR	1.18	102.68	111.07	0.00	16549	1.15	39.56	1.28	40.37
EX_SW138B2	EXISTING	100Y002HR	1.46	102.81	111.07	0.00	16982	1.43	41.80	1.56	42.24
EX_SW138B2	EXISTING	100Y004HR	3.04	102.91	111.07	0.00	17214	2.93	42.42	3.10	42.36
EX_SW138B2	EXISTING	100Y008HR	4.34	103.01	111.07	0.00	17643	4.32	44.37	4.45	44.67
EX_SW138B2	EXISTING	100Y024HR	15.23	102.44	111.07	0.00	13809	15.21	36.68	15.30	36.70
EX_SW138B2	EXISTING	100Y072HR	60.13	102.45	111.07	0.00	13842	60.04	38.41	60.17	38.31
EX_SW138B3	EXISTING	002Y001HR	1.14	114.00	117.60	0.00	9919	1.01	19.48	1.14	19.05
EX_SW138B3	EXISTING	002Y002HR	1.41	114.04	117.60	0.00	10134	1.28	20.50	1.41	20.26
EX_SW138B3	EXISTING	002Y004HR	2.94	114.00	117.60	0.00	9947	2.81	19.28	2.94	19.20
EX_SW138B3	EXISTING	002Y008HR	4.31	113.97	117.60	0.00	9805	4.18	18.64	4.31	18.43
EX_SW138B3	EXISTING	002Y024HR	12.25	113.49	117.60	0.00	7677	12.11	8.43	12.25	8.39
EX_SW138B3	EXISTING	002Y072HR	60.03	113.44	117.60	0.00	7422	60.00	7.41	60.03	7.39
EX_SW138B3	EXISTING	005Y001HR	1.14	114.17	117.60	0.00	10711	1.01	24.18	1.14	23.66
EX_SW138B3	EXISTING	005Y002HR	1.41	114.23	117.60	0.00	10955	1.28	25.47	1.41	25.17

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138B3	EXISTING	005Y004HR	2.93	114.18	117.60	0.00	10759	2.80	24.05	2.93	23.95
EX_SW138B3	EXISTING	005Y008HR	4.31	114.15	117.60	0.00	10629	4.18	23.42	4.31	23.16
EX_SW138B3	EXISTING	005Y024HR	12.24	113.61	117.60	0.00	8181	12.11	10.53	12.24	10.48
EX_SW138B3	EXISTING	005Y072HR	60.03	113.53	117.60	0.00	7858	60.00	9.14	60.03	9.12
EX_SW138B3	EXISTING	010Y001HR	1.14	114.31	117.60	0.00	11308	1.01	28.02	1.14	27.44
EX_SW138B3	EXISTING	010Y002HR	1.40	114.37	117.60	0.00	11577	1.28	29.56	1.40	29.22
EX_SW138B3	EXISTING	010Y004HR	2.93	114.33	117.60	0.00	11398	2.80	28.14	2.93	28.03
EX_SW138B3	EXISTING	010Y008HR	4.31	114.31	117.60	0.00	11309	4.18	27.74	4.31	27.44
EX_SW138B3	EXISTING	010Y024HR	12.24	113.71	117.60	0.00	8644	12.12	12.62	12.24	12.56
EX_SW138B3	EXISTING	010Y072HR	60.03	113.62	117.60	0.00	8251	60.00	10.81	60.03	10.79
EX_SW138B3	EXISTING	025Y001HR	1.14	114.47	117.60	0.00	12048	1.01	33.16	1.14	32.47
EX_SW138B3	EXISTING	025Y002HR	1.40	114.54	117.60	0.00	12352	1.28	35.07	1.40	34.66
EX_SW138B3	EXISTING	025Y004HR	2.91	114.51	117.60	0.00	12224	2.79	33.86	2.91	33.73
EX_SW138B3	EXISTING	025Y008HR	4.31	114.52	117.60	0.00	12257	4.19	34.33	4.31	33.97
EX_SW138B3	EXISTING	025Y024HR	12.24	113.87	117.60	0.00	9344	12.12	16.06	12.24	15.98
EX_SW138B3	EXISTING	025Y072HR	60.02	113.75	117.60	0.00	8830	60.00	13.46	60.02	13.44
EX_SW138B3	EXISTING	050Y001HR	1.14	114.59	117.60	0.00	12571	1.01	37.03	1.14	36.28
EX_SW138B3	EXISTING	050Y002HR	1.40	114.66	117.60	0.00	12871	1.28	39.00	1.40	38.56
EX_SW138B3	EXISTING	050Y004HR	2.90	114.65	117.60	0.00	12822	2.78	38.34	2.90	38.18
EX_SW138B3	EXISTING	050Y008HR	4.31	114.68	117.60	0.00	12983	4.19	39.82	4.31	39.42
EX_SW138B3	EXISTING	050Y024HR	12.24	114.00	117.60	0.00	9923	12.12	19.16	12.24	19.07
EX_SW138B3	EXISTING	050Y072HR	60.02	113.85	117.60	0.00	9290	60.00	15.73	60.02	15.71
EX_SW138B3	EXISTING	100Y001HR	1.15	114.69	117.60	0.00	13001	1.03	40.19	1.15	39.56
EX_SW138B3	EXISTING	100Y002HR	1.43	114.75	117.60	0.00	13285	1.31	42.14	1.43	41.80
EX_SW138B3	EXISTING	100Y004HR	2.93	114.76	117.60	0.00	13363	2.82	42.56	2.93	42.42
EX_SW138B3	EXISTING	100Y008HR	4.32	114.81	117.60	0.00	13605	4.20	44.65	4.32	44.37
EX_SW138B3	EXISTING	100Y024HR	12.23	114.13	117.60	0.00	10536	12.12	22.70	12.23	22.60
EX_SW138B3	EXISTING	100Y072HR	60.02	113.96	117.60	0.00	9774	60.00	18.29	60.02	18.26
EX_SW138B4	EXISTING	002Y001HR	1.12	114.16	117.20	0.00	16296	0.92	17.16	1.08	15.93
EX_SW138B4	EXISTING	002Y002HR	1.39	114.20	117.20	0.00	16868	1.16	17.79	1.36	16.97
EX_SW138B4	EXISTING	002Y004HR	2.92	114.16	117.20	0.00	16400	2.66	16.49	2.88	16.19
EX_SW138B4	EXISTING	002Y008HR	4.28	114.14	117.20	0.00	16065	4.08	16.25	4.24	15.67
EX_SW138B4	EXISTING	002Y024HR	12.17	113.86	117.20	0.00	12031	12.07	7.36	12.17	7.33
EX_SW138B4	EXISTING	002Y072HR	60.01	113.84	117.20	0.00	11679	60.00	6.40	60.01	6.39
EX_SW138B4	EXISTING	005Y001HR	1.13	114.31	117.20	0.00	18476	0.90	21.88	1.08	19.86
EX_SW138B4	EXISTING	005Y002HR	1.39	114.36	117.20	0.00	19185	1.14	22.49	1.35	21.09
EX_SW138B4	EXISTING	005Y004HR	2.92	114.32	117.20	0.00	18616	2.62	20.64	2.86	20.10
EX_SW138B4	EXISTING	005Y008HR	4.29	114.29	117.20	0.00	18268	4.06	20.60	4.24	19.62
EX_SW138B4	EXISTING	005Y024HR	12.18	113.91	117.20	0.00	12667	12.05	9.12	12.17	9.08
EX_SW138B4	EXISTING	005Y072HR	60.01	113.87	117.20	0.00	12193	60.00	7.79	60.01	7.78
EX_SW138B4	EXISTING	010Y001HR	1.13	114.43	117.20	0.00	20245	0.89	25.79	1.08	23.05
EX_SW138B4	EXISTING	010Y002HR	1.39	114.49	117.20	0.00	21056	1.12	26.38	1.35	24.46
EX_SW138B4	EXISTING	010Y004HR	2.91	114.45	117.20	0.00	20509	2.60	24.21	2.85	23.42
EX_SW138B4	EXISTING	010Y008HR	4.29	114.43	117.20	0.00	20259	4.05	24.53	4.24	23.15
EX_SW138B4	EXISTING	010Y024HR	12.20	113.96	117.20	-0.00	13487	12.03	10.87	12.18	10.78
EX_SW138B4	EXISTING	010Y072HR	60.01	113.91	117.20	-0.00	12708	60.00	9.13	60.01	9.11
EX_SW138B4	EXISTING	025Y001HR	1.13	114.59	117.20	0.00	22525	0.88	31.04	1.08	27.30
EX_SW138B4	EXISTING	025Y002HR	1.39	114.65	117.20	0.00	23467	1.10	31.63	1.34	28.97
EX_SW138B4	EXISTING	025Y004HR	2.90	114.62	117.20	0.00	23051	2.58	29.17	2.83	28.03
EX_SW138B4	EXISTING	025Y008HR	4.30	114.63	117.20	0.00	23176	4.04	30.50	4.24	28.50
EX_SW138B4	EXISTING	025Y024HR	12.21	114.06	117.20	-0.00	14952	12.02	13.72	12.18	13.55
EX_SW138B4	EXISTING	025Y072HR	60.02	113.98	117.20	-0.00	13770	60.00	11.21	60.01	11.19
EX_SW138B4	EXISTING	050Y001HR	1.13	114.70	117.20	0.00	24170	0.87	34.99	1.08	30.49
EX_SW138B4	EXISTING	050Y002HR	1.39	114.77	117.20	0.00	25109	1.09	35.35	1.34	32.19
EX_SW138B4	EXISTING	050Y004HR	2.89	114.76	117.20	0.00	24937	2.56	33.01	2.83	31.62
EX_SW138B4	EXISTING	050Y008HR	4.30	114.79	117.20	0.00	25465	4.03	35.42	4.25	32.93
EX_SW138B4	EXISTING	050Y024HR	12.21	114.16	117.20	-0.00	16330	12.01	16.28	12.18	16.03
EX_SW138B4	EXISTING	050Y072HR	60.02	114.05	117.20	-0.00	14739	60.00	12.99	60.01	12.96
EX_SW138B4	EXISTING	100Y001HR	1.15	114.80	117.20	0.00	25538	0.82	38.28	1.12	33.22

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138B4	EXISTING	100Y002HR	1.42	114.86	117.20	0.00	26425	1.00	38.13	1.40	34.80
EX_SW138B4	EXISTING	100Y004HR	2.92	114.87	117.20	0.00	26641	2.52	36.44	2.86	35.01
EX_SW138B4	EXISTING	100Y008HR	4.32	114.92	117.20	0.00	27356	4.00	39.13	4.30	36.70
EX_SW138B4	EXISTING	100Y024HR	12.22	114.27	117.20	-0.00	17962	12.00	19.20	12.19	18.85
EX_SW138B4	EXISTING	100Y072HR	60.02	114.13	117.20	-0.00	15869	60.00	14.98	60.01	14.95
EX_SW138C1	EXISTING	002Y001HR	2.00	106.03	110.00	0.00	3353	2.00	3.35	2.00	3.29
EX_SW138C1	EXISTING	002Y002HR	3.08	106.14	110.00	0.00	3750	3.01	5.02	3.08	5.02
EX_SW138C1	EXISTING	002Y004HR	4.49	106.19	110.00	0.00	3992	4.43	6.11	4.49	6.11
EX_SW138C1	EXISTING	002Y008HR	6.66	106.20	110.00	0.00	4035	6.60	6.40	6.66	6.40
EX_SW138C1	EXISTING	002Y024HR	16.93	106.12	110.00	0.00	3694	16.87	4.76	16.93	4.76
EX_SW138C1	EXISTING	002Y072HR	64.13	106.09	110.00	0.00	3525	64.08	4.12	64.13	4.12
EX_SW138C1	EXISTING	005Y001HR	2.00	106.10	110.00	0.00	3670	2.00	4.45	2.00	4.38
EX_SW138C1	EXISTING	005Y002HR	3.01	106.22	110.00	0.00	4073	2.96	6.69	3.01	6.69
EX_SW138C1	EXISTING	005Y004HR	4.45	106.28	110.00	0.00	4285	4.40	8.13	4.45	8.13
EX_SW138C1	EXISTING	005Y008HR	6.59	106.30	110.00	0.00	4340	6.54	8.54	6.59	8.54
EX_SW138C1	EXISTING	005Y024HR	16.70	106.21	110.00	0.00	4056	16.65	6.48	16.70	6.48
EX_SW138C1	EXISTING	005Y072HR	64.06	106.17	110.00	0.00	3936	64.02	5.64	64.06	5.64
EX_SW138C1	EXISTING	010Y001HR	2.00	106.15	110.00	0.00	3912	2.00	5.42	2.00	5.35
EX_SW138C1	EXISTING	010Y002HR	2.99	106.28	110.00	0.00	4265	2.94	8.05	2.99	8.04
EX_SW138C1	EXISTING	010Y004HR	4.43	106.35	110.00	0.00	4516	4.38	9.92	4.43	9.92
EX_SW138C1	EXISTING	010Y008HR	6.53	106.37	110.00	0.00	4602	6.48	10.58	6.53	10.57
EX_SW138C1	EXISTING	010Y024HR	16.60	106.28	110.00	0.00	4304	16.55	8.21	16.60	8.21
EX_SW138C1	EXISTING	010Y072HR	63.72	106.24	110.00	0.00	4185	63.67	7.15	63.72	7.15
EX_SW138C1	EXISTING	025Y001HR	2.00	106.22	110.00	0.00	4172	2.00	6.78	2.00	6.71
EX_SW138C1	EXISTING	025Y002HR	2.96	106.35	110.00	0.00	4506	2.92	9.92	2.96	9.92
EX_SW138C1	EXISTING	025Y004HR	4.40	106.44	110.00	0.00	4874	4.36	12.57	4.40	12.57
EX_SW138C1	EXISTING	025Y008HR	6.45	106.48	110.00	0.00	5031	6.41	13.87	6.45	13.87
EX_SW138C1	EXISTING	025Y024HR	16.47	106.39	110.00	0.00	4752	16.42	11.19	16.47	11.19
EX_SW138C1	EXISTING	025Y072HR	62.63	106.34	110.00	0.00	4540	62.58	9.62	62.63	9.62
EX_SW138C1	EXISTING	050Y001HR	2.00	106.26	110.00	0.00	4354	2.00	7.78	2.00	7.70
EX_SW138C1	EXISTING	050Y002HR	2.95	106.40	110.00	0.00	4687	2.90	11.33	2.95	11.33
EX_SW138C1	EXISTING	050Y004HR	4.38	106.50	110.00	0.00	5161	4.34	14.77	4.38	14.76
EX_SW138C1	EXISTING	050Y008HR	6.39	106.56	110.00	0.00	5386	6.35	16.81	6.39	16.81
EX_SW138C1	EXISTING	050Y024HR	16.37	106.48	110.00	0.00	5148	16.32	14.04	16.37	14.04
EX_SW138C1	EXISTING	050Y072HR	62.28	106.41	110.00	0.00	4850	62.23	11.84	62.28	11.84
EX_SW138C1	EXISTING	100Y001HR	2.00	106.30	110.00	0.00	4531	2.00	8.75	2.00	8.67
EX_SW138C1	EXISTING	100Y002HR	2.93	106.44	110.00	0.00	4875	2.89	12.74	2.93	12.74
EX_SW138C1	EXISTING	100Y004HR	4.36	106.57	110.00	0.00	5429	4.32	17.02	4.36	17.01
EX_SW138C1	EXISTING	100Y008HR	6.32	106.64	110.00	0.00	5743	6.28	20.10	6.32	20.10
EX_SW138C1	EXISTING	100Y024HR	16.25	106.58	110.00	0.00	5557	16.21	17.47	16.25	17.46
EX_SW138C1	EXISTING	100Y072HR	62.01	106.49	110.00	0.00	5191	61.97	14.44	62.01	14.44
EX_SW138C2	EXISTING	002Y001HR	0.90	102.49	106.00	0.00	7807	0.86	22.18	0.90	21.95
EX_SW138C2	EXISTING	002Y002HR	1.11	102.49	106.00	0.00	7792	1.08	21.84	1.11	21.74
EX_SW138C2	EXISTING	002Y004HR	2.68	102.46	106.00	0.00	7627	2.64	19.74	2.68	19.71
EX_SW138C2	EXISTING	002Y008HR	4.12	102.46	106.00	0.00	7658	4.08	20.17	4.12	20.09
EX_SW138C2	EXISTING	002Y024HR	12.12	102.21	106.00	0.00	6400	12.07	7.49	12.12	7.48
EX_SW138C2	EXISTING	002Y072HR	60.00	102.21	106.00	0.00	6397	59.99	7.45	60.00	7.45
EX_SW138C2	EXISTING	005Y001HR	0.94	102.63	106.00	0.00	8495	0.85	30.73	0.86	30.07
EX_SW138C2	EXISTING	005Y002HR	1.21	102.66	106.00	0.00	8647	1.06	29.96	1.11	29.07
EX_SW138C2	EXISTING	005Y004HR	2.91	102.65	106.00	0.00	8566	2.62	27.27	2.68	26.82
EX_SW138C2	EXISTING	005Y008HR	4.18	102.65	106.00	0.00	8591	4.07	28.37	4.12	27.69
EX_SW138C2	EXISTING	005Y024HR	12.10	102.28	106.00	0.00	6760	12.06	10.61	12.10	10.59
EX_SW138C2	EXISTING	005Y072HR	60.01	102.27	106.00	0.00	6693	59.91	9.97	59.95	9.97
EX_SW138C2	EXISTING	010Y001HR	0.97	102.83	106.00	0.00	9473	0.84	38.02	0.88	35.71
EX_SW138C2	EXISTING	010Y002HR	1.28	102.91	106.00	0.00	9870	1.06	36.98	1.11	34.95
EX_SW138C2	EXISTING	010Y004HR	3.02	102.95	106.00	0.00	10103	2.60	33.97	2.69	32.68
EX_SW138C2	EXISTING	010Y008HR	4.24	102.96	106.00	0.00	10109	4.07	36.06	4.13	34.10
EX_SW138C2	EXISTING	010Y024HR	12.09	102.35	106.00	0.00	7096	12.05	13.83	12.09	13.81
EX_SW138C2	EXISTING	010Y072HR	59.93	102.33	106.00	0.00	6962	59.87	12.44	59.92	12.44

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138C2	EXISTING	025Y001HR	1.02	103.20	106.00	0.00	11349	0.83	48.05	0.87	42.69
EX_SW138C2	EXISTING	025Y002HR	1.33	103.35	106.00	0.00	12036	1.05	46.74	1.15	42.47
EX_SW138C2	EXISTING	025Y004HR	3.07	103.52	106.00	-0.00	12863	2.59	43.52	2.66	40.70
EX_SW138C2	EXISTING	025Y008HR	4.32	103.59	106.00	0.00	13187	4.06	48.00	4.11	43.35
EX_SW138C2	EXISTING	025Y024HR	12.08	102.45	106.00	0.00	7585	12.04	19.22	12.08	19.19
EX_SW138C2	EXISTING	025Y072HR	60.02	102.42	106.00	0.00	7419	59.84	16.43	59.88	16.38
EX_SW138C2	EXISTING	050Y001HR	1.05	103.53	106.00	0.00	12899	0.83	55.81	0.89	47.89
EX_SW138C2	EXISTING	050Y002HR	1.41	103.76	106.00	0.00	13993	1.04	53.93	1.11	47.21
EX_SW138C2	EXISTING	050Y004HR	3.10	104.08	106.00	-0.00	15554	2.58	51.06	2.73	45.97
EX_SW138C2	EXISTING	050Y008HR	4.40	104.25	106.00	0.00	16220	4.05	58.13	4.14	49.78
EX_SW138C2	EXISTING	050Y024HR	12.16	102.61	106.00	0.00	8387	12.04	24.14	12.09	23.85
EX_SW138C2	EXISTING	050Y072HR	60.04	102.59	106.00	0.00	8268	59.82	19.86	60.01	19.72
EX_SW138C2	EXISTING	100Y001HR	1.09	103.89	106.00	0.00	14623	0.82	63.35	0.89	52.21
EX_SW138C2	EXISTING	100Y002HR	1.45	104.17	106.00	0.00	15992	1.04	60.99	1.12	51.48
EX_SW138C2	EXISTING	100Y004HR	3.12	104.64	106.00	-0.00	16964	2.57	58.53	2.76	51.57
EX_SW138C2	EXISTING	100Y008HR	4.46	104.96	106.00	0.00	17592	4.05	68.97	4.15	57.54
EX_SW138C2	EXISTING	100Y024HR	12.21	102.93	106.00	0.00	9975	12.03	29.82	12.11	29.06
EX_SW138C2	EXISTING	100Y072HR	60.10	102.81	106.00	0.00	9390	59.81	23.73	59.42	23.71
EX_SW138C3	EXISTING	002Y001HR	0.89	113.52	115.51	0.00	20617	0.77	19.81	0.89	17.49
EX_SW138C3	EXISTING	002Y004HR	2.69	113.50	115.51	0.00	20339	2.55	16.65	2.69	16.36
EX_SW138C3	EXISTING	002Y008HR	4.11	113.50	115.51	0.00	20423	4.02	17.39	4.11	16.70
EX_SW138C3	EXISTING	002Y024HR	12.11	113.28	115.51	0.00	17345	12.01	6.41	12.11	6.30
EX_SW138C3	EXISTING	002Y072HR	60.00	113.29	115.51	0.00	17398	59.84	6.45	60.00	6.44
EX_SW138C3	EXISTING	005Y001HR	0.87	113.64	115.51	0.00	22237	0.77	27.17	0.87	24.66
EX_SW138C3	EXISTING	005Y002HR	1.10	113.63	115.51	0.00	22166	1.01	25.17	1.10	24.33
EX_SW138C3	EXISTING	005Y004HR	2.65	113.61	115.51	0.00	21852	2.54	23.25	2.65	22.86
EX_SW138C3	EXISTING	005Y008HR	4.10	113.62	115.51	0.00	22052	4.02	24.66	4.10	23.79
EX_SW138C3	EXISTING	005Y024HR	12.09	113.35	115.51	0.00	18278	12.01	9.15	12.09	9.02
EX_SW138C3	EXISTING	005Y072HR	59.95	113.34	115.51	0.00	18159	59.80	8.66	59.95	8.65
EX_SW138C3	EXISTING	010Y001HR	0.86	113.72	115.51	0.00	23471	0.77	33.56	0.86	30.83
EX_SW138C3	EXISTING	010Y002HR	1.09	113.72	115.51	0.00	23373	1.00	31.24	1.09	30.32
EX_SW138C3	EXISTING	010Y004HR	2.64	113.69	115.51	0.00	23050	2.53	29.13	2.64	28.66
EX_SW138C3	EXISTING	010Y008HR	4.09	113.72	115.51	0.00	23400	4.01	31.48	4.09	30.46
EX_SW138C3	EXISTING	010Y024HR	12.08	113.41	115.51	0.00	19128	12.01	11.99	12.08	11.83
EX_SW138C3	EXISTING	010Y072HR	59.91	113.39	115.51	0.00	18830	59.79	10.82	59.91	10.81
EX_SW138C3	EXISTING	025Y001HR	0.85	113.84	115.51	0.00	25008	0.77	42.43	0.85	39.36
EX_SW138C3	EXISTING	025Y002HR	1.08	113.83	115.51	0.00	24889	1.00	39.70	1.08	38.67
EX_SW138C3	EXISTING	025Y004HR	2.62	113.81	115.51	0.00	24589	2.53	37.52	2.62	36.94
EX_SW138C3	EXISTING	025Y008HR	4.08	113.85	115.51	0.00	25257	4.01	42.06	4.08	40.83
EX_SW138C3	EXISTING	025Y024HR	12.07	113.50	115.51	0.00	20385	12.01	16.73	12.07	16.54
EX_SW138C3	EXISTING	025Y072HR	59.87	113.46	115.51	0.00	19809	59.77	14.32	59.87	14.31
EX_SW138C3	EXISTING	050Y001HR	0.85	113.91	115.51	0.00	26101	0.77	49.34	0.85	46.00
EX_SW138C3	EXISTING	050Y002HR	1.07	113.90	115.51	0.00	25916	1.00	45.94	1.07	44.84
EX_SW138C3	EXISTING	050Y004HR	2.61	113.89	115.51	0.00	25698	2.52	44.14	2.61	43.50
EX_SW138C3	EXISTING	050Y008HR	4.07	113.96	115.51	0.00	26670	4.01	51.02	4.07	49.64
EX_SW138C3	EXISTING	050Y024HR	12.06	113.58	115.51	0.00	21406	12.00	21.06	12.06	20.85
EX_SW138C3	EXISTING	050Y072HR	59.85	113.52	115.51	0.00	20574	59.77	17.33	59.85	17.31
EX_SW138C3	EXISTING	100Y001HR	0.84	113.99	115.51	0.00	27096	0.77	56.05	0.84	52.45
EX_SW138C3	EXISTING	100Y002HR	1.06	113.97	115.51	0.00	26864	1.00	52.06	1.06	50.91
EX_SW138C3	EXISTING	100Y004HR	2.60	113.96	115.51	0.00	26723	2.52	50.69	2.60	49.98
EX_SW138C3	EXISTING	100Y008HR	4.07	114.06	115.51	0.00	28059	4.01	60.60	4.07	59.06
EX_SW138C3	EXISTING	100Y024HR	12.06	113.65	115.51	0.00	22477	12.00	26.05	12.06	25.82
EX_SW138C3	EXISTING	100Y072HR	59.83	113.57	115.51	0.00	21369	59.76	20.71	59.83	20.69
EX_SW138C4	EXISTING	002Y001HR	0.77	114.45	116.55	0.00	7375	0.75	13.21	0.77	12.69
EX_SW138C4	EXISTING	002Y002HR	1.01	114.42	116.55	0.00	7237	1.00	11.53	1.01	11.42
EX_SW138C4	EXISTING	002Y004HR	2.56	114.41	116.55	0.00	7143	2.50	10.71	2.56	10.57
EX_SW138C4	EXISTING	002Y008HR	4.03	114.42	116.55	0.00	7227	4.00	11.61	4.03	11.32
EX_SW138C4	EXISTING	002Y024HR	12.03	114.24	116.55	0.00	6259	12.00	4.12	12.02	4.07
EX_SW138C4	EXISTING	002Y072HR	59.83	114.25	116.55	0.00	6320	59.75	4.44	59.83	4.43

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138C4	EXISTING	005Y001HR	0.77	114.55	116.55	0.00	7906	0.75	18.83	0.77	18.11
EX_SW138C4	EXISTING	005Y002HR	1.01	114.52	116.55	0.00	7757	1.00	16.66	1.01	16.50
EX_SW138C4	EXISTING	005Y004HR	2.54	114.50	116.55	0.00	7650	2.50	15.57	2.54	15.39
EX_SW138C4	EXISTING	005Y008HR	4.02	114.53	116.55	0.00	7777	4.00	17.07	4.02	16.71
EX_SW138C4	EXISTING	005Y024HR	12.02	114.30	116.55	0.00	6570	12.00	6.11	12.02	6.06
EX_SW138C4	EXISTING	005Y072HR	59.80	114.30	116.55	0.00	6569	59.75	6.06	59.80	6.05
EX_SW138C4	EXISTING	010Y001HR	0.77	114.63	116.55	0.00	8322	0.75	23.77	0.77	22.90
EX_SW138C4	EXISTING	010Y002HR	1.01	114.60	116.55	0.00	8163	1.00	21.19	1.01	21.01
EX_SW138C4	EXISTING	010Y004HR	2.54	114.58	116.55	0.00	8052	2.50	19.94	2.54	19.73
EX_SW138C4	EXISTING	010Y008HR	4.02	114.61	116.55	0.00	8232	4.00	22.24	4.02	21.83
EX_SW138C4	EXISTING	010Y024HR	12.02	114.35	116.55	0.00	6848	12.00	8.18	12.02	8.13
EX_SW138C4	EXISTING	010Y072HR	59.78	114.34	116.55	0.00	6786	59.75	7.65	59.78	7.64
EX_SW138C4	EXISTING	025Y001HR	0.77	114.73	116.55	0.00	8846	0.75	30.69	0.77	29.63
EX_SW138C4	EXISTING	025Y002HR	1.01	114.70	116.55	0.00	8676	1.00	27.55	1.01	27.35
EX_SW138C4	EXISTING	025Y004HR	2.53	114.68	116.55	0.00	8568	2.50	26.22	2.53	25.96
EX_SW138C4	EXISTING	025Y008HR	4.02	114.73	116.55	0.00	8860	4.00	30.31	4.02	29.82
EX_SW138C4	EXISTING	025Y024HR	12.01	114.43	116.55	0.00	7259	12.00	11.68	12.01	11.62
EX_SW138C4	EXISTING	025Y072HR	59.77	114.40	116.55	0.00	7102	59.75	10.23	59.77	10.22
EX_SW138C4	EXISTING	050Y001HR	0.77	114.80	116.55	0.00	9222	0.75	36.10	0.77	34.91
EX_SW138C4	EXISTING	050Y002HR	1.01	114.76	116.55	0.00	9024	1.00	32.28	1.01	32.07
EX_SW138C4	EXISTING	050Y004HR	2.53	114.75	116.55	0.00	8941	2.50	31.20	2.53	30.91
EX_SW138C4	EXISTING	050Y008HR	4.02	114.82	116.55	0.00	9339	4.00	37.17	4.02	36.63
EX_SW138C4	EXISTING	050Y024HR	12.01	114.49	116.55	0.00	7594	12.00	14.90	12.01	14.83
EX_SW138C4	EXISTING	050Y072HR	59.77	114.44	116.55	0.00	7349	59.75	12.45	59.77	12.44
EX_SW138C4	EXISTING	100Y001HR	0.77	114.87	116.55	0.00	9565	0.75	41.39	0.77	40.08
EX_SW138C4	EXISTING	100Y002HR	1.01	114.82	116.55	0.00	9345	1.00	36.93	1.01	36.72
EX_SW138C4	EXISTING	100Y004HR	2.52	114.81	116.55	0.00	9285	2.50	36.13	2.52	35.83
EX_SW138C4	EXISTING	100Y008HR	4.01	114.91	116.55	0.00	9809	4.00	44.54	4.01	43.94
EX_SW138C4	EXISTING	100Y024HR	12.01	114.56	116.55	0.00	7946	12.00	18.62	12.01	18.54
EX_SW138C4	EXISTING	100Y072HR	59.76	114.49	116.55	0.00	7605	59.75	14.94	59.76	14.94
EX_VCLK01	EXISTING	002Y001HR	1.45	115.26	118.20	0.00	85469	0.50	34.11	2.00	3.13
EX_VCLK01	EXISTING	002Y002HR	2.16	115.42	118.20	0.00	86883	0.75	30.44	2.86	3.33
EX_VCLK01	EXISTING	002Y004HR	3.66	115.48	118.20	0.00	87440	2.00	17.38	4.46	3.40
EX_VCLK01	EXISTING	002Y008HR	5.45	115.42	118.20	0.00	86947	4.00	16.70	6.45	3.37
EX_VCLK01	EXISTING	002Y024HR	15.48	114.81	118.20	0.00	72110	11.75	5.03	16.22	2.69
EX_VCLK01	EXISTING	002Y072HR	60.29	114.57	118.20	0.00	64351	59.75	3.30	60.93	2.34
EX_VCLK01	EXISTING	005Y001HR	1.47	115.46	118.20	0.00	87240	0.50	40.92	2.00	3.29
EX_VCLK01	EXISTING	005Y002HR	2.22	115.66	118.20	0.00	89058	0.75	36.64	3.02	3.56
EX_VCLK01	EXISTING	005Y004HR	3.72	115.76	118.20	0.00	89947	2.00	21.12	4.60	3.67
EX_VCLK01	EXISTING	005Y008HR	5.65	115.72	118.20	0.00	89572	4.00	20.51	6.76	3.66
EX_VCLK01	EXISTING	005Y024HR	16.21	115.08	118.20	0.00	80950	11.75	6.24	16.75	3.01
EX_VCLK01	EXISTING	005Y072HR	60.57	114.73	118.20	0.00	69551	59.75	4.13	61.75	2.57
EX_VCLK01	EXISTING	010Y001HR	1.48	115.61	118.20	0.00	88617	0.50	46.29	2.00	3.40
EX_VCLK01	EXISTING	010Y002HR	2.25	115.85	118.20	0.00	90765	0.75	41.59	3.10	3.74
EX_VCLK01	EXISTING	010Y004HR	3.75	115.99	118.20	0.00	92004	2.00	24.25	4.72	3.88
EX_VCLK01	EXISTING	010Y008HR	5.89	115.98	118.20	0.00	91876	4.00	23.85	7.14	3.90
EX_VCLK01	EXISTING	010Y024HR	16.43	115.34	118.20	0.00	86234	11.75	7.44	17.48	3.30
EX_VCLK01	EXISTING	010Y072HR	63.92	114.89	118.20	0.00	74828	59.75	4.92	64.17	2.79
EX_VCLK01	EXISTING	025Y001HR	1.49	115.81	118.20	0.00	90373	0.50	53.25	2.00	3.54
EX_VCLK01	EXISTING	025Y002HR	2.28	116.10	118.20	0.00	92952	0.75	48.07	3.23	3.95
EX_VCLK01	EXISTING	025Y004HR	3.83	116.30	118.20	0.00	94752	2.00	28.53	4.88	4.14
EX_VCLK01	EXISTING	025Y008HR	6.16	116.36	118.20	0.00	95275	4.00	28.79	7.56	4.22
EX_VCLK01	EXISTING	025Y024HR	19.07	115.81	118.20	0.00	90350	11.75	9.35	19.54	3.75
EX_VCLK01	EXISTING	025Y072HR	64.07	115.19	118.20	0.00	84639	59.75	6.21	64.46	3.12
EX_VCLK01	EXISTING	050Y001HR	1.50	115.95	118.20	0.00	91647	0.50	58.38	2.00	3.63
EX_VCLK01	EXISTING	050Y002HR	2.30	116.27	118.20	0.00	94462	0.75	52.63	3.31	4.09
EX_VCLK01	EXISTING	050Y004HR	3.88	116.53	118.20	0.00	96827	2.00	31.79	4.93	4.33
EX_VCLK01	EXISTING	050Y008HR	6.38	116.66	118.20	0.00	98001	4.00	32.82	7.79	4.47
EX_VCLK01	EXISTING	050Y024HR	19.24	116.24	118.20	0.00	94214	11.75	11.06	20.09	4.13

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_VCLK01	EXISTING	050Y072HR	64.11	115.44	118.20	0.00	87113	59.75	7.31	64.60	3.38
EX_VCLK01	EXISTING	100Y001HR	1.51	116.08	118.20	0.00	92826	0.50	63.20	2.00	3.70
EX_VCLK01	EXISTING	100Y002HR	2.31	116.42	118.20	0.00	95878	0.75	56.98	3.39	4.22
EX_VCLK01	EXISTING	100Y004HR	3.93	116.75	118.20	0.00	98801	2.00	34.96	5.07	4.50
EX_VCLK01	EXISTING	100Y008HR	6.91	116.98	118.20	0.00	100838	4.00	37.03	8.00	4.71
EX_VCLK01	EXISTING	100Y024HR	19.38	116.73	118.20	0.00	98591	11.75	12.99	20.58	4.52
EX_VCLK01	EXISTING	100Y072HR	64.15	115.74	118.20	0.00	89736	59.75	8.55	64.82	3.67
EX_VCLK05	EXISTING	002Y001HR	2.00	109.17	113.20	0.00	101706	0.60	51.28	0.00	0.00
EX_VCLK05	EXISTING	002Y002HR	4.00	109.84	113.20	0.00	106967	0.76	49.22	0.00	0.00
EX_VCLK05	EXISTING	002Y004HR	6.00	110.27	113.20	0.00	110382	2.05	32.25	0.00	0.00
EX_VCLK05	EXISTING	002Y008HR	10.00	110.86	113.20	0.00	115248	4.00	33.08	0.00	0.00
EX_VCLK05	EXISTING	002Y024HR	30.00	111.71	113.20	0.00	122609	12.00	11.90	0.00	0.00
EX_VCLK05	EXISTING	002Y072HR	68.47	112.56	113.20	0.00	130240	59.75	8.91	68.47	1.41
EX_VCLK05	EXISTING	005Y001HR	2.00	109.50	113.20	0.00	104255	0.56	58.79	0.00	0.00
EX_VCLK05	EXISTING	005Y002HR	4.00	110.27	113.20	0.00	110354	0.75	56.43	0.00	0.00
EX_VCLK05	EXISTING	005Y004HR	8.00	111.01	113.20	0.00	116468	2.09	39.18	0.00	0.00
EX_VCLK05	EXISTING	005Y008HR	16.00	111.64	113.20	0.00	121939	4.00	40.04	0.00	0.00
EX_VCLK05	EXISTING	005Y024HR	24.32	112.56	113.20	0.00	130229	12.00	14.78	24.32	1.39
EX_VCLK05	EXISTING	005Y072HR	63.81	112.79	113.20	0.00	132343	58.85	11.28	63.81	6.66
EX_VCLK05	EXISTING	010Y001HR	2.00	109.74	113.20	0.00	106197	0.54	64.60	0.00	0.00
EX_VCLK05	EXISTING	010Y002HR	4.00	110.61	113.20	0.00	113149	0.75	61.91	0.00	0.00
EX_VCLK05	EXISTING	010Y004HR	8.00	111.45	113.20	0.00	120249	2.00	44.08	0.00	0.00
EX_VCLK05	EXISTING	010Y008HR	16.00	112.26	113.20	0.00	127563	4.00	44.19	0.00	0.00
EX_VCLK05	EXISTING	010Y024HR	21.07	112.78	113.20	0.00	132291	12.00	17.63	21.07	6.51
EX_VCLK05	EXISTING	010Y072HR	60.16	112.95	113.20	0.00	133824	59.75	12.89	60.16	11.68
EX_VCLK05	EXISTING	025Y001HR	2.00	110.03	113.20	0.00	108463	0.50	72.09	0.00	0.00
EX_VCLK05	EXISTING	025Y002HR	4.00	111.04	113.20	0.00	116738	0.75	69.17	0.00	0.00
EX_VCLK05	EXISTING	025Y004HR	8.00	111.99	113.20	0.00	125134	2.00	49.21	0.00	0.00
EX_VCLK05	EXISTING	025Y008HR	12.92	112.65	113.20	0.00	131076	4.00	49.93	12.92	3.19
EX_VCLK05	EXISTING	025Y024HR	19.13	112.93	113.20	0.00	133614	12.00	22.29	19.13	10.92
EX_VCLK05	EXISTING	025Y072HR	60.06	113.05	113.20	0.00	134782	59.75	16.02	60.06	15.40
EX_VCLK05	EXISTING	050Y001HR	2.00	110.20	113.20	0.00	109738	0.50	77.60	0.00	0.00
EX_VCLK05	EXISTING	050Y002HR	4.00	111.33	113.20	0.00	119252	0.75	74.33	0.00	0.00
EX_VCLK05	EXISTING	050Y004HR	8.00	112.36	113.20	0.00	128476	2.00	53.05	0.00	0.00
EX_VCLK05	EXISTING	050Y008HR	8.18	112.82	113.20	0.00	132674	4.00	54.43	8.18	7.70
EX_VCLK05	EXISTING	050Y024HR	16.26	113.03	113.20	0.00	134532	11.90	26.08	16.26	14.40
EX_VCLK05	EXISTING	050Y072HR	60.07	113.12	113.20	0.00	135365	59.75	18.43	60.07	17.82
EX_VCLK05	EXISTING	100Y001HR	2.00	110.34	113.20	0.00	110949	0.50	82.81	0.00	0.00
EX_VCLK05	EXISTING	100Y002HR	4.00	111.59	113.20	0.00	121561	0.75	79.29	0.00	0.00
EX_VCLK05	EXISTING	100Y004HR	8.00	112.62	113.20	0.00	130789	2.00	56.82	8.00	2.52
EX_VCLK05	EXISTING	100Y008HR	8.00	113.01	113.20	0.00	134357	4.00	59.17	8.00	13.71
EX_VCLK05	EXISTING	100Y024HR	15.56	113.14	113.20	0.00	135596	11.75	27.87	15.56	18.81
EX_VCLK05	EXISTING	100Y072HR	60.06	113.18	113.20	0.00	135904	59.75	20.82	60.06	20.16
RCID_HOTEL	EXISTING	002Y001HR	0.50	98.40	105.00	1.88	1316	0.96	95.79	0.00	0.00
RCID_HOTEL	EXISTING	002Y002HR	0.80	98.40	105.00	1.88	1316	1.33	107.87	0.00	0.00
RCID_HOTEL	EXISTING	002Y004HR	2.00	98.40	105.00	1.88	1316	2.87	109.31	0.00	0.00
RCID_HOTEL	EXISTING	002Y008HR	4.00	98.40	105.00	1.88	1316	4.13	108.22	0.00	0.00
RCID_HOTEL	EXISTING	002Y024HR	12.00	97.96	105.00	1.88	1303	12.15	53.60	0.00	0.00
RCID_HOTEL	EXISTING	002Y072HR	60.00	99.01	105.00	1.88	1265	60.12	47.43	0.00	0.00
RCID_HOTEL	EXISTING	005Y001HR	0.50	98.40	105.00	1.88	1316	0.94	121.30	0.00	0.00
RCID_HOTEL	EXISTING	005Y002HR	0.80	98.40	105.00	1.88	1316	1.23	132.92	0.00	0.00
RCID_HOTEL	EXISTING	005Y004HR	2.00	98.40	105.00	1.88	1316	3.00	136.48	0.00	0.00
RCID_HOTEL	EXISTING	005Y008HR	4.00	98.40	105.00	1.88	1315	4.14	134.04	0.00	0.00
RCID_HOTEL	EXISTING	005Y024HR	12.00	98.00	105.00	1.88	1306	12.16	67.18	0.00	0.00
RCID_HOTEL	EXISTING	005Y072HR	60.00	99.05	105.00	1.88	1259	60.17	62.04	0.00	0.00
RCID_HOTEL	EXISTING	010Y001HR	0.50	98.40	105.00	1.88	1316	0.93	141.46	0.00	0.00
RCID_HOTEL	EXISTING	010Y002HR	0.80	98.40	105.00	1.88	1316	1.32	153.68	0.00	0.00
RCID_HOTEL	EXISTING	010Y004HR	2.00	98.40	105.00	1.88	1316	3.01	161.30	0.00	0.00
RCID_HOTEL	EXISTING	010Y008HR	4.00	98.40	105.00	1.88	1315	4.16	158.35	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
RCID_HOTEL	EXISTING	010Y024HR	12.00	96.97	105.00	0.00	1220	12.18	81.87	0.00	0.00
RCID_HOTEL	EXISTING	010Y072HR	60.00	98.72	105.00	0.00	1299	60.12	87.09	0.00	0.00
RCID_HOTEL	EXISTING	025Y001HR	0.50	98.40	105.00	1.88	1316	0.92	167.99	0.00	0.00
RCID_HOTEL	EXISTING	025Y002HR	0.80	98.40	105.00	1.88	1315	1.12	192.80	0.00	0.00
RCID_HOTEL	EXISTING	025Y004HR	2.00	98.40	105.00	1.88	1315	3.00	197.02	0.00	0.00
RCID_HOTEL	EXISTING	025Y008HR	4.00	98.40	105.00	1.88	1312	4.12	200.01	0.00	0.00
RCID_HOTEL	EXISTING	025Y024HR	12.00	97.36	105.00	0.00	1257	12.19	107.46	0.00	0.00
RCID_HOTEL	EXISTING	025Y072HR	60.00	99.50	105.00	0.00	1150	60.13	112.42	0.00	0.00
RCID_HOTEL	EXISTING	050Y001HR	0.50	98.40	105.00	1.88	1316	0.88	198.87	0.00	0.00
RCID_HOTEL	EXISTING	050Y002HR	0.80	98.40	105.00	1.88	1315	1.21	207.00	0.00	0.00
RCID_HOTEL	EXISTING	050Y004HR	2.00	98.40	105.00	1.88	1315	2.98	221.61	0.00	0.00
RCID_HOTEL	EXISTING	050Y008HR	4.00	98.40	105.00	1.88	1308	4.16	228.29	0.00	0.00
RCID_HOTEL	EXISTING	050Y024HR	12.00	96.14	105.00	0.00	1280	12.19	130.95	0.00	0.00
RCID_HOTEL	EXISTING	050Y072HR	60.00	99.88	105.00	0.00	992	60.10	131.33	0.00	0.00
RCID_HOTEL	EXISTING	100Y001HR	0.50	98.40	105.00	1.88	1316	0.83	218.46	0.00	0.00
RCID_HOTEL	EXISTING	100Y002HR	0.80	98.40	105.00	1.88	1314	1.29	224.78	0.00	0.00
RCID_HOTEL	EXISTING	100Y004HR	2.00	98.40	105.00	1.88	1314	2.63	236.47	0.00	0.00
RCID_HOTEL	EXISTING	100Y008HR	4.00	98.40	105.00	1.88	1302	4.02	248.35	0.00	0.00
RCID_HOTEL	EXISTING	100Y024HR	12.00	96.31	105.00	0.00	1296	15.05	159.60	0.00	0.00
RCID_HOTEL	EXISTING	100Y072HR	60.00	100.41	105.00	0.00	434	60.05	169.32	0.00	0.00

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	0.00	99.53	103.49	5697	0.00	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	0.50	99.53	103.49	5698	0.00	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	1.00	99.53	103.49	5702	0.01	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	1.50	99.53	103.49	5714	0.01	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	2.00	99.53	103.49	5737	0.01	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	2.50	99.55	103.49	5970	0.16	0.01	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	3.00	99.62	103.49	4724	0.56	0.40	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	3.50	99.68	103.49	5025	1.13	1.01	0.1	0.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	3.75	99.70	103.49	5060	1.40	1.27	0.1	0.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	4.00	99.72	103.49	5094	1.66	1.56	0.1	0.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	4.25	99.74	103.49	5123	2.12	1.99	0.2	0.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	4.50	99.77	103.49	5163	2.84	2.50	0.2	0.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	4.75	99.94	103.49	5351	6.16	5.28	0.3	0.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	5.00	100.05	103.49	5487	7.93	7.44	0.4	0.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	5.25	100.14	103.49	5594	9.80	9.23	0.6	0.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	5.50	100.22	103.49	5683	11.23	10.82	0.8	0.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	5.75	100.28	103.49	5748	12.35	12.02	1.1	1.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	6.00	100.33	103.49	5806	13.44	13.11	1.4	1.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	6.25	100.43	103.49	5912	16.18	15.26	1.7	1.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	6.42	100.53	103.49	6025	18.80	17.68	1.9	1.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	6.58	100.64	103.49	6147	21.91	20.77	2.2	2.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	6.75	100.75	103.49	6265	25.33	24.21	2.5	2.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	6.92	100.85	103.49	6421	28.74	27.65	2.9	2.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	7.08	100.95	103.49	6536	32.26	31.15	3.3	3.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	7.25	101.05	103.49	6656	36.49	35.22	3.8	3.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	7.42	101.17	103.49	6786	40.99	39.70	4.3	4.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	7.58	101.27	103.49	10832	45.66	43.89	4.9	4.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	7.75	101.39	103.49	11128	51.85	49.24	5.6	5.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	7.92	101.54	103.49	11466	58.39	55.64	6.3	6.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	8.08	101.68	103.49	11787	64.49	61.69	7.2	6.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	8.25	101.83	103.49	12133	71.56	68.46	8.1	7.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	8.42	101.98	103.49	12432	78.19	75.24	9.1	8.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	8.58	102.09	103.49	12687	85.05	83.35	10.3	9.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	8.75	102.15	103.49	12781	92.99	90.97	11.5	11.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	8.92	102.25	103.49	13083	99.38	97.19	12.8	12.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	9.08	102.34	103.49	13302	103.77	102.20	14.2	13.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	9.25	102.39	103.49	13423	105.86	105.15	15.7	15.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	9.42	102.41	103.49	13465	106.50	106.23	17.1	16.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	9.58	102.42	103.49	13482	106.32	106.26	18.6	18.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	9.75	102.42	103.49	13482	105.84	105.91	20.1	19.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	9.92	102.42	103.49	13478	105.19	105.18	21.5	20.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	10.08	102.41	103.49	13470	104.12	104.50	22.9	22.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	10.25	102.38	103.49	13366	101.49	102.71	24.4	23.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	10.42	102.31	103.49	13194	97.60	99.04	25.7	25.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	10.58	102.25	103.49	13044	94.03	95.26	27.1	26.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	10.75	102.20	103.49	12917	91.01	92.13	28.3	27.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	10.92	102.15	103.49	12808	88.75	89.58	29.6	29.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	11.08	102.12	103.49	12726	86.99	87.69	30.8	30.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	11.25	102.08	103.49	12622	84.90	85.85	32.0	31.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	11.42	102.03	103.49	12498	82.33	83.36	33.1	32.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	11.58	101.98	103.49	12374	79.65	80.67	34.2	33.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	11.75	101.93	103.49	12268	77.00	78.01	35.3	34.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	11.92	101.89	103.49	12176	74.50	75.43	36.4	35.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	12.08	101.87	103.49	12257	71.11	68.48	37.4	36.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	12.25	101.92	103.49	12350	69.85	69.87	38.3	37.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	12.42	101.91	103.49	12343	69.58	69.67	39.3	38.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	12.58	101.91	103.49	12337	69.18	69.24	40.2	39.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	12.75	101.91	103.49	12330	68.72	68.81	41.2	40.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	12.92	101.90	103.49	12321	68.23	68.31	42.1	41.7

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	13.08	101.89	103.49	12311	67.56	67.75	43.1	42.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	13.25	101.88	103.49	12290	66.24	66.59	44.0	43.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	13.42	101.86	103.49	12238	64.62	65.27	44.9	44.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	13.58	101.82	103.49	12163	62.80	63.57	45.8	45.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	13.75	101.78	103.49	12078	60.88	61.70	46.6	46.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	13.92	101.74	103.49	11990	59.00	59.81	47.4	47.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	14.08	101.69	103.49	11874	57.25	58.60	48.2	47.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	14.25	101.62	103.49	11708	54.64	56.09	49.0	48.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	14.42	101.54	103.49	11536	51.41	52.90	49.7	49.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	14.58	101.47	103.49	11367	48.42	49.75	50.4	50.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	14.75	101.40	103.49	11218	45.98	47.10	51.1	50.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	14.92	101.35	103.49	11091	43.99	44.93	51.7	51.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	15.08	101.30	103.49	10980	42.24	43.09	52.3	52.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	15.33	101.23	103.49	10819	39.57	40.41	53.1	52.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	15.58	101.16	103.49	10662	37.09	37.84	53.9	53.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	15.83	101.11	103.49	10530	35.17	35.75	54.7	54.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	16.08	101.06	103.49	10426	33.68	34.15	55.4	55.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	16.33	101.02	103.49	10335	32.30	32.73	56.1	55.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	16.58	100.99	103.49	10252	31.05	31.42	56.7	56.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	16.83	100.96	103.49	10182	30.15	30.46	57.4	57.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	17.08	100.94	103.49	10127	29.48	29.70	58.0	57.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	17.33	100.92	103.49	10081	28.86	29.07	58.6	58.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	17.58	100.90	103.49	10015	28.00	28.32	59.2	59.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	17.83	100.87	103.49	9941	27.09	27.38	59.7	59.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	18.08	100.84	103.49	9881	26.30	26.55	60.3	60.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	18.58	100.81	103.49	9802	25.37	25.51	61.4	61.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	19.08	100.78	103.49	9727	24.32	24.52	62.4	62.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	19.58	100.74	103.49	6300	22.88	23.08	63.4	63.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	20.08	100.70	103.49	6253	21.90	21.99	64.3	64.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	20.58	100.66	103.49	6201	20.51	20.69	65.2	65.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	21.08	100.62	103.49	6150	19.37	19.48	66.0	65.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	21.58	100.58	103.49	6104	18.29	18.42	66.8	66.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	22.08	100.55	103.49	6066	17.62	17.69	67.5	67.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	22.58	100.52	103.49	6029	16.87	16.98	68.2	68.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	23.08	100.50	103.49	6000	16.40	16.46	68.9	68.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	23.58	100.46	103.49	5956	15.38	15.56	69.6	69.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	24.08	100.41	103.49	5895	14.19	14.35	70.2	70.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	24.58	100.36	103.49	5831	12.92	13.10	70.7	70.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	25.08	100.29	103.49	5718	11.94	12.28	71.2	71.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	25.58	100.22	103.49	5642	10.70	10.87	71.7	71.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	26.08	100.17	103.49	5583	9.62	9.77	72.1	72.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	26.58	100.12	103.49	5531	8.72	8.84	72.5	72.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	27.08	100.09	103.49	5489	7.98	8.09	72.9	72.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	27.58	100.05	103.49	5453	7.38	7.47	73.2	73.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	28.08	100.03	103.49	5423	6.87	6.95	73.5	73.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	28.58	100.00	103.49	5397	6.43	6.50	73.7	73.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	29.08	99.98	103.49	5373	3.82	6.11	74.0	74.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	29.58	99.97	103.49	5352	3.39	5.76	74.1	74.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	30.08	99.94	103.49	5326	5.32	5.30	74.3	74.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	30.58	99.93	103.49	5316	5.10	5.14	74.5	74.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	31.08	99.92	103.49	5300	4.84	4.88	74.7	74.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	31.58	99.91	103.49	5285	4.58	4.62	74.9	75.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	32.08	99.89	103.49	5269	4.32	4.36	75.1	75.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	32.58	99.88	103.49	5251	4.00	4.06	75.3	75.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	33.08	99.84	103.49	5216	3.35	3.45	75.4	75.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	33.58	99.81	103.49	5178	2.71	2.79	75.5	75.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	34.08	99.79	103.49	5150	2.26	2.32	75.6	75.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	34.58	99.77	103.49	5131	1.96	2.00	75.7	75.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	35.08	99.76	103.49	5118	1.75	1.78	75.8	76.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	35.58	99.75	103.49	5109	1.59	1.61	75.9	76.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	36.08	99.74	103.49	5101	1.46	1.48	75.9	76.1
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	36.58	99.74	103.49	5094	1.35	1.37	76.0	76.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	37.08	99.73	103.49	5088	1.26	1.28	76.0	76.2
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	37.58	99.73	103.49	5084	1.19	1.20	76.1	76.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	38.08	99.73	103.49	5080	1.14	1.15	76.1	76.3
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	38.58	99.72	103.49	5076	1.09	1.09	76.2	76.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	39.08	99.72	103.49	5074	1.07	1.07	76.2	76.4
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	39.58	99.72	103.49	5071	1.01	1.02	76.3	76.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	40.08	99.71	103.49	5066	0.94	0.95	76.3	76.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	40.58	99.71	103.49	5062	0.89	0.90	76.4	76.5
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	41.08	99.71	103.49	5059	0.84	0.84	76.4	76.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	41.58	99.71	103.49	5055	0.78	0.79	76.4	76.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	42.08	99.70	103.49	5052	0.74	0.74	76.5	76.6
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	42.58	99.70	103.49	5048	0.69	0.70	76.5	76.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	43.08	99.70	103.49	5045	0.66	0.66	76.5	76.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	43.58	99.70	103.49	5043	0.63	0.64	76.5	76.7
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	44.08	99.69	103.49	5041	0.61	0.61	76.6	76.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	44.58	99.69	103.49	5039	0.59	0.59	76.6	76.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	45.08	99.69	103.49	5038	0.56	0.56	76.6	76.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	45.58	99.69	103.49	5037	0.54	0.54	76.6	76.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	46.08	99.69	103.49	5037	0.53	0.53	76.7	76.8
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	46.58	99.69	103.49	5037	0.51	0.51	76.7	76.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	47.08	99.69	103.49	5036	0.49	0.49	76.7	76.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	47.58	99.69	103.49	5036	0.47	0.48	76.7	76.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	48.08	99.69	103.49	5036	0.46	0.46	76.7	76.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	48.58	99.69	103.49	5036	0.44	0.44	76.8	76.9
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	49.08	99.69	103.49	5035	0.43	0.43	76.8	77.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	49.58	99.69	103.49	5035	0.41	0.41	76.8	77.0
ORANGE025Y024HR	EX_4AFDOT138	EXISTING	50.00	99.69	103.49	5035	0.40	0.40	76.8	77.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	0.00	99.53	103.49	5697	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	0.25	99.53	103.49	5698	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	0.50	99.53	103.49	5698	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	0.75	99.53	103.49	5699	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	1.00	99.53	103.49	5702	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	1.25	99.53	103.49	5707	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	1.50	99.53	103.49	5714	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	1.75	99.53	103.49	5723	0.02	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	2.00	99.53	103.49	5737	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	2.25	99.54	103.49	5781	0.05	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	2.50	99.55	103.49	5913	0.11	0.01	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	2.75	99.57	103.49	4261	0.18	0.05	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	3.00	99.59	103.49	4457	0.23	0.14	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	3.25	99.61	103.49	4577	0.29	0.23	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	3.50	99.61	103.49	4672	0.34	0.30	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	3.75	99.62	103.49	4742	0.37	0.34	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	4.00	99.62	103.49	4778	0.40	0.38	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	4.25	99.63	103.49	4806	0.44	0.41	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	4.50	99.63	103.49	4831	0.47	0.45	0.1	0.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	4.75	99.64	103.49	4853	0.50	0.48	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	5.00	99.64	103.49	4874	0.53	0.51	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	5.25	99.64	103.49	4894	0.56	0.54	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	5.50	99.65	103.49	4914	0.60	0.58	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	5.75	99.65	103.49	4935	0.64	0.62	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	6.00	99.65	103.49	4956	0.68	0.66	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	6.25	99.66	103.49	4976	0.71	0.69	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	6.50	99.66	103.49	4995	0.74	0.73	0.2	0.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	6.75	99.66	103.49	5013	0.78	0.76	0.2	0.2

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	7.00	99.67	103.49	5020	0.81	0.79	0.2	0.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	7.25	99.67	103.49	5025	0.92	0.85	0.2	0.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	7.50	99.70	103.49	5053	1.37	1.23	0.2	0.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	7.75	99.72	103.49	5079	1.57	1.48	0.3	0.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	8.00	99.72	103.49	5087	1.65	1.64	0.3	0.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	8.25	99.73	103.49	5090	1.68	1.68	0.3	0.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	8.50	99.73	103.49	5092	1.71	1.70	0.4	0.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	8.75	99.73	103.49	5093	1.73	1.72	0.4	0.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	9.00	99.73	103.49	5094	1.75	1.74	0.4	0.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	9.25	99.73	103.49	5096	1.77	1.76	0.5	0.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	9.50	99.73	103.49	5097	1.79	1.78	0.5	0.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	9.75	99.73	103.49	5098	1.81	1.80	0.5	0.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	10.00	99.73	103.49	5099	1.82	1.82	0.6	0.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	10.25	99.73	103.49	5100	1.84	1.84	0.6	0.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	10.50	99.73	103.49	5102	1.86	1.85	0.7	0.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	10.75	99.73	103.49	5101	1.82	1.84	0.7	0.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	11.00	99.73	103.49	5102	1.87	1.86	0.7	0.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	11.25	99.74	103.49	5104	1.90	1.89	0.8	0.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	11.50	99.74	103.49	5107	1.96	1.94	0.8	0.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	11.75	99.74	103.49	5109	2.00	1.99	0.9	0.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	12.00	99.74	103.49	5111	2.02	2.01	0.9	0.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	12.25	99.74	103.49	5112	2.04	2.03	0.9	0.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	12.42	99.74	103.49	5113	2.05	2.04	1.0	0.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	12.58	99.74	103.49	5113	2.06	2.05	1.0	1.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	12.75	99.74	103.49	5114	2.07	2.06	1.0	1.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	12.92	99.75	103.49	5115	2.08	2.07	1.0	1.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	13.08	99.75	103.49	5115	2.08	2.08	1.1	1.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	13.25	99.75	103.49	5116	2.09	2.09	1.1	1.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	13.42	99.75	103.49	5116	2.10	2.10	1.1	1.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	13.58	99.75	103.49	5117	2.11	2.11	1.2	1.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	13.75	99.75	103.49	5117	2.12	2.12	1.2	1.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	13.92	99.75	103.49	5118	2.13	2.12	1.2	1.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	14.08	99.75	103.49	5118	2.14	2.13	1.3	1.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	14.25	99.75	103.49	5119	2.15	2.14	1.3	1.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	14.42	99.75	103.49	5120	2.15	2.15	1.3	1.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	14.58	99.75	103.49	5120	2.16	2.16	1.3	1.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	14.75	99.75	103.49	5121	2.17	2.17	1.4	1.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	14.92	99.75	103.49	5122	2.18	2.17	1.4	1.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	15.08	99.75	103.49	5122	2.19	2.18	1.4	1.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	15.25	99.75	103.49	5123	2.20	2.19	1.5	1.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	15.42	99.75	103.49	5124	2.20	2.20	1.5	1.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	15.58	99.75	103.49	5125	2.21	2.21	1.5	1.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	15.75	99.75	103.49	5125	2.22	2.22	1.6	1.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	15.92	99.75	103.49	5126	2.23	2.22	1.6	1.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	16.08	99.76	103.49	5127	2.24	2.23	1.6	1.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	16.25	99.76	103.49	5127	2.24	2.24	1.6	1.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	16.42	99.76	103.49	5128	2.25	2.25	1.7	1.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	16.58	99.76	103.49	5129	2.26	2.26	1.7	1.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	16.75	99.76	103.49	5129	2.27	2.26	1.7	1.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	16.92	99.76	103.49	5130	2.28	2.27	1.8	1.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	17.08	99.76	103.49	5131	2.28	2.28	1.8	1.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	17.25	99.76	103.49	5131	2.29	2.29	1.8	1.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	17.42	99.76	103.49	5132	2.30	2.29	1.9	1.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	17.58	99.76	103.49	5133	2.31	2.30	1.9	1.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	17.75	99.76	103.49	5133	2.31	2.31	1.9	1.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	17.92	99.76	103.49	5134	2.32	2.32	2.0	1.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	18.08	99.76	103.49	5134	2.33	2.32	2.0	2.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	18.25	99.76	103.49	5135	2.33	2.33	2.0	2.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	18.42	99.76	103.49	5136	2.34	2.34	2.1	2.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	18.58	99.76	103.49	5136	2.35	2.35	2.1	2.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	18.75	99.76	103.49	5137	2.36	2.36	2.1	2.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	18.92	99.76	103.49	5138	2.38	2.37	2.2	2.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	19.08	99.77	103.49	5139	2.40	2.39	2.2	2.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	19.25	99.77	103.49	5141	2.42	2.41	2.2	2.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	19.42	99.77	103.49	5142	2.43	2.43	2.3	2.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	19.58	99.77	103.49	5143	2.45	2.44	2.3	2.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	19.75	99.77	103.49	5144	2.46	2.45	2.3	2.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	19.92	99.77	103.49	5145	2.47	2.47	2.4	2.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	20.08	99.77	103.49	5146	2.48	2.48	2.4	2.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	20.25	99.77	103.49	5147	2.49	2.49	2.4	2.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	20.42	99.77	103.49	5147	2.50	2.50	2.5	2.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	20.58	99.77	103.49	5148	2.51	2.50	2.5	2.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	20.75	99.77	103.49	5149	2.51	2.51	2.5	2.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	20.92	99.77	103.49	5149	2.52	2.52	2.6	2.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	21.08	99.77	103.49	5150	2.53	2.52	2.6	2.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	21.25	99.77	103.49	5150	2.53	2.53	2.6	2.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	21.42	99.77	103.49	5151	2.54	2.54	2.7	2.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	21.58	99.78	103.49	5151	2.55	2.54	2.7	2.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	21.75	99.78	103.49	5152	2.55	2.55	2.7	2.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	21.92	99.78	103.49	5152	2.56	2.56	2.8	2.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	22.08	99.78	103.49	5153	2.57	2.56	2.8	2.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	22.25	99.78	103.49	5153	2.57	2.57	2.8	2.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	22.42	99.78	103.49	5154	2.58	2.58	2.9	2.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	22.58	99.78	103.49	5154	2.58	2.58	2.9	2.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	22.75	99.78	103.49	5155	2.59	2.59	2.9	2.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	22.92	99.78	103.49	5155	2.60	2.59	3.0	3.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	23.08	99.78	103.49	5156	2.60	2.60	3.0	3.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	23.25	99.78	103.49	5156	2.61	2.60	3.1	3.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	23.42	99.78	103.49	5157	2.61	2.61	3.1	3.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	23.58	99.78	103.49	5157	2.62	2.62	3.1	3.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	23.75	99.78	103.49	5158	2.63	2.62	3.2	3.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	23.92	99.78	103.49	5158	2.63	2.63	3.2	3.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	24.08	99.78	103.49	5160	2.65	2.62	3.2	3.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	24.25	99.79	103.49	5166	2.68	2.65	3.3	3.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	24.42	99.79	103.49	5171	2.75	2.71	3.3	3.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	24.58	99.79	103.49	5175	2.82	2.78	3.3	3.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	24.75	99.80	103.49	5180	2.88	2.85	3.4	3.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	24.92	99.80	103.49	5185	2.95	2.92	3.4	3.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	25.08	99.80	103.49	5189	3.02	2.98	3.5	3.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	25.25	99.81	103.49	5194	3.08	3.05	3.5	3.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	25.42	99.81	103.49	5198	3.14	3.11	3.6	3.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	25.58	99.81	103.49	5202	3.19	3.16	3.6	3.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	25.75	99.82	103.49	5206	3.24	3.22	3.6	3.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	25.92	99.82	103.49	5209	3.29	3.26	3.7	3.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	26.08	99.82	103.49	5213	3.33	3.31	3.7	3.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	26.25	99.83	103.49	5215	3.37	3.35	3.8	3.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	26.42	99.83	103.49	5218	3.40	3.38	3.8	3.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	26.58	99.83	103.49	5221	3.43	3.42	3.9	3.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	26.75	99.83	103.49	5223	3.46	3.45	3.9	3.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	26.92	99.83	103.49	5225	3.49	3.48	4.0	3.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	27.08	99.83	103.49	5227	3.52	3.50	4.0	4.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	27.25	99.84	103.49	5229	3.54	3.53	4.1	4.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	27.42	99.84	103.49	5231	3.56	3.55	4.1	4.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	27.58	99.84	103.49	5232	3.59	3.58	4.2	4.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	27.75	99.84	103.49	5234	3.61	3.60	4.2	4.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	27.92	99.84	103.49	5235	3.63	3.62	4.3	4.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	28.08	99.84	103.49	5237	3.65	3.64	4.3	4.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	28.25	99.84	103.49	5238	3.67	3.66	4.4	4.3

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	28.42	99.84	103.49	5239	3.68	3.68	4.4	4.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	28.58	99.85	103.49	5241	3.70	3.69	4.5	4.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	28.75	99.85	103.49	5242	3.72	3.71	4.5	4.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	28.92	99.85	103.49	5243	3.74	3.73	4.6	4.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	29.08	99.85	103.49	5244	3.75	3.74	4.6	4.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	29.25	99.85	103.49	5246	3.77	3.76	4.7	4.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	29.42	99.85	103.49	5247	3.79	3.78	4.7	4.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	29.58	99.85	103.49	5248	3.80	3.79	4.8	4.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	29.75	99.85	103.49	5249	3.82	3.81	4.8	4.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	29.92	99.85	103.49	5250	3.84	3.83	4.9	4.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	30.08	99.86	103.49	5252	3.88	3.86	4.9	4.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	30.25	99.86	103.49	5255	3.92	3.90	5.0	4.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	30.42	99.86	103.49	5258	3.96	3.94	5.0	5.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	30.58	99.86	103.49	5260	4.00	3.98	5.1	5.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	30.75	99.86	103.49	5262	4.03	4.01	5.2	5.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	30.92	99.87	103.49	5264	4.05	4.04	5.2	5.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	31.08	99.87	103.49	5265	4.07	4.06	5.3	5.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	31.25	99.87	103.49	5267	4.09	4.08	5.3	5.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	31.42	99.87	103.49	5268	4.11	4.10	5.4	5.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	31.58	99.87	103.49	5269	4.12	4.11	5.4	5.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	31.75	99.87	103.49	5270	4.14	4.13	5.5	5.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	31.92	99.87	103.49	5271	4.15	4.15	5.5	5.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	32.08	99.87	103.49	5272	4.17	4.16	5.6	5.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	32.25	99.87	103.49	5273	4.18	4.18	5.7	5.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	32.42	99.87	103.49	5274	4.20	4.19	5.7	5.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	32.58	99.87	103.49	5275	4.21	4.21	5.8	5.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	32.75	99.88	103.49	5276	4.23	4.22	5.8	5.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	32.92	99.88	103.49	5277	4.24	4.24	5.9	5.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	33.08	99.88	103.49	5278	4.26	4.25	6.0	5.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	33.25	99.88	103.49	5279	4.27	4.26	6.0	6.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	33.42	99.88	103.49	5280	4.29	4.28	6.1	6.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	33.58	99.88	103.49	5281	4.30	4.29	6.1	6.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	33.75	99.88	103.49	5282	4.31	4.31	6.2	6.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	33.92	99.88	103.49	5283	4.33	4.32	6.2	6.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	34.08	99.88	103.49	5284	4.34	4.33	6.3	6.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	34.25	99.88	103.49	5285	4.35	4.35	6.4	6.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	34.42	99.88	103.49	5285	4.37	4.36	6.4	6.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	34.58	99.88	103.49	5286	4.38	4.37	6.5	6.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	34.75	99.89	103.49	5287	4.39	4.39	6.5	6.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	34.92	99.89	103.49	5288	4.41	4.40	6.6	6.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	35.08	99.89	103.49	5289	4.42	4.41	6.7	6.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	35.25	99.89	103.49	5290	4.43	4.42	6.7	6.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	35.42	99.89	103.49	5290	4.44	4.44	6.8	6.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	35.58	99.89	103.49	5291	4.46	4.45	6.9	6.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	35.75	99.89	103.49	5292	4.47	4.46	6.9	6.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	35.92	99.89	103.49	5293	4.48	4.47	7.0	6.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	36.08	99.89	103.49	5294	4.49	4.49	7.0	7.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	36.25	99.89	103.49	5295	4.51	4.50	7.1	7.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	36.42	99.89	103.49	5295	4.52	4.51	7.2	7.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	36.58	99.89	103.49	5296	4.54	4.53	7.2	7.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	36.75	99.89	103.49	5297	4.55	4.54	7.3	7.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	36.92	99.89	103.49	5298	4.57	4.56	7.3	7.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	37.08	99.90	103.49	5299	4.58	4.57	7.4	7.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	37.25	99.90	103.49	5300	4.59	4.59	7.5	7.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	37.42	99.90	103.49	5301	4.61	4.60	7.5	7.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	37.58	99.90	103.49	5302	4.62	4.61	7.6	7.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	37.75	99.90	103.49	5303	4.63	4.63	7.7	7.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	37.92	99.90	103.49	5304	4.65	4.64	7.7	7.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	38.08	99.90	103.49	5305	4.66	4.65	7.8	7.7

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	38.25	99.90	103.49	5305	4.67	4.67	7.9	7.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	38.42	99.90	103.49	5306	4.69	4.68	7.9	7.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	38.58	99.90	103.49	5307	4.70	4.70	8.0	7.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	38.75	99.90	103.49	5308	4.72	4.71	8.1	8.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	38.92	99.90	103.49	5310	4.74	4.73	8.1	8.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	39.08	99.91	103.49	5311	4.76	4.75	8.2	8.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	39.25	99.91	103.49	5312	4.77	4.76	8.2	8.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	39.42	99.91	103.49	5313	4.79	4.78	8.3	8.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	39.58	99.91	103.49	5314	4.81	4.80	8.4	8.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	39.75	99.91	103.49	5315	4.82	4.82	8.4	8.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	39.92	99.91	103.49	5316	4.84	4.83	8.5	8.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	40.08	99.91	103.49	5317	4.86	4.85	8.6	8.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	40.25	99.91	103.49	5318	4.87	4.87	8.6	8.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	40.42	99.91	103.49	5319	4.89	4.88	8.7	8.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	40.58	99.91	103.49	5320	4.91	4.90	8.8	8.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	40.75	99.91	103.49	5321	4.92	4.91	8.8	8.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	40.92	99.92	103.49	5322	4.94	4.93	8.9	8.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	41.08	99.92	103.49	5323	4.95	4.94	9.0	8.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	41.25	99.92	103.49	5324	4.96	4.96	9.1	9.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	41.42	99.92	103.49	5325	4.98	4.97	9.1	9.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	41.58	99.92	103.49	5326	4.99	4.99	9.2	9.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	41.75	99.92	103.49	5327	5.01	5.00	9.3	9.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	41.92	99.92	103.49	5328	5.02	5.01	9.3	9.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	42.08	99.92	103.49	5328	5.03	5.03	9.4	9.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	42.25	99.92	103.49	5329	5.05	5.04	9.5	9.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	42.42	99.92	103.49	5330	5.06	5.05	9.5	9.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	42.58	99.92	103.49	5331	5.07	5.06	9.6	9.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	42.75	99.92	103.49	5332	5.08	5.08	9.7	9.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	42.92	99.92	103.49	5332	5.09	5.09	9.7	9.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	43.08	99.93	103.49	5333	5.11	5.10	9.8	9.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	43.25	99.93	103.49	5334	5.12	5.11	9.9	9.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	43.42	99.93	103.49	5335	5.13	5.12	10.0	9.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	43.58	99.93	103.49	5335	5.14	5.14	10.0	10.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	43.75	99.93	103.49	5336	5.15	5.15	10.1	10.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	43.92	99.93	103.49	5337	5.16	5.16	10.2	10.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	44.08	99.93	103.49	5337	5.17	5.17	10.2	10.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	44.25	99.93	103.49	5338	5.19	5.18	10.3	10.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	44.42	99.93	103.49	5339	5.20	5.19	10.4	10.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	44.58	99.93	103.49	5340	5.21	5.20	10.5	10.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	44.75	99.93	103.49	5340	5.22	5.21	10.5	10.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	44.92	99.93	103.49	5341	5.23	5.22	10.6	10.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	45.08	99.93	103.49	5342	5.24	5.23	10.7	10.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	45.25	99.93	103.49	5342	5.25	5.24	10.7	10.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	45.42	99.93	103.49	5343	5.26	5.25	10.8	10.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	45.58	99.93	103.49	5344	5.27	5.26	10.9	10.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	45.75	99.94	103.49	5344	5.28	5.27	11.0	10.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	45.92	99.94	103.49	5345	5.29	5.29	11.0	11.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	46.08	99.94	103.49	5346	5.30	5.30	11.1	11.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	46.25	99.94	103.49	5346	5.31	5.31	11.2	11.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	46.42	99.94	103.49	5347	5.32	5.32	11.3	11.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	46.58	99.94	103.49	5347	5.33	5.33	11.3	11.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	46.75	99.94	103.49	5348	5.34	5.34	11.4	11.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	46.92	99.94	103.49	5349	5.35	5.35	11.5	11.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	47.08	99.94	103.49	5349	5.36	5.35	11.5	11.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	47.25	99.94	103.49	5350	5.37	5.36	11.6	11.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	47.42	99.94	103.49	5351	5.38	5.37	11.7	11.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	47.58	99.94	103.49	5351	5.39	5.38	11.8	11.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	47.75	99.94	103.49	5352	5.40	5.39	11.8	11.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	47.92	99.94	103.49	5352	5.41	5.40	11.9	11.9

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	48.08	99.94	103.49	5353	5.43	5.42	12.0	11.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	48.33	99.95	103.49	5356	5.49	5.46	12.1	12.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	48.58	99.95	103.49	5361	5.57	5.54	12.2	12.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	48.83	99.95	103.49	5366	5.65	5.62	12.3	12.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	49.08	99.96	103.49	5371	5.73	5.70	12.5	12.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	49.33	99.96	103.49	5376	5.80	5.78	12.6	12.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	49.58	99.97	103.49	5380	5.87	5.85	12.7	12.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	49.83	99.97	103.49	5384	5.94	5.92	12.8	12.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	50.08	99.97	103.49	5389	6.01	5.98	12.9	12.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	50.33	99.98	103.49	5396	6.14	6.10	13.1	13.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	50.58	99.99	103.49	5406	6.32	6.26	13.2	13.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	50.83	100.00	103.49	5416	6.49	6.43	13.3	13.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	51.08	100.01	103.49	5426	6.65	6.60	13.5	13.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	51.33	100.02	103.49	5437	6.83	6.77	13.6	13.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	51.58	100.03	103.49	5449	7.02	6.96	13.7	13.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	51.83	100.04	103.49	5460	7.20	7.14	13.9	13.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	52.08	100.04	103.49	5470	7.38	7.32	14.0	14.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	52.33	100.06	103.49	5487	7.71	7.60	14.2	14.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	52.58	100.08	103.49	5510	8.12	7.99	14.4	14.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	52.83	100.10	103.49	5534	8.52	8.40	14.5	14.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	53.08	100.14	103.49	5575	9.08	9.16	14.7	14.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	53.33	100.15	103.49	5586	9.46	9.33	14.9	14.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	53.58	100.17	103.49	5614	10.00	9.83	15.1	15.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	53.83	100.20	103.49	5643	10.51	10.36	15.3	15.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	54.08	100.22	103.49	5670	11.00	10.84	15.5	15.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	54.33	100.25	103.49	5701	11.61	11.42	15.8	15.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	54.58	100.28	103.49	5736	12.26	12.07	16.0	15.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	54.83	100.31	103.49	5768	12.86	12.69	16.3	16.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	55.08	100.33	103.49	5797	13.43	13.26	16.6	16.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	55.33	100.36	103.49	5829	14.09	13.90	16.8	16.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	55.58	100.39	103.49	5863	14.76	14.58	17.1	17.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	55.83	100.42	103.49	5893	15.35	15.19	17.4	17.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	56.08	100.44	103.49	5919	15.88	15.72	17.8	17.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	56.33	100.47	103.49	5951	16.61	16.40	18.1	18.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	56.58	100.51	103.49	5988	17.40	17.18	18.5	18.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	56.83	100.54	103.49	6021	18.09	17.90	18.8	18.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	57.08	100.56	103.49	6049	18.72	18.53	19.2	19.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	57.33	100.59	103.49	6085	19.65	19.42	19.6	19.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	57.58	100.63	103.49	6123	20.71	20.47	20.0	19.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	57.83	100.67	103.49	6164	21.84	21.59	20.5	20.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	58.08	100.70	103.49	6203	22.94	22.70	20.9	20.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	58.33	100.74	103.49	6244	24.19	23.92	21.4	21.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	58.58	100.78	103.49	6344	25.55	25.17	21.9	21.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	58.83	100.85	103.49	6416	27.89	27.38	22.5	22.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	59.08	100.92	103.49	6503	30.87	30.18	23.1	22.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	59.33	101.05	103.49	6645	36.14	34.97	23.8	23.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	59.58	101.30	103.49	6916	49.45	45.09	24.7	24.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	59.83	102.06	103.49	12536	92.89	84.20	26.1	25.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	60.08	102.80	103.49	14491	132.73	120.62	28.5	27.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	60.33	103.24	103.49	15569	162.24	159.48	31.5	30.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	60.58	103.31	103.49	15641	166.84	166.93	34.9	34.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	60.83	103.26	103.49	15542	161.19	162.59	38.3	37.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	61.08	103.15	103.49	15318	150.68	153.23	41.5	40.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	61.33	102.97	103.49	14847	137.56	140.80	44.5	43.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	61.58	102.76	103.49	14297	123.80	127.17	47.2	46.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	61.83	102.55	103.49	13753	110.33	113.51	49.6	49.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	62.08	102.35	103.49	13262	98.17	101.00	51.8	51.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	62.33	102.16	103.49	12803	87.09	89.72	53.7	53.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	62.58	101.99	103.49	12399	78.43	80.49	55.4	55.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	62.83	101.86	103.49	12177	71.96	71.62	56.9	56.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	63.08	101.89	103.49	12297	66.65	67.05	58.4	58.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	63.33	101.85	103.49	12224	64.00	64.64	59.7	59.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	63.58	101.80	103.49	12118	61.71	62.38	61.0	60.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	63.83	101.75	103.49	12016	59.69	60.28	62.3	62.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	64.08	101.71	103.49	11922	57.81	58.41	63.5	63.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	64.33	101.66	103.49	11800	55.20	56.04	64.7	64.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	64.58	101.58	103.49	11632	52.35	53.70	65.8	65.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	64.83	101.49	103.49	11400	49.66	50.68	66.8	66.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	65.08	101.41	103.49	11234	47.01	47.85	67.8	67.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	65.33	101.35	103.49	11087	44.61	45.35	68.8	68.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	65.58	101.29	103.49	10957	42.53	43.16	69.7	69.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	65.83	101.25	103.49	10846	40.78	41.31	70.5	70.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	66.08	101.21	103.49	10752	39.32	39.77	71.4	71.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	66.33	101.17	103.49	10671	38.09	38.47	72.2	72.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	66.58	101.14	103.49	10601	37.04	37.37	72.9	72.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	66.83	101.12	103.49	10539	36.12	36.40	73.7	73.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	67.08	101.09	103.49	10483	35.30	35.55	74.4	74.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	67.33	101.07	103.49	10433	34.57	34.80	75.1	75.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	67.58	101.05	103.49	10377	33.76	34.06	75.9	75.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	67.83	101.03	103.49	10310	32.94	33.17	76.5	76.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	68.08	101.01	103.49	10267	32.31	32.52	77.2	77.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	68.33	100.99	103.49	10214	31.36	31.67	77.9	77.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	68.58	100.96	103.49	10136	30.15	30.54	78.5	78.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	68.83	100.92	103.49	10060	29.03	29.37	79.1	79.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	69.08	100.89	103.49	9993	28.08	28.37	79.7	79.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	69.33	100.87	103.49	9935	27.29	27.53	80.3	80.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	69.58	100.85	103.49	9885	26.61	26.83	80.8	80.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	69.83	100.83	103.49	9842	26.04	26.22	81.4	81.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	70.08	100.82	103.49	6389	25.57	25.71	81.9	81.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	70.33	100.80	103.49	6366	25.08	25.17	82.4	82.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	70.58	100.79	103.49	6350	24.67	24.76	83.0	82.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	70.83	100.77	103.49	6335	24.31	24.39	83.5	83.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	71.08	100.76	103.49	6321	23.98	24.05	84.0	83.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	71.33	100.75	103.49	6308	23.66	23.73	84.4	84.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	71.58	100.74	103.49	6296	23.36	23.43	84.9	84.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	71.83	100.73	103.49	6283	23.06	23.13	85.4	85.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	72.08	100.72	103.49	6269	22.65	22.77	85.9	85.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	72.33	100.69	103.49	6234	21.49	21.79	86.3	86.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	72.58	100.64	103.49	6174	19.76	20.15	86.8	86.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	72.83	100.59	103.49	6109	18.15	18.51	87.2	87.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	73.08	100.53	103.49	6048	16.84	17.17	87.5	87.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	73.33	100.49	103.49	5994	15.79	16.07	87.9	87.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	73.58	100.45	103.49	5948	14.91	15.14	88.2	88.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	73.83	100.42	103.49	5907	14.16	14.37	88.5	88.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	74.08	100.39	103.49	5872	13.52	13.70	88.8	88.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	74.33	100.36	103.49	5840	12.95	13.11	89.0	89.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	74.58	100.34	103.49	5810	12.43	12.58	89.3	89.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	74.83	100.32	103.49	5783	11.95	12.09	89.5	89.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	75.08	100.27	103.49	5695	11.55	11.81	89.8	89.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	75.33	100.23	103.49	5657	10.92	11.10	90.0	90.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	75.58	100.21	103.49	5626	10.35	10.52	90.2	90.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	75.83	100.18	103.49	5596	9.82	9.98	90.5	90.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	76.08	100.15	103.49	5568	9.33	9.48	90.7	90.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	76.33	100.13	103.49	5543	8.89	9.02	90.8	90.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	76.58	100.11	103.49	5520	8.49	8.61	91.0	91.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	76.83	100.09	103.49	5498	8.12	8.23	91.2	91.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	77.08	100.08	103.49	5479	7.78	7.89	91.4	91.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	77.33	100.06	103.49	5460	7.48	7.57	91.5	91.5

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	77.58	100.04	103.49	5443	7.19	7.28	91.7	91.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	77.83	100.03	103.49	5427	6.92	7.00	91.8	91.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	78.08	100.02	103.49	5413	6.68	6.75	91.9	92.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	78.33	100.01	103.49	5399	6.44	6.51	92.1	92.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	78.58	99.99	103.49	5385	6.23	6.29	92.2	92.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	78.83	99.98	103.49	5373	6.02	6.08	92.3	92.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	79.08	99.97	103.49	5361	8.38	5.88	92.5	92.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	79.33	99.96	103.49	5350	8.22	5.70	92.7	92.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	79.58	99.95	103.49	5336	4.35	5.43	92.8	92.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	79.83	99.94	103.49	5326	5.26	5.28	92.9	92.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	80.08	99.93	103.49	5319	5.12	5.16	93.0	93.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	80.33	99.93	103.49	5309	4.95	5.01	93.1	93.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	80.58	99.92	103.49	5299	4.77	4.83	93.2	93.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	80.83	99.91	103.49	5286	4.54	4.62	93.3	93.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	81.08	99.89	103.49	5268	4.19	4.30	93.4	93.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	81.33	99.87	103.49	5246	3.80	3.92	93.5	93.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	81.58	99.85	103.49	5225	3.44	3.55	93.5	93.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	81.83	99.83	103.49	5206	3.13	3.22	93.6	93.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	82.08	99.82	103.49	5189	2.87	2.95	93.7	93.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	82.33	99.81	103.49	5176	2.66	2.72	93.7	93.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	82.58	99.80	103.49	5165	2.49	2.54	93.8	93.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	82.83	99.79	103.49	5156	2.34	2.38	93.8	93.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	83.08	99.78	103.49	5148	2.21	2.25	93.9	93.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	83.33	99.78	103.49	5141	2.10	2.13	93.9	93.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	83.58	99.77	103.49	5135	2.01	2.03	94.0	93.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	83.83	99.77	103.49	5130	1.92	1.95	94.0	94.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	84.08	99.76	103.49	5125	1.85	1.87	94.1	94.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	84.33	99.76	103.49	5121	1.78	1.80	94.1	94.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	84.58	99.76	103.49	5117	1.71	1.73	94.1	94.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	84.83	99.75	103.49	5113	1.65	1.67	94.2	94.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	85.08	99.75	103.49	5110	1.60	1.61	94.2	94.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	85.33	99.75	103.49	5106	1.54	1.56	94.2	94.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	85.58	99.74	103.49	5103	1.49	1.50	94.3	94.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	85.83	99.74	103.49	5100	1.44	1.46	94.3	94.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	86.08	99.74	103.49	5098	1.40	1.41	94.3	94.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	86.33	99.74	103.49	5095	1.36	1.37	94.3	94.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	86.58	99.74	103.49	5093	1.33	1.34	94.4	94.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	86.83	99.73	103.49	5091	1.30	1.30	94.4	94.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	87.08	99.73	103.49	5089	1.26	1.27	94.4	94.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	87.33	99.73	103.49	5087	1.23	1.24	94.5	94.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	87.58	99.73	103.49	5085	1.20	1.21	94.5	94.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	87.83	99.73	103.49	5084	1.21	1.21	94.5	94.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	88.08	99.73	103.49	5083	1.18	1.19	94.5	94.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	88.33	99.73	103.49	5080	1.13	1.15	94.6	94.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	88.58	99.72	103.49	5078	1.10	1.11	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	88.83	99.72	103.49	5075	1.06	1.07	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	89.08	99.72	103.49	5073	1.03	1.04	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	89.33	99.72	103.49	5071	1.00	1.01	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	89.58	99.72	103.49	5069	0.97	0.98	94.7	94.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	89.83	99.72	103.49	5067	0.94	0.95	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	90.08	99.71	103.49	5065	0.91	0.92	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	90.33	99.71	103.49	5063	0.88	0.89	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	90.58	99.71	103.49	5062	0.86	0.86	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	90.83	99.71	103.49	5060	0.83	0.84	94.8	94.7
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	91.08	99.71	103.49	5058	0.80	0.81	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	91.33	99.71	103.49	5056	0.78	0.78	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	91.58	99.70	103.49	5054	0.75	0.76	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	91.83	99.70	103.49	5053	0.73	0.74	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	92.08	99.70	103.49	5051	0.72	0.72	94.8	94.8

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	92.33	99.70	103.49	5050	0.70	0.71	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	92.58	99.70	103.49	5049	0.69	0.69	94.9	94.8
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	92.83	99.70	103.49	5048	0.67	0.68	94.9	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	93.08	99.70	103.49	5047	0.66	0.67	94.9	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	93.33	99.70	103.49	5045	0.65	0.65	94.9	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	93.58	99.70	103.49	5044	0.64	0.64	94.9	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	93.83	99.70	103.49	5043	0.63	0.63	94.9	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	94.08	99.70	103.49	5042	0.61	0.62	94.9	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	94.33	99.69	103.49	5041	0.60	0.61	95.0	94.9
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	94.58	99.69	103.49	5040	0.59	0.60	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	94.83	99.69	103.49	5039	0.58	0.59	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	95.08	99.69	103.49	5038	0.57	0.57	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	95.33	99.69	103.49	5038	0.56	0.56	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	95.58	99.69	103.49	5037	0.55	0.55	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	95.83	99.69	103.49	5037	0.54	0.54	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	96.08	99.69	103.49	5037	0.53	0.53	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	96.33	99.69	103.49	5037	0.52	0.52	95.0	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	96.58	99.69	103.49	5037	0.51	0.51	95.1	95.0
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	96.83	99.69	103.49	5037	0.50	0.50	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	97.08	99.69	103.49	5036	0.50	0.50	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	97.33	99.69	103.49	5036	0.49	0.49	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	97.58	99.69	103.49	5036	0.48	0.48	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	97.83	99.69	103.49	5036	0.47	0.47	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	98.08	99.69	103.49	5036	0.46	0.46	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	98.33	99.69	103.49	5036	0.45	0.45	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	98.58	99.69	103.49	5036	0.44	0.44	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	98.83	99.69	103.49	5036	0.43	0.43	95.1	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	99.08	99.69	103.49	5035	0.43	0.43	95.2	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	99.33	99.69	103.49	5035	0.42	0.42	95.2	95.1
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	99.58	99.69	103.49	5035	0.41	0.41	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	99.83	99.69	103.49	5035	0.40	0.40	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	100.08	99.69	103.49	5035	0.39	0.39	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	100.33	99.69	103.49	5035	0.38	0.38	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	100.58	99.69	103.49	5035	0.37	0.37	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	100.83	99.69	103.49	5035	0.37	0.37	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	101.08	99.69	103.49	5035	0.36	0.36	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	101.33	99.69	103.49	5034	0.35	0.35	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	101.58	99.69	103.49	5034	0.34	0.34	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	101.83	99.69	103.49	5034	0.33	0.33	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	102.08	99.69	103.49	5034	0.32	0.33	95.2	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	102.33	99.69	103.49	5034	0.32	0.32	95.3	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	102.58	99.69	103.49	5034	0.31	0.31	95.3	95.2
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	102.83	99.69	103.49	5034	0.30	0.30	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	103.08	99.69	103.49	5034	0.29	0.29	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	103.33	99.69	103.49	5034	0.28	0.28	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	103.58	99.69	103.49	5034	0.28	0.28	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	103.83	99.69	103.49	5034	0.27	0.27	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	104.08	99.69	103.49	5034	0.26	0.26	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	104.33	99.69	103.49	5034	0.26	0.26	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	104.58	99.69	103.49	5034	0.31	0.30	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	104.83	99.69	103.49	5034	0.25	0.25	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	105.08	99.69	103.49	5033	0.24	0.24	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	105.33	99.68	103.49	5017	0.27	0.34	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	105.58	99.67	103.49	5007	0.24	0.27	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	105.83	99.66	103.49	5002	0.23	0.24	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	106.08	99.66	103.49	4999	0.22	0.23	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	106.33	99.66	103.49	4997	0.21	0.22	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	106.58	99.66	103.49	4996	0.21	0.21	95.3	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	106.83	99.66	103.49	4995	0.20	0.21	95.3	95.3

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	107.08	99.66	103.49	4993	0.20	0.20	95.4	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	107.33	99.66	103.49	4992	0.19	0.20	95.4	95.3
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	107.58	99.65	103.49	4991	0.19	0.19	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	107.83	99.65	103.49	4989	0.18	0.19	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	108.08	99.65	103.49	4988	0.18	0.19	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	108.33	99.65	103.49	4987	0.18	0.18	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	108.58	99.65	103.49	4983	0.17	0.18	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	108.83	99.65	103.49	4977	0.17	0.17	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	109.08	99.65	103.49	4972	0.17	0.17	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	109.33	99.65	103.49	4966	0.16	0.17	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	109.58	99.65	103.49	4960	0.16	0.17	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	109.83	99.65	103.49	4955	0.16	0.16	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	110.08	99.64	103.49	4950	0.15	0.16	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	110.33	99.64	103.49	4944	0.15	0.16	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	110.58	99.64	103.49	4939	0.15	0.15	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	110.83	99.64	103.49	4934	0.15	0.15	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	111.08	99.64	103.49	4929	0.14	0.15	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	111.33	99.64	103.49	4924	0.14	0.15	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	111.58	99.64	103.49	4919	0.14	0.14	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	111.83	99.64	103.49	4914	0.14	0.14	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	112.08	99.64	103.49	4909	0.13	0.14	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	112.33	99.64	103.49	4904	0.13	0.14	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	112.58	99.64	103.49	4900	0.13	0.13	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	112.83	99.64	103.49	4895	0.13	0.13	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	113.08	99.63	103.49	4890	0.13	0.13	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	113.33	99.63	103.49	4886	0.12	0.13	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	113.58	99.63	103.49	4881	0.12	0.13	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	113.83	99.63	103.49	4877	0.12	0.12	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	114.08	99.63	103.49	4872	0.12	0.12	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	114.33	99.63	103.49	4868	0.12	0.12	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	114.58	99.63	103.49	4864	0.12	0.12	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	114.83	99.63	103.49	4859	0.11	0.12	95.4	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	115.08	99.63	103.49	4855	0.11	0.12	95.5	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	115.33	99.63	103.49	4851	0.11	0.11	95.5	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	115.58	99.63	103.49	4847	0.11	0.11	95.5	95.4
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	115.83	99.63	103.49	4843	0.11	0.11	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	116.08	99.63	103.49	4839	0.11	0.11	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	116.33	99.63	103.49	4835	0.10	0.11	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	116.58	99.62	103.49	4831	0.10	0.11	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	116.83	99.62	103.49	4828	0.10	0.11	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	117.08	99.62	103.49	4824	0.10	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	117.33	99.62	103.49	4820	0.10	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	117.58	99.62	103.49	4816	0.10	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	117.83	99.62	103.49	4813	0.10	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	118.08	99.62	103.49	4809	0.10	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	118.33	99.62	103.49	4806	0.09	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	118.58	99.62	103.49	4802	0.09	0.10	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	118.83	99.62	103.49	4799	0.09	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	119.08	99.62	103.49	4795	0.09	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	119.33	99.62	103.49	4792	0.09	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	119.58	99.62	103.49	4789	0.09	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	119.83	99.62	103.49	4785	0.09	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	120.08	99.62	103.49	4782	0.09	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	120.33	99.62	103.49	4779	0.08	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	120.58	99.62	103.49	4776	0.08	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	120.83	99.62	103.49	4773	0.08	0.09	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	121.08	99.61	103.49	4770	0.08	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	121.33	99.61	103.49	4766	0.08	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	121.58	99.61	103.49	4763	0.08	0.08	95.5	95.5

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	121.83	99.61	103.49	4761	0.08	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	122.08	99.61	103.49	4758	0.08	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	122.33	99.61	103.49	4755	0.08	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	122.58	99.61	103.49	4752	0.08	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	122.83	99.61	103.49	4749	0.07	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	123.08	99.61	103.49	4746	0.07	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	123.33	99.61	103.49	4743	0.07	0.08	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	123.58	99.61	103.49	4741	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	123.83	99.61	103.49	4738	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	124.08	99.61	103.49	4735	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	124.33	99.61	103.49	4733	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	124.58	99.61	103.49	4730	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	124.83	99.61	103.49	4728	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	125.08	99.61	103.49	4725	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	125.33	99.61	103.49	4723	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	125.58	99.61	103.49	4720	0.07	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	125.83	99.61	103.49	4718	0.06	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	126.08	99.61	103.49	4715	0.06	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	126.33	99.61	103.49	4713	0.06	0.07	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	126.58	99.60	103.49	4710	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	126.83	99.60	103.49	4708	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	127.08	99.60	103.49	4706	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	127.33	99.60	103.49	4703	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	127.58	99.60	103.49	4701	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	127.83	99.60	103.49	4699	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	128.08	99.60	103.49	4697	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	128.33	99.60	103.49	4695	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	128.58	99.60	103.49	4692	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	128.83	99.60	103.49	4690	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	129.08	99.60	103.49	4688	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	129.33	99.60	103.49	4686	0.06	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	129.58	99.60	103.49	4683	0.05	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	129.83	99.60	103.49	4679	0.05	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	130.08	99.60	103.49	4675	0.05	0.06	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	130.33	99.60	103.49	4672	0.05	0.05	95.5	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	130.58	99.60	103.49	4668	0.05	0.05	95.6	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	130.83	99.60	103.49	4664	0.05	0.05	95.6	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	131.08	99.60	103.49	4661	0.05	0.05	95.6	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	131.33	99.60	103.49	4657	0.05	0.05	95.6	95.5
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	131.58	99.60	103.49	4654	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	131.83	99.60	103.49	4650	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	132.08	99.60	103.49	4647	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	132.33	99.60	103.49	4643	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	132.58	99.60	103.49	4640	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	132.83	99.60	103.49	4636	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	133.08	99.60	103.49	4633	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	133.33	99.60	103.49	4630	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	133.58	99.60	103.49	4626	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	133.83	99.59	103.49	4623	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	134.08	99.59	103.49	4620	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	134.33	99.59	103.49	4617	0.05	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	134.58	99.59	103.49	4614	0.04	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	134.83	99.59	103.49	4610	0.04	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	135.08	99.59	103.49	4607	0.04	0.05	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	135.33	99.59	103.49	4604	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	135.58	99.59	103.49	4601	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	135.83	99.59	103.49	4598	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	136.08	99.59	103.49	4595	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	136.33	99.59	103.49	4592	0.04	0.04	95.6	95.6

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	136.58	99.59	103.49	4589	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	136.83	99.59	103.49	4586	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	137.08	99.59	103.49	4583	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	137.33	99.59	103.49	4580	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	137.58	99.59	103.49	4578	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	137.83	99.59	103.49	4575	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	138.08	99.59	103.49	4572	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	138.33	99.59	103.49	4569	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	138.58	99.59	103.49	4566	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	138.83	99.59	103.49	4564	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	139.08	99.59	103.49	4561	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	139.33	99.59	103.49	4558	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	139.58	99.59	103.49	4556	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	139.83	99.59	103.49	4553	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	140.08	99.59	103.49	4550	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	140.33	99.59	103.49	4548	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	140.58	99.59	103.49	4545	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	140.83	99.59	103.49	4543	0.04	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	141.08	99.59	103.49	4540	0.03	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	141.33	99.59	103.49	4538	0.03	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	141.58	99.59	103.49	4535	0.03	0.04	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	141.83	99.59	103.49	4533	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	142.08	99.59	103.49	4530	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	142.33	99.59	103.49	4528	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	142.58	99.59	103.49	4525	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	142.83	99.59	103.49	4523	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	143.08	99.59	103.49	4521	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	143.33	99.59	103.49	4518	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	143.58	99.59	103.49	4516	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	143.83	99.58	103.49	4514	0.03	0.03	95.6	95.6
SFWMD025Y072HR	EX_4AFDOT138	EXISTING	144.00	99.58	103.49	4512	0.03	0.03	95.6	95.6

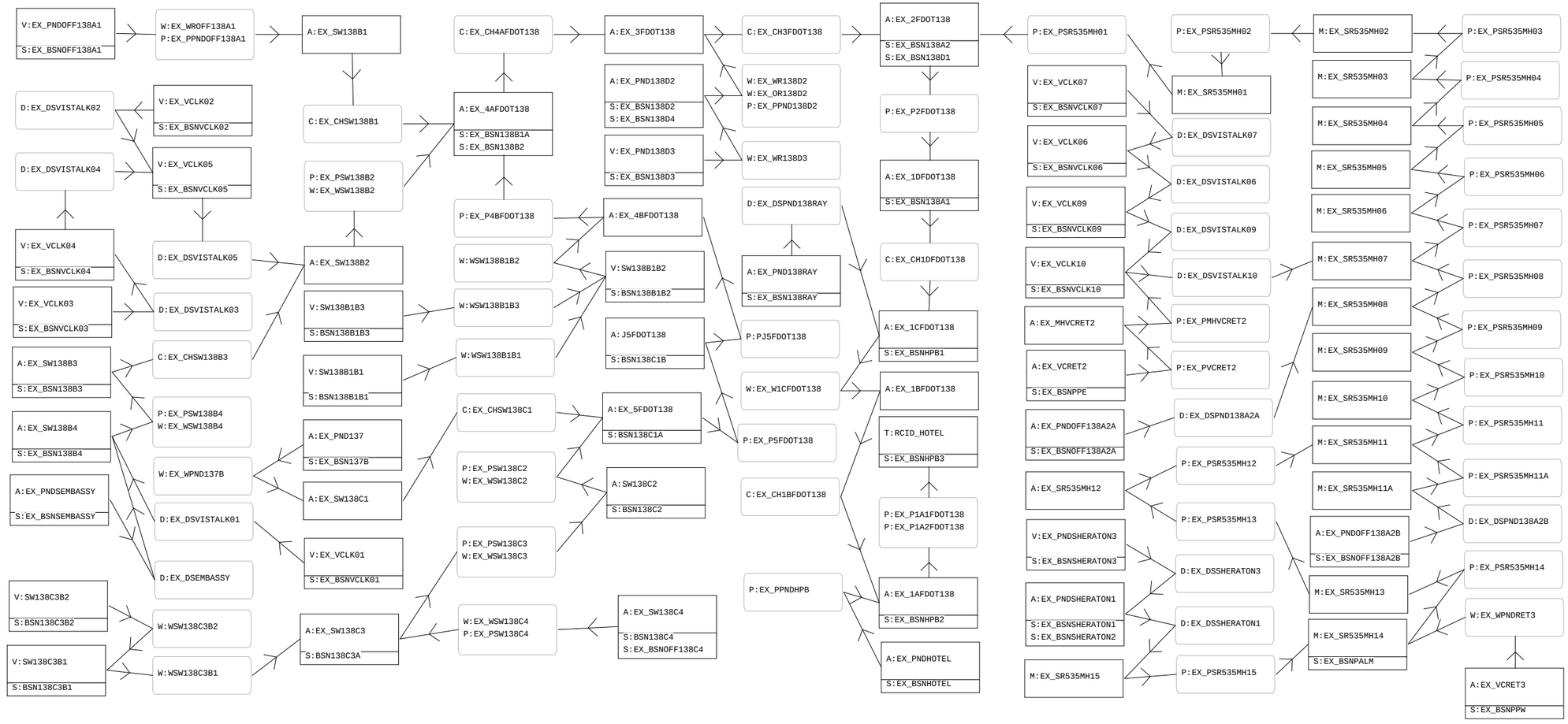
APPENDIX C.1.3: Reedy Creek Outfall (Black Lake) Proposed ICPR-3 Model

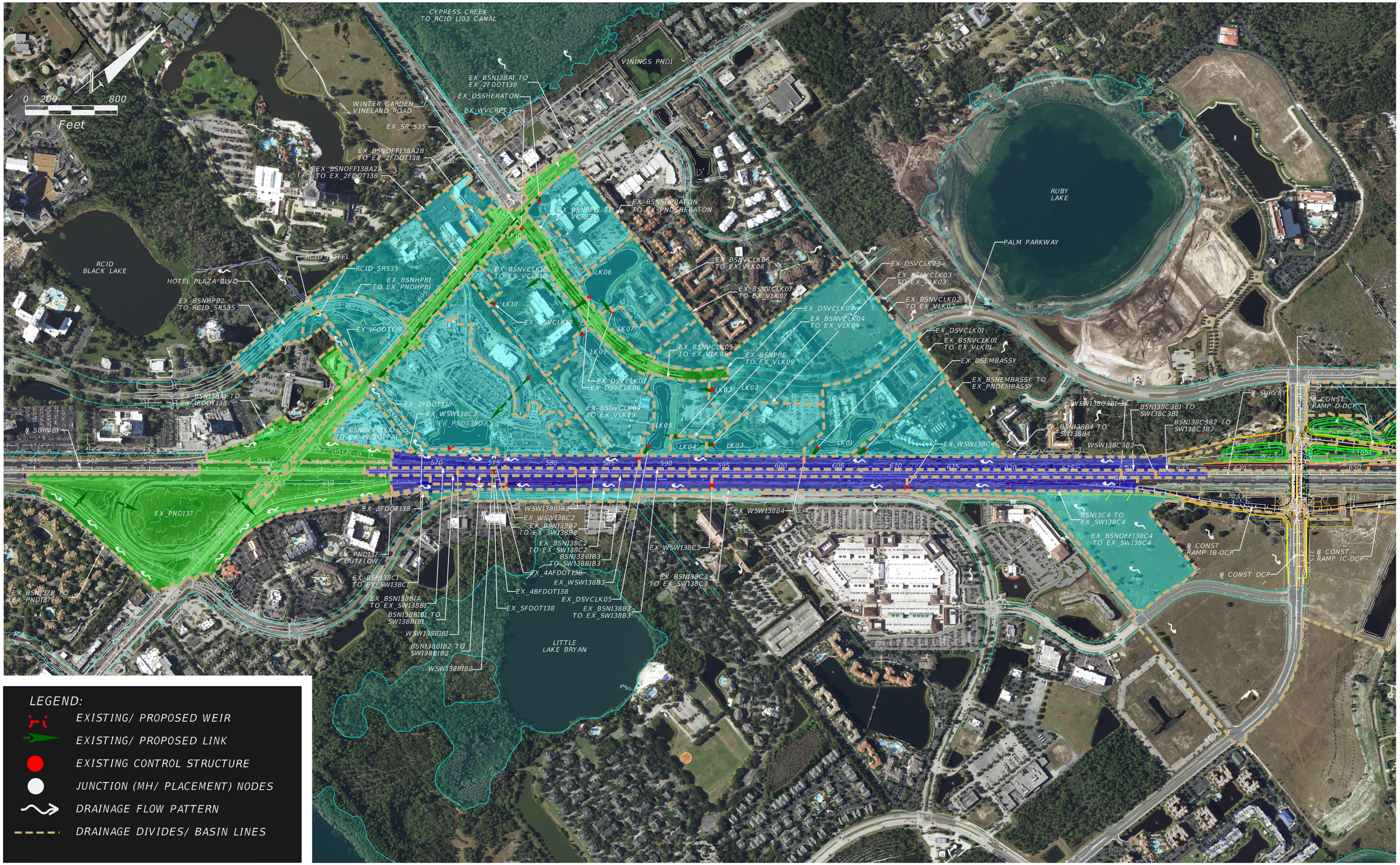
I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Nodal Network Diagram

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench





LEGEND:

- EXISTING/ PROPOSED WEIR
- EXISTING/ PROPOSED LINK
- EXISTING CONTROL STRUCTURE
- JUNCTION (MH/ PLACEMENT) NODES
- DRAINAGE FLOW PATTERN
- DRAINAGE DIVIDES/ BASIN LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL, 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

BONNET CREEK OUTFALL (L101 BLACK LAKE) PROPOSED NODAL NETWORK

FIGURE 15

duongt2 8/21/2019 8:03:58 PM c:\pwworking\aecom_na\duongt2\d0166315\OUTFALL_1_DCP_PST_BASIN_MAP.DGN

==========
==== Basins ==========
==========

Name: BSN138B1B1 Node: SW138B1B1 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 31.89
Area(ac): 1.02 Time Shift(hrs): 0.00
Curve Number: 68.70 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

The information for TC was taken from Ditch Calculations BL400 MD 564+00 to 571+75

Name: BSN138B1B2 Node: SW138B1B2 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 88.77
Area(ac): 1.71 Time Shift(hrs): 0.00
Curve Number: 86.70 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

The information for TC was taken from Ditch Calculations BL400 MD 575+11 to 582+18

Name: BSN138B1B3 Node: SW138B1B3 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 18.60
Area(ac): 1.48 Time Shift(hrs): 0.00
Curve Number: 68.20 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

The information for TC was taken from Ditch Calculations BL400 MD 582+24 to 584+00

Name: BSN138C1A Node: EX_5FDOT138 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 16.22
Area(ac): 1.91 Time Shift(hrs): 0.00
Curve Number: 57.43 Time Increment(min): 1.00
DCIA(%): 28.27 Max Allowable Q(cfs): 999999.000

TIME OF CONCENTRATION IS TAKEN FROM BL400 RT 566+00 TO 574+80 DITCH CALCULATIONS.

Name: BSN138C1B Node: J5FDOT138 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 28.64
Area(ac): 1.14 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 100.00 Max Allowable Q(cfs): 999999.000

THIS AREA WAS PROPOSED TO DIRECT DISCHARGE TO REEDY CREEK WITHOUT TREATMENT PROVIDED.

Name: BSN138C2 Node: SW138C2 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 17.62
Area(ac): 4.96 Time Shift(hrs): 0.00
Curve Number: 57.82 Time Increment(min): 1.00
DCIA(%): 52.82 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D3B. THE BASIN AREAS, BASED ON THE PROPOSED CONSTRUCTION PLANS, IS THE SAME WITH THE EXCEPTION TO THE ADDITIONAL IMPERVIOUS.

TIME OF CONCENTRATION IS TAKEN FROM BL400 RT 578+20 TO 583+00 DITCH CALCULATIONS

Name: BSN138C3A Node: EX_SW138C3 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

```
          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 49.74
              Area(ac): 8.06                     Time Shift(hrs): 0.00
          Curve Number: 68.77                 Time Increment(min): 1.00
               DCIA(%): 43.55               Max Allowable Q(cfs): 999999.000

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.90% FOR 1200-FT AND 0.10% FOR 950-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN
TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.90% SLOPE.

-------------------------------------------------------------------------------------------------------
         Name: BSN138C3B1               Node: SW138C3B1             Status: Onsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 38.30
              Area(ac): 0.44                     Time Shift(hrs): 0.00
          Curve Number: 74.93                 Time Increment(min): 1.00
               DCIA(%): 38.64               Max Allowable Q(cfs): 999999.000

TIME OF CONCENTRATION TAKEN FROM bl md 629+77.01 TO 632+70.81 DITCH CALCULATIONS.


-------------------------------------------------------------------------------------------------------
         Name: BSN138C3B2               Node: SW138C3B2             Status: Onsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 34.99
              Area(ac): 0.66                     Time Shift(hrs): 0.00
          Curve Number: 84.00                 Time Increment(min): 1.00
               DCIA(%): 37.88               Max Allowable Q(cfs): 999999.000

TIME OF CONCENTRATION TAKEN FROM bl md 63275.31 TO 634+75.49 DITCH CALCULATIONS.


-------------------------------------------------------------------------------------------------------
         Name: BSN138C4                 Node: EX_SW138C4            Status: Onsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 18.96
              Area(ac): 5.50                     Time Shift(hrs): 0.00
          Curve Number: 74.51                 Time Increment(min): 1.00
               DCIA(%): 57.09               Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D1B. THE BASIN AREAS, BASED
ON THE PROPOSED CONSTRUCTION PLANS, WILL BE REDUCED MARGINALLY AS SHOWN.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.57% FOR 2057-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE
TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 1.00% SLOPE.



-------------------------------------------------------------------------------------------------------
         Name: EX_BSN137B               Node: EX_PND137             Status: Onsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 54.00
              Area(ac): 39.96                    Time Shift(hrs): 0.00
          Curve Number: 51.39                 Time Increment(min): 1.00
               DCIA(%): 47.07               Max Allowable Q(cfs): 999999.000

THE INFORMATION PROVIDED ON THIS SHEET WAS TAKEN DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 04118-1.
THE BASIN AREA AND CURVE NUMBER WERE VERIFIED IN CADD WITH UPDATED SURVEY.  AS NEEDED, THEY WERE UP-
DATED TO REFLECT CURRENT SITE CONDITION.

PERMITTED WAS 39.17 ACRES,
BASIN DELINEATED BASED ON CURRENT SURVEY WAS 39.93 ACRES,
POND PERMITTED AS DRY WHILE POND APPEARED TO BE WET BASED ON CURRENT TOPOGRAPHIC SURVEY

CN COMPUTED BASED ON PERMITTED/ CURRENT DATA WITH THE ASSUMPTION THAT THE BLEEDER FOR
THE WEIR IS CURRENTLY CLOGGED.  AS SUCH POND IS HOLDING WATER ARTIFICIALLY.

INFORMATION FOR THIS BASIN COULD ALSO BE LOCATED IN APPLICATION #90113-1 AS WELL AS #920616-1.

-------------------------------------------------------------------------------------------------------
         Name: EX_BSN138A1              Node: EX_1DFDOT138          Status: Onsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 20.00
```

```
              Area(ac): 7.35                  Time Shift(hrs): 0.00
        Curve Number: 72.07               Time Increment(min): 1.00
             DCIA(%): 0.00              Max Allowable Q(cfs): 999999.000

INFORMATION TO BE UPDATED WHEN DESIGN SURVEY ARE AVAILABLE.

-------------------------------------------------------------------------------------------------
        Name: EX_BSN138A2             Node: EX_2FDOT138           Status: Offsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 13.71                  Time Shift(hrs): 0.00
        Curve Number: 84.00               Time Increment(min): 1.00
             DCIA(%): 67.91             Max Allowable Q(cfs): 999999.000

VARIOUS INFORMATION (EXISTING PERMITS, SURVEY DATA, AND FIELD VISITS) WERE USED TO DELINEATE THIS BASIN BOUNDARY

-------------------------------------------------------------------------------------------------
        Name: EX_BSN138B1A            Node: EX_4AFDOT138          Status: Onsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                 Time of Conc(min): 23.58
              Area(ac): 2.78                   Time Shift(hrs): 0.00
        Curve Number: 84.00               Time Increment(min): 1.00
             DCIA(%): 64.39             Max Allowable Q(cfs): 999999.000

THIS DRAINAGE AREA WAS INCLUDED AS PART OF THE I-4 WIDENING FROM 4 TO 6 LANES.  IT COULD NOT BE TAKEN TO
THE PROPOSED NEW POND (CURRENT POND 137) AT THE TIME.  IT WAS PROPOSED TO DIRECT DISCHARGE TO THE
EXISTING CROSS DRAIN AND EVENTUALLY DISCHARGES TO RCID UNDER SR 535.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.11% FOR 120-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE
TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.20% SLOPE.

-------------------------------------------------------------------------------------------------
        Name: EX_BSN138B2             Node: EX_4AFDOT138          Status: Onsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                 Time of Conc(min): 27.66
              Area(ac): 3.06                   Time Shift(hrs): 0.00
        Curve Number: 68.42               Time Increment(min): 1.00
             DCIA(%): 49.35             Max Allowable Q(cfs): 999999.000

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.28% FOR 1165-FT  TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE
TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.60% SLOPE.

-------------------------------------------------------------------------------------------------
        Name: EX_BSN138B3             Node: EX_SW138B3            Status: Onsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                 Time of Conc(min): 43.20
              Area(ac): 5.97                   Time Shift(hrs): 0.00
        Curve Number: 49.00               Time Increment(min): 1.00
             DCIA(%): 45.73             Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W2B. THE BASIN AREAS, BASED
ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED.  THE AREA WAS ADJUSTED AND RECOMPUTED
TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION.  AS SUCH, THE BASIN FOR THIS DRAINAGE AREA
IS SHOWN TO BE 5.96 ACRES INSTEAD OF THE PERMITTED 3.87 ACRES.

IT APPEARS THAT THE CALCULATIONS FOR THE BASIN WAS TAKEN AT THE BASELINE OF CONSTRUCTION.  BASED ON DESIGN SURVEY, THE
ENTIRE MEDIAN SWALE IS PART OF THE BASIN.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION
FOR CHANNEL FLOW WITH SLOPE OF 0.093% FOR 811-FT AND SLOPE OF 0.37% FOR 490-FT TO OBTAIN THE VELOCITY TO BE INPUTTED
INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 0.20% SLOPE.

-------------------------------------------------------------------------------------------------
        Name: EX_BSN138B4             Node: EX_SW138B4            Status: Onsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                 Time of Conc(min): 50.76
              Area(ac): 8.51                   Time Shift(hrs): 0.00
        Curve Number: 66.13               Time Increment(min): 1.00
             DCIA(%): 49.35             Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W1B. THE BASIN AREAS, BASED
ON THE CONSTRUCTION PLANS, DO NOT MATCH UP TO THE CALCULATIONS AS DELINEATED.  THE AREA WAS ADJUSTED AND RECOMPUTED
TO REFLECT THE PROPOSED CONSTRUCTION PLANS AS WELL AS CURRENT CONDITION.  AS SUCH, THE BASIN FOR THIS DRAINAGE AREA
IS SHOWN TO BE 8.51 ACRES INSTEAD OF THE PERMITTED 8.92 ACRES.
```

IT APPEARS THAT THE CALCULATIONS FOR THE BASIN WAS TAKEN AT THE BASELINE OF CONSTRUCTION. BASED ON DESIGN SURVEY, THE MEDIAN SWALE AND INSIDE SHOULDER OF THE WEST BOUND LANES ARE NOT PART OF THE BASIN.

TIME OF CONCENTRATION IS COMPUTED WITH CROSS-SECTIONAL AREA OF FS = 1:6; BS = 1.6; AND BOT = 5.0'. USING MANNING EQUATION FOR CHANNEL FLOW WITH SLOPE OF 0.088% FOR 1133-FT AND SLOPE OF 0.40% FOR 1623-FT TO OBTAIN THE VELOCITY TO BE INPUTTED INTO WIN TR-55 TO COMPUTE THE TIME OF CONCENTRATION. SHEET FLOW WAS ACCOUNTED FOR IN THE FIRST 100-FT AT 1.20% SLOPE.

Name: EX_BSN138D1 Node: EX_2FDOT138 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.49 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 10.04 Max Allowable Q(cfs): 999999.000

THE DRAINAGE AREA OF THE FDOT CONVEYANCE DITCH ITSELF.

Name: EX_BSN138D2 Node: EX_PND138D2 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 27.71 Time Shift(hrs): 0.00
Curve Number: 77.00 Time Increment(min): 1.00
DCIA(%): 81.09 Max Allowable Q(cfs): 999999.000

THE INFORMATION PROVIDED FOR THIS BASIN WAS TAKEN DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17 FOR THE CROSS ROAD COMMERCIAL DEVELOPMENT BASIN B. THE ONLY DIFFERENCE BETWEEN THIS AND THE PERMIT DRAINAGE DOCUMENTATION IS THAT THE PERMITTED MODEL DID NOT ACCOUNT FOR % DIRECTLY CONNECTED IMPERVIOUS AREA.

Name: EX_BSN138D3 Node: EX_PND138D3 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 9.82 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 32.59 Max Allowable Q(cfs): 999999.000

THE INFORMATION PROVIDED FOR THIS BASIN WAS TAKEN DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17 FOR THE CROSS ROAD COMMERCIAL DEVELOPMENT BASIN A. THE ONLY DIFFERENCE BETWEEN THIS AND THE PERMIT DRAINAGE DOCUMENTATION IS THAT THE PERMITTED MODEL DID NOT ACCOUNT FOR % DIRECTLY CONNECTED IMPERVIOUS AREA.

Name: EX_BSN138D4 Node: EX_PND138D2 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.56 Time Shift(hrs): 0.00
Curve Number: 93.95 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

NEED TO INCLUDE INFORMATION

Name: EX_BSN138RAY Node: EX_PND138RAY Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.40 Time Shift(hrs): 0.00
Curve Number: 83.01 Time Increment(min): 1.00
DCIA(%): 64.86 Max Allowable Q(cfs): 999999.000

THE INFORMATION FOR THIS BASIN WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 991015-3.

Name: EX_BSNHOTEL Node: EX_PNDHOTEL Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 6.77 Time Shift(hrs): 0.00
Curve Number: 77.76 Time Increment(min): 1.00
DCIA(%): 41.21 Max Allowable Q(cfs): 999999.000

Name: EX_BSNHPB1 Node: EX_1CFDOT138 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.93 Time Shift(hrs): 0.00
Curve Number: 72.18 Time Increment(min): 1.00
DCIA(%): 20.43 Max Allowable Q(cfs): 999999.000

Name: EX_BSNHPB2 Node: EX_1AFDOT138 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.78 Time Shift(hrs): 0.00
Curve Number: 73.93 Time Increment(min): 1.00
DCIA(%): 6.41 Max Allowable Q(cfs): 999999.000

Name: EX_BSNHPB3 Node: RCID_HOTEL Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.44 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 45.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNOFF138A1 Node: EX_PNDOFF138A1 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 4.00 Time Shift(hrs): 0.00
Curve Number: 80.00 Time Increment(min): 1.00
DCIA(%): 77.75 Max Allowable Q(cfs): 999999.000

THE INFORMATION FOR THE DRAINAGE BASIN WAS INTERPOLATED TO BEST RECIPROCATE THE COMPOSITE CN VALUE USED FOR THE DAY'S INN (SFWMD PERMIT APPLICATION NO. X000007612).

Name: EX_BSNOFF138A2A Node: EX_PNDOFF138A2A Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.64 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 87.21 Max Allowable Q(cfs): 999999.000

THE INFORMATION FOR THIS NODE IS BASED ON DESIGNED SURVEY. STORAGE CAPACITY IS BASED ON THE PERMIT DATA ASSOCIATED OF THE SR 535 PLAZA DEVELOPMENT ADJACENT TO IT. BASED ON PERMIT APPLICATION #891130-2, THE TREATMENT VOLUME REQUIRED IS BASED ON 50% OF 2.5" OF RAINFALL OVER THE IMPERVIOUS AREA OR 1" OVER THE ENTIRE SITE, WHICHEVER IS GREATER. FOR A 3.64 ACRES SITE WITH 3.10 AC OF IT BEING IMPERVIOUS, THE 1" OVER THE SITE IS EQUIVALENT TO 50% OF 2.5" OVER THE IMPERVIOUS. AS SUCH, THE STAGE STORAGE WAS ESTIMATED BASED ON THE LINEAL POND ONSITE.

Name: EX_BSNOFF138A2B Node: EX_PNDOFF138A2B Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.92 Time Shift(hrs): 0.00
Curve Number: 80.00 Time Increment(min): 1.00
DCIA(%): 69.14 Max Allowable Q(cfs): 999999.000

THE INFORMATIO FOR THIS BASIN WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 891130-2 (DRAINAGE AREA 2). THE TOTAL BASIN AT THE TIME OF PERMIT WAS 39,550 SF. THE AREA WAS VERIFIED THROUGH SITE VISIT AND DESIGN SURVEY AND ADJUSTED AS NEEDED.

Name: EX_BSNOFF138C4 Node: EX_SW138C4 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.06
Area(ac): 18.82 Time Shift(hrs): 0.00
Curve Number: 63.25 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNPALM Node: EX_SR535MH14 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.91 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNPPE Node: EX_VCRET2 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 5.74 Time Shift(hrs): 0.00
Curve Number: 79.98 Time Increment(min): 1.00
DCIA(%): 63.59 Max Allowable Q(cfs): 999999.000

LIMITED INFORMATION TO ACCURATELY MODEL THIS BASIN TO DETERMINE THE RATE OF DISCHARGE OUTFALLS TO THE SR 535 SYSTEM (ALLOWABLE OF 2.0 CFS).

Name: EX_BSNPPW Node: EX_VCRET3 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.79 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 65.92 Max Allowable Q(cfs): 999999.000

ACCORDING TO PERMIT 12168-S FOR THE VISTA CENTER DEVELOPMENT. THIS PORTION OF PALM PARKWAY (ALSO KNOWN AS VISTA BLVD AT THE TIME OF ISSUANCE) WAS ID AS BASIN 400 (SEE PAGE 272 OF THE PERMIT). THE RUNOFF FROM THIS BASIN WAS DIRECTED TO A DRY DETENTION POND AT THE SE CORNER OF APOPKA VINELAND ROAD AND PALM PARKWAY. THE POND WAS DESIGNED TO PROVIDE 1" OF RUNOFF FROM THE BASIN AREA.

PERMIT ALSO SPECIFIED THE LIMITED DISCHARGE FROM THE POND AT 2.0 CFS TO THE SR 535 SYSTEM. THE BASIN PROVIDED DEVIATES FROM THE PERMITTED AREA AS A RESULT OF FIELD VERIFICATION. IT APPEARS THAT PART OF THE ROOF FROM THE ADJACENT BUILDING, WHICH WAS NOT INTENDED TO DISCHARGE INTO THIS POND, DRAINS INTO THE POND CURRENTLY. AS SUCH, THE EXISTING POND DOES NOT PROVIDE THE REQUIRED DETENTION POND CURRENTLY.

Name: EX_BSNSEMBASSY Node: EX_PNDSEMBASSY Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 10.44 Time Shift(hrs): 0.00
Curve Number: 60.71 Time Increment(min): 1.00
DCIA(%): 57.64 Max Allowable Q(cfs): 999999.000

EMBASSY SUITE 900402-3 (PAGE 223)

Name: EX_BSNSHERATON1 Node: EX_PNDSHERATON1 Status: Offsite
Group: PROPOSE Type: Santa Barbara CN

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          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 7.17                     Time Shift(hrs): 0.00
          Curve Number: 74.00               Time Increment(min): 1.00
               DCIA(%): 83.40              Max Allowable Q(cfs): 999999.000

SHERATON (DAYS INN)


-------------------------------------------------------------------------------------------------
         Name: EX_BSNSHERATON2          Node: EX_PNDSHERATON1        Status: Offsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 1.50                     Time Shift(hrs): 0.00
          Curve Number: 74.00               Time Increment(min): 1.00
               DCIA(%): 63.33              Max Allowable Q(cfs): 999999.000




-------------------------------------------------------------------------------------------------
         Name: EX_BSNSHERATON3          Node: EX_PNDSHERATON3        Status: Offsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 0.77                     Time Shift(hrs): 0.00
          Curve Number: 74.00               Time Increment(min): 1.00
               DCIA(%): 71.43              Max Allowable Q(cfs): 999999.000




-------------------------------------------------------------------------------------------------
         Name: EX_BSNVCLK01             Node: EX_VCLK01              Status: Offsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 13.00                    Time Shift(hrs): 0.00
          Curve Number: 57.14               Time Increment(min): 1.00
               DCIA(%): 87.69              Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 300 PERMIT 12168-S DISCHARGE TO LK1

PAGE 303, 305


-------------------------------------------------------------------------------------------------
         Name: EX_BSNVCLK02             Node: EX_VCLK02              Status: Offsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 16.00                    Time Shift(hrs): 0.00
          Curve Number: 55.01               Time Increment(min): 1.00
               DCIA(%): 49.31              Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 210, 240, AND 270 PERMIT 12168-S DISCHARGE TO LK2 PAGE 257 AND 300; THIS BASIN INCLUDES PALM PARKWAY.
PALM PARKWAY RUNOFF IS TAKEN TO RETENTION AREA #1 PRIOR TO DISCHARGING TO INTERCONNECTED LAKES #2 AND ULTIMATELY TO
LAKE #5.


-------------------------------------------------------------------------------------------------
         Name: EX_BSNVCLK03             Node: EX_VCLK03              Status: Offsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 8.40                     Time Shift(hrs): 0.00
          Curve Number: 55.01               Time Increment(min): 1.00
               DCIA(%): 88.04              Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 260 PERMIT 12168-S DISCHARGE TO LK6 PAGE 257, 299


-------------------------------------------------------------------------------------------------
         Name: EX_BSNVCLK04             Node: EX_VCLK04              Status: Offsite
        Group: PROPOSE                  Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
```

```
              Area(ac): 1.00                  Time Shift(hrs): 0.00
          Curve Number: 55.00              Time Increment(min): 1.00
               DCIA(%): 80.00             Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 250 (PAGE 300) PERMIT 12168-S DISCHARGE TO LK4


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK05            Node: EX_VCLK05             Status: Offsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 14.90                  Time Shift(hrs): 0.00
          Curve Number: 55.01              Time Increment(min): 1.00
               DCIA(%): 75.03             Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 200, 220, 230 (PAGE 302) PERMIT 12168-S DISCHARGE TO LK5. THIS BASIN INCLUDES THE PART OF PALM PARKWAY
THAT WILL NOT BE IMPACTED AS A RESULT OF THIS PROJECT IMPROVEMENTS.


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK06            Node: EX_VCLK06             Status: Offsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 5.30                   Time Shift(hrs): 0.00
          Curve Number: 66.89              Time Increment(min): 1.00
               DCIA(%): 80.00             Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 60  OR BASIN 140 (PAGE 295) PERMIT 12168-S DISCHARGE TO LK6


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK07            Node: EX_VCLK07             Status: Offsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 8.50                   Time Shift(hrs): 0.00
          Curve Number: 66.89              Time Increment(min): 1.00
               DCIA(%): 64.00             Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 70 OR BASIN 130 (PAGE 294) PERMIT 12168-S DISCHARGE TO LK7


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK09            Node: EX_VCLK09             Status: Offsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 14.50                  Time Shift(hrs): 0.00
          Curve Number: 69.36              Time Increment(min): 1.00
               DCIA(%): 80.41             Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 90 OR BASIN 110 & 120 (PAGE 295 & 296) PERMIT 12168-S DISCHARGE TO LK9


--------------------------------------------------------------------------------------------------
        Name: EX_BSNVCLK10            Node: EX_VCLK10             Status: Offsite
       Group: PROPOSE                 Type: Santa Barbara CN

         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 15.00
              Area(ac): 12.82                  Time Shift(hrs): 0.00
          Curve Number: 70.76              Time Increment(min): 1.00
               DCIA(%): 87.91             Max Allowable Q(cfs): 999999.000

VISTA CENTER BASINS 100 & 150 PERMIT 12168-S DISCHARGE TO LK10; THIS BASIN INCLUDES PALM PARKWAY. THE RUNOFF FROM PALM
PALM PARKWAY IS TAKEN TO RETENTION AREA #2 PRIOR TO DISCHARGING TO LAKE #10.  THE AREA HAS BEEN ADJUSTED SO THAT PALM
PARKWAY BASIN IS NOT PART OF THE BASIN AS THERE IS A SEPARATE SHEET FOR THIS BASIN (EX_BSNPPE).

AS SUCH THE ORIGINAL AREA IS 18.8 ACRES, BUT HAS BEEN REDUCED TO 12.82 AC INSTEAD.


================================================================================
==== Nodes =====================================================================
================================================================================

      Name: EX_1AFDOT138        Base Flow(cfs): 0.00          Init Stage(ft): 96.01
     Group: PROPOSE                                         Warn Stage(ft): 107.40
      Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN
```

Stage(ft)	Area(ac)
96.00	0.000100
96.30	0.000110
97.40	0.000410
100.70	0.000490
107.40	0.001260

Name: EX_1BFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Warn Stage(ft): 107.10
Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

Stage(ft)	Area(ac)
96.80	0.000130
97.30	0.000340
107.10	0.000750
108.00	0.001200
108.30	0.001400

Name: EX_1CFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Warn Stage(ft): 105.60
Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

Stage(ft)	Area(ac)
95.92	0.000110
96.12	0.000340
101.00	0.000620
104.00	0.000830
105.30	0.001080
105.50	0.001190
105.60	0.001310

Name: EX_1DFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Warn Stage(ft): 105.60
Type: Stage/Area

UPSTREAM OF SR 535 CROSSDRAIN

Stage(ft)	Area(ac)
95.92	0.000110
96.12	0.000340
101.00	0.000620
104.00	0.000830
105.30	0.001080
105.50	0.001190
105.60	0.001310

Name: EX_2FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Warn Stage(ft): 105.70
Type: Stage/Area

BEND IN THE CHANNEL FLOW HEADING TO SR535 CROSSDRAIN

Stage(ft)	Area(ac)
95.88	0.000110
96.39	0.000340
100.30	0.000670
105.60	0.000920
105.70	0.001070

Name: EX_3FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: PROPOSE Warn Stage(ft): 104.80
Type: Stage/Area

EXISTING OUTFALL LOCATION FOR CROSSROAD POND OUTFALL

Stage(ft)	Area(ac)
99.53	0.000110
99.65	0.000340
104.60	0.000710
104.80	0.000920

Name: EX_4AFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: PROPOSE Warn Stage(ft): 103.49
Type: Stage/Area

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.63	0.000110
97.96	0.000230
103.49	0.015000

Name: EX_4BFDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: PROPOSE Warn Stage(ft): 103.49
Type: Stage/Area

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.63	0.000110
97.96	0.000230
103.49	0.015000

Name: EX_5FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 99.53
Group: PROPOSE Warn Stage(ft): 106.30
Type: Stage/Area

UPSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.86	0.000230
101.44	0.001160
102.70	0.001600
103.93	0.003420
104.32	0.003910
105.72	0.006670
106.30	0.008430

Name: EX_MHVCRET2 Base Flow(cfs): 0.00 Init Stage(ft): 98.70
Group: PROPOSE Warn Stage(ft): 103.20
Type: Stage/Area

Stage(ft)	Area(ac)
98.00	0.000900
103.20	0.000900

Name: EX_PND137 Base Flow(cfs): 0.00 Init Stage(ft): 106.20
Group: PROPOSE Warn Stage(ft): 108.20
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 90113-1. THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO THE STAGE TO CONVERT IT TO NAVD.

EXISTING POND WAS PERMITTED IN 1988, UNDER APPLICATION #04118-1, AS DRY RETENTION PONDS. RECOVERY FOR THE REQUIRED RETENTION VOLUME WAS PROVIDED WITHIN 41 HOURS, WHICH IS LESS THAN 72 HOURS ALLOWABLE.

IN 1992, UNDER APPLICATION #920616-1 (BUT IS UNDER PERMIT PACKAGE APPLICATION #90113-1) THE PONDS WERE PROPOSED TO BE WET DETENTION. A CONCRETE RECTANGULAR WEIR WITHIN RAMP C OF THE I-4/ SR 535 INTERCHANGE. THE WEIR BOTTOM IS SET AT ELEVATION 107.0 NGVD OR 106.2 NAVD.

Stage(ft)	Area(ac)
106.20	8.360000
108.20	8.900000
109.20	9.170000

Name: EX_PND138D2 Base Flow(cfs): 0.00 Init Stage(ft): 100.50
Group: PROPOSE Warn Stage(ft): 105.00
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 140612-17.

Stage(ft)	Area(ac)
93.60	1.780000
95.00	1.870000
98.00	2.080000
100.50	2.490000
104.00	3.080000
105.00	3.260000

Name: EX_PND138D3 Base Flow(cfs): 0.00 Init Stage(ft): 101.50
Group: PROPOSE Warn Stage(ft): 105.00
Type: Stage/Volume

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 140612-17.

Stage(ft)	Volume(af)
101.50	0.0000
101.80	0.7000
102.00	1.1600
103.00	3.7200
104.00	6.6100
105.00	9.8300

Name: EX_PND138RAY Base Flow(cfs): 0.00 Init Stage(ft): 103.85
Group: PROPOSE Warn Stage(ft): 107.20
Type: Stage/Area

THE INFORMATION FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 991015-3 FOR THE NORTH AND SOUTH PONDS (NODES POST-1). THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. TO CONVERT THE PERMITTED DATUM TO THE CURRENT DESIGN NAVD, AN ADJUSTMENT OF -0.80-FT WAS APPLIED TO THE PERMITTED ELEVATIONS.

THE FACILITY WAS DESIGNED AS A DETENTION POND WITH A CONCRETE RETAINING WALL ON ONE SIDE OF IT. A 120"X999" DROP STRUCTURE WITH A THREE INCH ORIFICE AND TRAPEZOIDAL WEIR ALLOWS WATER FROM THE POND TO DISCHARGE INTO A 15" PIPE THAT ULTIMATELY OUTFALLS TO RCID BLACK LAKE.

THIS POND, ALONG WITH THE DEVELOPMENT THAT CURRENTLY DISCHARGES TO IT WILL BE UTILIZED AS A STORMWATER POND TO ACCOMMODATE THE WIDENING ALONG SR 535.

Stage(ft)	Area(ac)
103.85	0.110000
104.20	0.120000
104.55	0.130000
105.20	0.140000
105.70	0.150000
106.20	0.160000
106.70	0.170000
107.20	0.180000

Name: EX_PNDHOTEL Base Flow(cfs): 0.00 Init Stage(ft): 100.00
Group: PROPOSE Warn Stage(ft): 103.00
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D1P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
100.00	0.310000
103.00	0.600000

Name: EX_PNDOFF138A1 Base Flow(cfs): 0.00 Init Stage(ft): 102.20
Group: PROPOSE Warn Stage(ft): 107.20
Type: Stage/Volume

IN 1982, SFWMD ISSUED A PERMIT (APPLICATION # X000007612) TO CONSTRUCT A DAYS IN AT THE NORTHWEST QUADRANT OF I-4 AND SR 535. THE DATUM AT THE TIME OF TEH PERMIT WAS IN NGVD. A CONVERSION FACTOR OF (-0.80 FT) WAS APPLIED TO THE PERMITTED ELEVATIONS TO CONVERT IT TO NAVD. THIS POND, ACCORDING THE PERMIT DOCUMENTATION, WAS DESIGNED TO PROVIDE TREATMENT RUNOFF VOLUME FROM A 3-YR/ 1-HR EVENT (1.87") FOR SFWMD REQUIREMENTS. THE POND WAS ALSO DESIGNED TO PROVIDE THE ATTENUATION VOLUME FOR THE ORANGE COUNTY 25-YR/ 24-HR STORM EVENT.

THIS POND WILL BE IMPACTED AS PART OF THE I-4 IMPROVEMENT, BUT THE EXFILTRATION SYSTEM (WHICH IS LOCATED ONSITE WITHIN THE 1890-FT OF 36" PIPES) WILL REMAIN. THE TRENCH PROVIDES A TOTAL STORAGE OF 0.586 AC-FT FROM ELEVATION 102.80' TO 107.20' NAVD.

INFORMATION FOR THIS WAS TAKEN DIRECTLY FROM THE PERMITTED INFORMATION. NO ADJUSTMENT WERE MADE TO THE OVERALL STORAGE.

Stage(ft)	Volume(af)
102.20	0.0000
103.20	0.2200
104.20	0.4500
105.20	0.6800
106.20	0.8600
107.20	0.9300

Name: EX_PNDOFF138A2A Base Flow(cfs): 0.00 Init Stage(ft): 101.19
Group: PROPOSE Warn Stage(ft): 102.60
Type: Stage/Area

THE INFORMATION FOR THIS NODE IS BASED ON DESIGNED SURVEY. STORAGE CAPACITY IS BASED ON THE PERMIT DATA ASSOCIATED OF THE SR 535 PLAZA DEVELOPMENT ADJACENT TO IT. BASED ON PERMIT APPLICATION #891130-2, THE TREATMENT VOLUME REQUIRED IS BASED ON 50% OF 2.5" OF RAINFALL OVER THE IMPERVIOUS AREA OR 1" OVER THE ENTIRE SITE, WHICHEVER IS GREATER. FOR A 3.64 ACRES SITE WITH 3.10 AC OF IT BEING IMPERVIOUS, THE 1" OVER THE SITE IS EQUIVALENT TO 50% OF 2.5" OVER THE IMPERVIOUS. AS SUCH, THE STAGE STORAGE WAS ESTIMATED BASED ON THE LINEAL POND ONSITE.

Stage(ft)	Area(ac)
101.19	0.320000
102.60	0.320000

Name: EX_PNDOFF138A2B Base Flow(cfs): 0.00 Init Stage(ft): 99.73
Group: PROPOSE Warn Stage(ft): 103.20
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS NODE WAS TAKEN FROM SFWMD PERMIT APPLICATION NO.891130-2. THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO THE STAGE TO CONVERT IT TO NAVD.

DESIGN WAS PERMITTED IN 1989. THE INFORMATION FOR THIS BASIN WAS INCLUDED IN THE MODEL TO MORE ACCURATELY DEPICT THE IMPACT TO THE RCID SYSTEM.

Stage(ft)	Area(ac)
99.73	0.010000
100.20	0.020000
101.20	0.030000
102.00	0.050000
103.20	0.080000

Name: EX_PNDSEMBASSY Base Flow(cfs): 0.00 Init Stage(ft): 115.95
Group: PROPOSE Warn Stage(ft): 119.30
Type: Stage/Area

Stage(ft)	Area(ac)
115.35	0.800000
115.95	0.940000
116.95	1.260000
117.95	1.550000
118.95	1.720000
119.30	2.000000

Name: EX_PNDSHERATON1 Base Flow(cfs): 0.00 Init Stage(ft): 97.00
Group: PROPOSE Warn Stage(ft): 103.40
Type: Stage/Area

THE POND STAGE STORAGE WAS TAKEN FROM PAGE 121 OF THE PERMIT 04104-A FOR THE DAYS IN DEVELOPMENT AND ADJUSTED TO REFLECT CURRENT D

Stage(ft)	Area(ac)
97.00	0.000000
98.20	0.150000
99.20	0.190000
100.20	0.230000
101.20	0.270000
102.20	0.340000
103.20	0.450000
103.40	0.490000

Name: EX_PNDSHERATON3 Base Flow(cfs): 0.00 Init Stage(ft): 100.00
Group: PROPOSE Warn Stage(ft): 103.50
Type: Stage/Volume

DETENTION POND AND EXFILTRATION SYSTEM.

Stage(ft)	Volume(af)
99.00	0.0002
100.00	0.0011
100.50	0.0032
101.00	0.0132
101.50	0.0532
102.50	0.1240
103.50	0.1732

Name: EX_SR535MH01 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 104.16
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
104.16	0.000900

Name: EX_SR535MH02 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 103.46
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
103.46	0.000900

Name: EX_SR535MH03 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 103.89
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
103.89	0.000900

Name: EX_SR535MH04 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 103.98
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

A BASE FLOW OF 8.5 CFS WAS ADDED TO THIS JUNCTION TO ACCOUNT FOR THE OFFSITE 36" PIPE THAT CONNECTS TO THE EXISTING 60" PIPE ALONG SR 535 THAT OUTFALLS TO RCID BLACK LAKE. INFORMATION FOR THIS BASIN IS NOT KNOWN AS THERE IS NO AVAILABLE PERMIT FOR THIS DEVELOPMENT. THE EXISTING PIPE CONNECTION IS NOT CLEAR DUE TO THE CONNECTIVITIY OF THE EXISTING PIPE. IT APPEARS FROM SURVEY DATA, THAT THE EXISTING 36" PIPE MAY HAVE TIED DIRECTLY TO THE EXISTING 60" PIPE WITHOUT ANY PROPOSED JUNCTION. AS SUCH, THE 36" IS ASSUMED TO BE DESIGNED AT MINIMUM SLOPE OF 0.059%. THIS MINIMUM SLOPE YIELD A RATE OF 17 CFS. ONLY HALF OF THE FLOW IS ACCOUNTED IN THE PIPE AS THERE IS AN OVERFLOW DRECTLY DOWNSTREAM INTO RCID BLACK LAKE.

Stage(ft)	Area(ac)
96.00	0.000900
103.98	0.000900

Name: EX_SR535MH05 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 104.03
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
104.03	0.000900

Name: EX_SR535MH06 Base Flow(cfs): 0.00 Init Stage(ft): 96.80
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.21
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.00	0.000900
102.21	0.000900

Name: EX_SR535MH07 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.57
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.50	0.000900
102.57	0.000900

Name: EX_SR535MH08 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.64
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION.

Stage(ft)	Area(ac)
96.50	0.000900
102.64	0.000900

Name: EX_SR535MH09 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 102.16

Stage(ft)	Area(ac)
97.00	0.000900
102.16	0.000900
102.30	0.000900

Name: EX_SR535MH10 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 102.03

Stage(ft)	Area(ac)
97.00	0.000900
102.03	0.000900
102.30	0.000900

Name: EX_SR535MH11 Base Flow(cfs): 0.00 Init Stage(ft): 97.72
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION; MANHOLE TOP IS AT 101.50

Stage(ft)	Area(ac)
97.00	0.000900
101.50	0.000900
102.30	0.000900

Name: EX_SR535MH11A Base Flow(cfs): 0.00 Init Stage(ft): 98.10
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 102.30
Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION; MANHOLE TOP IS AT 102.10

Stage(ft)	Area(ac)
98.00	0.000900
102.10	0.000900
102.30	0.000900

```
--------------------------------------------------------------------------------------------
      Name: EX_SR535MH12        Base Flow(cfs): 0.00          Init Stage(ft): 98.07
     Group: PROPOSE                                           Warn Stage(ft): 102.30
      Type: Stage/Area

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 101.62

      Stage(ft)        Area(ac)
--------------- ---------------
          97.50        0.000900
         101.40        0.000900
         101.50        0.012000
         101.60        0.030000
         101.70        0.070000
         101.80        0.110000
         101.90        0.160000
         102.00        0.210000
         102.10        0.280000
         102.20        0.380000
         102.30        0.490000

--------------------------------------------------------------------------------------------
      Name: EX_SR535MH13        Base Flow(cfs): 0.00          Init Stage(ft): 98.22
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 102.30
      Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MAHOLE TOP IS AT 102.02

      Stage(ft)        Area(ac)
--------------- ---------------
          97.50        0.000900
         102.02        0.000900
         102.30        0.000900

--------------------------------------------------------------------------------------------
      Name: EX_SR535MH14        Base Flow(cfs): 0.00          Init Stage(ft): 98.33
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 102.39
      Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANOLE TOP IS AT 102.39

      Stage(ft)        Area(ac)
--------------- ---------------
          97.50        0.000900
         102.39        0.000900

--------------------------------------------------------------------------------------------
      Name: EX_SR535MH15        Base Flow(cfs): 0.00          Init Stage(ft): 98.34
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 103.45
      Type: Manhole, Flat Floor

INFORMATION FOR THIS STRUCTURE WAS INTERPOLATED BASED ON AVAILABLE SURVEY INFORMATION. MANHOLE TOP IS AT 103.21

      Stage(ft)        Area(ac)
--------------- ---------------
          97.50        0.000900
         102.30        0.005000
         102.50        0.042000
         103.00        0.316000
         103.21        0.500000
         103.45        0.770000

--------------------------------------------------------------------------------------------
      Name: EX_SW138B1          Base Flow(cfs): 0.00          Init Stage(ft): 102.00
     Group: PROPOSE                                           Warn Stage(ft): 106.38
      Type: Stage/Area

UPSTREAM OF JUNCTION NODE FOR CHANNEL FLOW BETWEEN EX_SW

      Stage(ft)        Area(ac)
--------------- ---------------
         102.00        0.000100
         104.33        0.000110
         105.00        0.000220
         106.00        0.000330
         107.00        0.000440
         108.35        0.000550

--------------------------------------------------------------------------------------------
      Name: EX_SW138B2          Base Flow(cfs): 0.00          Init Stage(ft): 100.53
     Group: PROPOSE                                           Warn Stage(ft): 111.07
      Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W2P. THE DATUM AT THE TIME
OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.
```

DOWNSTREAM STREAM OF JUNCTION NODE FOR CHANNEL FLOW BETWEEN EX_SW

Stage(ft)	Area(ac)
100.53	0.000100
103.20	0.110000
104.20	0.150000
105.00	0.160000
108.41	0.161000
109.13	0.171000
111.79	0.175000

Name: EX_SW138B3 Base Flow(cfs): 0.00 Init Stage(ft): 112.55
Group: PROPOSE Warn Stage(ft): 117.60
Type: Stage/Area

UPSTREAM JUNCTION OF CHANNEL FLOW IN SWALE

LAKE 05 DISCHARGES TO THIS SWALE

Stage(ft)	Area(ac)
108.00	0.000100
109.00	0.000200
110.00	0.000300
111.00	0.000400
113.00	0.000500
113.26	0.000510
115.55	0.000550
117.60	0.000580
118.09	0.000590
119.20	0.000600

Name: EX_SW138B4 Base Flow(cfs): 0.00 Init Stage(ft): 113.03
Group: PROPOSE Warn Stage(ft): 117.20
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN W1P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

EMBASSY SUITES POND DISCHARGES TO THIS SWALE

Stage(ft)	Area(ac)
113.03	0.000100
115.20	0.720000
117.20	1.380000

Name: EX_SW138C1 Base Flow(cfs): 0.00 Init Stage(ft): 105.47
Group: PROPOSE Warn Stage(ft): 110.00
Type: Stage/Area

EX_SWALE 138C1 IS A JUNCTION NODE AT THE OUTLET OF THE 48" CD UNDER SR 400.

Stage(ft)	Area(ac)
105.20	0.000220
106.20	0.000330
107.20	0.000440
108.20	0.000550
109.20	0.000660
110.20	0.000770

Name: EX_SW138C3 Base Flow(cfs): 0.00 Init Stage(ft): 112.03
Group: PROPOSE Warn Stage(ft): 115.51
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D2P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
112.03	0.000100
114.20	0.690000
115.51	1.110000

Name: EX_SW138C4 Base Flow(cfs): 0.00 Init Stage(ft): 113.05
Group: PROPOSE Warn Stage(ft): 116.55
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D1P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

Stage(ft)	Area(ac)
113.05	0.000100
115.20	0.260000
116.55	0.420000

Name: EX_VCLK01 Base Flow(cfs): 0.00 Init Stage(ft): 114.20
Group: PROPOSE Warn Stage(ft): 118.20
Type: Stage/Volume

PG 303 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
112.20	0.0000
114.20	1.0800
115.20	2.9300
116.20	4.9800
117.20	7.2400
118.20	9.7000

Name: EX_VCLK02 Base Flow(cfs): 0.00 Init Stage(ft): 114.20
Group: PROPOSE Warn Stage(ft): 119.20
Type: Stage/Volume

PG 301 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
110.70	0.0000
114.20	1.0700
115.20	1.6400
116.20	2.3300
117.20	3.1200
118.20	4.0300
119.20	5.0400

Name: EX_VCLK03 Base Flow(cfs): 0.00 Init Stage(ft): 114.20
Group: PROPOSE Warn Stage(ft): 117.20
Type: Stage/Volume

PG 299 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
101.20	0.0000
114.20	0.7000
115.20	2.2000
116.20	3.8400
117.20	5.6400

Name: EX_VCLK04 Base Flow(cfs): 0.00 Init Stage(ft): 113.20
Group: PROPOSE Warn Stage(ft): 115.20
Type: Stage/Volume

PG 300 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
100.20	0.0000
113.20	0.6900
114.20	1.4600
115.20	2.3200

Name: EX_VCLK05 Base Flow(cfs): 0.00 Init Stage(ft): 107.20
Group: PROPOSE Warn Stage(ft): 113.20
Type: Stage/Volume

PG 302 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)

101.20	0.0000
107.20	1.1400
108.20	3.2100
109.20	5.4600
110.20	7.8900
111.20	10.5000
112.20	13.3100
113.20	16.3300

Name: EX_VCLK06 Base Flow(cfs): 0.00 Init Stage(ft): 101.70
Group: PROPOSE Warn Stage(ft): 104.70
Type: Stage/Volume

PG 131 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
98.20	0.0000
101.70	0.3900
103.20	4.3400
104.70	8.7500

Name: EX_VCLK07 Base Flow(cfs): 0.00 Init Stage(ft): 102.20
Group: PROPOSE Warn Stage(ft): 107.20
Type: Stage/Volume

PG 133 OR 294 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
99.20	0.0000
102.20	0.6200
103.20	1.1700
104.20	1.8000
105.20	2.5200
106.20	3.3300
107.20	4.2400

Name: EX_VCLK09 Base Flow(cfs): 0.00 Init Stage(ft): 101.20
Group: PROPOSE Warn Stage(ft): 105.20
Type: Stage/Volume

PG 129 OF PERMIT APPLICATION #12168-S

Stage(ft)	Volume(af)
95.20	0.0000
101.20	0.5800
103.20	2.7500
105.20	5.3000

Name: EX_VCLK10 Base Flow(cfs): 0.00 Init Stage(ft): 98.70
Group: PROPOSE Warn Stage(ft): 103.70
Type: Stage/Volume

MODIFICATION TOOK PLACE BEFORE APPLICATION 080229-25. THE INFORMATION OBTAINED FROM APPLICATION 080229-25.

Stage(ft)	Volume(af)
94.20	0.0000
98.70	1.2500
100.60	1.4900
101.70	2.3000
102.20	2.6700
103.70	4.0000

Name: EX_VCRET2 Base Flow(cfs): 0.00 Init Stage(ft): 99.70
Group: PROPOSE Warn Stage(ft): 103.00
Type: Stage/Area

THE INFORMATION FOR THIS NODE WAS ESTABLISHED BASED ON THE DESIGNED SURVEY AND NOT THE PERMITTED DATA AS THERE IS LIMITED INFORMATION. PERMIT PROVIDE THE ALLOWABLE/ PROVIDED DETENTION VOLUME ONLY REFER TO PAGE 214 OF PERMIT 12168-S. POND ELEVATIONS AND AREA ARE BASED ON THE PLAN PROVIDED ON PAGE 893 OF THE PERMIT.

Stage(ft)	Area(ac)
99.70	0.250000
103.20	0.500000

Name: EX_VCRET3 Base Flow(cfs): 0.00 Init Stage(ft): 98.20
Group: PROPOSE Warn Stage(ft): 103.00
Type: Stage/Area

THE INFORMATION FOR THIS NODE WAS ESTABLISHED BASED ON THE DESIGNED SURVEY AND NOT THE PERMITTED DATA AS THERE IS LIMITED INFORMATION. PERMIT PROVIDE THE ALLOWABLE/ PROVIDED DETENTION VOLUME ONLY REFER TO PAGE 214 OF PERMIT 12168-S.

Stage(ft)	Area(ac)
98.20	0.000000
100.80	0.010000
100.90	0.020000
101.00	0.040000
101.20	0.060000
101.40	0.100000
101.80	0.190000
102.00	0.220000
102.30	0.280000
102.40	0.300000
102.50	0.310000
102.80	0.340000

Name: J5FDOT138 Base Flow(cfs): 0.00 Init Stage(ft): 98.93
Group: PROPOSE Warn Stage(ft): 105.06
Type: Stage/Area

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Area(ac)
97.63	0.000100
97.96	0.000100
106.20	0.000100

Name: RCID_HOTEL Base Flow(cfs): 0.00 Init Stage(ft): 95.12
Group: PROPOSE Warn Stage(ft): 105.00
Type: Time/Stage

DOWNSTREAM OF HOTEL PLAZA CROSS DRAIN. INFORMATION WAS TAKEN FROM RCID RESULTS.

Time(hrs)	Stage(ft)
0.00	95.12
240.00	95.12

Name: SW138B1B1 Base Flow(cfs): 0.00 Init Stage(ft): 104.96
Group: PROPOSE Warn Stage(ft): 106.25
Type: Stage/Volume

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Volume(af)
104.96	0.0000
105.21	0.0400
105.36	0.1000
105.96	0.1400
106.25	0.1700

Name: SW138B1B2 Base Flow(cfs): 0.00 Init Stage(ft): 104.23
Group: PROPOSE Warn Stage(ft): 105.96
Type: Stage/Volume

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Volume(af)
104.23	0.0000
104.30	0.0200
104.46	0.0800
104.98	0.2200
105.96	0.3800

Name: SW138B1B3 Base Flow(cfs): 0.00 Init Stage(ft): 105.69
Group: PROPOSE Warn Stage(ft): 106.44
Type: Stage/Volume

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Volume(af)
105.69	0.0000
106.00	0.0100
106.30	0.0200
106.44	0.0300
107.11	0.0500

Name: SW138C2 Base Flow(cfs): 0.00 Init Stage(ft): 101.40
Group: PROPOSE Warn Stage(ft): 106.00
Type: Stage/Area

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #011109-7 FOR BASIN D3P. THE DATUM AT THE TIME OF PERMITTING WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO GET THESE VALUE.

SWALE WAS MODIFIED AS A RESULT OF THE WIDENING

Stage(ft)	Area(ac)
100.93	0.000000
101.40	0.001000
101.61	0.013000
101.78	0.029000
101.94	0.065000
102.11	0.090000
103.20	0.260000
104.20	0.370000
106.00	0.450000

Name: SW138C3B1 Base Flow(cfs): 0.00 Init Stage(ft): 129.24
Group: PROPOSE Warn Stage(ft): 130.59
Type: Stage/Volume

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Volume(af)
129.24	0.0000
129.50	0.0100
129.83	0.0200
129.99	0.0300
130.59	0.0600

Name: SW138C3B2 Base Flow(cfs): 0.00 Init Stage(ft): 131.55
Group: PROPOSE Warn Stage(ft): 133.22
Type: Stage/Volume

DOWNSTREAM OF EXISTING I-4 CROSSDRAIN

Stage(ft)	Volume(af)
131.55	0.0000
131.65	0.0050
131.85	0.0100
132.22	0.0400
133.22	0.0700

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==== Cross Sections ====
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Name: X-1AFDOT138 Group: PROPOSE
Encroachment: No

SECTION WAS TAKEN FROM STATION 2807+50 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
9.50	108.800	0.042
21.00	108.100	0.042
39.75	96.300	0.042
56.00	97.400	0.042
61.50	100.700	0.042
76.00	107.400	0.042

Name: X-1BFDOT138 Group: PROPOSE
Encroachment: No

SECTION WAS TAKEN FROM STATION 2808+00 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
9.00	108.300	0.042
20.00	108.000	0.042
39.50	96.800	0.042
45.00	96.800	0.042
53.00	97.300	0.042
71.50	107.100	0.042

Name: X-1CFDOT138 Group: PROPOSE
Encroachment: No

SECTION WAS TAKEN FROM STATION 2808+00 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
9.00	108.300	0.042
20.00	108.000	0.042
39.50	96.800	0.042
45.00	96.800	0.042
53.00	97.300	0.042
53.10	98.000	0.042
70.30	106.600	0.042
71.50	107.100	0.042
74.50	107.000	0.042

Name: X-1DFDOT138 Group: PROPOSE
Encroachment: No

SECTION WAS TAKEN FROM STATION 2812+50 FROM DESIGN SURVEY WITH MINOR MODIFICATION TO INCLUDE THE EXISTING TRIPLE 60" PIPES.

Station(ft)	Elevation(ft)	Manning's N
0.04	105.700	0.042
5.00	105.500	0.042
10.00	105.300	0.042
17.00	104.000	0.042
26.00	101.000	0.042
31.50	97.400	0.042
34.34	95.980	0.042
41.84	95.920	0.042
49.34	96.120	0.042
53.10	98.000	0.042
70.30	106.600	0.042
74.50	107.000	0.042

Name: X-2FDOT138 Group: PROPOSE
Encroachment: No

SECTION WAS TAKEN FROM STATION 2815+20 FROM DESIGN SURVEY WITH SOME MINOR MODIFICATION TO FIT THE
EXISTING TRIPLE 60" PIPES.

Station(ft)	Elevation(ft)	Manning's N
0.00	105.700	0.042
6.50	105.600	0.042
23.50	96.170	0.042
31.00	95.880	0.042
38.50	96.390	0.042
46.32	100.300	0.042
61.32	107.800	0.042
74.50	108.000	0.042

Name: X-3FDOT138 Group: PROPOSE
Encroachment: No

SECTION WAS TAKEN FROM STATION 2821+20 FROM DESIGN SURVEY

Station(ft)	Elevation(ft)	Manning's N
0.00	104.800	0.042
7.20	104.600	0.042
16.80	99.650	0.042
25.00	99.530	0.042
30.00	99.600	0.042
39.50	105.400	0.042
56.20	108.000	0.042
69.00	108.000	0.042

Name: X-4FDOT138 Group: PROPOSE
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 575+00 BL SURVEY.

Station(ft)	Elevation(ft)	Manning's N
0.00	103.190	0.042
10.46	97.960	0.042
14.46	97.960	0.042
25.36	103.410	0.042

Name: X-5FDOT138 Group: PROPOSE
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 575+00 BL SURVEY.

Station(ft)	Elevation(ft)	Manning's N
0.00	106.300	0.042
9.99	105.710	0.042
27.06	103.930	0.042
37.04	102.700	0.042
37.04	97.860	0.042
40.51	97.860	0.042
45.45	101.440	0.042
52.58	104.210	0.042
61.77	106.360	0.042

Name: X-CHSW138B1 Group: PROPOSE
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 567+00 BL SURVEY OR 1795+00 ORANGE COUNTY ALIGNMENT.

Station(ft)	Elevation(ft)	Manning's N
0.00	108.350	0.042
18.15	106.000	0.042
20.00	104.330	0.042
25.13	102.000	0.042
26.13	102.000	0.042
27.13	104.470	0.042
42.86	106.380	0.042

Name: X-CHSW138B2 Group: PROPOSE
Encroachment: No

INFORMATION TAKEN FROM DESIGN SURVEY AT STATION 587+00 BL SURVEY OR 1817+00 OF ORANGE COUNTY ALIGNMENT.

Station(ft)	Elevation(ft)	Manning's N
0.00	111.070	0.042
14.97	109.490	0.042
20.41	108.460	0.042
31.25	108.410	0.042
34.47	109.130	0.042
59.78	111.790	0.042

Name: X-CHSW138B3 Group: PROPOSE
Encroachment: No

I-4/ SR 535 REVISED PLAN SETS STATION 602+00.00 OR 1831+00

Station(ft)	Elevation(ft)	Manning's N
0.00	119.200	0.042
16.54	118.090	0.042
25.25	113.250	0.042
26.25	112.550	0.042
32.06	112.550	0.042
33.06	113.260	0.042
45.15	115.550	0.042
69.44	117.600	0.042

Name: X-CHSW138C1 Group: PROPOSE
Encroachment: No

I-4/ SR 535 REVISED PLAN SETS STATION 565+00.00

Station(ft)	Elevation(ft)	Manning's N

0.00	113.760	0.042
40.59	108.650	0.042
53.32	106.180	0.042
59.36	105.470	0.042
65.11	107.930	0.042
70.52	109.310	0.042
73.42	109.530	0.042
76.87	110.150	0.042
109.21	111.620	0.042

Name: X-WR137B Group: PROPOSE
Encroachment: No

SEE SECTION B-B PAGE 31 OF I-4/ SR 535 REVISED PLAN SETS

Station(ft)	Elevation(ft)	Manning's N
0.00	109.200	0.013
6.00	108.200	0.013
18.00	108.200	0.013
18.00	106.200	0.013
25.00	106.200	0.013
25.00	108.200	0.013
37.00	108.200	0.013
42.00	109.200	0.013

Name: X-WR1BFDOT138 Group: PROPOSE
Encroachment: No

SEE SECTION B-B PAGE 31 OF I-4/ SR 535 REVISED PLAN SETS

Station(ft)	Elevation(ft)	Manning's N
0.00	107.440	0.013
4.83	107.370	0.013
21.36	98.220	0.013
34.58	97.890	0.013
53.73	108.070	0.013
58.61	108.440	0.013

Pipes

Name: EX_P1A1FDOT138 From Node: EX_1AFDOT138 Length(ft): 146.00
Group: PROPOSE To Node: RCID_HOTEL Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	54.00	54.00	Flow:	Both
Rise(in):	54.00	54.00	Entrance Loss Coef:	0.20
Invert(ft):	96.01	95.94	Exit Loss Coef:	0.20
Manning's N:	0.012	0.012	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dc
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION FOR PIPE WAS TAKE FROM RCID REACH BETWEEN XS 49 RM0.8390 AND RM0.8093

Name: EX_P1A2FDOT138 From Node: EX_1AFDOT138 Length(ft): 143.00
Group: PROPOSE To Node: RCID_HOTEL Count: 2
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
Geometry:	Horz Ellipse	Horz Ellipse	Solution Algorithm:	Automatic
Span(in):	83.00	83.00	Flow:	Both
Rise(in):	53.00	53.00	Entrance Loss Coef:	0.20
Invert(ft):	96.31	96.13	Exit Loss Coef:	0.20
Manning's N:	0.012	0.012	Bend Loss Coef:	0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dc
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

INFORMATION FOR PIPE WAS TAKE FROM RCID REACH BETWEEN XS 49 RM0.8390 AND RM0.8093

Name:	EX_P2FDOT138	From Node:	EX_2FDOT138	Length(ft): 157.00
Group:	PROPOSE	To Node:	EX_1DFDOT138	Count: 3
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	60.00	60.00		Entrance Loss Coef: 0.20
Rise(in):	60.00	60.00		Exit Loss Coef: 0.20
Invert(ft):	96.15	96.00		Bend Loss Coef: 0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION FOR PIPE WAS TAKE FROM RCID REACH BETWEEN XS 49 RM0.8390 AND RM0.8093

Name:	EX_P4BFDOT138	From Node:	EX_4BFDOT138	Length(ft): 123.00
Group:	PROPOSE	To Node:	EX_4AFDOT138	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Circular	Circular		Flow: Both
Span(in):	48.00	48.00		Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00		Exit Loss Coef: 1.00
Invert(ft):	98.93	97.96		Bend Loss Coef: 0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED FOR THIS PIPE CONNECTION WAS TAKEN FROM THE AVAILABLE DESIGN SURVEY. INVERT (97.86') AT THE HEADWALL IS LOWER THAN THE NW INVERT (98.93') OF THE MEDIAN INLET. TO MORE ACCURATELY DEPICT THE CONNECTIVITY OF THE UPSTREAM NODE AND DOWNSTREAM NODE, THE UPSTREAM INVERT USES THE HIGHER INVERT ELEVATION (REPRESENTING POP OVER ELEVATION).

Name:	EX_P5FDOT138	From Node:	EX_5FDOT138	Length(ft): 16.00
Group:	PROPOSE	To Node:	J5FDOT138	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Circular	Circular		Flow: Both
Span(in):	48.00	48.00		Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00		Exit Loss Coef: 1.00
Invert(ft):	97.86	97.99		Bend Loss Coef: 0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

THE INFORMATION PROVIDED FOR THIS PIPE CONNECTION WAS TAKEN FROM THE AVAILABLE DESIGN SURVEY. INVERT (97.86') AT THE HEADWALL IS LOWER THAN THE NW INVERT (98.93') OF THE MEDIAN INLET. TO MORE ACCURATELY DEPICT THE CONNECTIVITY OF THE UPSTREAM NODE AND DOWNSTREAM NODE, THE UPSTREAM INVERT USES THE HIGHER INVERT ELEVATION (REPRESENTING POP OVER ELEVATION).

Name:	EX_PMHVCRET2	From Node:	EX_MHVCRET2	Length(ft): 65.00
Group:	PROPOSE	To Node:	EX_VCLK10	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic

Geometry:	Circular	Circular	Flow:	Both
Span(in):	36.00	36.00	Entrance Loss Coef:	0.20
Rise(in):	36.00	36.00	Exit Loss Coef:	0.20
Invert(ft):	98.20	95.20	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PPND138D2	From Node: EX_PND138D2	Length(ft):	15.00
Group:	PROPOSE	To Node: EX_3FDOT138	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	6.00	6.00	Entrance Loss Coef:	0.70
Rise(in):	6.00	6.00	Exit Loss Coef:	0.20
Invert(ft):	100.50	100.00	Bend Loss Coef:	0.00
Manning's N:	0.011	0.011	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PPNDHPB	From Node: EX_PNDHOTEL	Length(ft):	125.00
Group:	PROPOSE	To Node: EX_1AFDOT138	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	24.00	24.00	Entrance Loss Coef:	0.20
Rise(in):	24.00	24.00	Exit Loss Coef:	0.20
Invert(ft):	100.05	96.89	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PPNDOFF138A1	From Node: EX_PNDOFF138A1	Length(ft):	15.00
Group:	PROPOSE	To Node: EX_SW138B1	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	6.00	6.00	Entrance Loss Coef:	0.20
Rise(in):	6.00	6.00	Exit Loss Coef:	0.20
Invert(ft):	102.20	102.00	Bend Loss Coef:	0.00
Manning's N:	0.011	0.011	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH01	From Node:	EX_SR535MH01	Length(ft):	60.00
Group:	PROPOSE	To Node:	EX_2FDOT138	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00		Entrance Loss Coef:	0.20
Rise(in):	60.00	60.00		Exit Loss Coef:	0.20
Invert(ft):	96.27	96.12		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH02	From Node:	EX_SR535MH02	Length(ft):	362.00
Group:	PROPOSE	To Node:	EX_SR535MH01	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00		Entrance Loss Coef:	0.20
Rise(in):	60.00	60.00		Exit Loss Coef:	0.20
Invert(ft):	96.22	96.14		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH03	From Node:	EX_SR535MH03	Length(ft):	144.00
Group:	PROPOSE	To Node:	EX_SR535MH02	Count:	2
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	42.00	42.00		Entrance Loss Coef:	0.20
Rise(in):	42.00	42.00		Exit Loss Coef:	0.20
Invert(ft):	96.55	96.46		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH04	From Node:	EX_SR535MH04	Length(ft):	253.00
Group:	PROPOSE	To Node:	EX_SR535MH03	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00		Entrance Loss Coef:	0.20
Rise(in):	60.00	60.00		Exit Loss Coef:	0.20
Invert(ft):	96.50	96.55		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:

Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH05	From Node:	EX_SR535MH05	Length(ft):	38.00
Group:	PROPOSE	To Node:	EX_SR535MH04	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00		Entrance Loss Coef:	0.20
Rise(in):	60.00	60.00		Exit Loss Coef:	0.20
Invert(ft):	96.49	96.50		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH06	From Node:	EX_SR535MH06	Length(ft):	116.00
Group:	PROPOSE	To Node:	EX_SR535MH05	Count:	2
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	60.00	60.00		Entrance Loss Coef:	0.20
Rise(in):	60.00	60.00		Exit Loss Coef:	0.20
Invert(ft):	96.69	96.68		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH07	From Node:	EX_SR535MH07	Length(ft):	260.00
Group:	PROPOSE	To Node:	EX_SR535MH06	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow:	Both
Span(in):	45.00	45.00		Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00		Exit Loss Coef:	0.20
Invert(ft):	96.99	97.72		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH08	From Node:	EX_SR535MH08	Length(ft):	28.00
Group:	PROPOSE	To Node:	EX_SR535MH07	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow:	Both
Span(in):	45.00	45.00		Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00		Exit Loss Coef:	0.20
Invert(ft):	96.98	97.04		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw

Top Clip(in):	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH09	From Node: EX_SR535MH09	Length(ft): 159.00
Group:	PROPOSE	To Node: EX_SR535MH08	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	45.00	45.00	Entrance Loss Coef: 0.20
Rise(in):	29.00	29.00	Exit Loss Coef: 0.20
Invert(ft):	97.63	97.17	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH10	From Node: EX_SR535MH10	Length(ft): 37.00
Group:	PROPOSE	To Node: EX_SR535MH09	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	45.00	45.00	Entrance Loss Coef: 0.20
Rise(in):	29.00	29.00	Exit Loss Coef: 0.20
Invert(ft):	97.48	97.65	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH11	From Node: EX_SR535MH11	Length(ft): 133.00
Group:	PROPOSE	To Node: EX_SR535MH10	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	45.00	45.00	Entrance Loss Coef: 0.20
Rise(in):	29.00	29.00	Exit Loss Coef: 0.20
Invert(ft):	97.53	97.50	Bend Loss Coef: 0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH11A	From Node: EX_SR535MH11A	Length(ft): 105.00
Group:	PROPOSE	To Node: EX_SR535MH11	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	18.00	18.00	Entrance Loss Coef:	0.20
Rise(in):	18.00	18.00	Exit Loss Coef:	0.20
Invert(ft):	98.10	97.70	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_PSR535MH12	From Node: EX_SR535MH12	Length(ft): 46.00
Group:	PROPOSE	To Node: EX_SR535MH11	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	45.00	45.00	Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00	Exit Loss Coef:	0.20
Invert(ft):	98.07	97.53	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH13	From Node: EX_SR535MH13	Length(ft): 158.00
Group:	PROPOSE	To Node: EX_SR535MH12	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	45.00	45.00	Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00	Exit Loss Coef:	0.20
Invert(ft):	98.22	98.09	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	EX_PSR535MH14	From Node: EX_SR535MH14	Length(ft): 63.00
Group:	PROPOSE	To Node: EX_SR535MH13	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	45.00	45.00	Entrance Loss Coef:	0.20
Rise(in):	29.00	29.00	Exit Loss Coef:	0.20
Invert(ft):	98.33	98.22	Bend Loss Coef:	0.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

```
-------------------------------------------------------------------------------------------------
         Name: EX_PSR535MH15       From Node: EX_SR535MH15       Length(ft): 312.00
        Group: PROPOSE               To Node: EX_SR535MH14            Count: 1
                                                          Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Horz Ellipse   Horz Ellipse                        Flow: Both
     Span(in): 45.00          45.00                    Entrance Loss Coef: 0.20
     Rise(in): 29.00          29.00                        Exit Loss Coef: 0.20
   Invert(ft): 98.34          98.33                        Bend Loss Coef: 0.00
  Manning's N: 0.012          0.012                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                     Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall



-------------------------------------------------------------------------------------------------
         Name: EX_PSW138B2         From Node: EX_SW138B2         Length(ft): 10.00
        Group: PROPOSE               To Node: EX_4AFDOT138            Count: 1
                                                          Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 3.00           3.00                     Entrance Loss Coef: 0.70
     Rise(in): 3.00           3.00                         Exit Loss Coef: 0.20
   Invert(ft): 100.53         100.50                       Bend Loss Coef: 0.00
  Manning's N: 0.011          0.011                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                     Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE W20.

-------------------------------------------------------------------------------------------------
         Name: EX_PSW138B4         From Node: EX_SW138B4         Length(ft): 10.00
        Group: PROPOSE               To Node: EX_SW138B3              Count: 1
                                                          Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 3.00           3.00                     Entrance Loss Coef: 0.70
     Rise(in): 3.00           3.00                         Exit Loss Coef: 0.20
   Invert(ft): 112.58         112.55                       Bend Loss Coef: 0.00
  Manning's N: 0.011          0.011                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                     Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE W10.

-------------------------------------------------------------------------------------------------
         Name: EX_PSW138C2         From Node: SW138C2            Length(ft): 10.00
        Group: PROPOSE               To Node: EX_5FDOT138             Count: 1
                                                          Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                Solution Algorithm: Automatic
     Geometry: Circular       Circular                             Flow: Both
     Span(in): 3.00           3.00                     Entrance Loss Coef: 0.70
     Rise(in): 3.00           3.00                         Exit Loss Coef: 0.20
   Invert(ft): 100.93         100.91                       Bend Loss Coef: 0.00
  Manning's N: 0.011          0.011                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                     Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE D30.

Name:	EX_PSW138C3	From Node:	EX_SW138C3	Length(ft):	10.00
Group:	PROPOSE	To Node:	SW138C2	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	3.00	3.00		Entrance Loss Coef:	0.70
Rise(in):	3.00	3.00		Exit Loss Coef:	0.20
Invert(ft):	112.03	112.01		Bend Loss Coef:	0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE D20.

Name:	EX_PSW138C4	From Node:	EX_SW138C4	Length(ft):	10.00
Group:	PROPOSE	To Node:	EX_SW138C3	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	3.00	3.00		Entrance Loss Coef:	0.70
Rise(in):	3.00	3.00		Exit Loss Coef:	0.20
Invert(ft):	113.05	113.03		Bend Loss Coef:	0.00
Manning's N:	0.011	0.011		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR PIPE D10.

Name:	EX_PVCRET2	From Node:	EX_VCRET2	Length(ft):	30.00
Group:	PROPOSE	To Node:	EX_MHVCRET2	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Automatic
Geometry:	Circular	Circular		Flow:	Both
Span(in):	30.00	30.00		Entrance Loss Coef:	0.20
Rise(in):	30.00	30.00		Exit Loss Coef:	0.20
Invert(ft):	99.70	98.20		Bend Loss Coef:	0.00
Manning's N:	0.012	0.012		Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.00	0.00		Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	PJ5FDOT138	From Node:	J5FDOT138	Length(ft):	99.00
Group:	PROPOSE	To Node:	EX_4BFDOT138	Count:	1
				Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm:	Most Restrictive
Geometry:	Circular	Circular		Flow:	Both
Span(in):	48.00	48.00		Entrance Loss Coef:	0.50
Rise(in):	48.00	48.00		Exit Loss Coef:	1.00
Invert(ft):	97.99	98.88		Bend Loss Coef:	0.00

```
  Manning's N: 0.011          0.011                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.00           0.00                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

THE INFORMATION PROVIDED FOR THIS PIPE CONNECTION WAS TAKEN FROM THE AVAILABLE DESIGN SURVEY.
INVERT (97.86') AT THE HEADWALL IS LOWER THAN THE NW INVERT (98.93') OF THE MEDIAN INLET.  TO MORE
ACCURATELY DEPICT THE CONNECTIVITY OF THE UPSTREAM NODE AND DOWNSTREAM NODE, THE UPSTREAM
INVERT USES THE HIGHER INVERT ELEVATION (REPRESENTING POP OVER ELEVATION).

================================================================================
==== Channels ==================================================================
================================================================================

          Name: EX_CH1BFDOT138      From Node: EX_1BFDOT138       Length(ft): 50.00
         Group: PROPOSE               To Node: EX_1AFDOT138            Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(ft): 96.80          96.01                                Flow: Both
 TClpInitZ(ft): 107.100        107.400                    Contraction Coef: 0.10
   Manning's N:                                            Expansion Coef: 0.30
  Top Clip(ft):                                          Entrance Loss Coef: 0.00
  Bot Clip(ft):                                              Exit Loss Coef: 0.00
     Main XSec: X-1BFDOT138    X-1AFDOT138                Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.00           0.00                        Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft): 0.00           0.00
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



--------------------------------------------------------------------------------------------------------
          Name: EX_CH1DFDOT138      From Node: EX_1DFDOT138       Length(ft): 500.00
         Group: PROPOSE               To Node: EX_1CFDOT138            Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(ft): 95.92          96.80                                Flow: Both
 TClpInitZ(ft): 105.700        107.000                    Contraction Coef: 0.10
   Manning's N:                                            Expansion Coef: 0.30
  Top Clip(ft):                                          Entrance Loss Coef: 0.00
  Bot Clip(ft):                                              Exit Loss Coef: 0.00
     Main XSec: X-1DFDOT138    X-1CFDOT138                Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.00           0.00                        Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft): 0.00           0.00
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



--------------------------------------------------------------------------------------------------------
          Name: EX_CH3FDOT138       From Node: EX_3FDOT138        Length(ft): 710.00
         Group: PROPOSE               To Node: EX_2FDOT138             Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(ft): 99.53          95.88                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.10
   Manning's N:                                            Expansion Coef: 0.30
  Top Clip(ft):                                          Entrance Loss Coef: 0.00
  Bot Clip(ft):                                              Exit Loss Coef: 0.00
     Main XSec: X-3FDOT138     X-2FDOT138                 Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.00           0.00                        Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft): 0.00           0.00
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
```

Bot Width(ft):
LtSdSlp(h/v):
RtSdSlp(h/v):

Name: EX_CH4AFDOT138 From Node: EX_4AFDOT138 Length(ft): 570.00
Group: PROPOSE To Node: EX_3FDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(ft):	97.96	99.53	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:			Contraction Coef:	0.10
Top Clip(ft):			Expansion Coef:	0.30
Bot Clip(ft):			Entrance Loss Coef:	0.00
Main XSec:	X-4FDOT138	X-3FDOT138	Exit Loss Coef:	0.00
AuxElev1(ft):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):	0.00	0.00	Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: EX_CHSW138B1 From Node: EX_SW138B1 Length(ft): 800.00
Group: PROPOSE To Node: EX_4AFDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(ft):	102.00	97.96	Solution Algorithm:	Automatic
TClpInitZ(ft):	106.380	9999.000	Flow:	Both
Manning's N:			Contraction Coef:	0.10
Top Clip(ft):			Expansion Coef:	0.30
Bot Clip(ft):			Entrance Loss Coef:	0.00
Main XSec:	X-CHSW138B1	X-4FDOT138	Exit Loss Coef:	0.00
AuxElev1(ft):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):	0.00	0.00	Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: EX_CHSW138B3 From Node: EX_SW138B3 Length(ft): 1450.00
Group: PROPOSE To Node: EX_SW138B2 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(ft):	112.55	108.41	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
Manning's N:			Contraction Coef:	0.10
Top Clip(ft):			Expansion Coef:	0.30
Bot Clip(ft):			Entrance Loss Coef:	0.00
Main XSec:	X-CHSW138B3	X-CHSW138B2	Exit Loss Coef:	0.00
AuxElev1(ft):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dc
AuxElev2(ft):	0.00	0.00	Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: EX_CHSW138C1 From Node: EX_SW138C1 Length(ft): 1000.00
Group: PROPOSE To Node: EX_5FDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(ft):	105.47	97.86	Solution Algorithm:	Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow:	Both
			Contraction Coef:	0.10

```
   Manning's N:                                          Expansion Coef: 0.30
  Top Clip(ft):                                       Entrance Loss Coef: 0.00
  Bot Clip(ft):                                           Exit Loss Coef: 0.00
     Main XSec: X-CHSW138C1    X-5FDOT138               Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.00           0.00                      Inlet Ctrl Spec: Use dc
     Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(ft): 0.00           0.00
     Aux XSec2:
 Top Width(ft):
    Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



================================================================================================
==== Drop Structures ===========================================================================
================================================================================================

         Name: EX_DSEMBASSY        From Node: EX_PNDSEMBASSY     Length(ft): 100.00
        Group: PROPOSE               To Node: EX_SW138B4             Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 24.00          24.00                                Flow: Both
     Rise(in): 24.00          24.00                     Entrance Loss Coef: 0.50
   Invert(ft): 112.20         111.70                        Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY.  AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM



*** Weir 1 of 2 for Drop Structure EX_DSEMBASSY ***
                                                                                    TABLE
                  Count: 1                        Bottom Clip(in): 0.00
                   Type: Horizontal                  Top Clip(in): 0.00
                   Flow: Both                     Weir Disc Coef: 3.13
               Geometry: Rectangular           Orifice Disc Coef: 0.60

               Span(in): 4.00                        Invert(ft): 115.85
               Rise(in): 4.00                    Control Elev(ft): 115.85

*** Weir 2 of 2 for Drop Structure EX_DSEMBASSY ***
                                                                                    TABLE
                  Count: 1                        Bottom Clip(in): 0.00
                   Type: Horizontal                  Top Clip(in): 0.00
                   Flow: Both                     Weir Disc Coef: 3.13
               Geometry: Rectangular           Orifice Disc Coef: 0.60

               Span(in): 24.00                       Invert(ft): 116.20
               Rise(in): 36.00                   Control Elev(ft): 116.20


------------------------------------------------------------------------------------------------
         Name: EX_DSPND138A2A      From Node: EX_PNDOFF138A2A    Length(ft): 124.00
        Group: PROPOSE               To Node: EX_SR535MH08           Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Horz Ellipse   Horz Ellipse              Solution Algorithm: Automatic
     Span(in): 45.00          45.00                                Flow: Both
     Rise(in): 29.00          29.00                     Entrance Loss Coef: 0.50
   Invert(ft): 97.80          97.22                         Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall
```

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

*** Weir 1 of 1 for Drop Structure EX_DSPND138A2A ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	101.19
Rise(in):	37.00	Control Elev(ft):	101.19

Name: EX_DSPND138A2B From Node: EX_PNDOFF138A2B Length(ft): 38.00
Group: PROPOSE To Node: EX_SR535MH11A Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	15.00	15.00	Solution Algorithm:	Automatic
Rise(in):	15.00	15.00	Flow:	Both
Invert(ft):	98.99	98.59	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure EX_DSPND138A2B ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Vertical: Mavis	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Circular	Orifice Disc Coef:	0.60
Span(in):	6.00	Invert(ft):	99.73
Rise(in):	6.00	Control Elev(ft):	99.73

*** Weir 2 of 2 for Drop Structure EX_DSPND138A2B ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.20
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	101.73
Rise(in):	37.00	Control Elev(ft):	101.73

Name: EX_DSPND138RAY From Node: EX_PND138RAY Length(ft): 284.00
Group: PROPOSE To Node: EX_1CFDOT138 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	15.00	15.00	Solution Algorithm:	Automatic
Rise(in):	15.00	15.00	Flow:	Both
Invert(ft):	103.60	102.74	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 3 for Drop Structure EX_DSPND138RAY ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Circular Orifice Disc Coef: 0.60

Span(in): 3.00 Invert(ft): 103.35
Rise(in): 3.00 Control Elev(ft): 103.85

*** Weir 2 of 3 for Drop Structure EX_DSPND138RAY ***

TABLE

Count: 1 Bottom Clip(ft): 0.00
Type: Horizontal Top Clip(ft): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Trapezoidal Orifice Disc Coef: 0.60

Bottom Width(ft): 0.00 Invert(ft): 104.90
Left Sd Slp(h/v): 0.20 Control Elev(ft): 104.90
Right Sd Slp(h/v): 0.20 Struct Opening Dim(ft): 0.50

*** Weir 3 of 3 for Drop Structure EX_DSPND138RAY ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 120.00 Invert(ft): 107.10
Rise(in): 999.00 Control Elev(ft): 107.10

Name: EX_DSSHERATON1 From Node: EX_PNDSHERATON1 Length(ft): 60.00
Group: PROPOSE To Node: EX_SR535MH15 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	24.00	24.00	Solution Algorithm:	Automatic
Rise(in):	24.00	24.00	Flow:	Both
Invert(ft):	98.37	98.34	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

DESIGN SURVEY

*** Weir 1 of 2 for Drop Structure EX_DSSHERATON1 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 18.00 Invert(ft): 98.70
Rise(in): 33.96 Control Elev(ft): 98.70

*** Weir 2 of 2 for Drop Structure EX_DSSHERATON1 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Horizontal Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 36.00 Invert(ft): 101.53
Rise(in): 54.00 Control Elev(ft): 101.53

Name: EX_DSSHERATON3 From Node: EX_PNDSHERATON3 Length(ft): 903.00
Group: PROPOSE To Node: EX_PNDSHERATON1 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	12.00	12.00	Solution Algorithm:	Automatic
Rise(in):	12.00	12.00	Flow:	Both
Invert(ft):	99.00	98.00	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
			Inlet Ctrl Spec:	Use dn

Bot Clip(in): 0.00 0.00 Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure EX_DSSHERATON3 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 3.00 Invert(ft): 100.00
Rise(in): 3.00 Control Elev(ft): 100.00

*** Weir 2 of 2 for Drop Structure EX_DSSHERATON3 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Horizontal Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.20
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 24.00 Invert(ft): 102.35
Rise(in): 37.00 Control Elev(ft): 102.35

Name: EX_DSVISTALK01 From Node: EX_VCLK01 Length(ft): 140.00
Group: PROPOSE To Node: EX_SW138B4 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	12.00	12.00	Solution Algorithm:	Automatic
Rise(in):	12.00	12.00	Flow:	Both
Invert(ft):	112.20	111.70	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY. AS SUCH, EACH PARCEL WILL REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES. ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 2 for Drop Structure EX_DSVISTALK01 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Vertical: Mavis Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 6.00 Invert(ft): 114.20
Rise(in): 24.00 Control Elev(ft): 114.20

*** Weir 2 of 2 for Drop Structure EX_DSVISTALK01 ***

TABLE

Count: 1 Bottom Clip(in): 0.00
Type: Horizontal Top Clip(in): 0.00
Flow: Both Weir Disc Coef: 3.13
Geometry: Rectangular Orifice Disc Coef: 0.60

Span(in): 24.00 Invert(ft): 114.20
Rise(in): 36.00 Control Elev(ft): 114.20

Name: EX_DSVISTALK02 From Node: EX_VCLK02 Length(ft): 226.00

Group: PROPOSE To Node: EX_VCLK05 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	110.70	101.20	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

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DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK02 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	114.20
Rise(in):	36.00	Control Elev(ft):	114.20

Name: EX_DSVISTALK03 From Node: EX_VCLK03 Length(ft): 100.00
Group: PROPOSE To Node: EX_VCLK04 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	12.00	12.00	Solution Algorithm:	Automatic
Rise(in):	12.00	12.00	Flow:	Both
Invert(ft):	101.20	100.20	Entrance Loss Coef:	0.50
Manning's N:	0.012	0.012	Exit Loss Coef:	1.00
Top Clip(in):	0.00	0.00	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

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DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK03 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	114.20
Rise(in):	36.00	Control Elev(ft):	114.20

Name: EX_DSVISTALK04 From Node: EX_VCLK04 Length(ft): 100.00
Group: PROPOSE To Node: EX_VCLK05 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
			Solution Algorithm:	Automatic

Span(in):	12.00	12.00	Flow: Both
Rise(in):	12.00	12.00	Entrance Loss Coef: 0.50
Invert(ft):	109.20	101.20	Exit Loss Coef: 1.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.00	0.00	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.00	0.00	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

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DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 1 for Drop Structure EX_DSVISTALK04 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	24.00	Invert(ft):	113.20
Rise(in):	36.00	Control Elev(ft):	113.20

Name:	EX_DSVISTALK05	From Node: EX_VCLK05	Length(ft): 100.00
Group:	PROPOSE	To Node: EX_SW138B2	Count: 1

	UPSTREAM	DOWNSTREAM		
			Friction Equation:	Average Conveyance
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	24.00	24.00	Flow:	Both
Rise(in):	24.00	24.00	Entrance Loss Coef:	0.50
Invert(ft):	105.20	104.90	Exit Loss Coef:	1.00
Manning's N:	0.012	0.012	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.00	0.00	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.00	0.00	Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

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DISCHARGES TO THE SR WEST I-4 SWALE SYSTEM

*** Weir 1 of 2 for Drop Structure EX_DSVISTALK05 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	None	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	6.00	Invert(ft):	107.20
Rise(in):	24.00	Control Elev(ft):	107.20

*** Weir 2 of 2 for Drop Structure EX_DSVISTALK05 ***

TABLE

Count:	1	Bottom Clip(in):	0.00
Type:	Horizontal	Top Clip(in):	0.00
Flow:	Both	Weir Disc Coef:	3.13
Geometry:	Rectangular	Orifice Disc Coef:	0.60
Span(in):	36.00	Invert(ft):	112.43
Rise(in):	24.00	Control Elev(ft):	112.43

```
-----------------------------------------------------------------------------------------------
         Name: EX_DSVISTALK06      From Node: EX_VCLK06          Length(ft): 330.00
        Group: PROPOSE               To Node: EX_VCLK09               Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 24.00          24.00                                  Flow: Both
     Rise(in): 24.00          24.00                     Entrance Loss Coef: 0.50
   Invert(ft): 98.20          95.20                         Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY.  AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.

TYPE E



*** Weir 1 of 1 for Drop Structure EX_DSVISTALK06 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.00
                  Type: Horizontal                Top Clip(in): 0.00
                  Flow: Both                    Weir Disc Coef: 3.13
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 105.00                      Invert(ft): 101.70
              Rise(in): 75.00                 Control Elev(ft): 101.70


-----------------------------------------------------------------------------------------------
         Name: EX_DSVISTALK07      From Node: EX_VCLK07          Length(ft): 100.00
        Group: PROPOSE               To Node: EX_VCLK06               Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 24.00          24.00                                  Flow: Both
     Rise(in): 24.00          24.00                     Entrance Loss Coef: 0.50
   Invert(ft): 99.20          94.70                         Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
DOES NOT INCLUDE THE UPLAND DRY RETENTION AREAS TAHT WILL BE PROVIDED ON EACH PARCEL FOR WATER QUALITY.  AS SUCH, EACH PARCEL WILL
REQUIRED TO PROVIDE DRY TREATMENT PRIOR TO DISCHARGING TO ONE OF THE NINE LAKES.  ADDITIONALLY, NO DIRECT DISCHARGE TO THE STORM S
SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.



*** Weir 1 of 1 for Drop Structure EX_DSVISTALK07 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.00
                  Type: Horizontal                Top Clip(in): 0.00
                  Flow: Both                    Weir Disc Coef: 3.13
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 24.00                       Invert(ft): 102.20
              Rise(in): 36.00                 Control Elev(ft): 102.20
```

```
-----------------------------------------------------------------------------------------------
         Name: EX_DSVISTALK09      From Node: EX_VCLK09          Length(ft): 1065.00
        Group: PROPOSE               To Node: EX_VCLK10               Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
     Geometry: Circular       Circular                   Solution Algorithm: Automatic
     Span(in): 36.00          36.00                                  Flow: Both
     Rise(in): 36.00          36.00                      Entrance Loss Coef: 0.50
   Invert(ft): 96.60          94.20                          Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                        Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                          Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                            Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

TYPE E STRUCTURE

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SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.


*** Weir 1 of 1 for Drop Structure EX_DSVISTALK09 ***
                                                                                TABLE
                  Count: 1                       Bottom Clip(in): 0.00
                   Type: Horizontal                 Top Clip(in): 0.00
                   Flow: Both                     Weir Disc Coef: 3.20
               Geometry: Rectangular           Orifice Disc Coef: 0.60

               Span(in): 36.00                        Invert(ft): 101.20
               Rise(in): 54.00                  Control Elev(ft): 101.20


-----------------------------------------------------------------------------------------------
         Name: EX_DSVISTALK10      From Node: EX_VCLK10          Length(ft): 360.00
        Group: PROPOSE               To Node: EX_SR535MH07            Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
     Geometry: Horz Ellipse   Horz Ellipse               Solution Algorithm: Automatic
     Span(in): 45.00          45.00                                  Flow: Both
     Rise(in): 29.00          29.00                      Entrance Loss Coef: 0.50
   Invert(ft): 97.94          97.39                          Exit Loss Coef: 1.00
  Manning's N: 0.012          0.012                        Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.00           0.00                          Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.00           0.00                            Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #12168-S. THE DATUM AT THE TIME OF THE PERMIT WAS IN N

ACCORDING TO PAGE 222 OF THE PERMIT DOCUMENTATION PACKAGE, THE NINE LAKES WITHIN THE MASTER STORMWATER PLAN FOR THE CAMINO REALE P
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SYSTEM ALONG PALLM PARKWAY.

DISCHARGES TO THE SR 535 ROADSIDE DRAINAGE.

OCTOBER 17, 1986 LETTER REQUESTED MODIFICATION TO PERMIT TO LOWER LAKE 10 WL FROM 101.40 NGVD TO 99.5 NGVD.

TYPE H STRUCTURE


*** Weir 1 of 3 for Drop Structure EX_DSVISTALK10 ***
                                                                                TABLE
                  Count: 1                       Bottom Clip(in): 0.00
                   Type: Horizontal                 Top Clip(in): 0.00
                   Flow: Both                     Weir Disc Coef: 3.13
```

```
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 79.00                      Invert(ft): 103.68
              Rise(in): 30.00                Control Elev(ft): 103.68

*** Weir 2 of 3 for Drop Structure EX_DSVISTALK10 ***
                                                                        TABLE
                 Count: 2                     Bottom Clip(in): 0.00
                  Type: Vertical: Mavis          Top Clip(in): 0.00
                  Flow: Both                   Weir Disc Coef: 3.13
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 30.00                      Invert(ft): 100.60
              Rise(in): 6.00                 Control Elev(ft): 100.60

*** Weir 3 of 3 for Drop Structure EX_DSVISTALK10 ***
                                                                        TABLE
                 Count: 1                     Bottom Clip(in): 0.00
                  Type: Vertical: Mavis          Top Clip(in): 0.00
                  Flow: Both                   Weir Disc Coef: 3.13
              Geometry: Rectangular          Orifice Disc Coef: 0.60

              Span(in): 6.00                       Invert(ft): 98.70
              Rise(in): 6.00                 Control Elev(ft): 98.70


================================================================================
==== Weirs =====================================================================
================================================================================

         Name: EX_OR138D2          From Node: EX_PND138D2
        Group: PROPOSE               To Node: EX_3FDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                   Span(in): 6.00
                   Rise(in): 6.00
                 Invert(ft): 100.50
       Control Elevation(ft): 100.50
                                       TABLE
              Bottom Clip(in): 0.00
                 Top Clip(in): 0.000
           Weir Discharge Coef: 3.13
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17.


--------------------------------------------------------------------------------------------------------
         Name: EX_W1CFDOT138       From Node: EX_1CFDOT138
        Group: PROPOSE               To Node: EX_1BFDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                        XSec: X-WR1BFDOT138
                 Invert(ft): 97.89
       Control Elevation(ft): 97.89
      Struct Opening Dim(ft): 9.55
                                       TABLE
              Bottom Clip(ft): 0.00
                 Top Clip(ft): 0.000
           Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60



--------------------------------------------------------------------------------------------------------
         Name: EX_WPND137B         From Node: EX_PND137
        Group: PROPOSE               To Node: EX_SW138C1
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                        XSec: X-WR137B
                 Invert(ft): 106.20
       Control Elevation(ft): 106.20
      Struct Opening Dim(ft): 3.00
                                       TABLE
              Bottom Clip(ft): 0.00
                 Top Clip(ft): 0.000
           Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR W1W.

THE INFORMATION PROVIDED ON THIS SHEET WAS TAKEN FROM SFWMD PERMIT APPLICATION #920616-1 (BUT IS DISCUSSED
```

IN DETAIL BETWEEN PAGES 64 TO 74 OF THE PERMIT PACKAGE APPLICATION #90113-1). THE PONDS WERE PROPROSED AS WET DETENTIONS. A CONCRETE RECTANGULAR WEIR WITHIN RAMP C OF THE I-4/ SR 535 INTERCHANGE. THE WEIR BOTTOM IS SET AT ELEVATION 107.0 NGVD OR 106.2 NAVD.

```
         Name: EX_WPNDRET3         From Node: EX_VCRET3
        Group: PROPOSE               To Node: EX_SR535MH14
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                    Span(in): 6.00
                    Rise(in): 6.00
                  Invert(ft): 98.20
       Control Elevation(ft): 98.20
                                         TABLE
              Bottom Clip(in): 0.00
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60
```

THE INFORMATION FOR THIS WEIR/ PIPE WAS TAKEN FROM PERMIT 12168-S (PAGE 214)

```
         Name: EX_WR138D2          From Node: EX_PND138D2
        Group: PROPOSE               To Node: EX_3FDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 90.00
                    Rise(in): 28.80
                  Invert(ft): 102.40
       Control Elevation(ft): 102.40
                                         TABLE
              Bottom Clip(in): 0.00
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.13
      Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17.

```
         Name: EX_WR138D3          From Node: EX_PND138D3
        Group: PROPOSE               To Node: EX_PND138D2
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 60.00
                    Rise(in): 99999.00
                  Invert(ft): 101.80
       Control Elevation(ft): 101.80
                                         TABLE
              Bottom Clip(in): 0.00
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 140612-17.

```
         Name: EX_WROFF138A1       From Node: EX_PNDOFF138A1
        Group: PROPOSE               To Node: EX_SW138B1
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 48.00
                    Rise(in): 48.00
                  Invert(ft): 106.20
       Control Elevation(ft): 106.20
                                         TABLE
              Bottom Clip(in): 0.00
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. X000007612.

SEE SHEET 18 OF PERMIT PACKAGE.

```
--------------------------------------------------------------------------------------------------
         Name: EX_WSW138B2         From Node: EX_SW138B2
        Group: PROPOSE               To Node: EX_4AFDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                  Invert(ft): 101.53
       Control Elevation(ft): 101.53
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED FOR THIS WEIR WAS TAKEN FROM SFWMD APPLICATION NO. 011109-7 FOR WEIR W2W.  THE DATUM AT THE TIME OF THE P
WAS IN NGVD. A CONVERSION FACTOR OF (-0.80-FT) WAS APPLIED TO THE ELEVATION.



--------------------------------------------------------------------------------------------------
         Name: EX_WSW138B4         From Node: EX_SW138B4
        Group: PROPOSE               To Node: EX_SW138B3
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                  Invert(ft): 113.58
       Control Elevation(ft): 113.58
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR W1W.

--------------------------------------------------------------------------------------------------
         Name: EX_WSW138C2         From Node: SW138C2
        Group: PROPOSE               To Node: EX_5FDOT138
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                  Invert(ft): 101.93
       Control Elevation(ft): 101.93
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR D3W.

--------------------------------------------------------------------------------------------------
         Name: EX_WSW138C3         From Node: EX_SW138C3
        Group: PROPOSE               To Node: SW138C2
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                  Invert(ft): 113.03
       Control Elevation(ft): 113.03
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR D2W.

--------------------------------------------------------------------------------------------------
```

```
         Name: EX_WSW138C4         From Node: EX_SW138C4
        Group: PROPOSE               To Node: EX_SW138C3
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 14.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 3.00
                  Invert(ft): 114.05
       Control Elevation(ft): 114.05
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60
```

THE INFORMATION PROVIDED ON THIS SHEET WAS OBTAINED DIRECTLY FROM SFWMD PERMIT APPLICATION NO. 011109-7 FOR WEIR D1W.

```
---------------------------------------------------------------------------------------------------
         Name: WSW138B1B1          From Node: SW138B1B1
        Group: PROPOSE               To Node: SW138B1B2
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 6.00
                  Invert(ft): 105.96
       Control Elevation(ft): 105.96
      Struct Opening Dim(ft): 0.29
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60



---------------------------------------------------------------------------------------------------
         Name: WSW138B1B2          From Node: SW138B1B2
        Group: PROPOSE               To Node: EX_4BFDOT138
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Rectangular

                     Span(in): 54.00
                     Rise(in): 36.00
                  Invert(ft): 104.98
       Control Elevation(ft): 104.98
                                          TABLE
             Bottom Clip(in): 0.00
                Top Clip(in): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60



---------------------------------------------------------------------------------------------------
         Name: WSW138B1B3          From Node: SW138B1B3
        Group: PROPOSE               To Node: SW138B1B2
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 6.00
                  Invert(ft): 106.44
       Control Elevation(ft): 106.44
      Struct Opening Dim(ft): 0.67
                                          TABLE
             Bottom Clip(ft): 0.00
                Top Clip(ft): 0.000
          Weir Discharge Coef: 3.20
      Orifice Discharge Coef: 0.60



---------------------------------------------------------------------------------------------------
         Name: WSW138C3B1          From Node: SW138C3B1
        Group: PROPOSE               To Node: EX_SW138C3
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
        Left Side Slope(h/v): 6.00
       Right Side Slope(h/v): 6.00
```

```
                Invert(ft): 129.99
     Control Elevation(ft): 129.99
    Struct Opening Dim(ft): 0.60
                                        TABLE
           Bottom Clip(ft): 0.00
              Top Clip(ft): 0.000
       Weir Discharge Coef: 3.20
    Orifice Discharge Coef: 0.60



------------------------------------------------------------------------------------------------------
        Name: WSW138C3B2          From Node: SW138C3B2
       Group: PROPOSE               To Node: SW138C3B1
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

           Bottom Width(ft): 10.00
     Left Side Slope(h/v): 6.00
    Right Side Slope(h/v): 6.00
                Invert(ft): 131.55
     Control Elevation(ft): 131.55
    Struct Opening Dim(ft): 0.67
                                        TABLE
           Bottom Clip(ft): 0.00
              Top Clip(ft): 0.000
       Weir Discharge Coef: 3.20
    Orifice Discharge Coef: 0.60



==============================================================================================
==== Hydrology Simulations ===================================================================
==============================================================================================

        Name: 002Y001H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y001H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 1.00
         Rainfall File: Fdot-1
   Rainfall Amount(in): 2.12

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           15.00
2.000           30.00

------------------------------------------------------------------------------------------------------
        Name: 002Y002H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y002H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 2.00
         Rainfall File: Fdot-2
   Rainfall Amount(in): 2.65

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00
4.000           30.00

------------------------------------------------------------------------------------------------------
        Name: 002Y004H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y004H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 4.00
         Rainfall File: Fdot-4
   Rainfall Amount(in): 3.06

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00
6.000           30.00

------------------------------------------------------------------------------------------------------
        Name: 002Y008H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y008H.R32

     Override Defaults: Yes
   Storm Duration(hrs): 8.00
         Rainfall File: Fdot-8
   Rainfall Amount(in): 3.50

Time(hrs)       Print Inc(min)
```

8.000	15.00
10.000	30.00

Name: 002Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 4.33

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 002Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 5.43

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 002Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 6.86

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 002Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 7.83

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 005Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.53

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 005Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00

Rainfall File: Fdot-2
Rainfall Amount(in): 3.17

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 005Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.69

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 005Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.25

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 005Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 5.31

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 005Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 6.71

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 005Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 8.12

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 005Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y240H.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 9.11

Time(hrs)       Print Inc(min)
--------------- ---------------
120.000         60.00
160.000         30.00
195.000         15.00
250.000         30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 2.85

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           15.00
2.000           30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 3.58

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00
4.000           30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 4.21

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00
6.000           30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 4.90

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
10.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 6.26

Time(hrs)       Print Inc(min)
--------------- ---------------
10.000          30.00
14.000          15.00
30.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y072H.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 7.94

Time(hrs)       Print Inc(min)
--------------- ---------------
45.000          30.00
65.000          15.00
84.000          30.00

------------------------------------------------------------------------------------------------
         Name: 010Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 9.34

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          60.00
125.000         30.00
165.000         15.00
170.000         30.00

------------------------------------------------------------------------------------------------
         Name: 010Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y240H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 10.30

Time(hrs)       Print Inc(min)
--------------- ---------------
120.000         60.00
160.000         30.00
195.000         15.00
250.000         30.00

------------------------------------------------------------------------------------------------
         Name: 025Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 3.26

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           15.00
2.000           30.00

------------------------------------------------------------------------------------------------
         Name: 025Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 4.11

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00
4.000           30.00

------------------------------------------------------------------------------------------------
         Name: 025Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 4.91

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00
6.000           30.00
```

```
--------------------------------------------------------------------------------------------------------
         Name: 025Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 5.85

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
10.000          30.00

--------------------------------------------------------------------------------------------------------
         Name: 025Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 7.77

Time(hrs)       Print Inc(min)
--------------- ---------------
10.000          30.00
14.000          15.00
30.000          30.00

--------------------------------------------------------------------------------------------------------
         Name: 025Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y072H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 9.91

Time(hrs)       Print Inc(min)
--------------- ---------------
45.000          30.00
65.000          15.00
84.000          30.00

--------------------------------------------------------------------------------------------------------
         Name: 025Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 11.30

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          60.00
125.000         30.00
165.000         15.00
170.000         30.00

--------------------------------------------------------------------------------------------------------
         Name: 025Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y240H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 12.30

Time(hrs)       Print Inc(min)
--------------- ---------------
120.000         60.00
160.000         30.00
195.000         15.00
250.000         30.00

--------------------------------------------------------------------------------------------------------
         Name: 050Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 3.56

Time(hrs)       Print Inc(min)
```

1.000	15.00
2.000	30.00

Name: 050Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.48

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 050Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.44

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 050Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 6.62

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 050Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.10

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 050Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 11.60

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 050Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)

72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 050Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 14.00

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: 100Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.84

Time(hrs)	Print Inc(min)
1.000	15.00
2.000	30.00

Name: 100Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.83

Time(hrs)	Print Inc(min)
2.000	15.00
4.000	30.00

Name: 100Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.95

Time(hrs)	Print Inc(min)
4.000	15.00
6.000	30.00

Name: 100Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.42

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	30.00

Name: 100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
10.000	30.00
14.000	15.00
30.000	30.00

Name: 100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 13.50

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: 100Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
72.000	60.00
125.000	30.00
165.000	15.00
170.000	30.00

Name: 100Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 15.90

Time(hrs)	Print Inc(min)
120.000	60.00
160.000	30.00
195.000	15.00
250.000	30.00

Name: ORANGE010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\ORANGE010Y024H .R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 7.50

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: ORANGE025Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\ORANGE025Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00

15.000	15.00
18.000	15.00
30.000	30.00

Name: ORANGE100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\ORANGE100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: RCID010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\RCID010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 10.19

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: RCID050Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\RCID050Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 12.91

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: RCID100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\RCID100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 14.27

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: SFWMD010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\SFWMD010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 7.94

Time(hrs)	Print Inc(min)
45.000	30.00
65.000	15.00
84.000	30.00

Name: SFWMD025Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\SFWMD025Y072H.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 10.00

Time(hrs)       Print Inc(min)
--------------- ---------------
45.000          30.00
65.000          15.00
84.000          30.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 002Y001HR           Hydrology Sim: 002Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           15.000
2.000           30.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------------
         Name: 002Y002HR           Hydrology Sim: 002Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000
4.000           30.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------------
         Name: 002Y004HR           Hydrology Sim: 002Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 6.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000
6.000           30.000

Group           Run
--------------- -----
```

PROPOSE Yes

Name: 002Y008HR Hydrology Sim: 002Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y008HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 10.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
10.000	30.000

Group	Run
PROPOSE	Yes

Name: 002Y024HR Hydrology Sim: 002Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_002Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	30.000
14.000	15.000
30.000	30.000

Group	Run
PROPOSE	Yes

Name: 002Y072HR Hydrology Sim: 002Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_002Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
45.000	30.000
65.000	15.000
84.000	30.000

Group	Run
PROPOSE	Yes

Name: 002Y168HR Hydrology Sim: 002Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

```
        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 170.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y168H            Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          60.000
125.000         30.000
165.000         15.000
170.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 002Y240HR           Hydrology Sim: 002Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\002Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 250.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y240H            Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
120.000         60.000
160.000         30.000
195.000         15.000
250.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y001HR           Hydrology Sim: 005Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                   Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y002HR           Hydrology Sim: 005Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_2                   Boundary Flows:
```

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
PROPOSE	Yes

Name: 005Y004HR Hydrology Sim: 005Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y004HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
PROPOSE	Yes

Name: 005Y008HR Hydrology Sim: 005Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y008HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	30.000

Group	Run
PROPOSE	Yes

Name: 005Y024HR Hydrology Sim: 005Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_005Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
PROPOSE	Yes

```
         Name: 005Y072HR           Hydrology Sim: 005Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y168HR           Hydrology Sim: 005Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y168HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 170.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y240HR           Hydrology Sim: 005Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\005Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 010Y001HR           Hydrology Sim: 010Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y001HR.I32
```

```
      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 010Y002HR           Hydrology Sim: 010Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 010Y004HR           Hydrology Sim: 010Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 010Y008HR           Hydrology Sim: 010Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
```

16.000 30.000

Group Run
--- ---
PROPOSE Yes

Name: 010Y024HR Hydrology Sim: 010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_010Y024H Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
8.000 30.000
14.000 15.000
30.000 30.000

Group Run
--- ---
PROPOSE Yes

Name: 010Y072HR Hydrology Sim: 010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y072H Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
50.000 30.000
65.000 15.000
80.000 30.000

Group Run
--- ---
PROPOSE Yes

Name: 010Y168HR Hydrology Sim: 010Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y168H Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
9.000 30.000
24.000 15.000
48.000 30.000
148.000 15.000
168.000 30.000
170.000 30.000

Group Run
--- ---
PROPOSE Yes

```
--------------------------------------------------------------------------------------------------
         Name: 010Y240HR           Hydrology Sim: 010Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\010Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_010Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 025Y001HR           Hydrology Sim: 025Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 025Y002HR           Hydrology Sim: 025Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 025Y004HR           Hydrology Sim: 025Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
```

```
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_4                 Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y008HR           Hydrology Sim: 025Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                 Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y024HR           Hydrology Sim: 025Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_025Y024H          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y072HR           Hydrology Sim: 025Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_025Y072H          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
```

80.000 30.000

Group	Run
PROPOSE	Yes

Name: 025Y168HR Hydrology Sim: 025Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_025Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 025Y240HR Hydrology Sim: 025Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\025Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_025Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: 050Y001HR Hydrology Sim: 050Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y001HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
PROPOSE	Yes

```
--------------------------------------------------------------------------------------------------
         Name: 050Y002HR           Hydrology Sim: 050Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 050Y004HR           Hydrology Sim: 050Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 050Y008HR           Hydrology Sim: 050Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 050Y024HR           Hydrology Sim: 050Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 30.0000
```

Boundary Stages: FDOT_050Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
PROPOSE	Yes

Name: 050Y072HR Hydrology Sim: 050Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_050Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run
PROPOSE	Yes

Name: 050Y168HR Hydrology Sim: 050Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_050Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 050Y240HR Hydrology Sim: 050Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\050Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_050Y240H Boundary Flows:

Time(hrs)	Print Inc(min)

24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: 100Y001HR Hydrology Sim: 100Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y001HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
PROPOSE	Yes

Name: 100Y002HR Hydrology Sim: 100Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y002HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
PROPOSE	Yes

Name: 100Y004HR Hydrology Sim: 100Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y004HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 30.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
PROPOSE	Yes

Name: 100Y008HR Hydrology Sim: 100Y008H

```
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y008HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 8.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-----------------------------------------------------------------------------------------------
        Name: 100Y024HR          Hydrology Sim: 100Y024H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y024HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_100Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-----------------------------------------------------------------------------------------------
        Name: 100Y072HR          Hydrology Sim: 100Y072H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y072HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 80.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_100Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-----------------------------------------------------------------------------------------------
        Name: 100Y168HR          Hydrology Sim: 100Y168H
    Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y168HR.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 170.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 30.0000
       Boundary Stages: FDOT_100Y168H           Boundary Flows:
```

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 100Y240HR Hydrology Sim: 100Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\100Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: ORANGE010Y024HR Hydrology Sim: ORANGE010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\ORANGE010Y024HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 50.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: ORANGE_010Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
3.000	30.000
6.000	15.000
12.000	10.000
15.000	10.000
18.000	15.000
50.000	30.000

Group	Run
PROPOSE	Yes

Name: ORANGE025Y024HR Hydrology Sim: ORANGE025Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\ORANGE025Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 50.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: ORANGE_025Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
3.000	30.000
6.000	15.000
12.000	10.000
15.000	10.000
18.000	15.000
50.000	30.000

Group	Run
PROPOSE	Yes

Name: ORANGE100Y024HR Hydrology Sim: ORANGE100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\ORANGE100Y024HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 50.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: ORANGE_100Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
3.000	30.000
6.000	15.000
12.000	10.000
15.000	10.000
18.000	15.000
50.000	30.000

Group	Run
PROPOSE	Yes

Name: RCID010Y072HR Hydrology Sim: RCID010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\RCID010Y072HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 144.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: RCID_010Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	15.000
24.000	10.000
36.000	10.000
48.000	10.000
144.000	15.000

Group	Run
PROPOSE	Yes

Name: RCID050Y072HR Hydrology Sim: RCID050Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\RCID050Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 144.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: RCID_050Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
45.000	30.000
65.000	15.000
144.000	30.000

Group	Run
PROPOSE	Yes

Name: RCID100Y072HR Hydrology Sim: RCID100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\RCID100Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 144.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: RCID_100Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
45.000	30.000
65.000	15.000
144.000	30.000

Group	Run
PROPOSE	Yes

Name: SFWMD010Y072HR Hydrology Sim: SFWMD010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\SFWMD010Y072HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: RCID_010Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	15.000
24.000	10.000
36.000	10.000
48.000	10.000
80.000	15.000

Group	Run
PROPOSE	Yes

Name: SFWMD025Y072HR Hydrology Sim: SFWMD025Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190916\SFWMD025Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 144.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: SFWMD_025Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	15.000

24.000	10.000
36.000	10.000
48.000	10.000
144.000	15.000

Group	Run
PROPOSE	Yes

==========
==== Boundary Conditions ====
==========

Name: FDOT_1 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
0.100	97.130
0.200	97.391
0.300	97.781
0.400	98.367
0.500	98.400
0.600	98.172
0.700	97.716
0.800	97.456
0.900	97.065
1.000	97.033
2.000	97.000

Name: FDOT_2 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
0.200	97.560
0.400	97.840
0.600	98.120
0.800	98.400
1.000	97.560
1.200	97.336
1.400	97.280
1.600	97.224
1.800	97.168
2.000	97.112
4.000	97.000

Name: FDOT_4 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
0.500	97.215
1.000	97.538
1.500	97.969
2.000	98.400
2.500	98.131
3.000	97.754
3.500	97.269
4.000	97.108
8.000	97.000

Name: FDOT_8 Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
1.000	97.067
2.000	97.367
3.000	97.500
4.000	98.400
5.000	97.533
6.000	97.200
7.000	97.167
8.000	97.100
16.000	97.000

Name: FDOT_002Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)

0.000	97.000
1.001	97.096
1.999	97.192
3.000	97.288
4.001	97.288
4.999	97.288
6.000	97.384
7.001	97.384
7.999	97.384
9.000	97.576
10.001	97.576
10.999	97.768
12.000	97.960
13.001	97.672
13.999	97.576
15.000	97.576
16.001	97.480
16.999	97.384
18.000	97.384
19.001	97.384
19.999	97.288
21.000	97.288
22.001	97.192
22.999	97.096
24.000	97.096
30.000	97.000

Name: FDOT_005Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
1.001	97.100
1.999	97.200
3.000	97.300
4.001	97.300
4.999	97.300
6.000	97.400
7.001	97.400
7.999	97.400
9.000	97.600
10.001	97.600
10.999	97.801
12.000	98.001
13.001	97.700
13.999	97.600
15.000	97.600
16.001	97.500
16.999	97.400
18.000	97.400
19.001	97.400
19.999	97.300
21.000	97.300
22.001	97.200
22.999	97.100
24.000	97.100
30.000	97.000

Name: FDOT_010Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.001	95.310
1.999	95.490
3.000	95.680
4.001	95.680
4.999	95.680
6.000	95.860
7.001	95.860
7.999	95.860
9.000	96.230
10.001	96.230
10.999	96.600
12.000	96.970
13.001	96.420
13.999	96.230
15.000	96.230
16.001	96.050
16.999	95.860
18.000	95.860
19.001	95.860
19.999	95.680
21.000	95.680

22.001	95.490
22.999	95.310
24.000	95.310
30.000	95.120

Name: FDOT_025Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.001	95.340
1.999	95.570
3.000	95.790
4.001	95.790
4.999	95.790
6.000	96.020
7.001	96.020
7.999	96.020
9.000	96.460
10.001	96.460
10.999	96.910
12.000	97.360
13.001	96.690
13.999	96.460
15.000	96.460
16.001	96.240
16.999	96.020
18.000	96.020
19.001	96.020
19.999	95.790
21.000	95.790
22.001	95.570
22.999	95.340
24.000	95.340
30.000	95.120

Name: FDOT_050Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.220
2.000	95.320
3.000	95.430
4.000	95.430
5.000	95.430
6.000	95.530
7.000	95.530
8.000	95.530
9.000	95.730
10.000	95.730
11.000	95.940
12.000	96.140
13.000	95.830
14.000	95.730
15.000	95.730
16.000	95.630
17.000	95.530
18.000	95.530
19.000	95.530
20.000	95.430
21.000	95.430
22.000	95.320
23.000	95.220
24.000	95.220
30.000	95.120

Name: FDOT_100Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.240
2.000	95.360
3.000	95.480
4.000	95.480
5.000	95.480
6.000	95.600
7.000	95.600
8.000	95.600
9.000	95.840
10.000	95.840
11.000	96.080

12.000	96.310
13.000	95.960
14.000	95.840
15.000	95.840
16.000	95.720
17.000	95.600
18.000	95.600
19.000	95.600
20.000	95.480
21.000	95.480
22.000	95.360
23.000	95.240
24.000	95.240
30.000	95.120

Name: FDOT_002Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
4.003	97.102
7.999	97.355
12.002	98.117
15.998	97.640
20.002	97.223
23.998	97.102
28.001	97.183
31.997	97.365
36.000	98.340
40.003	97.761
43.999	97.274
48.002	97.122
51.998	97.274
56.002	97.548
59.998	99.010
64.001	98.147
67.997	97.406
72.000	97.183
80.000	97.000

Name: FDOT_005Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
4.003	97.103
7.999	97.362
12.002	98.136
15.998	97.651
20.002	97.227
23.998	97.103
28.001	97.186
31.997	97.372
36.000	98.364
40.003	97.775
43.999	97.279
48.002	97.124
51.998	97.279
56.002	97.558
59.998	99.045
64.001	98.167
67.997	97.413
72.000	97.186
80.000	97.000

Name: FDOT_010Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.300
7.999	95.760
12.002	97.120
15.998	96.260
20.002	95.520
23.998	95.300
28.001	95.450
31.997	95.770
36.000	97.520
40.003	96.480
43.999	95.610
48.002	95.340
51.998	95.610

56.002	96.100
59.998	98.720
64.001	97.170
67.997	95.850
72.000	95.450
80.000	95.120

Name: FDOT_025Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.340
7.999	95.890
12.002	97.550
15.998	96.510
20.002	95.610
23.998	95.340
28.001	95.520
31.997	95.920
36.000	98.040
40.003	96.780
43.999	95.720
48.002	95.390
51.998	95.720
56.002	96.310
59.998	99.500
64.001	97.620
67.997	96.010
72.000	95.520
80.000	95.120

Name: FDOT_050Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.360
7.999	95.960
12.002	97.760
15.998	96.630
20.002	95.650
23.998	95.360
28.001	95.550
31.997	95.980
36.000	98.290
40.003	96.920
43.999	95.770
48.002	95.410
51.998	95.770
56.002	96.420
59.998	99.880
64.001	97.830
67.997	96.080
72.000	95.550
80.000	95.120

Name: FDOT_100Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
4.003	95.390
7.999	96.060
12.002	98.060
15.998	96.800
20.002	95.710
23.998	95.390
28.001	95.600
31.997	96.080
36.000	98.650
40.003	97.120
43.999	95.840
48.002	95.440
51.998	95.840
56.002	96.560
59.998	100.410
64.001	98.140
67.997	96.190
72.000	95.600
80.000	95.120

Name: FDOT_002Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.997	97.242
15.994	97.233
24.007	97.242
32.004	97.322
40.001	98.236
47.998	97.233
55.994	97.358
64.008	97.358
72.005	97.358
80.002	97.116
87.998	97.125
95.995	97.116
103.992	97.179
112.006	97.179
120.002	97.179
127.999	97.475
135.996	97.483
143.993	97.475
152.006	97.546
160.003	99.104
168.000	97.394
170.000	97.000

Name: FDOT_005Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.997	97.249
15.994	97.240
24.007	97.249
32.004	97.332
40.001	98.274
47.998	97.240
55.994	97.369
64.008	97.369
72.005	97.369
80.002	97.120
87.998	97.129
95.995	97.120
103.992	97.185
112.006	97.185
120.002	97.185
127.999	97.489
135.996	97.499
143.993	97.489
152.006	97.563
160.003	99.170
168.000	97.406
170.000	97.000

Name: FDOT_010Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.680
15.994	95.660
24.007	95.680
32.004	95.870
40.001	97.990
47.998	95.660
55.994	95.950
64.008	95.950
72.005	95.950
80.002	95.390
87.998	95.410
95.995	95.390
103.992	95.540
112.006	95.540
120.002	95.540
127.999	96.220
135.996	96.240
143.993	96.220
152.006	96.390
160.003	100.000
168.000	96.030
170.000	95.120

Name: FDOT_025Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.780
15.994	95.760
24.007	95.780
32.004	96.000
40.001	98.500
47.998	95.760
55.994	96.100
64.008	96.100
72.005	96.100
80.002	95.440
87.998	95.460
95.995	95.440
103.992	95.610
112.006	95.610
120.002	95.610
127.999	96.420
135.996	96.440
143.993	96.420
152.006	96.610
160.003	100.880
168.000	96.200
170.000	95.120

Name: FDOT_050Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.830
15.994	95.800
24.007	95.830
32.004	96.070
40.001	98.750
47.998	95.800
55.994	96.170
64.008	96.170
72.005	96.170
80.002	95.460
87.998	95.490
95.995	95.460
103.992	95.650
112.006	95.650
120.002	95.650
127.999	96.510
135.996	96.540
143.993	96.510
152.006	96.720
160.003	101.300
168.000	96.280
170.000	95.120

Name: FDOT_100Y168H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
7.997	95.900
15.994	95.870
24.007	95.900
32.004	96.160
40.001	99.100
47.998	95.870
55.994	96.270
64.008	96.270
72.005	96.270
80.002	95.500
87.998	95.520
95.995	95.500
103.992	95.700
112.006	95.700
120.002	95.700
127.999	96.650
135.996	96.680
143.993	96.650
152.006	96.880
160.003	101.900
168.000	96.390
170.000	95.120

Name: FDOT_002Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.099
16.008	97.107
24.000	97.099
31.992	97.305
40.008	98.136
48.000	97.236
55.992	97.206
64.008	97.198
72.000	97.206
79.992	97.053
88.008	97.046
96.000	97.053
103.992	97.053
112.008	97.046
120.000	97.053
127.992	97.053
136.008	97.046
144.000	97.053
151.992	97.152
160.008	97.152
168.000	97.152
175.992	97.549
184.008	99.104
192.000	97.396
199.992	97.252
208.008	97.252
216.000	97.259
223.992	97.099
232.008	97.099
240.000	97.107
250.000	97.000

Name: FDOT_005Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.102
16.008	97.110
24.000	97.102
31.992	97.314
40.008	98.171
48.000	97.244
55.992	97.212
64.008	97.204
72.000	97.212
79.992	97.055
88.008	97.047
96.000	97.055
103.992	97.055
112.008	97.047
120.000	97.055
127.992	97.055
136.008	97.047
144.000	97.055
151.992	97.157
160.008	97.157
168.000	97.157
175.992	97.566
184.008	99.170
192.000	97.409
199.992	97.259
208.008	97.259
216.000	97.267
223.992	97.102
232.008	97.102
240.000	97.110
250.000	97.000

Name: FDOT_010Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.107
16.008	97.116
24.000	97.107

31.992	97.330
40.008	98.231
48.000	97.256
55.992	97.223
64.008	97.215
72.000	97.223
79.992	97.058
88.008	97.050
96.000	97.058
103.992	97.058
112.008	97.050
120.000	97.058
127.992	97.058
136.008	97.050
144.000	97.058
151.992	97.165
160.008	97.165
168.000	97.165
175.992	97.595
184.008	99.280
192.000	97.430
199.992	97.273
208.008	97.273
216.000	97.281
223.992	97.107
232.008	97.107
240.000	97.116
250.000	97.000

Name: FDOT_025Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.123
16.008	97.132
24.000	97.123
31.992	97.378
40.008	98.409
48.000	97.293
55.992	97.255
64.008	97.246
72.000	97.255
79.992	97.066
88.008	97.057
96.000	97.066
103.992	97.066
112.008	97.057
120.000	97.066
127.992	97.066
136.008	97.057
144.000	97.066
151.992	97.189
160.008	97.189
168.000	97.189
175.992	97.681
184.008	99.610
192.000	97.492
199.992	97.312
208.008	97.312
216.000	97.322
223.992	97.123
232.008	97.123
240.000	97.132
250.000	97.000

Name: FDOT_050Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.149
16.008	97.160
24.000	97.149
31.992	97.458
40.008	98.706
48.000	97.355
55.992	97.309
64.008	97.298
72.000	97.309
79.992	97.080
88.008	97.069
96.000	97.080
103.992	97.080

112.008	97.069
120.000	97.080
127.992	97.080
136.008	97.069
144.000	97.080
151.992	97.229
160.008	97.229
168.000	97.229
175.992	97.824
184.008	100.160
192.000	97.595
199.992	97.378
208.008	97.378
216.000	97.389
223.992	97.149
232.008	97.149
240.000	97.160
250.000	97.000

Name: FDOT_100Y240H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	97.000
7.992	97.201
16.008	97.216
24.000	97.201
31.992	97.617
40.008	99.300
48.000	97.478
55.992	97.417
64.008	97.401
72.000	97.417
79.992	97.108
88.008	97.093
96.000	97.108
103.992	97.108
112.008	97.093
120.000	97.108
127.992	97.108
136.008	97.093
144.000	97.108
151.992	97.309
160.008	97.309
168.000	97.309
175.992	98.111
184.008	101.260
192.000	97.803
199.992	97.509
208.008	97.509
216.000	97.525
223.992	97.201
232.008	97.201
240.000	97.216
250.000	97.000

Name: RCID_010Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.380
2.000	95.460
3.000	95.470
4.000	95.470
5.000	95.480
6.000	95.480
7.000	95.490
8.000	95.490
9.000	95.500
10.000	95.500
11.000	95.500
12.000	95.510
13.000	95.510
14.000	95.510
15.000	95.510
16.000	95.520
17.000	95.520
18.000	95.520
19.000	95.520
20.000	95.520
21.000	95.520
22.000	95.520
23.000	95.520

24.000	95.570
25.000	95.640
26.000	95.670
27.000	95.670
28.000	95.680
29.000	95.680
30.000	95.680
31.000	95.690
32.000	95.690
33.000	95.700
34.000	95.700
35.000	95.700
36.000	95.710
37.000	95.710
38.000	95.720
39.000	95.720
40.000	95.730
41.000	95.730
42.000	95.740
43.000	95.740
44.000	95.750
45.000	95.760
46.000	95.770
47.000	95.780
48.000	95.820
49.000	95.880
50.000	95.950
51.000	96.040
52.000	96.190
53.000	96.300
54.000	96.360
55.000	96.420
56.000	96.490
57.000	96.590
58.000	96.710
59.000	97.900
60.000	99.280
61.000	99.060
62.000	97.790
63.000	97.400
64.000	97.270
65.000	97.130
66.000	97.060
67.000	97.020
68.000	96.960
69.000	96.870
70.000	96.810
71.000	96.780
72.000	96.680
73.000	96.540
74.000	96.460
75.000	96.420
76.000	96.390
77.000	96.360
78.000	96.330
79.000	96.310
80.000	96.290
81.000	96.270
82.000	96.250
83.000	96.210
84.000	96.120
85.000	96.040
86.000	95.970
87.000	95.900
88.000	95.840
89.000	95.780
90.000	95.730
91.000	95.680
92.000	95.630
93.000	95.590
94.000	95.550
95.000	95.520
96.000	95.490
97.000	95.460
98.000	95.430
99.000	95.400
100.000	95.370
101.000	95.350
102.000	95.330
103.000	95.310
104.000	95.290
105.000	95.270
106.000	95.250
107.000	95.240
108.000	95.220
109.000	95.210

110.000	95.200
111.000	95.190
112.000	95.180
113.000	95.170
114.000	95.160
115.000	95.150
116.000	95.140
117.000	95.140
118.000	95.140
119.000	95.140
120.000	95.140
121.000	95.130
122.000	95.130
123.000	95.130
124.000	95.130
125.000	95.120
126.000	95.120
127.000	95.120
128.000	95.120
129.000	95.120
130.000	95.120
131.000	95.120
132.000	95.120
133.000	95.120
134.000	95.120
135.000	95.120
136.000	95.120
137.000	95.120
138.000	95.120
139.000	95.120
140.000	95.120
141.000	95.120
142.000	95.120
143.000	95.120
144.000	95.120

Name: RCID_050Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.450
2.000	95.540
3.000	95.560
4.000	95.560
5.000	95.570
6.000	95.580
7.000	95.580
8.000	95.590
9.000	95.590
10.000	95.600
11.000	95.600
12.000	95.610
13.000	95.610
14.000	95.610
15.000	95.620
16.000	95.620
17.000	95.620
18.000	95.620
19.000	95.620
20.000	95.620
21.000	95.630
22.000	95.630
23.000	95.630
24.000	95.680
25.000	95.770
26.000	95.810
27.000	95.820
28.000	95.830
29.000	95.840
30.000	95.850
31.000	95.850
32.000	95.860
33.000	95.870
34.000	95.880
35.000	95.900
36.000	95.920
37.000	95.950
38.000	95.980
39.000	96.000
40.000	96.030
41.000	96.050
42.000	96.080
43.000	96.100
44.000	96.110

45.000	96.120
46.000	96.120
47.000	96.130
48.000	96.150
49.000	96.180
50.000	96.210
51.000	96.260
52.000	96.340
53.000	96.430
54.000	96.510
55.000	96.600
56.000	96.700
57.000	96.840
58.000	97.030
59.000	98.540
60.000	99.890
61.000	99.660
62.000	98.450
63.000	97.940
64.000	97.750
65.000	97.580
66.000	97.470
67.000	97.410
68.000	97.320
69.000	97.200
70.000	97.120
71.000	97.070
72.000	96.940
73.000	96.750
74.000	96.640
75.000	96.590
76.000	96.530
77.000	96.490
78.000	96.450
79.000	96.410
80.000	96.380
81.000	96.350
82.000	96.330
83.000	96.300
84.000	96.260
85.000	96.220
86.000	96.180
87.000	96.150
88.000	96.120
89.000	96.060
90.000	95.990
91.000	95.930
92.000	95.870
93.000	95.820
94.000	95.760
95.000	95.720
96.000	95.670
97.000	95.630
98.000	95.590
99.000	95.550
100.000	95.520
101.000	95.490
102.000	95.460
103.000	95.430
104.000	95.400
105.000	95.380
106.000	95.360
107.000	95.340
108.000	95.320
109.000	95.300
110.000	95.290
111.000	95.270
112.000	95.250
113.000	95.240
114.000	95.230
115.000	95.220
116.000	95.200
117.000	95.190
118.000	95.190
119.000	95.180
120.000	95.170
121.000	95.160
122.000	95.150
123.000	95.140
124.000	95.130
125.000	95.130
126.000	95.120
127.000	95.120
128.000	95.120
129.000	95.120
130.000	95.120

131.000	95.120
132.000	95.120
133.000	95.120
134.000	95.120
135.000	95.120
136.000	95.120
137.000	95.120
138.000	95.120
139.000	95.120
140.000	95.120
141.000	95.120
142.000	95.120
143.000	95.120
144.000	95.120

Name: RCID_100Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.480
2.000	95.580
3.000	95.600
4.000	95.600
5.000	95.610
6.000	95.620
7.000	95.630
8.000	95.630
9.000	95.640
10.000	95.640
11.000	95.650
12.000	95.650
13.000	95.660
14.000	95.660
15.000	95.660
16.000	95.660
17.000	95.670
18.000	95.670
19.000	95.670
20.000	95.670
21.000	95.670
22.000	95.670
23.000	95.680
24.000	95.740
25.000	95.830
26.000	95.880
27.000	95.890
28.000	95.900
29.000	95.910
30.000	95.920
31.000	95.930
32.000	95.940
33.000	95.950
34.000	95.960
35.000	95.990
36.000	96.020
37.000	96.050
38.000	96.090
39.000	96.130
40.000	96.160
41.000	96.200
42.000	96.230
43.000	96.260
44.000	96.270
45.000	96.270
46.000	96.280
47.000	96.280
48.000	96.300
49.000	96.310
50.000	96.330
51.000	96.360
52.000	96.410
53.000	96.480
54.000	96.570
55.000	96.680
56.000	96.790
57.000	96.940
58.000	97.170
59.000	98.820
60.000	100.160
61.000	99.920
62.000	98.750
63.000	98.180
64.000	97.970
65.000	97.770

66.000	97.650
67.000	97.580
68.000	97.480
69.000	97.340
70.000	97.250
71.000	97.200
72.000	97.060
73.000	96.850
74.000	96.720
75.000	96.660
76.000	96.600
77.000	96.550
78.000	96.510
79.000	96.460
80.000	96.420
81.000	96.390
82.000	96.360
83.000	96.340
84.000	96.320
85.000	96.300
86.000	96.280
87.000	96.260
88.000	96.250
89.000	96.190
90.000	96.110
91.000	96.040
92.000	95.970
93.000	95.910
94.000	95.860
95.000	95.800
96.000	95.750
97.000	95.710
98.000	95.670
99.000	95.620
100.000	95.580
101.000	95.550
102.000	95.510
103.000	95.490
104.000	95.460
105.000	95.430
106.000	95.410
107.000	95.380
108.000	95.360
109.000	95.340
110.000	95.320
111.000	95.310
112.000	95.290
113.000	95.270
114.000	95.260
115.000	95.240
116.000	95.230
117.000	95.220
118.000	95.210
119.000	95.200
120.000	95.180
121.000	95.170
122.000	95.160
123.000	95.150
124.000	95.140
125.000	95.130
126.000	95.130
127.000	95.120
128.000	95.120
129.000	95.120
130.000	95.120
131.000	95.120
132.000	95.120
133.000	95.120
134.000	95.120
135.000	95.120
136.000	95.120
137.000	95.120
138.000	95.120
139.000	95.120
140.000	95.120
141.000	95.120
142.000	95.120
143.000	95.120
144.000	95.120

Name: SFWMD_025Y072H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120

24.000	97.050
36.000	96.520
48.000	96.530
49.000	95.250
50.000	95.250
51.000	95.280
52.000	95.290
53.000	95.340
54.000	95.400
55.000	95.450
56.000	95.500
57.000	95.570
57.500	95.380
58.000	95.410
58.500	95.440
59.000	95.540
59.500	95.780
60.000	99.570
60.500	96.080
61.000	95.620
61.500	95.490
62.000	95.420
62.500	95.340
63.000	95.320
64.000	95.520
65.000	95.360
66.000	95.360
68.000	95.600
70.000	95.440
72.000	95.440
80.000	95.120

Name: ORANGE_010Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
0.500	95.130
1.000	95.130
1.500	95.130
2.000	95.160
2.500	95.160
3.000	95.180
3.500	95.220
4.000	95.230
4.500	95.280
5.000	95.280
5.500	95.280
6.000	95.290
6.500	95.470
7.000	95.510
7.500	95.620
8.000	95.730
8.500	95.890
9.000	95.880
9.500	95.660
10.000	95.640
10.500	95.390
11.000	95.390
11.500	95.300
12.000	95.270
12.500	95.290
13.000	95.280
13.500	95.230
14.000	95.220
14.500	95.160
15.000	95.170
15.500	95.150
16.000	95.160
16.500	95.150
17.000	95.160
17.500	95.160
18.000	95.150
18.500	95.160
19.000	95.150
19.500	95.140
20.000	95.150
20.500	95.130
21.000	95.140
21.500	95.130
22.000	95.140
22.500	95.130
23.000	95.140
23.500	95.130
24.000	95.130

30.000	95.120

Name: ORANGE_025Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
0.500	95.130
1.000	95.130
1.500	95.130
2.000	95.160
2.500	95.160
3.000	95.190
3.500	95.230
4.000	95.250
4.500	95.300
5.000	95.300
5.500	95.310
6.000	95.320
6.500	95.530
7.000	95.580
7.500	95.710
8.000	95.850
8.500	96.030
9.000	96.020
9.500	95.760
10.000	95.730
10.500	95.440
11.000	95.440
11.500	95.330
12.000	95.300
12.500	95.320
13.000	95.310
13.500	95.250
14.000	95.240
14.500	95.170
15.000	95.180
15.500	95.160
16.000	95.160
16.500	95.160
17.000	95.160
17.500	95.160
18.000	95.160
18.500	95.160
19.000	95.160
19.500	95.150
20.000	95.160
20.500	95.140
21.000	95.150
21.500	95.140
22.000	95.150
22.500	95.140
23.000	95.150
23.500	95.130
24.000	95.130
30.000	95.120

Name: ORANGE_100Y024H Node: RCID_HOTEL Type: Stage

Time(hrs)	Stage(ft)
0.000	95.120
1.000	95.400
2.000	95.690
3.000	95.970
4.000	95.970
5.000	95.970
6.000	96.260
7.000	96.260
8.000	96.260
9.000	96.830
10.000	96.830
11.000	97.400
12.000	97.970
13.000	97.110
14.000	96.830
15.000	96.830
16.000	96.540
17.000	96.260
18.000	96.260
19.000	96.260
20.000	95.970
21.000	95.970
22.000	95.690

23.000	95.400
24.000	95.400
25.000	95.400
50.000	95.120

Name:	EX_BSNOFF138C4	EX_BSNOFF138C4	EX_BSNOFF138C4	EX_BSNOFF138C4
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	ORANGE025Y024H	RCID010Y072H	RCID050Y072H	SFWMD025Y072H
Node:	EX_SW138C4	EX_SW138C4	EX_SW138C4	EX_SW138C4
Type:	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Sfwmd72	Sfwmd72
Rain Amount(in):	8.60	10.19	12.91	10.00
Duration(hrs):	24.00	72.00	72.00	72.00
Status:	Offsite	Offsite	Offsite	Offsite
TC(min):	30.06	30.06	30.06	30.06
Time Shift(hrs):	0.00	0.00	0.00	0.00
Area(ac):	18.82	18.82	18.82	18.82
Curve Num:	63.250	63.250	63.250	63.250
DCIA(%):	0.000	0.000	0.000	0.000
Time Max(hrs):	9.00	59.98	59.98	59.98
Flow Max(cfs):	18.36	46.46	64.55	45.21
Runoff Volume(in):	4.18	5.49	7.86	5.33
Runoff Volume(ft3):	285282	375251	536994	364287

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: SFWMD Node Min/ Max Conditons Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_4AFDOT138	PROPOSE	ORANGE025Y024HR	10.00	102.38	103.49	0.00	13380	9.52	103.38	9.58	103.26
EX_4AFDOT138	PROPOSE	RCID050Y072HR	60.36	103.92	103.49	0.00	16251	60.44	202.69	60.43	203.82
EX_4AFDOT138	PROPOSE	SFWMD025Y072HR	60.58	103.22	103.49	0.00	15480	60.56	160.92	60.62	161.01
EX_4BFDOT138	PROPOSE	ORANGE025Y024HR	10.04	103.07	103.49	-0.00	626	10.10	60.26	10.11	60.27
EX_4BFDOT138	PROPOSE	RCID050Y072HR	60.46	105.38	103.49	-0.00	896	60.68	88.50	60.70	88.61
EX_4BFDOT138	PROPOSE	SFWMD025Y072HR	60.58	104.40	103.49	-0.00	781	60.58	78.71	60.60	78.71
EX_5FDOT138	PROPOSE	ORANGE025Y024HR	10.09	104.09	106.30	-0.00	11492	10.00	54.80	10.20	54.77
EX_5FDOT138	PROPOSE	RCID050Y072HR	60.64	107.45	106.30	-0.00	25840	60.08	110.31	61.12	80.06
EX_5FDOT138	PROPOSE	SFWMD025Y072HR	60.64	106.13	106.30	-0.00	23388	60.14	83.71	60.75	71.26
EX_PND137	PROPOSE	ORANGE025Y024HR	11.58	107.20	108.20	0.00	375875	9.00	39.91	11.57	19.37
EX_PND137	PROPOSE	RCID050Y072HR	61.75	107.74	108.20	0.00	382280	60.00	100.08	62.17	34.60
EX_PND137	PROPOSE	SFWMD025Y072HR	62.03	107.25	108.20	0.00	376504	60.00	72.21	62.01	20.81
EX_PNDOFF138A1	PROPOSE	ORANGE025Y024HR	9.01	106.71	107.20	0.00	3011	8.75	6.85	9.00	6.75
EX_PNDOFF138A1	PROPOSE	RCID050Y072HR	60.00	107.60	107.20	0.02	113	60.00	23.40	60.00	23.39
EX_PNDOFF138A1	PROPOSE	SFWMD025Y072HR	60.11	107.12	107.20	0.00	1046	60.00	18.02	60.11	13.45
EX_PNDSEMBASSY	PROPOSE	ORANGE025Y024HR	9.10	116.77	119.30	0.00	52368	9.00	14.93	9.10	13.96
EX_PNDSEMBASSY	PROPOSE	RCID050Y072HR	60.42	117.56	119.30	0.00	62587	60.00	52.39	60.40	21.33
EX_PNDSEMBASSY	PROPOSE	SFWMD025Y072HR	60.25	117.14	119.30	0.00	57252	60.00	39.08	60.04	21.02
EX_SW138B1	PROPOSE	ORANGE025Y024HR	9.08	103.03	106.38	0.00	3348	9.00	6.75	9.06	6.57
EX_SW138B1	PROPOSE	RCID050Y072HR	60.20	104.04	106.38	0.00	4548	60.00	23.39	60.03	19.91
EX_SW138B1	PROPOSE	SFWMD025Y072HR	60.22	103.42	106.38	0.00	3948	60.11	13.45	60.19	10.14
EX_SW138B2	PROPOSE	ORANGE025Y024HR	9.61	102.53	111.07	0.00	15598	9.37	32.68	9.49	32.44
EX_SW138B2	PROPOSE	RCID050Y072HR	60.38	104.06	111.07	0.00	20737	60.47	91.22	60.56	92.74
EX_SW138B2	PROPOSE	SFWMD025Y072HR	60.60	103.38	111.07	0.00	18425	60.64	68.43	60.75	69.25
EX_SW138B3	PROPOSE	ORANGE025Y024HR	9.37	114.48	117.60	0.00	12077	9.23	32.79	9.37	32.68
EX_SW138B3	PROPOSE	RCID050Y072HR	60.43	115.10	117.60	0.00	14997	60.32	56.70	60.43	56.35
EX_SW138B3	PROPOSE	SFWMD025Y072HR	60.46	114.86	117.60	0.00	13817	60.34	46.39	60.46	46.10
EX_SW138B4	PROPOSE	ORANGE025Y024HR	9.35	114.59	117.20	-0.00	22583	9.05	27.86	9.29	27.05
EX_SW138B4	PROPOSE	RCID050Y072HR	60.43	115.20	117.20	-0.00	31356	60.00	48.99	60.49	44.17
EX_SW138B4	PROPOSE	SFWMD025Y072HR	60.47	114.96	117.20	-0.00	27944	60.00	42.11	60.49	37.50
EX_SW138C1	PROPOSE	ORANGE025Y024HR	11.61	106.63	110.00	0.00	6070	11.57	19.37	11.61	19.36
EX_SW138C1	PROPOSE	RCID050Y072HR	60.75	107.47	110.00	0.00	14333	62.17	34.60	62.05	35.44
EX_SW138C1	PROPOSE	SFWMD025Y072HR	62.07	106.66	110.00	0.00	7342	62.01	20.81	62.07	20.81
EX_SW138C3	PROPOSE	ORANGE025Y024HR	9.08	113.82	115.51	0.00	24807	9.01	38.64	9.08	38.19
EX_SW138C3	PROPOSE	RCID050Y072HR	60.09	114.51	115.51	0.00	34409	60.02	116.80	60.09	111.71
EX_SW138C3	PROPOSE	SFWMD025Y072HR	60.09	114.26	115.51	0.00	30906	60.02	84.71	60.09	80.74
EX_SW138C4	PROPOSE	ORANGE025Y024HR	9.02	114.69	116.55	0.00	8639	9.00	27.05	9.02	26.87
EX_SW138C4	PROPOSE	RCID050Y072HR	60.03	115.41	116.55	0.00	12388	60.00	91.69	60.02	88.85
EX_SW138C4	PROPOSE	SFWMD025Y072HR	60.03	115.14	116.55	0.00	11019	60.00	65.87	60.02	63.85
EX_VCLK01	PROPOSE	ORANGE025Y024HR	13.04	116.83	118.20	0.00	99456	8.75	21.39	13.95	4.60
EX_VCLK01	PROPOSE	RCID050Y072HR	62.35	117.10	118.20	0.00	101933	60.00	69.77	64.32	4.78
EX_VCLK01	PROPOSE	SFWMD025Y072HR	62.11	116.40	118.20	0.00	95673	60.00	53.45	63.50	4.24
EX_VCLK05	PROPOSE	ORANGE025Y024HR	13.09	113.07	113.20	0.00	134934	8.75	40.43	13.09	16.02
EX_VCLK05	PROPOSE	RCID050Y072HR	60.67	113.91	113.20	0.00	142653	60.00	90.24	60.67	35.17
EX_VCLK05	PROPOSE	SFWMD025Y072HR	61.02	113.28	113.20	0.00	136820	60.00	72.47	61.02	24.35
J5FDOT138	PROPOSE	ORANGE025Y024HR	10.07	103.63	105.06	0.02	125	10.16	56.00	10.16	56.01
J5FDOT138	PROPOSE	RCID050Y072HR	60.53	106.53	105.06	0.02	125	61.02	81.47	61.02	81.49
J5FDOT138	PROPOSE	SFWMD025Y072HR	60.62	105.36	105.06	0.02	125	60.70	72.84	60.71	72.85
RCID_HOTEL	PROPOSE	ORANGE025Y024HR	8.50	96.03	105.00	-0.00	1297	10.00	207.72	0.00	0.00
RCID_HOTEL	PROPOSE	RCID050Y072HR	60.00	99.89	105.00	0.00	940	60.21	377.48	0.00	0.00
RCID_HOTEL	PROPOSE	SFWMD025Y072HR	60.00	99.57	105.00	0.00	1112	60.07	273.07	0.00	0.00
SW138B1B1	PROPOSE	ORANGE025Y024HR	10.00	106.06	106.25	0.00	4230	9.00	1.14	10.00	0.98
SW138B1B1	PROPOSE	RCID050Y072HR	60.04	106.17	106.25	0.00	4883	60.00	3.63	60.04	3.47
SW138B1B1	PROPOSE	SFWMD025Y072HR	60.06	106.13	106.25	0.00	4650	60.00	2.61	60.06	2.45
SW138B1B2	PROPOSE	ORANGE025Y024HR	10.02	105.18	105.96	0.00	8468	9.97	4.38	10.02	4.36
SW138B1B2	PROPOSE	RCID050Y072HR	60.44	105.46	105.96	0.00	7146	60.01	13.68	60.05	13.33
SW138B1B2	PROPOSE	SFWMD025Y072HR	60.08	105.32	105.96	0.00	7817	60.01	9.89	60.08	9.53
SW138B1B3	PROPOSE	ORANGE025Y024HR	9.01	106.58	106.44	0.00	1832	9.00	1.76	9.01	1.75
SW138B1B3	PROPOSE	RCID050Y072HR	60.01	106.76	106.44	0.00	1353	60.00	6.58	60.01	6.52

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: SFWMD Node Min/ Max Conditons Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SW138B1B3	PROPOSE	SFWMD025Y072HR	60.01	106.70	106.44	0.00	1511	60.00	4.73	60.01	4.68
SW138C2	PROPOSE	ORANGE025Y024HR	10.08	104.14	106.00	-0.00	15848	9.05	44.60	9.14	40.39
SW138C2	PROPOSE	RCID050Y072HR	60.63	107.48	106.00	0.00	22477	60.06	131.93	60.15	97.62
SW138C2	PROPOSE	SFWMD025Y072HR	60.64	106.17	106.00	0.00	19923	60.07	95.55	60.13	69.18
SW138C3B1	PROPOSE	ORANGE025Y024HR	9.03	130.12	130.59	0.00	2330	9.00	1.64	9.03	1.64
SW138C3B1	PROPOSE	RCID050Y072HR	60.04	130.23	130.59	0.00	2237	60.01	4.09	60.04	4.06
SW138C3B1	PROPOSE	SFWMD025Y072HR	60.04	130.19	130.59	0.00	2271	60.01	3.11	60.04	3.07
SW138C3B2	PROPOSE	ORANGE025Y024HR	9.01	131.65	133.22	0.00	1656	9.00	1.03	9.01	1.03
SW138C3B2	PROPOSE	RCID050Y072HR	60.02	131.72	133.22	0.00	1887	60.00	2.58	60.02	2.53
SW138C3B2	PROPOSE	SFWMD025Y072HR	60.02	131.70	133.22	0.00	1793	60.00	1.97	60.02	1.93

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: FDOT Node Min/ Max Conditons Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_4AFDOT138	PROPOSE	002Y001HR	1.14	101.33	103.49	0.00	10980	1.05	47.34	1.13	46.47
EX_4AFDOT138	PROPOSE	002Y002HR	1.36	101.43	103.49	0.00	11221	1.26	51.25	1.35	50.80
EX_4AFDOT138	PROPOSE	002Y004HR	3.01	101.41	103.49	0.00	11191	2.92	49.97	2.99	49.91
EX_4AFDOT138	PROPOSE	002Y008HR	4.26	101.38	103.49	0.00	11107	4.18	48.77	4.26	48.41
EX_4AFDOT138	PROPOSE	002Y024HR	12.24	100.68	103.49	0.00	6199	12.19	22.21	12.25	22.19
EX_4AFDOT138	PROPOSE	002Y072HR	60.06	100.66	103.49	0.00	6163	60.00	21.51	60.06	21.48
EX_4AFDOT138	PROPOSE	005Y001HR	1.11	101.65	103.49	0.00	11707	1.02	61.94	1.10	61.04
EX_4AFDOT138	PROPOSE	005Y002HR	1.38	101.75	103.49	0.00	11954	1.31	65.94	1.37	65.54
EX_4AFDOT138	PROPOSE	005Y004HR	3.03	101.75	103.49	0.00	11973	2.94	64.94	3.00	64.76
EX_4AFDOT138	PROPOSE	005Y008HR	4.31	101.72	103.49	0.00	11886	4.22	63.81	4.30	63.40
EX_4AFDOT138	PROPOSE	005Y024HR	12.23	100.90	103.49	0.00	6493	12.18	29.30	12.23	29.25
EX_4AFDOT138	PROPOSE	005Y072HR	60.22	100.96	103.49	0.00	6550	60.16	31.36	60.21	31.30
EX_4AFDOT138	PROPOSE	010Y001HR	1.12	101.88	103.49	0.00	12227	1.05	73.09	1.12	72.34
EX_4AFDOT138	PROPOSE	010Y002HR	1.41	101.99	103.49	0.00	12460	1.32	77.54	1.39	77.08
EX_4AFDOT138	PROPOSE	010Y004HR	3.13	102.04	103.49	0.00	12603	3.06	78.41	3.13	78.21
EX_4AFDOT138	PROPOSE	010Y008HR	4.38	101.99	103.49	0.00	12466	4.27	76.45	4.37	76.20
EX_4AFDOT138	PROPOSE	010Y024HR	12.24	101.13	103.49	0.00	6753	12.17	37.76	12.22	37.70
EX_4AFDOT138	PROPOSE	010Y072HR	60.10	101.35	103.49	0.00	6984	60.04	46.22	60.09	46.16
EX_4AFDOT138	PROPOSE	025Y001HR	1.14	102.15	103.49	0.00	12813	1.09	86.70	1.14	86.32
EX_4AFDOT138	PROPOSE	025Y002HR	1.46	102.20	103.49	0.00	12891	1.40	94.47	1.45	94.19
EX_4AFDOT138	PROPOSE	025Y004HR	3.05	102.29	103.49	0.00	13153	3.00	99.79	3.05	99.55
EX_4AFDOT138	PROPOSE	025Y008HR	4.38	102.30	103.49	0.00	13155	4.32	100.50	4.39	100.27
EX_4AFDOT138	PROPOSE	025Y024HR	12.26	101.45	103.49	0.00	11287	12.16	50.31	12.23	50.12
EX_4AFDOT138	PROPOSE	025Y072HR	60.10	101.70	103.49	0.00	7385	60.02	60.20	60.08	60.11
EX_4AFDOT138	PROPOSE	050Y001HR	1.17	102.26	103.49	0.00	13005	1.10	98.47	1.16	97.88
EX_4AFDOT138	PROPOSE	050Y002HR	1.48	102.39	103.49	0.00	13394	1.43	106.53	1.48	106.38
EX_4AFDOT138	PROPOSE	050Y004HR	3.05	102.52	103.49	0.00	13751	3.00	112.67	3.06	112.47
EX_4AFDOT138	PROPOSE	050Y008HR	4.36	102.58	103.49	0.00	13899	4.31	116.18	4.39	116.07
EX_4AFDOT138	PROPOSE	050Y024HR	15.40	101.84	103.49	0.00	12179	15.34	66.70	15.41	66.68
EX_4AFDOT138	PROPOSE	050Y072HR	60.07	101.94	103.49	0.00	12355	60.05	71.43	60.05	71.45
EX_4AFDOT138	PROPOSE	100Y001HR	1.15	102.42	103.49	0.00	13445	1.09	108.81	1.15	108.42
EX_4AFDOT138	PROPOSE	100Y002HR	1.48	102.58	103.49	0.00	13875	1.42	116.98	1.49	116.74
EX_4AFDOT138	PROPOSE	100Y004HR	3.03	102.72	103.49	0.00	14255	3.00	125.11	3.05	125.09
EX_4AFDOT138	PROPOSE	100Y008HR	4.31	102.81	103.49	0.00	14500	4.30	131.50	4.35	131.58
EX_4AFDOT138	PROPOSE	100Y024HR	15.19	102.11	103.49	0.00	12760	15.13	84.13	15.20	84.12
EX_4AFDOT138	PROPOSE	100Y072HR	60.12	102.08	103.49	0.00	12644	60.00	83.54	59.35	83.94
EX_4BFDOT138	PROPOSE	002Y001HR	1.11	101.42	103.49	-0.00	807	0.95	24.59	0.96	24.30
EX_4BFDOT138	PROPOSE	002Y002HR	1.33	101.54	103.49	-0.00	807	1.18	25.37	1.20	25.22
EX_4BFDOT138	PROPOSE	002Y004HR	3.01	101.53	103.49	-0.00	807	3.01	24.68	3.02	24.68
EX_4BFDOT138	PROPOSE	002Y008HR	4.24	101.49	103.49	-0.00	807	4.16	24.83	4.17	24.76
EX_4BFDOT138	PROPOSE	002Y024HR	12.24	100.71	103.49	-0.00	764	15.14	11.62	15.14	11.62
EX_4BFDOT138	PROPOSE	002Y072HR	60.06	100.69	103.49	-0.00	762	60.05	11.97	60.06	11.97
EX_4BFDOT138	PROPOSE	005Y001HR	1.07	101.82	103.49	-0.00	791	0.92	33.27	0.94	32.88
EX_4BFDOT138	PROPOSE	005Y002HR	1.34	101.93	103.49	-0.00	788	1.19	33.77	1.21	33.65
EX_4BFDOT138	PROPOSE	005Y004HR	3.03	101.94	103.49	-0.00	788	3.01	33.32	3.02	33.32
EX_4BFDOT138	PROPOSE	005Y008HR	4.27	101.91	103.49	-0.00	790	4.18	33.72	4.19	33.64
EX_4BFDOT138	PROPOSE	005Y024HR	12.23	100.95	103.49	-0.00	786	15.12	15.81	15.13	15.81
EX_4BFDOT138	PROPOSE	005Y072HR	60.20	101.01	103.49	-0.00	791	60.05	16.33	60.06	16.30
EX_4BFDOT138	PROPOSE	010Y001HR	1.08	102.12	103.49	-0.00	779	0.94	39.62	0.95	39.33
EX_4BFDOT138	PROPOSE	010Y002HR	1.37	102.26	103.49	-0.00	761	1.19	40.13	1.21	39.97
EX_4BFDOT138	PROPOSE	010Y004HR	3.12	102.35	103.49	-0.00	757	3.09	42.20	3.10	42.18
EX_4BFDOT138	PROPOSE	010Y008HR	4.39	102.28	103.49	-0.00	760	4.22	41.04	4.23	40.98
EX_4BFDOT138	PROPOSE	010Y024HR	12.23	101.22	103.49	-0.00	802	12.17	21.28	12.18	21.26
EX_4BFDOT138	PROPOSE	010Y072HR	60.09	101.42	103.49	-0.00	809	60.05	20.74	60.06	20.73
EX_4BFDOT138	PROPOSE	025Y001HR	1.09	102.51	103.49	-0.00	744	0.95	46.37	0.97	46.12
EX_4BFDOT138	PROPOSE	025Y002HR	1.41	102.62	103.49	-0.00	730	1.28	48.36	1.28	48.29
EX_4BFDOT138	PROPOSE	025Y004HR	3.07	102.81	103.49	-0.00	679	3.11	53.12	3.12	53.14
EX_4BFDOT138	PROPOSE	025Y008HR	4.38	102.84	103.49	-0.00	668	4.36	53.80	4.37	53.79
EX_4BFDOT138	PROPOSE	025Y024HR	12.23	101.61	103.49	-0.00	803	12.16	29.42	12.16	29.40

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_4BFDOT138	PROPOSE	025Y072HR	60.09	101.83	103.49	-0.00	788	60.05	27.58	60.06	27.57
EX_4BFDOT138	PROPOSE	050Y001HR	1.11	102.73	103.49	-0.00	706	0.99	51.71	1.00	51.55
EX_4BFDOT138	PROPOSE	050Y002HR	1.51	102.95	103.49	-0.00	613	1.55	54.01	1.56	54.03
EX_4BFDOT138	PROPOSE	050Y004HR	3.09	103.21	103.49	-0.00	643	3.15	60.28	3.16	60.32
EX_4BFDOT138	PROPOSE	050Y008HR	4.41	103.31	103.49	-0.00	654	4.50	62.10	4.51	62.13
EX_4BFDOT138	PROPOSE	050Y024HR	15.33	102.03	103.49	-0.00	783	12.18	36.59	12.19	36.57
EX_4BFDOT138	PROPOSE	050Y072HR	60.07	102.14	103.49	-0.00	767	60.07	33.49	60.07	33.49
EX_4BFDOT138	PROPOSE	100Y001HR	1.12	102.99	103.49	-0.00	618	1.03	55.07	1.05	54.96
EX_4BFDOT138	PROPOSE	100Y002HR	1.51	103.25	103.49	-0.00	648	1.54	59.75	1.55	59.78
EX_4BFDOT138	PROPOSE	100Y004HR	3.11	103.57	103.49	-0.00	685	3.18	67.12	3.19	67.16
EX_4BFDOT138	PROPOSE	100Y008HR	4.45	103.75	103.49	-0.00	706	4.79	70.81	4.79	70.85
EX_4BFDOT138	PROPOSE	100Y024HR	15.16	102.42	103.49	-0.00	752	12.27	45.11	12.28	45.10
EX_4BFDOT138	PROPOSE	100Y072HR	60.12	102.36	103.49	-0.00	756	60.08	39.85	60.11	39.84
EX_5FDOT138	PROPOSE	002Y001HR	1.03	101.73	106.30	-0.00	4075	0.89	24.38	0.96	22.85
EX_5FDOT138	PROPOSE	002Y002HR	1.26	101.86	106.30	-0.00	4274	1.11	24.60	1.20	23.68
EX_5FDOT138	PROPOSE	002Y004HR	3.01	101.85	106.30	-0.00	4483	3.00	23.56	3.03	23.56
EX_5FDOT138	PROPOSE	002Y008HR	4.20	101.82	106.30	-0.00	4376	4.11	23.98	4.17	23.54
EX_5FDOT138	PROPOSE	002Y024HR	12.22	100.87	106.30	-0.00	3743	12.13	10.78	12.20	10.73
EX_5FDOT138	PROPOSE	002Y072HR	60.06	100.86	106.30	-0.00	3769	60.01	11.03	60.06	11.00
EX_5FDOT138	PROPOSE	005Y001HR	1.00	102.27	106.30	-0.00	4643	0.86	33.22	0.93	31.04
EX_5FDOT138	PROPOSE	005Y002HR	1.26	102.40	106.30	-0.00	4863	1.11	32.74	1.21	31.76
EX_5FDOT138	PROPOSE	005Y004HR	3.02	102.41	106.30	-0.00	5133	3.00	32.02	3.04	31.98
EX_5FDOT138	PROPOSE	005Y008HR	4.22	102.39	106.30	-0.00	5019	4.12	32.81	4.19	32.19
EX_5FDOT138	PROPOSE	005Y024HR	12.21	101.17	106.30	-0.00	3993	12.12	15.03	12.19	14.96
EX_5FDOT138	PROPOSE	005Y072HR	60.14	101.21	106.30	-0.00	4068	60.01	15.00	60.06	14.85
EX_5FDOT138	PROPOSE	010Y001HR	1.01	102.70	106.30	-0.00	5102	0.86	39.58	0.96	37.17
EX_5FDOT138	PROPOSE	010Y002HR	1.31	102.83	106.30	-0.00	5769	1.12	39.10	1.23	37.88
EX_5FDOT138	PROPOSE	010Y004HR	3.09	102.92	106.30	-0.00	6394	2.88	39.07	2.88	38.65
EX_5FDOT138	PROPOSE	010Y008HR	4.27	102.89	106.30	-0.00	6195	4.13	40.26	4.24	39.37
EX_5FDOT138	PROPOSE	010Y024HR	12.20	101.50	106.30	-0.00	4274	12.11	19.54	12.18	19.42
EX_5FDOT138	PROPOSE	010Y072HR	60.08	101.65	106.30	-0.00	4464	60.01	19.00	60.06	18.92
EX_5FDOT138	PROPOSE	025Y001HR	1.05	103.21	106.30	-0.00	7255	0.86	46.96	0.99	43.69
EX_5FDOT138	PROPOSE	025Y002HR	1.35	103.38	106.30	-0.00	8064	1.17	47.25	1.30	45.97
EX_5FDOT138	PROPOSE	025Y004HR	3.10	103.62	106.30	-0.00	9277	3.00	48.59	3.17	48.34
EX_5FDOT138	PROPOSE	025Y008HR	4.38	103.67	106.30	-0.00	9433	4.11	51.07	4.43	48.79
EX_5FDOT138	PROPOSE	025Y024HR	12.20	102.00	106.30	-0.00	4843	12.10	27.13	12.17	26.96
EX_5FDOT138	PROPOSE	025Y072HR	60.08	102.13	106.30	-0.00	5007	60.01	25.33	60.07	25.24
EX_5FDOT138	PROPOSE	050Y001HR	1.07	103.58	106.30	-0.00	8779	0.88	52.53	1.01	48.94
EX_5FDOT138	PROPOSE	050Y002HR	1.45	103.81	106.30	-0.00	9942	1.13	53.02	1.36	50.30
EX_5FDOT138	PROPOSE	050Y004HR	3.14	104.25	106.30	-0.00	12088	3.01	55.63	3.24	55.12
EX_5FDOT138	PROPOSE	050Y008HR	4.47	104.41	106.30	-0.00	12934	4.15	58.59	4.59	56.66
EX_5FDOT138	PROPOSE	050Y024HR	12.23	102.46	106.30	-0.00	5362	12.11	33.85	12.20	33.63
EX_5FDOT138	PROPOSE	050Y072HR	60.08	102.52	106.30	-0.00	5455	60.03	30.76	60.09	30.71
EX_5FDOT138	PROPOSE	100Y001HR	1.11	103.96	106.30	-0.00	10411	0.87	57.94	1.08	52.29
EX_5FDOT138	PROPOSE	100Y002HR	1.51	104.28	106.30	-0.00	12117	1.10	57.82	1.61	54.15
EX_5FDOT138	PROPOSE	100Y004HR	3.17	104.86	106.30	-0.00	15382	3.00	62.71	3.28	61.56
EX_5FDOT138	PROPOSE	100Y008HR	4.55	105.19	106.30	-0.00	17116	4.15	68.10	4.67	64.76
EX_5FDOT138	PROPOSE	100Y024HR	12.30	102.99	106.30	-0.00	6851	12.15	41.35	12.27	41.04
EX_5FDOT138	PROPOSE	100Y072HR	60.12	102.87	106.30	-0.00	6372	60.00	36.83	60.14	36.62
EX_PND137	PROPOSE	002Y001HR	2.00	106.48	108.20	0.00	367479	0.75	29.15	2.00	3.35
EX_PND137	PROPOSE	002Y002HR	3.01	106.57	108.20	0.00	368506	1.00	26.66	3.01	5.02
EX_PND137	PROPOSE	002Y004HR	4.43	106.62	108.20	0.00	369112	2.50	22.21	4.43	6.11
EX_PND137	PROPOSE	002Y008HR	6.61	106.63	108.20	0.00	369270	4.00	21.96	6.60	6.40
EX_PND137	PROPOSE	002Y024HR	16.87	106.56	108.20	0.00	368352	12.00	7.79	16.87	4.76
EX_PND137	PROPOSE	002Y072HR	64.08	106.52	108.20	0.00	367967	60.00	7.08	64.08	4.12
EX_PND137	PROPOSE	005Y001HR	2.00	106.54	108.20	0.00	368171	0.75	35.55	2.00	4.45
EX_PND137	PROPOSE	005Y002HR	2.96	106.65	108.20	0.00	369437	1.00	32.76	2.96	6.69
EX_PND137	PROPOSE	005Y004HR	4.41	106.72	108.20	0.00	370262	2.50	28.02	4.40	8.13
EX_PND137	PROPOSE	005Y008HR	6.54	106.74	108.20	0.00	370496	4.00	28.02	6.54	8.54

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PND137	PROPOSE	005Y024HR	16.65	106.64	108.20	0.00	369318	12.00	10.34	16.65	6.48
EX_PND137	PROPOSE	005Y072HR	64.02	106.60	108.20	0.00	368858	60.00	9.42	64.02	5.64
EX_PND137	PROPOSE	010Y001HR	2.00	106.59	108.20	0.00	368735	0.75	40.92	2.00	5.42
EX_PND137	PROPOSE	010Y002HR	2.95	106.71	108.20	0.00	370213	1.00	37.95	2.94	8.05
EX_PND137	PROPOSE	010Y004HR	4.39	106.80	108.20	0.00	371263	2.50	33.22	4.38	9.92
EX_PND137	PROPOSE	010Y008HR	6.49	106.83	108.20	0.00	371617	4.00	33.77	6.48	10.58
EX_PND137	PROPOSE	010Y024HR	16.56	106.72	108.20	0.00	370306	12.00	13.04	16.55	8.21
EX_PND137	PROPOSE	010Y072HR	63.68	106.67	108.20	0.00	369701	60.00	11.75	63.67	7.15
EX_PND137	PROPOSE	025Y001HR	2.00	106.65	108.20	0.00	369485	0.75	48.22	2.00	6.78
EX_PND137	PROPOSE	025Y002HR	2.93	106.80	108.20	0.00	371263	1.00	45.08	2.92	9.92
EX_PND137	PROPOSE	025Y004HR	4.37	106.92	108.20	0.00	372662	2.50	40.70	4.36	12.57
EX_PND137	PROPOSE	025Y008HR	6.42	106.98	108.20	0.00	373315	4.00	42.81	6.41	13.87
EX_PND137	PROPOSE	025Y024HR	16.43	106.86	108.20	0.00	371943	12.00	17.65	16.42	11.19
EX_PND137	PROPOSE	025Y072HR	62.59	106.79	108.20	0.00	371098	60.00	15.59	62.58	9.62
EX_PND137	PROPOSE	050Y001HR	2.00	106.70	108.20	0.00	370057	0.75	53.84	2.00	7.78
EX_PND137	PROPOSE	050Y002HR	2.91	106.87	108.20	0.00	372019	1.00	50.32	2.90	11.33
EX_PND137	PROPOSE	050Y004HR	4.35	107.02	108.20	0.00	373751	2.50	46.66	4.34	14.77
EX_PND137	PROPOSE	050Y008HR	6.36	107.10	108.20	0.00	374720	4.00	50.60	6.35	16.81
EX_PND137	PROPOSE	050Y024HR	16.33	106.99	108.20	0.00	373397	12.00	21.95	16.32	14.04
EX_PND137	PROPOSE	050Y072HR	62.24	106.89	108.20	0.00	372286	60.00	18.95	62.23	11.84
EX_PND137	PROPOSE	100Y001HR	2.00	106.75	108.20	0.00	370607	0.75	59.26	2.00	8.75
EX_PND137	PROPOSE	100Y002HR	2.90	106.93	108.20	0.00	372747	1.00	55.44	2.89	12.74
EX_PND137	PROPOSE	100Y004HR	4.33	107.11	108.20	0.00	374815	2.50	52.60	4.32	17.02
EX_PND137	PROPOSE	100Y008HR	6.29	107.22	108.20	0.00	376197	4.00	59.05	6.28	20.10
EX_PND137	PROPOSE	100Y024HR	16.22	107.12	108.20	0.00	375022	12.00	26.99	16.21	17.47
EX_PND137	PROPOSE	100Y072HR	61.98	107.00	108.20	0.00	373594	60.00	22.77	61.97	14.44
EX_PNDOFF138A1	PROPOSE	002Y001HR	1.27	104.41	107.20	0.00	9791	0.50	12.02	1.27	1.35
EX_PNDOFF138A1	PROPOSE	002Y002HR	1.88	104.75	107.20	0.00	9417	0.75	10.28	1.88	1.47
EX_PNDOFF138A1	PROPOSE	002Y004HR	3.20	104.89	107.20	0.00	9272	2.00	5.55	3.14	2.19
EX_PNDOFF138A1	PROPOSE	002Y008HR	5.15	104.80	107.20	0.00	9365	3.75	5.33	5.15	1.48
EX_PNDOFF138A1	PROPOSE	002Y024HR	15.01	103.53	107.20	0.00	9872	11.75	1.60	15.01	0.98
EX_PNDOFF138A1	PROPOSE	002Y072HR	60.17	103.19	107.20	0.00	9797	59.75	1.05	60.17	0.80
EX_PNDOFF138A1	PROPOSE	005Y001HR	1.22	104.93	107.20	0.00	9221	0.50	14.66	1.22	2.22
EX_PNDOFF138A1	PROPOSE	005Y002HR	1.82	105.33	107.20	0.00	8490	0.75	12.54	1.31	2.31
EX_PNDOFF138A1	PROPOSE	005Y004HR	3.25	105.60	107.20	0.00	7541	2.00	6.83	2.62	2.29
EX_PNDOFF138A1	PROPOSE	005Y008HR	5.12	105.43	107.20	0.00	8117	3.75	6.59	4.19	2.29
EX_PNDOFF138A1	PROPOSE	005Y024HR	15.13	103.95	107.20	0.00	9965	11.75	2.00	15.13	1.17
EX_PNDOFF138A1	PROPOSE	005Y072HR	60.20	103.45	107.20	0.00	9856	59.75	1.31	60.20	0.94
EX_PNDOFF138A1	PROPOSE	010Y001HR	1.25	105.34	107.20	0.00	8441	0.50	16.74	1.05	2.37
EX_PNDOFF138A1	PROPOSE	010Y002HR	1.88	105.97	107.20	0.00	6252	0.75	14.34	1.16	2.42
EX_PNDOFF138A1	PROPOSE	010Y004HR	3.15	106.39	107.20	0.00	4544	2.00	7.89	3.15	3.17
EX_PNDOFF138A1	PROPOSE	010Y008HR	5.07	106.31	107.20	0.00	4940	3.75	7.69	5.07	2.56
EX_PNDOFF138A1	PROPOSE	010Y024HR	15.24	104.41	107.20	0.00	9790	11.75	2.38	15.24	1.35
EX_PNDOFF138A1	PROPOSE	010Y072HR	60.23	103.72	107.20	0.00	9914	59.75	1.56	60.23	1.07
EX_PNDOFF138A1	PROPOSE	025Y001HR	1.28	106.05	107.20	0.00	5967	0.50	19.44	0.93	2.55
EX_PNDOFF138A1	PROPOSE	025Y002HR	1.41	106.54	107.20	0.00	3828	0.75	16.69	1.41	4.64
EX_PNDOFF138A1	PROPOSE	025Y004HR	2.71	106.67	107.20	0.00	3195	2.00	9.33	2.70	6.25
EX_PNDOFF138A1	PROPOSE	025Y008HR	4.15	106.69	107.20	0.00	3086	3.75	9.31	4.15	6.57
EX_PNDOFF138A1	PROPOSE	025Y024HR	13.27	104.92	107.20	0.00	9238	11.75	3.00	12.36	2.18
EX_PNDOFF138A1	PROPOSE	025Y072HR	60.31	104.17	107.20	0.00	10012	59.75	1.95	60.31	1.26
EX_PNDOFF138A1	PROPOSE	050Y001HR	1.08	106.49	107.20	0.00	4063	0.50	21.44	1.07	4.12
EX_PNDOFF138A1	PROPOSE	050Y002HR	1.20	106.75	107.20	0.00	2805	0.75	18.33	1.20	7.39
EX_PNDOFF138A1	PROPOSE	050Y004HR	2.53	106.83	107.20	0.00	2427	2.00	10.42	2.53	8.53
EX_PNDOFF138A1	PROPOSE	050Y008HR	4.01	106.94	107.20	0.00	1896	3.75	10.62	4.01	10.30
EX_PNDOFF138A1	PROPOSE	050Y024HR	15.20	105.74	107.20	0.00	7037	11.75	3.54	11.47	2.20
EX_PNDOFF138A1	PROPOSE	050Y072HR	60.42	104.58	107.20	0.00	9608	59.75	2.29	60.42	1.41
EX_PNDOFF138A1	PROPOSE	100Y001HR	0.94	106.81	107.20	0.00	2516	0.50	23.31	0.94	8.30
EX_PNDOFF138A1	PROPOSE	100Y002HR	1.10	106.94	107.20	0.00	1915	0.75	19.89	1.09	10.26
EX_PNDOFF138A1	PROPOSE	100Y004HR	2.42	106.91	107.20	0.00	2039	2.00	11.47	2.41	9.79

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: FDOT Node Min/ Max Conditons Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PNDOFF138A1	PROPOSE	100Y008HR	3.90	107.03	107.20	0.00	1449	3.75	11.98	3.89	11.87
EX_PNDOFF138A1	PROPOSE	100Y024HR	12.83	106.36	107.20	0.00	4680	11.75	4.15	12.82	2.93
EX_PNDOFF138A1	PROPOSE	100Y072HR	60.22	104.98	107.20	-0.00	9170	59.75	2.68	59.66	2.18
EX_PNDSEMBASSY	PROPOSE	002Y001HR	0.98	116.59	119.30	0.00	49872	0.50	18.02	0.98	8.09
EX_PNDSEMBASSY	PROPOSE	002Y002HR	1.22	116.61	119.30	0.00	50111	0.75	16.44	1.22	8.61
EX_PNDSEMBASSY	PROPOSE	002Y004HR	2.69	116.58	119.30	0.00	49730	2.00	9.57	2.69	7.79
EX_PNDSEMBASSY	PROPOSE	002Y008HR	4.15	116.58	119.30	0.00	49724	4.00	9.96	4.15	7.78
EX_PNDSEMBASSY	PROPOSE	002Y024HR	12.14	116.38	119.30	0.00	46913	12.00	3.04	12.14	2.74
EX_PNDSEMBASSY	PROPOSE	002Y072HR	60.00	116.35	119.30	0.00	46559	59.75	2.28	60.00	2.25
EX_PNDSEMBASSY	PROPOSE	005Y001HR	0.96	116.68	119.30	0.00	51177	0.50	21.85	0.96	11.03
EX_PNDSEMBASSY	PROPOSE	005Y002HR	1.19	116.70	119.30	0.00	51372	0.75	20.34	1.19	11.49
EX_PNDSEMBASSY	PROPOSE	005Y004HR	2.65	116.66	119.30	0.00	50827	2.00	12.08	2.65	10.21
EX_PNDSEMBASSY	PROPOSE	005Y008HR	4.13	116.66	119.30	0.00	50876	4.00	12.76	4.13	10.32
EX_PNDSEMBASSY	PROPOSE	005Y024HR	12.12	116.42	119.30	0.00	47481	12.00	3.95	12.12	3.61
EX_PNDSEMBASSY	PROPOSE	005Y072HR	59.93	116.39	119.30	0.00	47031	59.75	2.94	59.93	2.91
EX_PNDSEMBASSY	PROPOSE	010Y001HR	0.95	116.76	119.30	0.00	52175	0.50	25.03	0.95	13.47
EX_PNDSEMBASSY	PROPOSE	010Y002HR	1.17	116.77	119.30	0.00	52338	0.75	23.60	1.17	13.88
EX_PNDSEMBASSY	PROPOSE	010Y004HR	2.63	116.72	119.30	0.00	51698	2.00	14.27	2.63	12.28
EX_PNDSEMBASSY	PROPOSE	010Y008HR	4.12	116.73	119.30	0.00	51834	4.00	15.29	4.12	12.61
EX_PNDSEMBASSY	PROPOSE	010Y024HR	12.11	116.46	119.30	0.00	48008	12.00	4.87	12.11	4.49
EX_PNDSEMBASSY	PROPOSE	010Y072HR	59.89	116.42	119.30	0.00	47453	59.75	3.59	59.89	3.56
EX_PNDSEMBASSY	PROPOSE	025Y001HR	0.93	116.85	119.30	0.00	53428	0.50	29.30	0.93	16.76
EX_PNDSEMBASSY	PROPOSE	025Y002HR	1.15	116.85	119.30	0.00	53558	0.75	28.00	1.15	17.12
EX_PNDSEMBASSY	PROPOSE	025Y004HR	2.61	116.80	119.30	0.00	52831	2.00	17.36	2.61	15.16
EX_PNDSEMBASSY	PROPOSE	025Y008HR	4.11	116.83	119.30	0.00	53182	4.00	19.10	4.11	16.10
EX_PNDSEMBASSY	PROPOSE	025Y024HR	12.10	116.51	119.30	0.00	48805	12.00	6.37	12.10	5.94
EX_PNDSEMBASSY	PROPOSE	025Y072HR	59.85	116.46	119.30	0.00	48080	59.75	4.64	59.85	4.61
EX_PNDSEMBASSY	PROPOSE	050Y001HR	0.93	116.91	119.30	0.00	54331	0.50	32.54	0.93	19.21
EX_PNDSEMBASSY	PROPOSE	050Y002HR	1.14	116.92	119.30	0.00	54404	0.75	31.17	1.11	19.34
EX_PNDSEMBASSY	PROPOSE	050Y004HR	2.60	116.86	119.30	0.00	53665	2.00	19.77	2.59	17.39
EX_PNDSEMBASSY	PROPOSE	050Y008HR	4.10	116.90	119.30	0.00	54243	4.00	22.26	4.09	18.89
EX_PNDSEMBASSY	PROPOSE	050Y024HR	12.09	116.56	119.30	0.00	49470	12.00	7.72	12.09	7.25
EX_PNDSEMBASSY	PROPOSE	050Y072HR	59.83	116.50	119.30	0.00	48580	59.75	5.54	59.83	5.51
EX_PNDSEMBASSY	PROPOSE	100Y001HR	0.94	116.98	119.30	0.00	55211	0.50	35.65	0.89	20.51
EX_PNDSEMBASSY	PROPOSE	100Y002HR	1.17	116.98	119.30	0.00	55301	0.75	34.24	1.09	20.36
EX_PNDSEMBASSY	PROPOSE	100Y004HR	2.61	116.92	119.30	0.00	54510	2.00	22.14	2.54	19.16
EX_PNDSEMBASSY	PROPOSE	100Y008HR	4.14	117.00	119.30	0.00	55560	4.00	25.60	4.10	20.15
EX_PNDSEMBASSY	PROPOSE	100Y024HR	12.08	116.61	119.30	0.00	50185	12.00	9.28	12.08	8.77
EX_PNDSEMBASSY	PROPOSE	100Y072HR	59.81	116.54	119.30	0.00	49110	59.75	6.56	59.81	6.53
EX_SW138B1	PROPOSE	002Y001HR	1.48	102.44	106.38	0.00	2426	1.27	1.35	1.48	1.33
EX_SW138B1	PROPOSE	002Y002HR	2.01	102.46	106.38	0.00	2467	1.88	1.47	2.01	1.46
EX_SW138B1	PROPOSE	002Y004HR	3.37	102.52	106.38	0.00	2569	3.14	2.19	3.37	1.88
EX_SW138B1	PROPOSE	002Y008HR	5.26	102.46	106.38	0.00	2450	5.15	1.48	5.26	1.48
EX_SW138B1	PROPOSE	002Y024HR	15.03	102.27	106.38	0.00	1040	15.01	0.98	15.03	0.98
EX_SW138B1	PROPOSE	002Y072HR	60.22	102.24	106.38	0.00	1015	60.17	0.80	60.22	0.80
EX_SW138B1	PROPOSE	005Y001HR	1.44	102.53	106.38	0.00	2619	1.22	2.22	1.44	1.88
EX_SW138B1	PROPOSE	005Y002HR	1.87	102.54	106.38	0.00	2678	1.31	2.31	1.87	1.95
EX_SW138B1	PROPOSE	005Y004HR	3.33	102.54	106.38	0.00	2727	2.62	2.29	3.33	1.99
EX_SW138B1	PROPOSE	005Y008HR	5.17	102.54	106.38	-0.00	2660	4.19	2.29	5.17	1.97
EX_SW138B1	PROPOSE	005Y024HR	15.17	102.30	106.38	0.00	1067	15.13	1.17	15.17	1.17
EX_SW138B1	PROPOSE	005Y072HR	60.25	102.27	106.38	0.00	1035	60.20	0.94	60.25	0.94
EX_SW138B1	PROPOSE	010Y001HR	1.33	102.54	106.38	0.00	2765	1.05	2.37	1.33	1.95
EX_SW138B1	PROPOSE	010Y002HR	1.93	102.55	106.38	0.00	2776	1.16	2.42	1.93	2.04
EX_SW138B1	PROPOSE	010Y004HR	3.24	102.67	106.38	0.00	2962	3.15	3.17	3.24	2.97
EX_SW138B1	PROPOSE	010Y008HR	5.16	102.61	106.38	-0.00	2831	5.07	2.56	5.16	2.47
EX_SW138B1	PROPOSE	010Y024HR	15.35	102.44	106.38	-0.00	2390	15.24	1.35	15.35	1.35
EX_SW138B1	PROPOSE	010Y072HR	60.28	102.29	106.38	0.00	1053	60.23	1.07	60.28	1.07
EX_SW138B1	PROPOSE	025Y001HR	1.28	102.56	106.38	0.00	2911	0.93	2.55	1.40	2.09
EX_SW138B1	PROPOSE	025Y002HR	1.51	102.83	106.38	0.00	3158	1.41	4.64	1.51	4.36

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138B1	PROPOSE	025Y004HR	2.85	102.97	106.38	0.00	3289	2.70	6.25	2.83	5.86
EX_SW138B1	PROPOSE	025Y008HR	4.25	102.97	106.38	0.00	3294	4.15	6.57	4.24	5.82
EX_SW138B1	PROPOSE	025Y024HR	13.34	102.53	106.38	0.00	2595	12.36	2.18	13.34	1.89
EX_SW138B1	PROPOSE	025Y072HR	60.36	102.32	106.38	0.00	1078	60.31	1.26	60.36	1.26
EX_SW138B1	PROPOSE	050Y001HR	1.19	102.78	106.38	0.00	3144	1.07	4.12	1.19	3.74
EX_SW138B1	PROPOSE	050Y002HR	1.30	103.03	106.38	0.00	3379	1.20	7.39	1.30	6.46
EX_SW138B1	PROPOSE	050Y004HR	2.64	103.14	106.38	0.00	3478	2.53	8.53	2.62	7.95
EX_SW138B1	PROPOSE	050Y008HR	4.09	103.23	106.38	0.00	3581	4.01	10.30	4.08	9.33
EX_SW138B1	PROPOSE	050Y024HR	15.25	102.54	106.38	-0.00	2788	11.47	2.20	15.25	2.01
EX_SW138B1	PROPOSE	050Y072HR	60.60	102.45	106.38	-0.00	2719	60.42	1.41	60.60	1.41
EX_SW138B1	PROPOSE	100Y001HR	1.02	103.03	106.38	0.00	3388	0.94	8.30	1.01	6.49
EX_SW138B1	PROPOSE	100Y002HR	1.20	103.21	106.38	0.00	3560	1.09	10.26	1.19	8.82
EX_SW138B1	PROPOSE	100Y004HR	2.56	103.25	106.38	0.00	3635	2.41	9.79	2.53	9.41
EX_SW138B1	PROPOSE	100Y008HR	4.04	103.39	106.38	0.00	3792	3.89	11.87	4.02	11.44
EX_SW138B1	PROPOSE	100Y024HR	13.01	102.67	106.38	0.00	2963	12.82	2.93	12.96	2.93
EX_SW138B1	PROPOSE	100Y072HR	60.20	102.53	106.38	-0.00	2873	59.66	2.18	60.49	1.90
EX_SW138B2	PROPOSE	002Y001HR	1.22	102.04	111.07	0.00	13216	1.14	19.05	1.22	18.89
EX_SW138B2	PROPOSE	002Y002HR	1.48	102.07	111.07	0.00	13419	1.41	20.26	1.48	20.19
EX_SW138B2	PROPOSE	002Y004HR	3.01	102.05	111.07	0.00	13263	2.94	19.20	3.01	19.18
EX_SW138B2	PROPOSE	002Y008HR	4.38	102.04	111.07	0.00	13134	4.31	18.43	4.38	18.37
EX_SW138B2	PROPOSE	002Y024HR	12.33	101.83	111.07	0.00	11293	12.25	8.39	12.33	8.37
EX_SW138B2	PROPOSE	002Y072HR	60.08	101.81	111.07	0.00	11071	60.03	7.39	60.08	7.38
EX_SW138B2	PROPOSE	005Y001HR	1.19	102.13	111.07	0.00	13937	1.14	23.66	1.24	23.66
EX_SW138B2	PROPOSE	005Y002HR	1.46	102.18	111.07	0.00	14195	1.41	25.17	1.51	25.19
EX_SW138B2	PROPOSE	005Y004HR	3.04	102.16	111.07	0.00	14025	2.93	23.95	3.05	23.88
EX_SW138B2	PROPOSE	005Y008HR	4.37	102.14	111.07	0.00	13897	4.31	23.16	4.42	23.14
EX_SW138B2	PROPOSE	005Y024HR	12.32	101.88	111.07	0.00	11732	12.24	10.48	12.32	10.47
EX_SW138B2	PROPOSE	005Y072HR	60.75	101.94	111.07	0.00	11423	60.65	13.42	60.75	13.42
EX_SW138B2	PROPOSE	010Y001HR	1.19	102.24	111.07	0.00	14550	1.14	27.44	1.26	27.54
EX_SW138B2	PROPOSE	010Y002HR	1.46	102.30	111.07	0.00	14856	1.40	29.22	1.52	29.23
EX_SW138B2	PROPOSE	010Y004HR	3.11	102.30	111.07	0.00	14698	2.93	28.03	2.98	27.68
EX_SW138B2	PROPOSE	010Y008HR	4.40	102.28	111.07	0.00	14618	4.31	27.44	4.41	27.30
EX_SW138B2	PROPOSE	010Y024HR	20.41	101.95	111.07	0.00	11344	20.36	13.85	20.41	13.85
EX_SW138B2	PROPOSE	010Y072HR	60.14	102.10	111.07	0.00	12168	60.09	22.44	60.14	22.42
EX_SW138B2	PROPOSE	025Y001HR	1.19	102.40	111.07	0.00	15361	1.14	32.47	1.25	32.58
EX_SW138B2	PROPOSE	025Y002HR	1.48	102.45	111.07	0.00	15661	1.40	34.66	1.52	34.54
EX_SW138B2	PROPOSE	025Y004HR	3.06	102.49	111.07	0.00	15631	2.91	33.73	3.12	33.52
EX_SW138B2	PROPOSE	025Y008HR	4.41	102.50	111.07	0.00	15674	4.31	33.97	4.46	33.82
EX_SW138B2	PROPOSE	025Y024HR	19.09	102.08	111.07	0.00	12078	19.04	21.30	19.09	21.30
EX_SW138B2	PROPOSE	025Y072HR	60.11	102.22	111.07	0.00	12783	60.04	28.83	60.12	28.79
EX_SW138B2	PROPOSE	050Y001HR	1.20	102.50	111.07	0.00	15896	1.14	36.28	1.26	36.36
EX_SW138B2	PROPOSE	050Y002HR	1.49	102.60	111.07	0.00	16282	1.40	38.56	1.53	38.35
EX_SW138B2	PROPOSE	050Y004HR	3.06	102.68	111.07	0.00	16391	2.90	38.18	3.13	37.96
EX_SW138B2	PROPOSE	050Y008HR	4.38	102.73	111.07	0.00	16618	4.31	39.42	4.44	39.42
EX_SW138B2	PROPOSE	050Y024HR	15.57	102.25	111.07	0.00	13065	15.83	28.78	15.86	28.82
EX_SW138B2	PROPOSE	050Y072HR	60.09	102.34	111.07	0.00	13322	60.04	33.52	60.09	33.49
EX_SW138B2	PROPOSE	100Y001HR	1.19	102.62	111.07	0.00	16436	1.15	39.56	1.26	39.92
EX_SW138B2	PROPOSE	100Y002HR	1.50	102.74	111.07	0.00	16852	1.43	41.80	1.57	41.86
EX_SW138B2	PROPOSE	100Y004HR	3.05	102.86	111.07	0.00	17116	2.93	42.42	3.06	42.25
EX_SW138B2	PROPOSE	100Y008HR	4.34	102.95	111.07	0.00	17521	4.32	44.37	4.43	44.59
EX_SW138B2	PROPOSE	100Y024HR	15.24	102.44	111.07	0.00	13803	15.21	36.68	15.30	36.69
EX_SW138B2	PROPOSE	100Y072HR	60.14	102.44	111.07	0.00	13835	60.04	38.41	60.16	38.30
EX_SW138B3	PROPOSE	002Y001HR	1.14	114.00	117.60	0.00	9919	1.01	19.48	1.14	19.05
EX_SW138B3	PROPOSE	002Y002HR	1.41	114.04	117.60	0.00	10134	1.28	20.50	1.41	20.26
EX_SW138B3	PROPOSE	002Y004HR	2.94	114.00	117.60	0.00	9947	2.81	19.28	2.94	19.20
EX_SW138B3	PROPOSE	002Y008HR	4.31	113.97	117.60	0.00	9805	4.18	18.64	4.31	18.43
EX_SW138B3	PROPOSE	002Y024HR	12.25	113.49	117.60	0.00	7677	12.11	8.43	12.25	8.39
EX_SW138B3	PROPOSE	002Y072HR	60.03	113.44	117.60	0.00	7422	60.00	7.41	60.03	7.39
EX_SW138B3	PROPOSE	005Y001HR	1.14	114.17	117.60	0.00	10711	1.01	24.18	1.14	23.66

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138B3	PROPOSE	005Y002HR	1.41	114.23	117.60	0.00	10955	1.28	25.47	1.41	25.17
EX_SW138B3	PROPOSE	005Y004HR	2.93	114.18	117.60	0.00	10759	2.80	24.05	2.93	23.95
EX_SW138B3	PROPOSE	005Y008HR	4.31	114.15	117.60	0.00	10629	4.18	23.42	4.31	23.16
EX_SW138B3	PROPOSE	005Y024HR	12.24	113.61	117.60	0.00	8181	12.11	10.53	12.24	10.48
EX_SW138B3	PROPOSE	005Y072HR	60.03	113.53	117.60	0.00	7858	60.00	9.14	60.03	9.12
EX_SW138B3	PROPOSE	010Y001HR	1.14	114.31	117.60	0.00	11308	1.01	28.02	1.14	27.44
EX_SW138B3	PROPOSE	010Y002HR	1.40	114.37	117.60	0.00	11577	1.28	29.56	1.40	29.22
EX_SW138B3	PROPOSE	010Y004HR	2.93	114.33	117.60	0.00	11398	2.80	28.14	2.93	28.03
EX_SW138B3	PROPOSE	010Y008HR	4.31	114.31	117.60	0.00	11309	4.18	27.74	4.31	27.44
EX_SW138B3	PROPOSE	010Y024HR	12.24	113.71	117.60	0.00	8644	12.12	12.62	12.24	12.56
EX_SW138B3	PROPOSE	010Y072HR	60.03	113.62	117.60	0.00	8251	60.00	10.81	60.03	10.79
EX_SW138B3	PROPOSE	025Y001HR	1.14	114.47	117.60	0.00	12048	1.01	33.16	1.14	32.47
EX_SW138B3	PROPOSE	025Y002HR	1.40	114.54	117.60	0.00	12352	1.28	35.07	1.40	34.66
EX_SW138B3	PROPOSE	025Y004HR	2.91	114.51	117.60	0.00	12224	2.79	33.86	2.91	33.73
EX_SW138B3	PROPOSE	025Y008HR	4.31	114.52	117.60	0.00	12257	4.19	34.33	4.31	33.97
EX_SW138B3	PROPOSE	025Y024HR	12.24	113.87	117.60	0.00	9344	12.12	16.06	12.24	15.98
EX_SW138B3	PROPOSE	025Y072HR	60.02	113.75	117.60	0.00	8830	60.00	13.46	60.02	13.44
EX_SW138B3	PROPOSE	050Y001HR	1.14	114.59	117.60	0.00	12571	1.01	37.03	1.14	36.28
EX_SW138B3	PROPOSE	050Y002HR	1.40	114.66	117.60	0.00	12871	1.28	39.00	1.40	38.56
EX_SW138B3	PROPOSE	050Y004HR	2.90	114.65	117.60	0.00	12822	2.78	38.34	2.90	38.18
EX_SW138B3	PROPOSE	050Y008HR	4.31	114.68	117.60	0.00	12983	4.19	39.82	4.31	39.42
EX_SW138B3	PROPOSE	050Y024HR	12.24	114.00	117.60	0.00	9923	12.12	19.16	12.24	19.07
EX_SW138B3	PROPOSE	050Y072HR	60.02	113.85	117.60	0.00	9290	60.00	15.73	60.02	15.71
EX_SW138B3	PROPOSE	100Y001HR	1.15	114.69	117.60	0.00	13001	1.03	40.19	1.15	39.56
EX_SW138B3	PROPOSE	100Y002HR	1.43	114.75	117.60	0.00	13285	1.31	42.14	1.43	41.80
EX_SW138B3	PROPOSE	100Y004HR	2.93	114.76	117.60	0.00	13363	2.82	42.56	2.93	42.42
EX_SW138B3	PROPOSE	100Y008HR	4.32	114.81	117.60	0.00	13605	4.20	44.65	4.32	44.37
EX_SW138B3	PROPOSE	100Y024HR	12.23	114.13	117.60	0.00	10536	12.12	22.70	12.23	22.60
EX_SW138B3	PROPOSE	100Y072HR	60.02	113.96	117.60	0.00	9774	60.00	18.29	60.02	18.26
EX_SW138B4	PROPOSE	002Y001HR	1.12	114.16	117.20	0.00	16296	0.92	17.16	1.08	15.93
EX_SW138B4	PROPOSE	002Y002HR	1.39	114.20	117.20	0.00	16868	1.16	17.79	1.36	16.97
EX_SW138B4	PROPOSE	002Y004HR	2.92	114.16	117.20	0.00	16400	2.66	16.49	2.88	16.19
EX_SW138B4	PROPOSE	002Y008HR	4.28	114.14	117.20	0.00	16065	4.08	16.25	4.24	15.67
EX_SW138B4	PROPOSE	002Y024HR	12.17	113.86	117.20	0.00	12031	12.07	7.36	12.17	7.33
EX_SW138B4	PROPOSE	002Y072HR	60.01	113.84	117.20	0.00	11679	60.00	6.40	60.01	6.39
EX_SW138B4	PROPOSE	005Y001HR	1.13	114.31	117.20	0.00	18476	0.90	21.88	1.08	19.86
EX_SW138B4	PROPOSE	005Y002HR	1.39	114.36	117.20	0.00	19185	1.14	22.49	1.35	21.09
EX_SW138B4	PROPOSE	005Y004HR	2.92	114.32	117.20	0.00	18616	2.62	20.64	2.86	20.10
EX_SW138B4	PROPOSE	005Y008HR	4.29	114.29	117.20	0.00	18268	4.06	20.60	4.24	19.62
EX_SW138B4	PROPOSE	005Y024HR	12.18	113.91	117.20	0.00	12667	12.05	9.12	12.17	9.08
EX_SW138B4	PROPOSE	005Y072HR	60.01	113.87	117.20	0.00	12193	60.00	7.79	60.01	7.78
EX_SW138B4	PROPOSE	010Y001HR	1.13	114.43	117.20	0.00	20245	0.89	25.79	1.08	23.05
EX_SW138B4	PROPOSE	010Y002HR	1.39	114.49	117.20	0.00	21056	1.12	26.38	1.35	24.46
EX_SW138B4	PROPOSE	010Y004HR	2.91	114.45	117.20	0.00	20509	2.60	24.21	2.85	23.42
EX_SW138B4	PROPOSE	010Y008HR	4.29	114.43	117.20	0.00	20259	4.05	24.53	4.24	23.15
EX_SW138B4	PROPOSE	010Y024HR	12.20	113.96	117.20	0.00	13487	12.03	10.87	12.18	10.78
EX_SW138B4	PROPOSE	010Y072HR	60.01	113.91	117.20	0.00	12708	60.00	9.13	60.01	9.11
EX_SW138B4	PROPOSE	025Y001HR	1.13	114.59	117.20	0.00	22525	0.88	31.04	1.08	27.30
EX_SW138B4	PROPOSE	025Y002HR	1.39	114.65	117.20	0.00	23467	1.10	31.63	1.34	28.97
EX_SW138B4	PROPOSE	025Y004HR	2.90	114.62	117.20	0.00	23051	2.58	29.17	2.83	28.03
EX_SW138B4	PROPOSE	025Y008HR	4.30	114.63	117.20	0.00	23176	4.04	30.50	4.24	28.50
EX_SW138B4	PROPOSE	025Y024HR	12.21	114.06	117.20	0.00	14952	12.02	13.72	12.18	13.55
EX_SW138B4	PROPOSE	025Y072HR	60.02	113.98	117.20	0.00	13770	60.00	11.21	60.01	11.19
EX_SW138B4	PROPOSE	050Y001HR	1.13	114.70	117.20	0.00	24170	0.87	34.99	1.08	30.49
EX_SW138B4	PROPOSE	050Y002HR	1.39	114.77	117.20	0.00	25109	1.09	35.35	1.34	32.19
EX_SW138B4	PROPOSE	050Y004HR	2.89	114.76	117.20	0.00	24937	2.56	33.01	2.83	31.62
EX_SW138B4	PROPOSE	050Y008HR	4.30	114.79	117.20	0.00	25465	4.03	35.42	4.25	32.93
EX_SW138B4	PROPOSE	050Y024HR	12.21	114.16	117.20	0.00	16330	12.01	16.28	12.18	16.03
EX_SW138B4	PROPOSE	050Y072HR	60.01	114.05	117.20	0.00	14739	60.00	12.99	60.01	12.96

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138B4	PROPOSE	100Y001HR	1.15	114.80	117.20	0.00	25538	0.82	38.28	1.12	33.22
EX_SW138B4	PROPOSE	100Y002HR	1.42	114.86	117.20	0.00	26425	1.00	38.13	1.40	34.80
EX_SW138B4	PROPOSE	100Y004HR	2.92	114.87	117.20	0.00	26641	2.52	36.44	2.86	35.01
EX_SW138B4	PROPOSE	100Y008HR	4.32	114.92	117.20	0.00	27356	4.00	39.13	4.30	36.70
EX_SW138B4	PROPOSE	100Y024HR	12.22	114.27	117.20	0.00	17962	12.00	19.20	12.19	18.85
EX_SW138B4	PROPOSE	100Y072HR	60.02	114.13	117.20	0.00	15869	60.00	14.98	60.01	14.95
EX_SW138C1	PROPOSE	002Y001HR	2.00	106.03	110.00	0.00	3351	2.00	3.35	2.00	3.29
EX_SW138C1	PROPOSE	002Y002HR	3.08	106.14	110.00	0.00	3749	3.01	5.02	3.08	5.02
EX_SW138C1	PROPOSE	002Y004HR	4.49	106.19	110.00	0.00	3994	4.43	6.11	4.49	6.11
EX_SW138C1	PROPOSE	002Y008HR	6.66	106.20	110.00	0.00	4039	6.60	6.40	6.66	6.40
EX_SW138C1	PROPOSE	002Y024HR	16.93	106.12	110.00	0.00	3697	16.87	4.76	16.93	4.76
EX_SW138C1	PROPOSE	002Y072HR	64.13	106.09	110.00	0.00	3528	64.08	4.12	64.13	4.12
EX_SW138C1	PROPOSE	005Y001HR	2.00	106.10	110.00	0.00	3667	2.00	4.45	2.00	4.38
EX_SW138C1	PROPOSE	005Y002HR	3.01	106.22	110.00	0.00	4075	2.96	6.69	3.01	6.69
EX_SW138C1	PROPOSE	005Y004HR	4.45	106.28	110.00	0.00	4289	4.40	8.13	4.45	8.13
EX_SW138C1	PROPOSE	005Y008HR	6.59	106.30	110.00	0.00	4346	6.54	8.54	6.59	8.54
EX_SW138C1	PROPOSE	005Y024HR	16.70	106.21	110.00	0.00	4061	16.65	6.48	16.70	6.48
EX_SW138C1	PROPOSE	005Y072HR	64.06	106.17	110.00	0.00	3940	64.02	5.64	64.06	5.64
EX_SW138C1	PROPOSE	010Y001HR	2.00	106.15	110.00	0.00	3910	2.00	5.42	2.00	5.35
EX_SW138C1	PROPOSE	010Y002HR	2.99	106.28	110.00	0.00	4268	2.94	8.05	2.99	8.04
EX_SW138C1	PROPOSE	010Y004HR	4.43	106.35	110.00	0.00	4524	4.38	9.92	4.43	9.92
EX_SW138C1	PROPOSE	010Y008HR	6.53	106.37	110.00	0.00	4618	6.48	10.58	6.53	10.57
EX_SW138C1	PROPOSE	010Y024HR	16.60	106.28	110.00	0.00	4311	16.55	8.21	16.60	8.21
EX_SW138C1	PROPOSE	010Y072HR	63.72	106.24	110.00	0.00	4191	63.67	7.15	63.72	7.15
EX_SW138C1	PROPOSE	025Y001HR	2.00	106.22	110.00	0.00	4175	2.00	6.78	2.00	6.71
EX_SW138C1	PROPOSE	025Y002HR	2.96	106.35	110.00	0.00	4511	2.92	9.92	2.96	9.92
EX_SW138C1	PROPOSE	025Y004HR	4.40	106.44	110.00	0.00	4895	4.36	12.57	4.40	12.57
EX_SW138C1	PROPOSE	025Y008HR	6.46	106.48	110.00	0.00	5059	6.41	13.87	6.46	13.87
EX_SW138C1	PROPOSE	025Y024HR	16.47	106.39	110.00	0.00	4774	16.42	11.19	16.47	11.19
EX_SW138C1	PROPOSE	025Y072HR	62.63	106.34	110.00	0.00	4558	62.58	9.62	62.63	9.62
EX_SW138C1	PROPOSE	050Y001HR	2.00	106.26	110.00	0.00	4366	2.00	7.78	2.00	7.70
EX_SW138C1	PROPOSE	050Y002HR	2.95	106.40	110.00	0.00	4701	2.90	11.33	2.95	11.33
EX_SW138C1	PROPOSE	050Y004HR	4.38	106.50	110.00	0.00	5209	4.34	14.77	4.38	14.76
EX_SW138C1	PROPOSE	050Y008HR	6.39	106.56	110.00	0.00	5440	6.35	16.81	6.39	16.81
EX_SW138C1	PROPOSE	050Y024HR	16.37	106.48	110.00	0.00	5185	16.32	14.04	16.37	14.04
EX_SW138C1	PROPOSE	050Y072HR	62.28	106.41	110.00	0.00	4874	62.23	11.84	62.28	11.84
EX_SW138C1	PROPOSE	100Y001HR	2.00	106.30	110.00	0.00	4560	2.00	8.75	2.00	8.67
EX_SW138C1	PROPOSE	100Y002HR	2.93	106.44	110.00	0.00	4901	2.89	12.74	2.93	12.74
EX_SW138C1	PROPOSE	100Y004HR	4.36	106.57	110.00	0.00	5542	4.32	17.02	4.36	17.01
EX_SW138C1	PROPOSE	100Y008HR	6.33	106.64	110.00	0.00	6228	6.28	20.10	6.33	20.10
EX_SW138C1	PROPOSE	100Y024HR	16.25	106.58	110.00	0.00	5748	16.21	17.47	16.25	17.46
EX_SW138C1	PROPOSE	100Y072HR	62.01	106.49	110.00	0.00	5228	61.97	14.44	62.01	14.44
EX_SW138C3	PROPOSE	002Y001HR	0.91	113.52	115.51	0.00	20628	0.79	19.50	0.91	17.53
EX_SW138C3	PROPOSE	002Y002HR	1.12	113.52	115.51	0.00	20661	1.01	18.54	1.12	17.67
EX_SW138C3	PROPOSE	002Y004HR	2.67	113.50	115.51	0.00	20345	2.54	16.68	2.67	16.39
EX_SW138C3	PROPOSE	002Y008HR	4.11	113.51	115.51	0.00	20437	4.02	17.44	4.11	16.76
EX_SW138C3	PROPOSE	002Y024HR	12.11	113.28	115.51	0.00	17322	12.01	6.35	12.11	6.24
EX_SW138C3	PROPOSE	002Y072HR	60.00	113.28	115.51	0.00	17349	59.83	6.32	60.00	6.31
EX_SW138C3	PROPOSE	005Y001HR	0.88	113.64	115.51	0.00	22285	0.77	27.52	0.88	24.89
EX_SW138C3	PROPOSE	005Y002HR	1.10	113.63	115.51	0.00	22228	1.00	25.53	1.10	24.62
EX_SW138C3	PROPOSE	005Y004HR	2.65	113.61	115.51	0.00	21841	2.54	23.20	2.65	22.81
EX_SW138C3	PROPOSE	005Y008HR	4.10	113.62	115.51	0.00	22046	4.02	24.62	4.10	23.76
EX_SW138C3	PROPOSE	005Y024HR	12.09	113.35	115.51	0.00	18241	12.01	9.04	12.09	8.91
EX_SW138C3	PROPOSE	005Y072HR	59.94	113.34	115.51	0.00	18100	59.80	8.48	59.94	8.47
EX_SW138C3	PROPOSE	010Y001HR	0.87	113.73	115.51	0.00	23531	0.77	34.05	0.87	31.15
EX_SW138C3	PROPOSE	010Y002HR	1.08	113.72	115.51	0.00	23429	1.00	31.57	1.08	30.61
EX_SW138C3	PROPOSE	010Y004HR	2.63	113.69	115.51	0.00	23026	2.53	29.01	2.63	28.54
EX_SW138C3	PROPOSE	010Y008HR	4.09	113.72	115.51	0.00	23378	4.01	31.35	4.09	30.35
EX_SW138C3	PROPOSE	010Y024HR	12.08	113.41	115.51	0.00	19079	12.01	11.81	12.08	11.66

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW138C3	PROPOSE	010Y072HR	59.90	113.38	115.51	0.00	18762	59.78	10.60	59.90	10.59
EX_SW138C3	PROPOSE	025Y001HR	0.85	113.84	115.51	0.00	25071	0.77	42.93	0.85	39.73
EX_SW138C3	PROPOSE	025Y002HR	1.07	113.83	115.51	0.00	24935	1.00	39.97	1.07	38.94
EX_SW138C3	PROPOSE	025Y004HR	2.61	113.80	115.51	0.00	24549	2.52	37.28	2.61	36.72
EX_SW138C3	PROPOSE	025Y008HR	4.08	113.85	115.51	0.00	25215	4.01	41.79	4.08	40.58
EX_SW138C3	PROPOSE	025Y024HR	12.07	113.50	115.51	0.00	20319	12.01	16.46	12.07	16.28
EX_SW138C3	PROPOSE	025Y072HR	59.86	113.45	115.51	0.00	19729	59.77	14.02	59.86	14.00
EX_SW138C3	PROPOSE	050Y001HR	0.85	113.92	115.51	0.00	26161	0.77	49.81	0.85	46.37
EX_SW138C3	PROPOSE	050Y002HR	1.07	113.90	115.51	0.00	25954	1.00	46.16	1.07	45.08
EX_SW138C3	PROPOSE	050Y004HR	2.60	113.88	115.51	0.00	25647	2.52	43.82	2.60	43.18
EX_SW138C3	PROPOSE	050Y008HR	4.07	113.95	115.51	0.00	26614	4.01	50.63	4.07	49.27
EX_SW138C3	PROPOSE	050Y024HR	12.06	113.57	115.51	0.00	21327	12.00	20.71	12.06	20.50
EX_SW138C3	PROPOSE	050Y072HR	59.84	113.51	115.51	0.00	20484	59.76	16.96	59.84	16.95
EX_SW138C3	PROPOSE	100Y001HR	0.84	113.99	115.51	0.00	27151	0.77	56.49	0.84	52.82
EX_SW138C3	PROPOSE	100Y002HR	1.06	113.97	115.51	0.00	26894	1.00	52.24	1.06	51.10
EX_SW138C3	PROPOSE	100Y004HR	2.59	113.95	115.51	0.00	26663	2.52	50.28	2.59	49.59
EX_SW138C3	PROPOSE	100Y008HR	4.07	114.05	115.51	0.00	27990	4.01	60.08	4.07	58.58
EX_SW138C3	PROPOSE	100Y024HR	12.06	113.65	115.51	0.00	22385	12.00	25.60	12.06	25.37
EX_SW138C3	PROPOSE	100Y072HR	59.83	113.57	115.51	0.00	21270	59.76	20.27	59.83	20.25
EX_SW138C4	PROPOSE	002Y001HR	0.77	114.45	116.55	0.00	7350	0.75	12.95	0.77	12.46
EX_SW138C4	PROPOSE	002Y002HR	1.01	114.42	116.55	0.00	7208	1.00	11.25	1.01	11.15
EX_SW138C4	PROPOSE	002Y004HR	2.56	114.40	116.55	0.00	7104	2.50	10.37	2.56	10.24
EX_SW138C4	PROPOSE	002Y008HR	4.03	114.41	116.55	0.00	7186	4.00	11.23	4.03	10.95
EX_SW138C4	PROPOSE	002Y024HR	12.03	114.23	116.55	0.00	6237	12.00	3.99	12.02	3.95
EX_SW138C4	PROPOSE	002Y072HR	59.84	114.24	116.55	0.00	6296	59.75	4.29	59.83	4.29
EX_SW138C4	PROPOSE	005Y001HR	0.77	114.54	116.55	0.00	7865	0.75	18.35	0.77	17.67
EX_SW138C4	PROPOSE	005Y002HR	1.01	114.51	116.55	0.00	7712	1.00	16.18	1.01	16.04
EX_SW138C4	PROPOSE	005Y004HR	2.54	114.49	116.55	0.00	7599	2.50	15.05	2.54	14.87
EX_SW138C4	PROPOSE	005Y008HR	4.02	114.52	116.55	0.00	7723	4.00	16.49	4.02	16.14
EX_SW138C4	PROPOSE	005Y024HR	12.02	114.29	116.55	0.00	6542	12.00	5.91	12.02	5.86
EX_SW138C4	PROPOSE	005Y072HR	59.80	114.29	116.55	0.00	6541	59.75	5.86	59.80	5.86
EX_SW138C4	PROPOSE	010Y001HR	0.77	114.62	116.55	0.00	8269	0.75	23.10	0.77	22.26
EX_SW138C4	PROPOSE	010Y002HR	1.01	114.59	116.55	0.00	8108	1.00	20.53	1.01	20.36
EX_SW138C4	PROPOSE	010Y004HR	2.54	114.57	116.55	0.00	7992	2.50	19.26	2.54	19.05
EX_SW138C4	PROPOSE	010Y008HR	4.02	114.60	116.55	0.00	8168	4.00	21.47	4.02	21.07
EX_SW138C4	PROPOSE	010Y024HR	12.02	114.34	116.55	0.00	6814	12.00	7.91	12.02	7.86
EX_SW138C4	PROPOSE	010Y072HR	59.79	114.33	116.55	0.00	6754	59.75	7.41	59.79	7.40
EX_SW138C4	PROPOSE	025Y001HR	0.77	114.72	116.55	0.00	8779	0.75	29.74	0.77	28.73
EX_SW138C4	PROPOSE	025Y002HR	1.01	114.68	116.55	0.00	8607	1.00	26.65	1.01	26.46
EX_SW138C4	PROPOSE	025Y004HR	2.53	114.66	116.55	0.00	8498	2.50	25.31	2.53	25.06
EX_SW138C4	PROPOSE	025Y008HR	4.02	114.72	116.55	0.00	8783	4.00	29.24	4.02	28.77
EX_SW138C4	PROPOSE	025Y024HR	12.01	114.42	116.55	0.00	7217	12.00	11.30	12.01	11.23
EX_SW138C4	PROPOSE	025Y072HR	59.77	114.39	116.55	0.00	7064	59.75	9.90	59.77	9.90
EX_SW138C4	PROPOSE	050Y001HR	0.77	114.79	116.55	0.00	9145	0.75	34.95	0.77	33.80
EX_SW138C4	PROPOSE	050Y002HR	1.01	114.75	116.55	0.00	8947	1.00	31.20	1.01	31.00
EX_SW138C4	PROPOSE	050Y004HR	2.53	114.73	116.55	0.00	8863	2.50	30.12	2.53	29.85
EX_SW138C4	PROPOSE	050Y008HR	4.02	114.81	116.55	0.00	9252	4.00	35.87	4.02	35.34
EX_SW138C4	PROPOSE	050Y024HR	12.01	114.48	116.55	0.00	7545	12.00	14.41	12.01	14.34
EX_SW138C4	PROPOSE	050Y072HR	59.77	114.44	116.55	0.00	7306	59.75	12.06	59.77	12.05
EX_SW138C4	PROPOSE	100Y001HR	0.77	114.85	116.55	0.00	9480	0.75	40.03	0.77	38.77
EX_SW138C4	PROPOSE	100Y002HR	1.01	114.81	116.55	0.00	9261	1.00	35.68	1.01	35.48
EX_SW138C4	PROPOSE	100Y004HR	2.52	114.80	116.55	0.00	9200	2.50	34.89	2.52	34.59
EX_SW138C4	PROPOSE	100Y008HR	4.01	114.89	116.55	0.00	9713	4.00	42.98	4.01	42.39
EX_SW138C4	PROPOSE	100Y024HR	12.01	114.55	116.55	0.00	7890	12.00	18.00	12.01	17.93
EX_SW138C4	PROPOSE	100Y072HR	59.76	114.48	116.55	0.00	7558	59.75	14.48	59.76	14.47
EX_VCLK01	PROPOSE	002Y001HR	1.45	115.26	118.20	0.00	85469	0.50	34.11	2.00	3.13
EX_VCLK01	PROPOSE	002Y002HR	2.16	115.42	118.20	0.00	86883	0.75	30.44	2.86	3.33
EX_VCLK01	PROPOSE	002Y004HR	3.66	115.48	118.20	0.00	87440	2.00	17.38	4.46	3.40
EX_VCLK01	PROPOSE	002Y008HR	5.45	115.42	118.20	0.00	86947	4.00	16.70	6.45	3.37

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_VCLK01	PROPOSE	002Y024HR	15.48	114.81	118.20	0.00	72110	11.75	5.03	16.22	2.69
EX_VCLK01	PROPOSE	002Y072HR	60.29	114.57	118.20	0.00	64351	59.75	3.30	60.93	2.34
EX_VCLK01	PROPOSE	005Y001HR	1.47	115.46	118.20	0.00	87240	0.50	40.92	2.00	3.29
EX_VCLK01	PROPOSE	005Y002HR	2.22	115.66	118.20	0.00	89058	0.75	36.64	3.02	3.56
EX_VCLK01	PROPOSE	005Y004HR	3.72	115.76	118.20	0.00	89947	2.00	21.12	4.60	3.67
EX_VCLK01	PROPOSE	005Y008HR	5.65	115.72	118.20	0.00	89572	4.00	20.51	6.76	3.66
EX_VCLK01	PROPOSE	005Y024HR	16.21	115.08	118.20	0.00	80950	11.75	6.24	16.75	3.01
EX_VCLK01	PROPOSE	005Y072HR	60.57	114.73	118.20	0.00	69551	59.75	4.13	61.75	2.57
EX_VCLK01	PROPOSE	010Y001HR	1.48	115.61	118.20	0.00	88617	0.50	46.29	2.00	3.40
EX_VCLK01	PROPOSE	010Y002HR	2.25	115.85	118.20	0.00	90765	0.75	41.59	3.10	3.74
EX_VCLK01	PROPOSE	010Y004HR	3.75	115.99	118.20	0.00	92004	2.00	24.25	4.72	3.88
EX_VCLK01	PROPOSE	010Y008HR	5.89	115.98	118.20	0.00	91876	4.00	23.85	7.14	3.90
EX_VCLK01	PROPOSE	010Y024HR	16.43	115.34	118.20	0.00	86234	11.75	7.44	17.48	3.30
EX_VCLK01	PROPOSE	010Y072HR	63.92	114.89	118.20	0.00	74828	59.75	4.92	64.17	2.79
EX_VCLK01	PROPOSE	025Y001HR	1.49	115.81	118.20	0.00	90373	0.50	53.25	2.00	3.54
EX_VCLK01	PROPOSE	025Y002HR	2.28	116.10	118.20	0.00	92952	0.75	48.07	3.23	3.95
EX_VCLK01	PROPOSE	025Y004HR	3.83	116.30	118.20	0.00	94752	2.00	28.53	4.88	4.14
EX_VCLK01	PROPOSE	025Y008HR	6.16	116.36	118.20	0.00	95275	4.00	28.79	7.56	4.22
EX_VCLK01	PROPOSE	025Y024HR	19.07	115.81	118.20	0.00	90350	11.75	9.35	19.54	3.75
EX_VCLK01	PROPOSE	025Y072HR	64.07	115.19	118.20	0.00	84639	59.75	6.21	64.46	3.12
EX_VCLK01	PROPOSE	050Y001HR	1.50	115.95	118.20	0.00	91647	0.50	58.38	2.00	3.63
EX_VCLK01	PROPOSE	050Y002HR	2.30	116.27	118.20	0.00	94462	0.75	52.63	3.31	4.09
EX_VCLK01	PROPOSE	050Y004HR	3.88	116.53	118.20	0.00	96827	2.00	31.80	4.93	4.33
EX_VCLK01	PROPOSE	050Y008HR	6.38	116.66	118.20	0.00	98001	4.00	32.82	7.79	4.47
EX_VCLK01	PROPOSE	050Y024HR	19.24	116.24	118.20	0.00	94214	11.75	11.06	20.09	4.13
EX_VCLK01	PROPOSE	050Y072HR	64.11	115.44	118.20	0.00	87113	59.75	7.31	64.60	3.38
EX_VCLK01	PROPOSE	100Y001HR	1.51	116.08	118.20	0.00	92826	0.50	63.20	2.00	3.70
EX_VCLK01	PROPOSE	100Y002HR	2.31	116.42	118.20	0.00	95878	0.75	56.98	3.39	4.22
EX_VCLK01	PROPOSE	100Y004HR	3.93	116.75	118.20	0.00	98801	2.00	34.96	5.07	4.50
EX_VCLK01	PROPOSE	100Y008HR	6.91	116.98	118.20	0.00	100838	4.00	37.03	8.00	4.71
EX_VCLK01	PROPOSE	100Y024HR	19.38	116.73	118.20	0.00	98591	11.75	12.99	20.58	4.52
EX_VCLK01	PROPOSE	100Y072HR	64.15	115.74	118.20	0.00	89736	59.75	8.55	64.82	3.67
EX_VCLK05	PROPOSE	002Y001HR	2.00	109.17	113.20	0.00	101706	0.60	51.28	0.00	0.00
EX_VCLK05	PROPOSE	002Y002HR	4.00	109.84	113.20	0.00	106967	0.76	49.22	0.00	0.00
EX_VCLK05	PROPOSE	002Y004HR	6.00	110.27	113.20	0.00	110382	2.05	32.25	0.00	0.00
EX_VCLK05	PROPOSE	002Y008HR	10.00	110.86	113.20	0.00	115248	4.00	33.08	0.00	0.00
EX_VCLK05	PROPOSE	002Y024HR	30.00	111.71	113.20	0.00	122609	12.00	11.90	0.00	0.00
EX_VCLK05	PROPOSE	002Y072HR	68.47	112.56	113.20	0.00	130240	59.75	8.91	68.47	1.41
EX_VCLK05	PROPOSE	005Y001HR	2.00	109.50	113.20	0.00	104255	0.56	58.79	0.00	0.00
EX_VCLK05	PROPOSE	005Y002HR	4.00	110.27	113.20	0.00	110354	0.75	56.43	0.00	0.00
EX_VCLK05	PROPOSE	005Y004HR	8.00	111.01	113.20	0.00	116468	2.09	39.18	0.00	0.00
EX_VCLK05	PROPOSE	005Y008HR	16.00	111.64	113.20	0.00	121939	4.00	40.04	0.00	0.00
EX_VCLK05	PROPOSE	005Y024HR	24.32	112.56	113.20	0.00	130229	12.00	14.78	24.32	1.39
EX_VCLK05	PROPOSE	005Y072HR	63.81	112.79	113.20	0.00	132343	58.85	11.28	63.81	6.66
EX_VCLK05	PROPOSE	010Y001HR	2.00	109.74	113.20	0.00	106197	0.54	64.60	0.00	0.00
EX_VCLK05	PROPOSE	010Y002HR	4.00	110.61	113.20	0.00	113149	0.75	61.91	0.00	0.00
EX_VCLK05	PROPOSE	010Y004HR	8.00	111.45	113.20	0.00	120249	2.00	44.08	0.00	0.00
EX_VCLK05	PROPOSE	010Y008HR	16.00	112.26	113.20	0.00	127563	4.00	44.19	0.00	0.00
EX_VCLK05	PROPOSE	010Y024HR	21.07	112.78	113.20	0.00	132291	12.00	17.63	21.07	6.51
EX_VCLK05	PROPOSE	010Y072HR	60.16	112.95	113.20	0.00	133824	59.75	12.89	60.16	11.68
EX_VCLK05	PROPOSE	025Y001HR	2.00	110.03	113.20	0.00	108463	0.50	72.09	0.00	0.00
EX_VCLK05	PROPOSE	025Y002HR	4.00	111.04	113.20	0.00	116738	0.75	69.17	0.00	0.00
EX_VCLK05	PROPOSE	025Y004HR	8.00	111.99	113.20	0.00	125134	2.00	49.21	0.00	0.00
EX_VCLK05	PROPOSE	025Y008HR	12.92	112.65	113.20	0.00	131076	4.00	49.93	12.92	3.19
EX_VCLK05	PROPOSE	025Y024HR	19.13	112.93	113.20	0.00	133614	12.00	22.29	19.13	10.92
EX_VCLK05	PROPOSE	025Y072HR	60.06	113.05	113.20	0.00	134782	59.75	16.02	60.06	15.40
EX_VCLK05	PROPOSE	050Y001HR	2.00	110.20	113.20	0.00	109738	0.50	77.60	0.00	0.00
EX_VCLK05	PROPOSE	050Y002HR	4.00	111.33	113.20	0.00	119252	0.75	74.33	0.00	0.00
EX_VCLK05	PROPOSE	050Y004HR	8.00	112.36	113.20	0.00	128476	2.00	53.05	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_VCLK05	PROPOSE	050Y008HR	8.18	112.82	113.20	0.00	132674	4.00	54.43	8.18	7.70
EX_VCLK05	PROPOSE	050Y024HR	16.26	113.03	113.20	0.00	134532	11.90	26.08	16.26	14.40
EX_VCLK05	PROPOSE	050Y072HR	60.07	113.12	113.20	0.00	135365	59.75	18.43	60.07	17.82
EX_VCLK05	PROPOSE	100Y001HR	2.00	110.34	113.20	0.00	110949	0.50	82.81	0.00	0.00
EX_VCLK05	PROPOSE	100Y002HR	4.00	111.59	113.20	0.00	121561	0.75	79.29	0.00	0.00
EX_VCLK05	PROPOSE	100Y004HR	8.00	112.62	113.20	0.00	130789	2.00	56.82	8.00	2.52
EX_VCLK05	PROPOSE	100Y008HR	8.00	113.01	113.20	0.00	134357	4.00	59.17	8.00	13.71
EX_VCLK05	PROPOSE	100Y024HR	15.56	113.14	113.20	0.00	135596	11.75	27.87	15.56	18.81
EX_VCLK05	PROPOSE	100Y072HR	60.06	113.18	113.20	0.00	135904	59.75	20.82	60.06	20.16
J5FDOT138	PROPOSE	002Y001HR	1.04	101.65	105.06	0.02	260	0.95	24.66	0.95	24.59
J5FDOT138	PROPOSE	002Y002HR	1.28	101.77	105.06	0.02	238	1.18	25.41	1.18	25.37
J5FDOT138	PROPOSE	002Y004HR	3.01	101.76	105.06	0.02	240	3.00	24.68	3.01	24.68
J5FDOT138	PROPOSE	002Y008HR	4.21	101.73	105.06	0.02	246	4.16	24.84	4.16	24.83
J5FDOT138	PROPOSE	002Y024HR	12.22	100.84	105.06	0.02	326	12.18	11.17	12.19	11.17
J5FDOT138	PROPOSE	002Y072HR	60.06	100.82	105.06	0.02	326	60.05	11.30	60.06	11.30
J5FDOT138	PROPOSE	005Y001HR	1.02	102.13	105.06	0.02	166	0.92	33.33	0.92	33.27
J5FDOT138	PROPOSE	005Y002HR	1.28	102.24	105.06	0.02	164	1.19	33.79	1.19	33.77
J5FDOT138	PROPOSE	005Y004HR	3.02	102.25	105.06	0.02	164	3.00	33.32	3.01	33.32
J5FDOT138	PROPOSE	005Y008HR	4.23	102.23	105.06	0.02	165	4.18	33.73	4.18	33.72
J5FDOT138	PROPOSE	005Y024HR	12.21	101.12	105.06	0.02	311	12.17	15.51	12.18	15.50
J5FDOT138	PROPOSE	005Y072HR	60.15	101.16	105.06	0.02	308	60.05	15.22	60.05	15.21
J5FDOT138	PROPOSE	010Y001HR	1.02	102.49	105.06	0.02	161	0.93	39.67	0.94	39.62
J5FDOT138	PROPOSE	010Y002HR	1.32	102.62	105.06	0.02	158	1.19	40.16	1.19	40.13
J5FDOT138	PROPOSE	010Y004HR	3.10	102.70	105.06	0.02	155	2.87	40.33	2.87	40.32
J5FDOT138	PROPOSE	010Y008HR	4.27	102.66	105.06	0.02	157	4.22	41.06	4.22	41.04
J5FDOT138	PROPOSE	010Y024HR	12.21	101.43	105.06	0.02	286	12.17	20.06	12.17	20.06
J5FDOT138	PROPOSE	010Y072HR	60.08	101.58	105.06	0.02	268	60.05	19.35	60.05	19.35
J5FDOT138	PROPOSE	025Y001HR	1.06	102.93	105.06	0.02	151	0.95	46.42	0.95	46.37
J5FDOT138	PROPOSE	025Y002HR	1.36	103.06	105.06	0.02	147	1.27	48.37	1.28	48.36
J5FDOT138	PROPOSE	025Y004HR	3.09	103.26	105.06	0.02	134	3.14	49.86	3.14	49.86
J5FDOT138	PROPOSE	025Y008HR	4.38	103.30	105.06	0.02	132	4.37	50.54	4.37	50.54
J5FDOT138	PROPOSE	025Y024HR	12.21	101.88	105.06	0.02	215	12.16	27.75	12.16	27.75
J5FDOT138	PROPOSE	025Y072HR	60.08	102.03	105.06	0.02	166	60.06	25.77	60.06	25.77
J5FDOT138	PROPOSE	050Y001HR	1.08	103.21	105.06	0.02	141	0.99	51.74	0.99	51.71
J5FDOT138	PROPOSE	050Y002HR	1.48	103.43	105.06	0.02	125	1.35	52.74	1.35	52.73
J5FDOT138	PROPOSE	050Y004HR	3.12	103.79	105.06	0.02	125	3.20	56.66	3.20	56.67
J5FDOT138	PROPOSE	050Y008HR	4.44	103.92	105.06	0.02	125	4.56	58.40	4.56	58.41
J5FDOT138	PROPOSE	050Y024HR	15.27	102.29	105.06	0.02	163	12.19	34.55	12.19	34.55
J5FDOT138	PROPOSE	050Y072HR	60.07	102.38	105.06	0.02	161	60.08	31.33	60.08	31.33
J5FDOT138	PROPOSE	100Y001HR	1.11	103.54	105.06	0.02	125	0.97	55.10	1.03	55.07
J5FDOT138	PROPOSE	100Y002HR	1.51	103.83	105.06	0.02	125	1.28	56.42	1.28	56.39
J5FDOT138	PROPOSE	100Y004HR	3.14	104.29	105.06	0.02	125	3.24	63.15	3.24	63.16
J5FDOT138	PROPOSE	100Y008HR	4.51	104.55	105.06	0.02	125	4.65	66.62	4.65	66.63
J5FDOT138	PROPOSE	100Y024HR	15.15	102.74	105.06	0.02	153	12.26	42.08	12.26	42.08
J5FDOT138	PROPOSE	100Y072HR	60.12	102.66	105.06	0.02	155	60.12	37.31	60.12	37.31
RCID_HOTEL	PROPOSE	002Y001HR	0.50	98.40	105.00	1.88	1316	0.94	96.23	0.00	0.00
RCID_HOTEL	PROPOSE	002Y002HR	0.80	98.40	105.00	1.88	1316	1.31	106.74	0.00	0.00
RCID_HOTEL	PROPOSE	002Y004HR	2.00	98.40	105.00	1.88	1316	2.72	107.67	0.00	0.00
RCID_HOTEL	PROPOSE	002Y008HR	4.00	98.40	105.00	1.88	1316	4.12	106.78	0.00	0.00
RCID_HOTEL	PROPOSE	002Y024HR	12.00	97.96	105.00	1.88	1303	12.15	52.82	0.00	0.00
RCID_HOTEL	PROPOSE	002Y072HR	60.00	99.01	105.00	1.88	1265	60.12	47.07	0.00	0.00
RCID_HOTEL	PROPOSE	005Y001HR	0.50	98.40	105.00	1.88	1316	0.92	120.93	0.00	0.00
RCID_HOTEL	PROPOSE	005Y002HR	0.80	98.40	105.00	1.88	1316	1.22	131.16	0.00	0.00
RCID_HOTEL	PROPOSE	005Y004HR	2.00	98.40	105.00	1.88	1316	3.00	133.66	0.00	0.00
RCID_HOTEL	PROPOSE	005Y008HR	4.00	98.40	105.00	1.88	1315	4.14	131.60	0.00	0.00
RCID_HOTEL	PROPOSE	005Y024HR	12.00	98.00	105.00	1.88	1306	12.15	65.88	0.00	0.00
RCID_HOTEL	PROPOSE	005Y072HR	60.00	99.05	105.00	1.88	1259	60.18	61.79	0.00	0.00
RCID_HOTEL	PROPOSE	010Y001HR	0.50	98.40	105.00	1.88	1316	0.91	140.28	0.00	0.00
RCID_HOTEL	PROPOSE	010Y002HR	0.80	98.40	105.00	1.88	1316	1.23	151.05	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
RCID_HOTEL	PROPOSE	010Y004HR	2.00	98.40	105.00	1.88	1316	3.00	156.66	0.00	0.00
RCID_HOTEL	PROPOSE	010Y008HR	4.00	98.40	105.00	1.88	1315	4.15	154.90	0.00	0.00
RCID_HOTEL	PROPOSE	010Y024HR	12.00	96.97	105.00	-0.00	1218	12.20	81.14	0.00	0.00
RCID_HOTEL	PROPOSE	010Y072HR	60.00	98.72	105.00	0.00	1299	60.12	86.78	0.00	0.00
RCID_HOTEL	PROPOSE	025Y001HR	0.50	98.40	105.00	1.88	1316	0.91	165.60	0.00	0.00
RCID_HOTEL	PROPOSE	025Y002HR	0.80	98.40	105.00	1.88	1315	1.17	191.07	0.00	0.00
RCID_HOTEL	PROPOSE	025Y004HR	2.00	98.40	105.00	1.88	1315	3.01	193.59	0.00	0.00
RCID_HOTEL	PROPOSE	025Y008HR	4.00	98.40	105.00	1.88	1312	4.08	196.37	0.00	0.00
RCID_HOTEL	PROPOSE	025Y024HR	12.00	97.36	105.00	-0.00	1256	12.19	106.65	0.00	0.00
RCID_HOTEL	PROPOSE	025Y072HR	60.00	99.50	105.00	0.00	1150	60.13	112.02	0.00	0.00
RCID_HOTEL	PROPOSE	050Y001HR	0.50	98.40	105.00	1.88	1316	0.89	196.74	0.00	0.00
RCID_HOTEL	PROPOSE	050Y002HR	0.80	98.40	105.00	1.88	1315	1.18	202.83	0.00	0.00
RCID_HOTEL	PROPOSE	050Y004HR	2.00	98.40	105.00	1.88	1315	2.99	218.07	0.00	0.00
RCID_HOTEL	PROPOSE	050Y008HR	4.00	98.40	105.00	1.88	1309	4.18	224.46	0.00	0.00
RCID_HOTEL	PROPOSE	050Y024HR	12.00	96.14	105.00	0.00	1279	15.25	130.31	0.00	0.00
RCID_HOTEL	PROPOSE	050Y072HR	60.00	99.88	105.00	0.00	992	60.10	130.75	0.00	0.00
RCID_HOTEL	PROPOSE	100Y001HR	0.50	98.40	105.00	1.88	1316	0.83	215.94	0.00	0.00
RCID_HOTEL	PROPOSE	100Y002HR	0.80	98.40	105.00	1.88	1314	1.12	219.55	0.00	0.00
RCID_HOTEL	PROPOSE	100Y004HR	2.00	98.40	105.00	1.88	1314	2.62	232.80	0.00	0.00
RCID_HOTEL	PROPOSE	100Y008HR	4.00	98.40	105.00	1.88	1302	4.00	247.33	0.00	0.00
RCID_HOTEL	PROPOSE	100Y024HR	12.00	96.31	105.00	0.00	1295	15.05	159.06	0.00	0.00
RCID_HOTEL	PROPOSE	100Y072HR	60.00	100.41	105.00	0.00	434	60.05	168.91	0.00	0.00
SW138B1B1	PROPOSE	002Y001HR	2.00	105.13	106.25	0.00	8766	0.75	0.32	0.00	0.00
SW138B1B1	PROPOSE	002Y002HR	4.00	105.21	106.25	0.00	12131	1.00	0.33	0.00	0.00
SW138B1B1	PROPOSE	002Y004HR	6.00	105.28	106.25	0.00	11231	3.00	0.40	0.00	0.00
SW138B1B1	PROPOSE	002Y008HR	10.00	105.37	106.25	0.00	10082	4.00	0.41	0.00	0.00
SW138B1B1	PROPOSE	002Y024HR	28.50	105.59	106.25	0.00	7721	12.00	0.16	0.00	0.00
SW138B1B1	PROPOSE	002Y072HR	66.34	105.97	106.25	0.00	3771	59.75	0.19	66.34	0.04
SW138B1B1	PROPOSE	005Y001HR	2.00	105.19	106.25	0.00	11298	0.75	0.53	0.00	0.00
SW138B1B1	PROPOSE	005Y002HR	4.00	105.30	106.25	0.00	10951	1.00	0.53	0.00	0.00
SW138B1B1	PROPOSE	005Y004HR	6.00	105.41	106.25	0.00	9600	3.00	0.58	0.00	0.00
SW138B1B1	PROPOSE	005Y008HR	10.00	105.56	106.25	0.00	7982	4.00	0.64	0.00	0.00
SW138B1B1	PROPOSE	005Y024HR	22.54	105.97	106.25	0.00	3786	12.00	0.25	22.54	0.06
SW138B1B1	PROPOSE	005Y072HR	60.00	106.00	106.25	0.00	3921	59.75	0.25	60.00	0.25
SW138B1B1	PROPOSE	010Y001HR	2.00	105.23	106.25	0.00	11863	0.75	0.71	0.00	0.00
SW138B1B1	PROPOSE	010Y002HR	4.00	105.39	106.25	0.00	9866	1.00	0.71	0.00	0.00
SW138B1B1	PROPOSE	010Y004HR	6.00	105.55	106.25	0.00	8092	2.50	0.77	0.00	0.00
SW138B1B1	PROPOSE	010Y008HR	10.00	105.82	106.25	0.00	5264	4.00	0.85	0.00	0.00
SW138B1B1	PROPOSE	010Y024HR	19.00	105.99	106.25	0.00	3886	12.00	0.33	19.00	0.19
SW138B1B1	PROPOSE	010Y072HR	59.86	106.01	106.25	0.00	3957	59.75	0.32	59.86	0.32
SW138B1B1	PROPOSE	025Y001HR	2.00	105.30	106.25	0.00	10932	0.75	0.98	0.00	0.00
SW138B1B1	PROPOSE	025Y002HR	4.00	105.52	106.25	0.00	8388	1.00	0.97	0.00	0.00
SW138B1B1	PROPOSE	025Y004HR	6.00	105.82	106.25	0.00	5161	2.50	1.03	0.00	0.00
SW138B1B1	PROPOSE	025Y008HR	6.41	106.00	106.25	0.00	3936	4.00	1.18	6.41	0.28
SW138B1B1	PROPOSE	025Y024HR	15.03	106.01	106.25	0.00	3977	12.00	0.48	15.03	0.36
SW138B1B1	PROPOSE	025Y072HR	59.82	106.02	106.25	0.00	4009	59.75	0.43	59.82	0.42
SW138B1B1	PROPOSE	050Y001HR	2.00	105.36	106.25	0.00	10140	0.75	1.18	0.00	0.00
SW138B1B1	PROPOSE	050Y002HR	4.00	105.65	106.25	0.00	7092	1.00	1.16	0.00	0.00
SW138B1B1	PROPOSE	050Y004HR	4.20	106.00	106.25	0.00	3936	2.50	1.24	4.20	0.28
SW138B1B1	PROPOSE	050Y008HR	5.34	106.03	106.25	0.00	4100	4.00	1.46	5.34	0.63
SW138B1B1	PROPOSE	050Y024HR	13.38	106.02	106.25	0.00	4029	12.00	0.61	13.38	0.47
SW138B1B1	PROPOSE	050Y072HR	59.80	106.02	106.25	0.00	4051	59.75	0.52	59.80	0.52
SW138B1B1	PROPOSE	100Y001HR	2.00	105.42	106.25	0.00	9469	0.75	1.39	0.00	0.00
SW138B1B1	PROPOSE	100Y002HR	4.00	105.79	106.25	0.00	5528	1.00	1.34	0.00	0.00
SW138B1B1	PROPOSE	100Y004HR	3.62	106.04	106.25	0.00	4122	2.50	1.44	3.62	0.69
SW138B1B1	PROPOSE	100Y008HR	4.96	106.06	106.25	0.00	4262	4.00	1.76	4.96	1.07
SW138B1B1	PROPOSE	100Y024HR	12.32	106.04	106.25	0.00	4122	12.00	0.77	12.32	0.69
SW138B1B1	PROPOSE	100Y072HR	59.79	106.03	106.25	0.00	4094	59.75	0.62	59.79	0.62
SW138B1B2	PROPOSE	002Y001HR	2.00	104.51	105.96	0.00	13586	0.75	0.91	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SW138B1B2	PROPOSE	002Y002HR	4.00	104.95	105.96	0.00	9680	1.52	1.35	0.00	0.00
SW138B1B2	PROPOSE	002Y004HR	4.34	105.04	105.96	0.00	9160	3.00	1.65	4.34	0.62
SW138B1B2	PROPOSE	002Y008HR	5.94	105.05	105.96	0.00	9108	4.19	1.54	5.94	0.82
SW138B1B2	PROPOSE	002Y024HR	15.03	105.03	105.96	0.00	9164	12.07	0.69	15.03	0.61
SW138B1B2	PROPOSE	002Y072HR	60.01	105.04	105.96	0.00	9147	60.00	0.67	60.01	0.67
SW138B1B2	PROPOSE	005Y001HR	2.00	104.68	105.96	0.00	12037	1.03	1.62	0.00	0.00
SW138B1B2	PROPOSE	005Y002HR	2.63	105.04	105.96	0.00	9121	1.20	2.06	2.63	0.77
SW138B1B2	PROPOSE	005Y004HR	3.53	105.08	105.96	0.00	8942	2.56	2.26	3.53	1.55
SW138B1B2	PROPOSE	005Y008HR	5.10	105.09	105.96	0.00	8915	4.01	2.38	5.10	1.69
SW138B1B2	PROPOSE	005Y024HR	13.10	105.05	105.96	0.00	9094	12.01	0.98	13.10	0.87
SW138B1B2	PROPOSE	005Y072HR	60.03	105.06	105.96	0.00	9035	60.00	1.13	60.03	1.12
SW138B1B2	PROPOSE	010Y001HR	2.00	104.85	105.96	0.00	10532	0.89	2.41	0.00	0.00
SW138B1B2	PROPOSE	010Y002HR	2.16	105.08	105.96	0.00	8951	1.07	2.69	2.16	1.51
SW138B1B2	PROPOSE	010Y004HR	3.18	105.12	105.96	0.00	8783	2.54	2.81	3.18	2.38
SW138B1B2	PROPOSE	010Y008HR	4.77	105.11	105.96	0.00	8809	4.01	3.02	4.77	2.24
SW138B1B2	PROPOSE	010Y024HR	12.15	105.07	105.96	0.00	9013	12.00	1.25	12.15	1.22
SW138B1B2	PROPOSE	010Y072HR	60.00	105.07	105.96	0.00	8976	59.91	1.39	60.00	1.39
SW138B1B2	PROPOSE	025Y001HR	2.00	105.05	105.96	0.00	9091	0.80	3.45	2.00	0.88
SW138B1B2	PROPOSE	025Y002HR	1.84	105.11	105.96	0.00	8787	1.01	3.52	1.84	2.36
SW138B1B2	PROPOSE	025Y004HR	3.02	105.15	105.96	0.00	8619	2.52	3.58	3.02	3.37
SW138B1B2	PROPOSE	025Y008HR	4.33	105.15	105.96	0.00	8634	4.01	3.99	4.33	3.27
SW138B1B2	PROPOSE	025Y024HR	12.07	105.09	105.96	0.00	8916	12.00	1.70	12.07	1.68
SW138B1B2	PROPOSE	025Y072HR	59.99	105.09	105.96	0.00	8890	59.83	1.81	59.99	1.81
SW138B1B2	PROPOSE	050Y001HR	1.68	105.07	105.96	0.00	8975	0.77	4.19	1.68	1.39
SW138B1B2	PROPOSE	050Y002HR	1.69	105.14	105.96	0.00	8688	1.01	4.08	1.69	2.94
SW138B1B2	PROPOSE	050Y004HR	2.85	105.17	105.96	0.00	8528	2.52	4.18	2.85	3.96
SW138B1B2	PROPOSE	050Y008HR	4.15	105.18	105.96	0.00	8465	4.00	4.79	4.15	4.38
SW138B1B2	PROPOSE	050Y024HR	13.38	105.11	105.96	0.00	8821	13.22	2.20	13.38	2.18
SW138B1B2	PROPOSE	050Y072HR	59.94	105.11	105.96	0.00	8821	59.81	2.17	59.94	2.17
SW138B1B2	PROPOSE	100Y001HR	1.46	105.10	105.96	0.00	8850	0.76	4.83	1.46	2.02
SW138B1B2	PROPOSE	100Y002HR	1.56	105.15	105.96	0.00	8598	1.00	4.63	1.56	3.50
SW138B1B2	PROPOSE	100Y004HR	2.69	105.19	105.96	0.00	8434	2.51	4.77	2.69	4.60
SW138B1B2	PROPOSE	100Y008HR	4.07	105.21	105.96	0.00	8317	4.00	5.63	4.07	5.44
SW138B1B2	PROPOSE	100Y024HR	12.31	105.14	105.96	0.00	8673	12.19	3.08	12.31	3.03
SW138B1B2	PROPOSE	100Y072HR	59.91	105.12	105.96	0.00	8749	59.79	2.58	59.91	2.58
SW138B1B3	PROPOSE	002Y001HR	1.99	106.45	106.44	0.00	2189	0.75	0.62	1.99	0.02
SW138B1B3	PROPOSE	002Y002HR	1.54	106.49	106.44	0.00	2058	1.00	0.60	1.54	0.42
SW138B1B3	PROPOSE	002Y004HR	2.79	106.51	106.44	0.00	2018	2.50	0.65	2.79	0.61
SW138B1B3	PROPOSE	002Y008HR	4.19	106.51	106.44	0.00	2026	4.00	0.71	4.19	0.57
SW138B1B3	PROPOSE	002Y024HR	12.08	106.48	106.44	0.00	2105	12.00	0.24	12.08	0.23
SW138B1B3	PROPOSE	002Y072HR	59.80	106.48	106.44	0.00	2096	59.75	0.27	59.80	0.27
SW138B1B3	PROPOSE	005Y001HR	1.06	106.50	106.44	0.00	2034	0.75	1.02	1.06	0.53
SW138B1B3	PROPOSE	005Y002HR	1.20	106.52	106.44	0.00	1978	1.00	0.96	1.20	0.82
SW138B1B3	PROPOSE	005Y004HR	2.54	106.53	106.44	0.00	1952	2.50	0.98	2.54	0.96
SW138B1B3	PROPOSE	005Y008HR	4.02	106.54	106.44	0.00	1935	4.00	1.09	4.02	1.07
SW138B1B3	PROPOSE	005Y024HR	12.02	106.49	106.44	0.00	2070	12.00	0.37	12.02	0.37
SW138B1B3	PROPOSE	005Y072HR	59.78	106.49	106.44	0.00	2071	59.75	0.37	59.78	0.37
SW138B1B3	PROPOSE	010Y001HR	0.90	106.54	106.44	0.00	1943	0.75	1.38	0.90	1.02
SW138B1B3	PROPOSE	010Y002HR	1.07	106.55	106.44	0.00	1912	1.00	1.28	1.07	1.21
SW138B1B3	PROPOSE	010Y004HR	2.52	106.55	106.44	0.00	1904	2.50	1.27	2.52	1.26
SW138B1B3	PROPOSE	010Y008HR	4.01	106.56	106.44	0.00	1880	4.00	1.44	4.01	1.42
SW138B1B3	PROPOSE	010Y024HR	12.01	106.50	106.44	0.00	2040	12.00	0.50	12.01	0.50
SW138B1B3	PROPOSE	010Y072HR	59.77	106.50	106.44	0.00	2049	59.75	0.46	59.77	0.46
SW138B1B3	PROPOSE	025Y001HR	0.80	106.58	106.44	0.00	1840	0.75	1.88	0.80	1.70
SW138B1B3	PROPOSE	025Y002HR	1.01	106.58	106.44	0.00	1839	1.00	1.72	1.01	1.70
SW138B1B3	PROPOSE	025Y004HR	2.52	106.57	106.44	0.00	1844	2.50	1.68	2.52	1.67
SW138B1B3	PROPOSE	025Y008HR	4.01	106.59	106.44	0.00	1805	4.00	1.98	4.01	1.95
SW138B1B3	PROPOSE	025Y024HR	12.01	106.52	106.44	0.00	1996	12.00	0.72	12.01	0.72
SW138B1B3	PROPOSE	025Y072HR	59.76	106.51	106.44	0.00	2016	59.75	0.62	59.76	0.62

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SW138B1B3	PROPOSE	050Y001HR	0.77	106.60	106.44	0.00	1778	0.75	2.27	0.77	2.17
SW138B1B3	PROPOSE	050Y002HR	1.01	106.59	106.44	0.00	1794	1.00	2.05	1.01	2.04
SW138B1B3	PROPOSE	050Y004HR	2.51	106.59	106.44	0.00	1800	2.50	2.01	2.51	1.99
SW138B1B3	PROPOSE	050Y008HR	4.01	106.61	106.44	0.00	1748	4.00	2.43	4.01	2.41
SW138B1B3	PROPOSE	050Y024HR	12.01	106.53	106.44	0.00	1960	12.00	0.92	12.01	0.92
SW138B1B3	PROPOSE	050Y072HR	59.76	106.52	106.44	0.00	1990	59.75	0.75	59.76	0.75
SW138B1B3	PROPOSE	100Y001HR	0.77	106.62	106.44	0.00	1729	0.75	2.65	0.77	2.57
SW138B1B3	PROPOSE	100Y002HR	1.00	106.61	106.44	0.00	1754	1.00	2.37	1.00	2.36
SW138B1B3	PROPOSE	100Y004HR	2.51	106.61	106.44	0.00	1760	2.50	2.33	2.51	2.31
SW138B1B3	PROPOSE	100Y008HR	4.01	106.63	106.44	0.00	1692	4.00	2.91	4.01	2.89
SW138B1B3	PROPOSE	100Y024HR	12.00	106.55	106.44	0.00	1921	12.00	1.15	12.00	1.15
SW138B1B3	PROPOSE	100Y072HR	59.76	106.53	106.44	0.00	1964	59.75	0.90	59.76	0.90
SW138C2	PROPOSE	002Y001HR	0.89	102.50	106.00	0.00	6594	0.86	22.68	0.89	22.52
SW138C2	PROPOSE	002Y002HR	1.10	102.50	106.00	0.00	6578	1.07	22.42	1.10	22.34
SW138C2	PROPOSE	002Y004HR	2.64	102.46	106.00	-0.00	6309	2.61	19.92	2.64	19.89
SW138C2	PROPOSE	002Y008HR	4.10	102.47	106.00	0.00	6370	4.06	20.50	4.09	20.44
SW138C2	PROPOSE	002Y024HR	12.09	102.21	106.00	-0.00	4616	12.05	7.48	12.09	7.47
SW138C2	PROPOSE	002Y072HR	59.96	102.21	106.00	-0.00	4590	59.93	7.32	59.96	7.32
SW138C2	PROPOSE	005Y001HR	0.94	102.67	106.00	0.00	7693	0.84	31.72	0.86	30.70
SW138C2	PROPOSE	005Y002HR	1.20	102.70	106.00	0.00	7925	1.05	30.77	1.09	29.71
SW138C2	PROPOSE	005Y004HR	2.87	102.67	106.00	-0.00	7717	2.60	27.41	2.64	26.91
SW138C2	PROPOSE	005Y008HR	4.17	102.68	106.00	0.00	7785	4.06	28.68	4.10	27.90
SW138C2	PROPOSE	005Y024HR	12.08	102.28	106.00	-0.00	5099	12.04	10.55	12.07	10.53
SW138C2	PROPOSE	005Y072HR	59.97	102.27	106.00	-0.00	4994	59.87	9.79	59.96	9.79
SW138C2	PROPOSE	010Y001HR	0.98	102.90	106.00	0.00	9299	0.83	39.31	0.86	36.50
SW138C2	PROPOSE	010Y002HR	1.28	102.99	106.00	0.00	9878	1.04	37.90	1.09	35.35
SW138C2	PROPOSE	010Y004HR	3.07	103.04	106.00	0.00	10236	2.58	34.06	2.65	32.51
SW138C2	PROPOSE	010Y008HR	4.24	103.03	106.00	0.00	10158	4.05	36.34	4.11	33.99
SW138C2	PROPOSE	010Y024HR	12.07	102.35	106.00	-0.00	5551	12.04	13.72	12.07	13.70
SW138C2	PROPOSE	010Y072HR	59.89	102.32	106.00	-0.00	5351	59.85	12.21	59.88	12.21
SW138C2	PROPOSE	025Y001HR	1.03	103.33	106.00	0.00	11944	0.82	49.64	0.86	43.11
SW138C2	PROPOSE	025Y002HR	1.34	103.48	106.00	0.00	12660	1.03	47.76	1.16	42.28
SW138C2	PROPOSE	025Y004HR	3.10	103.69	106.00	0.00	13693	2.57	43.54	2.61	40.19
SW138C2	PROPOSE	025Y008HR	4.38	103.74	106.00	0.00	13919	4.05	48.22	4.08	42.72
SW138C2	PROPOSE	025Y024HR	12.10	102.45	106.00	-0.00	6233	12.03	19.02	12.06	18.94
SW138C2	PROPOSE	025Y072HR	60.02	102.43	106.00	-0.00	6086	59.82	16.13	59.85	16.07
SW138C2	PROPOSE	050Y001HR	1.05	103.67	106.00	0.00	13580	0.82	57.60	0.88	48.09
SW138C2	PROPOSE	050Y002HR	1.44	103.89	106.00	0.00	14626	1.03	55.02	1.11	47.50
SW138C2	PROPOSE	050Y004HR	3.14	104.30	106.00	0.00	16319	2.57	51.02	2.65	44.51
SW138C2	PROPOSE	050Y008HR	4.46	104.47	106.00	-0.00	16631	4.04	58.30	4.11	48.24
SW138C2	PROPOSE	050Y024HR	12.18	102.66	106.00	-0.00	7645	12.02	23.87	12.07	23.47
SW138C2	PROPOSE	050Y072HR	60.06	102.65	106.00	-0.00	7588	59.80	19.50	60.00	19.27
SW138C2	PROPOSE	100Y001HR	1.10	104.03	106.00	0.00	15316	0.81	65.29	0.87	52.92
SW138C2	PROPOSE	100Y002HR	1.51	104.34	106.00	0.00	16383	1.02	62.12	1.07	51.75
SW138C2	PROPOSE	100Y004HR	3.16	104.91	106.00	-0.00	17487	2.56	58.42	2.72	49.75
SW138C2	PROPOSE	100Y008HR	4.54	105.23	106.00	-0.00	18111	4.04	69.08	4.12	55.74
SW138C2	PROPOSE	100Y024HR	12.28	103.08	106.00	-0.00	10538	12.02	29.46	12.09	28.24
SW138C2	PROPOSE	100Y072HR	60.11	102.95	106.00	-0.00	9622	59.79	23.29	59.45	23.21
SW138C3B1	PROPOSE	002Y001HR	0.90	130.10	130.59	0.00	2355	0.76	1.30	0.90	1.15
SW138C3B1	PROPOSE	002Y002HR	1.06	130.10	130.59	0.00	2354	1.00	1.19	1.06	1.17
SW138C3B1	PROPOSE	002Y004HR	2.55	130.09	130.59	0.00	2364	2.51	0.99	2.55	0.99
SW138C3B1	PROPOSE	002Y008HR	4.04	130.09	130.59	0.00	2362	4.00	1.02	4.04	1.01
SW138C3B1	PROPOSE	002Y024HR	12.05	130.04	130.59	0.00	2406	12.00	0.35	12.05	0.35
SW138C3B1	PROPOSE	002Y072HR	59.82	130.03	130.59	0.00	2413	59.75	0.27	59.82	0.27
SW138C3B1	PROPOSE	005Y001HR	0.83	130.12	130.59	0.00	2333	0.76	1.66	0.83	1.58
SW138C3B1	PROPOSE	005Y002HR	1.02	130.12	130.59	0.00	2336	1.00	1.52	1.02	1.51
SW138C3B1	PROPOSE	005Y004HR	2.54	130.10	130.59	0.00	2349	2.50	1.27	2.54	1.26
SW138C3B1	PROPOSE	005Y008HR	4.04	130.10	130.59	0.00	2347	4.00	1.31	4.04	1.30
SW138C3B1	PROPOSE	005Y024HR	12.04	130.05	130.59	0.00	2398	12.00	0.46	12.04	0.45

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SW138C3B1	PROPOSE	005Y072HR	59.80	130.04	130.59	0.00	2407	59.75	0.34	59.80	0.34
SW138C3B1	PROPOSE	010Y001HR	0.80	130.14	130.59	0.00	2318	0.76	1.95	0.80	1.90
SW138C3B1	PROPOSE	010Y002HR	1.02	130.13	130.59	0.00	2324	1.00	1.79	1.02	1.78
SW138C3B1	PROPOSE	010Y004HR	2.53	130.11	130.59	0.00	2337	2.50	1.50	2.53	1.49
SW138C3B1	PROPOSE	010Y008HR	4.03	130.12	130.59	0.00	2334	4.00	1.57	4.03	1.56
SW138C3B1	PROPOSE	010Y024HR	12.03	130.06	130.59	0.00	2391	12.00	0.56	12.03	0.56
SW138C3B1	PROPOSE	010Y072HR	59.79	130.04	130.59	0.00	2401	59.75	0.41	59.79	0.41
SW138C3B1	PROPOSE	025Y001HR	0.79	130.15	130.59	0.00	2301	0.76	2.34	0.79	2.30
SW138C3B1	PROPOSE	025Y002HR	1.01	130.15	130.59	0.00	2308	1.00	2.14	1.01	2.13
SW138C3B1	PROPOSE	025Y004HR	2.53	130.13	130.59	0.00	2322	2.50	1.82	2.53	1.81
SW138C3B1	PROPOSE	025Y008HR	4.03	130.14	130.59	0.00	2316	4.00	1.96	4.03	1.94
SW138C3B1	PROPOSE	025Y024HR	12.03	130.07	130.59	0.00	2380	12.00	0.72	12.03	0.72
SW138C3B1	PROPOSE	025Y072HR	59.78	130.05	130.59	0.00	2393	59.75	0.52	59.78	0.52
SW138C3B1	PROPOSE	050Y001HR	0.79	130.17	130.59	0.00	2290	0.76	2.62	0.79	2.59
SW138C3B1	PROPOSE	050Y002HR	1.01	130.16	130.59	0.00	2298	1.00	2.39	1.01	2.38
SW138C3B1	PROPOSE	050Y004HR	2.52	130.14	130.59	0.00	2312	2.50	2.06	2.52	2.05
SW138C3B1	PROPOSE	050Y008HR	4.02	130.15	130.59	0.00	2303	4.00	2.27	4.02	2.26
SW138C3B1	PROPOSE	050Y024HR	12.03	130.08	130.59	0.00	2371	12.00	0.87	12.03	0.86
SW138C3B1	PROPOSE	050Y072HR	59.78	130.06	130.59	0.00	2386	59.75	0.62	59.78	0.62
SW138C3B1	PROPOSE	100Y001HR	0.78	130.18	130.59	0.00	2279	0.76	2.89	0.78	2.86
SW138C3B1	PROPOSE	100Y002HR	1.01	130.17	130.59	0.00	2288	1.00	2.63	1.01	2.62
SW138C3B1	PROPOSE	100Y004HR	2.52	130.15	130.59	0.00	2302	2.50	2.29	2.52	2.29
SW138C3B1	PROPOSE	100Y008HR	4.02	130.17	130.59	0.00	2290	4.00	2.60	4.02	2.58
SW138C3B1	PROPOSE	100Y024HR	12.02	130.09	130.59	0.00	2361	12.00	1.03	12.02	1.03
SW138C3B1	PROPOSE	100Y072HR	59.77	130.07	130.59	0.00	2380	59.75	0.72	59.77	0.72
SW138C3B2	PROPOSE	002Y001HR	0.77	131.64	133.22	0.00	1775	0.75	0.88	0.77	0.86
SW138C3B2	PROPOSE	002Y002HR	1.01	131.63	133.22	0.00	1829	1.00	0.79	1.01	0.78
SW138C3B2	PROPOSE	002Y004HR	2.52	131.62	133.22	-0.00	1936	2.50	0.65	2.52	0.64
SW138C3B2	PROPOSE	002Y008HR	4.02	131.62	133.22	-0.00	1922	4.00	0.67	4.02	0.66
SW138C3B2	PROPOSE	002Y024HR	12.02	131.59	133.22	0.00	2326	12.00	0.23	12.02	0.23
SW138C3B2	PROPOSE	002Y072HR	59.78	131.58	133.22	0.00	2398	59.75	0.17	59.78	0.17
SW138C3B2	PROPOSE	005Y001HR	0.77	131.65	133.22	0.00	1640	0.75	1.11	0.77	1.09
SW138C3B2	PROPOSE	005Y002HR	1.01	131.65	133.22	0.00	1679	1.00	1.00	1.01	0.99
SW138C3B2	PROPOSE	005Y004HR	2.51	131.63	133.22	-0.00	1804	2.50	0.82	2.51	0.82
SW138C3B2	PROPOSE	005Y008HR	4.01	131.64	133.22	-0.00	1782	4.00	0.85	4.01	0.84
SW138C3B2	PROPOSE	005Y024HR	12.02	131.59	133.22	0.00	2256	12.00	0.29	12.02	0.29
SW138C3B2	PROPOSE	005Y072HR	59.77	131.58	133.22	0.00	2345	59.75	0.21	59.77	0.21
SW138C3B2	PROPOSE	010Y001HR	0.77	131.66	133.22	0.00	1677	0.75	1.30	0.77	1.28
SW138C3B2	PROPOSE	010Y002HR	1.00	131.66	133.22	0.00	1654	1.00	1.17	1.00	1.16
SW138C3B2	PROPOSE	010Y004HR	2.51	131.64	133.22	0.00	1701	2.50	0.96	2.51	0.96
SW138C3B2	PROPOSE	010Y008HR	4.01	131.65	133.22	0.00	1669	4.00	1.02	4.01	1.01
SW138C3B2	PROPOSE	010Y024HR	12.01	131.60	133.22	-0.00	2192	12.00	0.35	12.01	0.35
SW138C3B2	PROPOSE	010Y072HR	59.76	131.59	133.22	0.00	2297	59.75	0.25	59.76	0.25
SW138C3B2	PROPOSE	025Y001HR	0.77	131.68	133.22	0.00	1722	0.75	1.55	0.77	1.52
SW138C3B2	PROPOSE	025Y002HR	1.00	131.67	133.22	0.00	1697	1.00	1.39	1.00	1.39
SW138C3B2	PROPOSE	025Y004HR	2.51	131.66	133.22	0.00	1653	2.50	1.16	2.51	1.16
SW138C3B2	PROPOSE	025Y008HR	4.01	131.66	133.22	0.00	1670	4.00	1.25	4.01	1.24
SW138C3B2	PROPOSE	025Y024HR	12.01	131.61	133.22	-0.00	2098	12.00	0.45	12.01	0.45
SW138C3B2	PROPOSE	025Y072HR	59.76	131.60	133.22	0.00	2226	59.75	0.32	59.76	0.32
SW138C3B2	PROPOSE	050Y001HR	0.77	131.69	133.22	0.00	1754	0.75	1.73	0.77	1.70
SW138C3B2	PROPOSE	050Y002HR	1.00	131.68	133.22	0.00	1726	1.00	1.55	1.00	1.54
SW138C3B2	PROPOSE	050Y004HR	2.51	131.66	133.22	0.00	1682	2.50	1.31	2.51	1.30
SW138C3B2	PROPOSE	050Y008HR	4.01	131.67	133.22	0.00	1707	4.00	1.45	4.01	1.44
SW138C3B2	PROPOSE	050Y024HR	12.01	131.61	133.22	0.00	2022	12.00	0.54	12.01	0.54
SW138C3B2	PROPOSE	050Y072HR	59.76	131.60	133.22	0.00	2170	59.75	0.37	59.76	0.37
SW138C3B2	PROPOSE	100Y001HR	0.77	131.69	133.22	0.00	1783	0.75	1.90	0.77	1.87
SW138C3B2	PROPOSE	100Y002HR	1.00	131.69	133.22	0.00	1753	1.00	1.70	1.00	1.69
SW138C3B2	PROPOSE	100Y004HR	2.51	131.67	133.22	0.00	1709	2.50	1.45	2.51	1.45
SW138C3B2	PROPOSE	100Y008HR	4.01	131.68	133.22	0.00	1743	4.00	1.65	4.01	1.64

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: FDOT Node Min/ Max Conditons Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SW138C3B2	PROPOSE	100Y024HR	12.01	131.62	133.22	0.00	1941	12.00	0.64	12.01	0.64
SW138C3B2	PROPOSE	100Y072HR	59.76	131.61	133.22	0.00	2110	59.75	0.44	59.76	0.44

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Node Time Series By Node Conditions Report

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	0.00	99.53	103.49	5697	0.00	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	0.50	99.51	103.49	5663	0.00	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	1.00	99.51	103.49	5664	0.00	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	1.50	99.52	103.49	5667	0.01	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	2.00	99.52	103.49	5673	0.01	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	2.50	99.54	103.49	5884	0.21	0.00	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	3.00	99.63	103.49	4767	0.67	0.51	0.0	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	3.50	99.69	103.49	5043	1.47	1.23	0.1	0.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	3.75	99.73	103.49	5096	1.95	1.78	0.1	0.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	4.00	99.75	103.49	5126	2.30	2.19	0.1	0.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	4.25	99.78	103.49	5163	2.85	2.65	0.2	0.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	4.50	99.81	103.49	5210	3.41	3.19	0.3	0.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	4.75	99.95	103.49	5372	6.42	5.62	0.4	0.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	5.00	100.06	103.49	5497	8.07	7.62	0.5	0.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	5.25	100.15	103.49	5599	9.86	9.32	0.7	0.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	5.50	100.22	103.49	5682	11.19	10.81	0.9	0.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	5.75	100.27	103.49	5742	12.21	11.91	1.2	1.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	6.00	100.32	103.49	5796	13.22	12.91	1.4	1.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	6.25	100.42	103.49	5902	15.98	15.04	1.7	1.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	6.42	100.52	103.49	6015	18.54	17.44	2.0	1.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	6.58	100.63	103.49	6134	21.47	20.39	2.2	2.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	6.75	100.73	103.49	6247	24.70	23.64	2.6	2.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	6.92	100.82	103.49	6393	27.92	26.91	2.9	2.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	7.08	100.92	103.49	6506	31.14	30.10	3.3	3.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	7.25	101.02	103.49	6620	35.09	33.89	3.8	3.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	7.42	101.13	103.49	6743	39.30	38.09	4.3	4.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	7.58	101.22	103.49	10730	43.57	41.94	4.9	4.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	7.75	101.34	103.49	11011	49.35	46.89	5.5	5.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	7.92	101.48	103.49	11333	55.36	52.79	6.2	5.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	8.08	101.61	103.49	11646	61.15	58.51	7.0	6.7
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	8.25	101.76	103.49	11983	67.89	64.78	7.9	7.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	8.42	101.92	103.49	12324	75.27	72.11	8.9	8.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	8.58	102.05	103.49	12606	81.68	79.68	10.0	9.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	8.75	102.11	103.49	12691	90.03	88.32	11.2	10.7
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	8.92	102.21	103.49	12979	96.40	94.26	12.5	12.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	9.08	102.29	103.49	13199	100.73	99.23	13.8	13.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	9.25	102.34	103.49	13299	102.63	101.94	15.2	14.7
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	9.42	102.36	103.49	13343	103.30	103.02	16.6	16.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	9.58	102.37	103.49	13358	103.34	103.26	18.1	17.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	9.75	102.37	103.49	13370	103.19	103.10	19.5	18.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	9.92	102.38	103.49	13378	103.06	103.02	20.9	20.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	10.08	102.37	103.49	13370	102.39	102.69	22.3	21.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	10.25	102.34	103.49	13274	100.09	101.18	23.7	23.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	10.42	102.29	103.49	13114	96.70	98.00	25.1	24.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	10.58	102.23	103.49	12974	93.82	94.93	26.4	25.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	10.75	102.18	103.49	12854	91.31	92.26	27.6	27.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	10.92	102.14	103.49	12757	89.36	90.10	28.9	28.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	11.08	102.11	103.49	12676	87.72	88.39	30.1	29.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	11.25	102.08	103.49	12577	85.63	86.48	31.3	30.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	11.42	102.04	103.49	12540	82.85	81.95	32.5	32.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	11.58	102.05	103.49	12619	79.31	79.84	33.6	33.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	11.75	102.03	103.49	12561	76.93	77.56	34.7	34.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	11.92	102.00	103.49	12499	74.52	75.13	35.7	35.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	12.08	101.97	103.49	12439	72.40	72.91	36.7	36.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	12.25	101.95	103.49	12395	70.88	71.23	37.7	37.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	12.42	101.93	103.49	12375	69.93	70.22	38.7	38.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	12.58	101.92	103.49	12353	69.36	69.65	39.6	39.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	12.75	101.90	103.49	12324	68.84	69.12	40.6	40.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	12.92	101.89	103.49	12296	68.32	68.60	41.5	41.1

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	13.08	101.88	103.49	12265	67.66	68.02	42.5	42.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	13.25	101.85	103.49	12215	66.44	67.04	43.4	43.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	13.42	101.82	103.49	12142	64.76	65.53	44.3	43.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	13.58	101.78	103.49	12055	62.86	63.70	45.2	44.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	13.75	101.74	103.49	11961	60.89	61.75	46.0	45.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	13.92	101.69	103.49	11865	58.96	59.81	46.8	46.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	14.08	101.65	103.49	11767	56.98	57.89	47.6	47.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	14.25	101.60	103.49	11648	54.40	55.59	48.4	48.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	14.42	101.53	103.49	11499	51.35	52.69	49.1	48.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	14.58	101.46	103.49	11338	48.33	49.62	49.8	49.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	14.75	101.39	103.49	11194	45.91	46.99	50.5	50.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	14.92	101.34	103.49	11072	43.93	44.83	51.1	50.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	15.08	101.30	103.49	10966	42.20	43.01	51.7	51.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	15.33	101.23	103.49	10810	39.55	40.37	52.5	52.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	15.58	101.16	103.49	10655	37.07	37.82	53.3	53.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	15.83	101.10	103.49	10526	35.16	35.73	54.1	53.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	16.08	101.06	103.49	10424	33.68	34.14	54.8	54.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	16.33	101.02	103.49	10335	32.30	32.73	55.5	55.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	16.58	100.99	103.49	10251	31.03	31.41	56.1	55.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	16.83	100.96	103.49	10181	30.14	30.44	56.7	56.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	17.08	100.94	103.49	10126	29.47	29.69	57.4	57.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	17.33	100.92	103.49	10080	28.85	29.05	58.0	57.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	17.58	100.89	103.49	10013	27.98	28.30	58.6	58.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	17.83	100.87	103.49	9939	27.06	27.35	59.1	59.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	18.08	100.84	103.49	9879	26.27	26.52	59.7	59.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	18.58	100.81	103.49	9799	25.34	25.48	60.7	60.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	19.08	100.78	103.49	9725	24.28	24.49	61.8	61.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	19.58	100.73	103.49	6299	22.84	23.05	62.7	62.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	20.08	100.70	103.49	6252	21.87	21.96	63.7	63.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	20.58	100.66	103.49	6200	20.48	20.66	64.5	64.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	21.08	100.62	103.49	6149	19.35	19.46	65.4	65.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	21.58	100.58	103.49	6103	18.27	18.40	66.1	66.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	22.08	100.55	103.49	6065	17.60	17.67	66.9	66.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	22.58	100.52	103.49	6028	16.84	16.95	67.6	67.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	23.08	100.50	103.49	5999	16.38	16.43	68.3	68.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	23.58	100.46	103.49	5955	15.36	15.54	68.9	68.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	24.08	100.41	103.49	5894	14.18	14.34	69.5	69.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	24.58	100.36	103.49	5831	12.92	13.10	70.1	70.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	25.08	100.29	103.49	5718	11.96	12.29	70.6	70.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	25.58	100.22	103.49	5643	10.71	10.88	71.1	71.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	26.08	100.17	103.49	5583	9.63	9.78	71.5	71.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	26.58	100.12	103.49	5532	8.73	8.86	71.9	71.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	27.08	100.09	103.49	5489	7.99	8.10	72.2	72.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	27.58	100.05	103.49	5454	7.39	7.48	72.5	72.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	28.08	100.03	103.49	5423	6.88	6.96	72.8	72.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	28.58	100.00	103.49	5397	6.44	6.51	73.1	73.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	29.08	99.98	103.49	5373	8.31	6.11	73.4	73.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	29.58	99.97	103.49	5352	8.04	5.76	73.8	73.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	30.08	99.94	103.49	5325	5.31	5.29	74.0	73.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	30.58	99.93	103.49	5316	5.10	5.14	74.2	74.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	31.08	99.92	103.49	5300	4.84	4.88	74.5	74.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	31.58	99.91	103.49	5284	4.58	4.62	74.6	74.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	32.08	99.89	103.49	5269	4.32	4.36	74.8	74.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	32.58	99.88	103.49	5251	3.99	4.05	75.0	74.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	33.08	99.84	103.49	5216	3.34	3.45	75.2	75.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	33.58	99.81	103.49	5177	2.70	2.78	75.3	75.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	34.08	99.78	103.49	5149	2.24	2.30	75.4	75.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	34.58	99.77	103.49	5130	1.93	1.97	75.5	75.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	35.08	99.76	103.49	5117	1.72	1.74	75.5	75.4

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	35.58	99.75	103.49	5106	1.55	1.57	75.6	75.4
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	36.08	99.74	103.49	5098	1.40	1.42	75.7	75.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	36.58	99.73	103.49	5091	1.29	1.30	75.7	75.5
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	37.08	99.73	103.49	5085	1.19	1.21	75.8	75.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	37.58	99.73	103.49	5080	1.12	1.13	75.8	75.6
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	38.08	99.72	103.49	5076	1.06	1.07	75.9	75.7
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	38.58	99.72	103.49	5072	1.01	1.01	75.9	75.7
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	39.08	99.72	103.49	5070	0.99	0.99	76.0	75.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	39.58	99.71	103.49	5067	0.93	0.94	76.0	75.8
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	40.08	99.71	103.49	5062	0.87	0.88	76.0	75.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	40.58	99.71	103.49	5059	0.82	0.83	76.1	75.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	41.08	99.71	103.49	5056	0.78	0.79	76.1	75.9
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	41.58	99.70	103.49	5053	0.74	0.75	76.1	76.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	42.08	99.70	103.49	5050	0.70	0.71	76.2	76.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	42.58	99.70	103.49	5047	0.67	0.68	76.2	76.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	43.08	99.70	103.49	5045	0.65	0.65	76.2	76.0
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	43.58	99.70	103.49	5043	0.62	0.63	76.2	76.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	44.08	99.69	103.49	5041	0.60	0.61	76.3	76.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	44.58	99.69	103.49	5038	0.58	0.59	76.3	76.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	45.08	99.69	103.49	5038	0.56	0.56	76.3	76.1
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	45.58	99.69	103.49	5037	0.54	0.54	76.3	76.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	46.08	99.69	103.49	5037	0.53	0.53	76.4	76.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	46.58	99.69	103.49	5037	0.51	0.51	76.4	76.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	47.08	99.69	103.49	5036	0.49	0.49	76.4	76.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	47.58	99.69	103.49	5036	0.47	0.48	76.4	76.2
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	48.08	99.69	103.49	5036	0.46	0.46	76.4	76.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	48.58	99.69	103.49	5036	0.44	0.44	76.5	76.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	49.08	99.69	103.49	5035	0.43	0.43	76.5	76.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	49.58	99.69	103.49	5035	0.41	0.41	76.5	76.3
ORANGE025Y024HR	EX_4AFDOT138	PROPOSE	50.00	99.69	103.49	5035	0.40	0.40	76.5	76.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	0.00	99.53	103.49	5697	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	0.25	99.51	103.49	5661	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	0.50	99.51	103.49	5663	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	0.75	99.51	103.49	5663	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	1.00	99.51	103.49	5664	0.00	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	1.25	99.52	103.49	5666	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	1.50	99.52	103.49	5667	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	1.75	99.52	103.49	5670	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	2.00	99.52	103.49	5673	0.01	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	2.25	99.52	103.49	5684	0.06	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	2.50	99.54	103.49	5807	0.14	0.00	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	2.75	99.57	103.49	4244	0.22	0.04	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	3.00	99.60	103.49	4510	0.29	0.18	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	3.25	99.61	103.49	4655	0.37	0.31	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	3.50	99.62	103.49	4737	0.42	0.38	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	3.75	99.63	103.49	4792	0.45	0.42	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	4.00	99.63	103.49	4825	0.48	0.46	0.0	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	4.25	99.64	103.49	4849	0.51	0.49	0.1	0.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	4.50	99.64	103.49	4870	0.54	0.52	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	4.75	99.64	103.49	4889	0.57	0.55	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	5.00	99.65	103.49	4908	0.60	0.58	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	5.25	99.65	103.49	4925	0.63	0.61	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	5.50	99.65	103.49	4944	0.66	0.64	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	5.75	99.66	103.49	4963	0.70	0.68	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	6.00	99.66	103.49	4982	0.73	0.72	0.1	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	6.25	99.66	103.49	5000	0.77	0.75	0.2	0.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	6.50	99.67	103.49	5016	0.80	0.78	0.2	0.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	6.75	99.67	103.49	5021	0.83	0.81	0.2	0.2

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	7.00	99.67	103.49	5025	0.86	0.84	0.2	0.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	7.25	99.68	103.49	5030	0.97	0.90	0.2	0.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	7.50	99.70	103.49	5059	1.45	1.29	0.3	0.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	7.75	99.72	103.49	5085	1.66	1.59	0.3	0.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	8.00	99.73	103.49	5092	1.75	1.73	0.3	0.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	8.25	99.73	103.49	5094	1.78	1.77	0.4	0.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	8.50	99.73	103.49	5096	1.80	1.80	0.4	0.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	8.75	99.73	103.49	5097	1.82	1.82	0.4	0.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	9.00	99.73	103.49	5099	1.84	1.84	0.5	0.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	9.25	99.73	103.49	5100	1.86	1.86	0.5	0.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	9.50	99.74	103.49	5101	1.88	1.87	0.5	0.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	9.75	99.74	103.49	5103	1.90	1.89	0.6	0.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	10.00	99.74	103.49	5104	1.92	1.91	0.6	0.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	10.25	99.74	103.49	5105	1.93	1.93	0.7	0.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	10.50	99.74	103.49	5106	1.95	1.94	0.7	0.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	10.75	99.74	103.49	5106	1.91	1.94	0.7	0.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	11.00	99.74	103.49	5107	1.96	1.94	0.8	0.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	11.25	99.74	103.49	5109	1.99	1.98	0.8	0.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	11.50	99.74	103.49	5110	2.01	2.00	0.9	0.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	11.75	99.74	103.49	5111	2.02	2.02	0.9	0.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	12.00	99.74	103.49	5112	2.04	2.03	1.0	0.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	12.25	99.74	103.49	5113	2.05	2.05	1.0	1.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	12.42	99.74	103.49	5114	2.06	2.06	1.0	1.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	12.58	99.75	103.49	5114	2.07	2.07	1.1	1.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	12.75	99.75	103.49	5115	2.08	2.08	1.1	1.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	12.92	99.75	103.49	5115	2.09	2.09	1.1	1.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	13.08	99.75	103.49	5116	2.10	2.10	1.1	1.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	13.25	99.75	103.49	5116	2.11	2.10	1.2	1.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	13.42	99.75	103.49	5117	2.12	2.11	1.2	1.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	13.58	99.75	103.49	5118	2.13	2.12	1.2	1.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	13.75	99.75	103.49	5118	2.13	2.13	1.3	1.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	13.92	99.75	103.49	5119	2.14	2.14	1.3	1.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	14.08	99.75	103.49	5119	2.15	2.15	1.3	1.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	14.25	99.75	103.49	5120	2.16	2.16	1.3	1.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	14.42	99.75	103.49	5121	2.17	2.16	1.4	1.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	14.58	99.75	103.49	5121	2.18	2.17	1.4	1.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	14.75	99.75	103.49	5122	2.18	2.18	1.4	1.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	14.92	99.75	103.49	5123	2.19	2.19	1.5	1.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	15.08	99.75	103.49	5123	2.20	2.20	1.5	1.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	15.25	99.75	103.49	5124	2.21	2.20	1.5	1.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	15.42	99.75	103.49	5125	2.22	2.21	1.6	1.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	15.58	99.75	103.49	5125	2.22	2.22	1.6	1.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	15.75	99.75	103.49	5126	2.23	2.23	1.6	1.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	15.92	99.76	103.49	5127	2.24	2.23	1.6	1.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	16.08	99.76	103.49	5127	2.24	2.24	1.7	1.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	16.25	99.76	103.49	5128	2.25	2.25	1.7	1.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	16.42	99.76	103.49	5129	2.26	2.26	1.7	1.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	16.58	99.76	103.49	5129	2.27	2.26	1.8	1.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	16.75	99.76	103.49	5130	2.27	2.27	1.8	1.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	16.92	99.76	103.49	5130	2.28	2.28	1.8	1.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	17.08	99.76	103.49	5131	2.29	2.28	1.9	1.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	17.25	99.76	103.49	5132	2.29	2.29	1.9	1.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	17.42	99.76	103.49	5132	2.30	2.30	1.9	1.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	17.58	99.76	103.49	5133	2.31	2.30	2.0	1.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	17.75	99.76	103.49	5133	2.31	2.31	2.0	2.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	17.92	99.76	103.49	5134	2.32	2.32	2.0	2.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	18.08	99.76	103.49	5134	2.33	2.32	2.1	2.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	18.25	99.76	103.49	5135	2.33	2.33	2.1	2.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	18.42	99.76	103.49	5135	2.34	2.33	2.1	2.1

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	18.58	99.76	103.49	5136	2.34	2.34	2.2	2.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	18.75	99.76	103.49	5136	2.35	2.35	2.2	2.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	18.92	99.76	103.49	5137	2.36	2.35	2.2	2.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	19.08	99.76	103.49	5137	2.36	2.36	2.2	2.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	19.25	99.76	103.49	5138	2.37	2.36	2.3	2.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	19.42	99.76	103.49	5138	2.37	2.37	2.3	2.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	19.58	99.76	103.49	5139	2.38	2.38	2.3	2.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	19.75	99.76	103.49	5139	2.38	2.38	2.4	2.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	19.92	99.77	103.49	5140	2.39	2.39	2.4	2.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	20.08	99.77	103.49	5140	2.40	2.39	2.4	2.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	20.25	99.77	103.49	5141	2.40	2.40	2.5	2.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	20.42	99.77	103.49	5141	2.41	2.40	2.5	2.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	20.58	99.77	103.49	5142	2.41	2.41	2.5	2.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	20.75	99.77	103.49	5142	2.42	2.42	2.6	2.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	20.92	99.77	103.49	5143	2.44	2.43	2.6	2.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	21.08	99.77	103.49	5145	2.46	2.45	2.6	2.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	21.25	99.77	103.49	5146	2.48	2.47	2.7	2.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	21.42	99.77	103.49	5147	2.50	2.49	2.7	2.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	21.58	99.77	103.49	5149	2.51	2.51	2.7	2.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	21.75	99.77	103.49	5150	2.53	2.52	2.8	2.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	21.92	99.77	103.49	5151	2.54	2.53	2.8	2.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	22.08	99.78	103.49	5151	2.55	2.54	2.9	2.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	22.25	99.78	103.49	5152	2.56	2.55	2.9	2.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	22.42	99.78	103.49	5153	2.56	2.56	2.9	2.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	22.58	99.78	103.49	5153	2.57	2.57	3.0	2.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	22.75	99.78	103.49	5154	2.58	2.57	3.0	3.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	22.92	99.78	103.49	5154	2.58	2.58	3.0	3.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	23.08	99.78	103.49	5155	2.59	2.59	3.1	3.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	23.25	99.78	103.49	5155	2.59	2.59	3.1	3.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	23.42	99.78	103.49	5156	2.60	2.60	3.1	3.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	23.58	99.78	103.49	5156	2.60	2.60	3.2	3.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	23.75	99.78	103.49	5157	2.61	2.61	3.2	3.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	23.92	99.78	103.49	5157	2.62	2.61	3.2	3.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	24.08	99.78	103.49	5159	2.63	2.61	3.3	3.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	24.25	99.78	103.49	5165	2.67	2.63	3.3	3.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	24.42	99.79	103.49	5169	2.73	2.70	3.4	3.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	24.58	99.79	103.49	5174	2.80	2.77	3.4	3.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	24.75	99.80	103.49	5179	2.86	2.83	3.4	3.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	24.92	99.80	103.49	5184	2.93	2.90	3.5	3.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	25.08	99.80	103.49	5188	2.99	2.96	3.5	3.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	25.25	99.81	103.49	5192	3.05	3.02	3.6	3.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	25.42	99.81	103.49	5197	3.11	3.08	3.6	3.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	25.58	99.81	103.49	5201	3.16	3.14	3.6	3.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	25.75	99.82	103.49	5204	3.21	3.19	3.7	3.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	25.92	99.82	103.49	5207	3.25	3.23	3.7	3.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	26.08	99.82	103.49	5210	3.29	3.27	3.8	3.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	26.25	99.82	103.49	5213	3.33	3.31	3.8	3.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	26.42	99.83	103.49	5216	3.36	3.34	3.9	3.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	26.58	99.83	103.49	5218	3.39	3.38	3.9	3.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	26.75	99.83	103.49	5220	3.42	3.41	4.0	3.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	26.92	99.83	103.49	5222	3.45	3.43	4.0	4.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	27.08	99.83	103.49	5224	3.47	3.46	4.1	4.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	27.25	99.83	103.49	5226	3.49	3.48	4.1	4.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	27.42	99.83	103.49	5227	3.51	3.50	4.1	4.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	27.58	99.84	103.49	5229	3.54	3.52	4.2	4.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	27.75	99.84	103.49	5230	3.55	3.54	4.2	4.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	27.92	99.84	103.49	5232	3.57	3.56	4.3	4.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	28.08	99.84	103.49	5233	3.59	3.58	4.3	4.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	28.25	99.84	103.49	5235	3.61	3.60	4.4	4.4

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	28.42	99.84	103.49	5236	3.62	3.62	4.4	4.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	28.58	99.84	103.49	5237	3.64	3.63	4.5	4.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	28.75	99.84	103.49	5238	3.66	3.65	4.5	4.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	28.92	99.84	103.49	5239	3.67	3.66	4.6	4.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	29.08	99.84	103.49	5240	3.69	3.68	4.6	4.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	29.25	99.85	103.49	5241	3.70	3.69	4.7	4.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	29.42	99.85	103.49	5242	3.71	3.71	4.7	4.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	29.58	99.85	103.49	5243	3.73	3.72	4.8	4.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	29.75	99.85	103.49	5244	3.74	3.73	4.8	4.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	29.92	99.85	103.49	5245	3.75	3.75	4.9	4.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	30.08	99.85	103.49	5247	3.78	3.77	5.0	4.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	30.25	99.85	103.49	5249	3.82	3.80	5.0	5.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	30.42	99.85	103.49	5251	3.86	3.84	5.1	5.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	30.58	99.86	103.49	5254	3.89	3.88	5.1	5.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	30.75	99.86	103.49	5256	3.93	3.91	5.2	5.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	30.92	99.86	103.49	5258	3.95	3.94	5.2	5.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	31.08	99.86	103.49	5259	3.97	3.96	5.3	5.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	31.25	99.86	103.49	5261	3.99	3.98	5.3	5.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	31.42	99.86	103.49	5262	4.01	4.00	5.4	5.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	31.58	99.86	103.49	5263	4.02	4.02	5.4	5.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	31.75	99.86	103.49	5264	4.04	4.03	5.5	5.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	31.92	99.87	103.49	5265	4.05	4.04	5.6	5.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	32.08	99.87	103.49	5266	4.07	4.06	5.6	5.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	32.25	99.87	103.49	5267	4.08	4.07	5.7	5.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	32.42	99.87	103.49	5268	4.09	4.09	5.7	5.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	32.58	99.87	103.49	5269	4.11	4.10	5.8	5.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	32.75	99.87	103.49	5270	4.12	4.11	5.8	5.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	32.92	99.87	103.49	5271	4.13	4.13	5.9	5.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	33.08	99.87	103.49	5272	4.15	4.14	5.9	5.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	33.25	99.87	103.49	5272	4.16	4.15	6.0	6.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	33.42	99.87	103.49	5273	4.17	4.17	6.1	6.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	33.58	99.87	103.49	5274	4.19	4.18	6.1	6.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	33.75	99.87	103.49	5275	4.20	4.19	6.2	6.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	33.92	99.87	103.49	5276	4.21	4.20	6.2	6.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	34.08	99.88	103.49	5277	4.22	4.22	6.3	6.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	34.25	99.88	103.49	5277	4.24	4.23	6.4	6.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	34.42	99.88	103.49	5278	4.25	4.24	6.4	6.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	34.58	99.88	103.49	5279	4.26	4.25	6.5	6.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	34.75	99.88	103.49	5280	4.27	4.27	6.5	6.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	34.92	99.88	103.49	5281	4.28	4.28	6.6	6.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	35.08	99.88	103.49	5281	4.30	4.29	6.6	6.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	35.25	99.88	103.49	5282	4.31	4.30	6.7	6.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	35.42	99.88	103.49	5283	4.32	4.31	6.8	6.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	35.58	99.88	103.49	5284	4.33	4.32	6.8	6.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	35.75	99.88	103.49	5284	4.34	4.34	6.9	6.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	35.92	99.88	103.49	5285	4.35	4.35	6.9	6.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	36.08	99.88	103.49	5286	4.36	4.36	7.0	7.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	36.25	99.88	103.49	5287	4.38	4.37	7.1	7.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	36.42	99.89	103.49	5288	4.39	4.38	7.1	7.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	36.58	99.89	103.49	5288	4.40	4.40	7.2	7.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	36.75	99.89	103.49	5289	4.42	4.41	7.2	7.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	36.92	99.89	103.49	5290	4.43	4.42	7.3	7.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	37.08	99.89	103.49	5291	4.44	4.44	7.4	7.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	37.25	99.89	103.49	5292	4.46	4.45	7.4	7.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	37.42	99.89	103.49	5293	4.47	4.46	7.5	7.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	37.58	99.89	103.49	5294	4.48	4.48	7.6	7.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	37.75	99.89	103.49	5294	4.49	4.49	7.6	7.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	37.92	99.89	103.49	5295	4.51	4.50	7.7	7.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	38.08	99.89	103.49	5296	4.52	4.51	7.7	7.7

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	38.25	99.89	103.49	5297	4.53	4.52	7.8	7.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	38.42	99.89	103.49	5298	4.55	4.54	7.9	7.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	38.58	99.89	103.49	5299	4.56	4.55	7.9	7.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	38.75	99.90	103.49	5300	4.58	4.57	8.0	7.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	38.92	99.90	103.49	5301	4.59	4.58	8.0	8.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	39.08	99.90	103.49	5302	4.61	4.60	8.1	8.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	39.25	99.90	103.49	5303	4.63	4.62	8.2	8.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	39.42	99.90	103.49	5304	4.64	4.63	8.2	8.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	39.58	99.90	103.49	5305	4.66	4.65	8.3	8.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	39.75	99.90	103.49	5306	4.67	4.67	8.4	8.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	39.92	99.90	103.49	5307	4.69	4.68	8.4	8.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	40.08	99.90	103.49	5308	4.71	4.70	8.5	8.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	40.25	99.90	103.49	5309	4.72	4.71	8.6	8.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	40.42	99.90	103.49	5310	4.74	4.73	8.6	8.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	40.58	99.91	103.49	5311	4.75	4.74	8.7	8.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	40.75	99.91	103.49	5312	4.76	4.76	8.8	8.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	40.92	99.91	103.49	5313	4.78	4.77	8.8	8.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	41.08	99.91	103.49	5314	4.79	4.79	8.9	8.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	41.25	99.91	103.49	5315	4.81	4.80	9.0	8.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	41.42	99.91	103.49	5315	4.82	4.81	9.0	9.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	41.58	99.91	103.49	5316	4.83	4.83	9.1	9.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	41.75	99.91	103.49	5317	4.85	4.84	9.2	9.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	41.92	99.91	103.49	5318	4.86	4.85	9.2	9.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	42.08	99.91	103.49	5319	4.87	4.86	9.3	9.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	42.25	99.91	103.49	5319	4.88	4.88	9.4	9.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	42.42	99.91	103.49	5320	4.89	4.89	9.4	9.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	42.58	99.91	103.49	5321	4.91	4.90	9.5	9.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	42.75	99.91	103.49	5322	4.92	4.91	9.6	9.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	42.92	99.92	103.49	5322	4.93	4.92	9.6	9.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	43.08	99.92	103.49	5323	4.94	4.93	9.7	9.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	43.25	99.92	103.49	5324	4.95	4.94	9.8	9.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	43.42	99.92	103.49	5325	4.96	4.96	9.8	9.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	43.58	99.92	103.49	5325	4.97	4.97	9.9	9.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	43.75	99.92	103.49	5326	4.98	4.98	10.0	9.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	43.92	99.92	103.49	5327	4.99	4.99	10.0	10.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	44.08	99.92	103.49	5327	5.00	5.00	10.1	10.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	44.25	99.92	103.49	5328	5.01	5.01	10.2	10.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	44.42	99.92	103.49	5329	5.02	5.02	10.2	10.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	44.58	99.92	103.49	5329	5.03	5.03	10.3	10.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	44.75	99.92	103.49	5330	5.04	5.04	10.4	10.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	44.92	99.92	103.49	5331	5.05	5.05	10.5	10.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	45.08	99.92	103.49	5331	5.06	5.06	10.5	10.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	45.25	99.92	103.49	5332	5.07	5.07	10.6	10.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	45.42	99.92	103.49	5332	5.08	5.08	10.7	10.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	45.58	99.92	103.49	5333	5.09	5.09	10.7	10.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	45.75	99.93	103.49	5334	5.10	5.10	10.8	10.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	45.92	99.93	103.49	5334	5.11	5.11	10.9	10.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	46.08	99.93	103.49	5335	5.12	5.12	10.9	10.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	46.25	99.93	103.49	5335	5.13	5.12	11.0	11.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	46.42	99.93	103.49	5336	5.14	5.13	11.1	11.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	46.58	99.93	103.49	5337	5.15	5.14	11.2	11.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	46.75	99.93	103.49	5337	5.16	5.15	11.2	11.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	46.92	99.93	103.49	5338	5.17	5.16	11.3	11.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	47.08	99.93	103.49	5338	5.18	5.17	11.4	11.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	47.25	99.93	103.49	5339	5.18	5.18	11.4	11.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	47.42	99.93	103.49	5340	5.19	5.19	11.5	11.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	47.58	99.93	103.49	5340	5.20	5.20	11.6	11.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	47.75	99.93	103.49	5341	5.21	5.21	11.7	11.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	47.92	99.93	103.49	5342	5.23	5.22	11.7	11.7

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	48.08	99.93	103.49	5344	5.28	5.25	11.8	11.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	48.33	99.94	103.49	5349	5.38	5.35	11.9	11.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	48.58	99.95	103.49	5356	5.49	5.46	12.0	12.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	48.83	99.95	103.49	5362	5.59	5.56	12.1	12.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	49.08	99.96	103.49	5367	5.67	5.64	12.3	12.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	49.33	99.96	103.49	5372	5.74	5.72	12.4	12.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	49.58	99.96	103.49	5377	5.81	5.79	12.5	12.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	49.83	99.97	103.49	5381	5.88	5.86	12.6	12.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	50.08	99.97	103.49	5385	5.95	5.92	12.7	12.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	50.33	99.98	103.49	5392	6.08	6.03	12.9	12.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	50.58	99.99	103.49	5402	6.25	6.19	13.0	12.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	50.83	99.99	103.49	5412	6.42	6.36	13.1	13.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	51.08	100.00	103.49	5422	6.58	6.52	13.2	13.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	51.33	100.01	103.49	5433	6.76	6.70	13.4	13.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	51.58	100.02	103.49	5444	6.94	6.88	13.5	13.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	51.83	100.03	103.49	5455	7.11	7.06	13.7	13.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	52.08	100.04	103.49	5465	7.29	7.23	13.8	13.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	52.33	100.05	103.49	5482	7.62	7.51	14.0	13.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	52.58	100.07	103.49	5505	8.02	7.90	14.1	14.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	52.83	100.09	103.49	5528	8.42	8.30	14.3	14.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	53.08	100.14	103.49	5576	9.10	9.19	14.5	14.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	53.33	100.14	103.49	5581	9.35	9.24	14.7	14.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	53.58	100.17	103.49	5608	9.87	9.71	14.9	14.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	53.83	100.19	103.49	5636	10.37	10.22	15.1	15.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	54.08	100.21	103.49	5662	10.84	10.69	15.3	15.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	54.33	100.24	103.49	5693	11.45	11.26	15.5	15.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	54.58	100.27	103.49	5727	12.09	11.90	15.8	15.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	54.83	100.30	103.49	5759	12.68	12.51	16.0	15.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	55.08	100.33	103.49	5788	13.24	13.07	16.3	16.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	55.33	100.35	103.49	5820	13.89	13.69	16.6	16.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	55.58	100.38	103.49	5853	14.55	14.36	16.9	16.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	55.83	100.41	103.49	5883	15.12	14.97	17.2	17.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	56.08	100.43	103.49	5909	15.64	15.49	17.5	17.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	56.33	100.46	103.49	5940	16.36	16.15	17.8	17.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	56.58	100.49	103.49	5976	17.13	16.92	18.2	18.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	56.83	100.52	103.49	6009	17.81	17.63	18.5	18.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	57.08	100.55	103.49	6037	18.43	18.25	18.9	18.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	57.33	100.58	103.49	6073	19.33	19.09	19.3	19.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	57.58	100.62	103.49	6112	20.38	20.14	19.7	19.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	57.83	100.65	103.49	6152	21.49	21.24	20.1	20.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	58.08	100.69	103.49	6190	22.57	22.33	20.6	20.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	58.33	100.73	103.49	6232	23.79	23.52	21.1	20.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	58.58	100.77	103.49	6326	25.09	24.70	21.6	21.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	58.83	100.83	103.49	6401	27.40	26.88	22.1	22.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	59.08	100.91	103.49	6487	30.29	29.62	22.7	22.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	59.33	101.03	103.49	6626	35.43	34.28	23.4	23.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	59.58	101.27	103.49	6884	47.68	43.70	24.3	24.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	59.83	102.00	103.49	12406	88.44	80.58	25.7	25.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	60.08	102.72	103.49	14287	128.56	117.33	27.9	27.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	60.33	103.15	103.49	15362	156.47	153.56	30.9	30.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	60.58	103.22	103.49	15479	160.89	160.93	34.1	33.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	60.83	103.17	103.49	15350	156.53	158.09	37.4	36.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	61.08	103.05	103.49	15039	147.65	149.93	40.6	39.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	61.33	102.90	103.49	14655	135.86	138.56	43.5	42.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	61.58	102.73	103.49	14201	123.90	126.68	46.2	45.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	61.83	102.55	103.49	13746	112.30	115.03	48.6	48.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	62.08	102.38	103.49	13295	101.45	104.03	50.8	50.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	62.33	102.20	103.49	12889	91.04	93.57	52.8	52.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	62.58	102.03	103.49	12481	81.39	83.64	54.6	54.2

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	62.83	101.89	103.49	12170	73.70	75.45	56.2	55.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	63.08	101.89	103.49	12302	66.91	67.41	57.6	57.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	63.33	101.85	103.49	12229	64.09	64.72	59.0	58.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	63.58	101.80	103.49	12125	61.79	62.45	60.3	60.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	63.83	101.76	103.49	12023	59.75	60.34	61.5	61.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	64.08	101.71	103.49	11928	57.86	58.46	62.8	62.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	64.33	101.66	103.49	11804	55.26	56.09	63.9	63.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	64.58	101.59	103.49	11655	52.29	53.17	65.0	64.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	64.83	101.50	103.49	11431	49.75	51.00	66.1	65.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	65.08	101.42	103.49	11240	47.03	47.93	67.1	66.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	65.33	101.35	103.49	11087	44.60	45.35	68.0	67.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	65.58	101.29	103.49	10957	42.51	43.15	68.9	68.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	65.83	101.25	103.49	10845	40.76	41.29	69.8	69.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	66.08	101.21	103.49	10751	39.30	39.75	70.6	70.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	66.33	101.17	103.49	10669	38.06	38.45	71.4	71.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	66.58	101.14	103.49	10599	37.01	37.33	72.2	72.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	66.83	101.11	103.49	10536	36.07	36.36	73.0	72.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	67.08	101.09	103.49	10480	35.25	35.50	73.7	73.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	67.33	101.07	103.49	10430	34.52	34.74	74.4	74.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	67.58	101.05	103.49	10374	33.70	34.00	75.1	75.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	67.83	101.03	103.49	10306	32.88	33.11	75.8	75.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	68.08	101.01	103.49	10263	32.25	32.46	76.5	76.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	68.33	100.99	103.49	10211	31.31	31.62	77.1	77.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	68.58	100.95	103.49	10132	30.09	30.48	77.8	77.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	68.83	100.92	103.49	10056	28.97	29.31	78.4	78.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	69.08	100.89	103.49	9989	28.03	28.32	79.0	78.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	69.33	100.87	103.49	9932	27.24	27.49	79.5	79.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	69.58	100.85	103.49	9882	26.57	26.78	80.1	80.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	69.83	100.83	103.49	9839	25.99	26.17	80.6	80.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	70.08	100.81	103.49	6387	25.52	25.66	81.2	81.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	70.33	100.80	103.49	6365	25.03	25.13	81.7	81.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	70.58	100.78	103.49	6348	24.62	24.71	82.2	82.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	70.83	100.77	103.49	6333	24.26	24.34	82.7	82.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	71.08	100.76	103.49	6320	23.92	24.00	83.2	83.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	71.33	100.75	103.49	6306	23.61	23.68	83.7	83.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	71.58	100.74	103.49	6294	23.31	23.37	84.2	84.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	71.83	100.73	103.49	6281	23.00	23.07	84.7	84.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	72.08	100.72	103.49	6268	22.61	22.72	85.1	85.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	72.33	100.69	103.49	6233	21.47	21.77	85.6	85.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	72.58	100.64	103.49	6173	19.73	20.12	86.0	86.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	72.83	100.59	103.49	6108	18.13	18.48	86.4	86.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	73.08	100.53	103.49	6047	16.83	17.16	86.8	86.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	73.33	100.49	103.49	5994	15.80	16.07	87.1	87.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	73.58	100.45	103.49	5948	14.92	15.16	87.4	87.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	73.83	100.42	103.49	5908	14.18	14.39	87.7	87.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	74.08	100.39	103.49	5873	13.54	13.72	88.0	88.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	74.33	100.36	103.49	5841	12.97	13.13	88.3	88.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	74.58	100.34	103.49	5811	12.45	12.60	88.5	88.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	74.83	100.32	103.49	5784	11.97	12.11	88.8	88.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	75.08	100.27	103.49	5697	11.58	11.84	89.0	89.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	75.33	100.23	103.49	5658	10.94	11.12	89.3	89.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	75.58	100.21	103.49	5627	10.37	10.54	89.5	89.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	75.83	100.18	103.49	5597	9.84	9.99	89.7	89.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	76.08	100.16	103.49	5569	9.35	9.50	89.9	90.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	76.33	100.13	103.49	5544	8.91	9.04	90.1	90.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	76.58	100.11	103.49	5520	8.50	8.63	90.3	90.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	76.83	100.09	103.49	5499	8.14	8.25	90.4	90.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	77.08	100.08	103.49	5479	7.80	7.90	90.6	90.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	77.33	100.06	103.49	5461	7.49	7.58	90.8	90.8

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	77.58	100.04	103.49	5444	7.20	7.29	90.9	91.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	77.83	100.03	103.49	5428	6.93	7.01	91.1	91.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	78.08	100.02	103.49	5413	6.68	6.76	91.2	91.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	78.33	100.01	103.49	5399	6.45	6.52	91.3	91.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	78.58	99.99	103.49	5386	6.23	6.30	91.5	91.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	78.83	99.98	103.49	5373	8.46	6.09	91.6	91.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	79.08	99.97	103.49	5361	8.40	5.89	91.8	91.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	79.33	99.96	103.49	5350	3.06	5.70	91.9	91.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	79.58	99.95	103.49	5335	4.48	5.42	92.0	92.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	79.83	99.94	103.49	5325	5.26	5.28	92.1	92.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	80.08	99.93	103.49	5319	5.12	5.16	92.2	92.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	80.33	99.93	103.49	5309	4.95	5.01	92.3	92.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	80.58	99.92	103.49	5299	4.77	4.83	92.4	92.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	80.83	99.91	103.49	5286	4.53	4.61	92.5	92.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	81.08	99.89	103.49	5268	4.18	4.30	92.6	92.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	81.33	99.87	103.49	5246	3.80	3.91	92.7	92.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	81.58	99.85	103.49	5224	3.44	3.54	92.8	92.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	81.83	99.83	103.49	5205	3.13	3.22	92.8	92.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	82.08	99.82	103.49	5189	2.86	2.94	92.9	92.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	82.33	99.81	103.49	5175	2.65	2.71	92.9	93.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	82.58	99.80	103.49	5164	2.47	2.52	93.0	93.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	82.83	99.79	103.49	5155	2.32	2.36	93.0	93.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	83.08	99.78	103.49	5147	2.19	2.23	93.1	93.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	83.33	99.78	103.49	5140	2.08	2.11	93.1	93.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	83.58	99.77	103.49	5134	1.98	2.01	93.2	93.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	83.83	99.77	103.49	5128	1.89	1.91	93.2	93.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	84.08	99.76	103.49	5123	1.81	1.83	93.3	93.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	84.33	99.76	103.49	5119	1.73	1.75	93.3	93.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	84.58	99.75	103.49	5114	1.66	1.68	93.3	93.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	84.83	99.75	103.49	5110	1.59	1.61	93.4	93.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	85.08	99.75	103.49	5107	1.53	1.55	93.4	93.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	85.33	99.74	103.49	5103	1.48	1.49	93.4	93.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	85.58	99.74	103.49	5100	1.42	1.44	93.4	93.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	85.83	99.74	103.49	5097	1.37	1.39	93.5	93.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	86.08	99.74	103.49	5094	1.33	1.34	93.5	93.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	86.33	99.73	103.49	5091	1.29	1.30	93.5	93.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	86.58	99.73	103.49	5089	1.25	1.26	93.6	93.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	86.83	99.73	103.49	5087	1.22	1.23	93.6	93.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	87.08	99.73	103.49	5084	1.18	1.19	93.6	93.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	87.33	99.73	103.49	5082	1.15	1.16	93.6	93.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	87.58	99.73	103.49	5080	1.12	1.13	93.7	93.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	87.83	99.73	103.49	5079	1.13	1.13	93.7	93.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	88.08	99.72	103.49	5078	1.10	1.11	93.7	93.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	88.33	99.72	103.49	5076	1.06	1.07	93.7	93.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	88.58	99.72	103.49	5074	1.02	1.03	93.7	93.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	88.83	99.72	103.49	5071	0.99	1.00	93.8	93.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	89.08	99.72	103.49	5070	0.96	0.97	93.8	93.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	89.33	99.72	103.49	5068	0.93	0.94	93.8	93.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	89.58	99.71	103.49	5066	0.91	0.91	93.8	93.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	89.83	99.71	103.49	5064	0.88	0.89	93.8	93.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	90.08	99.71	103.49	5063	0.86	0.87	93.9	93.9
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	90.33	99.71	103.49	5061	0.84	0.84	93.9	94.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	90.58	99.71	103.49	5059	0.82	0.82	93.9	94.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	90.83	99.71	103.49	5058	0.80	0.80	93.9	94.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	91.08	99.71	103.49	5056	0.78	0.78	93.9	94.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	91.33	99.71	103.49	5055	0.76	0.76	93.9	94.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	91.58	99.70	103.49	5054	0.74	0.74	94.0	94.0
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	91.83	99.70	103.49	5052	0.72	0.73	94.0	94.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	92.08	99.70	103.49	5051	0.71	0.71	94.0	94.1

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	92.33	99.70	103.49	5050	0.70	0.70	94.0	94.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	92.58	99.70	103.49	5049	0.68	0.69	94.0	94.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	92.83	99.70	103.49	5048	0.67	0.68	94.0	94.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	93.08	99.70	103.49	5046	0.66	0.66	94.0	94.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	93.33	99.70	103.49	5045	0.65	0.65	94.1	94.1
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	93.58	99.70	103.49	5044	0.64	0.64	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	93.83	99.70	103.49	5043	0.63	0.63	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	94.08	99.70	103.49	5042	0.61	0.62	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	94.33	99.69	103.49	5041	0.60	0.61	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	94.58	99.69	103.49	5040	0.59	0.60	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	94.83	99.69	103.49	5039	0.58	0.59	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	95.08	99.69	103.49	5038	0.57	0.57	94.1	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	95.33	99.69	103.49	5038	0.56	0.56	94.2	94.2
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	95.58	99.69	103.49	5037	0.55	0.55	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	95.83	99.69	103.49	5037	0.54	0.54	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	96.08	99.69	103.49	5037	0.53	0.53	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	96.33	99.69	103.49	5037	0.52	0.52	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	96.58	99.69	103.49	5037	0.51	0.51	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	96.83	99.69	103.49	5037	0.50	0.50	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	97.08	99.69	103.49	5036	0.50	0.50	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	97.33	99.69	103.49	5036	0.49	0.49	94.2	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	97.58	99.69	103.49	5036	0.48	0.48	94.3	94.3
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	97.83	99.69	103.49	5036	0.47	0.47	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	98.08	99.69	103.49	5036	0.46	0.46	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	98.33	99.69	103.49	5036	0.45	0.45	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	98.58	99.69	103.49	5036	0.44	0.44	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	98.83	99.69	103.49	5036	0.43	0.44	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	99.08	99.69	103.49	5035	0.43	0.43	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	99.33	99.69	103.49	5035	0.42	0.42	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	99.58	99.69	103.49	5035	0.41	0.41	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	99.83	99.69	103.49	5035	0.40	0.40	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	100.08	99.69	103.49	5035	0.39	0.39	94.3	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	100.33	99.69	103.49	5035	0.38	0.38	94.4	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	100.58	99.69	103.49	5035	0.37	0.37	94.4	94.4
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	100.83	99.69	103.49	5035	0.37	0.37	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	101.08	99.69	103.49	5035	0.36	0.36	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	101.33	99.69	103.49	5034	0.35	0.35	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	101.58	99.69	103.49	5034	0.34	0.34	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	101.83	99.69	103.49	5034	0.33	0.33	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	102.08	99.69	103.49	5034	0.32	0.32	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	102.33	99.69	103.49	5034	0.32	0.32	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	102.58	99.69	103.49	5034	0.31	0.31	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	102.83	99.69	103.49	5034	0.30	0.30	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	103.08	99.69	103.49	5034	0.29	0.29	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	103.33	99.69	103.49	5034	0.28	0.28	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	103.58	99.69	103.49	5034	0.28	0.28	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	103.83	99.69	103.49	5034	0.27	0.27	94.4	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	104.08	99.69	103.49	5034	0.26	0.26	94.5	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	104.33	99.69	103.49	5034	0.26	0.26	94.5	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	104.58	99.69	103.49	5034	0.31	0.30	94.5	94.5
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	104.83	99.69	103.49	5034	0.25	0.25	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	105.08	99.69	103.49	5033	0.24	0.24	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	105.33	99.68	103.49	5017	0.27	0.34	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	105.58	99.67	103.49	5007	0.24	0.27	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	105.83	99.66	103.49	5002	0.23	0.24	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	106.08	99.66	103.49	4999	0.22	0.23	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	106.33	99.66	103.49	4997	0.21	0.22	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	106.58	99.66	103.49	4996	0.21	0.21	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	106.83	99.66	103.49	4995	0.20	0.21	94.5	94.6

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	107.08	99.66	103.49	4993	0.20	0.20	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	107.33	99.66	103.49	4992	0.19	0.20	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	107.58	99.65	103.49	4991	0.19	0.19	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	107.83	99.65	103.49	4989	0.19	0.19	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	108.08	99.65	103.49	4988	0.18	0.19	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	108.33	99.65	103.49	4987	0.18	0.18	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	108.58	99.65	103.49	4983	0.17	0.18	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	108.83	99.65	103.49	4977	0.17	0.18	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	109.08	99.65	103.49	4972	0.17	0.17	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	109.33	99.65	103.49	4966	0.16	0.17	94.5	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	109.58	99.65	103.49	4961	0.16	0.17	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	109.83	99.65	103.49	4955	0.16	0.16	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	110.08	99.64	103.49	4950	0.16	0.16	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	110.33	99.64	103.49	4945	0.15	0.16	94.6	94.6
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	110.58	99.64	103.49	4939	0.15	0.15	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	110.83	99.64	103.49	4934	0.15	0.15	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	111.08	99.64	103.49	4929	0.14	0.15	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	111.33	99.64	103.49	4924	0.14	0.15	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	111.58	99.64	103.49	4919	0.14	0.14	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	111.83	99.64	103.49	4914	0.14	0.14	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	112.08	99.64	103.49	4909	0.14	0.14	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	112.33	99.64	103.49	4904	0.13	0.14	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	112.58	99.64	103.49	4900	0.13	0.13	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	112.83	99.64	103.49	4895	0.13	0.13	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	113.08	99.63	103.49	4890	0.13	0.13	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	113.33	99.63	103.49	4886	0.13	0.13	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	113.58	99.63	103.49	4881	0.12	0.13	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	113.83	99.63	103.49	4877	0.12	0.13	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	114.08	99.63	103.49	4872	0.12	0.12	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	114.33	99.63	103.49	4868	0.12	0.12	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	114.58	99.63	103.49	4864	0.12	0.12	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	114.83	99.63	103.49	4860	0.11	0.12	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	115.08	99.63	103.49	4855	0.11	0.12	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	115.33	99.63	103.49	4851	0.11	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	115.58	99.63	103.49	4847	0.11	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	115.83	99.63	103.49	4843	0.11	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	116.08	99.63	103.49	4839	0.11	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	116.33	99.63	103.49	4835	0.11	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	116.58	99.62	103.49	4831	0.10	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	116.83	99.62	103.49	4828	0.10	0.11	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	117.08	99.62	103.49	4824	0.10	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	117.33	99.62	103.49	4820	0.10	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	117.58	99.62	103.49	4816	0.10	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	117.83	99.62	103.49	4813	0.10	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	118.08	99.62	103.49	4809	0.10	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	118.33	99.62	103.49	4806	0.09	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	118.58	99.62	103.49	4802	0.09	0.10	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	118.83	99.62	103.49	4799	0.09	0.09	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	119.08	99.62	103.49	4795	0.09	0.09	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	119.33	99.62	103.49	4792	0.09	0.09	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	119.58	99.62	103.49	4789	0.09	0.09	94.6	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	119.83	99.62	103.49	4785	0.09	0.09	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	120.08	99.62	103.49	4782	0.09	0.09	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	120.33	99.62	103.49	4779	0.09	0.09	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	120.58	99.62	103.49	4776	0.08	0.09	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	120.83	99.62	103.49	4773	0.08	0.09	94.7	94.7
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	121.08	99.61	103.49	4770	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	121.33	99.61	103.49	4767	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	121.58	99.61	103.49	4764	0.08	0.08	94.7	94.8

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	121.83	99.61	103.49	4761	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	122.08	99.61	103.49	4758	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	122.33	99.61	103.49	4755	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	122.58	99.61	103.49	4752	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	122.83	99.61	103.49	4749	0.08	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	123.08	99.61	103.49	4746	0.07	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	123.33	99.61	103.49	4743	0.07	0.08	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	123.58	99.61	103.49	4741	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	123.83	99.61	103.49	4738	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	124.08	99.61	103.49	4735	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	124.33	99.61	103.49	4733	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	124.58	99.61	103.49	4730	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	124.83	99.61	103.49	4728	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	125.08	99.61	103.49	4725	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	125.33	99.61	103.49	4723	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	125.58	99.61	103.49	4720	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	125.83	99.61	103.49	4718	0.07	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	126.08	99.61	103.49	4715	0.06	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	126.33	99.61	103.49	4713	0.06	0.07	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	126.58	99.60	103.49	4710	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	126.83	99.60	103.49	4708	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	127.08	99.60	103.49	4706	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	127.33	99.60	103.49	4703	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	127.58	99.60	103.49	4701	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	127.83	99.60	103.49	4699	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	128.08	99.60	103.49	4697	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	128.33	99.60	103.49	4695	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	128.58	99.60	103.49	4692	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	128.83	99.60	103.49	4690	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	129.08	99.60	103.49	4688	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	129.33	99.60	103.49	4686	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	129.58	99.60	103.49	4683	0.06	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	129.83	99.60	103.49	4679	0.05	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	130.08	99.60	103.49	4676	0.05	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	130.33	99.60	103.49	4672	0.05	0.06	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	130.58	99.60	103.49	4668	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	130.83	99.60	103.49	4665	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	131.08	99.60	103.49	4661	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	131.33	99.60	103.49	4657	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	131.58	99.60	103.49	4654	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	131.83	99.60	103.49	4650	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	132.08	99.60	103.49	4647	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	132.33	99.60	103.49	4643	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	132.58	99.60	103.49	4640	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	132.83	99.60	103.49	4637	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	133.08	99.60	103.49	4633	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	133.33	99.60	103.49	4630	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	133.58	99.60	103.49	4627	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	133.83	99.59	103.49	4623	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	134.08	99.59	103.49	4620	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	134.33	99.59	103.49	4617	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	134.58	99.59	103.49	4614	0.05	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	134.83	99.59	103.49	4611	0.04	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	135.08	99.59	103.49	4607	0.04	0.05	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	135.33	99.59	103.49	4604	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	135.58	99.59	103.49	4601	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	135.83	99.59	103.49	4598	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	136.08	99.59	103.49	4595	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	136.33	99.59	103.49	4592	0.04	0.04	94.7	94.8

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	136.58	99.59	103.49	4589	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	136.83	99.59	103.49	4586	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	137.08	99.59	103.49	4583	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	137.33	99.59	103.49	4581	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	137.58	99.59	103.49	4578	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	137.83	99.59	103.49	4575	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	138.08	99.59	103.49	4572	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	138.33	99.59	103.49	4569	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	138.58	99.59	103.49	4567	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	138.83	99.59	103.49	4564	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	139.08	99.59	103.49	4561	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	139.33	99.59	103.49	4558	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	139.58	99.59	103.49	4556	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	139.83	99.59	103.49	4553	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	140.08	99.59	103.49	4551	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	140.33	99.59	103.49	4548	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	140.58	99.59	103.49	4545	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	140.83	99.59	103.49	4543	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	141.08	99.59	103.49	4540	0.04	0.04	94.7	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	141.33	99.59	103.49	4538	0.03	0.04	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	141.58	99.59	103.49	4535	0.03	0.04	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	141.83	99.59	103.49	4533	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	142.08	99.59	103.49	4530	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	142.33	99.59	103.49	4528	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	142.58	99.59	103.49	4525	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	142.83	99.59	103.49	4523	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	143.08	99.59	103.49	4521	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	143.33	99.59	103.49	4518	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	143.58	99.59	103.49	4516	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	143.83	99.58	103.49	4514	0.03	0.03	94.8	94.8
SFWMD025Y072HR	EX_4AFDOT138	PROPOSE	144.00	99.58	103.49	4512	0.03	0.03	94.8	94.9

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Node Time Series By Nodes (010Y001H)

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
010Y001HR	EX_4AFDOT138	PROPOSE	0.00	99.53	103.49	5697	0.00	0.00	0.0	0.0
010Y001HR	EX_4AFDOT138	PROPOSE	0.25	99.72	103.49	5064	3.61	1.70	0.0	0.0
010Y001HR	EX_4AFDOT138	PROPOSE	0.50	100.53	103.49	6007	23.60	17.48	0.3	0.2
010Y001HR	EX_4AFDOT138	PROPOSE	0.75	101.26	103.49	10811	52.54	43.36	1.1	0.8
010Y001HR	EX_4AFDOT138	PROPOSE	1.00	101.84	103.49	12115	72.68	70.23	2.4	2.0
010Y001HR	EX_4AFDOT138	PROPOSE	1.25	101.85	103.49	12161	68.50	70.27	3.9	3.5
010Y001HR	EX_4AFDOT138	PROPOSE	1.50	101.61	103.49	11665	54.34	58.51	5.1	4.8
010Y001HR	EX_4AFDOT138	PROPOSE	1.75	101.29	103.49	10939	40.71	44.13	6.1	5.9
010Y001HR	EX_4AFDOT138	PROPOSE	2.00	101.04	103.49	10376	31.79	34.38	6.9	6.7
010Y001HR	EX_4BFDOT138	PROPOSE	0.00	99.53	103.49	536	-2.80	0.00	0.0	0.0
010Y001HR	EX_4BFDOT138	PROPOSE	0.25	99.76	103.49	602	1.65	1.32	-0.0	0.0
010Y001HR	EX_4BFDOT138	PROPOSE	0.50	100.56	103.49	745	12.25	11.43	0.1	0.1
010Y001HR	EX_4BFDOT138	PROPOSE	0.75	101.49	103.49	790	34.49	33.69	0.6	0.6
010Y001HR	EX_4BFDOT138	PROPOSE	1.00	102.10	103.49	783	39.19	39.07	1.4	1.4
010Y001HR	EX_4BFDOT138	PROPOSE	1.25	102.04	103.49	782	33.38	33.57	2.1	2.1
010Y001HR	EX_4BFDOT138	PROPOSE	1.50	101.72	103.49	800	24.17	24.53	2.7	2.7
010Y001HR	EX_4BFDOT138	PROPOSE	1.75	101.34	103.49	808	16.76	17.04	3.1	3.1
010Y001HR	EX_4BFDOT138	PROPOSE	2.00	101.08	103.49	796	13.22	13.43	3.5	3.5
010Y001HR	EX_5FDOT138	PROPOSE	0.00	99.53	106.30	2309	0.13	10.07	0.0	0.0
010Y001HR	EX_5FDOT138	PROPOSE	0.25	99.78	106.30	1457	2.16	1.17	0.0	0.1
010Y001HR	EX_5FDOT138	PROPOSE	0.50	100.77	106.30	1590	11.68	9.59	0.2	0.2
010Y001HR	EX_5FDOT138	PROPOSE	0.75	102.12	106.30	4324	36.79	31.26	0.7	0.6
010Y001HR	EX_5FDOT138	PROPOSE	1.00	102.70	106.30	5097	37.07	36.97	1.4	1.4
010Y001HR	EX_5FDOT138	PROPOSE	1.25	102.48	106.30	5034	29.69	31.82	2.1	2.1
010Y001HR	EX_5FDOT138	PROPOSE	1.50	101.99	106.30	4649	20.30	23.27	2.6	2.6
010Y001HR	EX_5FDOT138	PROPOSE	1.75	101.52	106.30	4259	14.46	16.13	3.0	3.0
010Y001HR	EX_5FDOT138	PROPOSE	2.00	101.22	106.30	4106	11.64	12.85	3.3	3.3
010Y001HR	EX_SW138C1	PROPOSE	0.00	105.47	110.00	835	0.00	0.00	0.0	0.0
010Y001HR	EX_SW138C1	PROPOSE	0.25	105.48	110.00	578	0.01	0.00	0.0	0.0
010Y001HR	EX_SW138C1	PROPOSE	0.50	105.58	110.00	981	0.28	0.08	0.0	0.0
010Y001HR	EX_SW138C1	PROPOSE	0.75	105.76	110.00	2573	1.18	0.64	0.0	0.0
010Y001HR	EX_SW138C1	PROPOSE	1.00	105.93	110.00	3419	2.43	1.93	0.1	0.0
010Y001HR	EX_SW138C1	PROPOSE	1.25	106.03	110.00	3772	3.55	3.22	0.1	0.1
010Y001HR	EX_SW138C1	PROPOSE	1.50	106.09	110.00	3872	4.42	4.21	0.2	0.2
010Y001HR	EX_SW138C1	PROPOSE	1.75	106.13	110.00	3877	5.03	4.90	0.3	0.3
010Y001HR	EX_SW138C1	PROPOSE	2.00	106.15	110.00	3910	5.42	5.35	0.4	0.4
010Y001HR	EX_SW138C3	PROPOSE	0.00	112.03	115.51	113	0.00	0.00	0.0	0.0
010Y001HR	EX_SW138C3	PROPOSE	0.25	112.33	115.51	4201	1.48	0.08	0.0	0.0
010Y001HR	EX_SW138C3	PROPOSE	0.50	113.12	115.51	15153	19.84	1.56	0.2	0.0
010Y001HR	EX_SW138C3	PROPOSE	0.75	113.67	115.51	22711	33.79	26.96	0.8	0.3
010Y001HR	EX_SW138C3	PROPOSE	1.00	113.69	115.51	22984	25.20	28.32	1.4	0.9
010Y001HR	EX_SW138C3	PROPOSE	1.25	113.56	115.51	21262	17.36	20.22	1.8	1.4
010Y001HR	EX_SW138C3	PROPOSE	1.50	113.44	115.51	19500	10.21	13.16	2.1	1.7
010Y001HR	EX_SW138C3	PROPOSE	1.75	113.34	115.51	18086	6.91	8.43	2.3	2.0
010Y001HR	EX_SW138C3	PROPOSE	2.00	113.27	115.51	17125	4.41	5.72	2.4	2.1
010Y001HR	EX_SW138C4	PROPOSE	0.00	113.05	116.55	113	0.00	0.00	0.0	0.0
010Y001HR	EX_SW138C4	PROPOSE	0.25	113.72	116.55	3507	2.77	0.17	0.0	0.0
010Y001HR	EX_SW138C4	PROPOSE	0.50	114.45	116.55	7387	15.28	12.87	0.2	0.1
010Y001HR	EX_SW138C4	PROPOSE	0.75	114.61	116.55	8241	23.10	21.93	0.6	0.5
010Y001HR	EX_SW138C4	PROPOSE	1.00	114.50	116.55	7660	14.10	15.49	1.0	0.9
010Y001HR	EX_SW138C4	PROPOSE	1.25	114.39	116.55	7068	9.05	9.92	1.2	1.1
010Y001HR	EX_SW138C4	PROPOSE	1.50	114.27	116.55	6416	4.00	5.01	1.4	1.3
010Y001HR	EX_SW138C4	PROPOSE	1.75	114.20	116.55	6068	2.61	2.95	1.4	1.4
010Y001HR	EX_SW138C4	PROPOSE	2.00	114.15	116.55	5779	1.23	1.62	1.5	1.4

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Node Time Series By Nodes (010Y001H)

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
010Y001HR	J5FDOT138	PROPOSE	0.00	98.93	105.06	304	10.07	-2.80	0.0	0.0
010Y001HR	J5FDOT138	PROPOSE	0.25	99.78	105.06	333	1.87	1.65	0.1	-0.0
010Y001HR	J5FDOT138	PROPOSE	0.50	100.75	105.06	329	12.66	12.25	0.3	0.1
010Y001HR	J5FDOT138	PROPOSE	0.75	101.97	105.06	175	34.69	34.49	0.8	0.6
010Y001HR	J5FDOT138	PROPOSE	1.00	102.49	105.06	161	39.20	39.19	1.5	1.4
010Y001HR	J5FDOT138	PROPOSE	1.25	102.33	105.06	162	33.32	33.38	2.3	2.1
010Y001HR	J5FDOT138	PROPOSE	1.50	101.91	105.06	206	24.05	24.17	2.9	2.7
010Y001HR	J5FDOT138	PROPOSE	1.75	101.47	105.06	281	16.66	16.76	3.3	3.1
010Y001HR	J5FDOT138	PROPOSE	2.00	101.19	105.06	306	13.13	13.22	3.6	3.5
010Y001HR	SW138C2	PROPOSE	0.00	101.40	106.00	113	0.00	0.13	0.0	0.0
010Y001HR	SW138C2	PROPOSE	0.25	102.03	106.00	3384	2.54	1.61	0.0	0.0
010Y001HR	SW138C2	PROPOSE	0.50	102.26	106.00	4931	11.41	9.43	0.2	0.1
010Y001HR	SW138C2	PROPOSE	0.75	102.69	106.00	7851	37.10	33.67	0.7	0.6
010Y001HR	SW138C2	PROPOSE	1.00	102.90	106.00	9282	33.38	33.94	1.4	1.3
010Y001HR	SW138C2	PROPOSE	1.25	102.70	106.00	7943	23.20	25.78	2.0	1.9
010Y001HR	SW138C2	PROPOSE	1.50	102.40	106.00	5882	14.08	15.90	2.4	2.3
010Y001HR	SW138C2	PROPOSE	1.75	102.26	106.00	4948	8.97	9.45	2.6	2.6
010Y001HR	SW138C2	PROPOSE	2.00	102.18	106.00	4412	5.88	6.26	2.8	2.7

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Node Time Series By Nodes (050Y001H)

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
050Y001HR	EX_4AFDOT138	PROPOSE	0.00	99.53	103.49	5697	0.00	0.00	0.0	0.0
050Y001HR	EX_4AFDOT138	PROPOSE	0.25	99.78	103.49	5131	5.16	2.60	0.1	0.0
050Y001HR	EX_4AFDOT138	PROPOSE	0.50	100.77	103.49	6277	33.39	24.84	0.5	0.3
050Y001HR	EX_4AFDOT138	PROPOSE	0.75	101.72	103.49	11854	76.55	63.18	1.6	1.2
050Y001HR	EX_4AFDOT138	PROPOSE	1.00	102.20	103.49	12862	96.75	94.24	3.4	2.8
050Y001HR	EX_4AFDOT138	PROPOSE	1.25	102.25	103.49	12994	95.60	97.25	5.4	4.8
050Y001HR	EX_4AFDOT138	PROPOSE	1.50	102.11	103.49	12760	80.32	83.65	7.2	6.7
050Y001HR	EX_4AFDOT138	PROPOSE	1.75	101.79	103.49	12073	61.29	66.32	8.6	8.2
050Y001HR	EX_4AFDOT138	PROPOSE	2.00	101.42	103.49	11245	44.27	48.67	9.7	9.4
050Y001HR	EX_4AFDOT138	PROPOSE	2.00	101.42	103.49	11245	44.27	48.67	9.7	9.4
050Y001HR	EX_4BFDOT138	PROPOSE	0.00	99.53	103.49	536	-2.80	0.00	0.0	0.0
050Y001HR	EX_4BFDOT138	PROPOSE	0.25	99.84	103.49	621	2.56	2.12	-0.0	0.0
050Y001HR	EX_4BFDOT138	PROPOSE	0.50	100.84	103.49	775	18.76	17.46	0.2	0.2
050Y001HR	EX_4BFDOT138	PROPOSE	0.75	102.08	103.49	791	46.05	45.02	0.9	0.9
050Y001HR	EX_4BFDOT138	PROPOSE	1.00	102.69	103.49	716	51.70	51.55	1.9	1.9
050Y001HR	EX_4BFDOT138	PROPOSE	1.25	102.68	103.49	718	48.36	48.52	2.9	2.9
050Y001HR	EX_4BFDOT138	PROPOSE	1.50	102.41	103.49	753	40.55	40.88	3.8	3.8
050Y001HR	EX_4BFDOT138	PROPOSE	1.75	101.94	103.49	785	28.95	29.38	4.6	4.6
050Y001HR	EX_4BFDOT138	PROPOSE	2.00	101.50	103.49	810	20.45	20.80	5.1	5.1
050Y001HR	EX_4BFDOT138	PROPOSE	2.00	101.50	103.49	810	20.45	20.80	5.1	5.1
050Y001HR	EX_5FDOT138	PROPOSE	0.00	99.53	106.30	2309	0.13	10.07	0.0	0.0
050Y001HR	EX_5FDOT138	PROPOSE	0.25	99.88	106.30	1461	3.20	1.93	0.0	0.1
050Y001HR	EX_5FDOT138	PROPOSE	0.50	101.19	106.30	1629	19.87	15.64	0.3	0.3
050Y001HR	EX_5FDOT138	PROPOSE	0.75	102.89	106.30	5702	49.64	41.94	1.0	0.9
050Y001HR	EX_5FDOT138	PROPOSE	1.00	103.56	106.30	8647	50.47	48.93	2.0	1.8
050Y001HR	EX_5FDOT138	PROPOSE	1.25	103.45	106.30	8378	43.41	46.43	3.0	2.8
050Y001HR	EX_5FDOT138	PROPOSE	1.50	102.96	106.30	6517	33.68	38.42	3.8	3.7
050Y001HR	EX_5FDOT138	PROPOSE	1.75	102.26	106.30	5081	23.01	26.81	4.4	4.4
050Y001HR	EX_5FDOT138	PROPOSE	2.00	101.70	106.30	4575	16.57	18.83	4.8	4.8
050Y001HR	EX_5FDOT138	PROPOSE	2.00	101.70	106.30	4575	16.57	18.83	4.8	4.8
050Y001HR	EX_SW138C1	PROPOSE	0.00	105.47	110.00	835	0.00	0.00	0.0	0.0
050Y001HR	EX_SW138C1	PROPOSE	0.25	105.48	110.00	590	0.02	0.00	0.0	0.0
050Y001HR	EX_SW138C1	PROPOSE	0.50	105.61	110.00	1103	0.40	0.15	0.0	0.0
050Y001HR	EX_SW138C1	PROPOSE	0.75	105.82	110.00	3228	1.72	0.98	0.0	0.0
050Y001HR	EX_SW138C1	PROPOSE	1.00	106.00	110.00	4854	3.58	2.77	0.1	0.1
050Y001HR	EX_SW138C1	PROPOSE	1.25	106.12	110.00	5212	5.25	4.69	0.2	0.1
050Y001HR	EX_SW138C1	PROPOSE	1.50	106.20	110.00	4854	6.52	6.20	0.3	0.2
050Y001HR	EX_SW138C1	PROPOSE	1.75	106.24	110.00	4481	7.31	7.16	0.4	0.4
050Y001HR	EX_SW138C1	PROPOSE	2.00	106.26	110.00	4366	7.78	7.70	0.6	0.5
050Y001HR	EX_SW138C1	PROPOSE	2.00	106.26	110.00	4366	7.78	7.70	0.6	0.5
050Y001HR	EX_SW138C3	PROPOSE	0.00	112.03	115.51	113	0.00	0.00	0.0	0.0
050Y001HR	EX_SW138C3	PROPOSE	0.25	112.38	115.51	4794	1.92	0.09	0.0	0.0
050Y001HR	EX_SW138C3	PROPOSE	0.50	113.35	115.51	18353	29.41	9.26	0.3	0.1
050Y001HR	EX_SW138C3	PROPOSE	0.75	113.87	115.51	25447	49.51	41.97	1.2	0.6
050Y001HR	EX_SW138C3	PROPOSE	1.00	113.86	115.51	25314	36.59	41.17	2.0	1.5
050Y001HR	EX_SW138C3	PROPOSE	1.25	113.70	115.51	23135	25.21	29.09	2.7	2.2
050Y001HR	EX_SW138C3	PROPOSE	1.50	113.54	115.51	20924	14.77	18.77	3.1	2.7
050Y001HR	EX_SW138C3	PROPOSE	1.75	113.41	115.51	19173	10.01	11.99	3.4	3.0
050Y001HR	EX_SW138C3	PROPOSE	2.00	113.33	115.51	17963	6.31	8.06	3.5	3.2
050Y001HR	EX_SW138C3	PROPOSE	2.00	113.33	115.51	17963	6.31	8.06	3.5	3.2
050Y001HR	EX_SW138C4	PROPOSE	0.00	113.05	116.55	113	0.00	0.00	0.0	0.0
050Y001HR	EX_SW138C4	PROPOSE	0.25	113.81	116.55	4027	3.62	0.19	0.0	0.0
050Y001HR	EX_SW138C4	PROPOSE	0.50	114.58	116.55	8074	23.18	20.01	0.3	0.2
050Y001HR	EX_SW138C4	PROPOSE	0.75	114.78	116.55	9113	34.95	33.34	0.9	0.8

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Node Time Series By Nodes (050Y001H)

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
050Y001HR	EX_SW138C4	PROPOSE	1.00	114.64	116.55	8373	21.62	23.51	1.5	1.3
050Y001HR	EX_SW138C4	PROPOSE	1.25	114.50	116.55	7632	14.01	15.20	1.9	1.7
050Y001HR	EX_SW138C4	PROPOSE	1.50	114.34	116.55	6804	6.40	7.76	2.1	2.0
050Y001HR	EX_SW138C4	PROPOSE	1.75	114.26	116.55	6365	4.22	4.68	2.2	2.1
050Y001HR	EX_SW138C4	PROPOSE	2.00	114.19	116.55	5992	2.04	2.56	2.3	2.2
050Y001HR	EX_SW138C4	PROPOSE	2.00	114.19	116.55	5992	2.04	2.56	2.3	2.2
050Y001HR	J5FDOT138	PROPOSE	0.00	98.93	105.06	304	10.07	-2.80	0.0	0.0
050Y001HR	J5FDOT138	PROPOSE	0.25	99.88	105.06	335	2.85	2.56	0.1	-0.0
050Y001HR	J5FDOT138	PROPOSE	0.50	101.13	105.06	310	19.51	18.76	0.4	0.2
050Y001HR	J5FDOT138	PROPOSE	0.75	102.62	105.06	162	46.24	46.05	1.0	0.9
050Y001HR	J5FDOT138	PROPOSE	1.00	103.19	105.06	143	51.72	51.70	2.1	1.9
050Y001HR	J5FDOT138	PROPOSE	1.25	103.12	105.06	143	48.31	48.36	3.1	2.9
050Y001HR	J5FDOT138	PROPOSE	1.50	102.74	105.06	154	39.40	39.49	4.0	3.8
050Y001HR	J5FDOT138	PROPOSE	1.75	102.15	105.06	164	27.48	27.58	4.7	4.5
050Y001HR	J5FDOT138	PROPOSE	2.00	101.64	105.06	260	19.17	19.30	5.2	5.0
050Y001HR	J5FDOT138	PROPOSE	2.00	101.64	105.06	260	19.17	19.30	5.2	5.0
050Y001HR	SW138C2	PROPOSE	0.00	101.40	106.00	113	0.00	0.13	0.0	0.0
050Y001HR	SW138C2	PROPOSE	0.25	102.06	106.00	3620	3.30	2.49	0.0	0.0
050Y001HR	SW138C2	PROPOSE	0.50	102.41	106.00	5931	22.04	16.74	0.3	0.2
050Y001HR	SW138C2	PROPOSE	0.75	103.11	106.00	10684	55.41	45.12	1.1	0.9
050Y001HR	SW138C2	PROPOSE	1.00	103.66	106.00	13515	47.88	45.99	2.2	1.8
050Y001HR	SW138C2	PROPOSE	1.25	103.54	106.00	12932	33.06	37.73	3.0	2.7
050Y001HR	SW138C2	PROPOSE	1.50	103.06	106.00	10354	19.99	27.21	3.5	3.3
050Y001HR	SW138C2	PROPOSE	1.75	102.47	106.00	6352	12.71	15.69	3.9	3.8
050Y001HR	SW138C2	PROPOSE	2.00	102.25	106.00	4854	8.28	8.82	4.1	4.0
050Y001HR	SW138C2	PROPOSE	2.00	102.25	106.00	4854	8.28	8.82	4.1	4.0

APPENDIX C.1.4: Ruby Lake Outfall Calculations

LK RUBY OUTFALL

PRE-DEVELOPMENT

EX_BSN140A

Basin Area (ac.)	*0.55*
Curve Number	*84.00*

Pre Drainage Area Summary

Total Drainage Area (ac.)	*0.55*
Total Impervious Area (ac.)	*0.00*
Total Water Surface (ac.)	*0.00*

Total Pre-Basin Summary

Peak Discharge (cfs)

25yr/24hr	*0.87*	*Orange County*
25yr/72hr	*2.39*	*SFWMD*

POST-DEVELOPMENT

BSN140A

Basin Area (ac.)	*0.55*
Curve Number	*84.00*

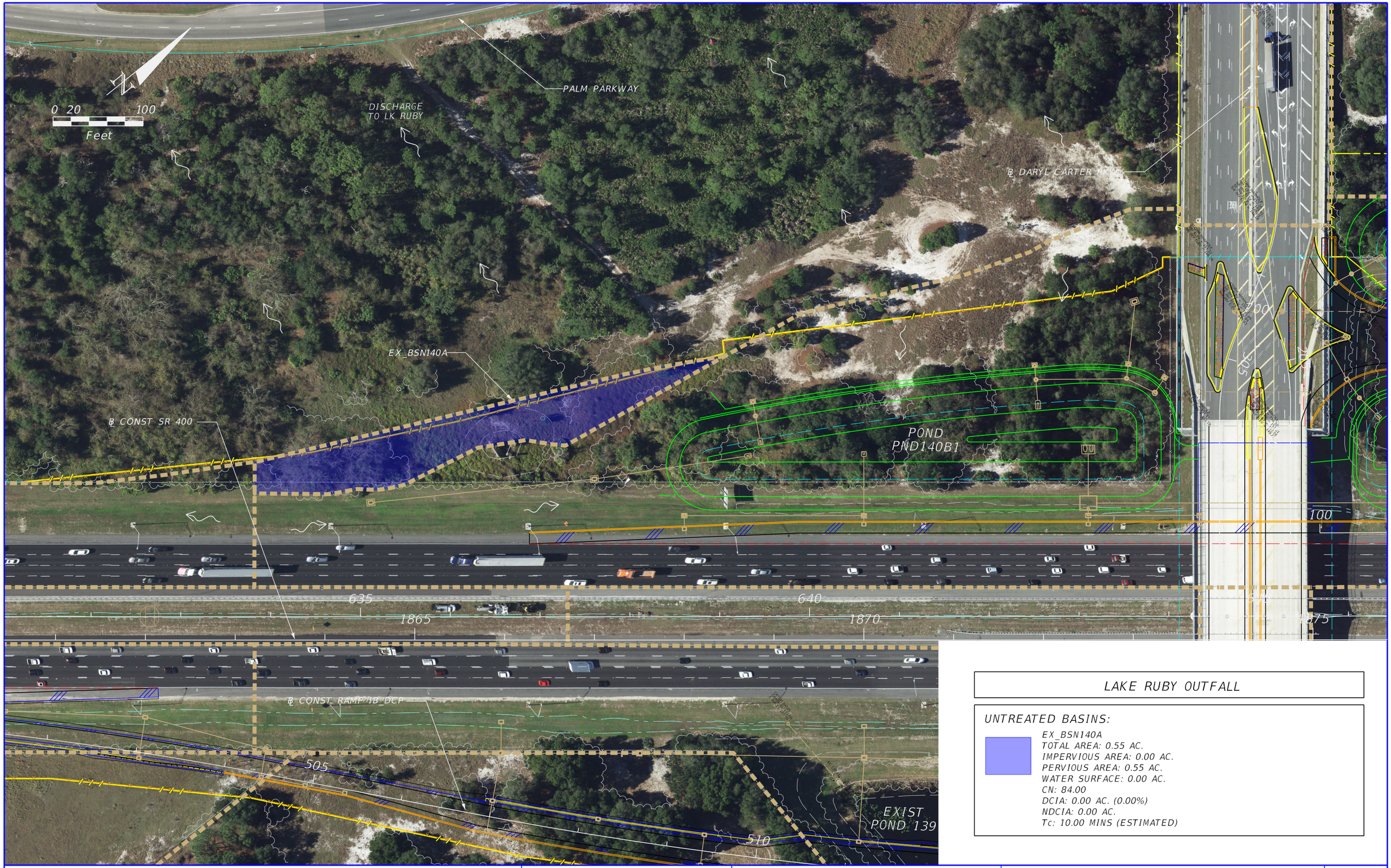
Post Drainage Area Summary

Total Drainage Area (ac.)	*0.55*
Total Impervious Area (ac.)	*0.00*
Total Water Surface (ac.)	*0.00*

Total Post-Basin Summary

Peak Discharge (cfs)

25yr/24hr	*0.87*	*Orange County*
25yr/72hr	*2.39*	*SFWMD*



LAKE RUBY OUTFALL

UNTREATED BASINS:

EX_BSN140A
TOTAL AREA: 0.55 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.55 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL, 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (RUBY LAKE) EXIST/ PROP BASIN MAP

FIGURE 9

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RUBY LAKE OUTFALL				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	4411131-52-01			
BASIN DESIGNATION:	EX_BSN140A			**DATE**
POND/ NODE DESIGNATION:	LK RUBY	**MADE BY:**	DG	08/26/2016
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE/ POST	**CHECKED BY:**	KTD	04/28/2018

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
EXISTING WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
EXISTING DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
EXISTING NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)			98	0.00	0.00
Existing Roadway (Treated)			98	0.00	0.00
			TOTALS	**0.00**	
EXISTING PERVIOUS AREAS					
Open Spaces (woods-grass combination fair condition)	Smyrna-Smyrna, wet, fine sand - 44	A/D	84	0.55	46.20
			TOTALS	**0.55**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**0.55**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.90	4.48	**0.21**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.90	6.67	**0.31**
FDOT	50-Year 24-Hour	9.10	1.90	7.16	**0.33**
SFWMD	25-year 72-Hour	10.00	1.90	8.03	**0.37**

RUBY LAKE OUTFALL				
PROJECT TITLE:	Interim Daryl Cartere	FDOT		AECOM
PROJECT NUMBER:	4411131-52-01			
BASIN DESIGNATION:	BSN140A			DATE
POND/ NODE DESIGNATION:	LK RUBY	MADE BY:	DG	08/26/2016
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	KTD	04/28/2018

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Water surface	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (woods-grass combination fair condition)	Smyrna-Smyrna, wet, fine sand - 44	A/D	84	0.55	46.20
			TOTALS	**0.55**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**0.55**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.90	4.48	**0.21**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.90	6.67	**0.31**
FDOT	50-Year 24-Hour	9.10	1.90	7.16	**0.33**
SFWMD	25-year 72-Hour	10.00	1.90	8.03	**0.37**

APPENDIX C.1.5: Shingle Creek Outfall (Lake Willis) Calculations

SHINGLE CREEK OUTFALL (LAKE WILLIS)

PRE-DEVELOPMENT BASIN SUMMARY

EX_BSN139	***To EX_PND139***	**EX_BSN142B**	***Direct to Outfall***
Basin Area (ac.)	*7.45*	*Basin Area (ac.)*	*14.13*
Curve Number	*77.17*	*Curve Number*	*77.19*
EX_BSNFPC141	***Direct to Outfall***	**EX_BSNPNDC**	***Offsite to EX_PNDC***
Basin Area (ac.)	*2.37*	*Basin Area (ac.)*	*80.17*
Curve Number	*76.47*	*Curve Number*	*79.00*

Pre Drainage Area Summary

	Onsite	*Offsite*	***Total***
Total Drainage Area (ac.)	*23.95*	*80.17*	*= 104.12*
Total Impervious Area (ac.)	*6.77*	*55.46*	*= 62.23*
Treated (ac.)	*2.14*	*55.46*	*= 57.60*
Untreated (ac.)	*4.63*		*= 4.63*
Total Water Surface (ac.)	*3.49*	*7.55*	*= 11.04*

POST-DEVELOPMENT BASIN SUMMARY

BSNFPC141	***To PNDFPC141***	**BSN142C**	***To SW142C***
Basin Area (ac.)	*15.20*	*Basin Area (ac.)*	*5.74*
Curve Number	*72.22*	*Curve Number*	*74.68*
BSN142B	***Direct to Outfall***	**BSNPNDC**	***To Modified PNDC***
Basin Area (ac.)	*8.40*	*Basin Area (ac.)*	*75.01*
Curve Number	*78.78*	*Curve Number*	*77.22*

Post Drainage Area Summary

	Onsite	*Offsite*	***Total***
Total Drainage Area (ac.)	*29.34*	*75.01*	*= 104.35*
Total Impervious Area (ac.)	*8.32*	*49.59*	*= 57.91*
Treated (ac.)	*5.16*	*49.59*	*= 54.75*
Untreated (ac.)	*3.16*		*= 3.16*
Total Water Surface (ac.)	*2.20*	*6.99*	*= 9.19*

From the summary, the proposed drainage area to Lake Willis is less than the existing drainage area. Additionally,FDOT is proposing to minimize the amount of untreated impervious to the lake (post = 3.16 acres vs. pre = 4.63 acres).

SHINGLE CREEK OUTFALL (LAKE WILLIS)

RATE OF DISCHARGE SUMMARY

Total Pre-Basin Summary

Peak Discharge (cfs)	***To Lake Willis***	
25yr/24hr	*370.98*	*Orange County*
25yr/72hr	*648.24*	*SFWMD*

Total Post-Basin Summary

Peak Discharge (cfs)	***To Lake Willis***	
25yr/24hr	*358.97*	Orange County
25yr/72hr	*629.15*	*SFWMD*

WATER MANAGEMENT SYSTEM SUMMARY

WATER QUALITY SUMMARY *(Wet Detention Ponds)*

Required Pollution Abatement Volume (PAV)	*10.33*	*ac-ft*
Provided PAV	*11.19*	*ac-ft*
PAV Elevation	*112.75*	*ft, NAVD*

MODIFIED POND C SUMMARY

Pond Control Elevation (NWL)	*111.20*	*ft, NAVD*
Inside Berm Elevation	*116.70*	*ft, NAVD*
25Y24H Design High Water Elevation (DHW)	***115.56***	*ft, NAVD*
Existing 25Y24H Design High Water Elevation	***115.78***	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	***115.72***	*ft, NAVD*
Existing 25Y72H Design High Water Elevation	***115.96***	*ft, NAVD*
Freeboard Provided	*1.14*	*ft*

As shown, the proposed stage for both the SFWMD 25-year/ 72-hour and the Orange County 25-year/ 24-hour peak stage is marginally lower than the existing with the expansion to the northeast corner of the pond, allowing for more than a foot of freeboard.

SHINGLE CREEK OUTFALL (LAKE WILLIS)

FDOT CRITICAL STORM SUMMARY TO LAKE WILLIS

STORM EVENT	PRE-RATE	POST-RATE		RATE DIFFERENCE		PEAK STAGE	
		INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4 BTU	PRE	POST
002Y001HR	247.31	244.91	239.94	-2.40	-7.37	103.59	103.60
002Y002HR	254.34	251.63	246.45	-2.71	-7.89	103.68	103.68
002Y004HR	210.24	206.43	202.25	-3.81	-7.99	103.75	103.75
002Y008HR	216.64	212.35	208.21	-4.29	-8.43	103.83	103.83
002Y024HR	79.49	77.74	76.25	-1.75	-3.24	103.97	103.97
002Y072HR	62.91	60.16	59.03	-2.75	-3.88	104.20	104.18
005Y001HR	328.74	323.96	317.67	-4.78	-11.07	103.64	103.65
005Y002HR	332.99	328.11	321.53	-4.88	-11.46	103.75	103.75
005Y004HR	272.41	266.14	260.79	-6.27	-11.62	103.84	103.84
005Y008HR	282.00	274.99	269.66	-7.01	-12.34	103.95	103.95
005Y024HR	102.97	100.00	98.09	-2.97	-4.88	104.15	104.14
005Y072HR	85.31	81.73	80.30	-3.58	-5.01	104.43	104.41
010Y001HR	394.53	387.69	380.33	-6.84	-14.20	103.68	103.68
010Y002HR	397.06	390.03	382.30	-7.03	-14.76	103.81	103.81
010Y004HR	324.84	316.57	310.26	-8.27	-14.58	103.92	103.92
010Y008HR	339.73	330.35	323.98	-9.38	-15.75	104.07	104.06
010Y024HR	126.75	122.63	120.29	-4.12	-6.46	104.33	104.31
010Y072HR	103.96	99.80	98.08	-4.16	-5.88	104.66	104.63
025Y001HR	481.37	471.37	462.60	-10.00	-18.77	103.73	103.74
025Y002HR	481.74	471.90	462.66	-9.84	-19.08	103.89	103.89
025Y004HR	396.36	385.34	377.69	-11.02	-18.67	104.04	104.03
025Y008HR	424.99	412.10	404.19	-12.89	-20.80	104.24	104.23
025Y024HR	165.39	159.76	156.69	-5.63	-8.70	104.61	104.59
025Y072HR	132.87	127.60	125.44	-5.27	-7.43	105.04	105.00
050Y001HR	546.38	534.00	524.18	-12.38	-22.20	103.77	103.77
050Y002HR	541.73	529.87	519.55	-11.86	-22.18	103.95	103.95
050Y004HR	451.01	437.86	429.20	-13.15	-21.81	104.13	104.12
050Y008HR	494.48	478.71	469.52	-15.77	-24.96	104.39	104.37
050Y024HR	202.18	194.72	191.11	-7.46	-11.07	104.87	104.85
050Y072HR	170.09	163.88	161.32	-6.21	-8.77	105.36	105.33
100Y001HR	607.89	593.23	582.42	-14.66	-25.47	103.81	103.81
100Y002HR	598.98	585.17	573.81	-13.81	-25.17	104.00	104.00
100Y004HR	598.98	585.17	573.81	-13.81	-25.17	104.03	104.03
100Y008HR	567.49	548.66	538.15	-18.83	-29.34	104.54	104.51
100Y024HR	246.51	237.33	233.06	-9.18	-13.45	105.18	105.15
100Y072HR	200.04	192.91	189.92	-7.13	-10.12	105.74	105.70

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. It is also provided to demonstrate that pond PND141 is designed for the ultimate condition with no additional ROW will be needed unless there is significant design changes in the future.

The control structure will be designed to meet the change in rate between the developed and existing condition for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

SHINGLE CREEK OUTFALL (LAKE WILLIS)

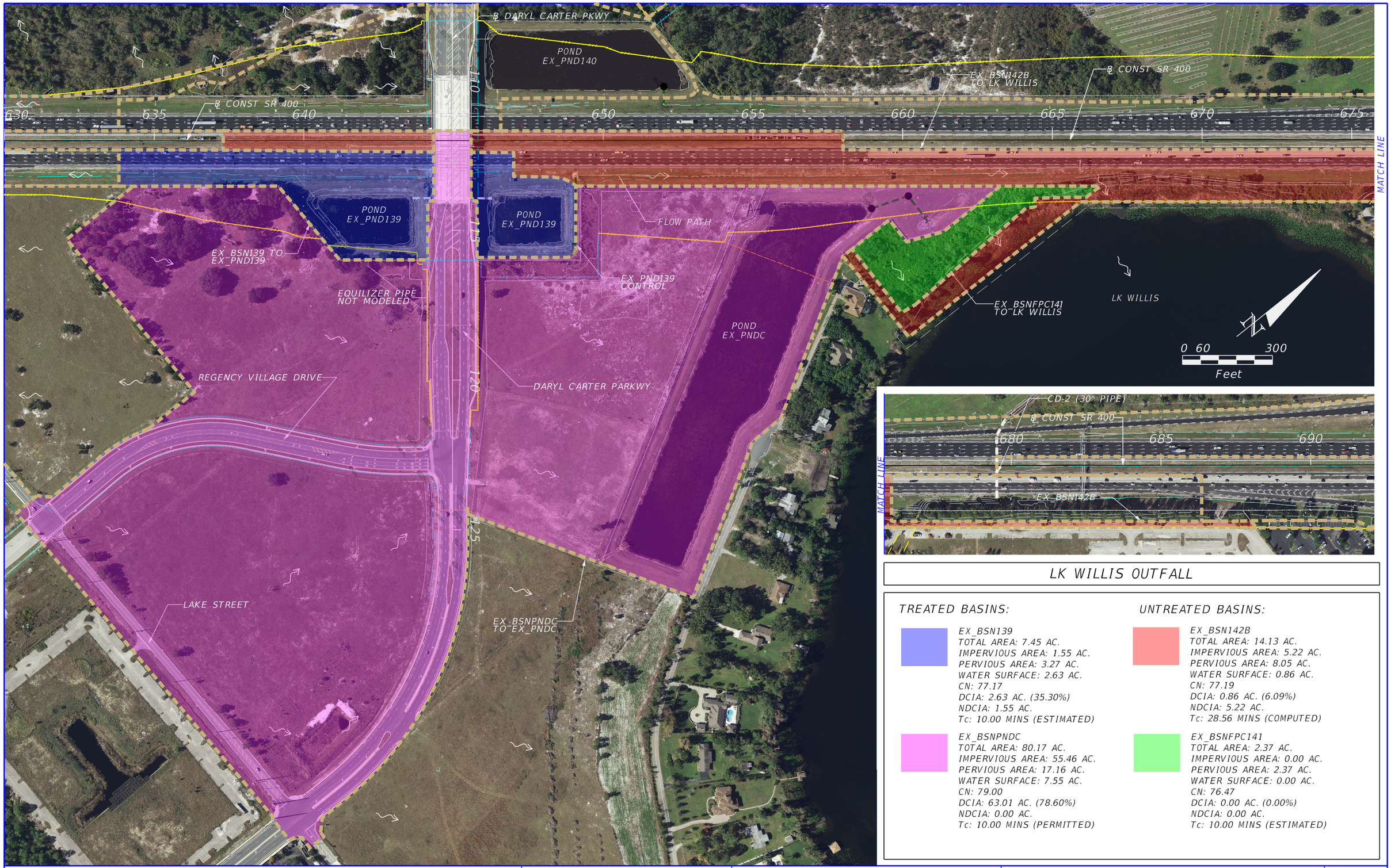
FDOT CRITICAL STORM OFFSITE DETENTION PEAK STAGE

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD		
	EXIST PNDC	MODIFIED PNDC	EXIST PNDC		MODIFIED PNDC
002Y001HR	112.71	112.61	3.99		4.09
002Y002HR	113.12	113.00	3.58		3.70
002Y004HR	113.36	113.23	3.34		3.47
002Y008HR	113.52	113.39	3.18		3.31
002Y024HR	113.62	113.49	3.08		3.21
002Y072HR	113.51	113.36	3.19		3.34
005Y001HR	113.03	112.91	3.67		3.79
005Y002HR	113.51	113.37	3.19		3.33
005Y004HR	113.81	113.66	2.89		3.04
005Y008HR	113.98	113.83	2.72		2.87
005Y024HR	114.05	113.91	2.65		2.79
005Y072HR	113.99	113.86	2.71		2.84
010Y001HR	113.28	113.15	3.42		3.55
010Y002HR	113.81	113.66	2.89		3.04
010Y004HR	114.17	114.00	2.53		2.70
010Y008HR	114.36	114.20	2.34		2.50
010Y024HR	114.43	114.28	2.27		2.42
010Y072HR	114.33	114.21	2.37		2.49
025Y001HR	113.59	113.45	3.11		3.25
025Y002HR	114.20	114.03	2.50		2.67
025Y004HR	114.64	114.46	2.06		2.24
025Y008HR	114.90	114.72	1.80		1.98
025Y024HR	114.99	114.82	1.71		1.88
025Y072HR	114.80	114.67	1.90		2.03
050Y001HR	113.82	113.66	2.88		3.04
050Y002HR	114.46	114.28	2.24		2.42
050Y004HR	114.99	114.79	1.71		1.91
050Y008HR	115.32	115.12	1.38		1.58
050Y024HR	115.46	115.27	1.24		1.43
050Y072HR	115.15	115.01	1.55		1.69
100Y001HR	114.03	113.86	2.67		2.84
100Y002HR	114.71	114.52	1.99		2.18
100Y004HR	114.71	114.52	1.99		2.18
100Y008HR	115.75	115.53	0.95		1.17
100Y024HR	115.95	115.73	0.75		0.97
100Y072HR	115.53	115.37	1.17		1.33

The information on this sheet is to provide FDOT with an estimated effect to the pond due to the proposed I-4 BTU and Interim widening. From the ICPR results, modified pond PNDC will have minimal affect due to impact from the I-4 BTU widening. There is at least a minimum of 0.97' of freeboard available within the inside berm to the peak stage of 116.70' during the 100 year/ 24 hour storm event.

The routing in the proposed condition make use of the existing control structure as permitted under existing SFWMD application #090610-12. A note on the Pond Detail Sheet to instruct the contractor to remove and replace the existing structure with same kind.

The impacted to pond PNDC will not change when I-4 BTU goes into construction unless there is a significant unforseen design changes.



LK WILLIS OUTFALL

TREATED BASINS:

EX_BSN139
TOTAL AREA: 7.45 AC.
IMPERVIOUS AREA: 1.55 AC.
PERVIOUS AREA: 3.27 AC.
WATER SURFACE: 2.63 AC.
CN: 77.17
DCIA: 2.63 AC. (35.30%)
NDCIA: 1.55 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSNPNDC
TOTAL AREA: 80.17 AC.
IMPERVIOUS AREA: 55.46 AC.
PERVIOUS AREA: 17.16 AC.
WATER SURFACE: 7.55 AC.
CN: 79.00
DCIA: 63.01 AC. (78.60%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (PERMITTED)

UNTREATED BASINS:

EX_BSN142B
TOTAL AREA: 14.13 AC.
IMPERVIOUS AREA: 5.22 AC.
PERVIOUS AREA: 8.05 AC.
WATER SURFACE: 0.86 AC.
CN: 77.19
DCIA: 0.86 AC. (6.09%)
NDCIA: 5.22 AC.
Tc: 28.56 MINS (COMPUTED)

EX_BSNFPC141
TOTAL AREA: 2.37 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 2.37 AC.
WATER SURFACE: 0.00 AC.
CN: 76.47
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (LAKE WILLIS) EXISTING BASIN MAP

FIGURE 10

SHINGLE CREEK OUTFALL (LAKE WILLIS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN139			
P0ND/ NODE DESIGNATION:	EX_PND139	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	2.63	263.00
			TOTALS	**2.63**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	1.55	151.90
			TOTALS	**1.55**	
EXISTING PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34	A	49	1.56	76.44
Open Spaces (fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.71	143.64
			TOTALS	**3.27**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.63**	**TOTAL BASIN AREA**	**7.45**	**COMPOSITE CN**	**77.17**
PERCENT DCIA	**35.30%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**85.23**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.73	4.61	**2.86**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.73	6.82	**4.23**
FDOT	50-Year 24-Hour	9.10	1.73	7.31	**4.54**
SFWMD	25-year 72-Hour	10.00	1.73	8.18	**5.08**
FDOT	100-year 72-Hour	13.50	1.73	11.62	**7.22**

SHINGLE CREEK OUTFALL (LAKE WILLIS - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			DATE
BASIN DESIGNATION:	EX_BSN139			
POND/ NODE DESIGNATION:	EX_PND139	MADE BY:	CJH	01/30/2019
ANALYSIS	PRE	CHECKED BY:		

Existing Pond Information:

The information provided on this sheet was obtained directly from **SFWMD Permit application no. 070307-6 (2008 modification to incorporate Daryl Carter) and 080205-41 (2008 modification to include drainage from Daryl Carter)** for Pond 2 EB. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The existing pond was originally constructed as part of SFWMD Permit Application No. 011109-7 in 2001 for the widening of I-4 to include Auxiliary Lanes from SR 535 to SR 528. It was originally permitted as one wet detention pond. When Daryl Carter was constructed, it was divided into two interconnected ponds with allowable discharge to Lake Willis via a modified Type E structure with an orifice of 3" diameter.

The existing pond was not constructed to provide TMDL as Shingle Creek is not nutrient impaired and the Design Storm as per SFWMD is a 25-year/72-hour.

Due to grading constraints and water control elevation within this area, these ponds will be eliminated in the proposed condition. The runoff contributing to these ponds will be taken to the proposed expansion Pond C downstream for treatment and attenuation.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
131.70	Outside Berm	3.29				11.86
			3.13	2.00	6.26	
129.70	Inside Berm	2.96				5.60
			2.94	0.29	0.86	
129.41	ATT	2.91				4.74
			2.80	1.41	3.94	
128.00	(PAV)	2.68				0.80
			2.66	0.30	0.80	
127.70	(NWL) (PERMITTED)	2.63				0.00
			4.51	-4.00	(18.04)	
123.70		1.88				(18.04)
			3.42	-4.50	(15.39)	
119.20	Pnd Bot (PPV)	1.54				(33.43)

SHINGLE CREEK OUTFALL (LAKE WILLIS - OFFSITE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSNPNDC			
P0ND/ NODE DESIGNATION:	EX_PNDC	**MADE BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

All data is based on the permit no. 48-01583-P

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	7.55	755.00
			TOTALS	**7.55**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (LK Street, Treated)	As Permitted	N/A	98	1.62	158.76
Existing Roadway (Street A, Treated)	As Permitted	N/A	98	2.58	252.84
Existing Roadway (Street B, Treated)	As Permitted	N/A	98	5.84	572.32
Proposed South (Treated)	As Permitted	N/A	98	16.71	1637.58
Proposed North (Treated)	As Permitted	N/A	98	13.04	1277.92
Proposed East(Treated)	As Permitted	N/A	98	15.67	1535.66
			TOTALS	**55.46**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
			98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (I-4BTU Pond 139)	As Permitted	C	80	0.43	34.40
Open Spaces (LK Street)	As Permitted	C	80	0.43	34.40
Open Spaces (Street A)	As Permitted	C	80	0.63	50.40
Open Spaces (Street B)	As Permitted	C	80	1.45	116.00
Open Spaces (Proposed South)	As Permitted	C	80	4.18	334.40
Open Spaces (Proposed North)	As Permitted	C	80	3.26	260.80
Open Spaces (Proposed East)	As Permitted	C	80	3.92	313.60
Pond C	As Permitted	C	74	2.86	211.64
			TOTALS	**17.16**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**63.01**	**TOTAL BASIN AREA**	**80.17**	**COMPOSITE CN**	**79.00**
PERCENT DCIA	**78.60%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**94.12**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	0.62	5.61	**37.46**
ORANGE COUNTY	25-Year 24-Hour	8.60	0.62	7.89	**52.73**
FDOT	50-Year 24-Hour	9.10	0.62	8.39	**56.06**
SFWMD	25-year 72-Hour	10.00	0.62	9.29	**62.05**
FDOT	100-year 72-Hour	13.50	0.62	12.78	**85.37**

SHINGLE CREEK OUTFALL (LAKE WILLIS - OFFSITE ORANGE COUNTY POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	EX_BSNPNDC			**DATE**
POND/ NODE DESIGNATION:	EX_PNDC	**MADE BY:**	CJH	01/30/2019
ANALYSIS	PRE	**CHECKED BY:**		

Existing Pond Information:

The information provided on this sheet was obtained directly from SFWMD Permit Application no. 090610-12 for Orange County Pond C. The datum at the time of permit was in NGVD. To convert the permitted datum to the current NAVD datum, an adjustment (-0.80-ft) was applied to the permitted elevations.

The existing pond was constructed for the anticipated future developments as shown on the Lake Willis Outfall Basin Map. It was permitted with a control water elevation, after conversion, of 111.20' and a design high water elevation of 115.80' for the 25-year/24-hour storm. Additionally, the pond was not designed to provide TMDL as Shingle Creek is not nutrient impaired.

This pond will be modified as part of the I-4 BTU widening project to include the runoff from I-4. The proposed expansion of the pond will be such that the design high water elevation for the 25-year/24-hour storm is at or lower than the permitted 115.80' stage.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
117.70	Outside Berm	10.06				53.53
			9.42	1.00	9.42	
116.70	Inside Berm	8.78				44.11
			8.66	0.90	7.79	
115.80	ATT	8.53				36.32
			8.11	3.05	24.74	
112.75	(PAV)	7.68				11.58
			7.47	1.55	11.58	
111.20	(NWL)	7.25				0.00
	(PERMITTED)		9.13	-2.00	(18.26)	
109.20		1.88				(18.26)
			1.71	-8.00	(13.68)	
101.20	Pnd Bot (PPV)	1.54				(31.94)

SHINGLE CREEK OUTFALL (LAKE WILLIS-POND C EXPANSION AREA)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSNFPC141			
P0ND/ NODE DESIGNATION:	LK_WILLIS	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34	A	49	0.51	24.99
Open Spaces (fair condition)	Basinger fine sand - 3	A/D	84	1.86	156.24
			TOTALS	**2.37**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**2.37**	**COMPOSITE CN**	**76.47**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**76.47**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.08	3.69	**0.73**
ORANGE COUNTY	25-Year 24-Hour	8.60	3.08	5.76	**1.14**
FDOT	50-Year 24-Hour	9.10	3.08	6.23	**1.23**
SFWMD	25-year 72-Hour	10.00	3.08	7.07	**1.40**
FDOT	100-year 72-Hour	13.50	3.08	10.40	**2.05**

SHINGLE CREEK OUTFALL (LAKE WILLIS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142B			
P0ND/ NODE DESIGNATION:	LK_WILLIS	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Water surface	N/A	N/A	100	0.86	86.00
			TOTALS	**0.86**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	4.63	453.74
Existing Parking area (Treated)	N/A	N/A	98	0.59	57.82
			TOTALS	**5.22**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 Pomello fine sand - 38	A	49	4.67	228.83
Open Spaces (fair condition)	Smyrna-Smyrna fine sand - 44 Basinger fine sand - 3	A/D	84	3.38	283.92
Time of Concentration of 28.56-minutes was computed.			**TOTALS**	**8.05**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.86**	**TOTAL BASIN AREA**	**14.13**	**COMPOSITE CN**	**77.19**
PERCENT DCIA	**6.09%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

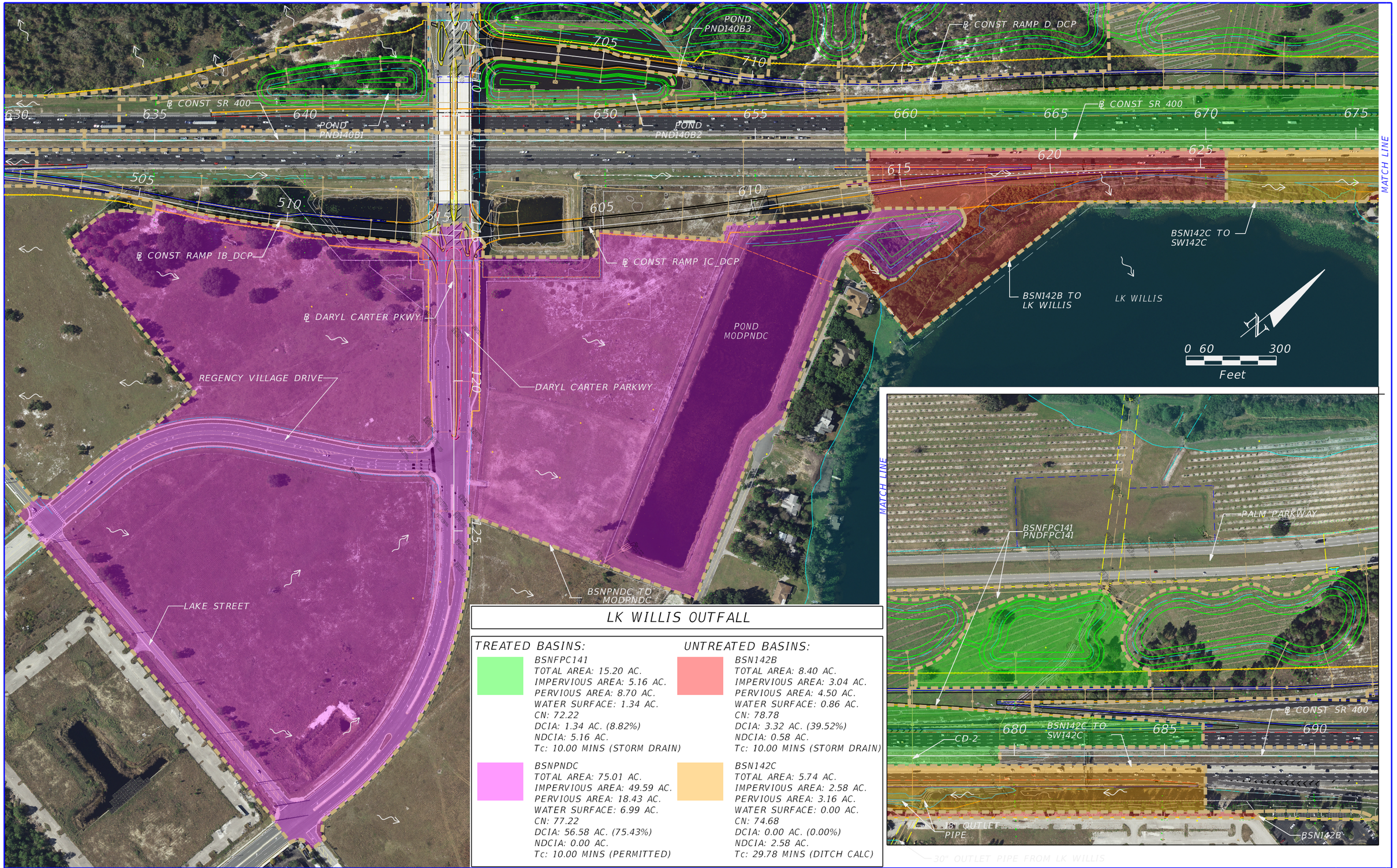
2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**78.58**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	2.73	3.91	**4.60**
ORANGE COUNTY	25-Year 24-Hour	8.60	2.73	6.02	**7.09**
FDOT	50-Year 24-Hour	9.10	2.73	6.49	**7.64**
SFWMD	25-year 72-Hour	10.00	2.73	7.34	**8.64**
FDOT	100-year 72-Hour	13.50	2.73	10.70	**12.60**



LK WILLIS OUTFALL

TREATED BASINS:

BSNFPC141
TOTAL AREA: 15.20 AC.
IMPERVIOUS AREA: 5.16 AC.
PERVIOUS AREA: 8.70 AC.
WATER SURFACE: 1.34 AC.
CN: 72.22
DCIA: 1.34 AC. (8.82%)
NDCIA: 5.16 AC.
Tc: 10.00 MINS (STORM DRAIN)

BSNPNDC
TOTAL AREA: 75.01 AC.
IMPERVIOUS AREA: 49.59 AC.
PERVIOUS AREA: 18.43 AC.
WATER SURFACE: 6.99 AC.
CN: 77.22
DCIA: 56.58 AC. (75.43%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (PERMITTED)

UNTREATED BASINS:

BSN142B
TOTAL AREA: 8.40 AC.
IMPERVIOUS AREA: 3.04 AC.
PERVIOUS AREA: 4.50 AC.
WATER SURFACE: 0.86 AC.
CN: 78.78
DCIA: 3.32 AC. (39.52%)
NDCIA: 0.58 AC.
Tc: 10.00 MINS (STORM DRAIN)

BSN142C
TOTAL AREA: 5.74 AC.
IMPERVIOUS AREA: 2.58 AC.
PERVIOUS AREA: 3.16 AC.
WATER SURFACE: 0.00 AC.
CN: 74.68
DCIA: 0.00 AC. (0.00%)
NDCIA: 2.58 AC.
Tc: 29.78 MINS (DITCH CALC)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (LAKE WILLIS) PROPOSED BASIN MAP

FIGURE 16

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SHINGLE CREEK OUTFALL (LAKE WILLIS - OFFSITE)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	242484-8-52-1			DATE
BASIN DESIGNATION:	BSNPNDC			
POND/ NODE DESIGNATION:	MOD_PNDC	MADE BY:	DG	08/26/2016
		REVISED BY:	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Modified Pond NWL	N/A	N/A	100	6.99	699.00
			TOTALS	**6.99**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Offsite Roadway Widening (Street B-Daryl Carter, Treated)*	N/A	N/A	98	0.37	36.26
Offsite Existing Roadway (LK Street- currently Regency, Treated)*	As Permitted under Application #090610-12	N/A	98	1.62	158.76
Offsite Existing Roadway (Street A - currently Lake Street, Treated)*	As Permitted under Application #090610-12	N/A	98	2.58	252.84
Offsite Existing Roadway (Street B-Daryl Carter Parkway, Treated)**	As Permitted under Application #090610-12	N/A	98	5.00	490.00
Offsite Proposed South (Treated)*	As Permitted under Application #170628-5 (Phase I Constr.)	N/A	98	16.24	1591.52
Offsite Proposed North (Treated)*	As Permitted	N/A	98	13.04	1277.92
Offsite Proposed East(Treated)*	As Permitted under Application #170628-5 (Phase I Constr.)	N/A	98	10.74	1052.52
			TOTALS	**49.59**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
			TOTALS	**0.00**	
PERVIOUS AREAS					
Offsite Open Spaces (LK Street - Regency)**	As Permitted under Application #090610-12	C	80	1.18	94.40
Offsite Open Spaces (Street A - Lake Street)**	As Permitted under Application #090610-12	C	80	0.36	28.80
Offsite Open Spaces (Street B - Daryl Carter)**	As Permitted under Application #090610-12	C	80	1.08	86.40
Offsite Open Spaces (Proposed South)*	As Permitted under Application #170628-5 (Phase I Constr.)	C	80	4.63	370.40
Offsite Open Spaces (Proposed North)**	As Permitted under Application #090610-12	C	80	1.82	145.60
Offsite Open Spaces (Proposed East)**	As Permitted under Application #170628-5 (Phase I Constr.)	C	80	3.67	293.60
Modified Pond C1 Pervious**	As Permitted under Application #090610-12	C	74	4.49	332.26
FDOT ROW	- 4 - 34	A	49	0.83	40.67
FDOT ROW	- 44	A/D	84	0.37	31.08
			TOTALS	**18.43**	

** The information were taken directly from permitted calculations. No adjustment were made to these values.*
*** These areas were adjusted to reflect the proposed improvements within Pond C, SR 400, and Daryl Carter Parkway as well as based on current site condition.*

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**56.58**	**TOTAL BASIN AREA**	**75.01**	**COMPOSITE CN**	**77.22**
PERCENT DCIA	**75.43%**				

SHINGLE CREEK OUTFALL (LAKE WILLIS - OFFSITE)				
PROJECT TITLE:	I-4 Beyond the Ultimate			
PROJECT NUMBER:	242484-8-52-1			
BASIN DESIGNATION:	BSNPNDC			**DATE**
POND/ NODE DESIGNATION:	MOD_PNDC	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**93.08**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	0.74	5.49	**34.30**
ORANGE COUNTY	25-Year 24-Hour	8.60	0.74	7.77	**48.56**
FDOT	50-Year 24-Hour	9.10	0.74	8.26	**51.66**
SFWMD	25-year 72-Hour	10.00	0.74	9.16	**57.26**
FDOT	100-year 72-Hour	13.50	0.74	12.65	**79.05**

LAKE WILLIS OUTFALL (JOINT USE POND)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	242484-8-52-1			
BASIN DESIGNATION:	BSNPNDC			**DATE**
POND/ NODE DESIGNATION:	MOD_PNDC	**MADE BY:**	CJH	01/30/2019
ANALYSIS	POST	**CHECKED BY:**		

This pond was constructed as part of SFWMD Permit Application no. 090610-12 for Orange County Pond C. With the proposed widening of I-4, the pond will be impacted at the northern most portion; thus reducing the capacity of the pond. The proposed roadway improvement will also impact the existing control structure.

FDOT is proposing to mitigate the loss capacity by expanding pond C toward Lake Willis marginally as shown. The control structure will be replaced with the same kind at a different location than permitted. The pipe will direct outfall into Lake Willis.

The drainage area to this basin is reduced in the proposed condition as FDOT is intercepting runoff from the existing Daryl Carter bridge to the new Ramp B_DCP and Ramp C_DCP intersections and conveying it into their newly constructed pond PND141. Additionally, the proposed impervious for the Vineland Pointe Commercial Center (Permit Application no. 170628-5) has been reduced from the original concept. The new pavements are outlined below to compute the required treatment volume required.

The modified pond C will be modeled to accurately extrapolate a new peak stage in the pond and rate of discharge into Lake Willis. For modeling purposes, the modified pond capacity was estimated based on historical permit data as well as available design survey data.

Note that the basin areas was taken directly from historical permit information and model to reflect the adjustment of the portion of Daryl Carter that is being removed and the new development within the Vineland Pointe Commercial Center.

Water Quality

	PROPOSED	EXISTING	DIFFERENCE	
Total Basin Area =	75.01	80.17 =	**(5.16)**	ac
Pond Area at NWL =	6.99	7.55 =	**(0.56)**	ac
Paved Area (Treated) =	49.59	55.46 =	**(5.87)**	ac
Paved Area (Untreated) =	0.00	0.00 =	**0.00**	ac

A.	1.0	" Over Total Basin Area =	6.25	Ac-Ft
B.	2.5	" Times Treated Paved Area =	10.33	Ac-Ft
		Required PAV =	**10.33**	Ac-Ft

<=== PAV required based on revised drainage area.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
117.70	Outside Berm	9.59				52.03
			9.11	1.00	9.11	
116.70	Inside Berm	8.62				42.93
			8.56	0.40	3.42	
116.30	(Tailwater)	8.50				39.50
			8.43	0.48	4.05	
115.82	ATT	8.36				35.46
			7.90	3.07	24.27	
112.75	(PAV)	7.45				11.19
			7.22	1.55	11.19	
111.20	(NWL)	6.99				0.00
			6.82	-2.00	(13.64)	
109.20		6.65				(13.64)
			6.46	-4.70	(30.34)	
104.50	Pnd Bot (PPV)	6.26				(43.98)

<===Replace control structure with same. As such, PAV elevation will remain same.

Provided PAV = 11.19 ac-ft.

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 2.83 Ac-Ft

Elevation at 1/2" of required detention volume = 111.59 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 8.36 Ac-Ft

SHINGLE CREEK OUTFALL (LAKE WILLIS - FLOODPLAIN COMPENSATION SITE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	BSNFPC141			
P0ND/ NODE DESIGNATION:	PNDFPC141	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	1/29/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	1.34	134.00
			TOTALS	**1.34**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
Proposed Roadway Widening (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Treated)	N/A	N/A	98	4.99	489.02
Proposed Roadway (Treated)	N/A	N/A	98	0.17	16.66
			TOTALS	**5.16**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34	A	49	6.73	329.77
Open Spaces (fair condition)	Basinger fine sand - 3	A/D	84	1.97	165.48
			TOTALS	**8.70**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.34**	**TOTAL BASIN AREA**	**15.20**	**COMPOSITE CN**	**72.22**
PERCENT DCIA	**8.82%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**74.67**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.39	3.51	**4.44**
ORANGE COUNTY	25-Year 24-Hour	8.60	3.39	5.55	**7.03**
FDOT	50-Year 24-Hour	9.10	3.39	6.00	**7.60**
SFWMD	25-year 72-Hour	10.00	3.39	6.83	**8.66**
FDOT	100-year 72-Hour	13.50	3.39	10.14	**12.84**

SHINGLE CREEK OUTFALL (LAKE WILLIS - FLOODPLAIN COMPENSATION POND)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	242484-8-52-1			
BASIN DESIGNATION:	BSNFPC141			**DATE**
POND/ NODE DESIGNATION:	PNDFPC141	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	1/29/2019
ANALYSIS	POST	**CHECKED BY:**		

Water Quality

Total Basin Area =	15.20	ac
Pond Area at NWL =	1.34	ac
Paved Area (Treated) =	5.16	ac
Paved Area (Untreated) =	0.00	

A.	1.0	" Over Total Basin Area =	1.27	Ac-Ft
B.	2.5	" Times Treated Paved Area =	1.08	Ac-Ft
		Required PAV =	**1.27**	Ac-Ft

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
110.00	Outside Berm	2.27				10.91	
			2.06	1.00	2.06		
109.00	Inside Berm	1.85				8.85	
			1.80	1.00	1.80		
108.00		1.76				7.05	
			1.71	1.00	1.71		
107.00	(Tailwater)	1.67				5.34	
			1.62	1.00	1.62		
106.00	ATT	1.57				3.72	
			1.53	1.00	1.53		
105.00	(PAV)	1.48				2.19	<=== Proposed elevation of overflow natural earthen weir.
			1.41	1.55	2.19		
103.45	(NWL)	1.34				0.00	
			1.25	-1.45	(1.81)		
102.00		1.15				(1.81)	
			0.92	-11.00	(10.12)		
91.00	Pond Bottom	0.68				(11.93)	

SHINGLE CREEK OUTFALL (LAKE WILLIS)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	BSN142B			**DATE**
P0ND/ NODE DESIGNATION:	LK_WILLIS	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	1/29/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Water surface	N/A	N/A	100	0.86	86.00
			TOTALS	**0.86**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.60	156.80
Proposed Roadway Widening (Untreated)	N/A	N/A	98	0.86	84.23
			TOTALS	**2.46**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.58	56.84
Existing Parking area (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.58**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 Pomello fine sand - 38	A	49	0.99	48.51
Open Spaces (fair condition)	Smyrna-Smyrna fine sand - 44 Basinger fine sand - 3	A/D	84	3.51	294.88
			TOTALS	**4.50**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.32**	**TOTAL BASIN AREA**	**8.40**	**COMPOSITE CN**	**78.78**
PERCENT DCIA	**39.52%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**86.58**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.55	4.76	**3.33**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.55	6.98	**4.89**
FDOT	50-Year 24-Hour	9.10	1.55	7.47	**5.23**
SFWMD	25-year 72-Hour	10.00	1.55	8.35	**5.85**
FDOT	100-year 72-Hour	13.50	1.55	11.80	**8.26**

SHINGLE CREEK OUTFALL (LAKE WILLIS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN142C	**MADE BY:**	DG	2/13/2017
POND/ NODE DESIGNATION:	SW142C	**REVISED BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	2.10	205.80
Proposed Roadway (Untreated)	N/A	N/A	98	0.48	47.04
			TOTALS	**2.58**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	2.56	125.44
Open Spaces (fair condition)	Ona fine sand - 20	B/D	84	0.60	50.40
			TOTALS	**3.16**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**5.74**	**COMPOSITE CN**	**74.68**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**74.68**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.39	3.51	**1.68**
ORANGE COUNTY	25-Year 24-Hour	8.60	3.39	5.55	**2.65**
FDOT	50-Year 24-Hour	9.10	3.39	6.00	**2.87**
SFWMD	25-year 72-Hour	10.00	3.39	6.84	**3.27**

BIG SAND LAKE OUTFALL 1 (FDOT SWALE)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN142C			DATE
POND/ NODE DESIGNATION:	SW142C	MADE BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

The existing swale was regraded to accommodate the improvement along SR 400. The swale will discharge to Lake Willis until the lake reaches elevation 103.45' (existing 30" invert in pond FPC141). At that elevation, it will flows through the relocated 30" outflow pipe into a offsite pipe system that outfall into Big Sand Lake.

Pond 140 (Combined) Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
107.67	Outside Berm	0.74				1.02
			0.68	0.41	0.28	
107.26	Inside Berm	0.61				0.74
			0.47	1.03	0.48	
106.23		0.32				0.26
			0.29	0.23	0.07	
106.00		0.26				0.19
			0.25	0.25	0.06	
105.75		0.23				0.13
			0.22	0.25	0.05	
105.50		0.21				0.08
			0.12	0.46	0.05	
105.04		0.03				0.02
			0.02	0.94	0.02	
104.10		0.01				0.00
			0.01	0.75	0.00	
103.35	Pnd Bot (PPV)	0.00				0.00

APPENDIX C.1.6: Shingle Creek Outfall (Big Sand Lake/ VWCD) Calculations

SHINGLE CREEK OUTFALL (BSL/ VWCD)

PRE-DEVELOPMENT BASIN SUMMARY

BSL OUTFALL 1:

EX_BSN140B	***To PND140***
Basin Area (ac.)	*12.60*
Curve Number	*72.06*

EX_BSNPND141	***Direct to Outfall***
Basin Area (ac.)	*40.64*
Curve Number	*56.43*

EX_BSNPND142	***Direct to Outfall***
Basin Area (ac.)	*6.88*
Curve Number	*75.45*

EX_BSN142A	***Direct to Outfall***
Basin Area (ac.)	*20.45*
Curve Number	*79.31*

EX_BSN142C	***Direct to Outfall***
Basin Area (ac.)	*3.66*
Curve Number	*72.33*

EX_BSL0130	***Offsite direct to Outfall***
Basin Area (ac.)	*7.02*
Curve Number	*76.52*

BSL OUTFALL 2/ VWCD:

EX_BSN142E1	***To EX_DEP142E1***
Basin Area (ac.)	*1.52*
Curve Number	*84.00*

EX_BSN142E2	***To EX_DEP142E2***
Basin Area (ac.)	*1.89*
Curve Number	*84.00*

EX_BSN142E3	***Direct to Outfall***
Basin Area (ac.)	*2.03*
Curve Number	*65.41*

EX_BSN200A	***Offsite to Outfall***
Basin Area (ac.)	*9.17*
Curve Number	*55.27*

VWCD:

EX_BSN142D	***Offsite direct to Outfall***
Basin Area (ac.)	*13.91*
Curve Number	*84.96*

EX_BSNVWCD	***Offsite direct to Outfall***
Basin Area (ac.)	*0.97*
Curve Number	*85.30*

Pre Onsite Drainage Area Summary

	Onsite	*CH2M*	*Offsite*	***Total***
Total Drainage Area (ac.)	*104.55*	*9.17*	*7.02*	*= 120.74*
Total Impervious Area (ac.)	*22.24*	*5.32*	*0.00*	*= 27.56*
Treated (ac.)	*3.49*			*= 3.49*
Untreated (ac.)	*18.75*	*5.32*	*0.00*	*= 24.07*
Total Water Surface (ac.)	*2.87*	*0.00*	*0.00*	*= 2.87*

SHINGLE CREEK OUTFALL (BSL/ VWCD)

POST-DEVELOPMENT BASIN SUMMARY

BSL OUTFALL 1:

BSN139	***To PND141***	**BSN142A**	***Direct to Outfall***
Basin Area (ac.)	20.52	*Basin Area (ac.)*	3.39
Curve Number	71.16	*Curve Number*	62.11
BSN140B1	***To PND140B1***	**BSN200A**	***Offsite CH2M to PND142***
Basin Area (ac.)	6.03	*Basin Area (ac.)*	12.04
Curve Number	72.17	*Curve Number*	67.53
BSN140B2	***To PND140B2***	**BSN200C**	***Offsite CH2M to PND142***
Basin Area (ac.)	3.44	*Basin Area (ac.)*	1.20
Curve Number	67.89	*Curve Number*	
BSN140B3	***To PND140B3***	**BSL0130A**	***Offsite to PND141***
Basin Area (ac.)	6.00	*Basin Area (ac.)*	11.62
Curve Number	64.54	*Curve Number*	59.87
BSN141A	***To PND141***	**BSL0130**	***Offsite direct to Outfall***
Basin Area (ac.)	7.70	*Basin Area (ac.)*	7.56
Curve Number	53.97	*Curve Number*	65.11
BSN141B1	***Direct to Outfall***	***BSL OUTFALL 2/ VWCD:***	
Basin Area (ac.)	5.75	**EX_BSN142E1**	***To EX_DEP142E1***
Curve Number	52.26	*Basin Area (ac.)*	1.52
BSN141B2	***Direct to Outfall***	*Curve Number*	84.00
Basin Area (ac.)	6.68	**EX_BSN142E2**	***To EX_DEP142E2***
Curve Number	49.00	*Basin Area (ac.)*	1.89
BSN141B3	***Direct to Outfall***	*Curve Number*	84.00
Basin Area (ac.)	9.60	**BSN142E3**	***Direct to Outfall***
Curve Number	71.31	*Basin Area (ac.)*	1.66
BSN141B4	***Direct to Outfall***	*Curve Number*	83.20
Basin Area (ac.)	8.50	***VWCD:***	
Curve Number	50.10	**EX_BSN142D**	***Offsite direct to Outfall***
BSN142	***To PND142***	*Basin Area (ac.)*	13.91
Basin Area (ac.)	13.96	*Curve Number*	84.96
Curve Number	79.42	**EX_BSNVWCD**	***Offsite direct to Outfall***
		Basin Area (ac.)	0.97
		Curve Number	85.30

Post Drainage Area Summary

	Onsite	*CH2M*	*Offsite*	***Total***
Total Drainage Area (ac.)	111.52	13.24	19.18	= 143.94
Total Impervious Area (ac.)	25.92	13.07	5.13	= 44.12
Treated (ac.)	25.40	13.07		= 38.47
Untreated (ac.)	0.52		5.13	= 5.65
Total Water Surface (ac.)	16.83	0.00	0.00	= 16.83

More existing impervious areas within this watershed will be directed to new retention ponds for treatment than in the existing condition (untreated impervious decrease from 24.07 acres to 12.09 acres).

SHINGLE CREEK OUTFALL (BSL/ VWCD)

RATE OF DISCHARGE SUMMARY

Pre-Development Discharge Summary

Peak Discharge (cfs) - BSL Outfall 1

25yr/24hr	62.07	Orange County
25yr/72hr	181.36	SFWMD

Peak Discharge (cfs) - BSL Outfall 2

25yr/24hr	157.94	Orange County
25yr/72hr	156.11	SFWMD

Total Peak Discharge (cfs) - BSL (Outfall 1 + Outfall 2)

25yr/24hr	220.01	Orange County
25yr/72hr	337.47	VWCD/ SFWMD

Peak Discharge (cfs) - VWCD

25yr/24hr	3.71	Orange County
25yr/72hr	13.14	VWCD/ SFWMD

Post-Development Discharge Summary

Peak Discharge (cfs) - BSL Outfall 1

25yr/24hr	40.36	Orange County
25yr/72hr	78.34	SFWMD

Peak Discharge (cfs) - BSL Outfall 2

25yr/24hr	142.03	Orange County
25yr/72hr	121.26	SFWMD

Total Peak Discharge (cfs) - BSL (Outfall 1 + Outfall 2)

25yr/24hr	182.39	Orange County
25yr/72hr	199.60	VWCD/ SFWMD

Peak Discharge (cfs) - VWCD

25yr/24hr	3.64	Orange County
25yr/72hr	12.97	VWCD/ SFWMD

WATER MANAGEMENT SYSTEM SUMMARY

WATER QUALITY SUMMARY *(Wet Detention Ponds)*

Required Pollution Abatement Volume (PAV)	6.15	ac-ft
Provided PAV	10.64	ac-ft
Pond PND140 Control Elevation	127.20	ft, NAVD
PAV Elevation for Pond PND140	127.75	ft, NAVD
Pond PND141B1 Control Elevation	116.00	ft, NAVD
PAV Elevation for Pond PND141B1	117.25	ft, NAVD
Pond PND141B2 Control Elevation	114.00	ft, NAVD
PAV Elevation for Pond PND141B2	116.00	ft, NAVD
Pond PND141B3 Control Elevation	103.00	ft, NAVD
PAV Elevation for Pond PND141B3	114.00	ft, NAVD
Pond PND141B4 Control Elevation	0.00	ft, NAVD
PAV Elevation for Pond PND141B4	103.00	ft, NAVD
Pond PND142 Control Elevation	96.50	ft, NAVD
PAV Elevation for Pond PND142	98.75	ft, NAVD

SHINGLE CREEK OUTFALL (BSL/ VWCD)

PROPOSED POND SUMMARY

Pond 140 Control Elevation (NWL)	*127.20*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation	*Permitted*	*ft, NAVD*
Interim DCP		
Inside Berm Elevation	*130.00*	*ft, NAVD*
25Y24H Design High Water Elevation (DHW)	*129.07*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*129.23*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*127.40*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*VARIES*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*0.77*	*ft*
Ultimate I-4BTU		
Inside Berm Elevation	*130.00*	*ft, NAVD*
25Y24H Design High Water Elevation (DHW)	*128.46*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*128.34*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*1.66*	*ft*

Pond 141B1 Control Elevation (NWL)	*116.00*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD AS PER 032018 BORING DATA*
Inside Berm Elevation	*121.00*	*ft, NAVD*
Interim DCP		
25Y24H Design High Water Elevation (DHW)	*119.00*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*119.31*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*116.38*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*116.49*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*1.69*	*ft*
Ultimate I-4BTU		
25Y24H Design High Water Elevation (DHW)	*119.33*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*119.54*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*1.67*	*ft*

Pond 141B2 Control Elevation (NWL)	*112.70*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD AS PER 032018 BORING DATA*
Inside Berm Elevation	*117.70*	*ft, NAVD*
Interim DCP		
25Y24H Design High Water Elevation (DHW)	*115.65*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*116.04*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*113.09*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*113.45*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*1.66*	*ft*
Ultimate I-4BTU		
25Y24H Design High Water Elevation (DHW)	*115.31*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*115.61*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*2.39*	*ft*

SHINGLE CREEK OUTFALL (BSL/ VWCD)

Pond 141B3 Control Elevation (NWL)	*108.50*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD AS PER 032018 BORING DATA*
Inside Berm Elevation	*113.50*	*ft, NAVD*
Interim DCP		
25Y24H Design High Water Elevation (DHW)	*109.89*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*110.06*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*109.03*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*109.18*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*3.44*	*ft*
Ultimate I-4BTU		
25Y24H Design High Water Elevation (DHW)	*111.65*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*111.90*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*1.85*	*ft*

Pond 141B4 Control Elevation (NWL)	*105.80*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation		*ft, NAVD AS PER 032018 BORING DATA*
Inside Berm Elevation	*110.80*	*ft, NAVD*
Interim DCP		
25Y24H Design High Water Elevation (DHW)	*107.03*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*107.20*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*106.12*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*106.21*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*3.60*	*ft*
Ultimate I-4BTU		
25Y24H Design High Water Elevation (DHW)	*108.96*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*109.20*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*1.84*	*ft*

Pond 142 Control Elevation (NWL)	*96.50*	*ft, NAVD*
Ave Estimated Seasonal High Water Elevation	*96.50*	*ft, NAVD AS PER 102016 BORING DATA*
Inside Berm Elevation	*105.00*	*ft, NAVD*
Interim DCP		
25Y24H Design High Water Elevation (DHW)	*98.93*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*99.10*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*97.57*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*97.84*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*6.07*	*ft*
Ultimate I-4BTU		
25Y24H Design High Water Elevation (DHW)	*100.62*	*ft, NAVD*
25Y72H Design High Water Elevation (DHW)	*100.64*	*ft, NAVD*
10Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design standard*
50Y01H Peak Inflow Elevation	*N/A*	*ft, NAVD storm sewer design sag with no outflow*
*Freeboard Provided**	*4.38*	*ft*

** Freeboard depth is taken from the 25Y72H DHW elevation to the inside berm elevation*

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM SUMMARY TO BIG SAND LAKE OUTFALL 1

STORM EVENT	PRE-RATE	POST-RATE		DIFFERENCE	
		INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	36.81	31.45	19.47	-5.36	-10.22
002Y002HR	25.02	31.20	19.27	6.18	
002Y004HR	32.77	30.91	20.71	-1.86	
002Y008HR	32.75	30.31	21.32	-2.44	
002Y024HR	31.45	31.32	21.72	-0.13	
002Y072HR	32.25	32.45	22.03	0.20	
005Y001HR	39.58	31.62	19.02	-7.96	-9.89
005Y002HR	37.85	31.32	20.65	-6.53	
005Y004HR	31.00	31.17	22.45	0.17	
005Y008HR	33.26	31.27	22.85	-1.99	
005Y024HR	31.72	31.87	22.37	0.15	
005Y072HR	33.16	33.90	23.27	0.74	
010Y001HR	41.67	31.80	19.43	-9.87	-4.20
010Y002HR	39.58	28.97	21.56	-10.61	
010Y004HR	41.17	31.48	22.73	-9.69	
010Y008HR	38.10	31.55	23.58	-6.55	
010Y024HR	19.14	32.66	25.51	13.52	
010Y072HR	34.07	33.86	29.87	-0.21	
025Y001HR	31.91	21.19	20.25	-10.72	-0.75
025Y002HR	42.00	31.71	23.07	-10.29	
025Y004HR	54.44	31.81	24.00	-22.63	
025Y008HR	52.35	32.18	27.46	-20.17	
025Y024HR	32.72	34.41	38.45	1.69	
025Y072HR	36.34	35.73	35.59	-0.61	
050Y001HR	35.71	22.12	21.34	-13.59	-24.00
050Y002HR	47.24	31.84	25.32	-15.40	
050Y004HR	63.61	32.16	28.68	-31.45	
050Y008HR	65.09	32.72	32.76	-32.37	
050Y024HR	37.09	36.01	40.44	-1.08	
050Y072HR	44.65	36.75	41.09	-7.90	
100Y001HR	39.88	23.06	22.39	-16.82	-34.44
100Y002HR	54.81	32.03	26.80	-22.78	
100Y004HR	54.31	32.81	29.84	-21.50	
100Y008HR	83.75	33.63	42.58	-50.12	
100Y024HR	48.83	49.48	49.45	0.65	
100Y072HR	54.99	50.81	49.31	-4.18	

The information on this sheet is to provide FDOT with the change in discharge rates to Big Sand Lake for both the Interim and Ultimate I-4 BTU conditions. As shown, the storm per storm comparison method could not be used in for the Ultimate I-4 BTU. However, the peak rate approach was taken to determine that the developed condition is less than the existing condition.

The information used to model this node in ICPR was taken from the April 2017 Technical Memorandum of the Big Sand Lake Watershed Management Plan as prepared by Geosyntec for Orange County for node NBSL5160. The initial stage (91.73'), the 100 year/ 24 hour peak stage (93.90') and the 100 year/ 72 hour peak stage (95.05') were extrapolated from page 71 of the report to create boundary hydrographs for both the existing and proposed models. The 100 year/ 24 hour peak stage was used for all storms with durations 24 hours or less; while the 100 year/ 72 hour peak stage was used for durations 72 hours and more.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM SUMMARY TO BIG SAND LAKE OUTFALL 2

STORM EVENT	PRE-RATE	POST-RATE		DIFFERENCE	
		INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	66.00	50.74	40.67	-15.26	-25.33
002Y002HR	66.78	53.07	41.72	-13.71	-25.06
002Y004HR	46.47	39.59	35.66	-6.88	-10.81
002Y008HR	64.19	55.70	47.27	-8.49	-16.92
002Y024HR	138.51	132.14	133.95	-6.37	-4.56
002Y072HR	92.31	87.87	88.32	-4.44	-3.99
005Y001HR	70.87	52.22	41.02	-18.65	-29.85
005Y002HR	71.28	54.57	41.99	-16.71	-29.29
005Y004HR	49.38	40.25	35.79	-9.13	-13.59
005Y008HR	67.70	57.02	47.50	-10.68	-20.20
005Y024HR	158.39	150.71	152.66	-7.68	-5.73
005Y072HR	93.29	88.85	88.37	-4.44	-4.92
010Y001HR	74.97	53.65	41.31	-21.32	-33.66
010Y002HR	75.30	55.99	42.20	-19.31	-33.10
010Y004HR	52.29	40.92	35.90	-11.37	-16.39
010Y008HR	70.66	57.89	47.71	-12.77	-22.95
010Y024HR	145.17	137.23	137.91	-7.94	-7.26
010Y072HR	94.27	88.77	88.42	-5.50	-5.85
025Y001HR	80.68	55.66	41.69	-25.02	-38.99
025Y002HR	80.86	57.98	42.49	-22.88	-38.37
025Y004HR	56.09	41.89	36.05	-14.20	-20.04
025Y008HR	75.24	59.31	48.01	-15.93	-27.23
025Y024HR	145.65	136.55	136.27	-9.10	-9.38
025Y072HR	96.06	89.72	88.50	-6.34	-7.56
050Y001HR	85.07	57.19	41.98	-27.88	-43.09
050Y002HR	84.89	59.42	42.69	-25.47	-42.20
050Y004HR	59.30	42.64	36.16	-16.66	-23.14
050Y008HR	79.21	60.57	48.26	-18.64	-30.95
050Y024HR	136.48	126.56	125.03	-9.92	-11.45
050Y072HR	97.43	90.35	88.56	-7.08	-8.87
100Y001HR	89.30	58.62	42.25	-30.68	-47.05
100Y002HR	88.79	60.77	42.88	-28.02	-45.91
100Y004HR	69.90	40.37	36.62	-29.53	-33.28
100Y008HR	83.56	62.05	48.51	-21.51	-35.05
100Y024HR	113.01	102.68	98.57	-10.33	-14.44
100Y072HR	99.32	91.43	88.64	-7.89	-10.68

The information on this sheet is to provide FDOT with the change in discharge rates to the Big Sand Lake/ Valencia Water Control District outfall Ditch for both the Interim and Ultimate I-4 BTU conditions. As shown, the storm per storm comparison method could not be used in for the Ultimate I-4 BTU. However, the peak rate approach was taken to determine that the developed condition is less than the existing condition.

The information used to model this node in ICPR was taken from the April 2017 Technical Memorandum of the Big Sand Lake Watershed Management Plan as prepared by Geosyntec for Orange County for node NBSL5190. The initial stage (94.63'), the 100 year/ 24 hour peak stage (97.73') and the 100 year/ 72 hour (98.73') peak stage were extrapolated from page 71 of the report to create boundary hydrographs for both the existing and proposed models. The 100 year/ 24 hour peak stage was used for all storms with durations 24 hours or less; while the 100 year/ 72 hour peak stage was used for durations 72 hours and more.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM SUMMARY TO VALENCIA WATER CONTROL DISTRICT

STORM EVENT	PRE-RATE	POST-RATE		DIFFERENCE	
		INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE DCP
002Y001HR	24.78	23.68	14.51	-1.10	-10.27
002Y002HR	11.74	11.26	5.45	-0.48	-6.29
002Y004HR	5.36	5.22	1.49	-0.14	-3.87
002Y008HR	1.92	1.91	1.80	-0.01	-0.12
002Y024HR	1.87	0.42	1.36	-1.45	-0.51
002Y072HR	1.79	0.44	1.80	-1.35	0.01
005Y001HR	28.43	27.17	15.25	-1.26	-13.18
005Y002HR	13.50	13.03	5.65	-0.47	-7.85
005Y004HR	6.41	6.24	1.56	-0.17	-4.85
005Y008HR	2.38	2.37	1.80	-0.01	-0.58
005Y024HR	1.89	0.49	1.86	-1.40	-0.03
005Y072HR	1.77	0.46	1.80	-1.31	0.03
010Y001HR	31.40	30.02	15.84	-1.38	-15.56
010Y002HR	14.85	14.69	5.80	-0.16	-9.05
010Y004HR	7.59	7.55	1.61	-0.04	-5.98
010Y008HR	2.82	2.76	1.80	-0.06	-1.02
010Y024HR	1.83	0.36	1.87	-1.47	0.04
010Y072HR	1.79	0.48	1.83	-1.31	0.04
025Y001HR	35.31	33.80	16.61	-1.51	-18.70
025Y002HR	19.09	18.88	6.01	-0.21	-13.08
025Y004HR	9.68	9.61	1.68	-0.07	-8.00
025Y008HR	3.82	3.83	1.80	0.01	-2.02
025Y024HR	1.59	0.58	1.82	-1.01	0.23
025Y072HR	1.87	0.49	1.83	-1.38	-0.04
050Y001HR	38.22	36.62	17.19	-1.60	-21.03
050Y002HR	22.08	21.78	6.15	-0.30	-15.93
050Y004HR	11.26	11.14	1.74	-0.12	-9.52
050Y008HR	4.87	4.86	1.80	-0.01	-3.07
050Y024HR	1.40	0.78	1.48	-0.62	0.08
050Y072HR	1.83	0.56	1.21	-1.27	-0.62
100Y001HR	40.97	39.28	17.72	-1.69	-23.25
100Y002HR	24.89	24.50	6.28	-0.39	-18.61
100Y004HR	22.64	22.55	1.34	-0.09	-21.30
100Y008HR	5.93	5.91	1.80	-0.02	-4.13
100Y024HR	1.87	1.04	1.87	-0.83	0.00
100Y072HR	1.83	0.65	1.47	-1.18	-0.36

The information on this sheet is to provide FDOT with the change in discharge rates to the Valencia Water Control District outfall Ditch for both the Interim and Ultimate I-4 BTU conditions. As shown, the storm per storm comparison method could not be used in for the Ultimate I-4 BTU. However, the peak rate approach was taken to determine that the developed condition is less than the existing condition.

The information used to model this node in ICPR was taken from the April 2017 Technical Memorandum of the Big Sand Lake Watershed Management Plan as prepared by Geosyntec for Orange County for node NBSL5350. The initial stage (94.53'), the 100 year/ 24 hour peak stage (97.96') and the 100 year/ 72 hour (98.81') peak stage were extrapolated from page 71 of the report to create boundary hydrographs for both the existing and proposed models. The 100 year/ 24 hour peak stage was used for all storms with durations 24 hours or less; while the 100 year/ 72 hour peak stage was used for durations 72 hours and more.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM ONSITE DETENTION PEAK STAGE POND 140B1 TO POND 140B3

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD	
	INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	127.68	127.63	2.32	2.37
002Y002HR	127.83	127.72	2.17	2.28
002Y004HR	127.93	127.61	2.07	2.39
002Y008HR	128.03	127.67	1.97	2.33
002Y024HR	128.14	127.23	1.86	2.77
002Y072HR	128.23	127.24	1.77	2.76
005Y001HR	127.79	127.82	2.21	2.18
005Y002HR	127.97	127.89	2.03	2.11
005Y004HR	128.10	127.99	1.90	2.01
005Y008HR	128.21	127.67	1.79	2.33
005Y024HR	128.35	127.26	1.65	2.74
005Y072HR	128.43	127.26	1.57	2.74
010Y001HR	127.88	127.84	2.12	2.16
010Y002HR	128.09	127.99	1.91	2.01
010Y004HR	128.24	128.00	1.76	2.00
010Y008HR	128.38	127.90	1.62	2.10
010Y024HR	128.54	127.23	1.46	2.77
010Y072HR	128.60	127.22	1.40	2.78
025Y001HR	128.00	127.99	2.00	2.01
025Y002HR	128.23	128.13	1.77	1.87
025Y004HR	128.43	128.29	1.57	1.71
025Y008HR	128.61	128.16	1.39	1.84
025Y024HR	128.82	127.23	1.18	2.77
025Y072HR	128.86	127.25	1.14	2.75
050Y001HR	128.08	128.06	1.92	1.94
050Y002HR	128.33	128.30	1.67	1.70
050Y004HR	128.58	128.37	1.42	1.63
050Y008HR	128.80	128.34	1.20	1.66
050Y024HR	129.07	127.41	0.93	2.59
050Y072HR	129.07	127.23	0.93	2.77
100Y001HR	128.16	128.24	1.84	1.76
100Y002HR	128.43	128.42	1.57	1.58
100Y004HR	128.43	128.42	1.57	1.58
100Y008HR	128.99	128.63	1.01	1.37
100Y024HR	129.33	127.71	0.67	2.29
100Y072HR	129.29	127.23	0.71	2.77

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. It is also provide to demonstrate that pond PND140 is designed for the ultimate condition with no additional ROW will be needed unless there is significant design changes in the future. The FDOT critical storms are provided, although not needed, is due to the sensitivity of the area. The peak stage shown on this sheet is the highest elevation obtained between the three interconnected ponds.

The control structure will be designed to meet the change in rate between the developed and existing condition for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM ONSITE DETENTION PEAK STAGE POND 141B1

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD	
	INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	116.76	117.01	4.24	3.99
002Y002HR	116.99	117.29	4.01	3.71
002Y004HR	117.14	114.46	3.86	6.54
002Y008HR	117.31	117.58	3.69	3.42
002Y024HR	117.55	117.63	3.45	3.37
002Y072HR	117.74	117.65	3.26	3.35
005Y001HR	116.93	117.23	4.07	3.77
005Y002HR	117.20	117.56	3.80	3.44
005Y004HR	117.40	117.79	3.60	3.21
005Y008HR	117.61	117.89	3.39	3.11
005Y024HR	117.89	117.91	3.11	3.09
005Y072HR	118.07	117.90	2.93	3.10
010Y001HR	117.06	117.39	3.94	3.61
010Y002HR	117.37	117.77	3.63	3.23
010Y004HR	117.61	118.04	3.39	2.96
010Y008HR	117.86	118.19	3.14	2.81
010Y024HR	118.20	118.18	2.80	2.82
010Y072HR	118.37	118.12	2.63	2.88
025Y001HR	117.23	117.61	3.77	3.39
025Y002HR	117.60	118.05	3.40	2.95
025Y004HR	117.91	118.41	3.09	2.59
025Y008HR	118.24	118.62	2.76	2.38
025Y024HR	118.68	118.58	2.32	2.42
025Y072HR	118.81	118.45	2.19	2.55
050Y001HR	117.35	117.77	3.65	3.23
050Y002HR	117.75	118.25	3.25	2.75
050Y004HR	118.13	118.67	2.87	2.33
050Y008HR	118.53	118.95	2.47	2.05
050Y024HR	119.09	118.93	1.91	2.07
050Y072HR	119.17	118.72	1.83	2.28
100Y001HR	117.47	117.92	3.53	3.08
100Y002HR	117.90	118.43	3.10	2.57
100Y004HR	117.90	118.43	3.10	2.57
100Y008HR	118.84	119.33	2.16	1.67
100Y024HR	119.54	119.32	1.46	1.68
100Y072HR	119.55	119.01	1.45	1.99

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. It is also provide to demonstrate that pond PND141B1 is designed for the ultimate condition with no additional ROW will be needed unless there is significant design changes in the future. The FDOT critical storms are provided, although not needed, is due to the sensitivity of the area. This pond is designed to include the development to the west of it O-Town West at 85% impervious for the site.

The control structure will be designed to meet the change in rate between the developed and existing condition for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM ONSITE DETENTION PEAK STAGE POND 141B2

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD	
	INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	113.28	113.32	4.42	4.38
002Y002HR	113.51	113.52	4.19	4.18
002Y004HR	113.68	113.68	4.02	4.02
002Y008HR	113.84	113.81	3.86	3.89
002Y024HR	114.04	113.96	3.66	3.74
002Y072HR	114.21	114.08	3.49	3.62
005Y001HR	113.44	113.47	4.26	4.23
005Y002HR	113.74	113.73	3.96	3.97
005Y004HR	113.97	113.92	3.73	3.78
005Y008HR	114.16	114.08	3.54	3.62
005Y024HR	114.38	114.25	3.32	3.45
005Y072HR	114.54	114.35	3.16	3.35
010Y001HR	113.58	113.60	4.12	4.10
010Y002HR	113.93	113.89	3.77	3.81
010Y004HR	114.21	114.13	3.49	3.57
010Y008HR	114.44	114.32	3.26	3.38
010Y024HR	114.70	114.51	3.00	3.19
010Y072HR	114.83	114.59	2.87	3.11
025Y001HR	113.76	113.76	3.94	3.94
025Y002HR	114.18	114.11	3.52	3.59
025Y004HR	114.54	114.41	3.16	3.29
025Y008HR	114.85	114.66	2.85	3.04
025Y024HR	115.18	114.91	2.52	2.79
025Y072HR	115.26	114.94	2.44	2.76
050Y001HR	113.90	113.88	3.80	3.82
050Y002HR	114.35	114.26	3.35	3.44
050Y004HR	114.80	116.63	2.90	1.07
050Y008HR	115.19	114.93	2.51	2.77
050Y024HR	115.59	115.24	2.11	2.46
050Y072HR	115.61	115.22	2.09	2.48
100Y001HR	114.03	113.99	3.67	3.71
100Y002HR	114.52	114.40	3.18	3.30
100Y004HR	114.52	114.40	3.18	3.30
100Y008HR	115.53	115.22	2.17	2.48
100Y024HR	116.03	115.61	1.67	2.09
100Y072HR	115.97	115.52	1.73	2.18

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. It is also provide to demonstrate that pond PND141B2 is designed for the ultimate condition with no additional ROW will be needed unless there is significant design changes in the future. The FDOT critical storms are provided, although not needed, is due to the sensitivity of the area.

The control structure will be designed to meet the change in rate between the developed and existing condition for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM ONSITE DETENTION PEAK STAGE POND 141B3

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD	
	INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	108.82	109.34	4.68	4.16
002Y002HR	108.92	109.60	4.58	3.90
002Y004HR	108.99	109.77	4.51	3.73
002Y008HR	109.07	109.94	4.43	3.56
002Y024HR	109.20	110.14	4.30	3.36
002Y072HR	109.34	110.28	4.16	3.22
005Y001HR	108.89	109.52	4.61	3.98
005Y002HR	109.02	109.83	4.48	3.67
005Y004HR	109.11	110.05	4.39	3.45
005Y008HR	109.21	110.25	4.29	3.25
005Y024HR	109.37	110.47	4.13	3.03
005Y072HR	109.53	110.60	3.97	2.90
010Y001HR	108.95	109.66	4.55	3.84
010Y002HR	109.09	110.01	4.41	3.49
010Y004HR	109.21	110.28	4.29	3.22
010Y008HR	109.33	110.51	4.17	2.99
010Y024HR	109.53	110.79	3.97	2.71
010Y072HR	109.70	110.89	3.80	2.61
025Y001HR	109.03	109.84	4.47	3.66
025Y002HR	109.20	110.25	4.30	3.25
025Y004HR	109.34	110.58	4.16	2.92
025Y008HR	109.51	110.89	3.99	2.61
025Y024HR	109.77	111.26	3.73	2.24
025Y072HR	109.95	111.32	3.55	2.18
050Y001HR	109.09	109.97	4.41	3.53
050Y002HR	109.27	110.41	4.23	3.09
050Y004HR	109.45	110.81	4.05	2.69
050Y008HR	109.65	111.20	3.85	2.30
050Y024HR	109.98	111.67	3.52	1.83
050Y072HR	110.15	111.67	3.35	1.83
100Y001HR	109.14	110.10	4.36	3.40
100Y002HR	109.34	110.56	4.16	2.94
100Y004HR	109.34	110.56	4.16	2.94
100Y008HR	109.80	111.51	3.70	1.99
100Y024HR	110.21	112.11	3.29	1.39
100Y072HR	110.36	112.04	3.14	1.46

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. It is also provide to demonstrate that pond PND141B3 is designed for the ultimate condition with no additional ROW will be needed unless there is significant design changes in the future. The FDOT critical storms are provided, although not needed, is due to the sensitivity of the area.

The control structure will be designed to meet the change in rate between the developed and existing condition for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM ONSITE DETENTION PEAK STAGE POND 141B4

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD	
	INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	106.08	106.72	4.72	4.08
002Y002HR	106.16	106.96	4.64	3.84
002Y004HR	106.22	107.13	4.58	3.67
002Y008HR	106.29	107.28	4.51	3.52
002Y024HR	106.40	107.45	4.40	3.35
002Y072HR	106.53	107.54	4.27	3.26
005Y001HR	106.14	106.90	4.66	3.90
005Y002HR	106.24	107.20	4.56	3.60
005Y004HR	106.32	107.41	4.48	3.39
005Y008HR	106.41	107.58	4.39	3.22
005Y024HR	106.56	107.77	4.24	3.03
005Y072HR	106.70	107.85	4.10	2.95
010Y001HR	106.19	107.05	4.61	3.75
010Y002HR	106.31	107.38	4.49	3.42
010Y004HR	106.41	107.64	4.39	3.16
010Y008HR	106.52	107.85	4.28	2.95
010Y024HR	106.70	108.07	4.10	2.73
010Y072HR	106.86	108.13	3.94	2.67
025Y001HR	106.25	107.24	4.55	3.56
025Y002HR	106.40	107.62	4.40	3.18
025Y004HR	106.52	107.95	4.28	2.85
025Y008HR	106.68	108.23	4.12	2.57
025Y024HR	106.92	108.53	3.88	2.27
025Y072HR	107.11	108.54	3.69	2.26
050Y001HR	106.30	107.37	4.50	3.43
050Y002HR	106.46	107.79	4.34	3.01
050Y004HR	106.62	108.18	4.18	2.62
050Y008HR	106.81	108.53	3.99	2.27
050Y024HR	107.13	108.93	3.67	1.87
050Y072HR	107.31	108.88	3.49	1.92
100Y001HR	106.35	107.50	4.45	3.30
100Y002HR	106.52	107.95	4.28	2.85
100Y004HR	106.52	107.95	4.28	2.85
100Y008HR	106.95	108.84	3.85	1.96
100Y024HR	107.34	109.35	3.46	1.45
100Y072HR	107.52	109.24	3.28	1.56

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. It is also provide to demonstrate that pond PND141B4 is designed for the ultimate condition with no additional ROW will be needed unless there is significant design changes in the future. The FDOT critical storms are provided, although not needed, is due to the sensitivity of the area.

The control structure will be designed to meet the change in rate between the developed and existing condition for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

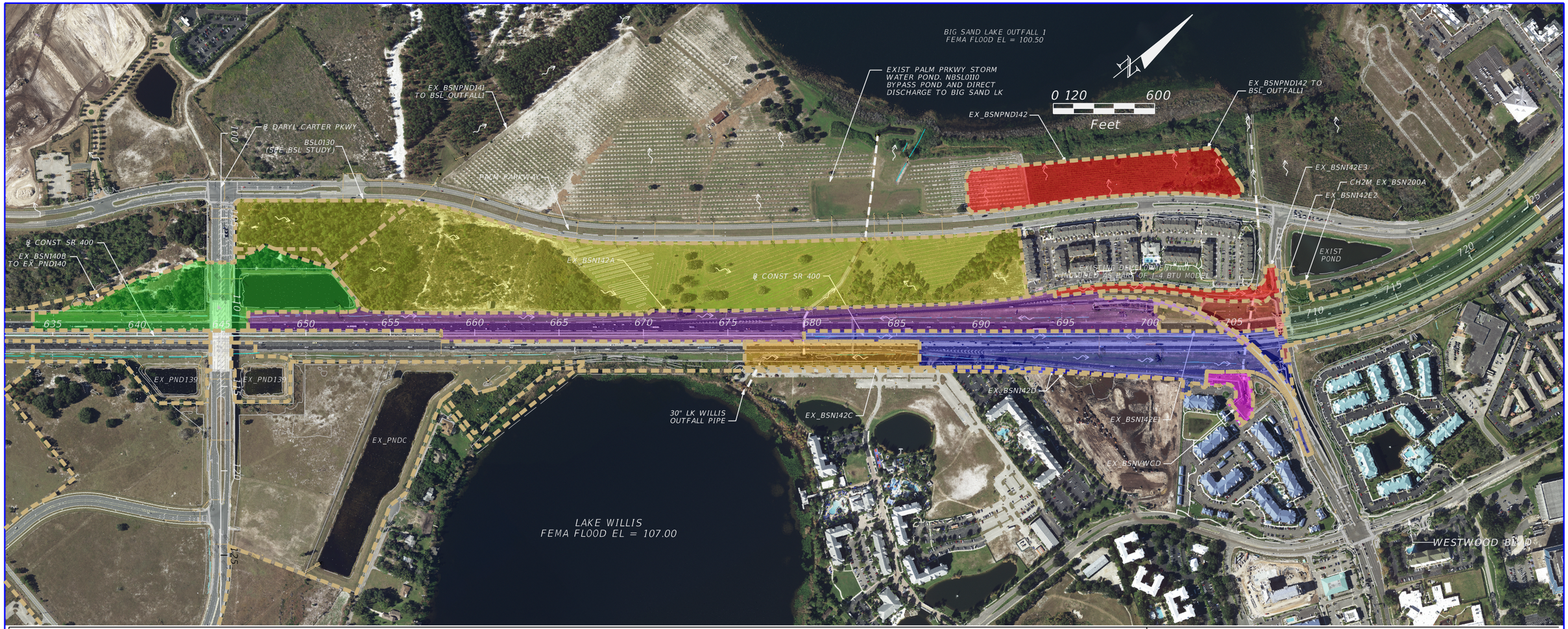
SHINGLE CREEK OUTFALL (BSL/ VWCD)

FDOT CRITICAL STORM ONSITE DETENTION PEAK STAGE POND 142

STORM EVENT	PEAK STAGE		AVAILABLE FREEBOARD	
	INTERIM DCP	ULTIMATE I-4BTU	INTERIM DCP	ULTIMATE I-4BTU
002Y001HR	96.97	97.95	8.03	7.05
002Y002HR	97.19	98.30	7.81	6.70
002Y004HR	97.37	98.56	7.63	6.44
002Y008HR	97.53	98.69	7.47	6.31
002Y024HR	97.75	98.73	7.25	6.27
002Y072HR	98.29	99.08	6.71	5.92
005Y001HR	97.10	98.22	7.90	6.78
005Y002HR	97.37	98.61	7.63	6.39
005Y004HR	97.59	98.91	7.41	6.09
005Y008HR	97.78	99.05	7.22	5.95
005Y024HR	98.04	99.06	6.96	5.94
005Y072HR	98.87	99.36	6.13	5.64
010Y001HR	97.20	98.42	7.80	6.58
010Y002HR	97.51	98.85	7.49	6.15
010Y004HR	97.77	99.19	7.23	5.81
010Y008HR	97.99	99.34	7.01	5.66
010Y024HR	98.30	99.37	6.70	5.63
010Y072HR	98.84	99.63	6.16	5.37
025Y001HR	97.34	98.67	7.66	6.33
025Y002HR	97.70	99.15	7.30	5.85
025Y004HR	98.01	99.56	6.99	5.44
025Y008HR	98.29	99.76	6.71	5.24
025Y024HR	98.65	99.87	6.35	5.13
025Y072HR	99.35	100.18	5.65	4.82
050Y001HR	97.44	98.85	7.56	6.15
050Y002HR	97.83	99.35	7.17	5.65
050Y004HR	98.19	99.82	6.81	5.18
050Y008HR	98.52	100.09	6.48	4.91
050Y024HR	98.93	100.32	6.07	4.68
050Y072HR	99.64	100.52	5.36	4.48
100Y001HR	97.54	99.01	7.46	5.99
100Y002HR	97.95	99.54	7.05	5.46
100Y004HR	98.00	99.59	7.00	5.41
100Y008HR	98.75	100.44	6.25	4.56
100Y024HR	99.24	100.86	5.76	4.14
100Y072HR	99.98	100.93	5.02	4.07

The information on this sheet is to provide FDOT the impounded water differentiation between the Interim and Ultimate I-4BTU condition within the pond. The control structure will be designed to meet the change in rate for both the Interim and Ultimate I-4 BTU conditions. As such no change will be required when I-4 BTU goes to construction unless there are unforseen future design changes that will affect the overall contributing drainage areas.

The Ultimate peak stage in the pond is much higher than the Interim, but it still provide more than a foot of freeboard. The pond in the Ultimate condition will impound over seven feet of water (100 year/ 24 hour) storm and over six feet of water during the Orange County design storm. This is a significant amount of water and may need stability analysis along the northern part (nearest to Big Sand Lake). With the current situation (Interim), the impounded water is at most shy of four feet during the 100 year/ 72 hour storm event.



BSL OUTFALL 1

ONSITE TREATED:

EX_BSN140B
TOTAL AREA: 12.60 AC.
IMPERVIOUS AREA: 2.82 AC.
PERVIOUS AREA: 6.98 AC.
WATER SURFACE: 2.80 AC.
CN: 72.06
DCIA: 2.80 AC. (22.22%)
NDCIA: 2.82 AC.
Tc: 10.00 MINS (PERMITTED)

OFFSITE UNTREATED:

EX_BSL0130
TOTAL AREA: 7.02 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 7.02 AC.
WATER SURFACE: 0.00 AC.
CN: 76.52 (INTERPOLATED)
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 56.90 MINS (BSL STUDY)

ONSITE UNTREATED:

EX_BSNPND141
TOTAL AREA: 40.64 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 40.57 AC.
WATER SURFACE: 0.07 AC.
CN: 56.43
DCIA: 0.07 AC. (0.17%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN142A
TOTAL AREA: 20.45 AC.
IMPERVIOUS AREA: 10.27 AC.
PERVIOUS AREA: 10.18 AC.
WATER SURFACE: 0.00 AC.
CN: 79.31
DCIA: 0.00 AC. (0.00%)
NDCIA: 10.27 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN142C
TOTAL AREA: 3.66 AC.
IMPERVIOUS AREA: 1.40 AC.
PERVIOUS AREA: 2.26 AC.
WATER SURFACE: 0.00 AC.
CN: 72.33
DCIA: 0.00 AC. (0.00%)
NDCIA: 1.40 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSNPND142
TOTAL AREA: 6.88 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 6.88 AC.
WATER SURFACE: 0.00 AC.
CN: 75.45
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BIG SAND LAKE OUTFALL 2/ VWCD

ONSITE UNTREATED:

EX_BSN142E3
TOTAL AREA: 2.03 AC.
IMPERVIOUS AREA: 0.32 AC.
PERVIOUS AREA: 1.71 AC.
WATER SURFACE: 0.00 AC.
CN: 65.41
DCIA: 0.11 AC. (5.42%)
NDCIA: 0.21 AC.
Tc: 10.00 MINS (ESTIMATED)

ONSITE TREATED:

EX_BSN142E1
TOTAL AREA: 1.52 AC.
IMPERVIOUS AREA: 0.67 AC.
PERVIOUS AREA: 0.85 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.67 AC. (44.08%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

VWCD OUTFALL

ONSITE UNTREATED:

EX_BSN142D
TOTAL AREA: 13.91 AC.
IMPERVIOUS AREA: 5.88 AC.
PERVIOUS AREA: 8.03 AC.
WATER SURFACE: 0.00 AC.
CN: 84.96
DCIA: 0.00 AC. (0.00%)
NDCIA: 5.88 AC.
Tc: 33.33 MINS (CALCULATED)

EX_BSNVWCD
TOTAL AREA: 0.97 AC.
IMPERVIOUS AREA: 0.09 AC.
PERVIOUS AREA: 0.88 AC.
WATER SURFACE: 0.00 AC.
CN: 85.30
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.09 AC.
Tc: 10.00 MINS (ESTIMATED)

BSL OUTFALL 2

ONSITE UNTREATED:

EX_BSN142E2
TOTAL AREA: 1.89 AC.
IMPERVIOUS AREA: 0.79 AC.
PERVIOUS AREA: 1.10 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.79 AC. (41.80%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN200A
TOTAL AREA: 9.17 AC.
IMPERVIOUS AREA: 5.32 AC.
PERVIOUS AREA: 3.85 AC.
WATER SURFACE: 0.00 AC.
CN: 55.27
DCIA: 5.32 AC. (58.02%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

NOTE: THE OFFSITE BASIN BSL0130 WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE STUDY AND ADJUSTED TO DEPICT ONLY THE OFFSITE AREA. FDOT ROW WAS TAKEN OUT AND IS INCLUDED AS BSN142A. THE CN FOR THE BASIN WAS INTERPOLATED TO REFLECT THE OFFSITE CONTRIBUTING AREA ONLY.

INFORMATION FOR BASINS BSN200A WAS PROVIDED BY CH2M AND IS INCLUDED AS REFERENCES TO SUPPORT THE MODELING INFORMATION.

BASINS BSN200B, BSNCFP1, AND BSNCFP2 ARE INCLUDED AS PART OF THE CH2M ICPR ROUTING, BUT IS SHOWN HERE FOR REFERENCES AND CONNECTIVITIES BETWEEN THE TWO SEGMENTS.

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (BIG SAND LK/ VWCD) EXISTING BASIN MAP

FIGURE 11

BIG SAND LAKE OUTFALL 1				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN140B			
POND/ NODE DESIGNATION:	EX_PND140	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	2.80	280.00
			TOTALS	**2.80**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	2.82	276.36
			TOTALS	**2.82**	
PERVIOUS AREAS					
Open Spaces (roadway - fair condition)	Pomello fine sand - 34	A	49	0.82	40.18
Open Spaces (retention - fair condition)	Pomello fine sand - 34	A	49	0.46	22.54
Offsite Open Spaces (woods-grass fair condition)	Pomello fine sand - 34	A	43	2.65	113.95
Open Spaces (roadway - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.02	85.68
Open Spaces (retention - fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.53	44.52
Offsite Open Spaces (woods-grass fair condition)	Smyrna-Smyrna fine sand - 44	A/D	82	1.50	123.00
			TOTALS	**6.98**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.80**	**TOTAL BASIN AREA**	**12.60**	**COMPOSITE CN**	**72.06**
PERCENT DCIA	**22.22%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**78.27**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	2.78	3.87	**4.07**
ORANGE COUNTY	25-Year 24-Hour	8.60	2.78	5.98	**6.28**
FDOT	50-Year 24-Hour	9.10	2.78	6.45	**6.77**
SFWMD	25-year 72-Hour	10.00	2.78	7.30	**7.66**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN140B			
POND/ NODE DESIGNATION:	EX_PND140	**MADE BY:**	DG	2/13/2017
ANALYSIS	PRE	**CHECKED BY:**		

Existing Pond Information

The information provided on this sheet was obtained directly from **SFWMD Permit application no. 070307-6 and 080205-41** for Pond 1 WB. The datum at the time of the permit was NGVD. To convert the permitted datum to the current NAVD datum, an adjustment of (-0.80-ft) was applied to the permitted elevations.

ATT elevation was taken from the ICPR result peak stage for the design storm event. The PAV elevation was taken from the calculation for the computed required treatment volume.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
131.20	Outside Berm	3.89				12.68
			3.58	1.00	3.58	
130.20	Inside Berm	3.26				9.10
			3.23	0.45	1.47	
129.75	ATT(25yr72hr)	3.19				7.63
			3.03	2.15	6.50	
127.60	(PAV)	2.86				1.13
			2.83	0.40	1.13	
127.20	(NWL)	2.80				0.00
			2.65	-2.00	(5.30)	
125.20	2ft Depth	2.50				(5.30)
			2.29	-10.00	(22.90)	
115.20	Pnd Bot (PPV)	2.08				(28.20)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSNPND141			
POND/ NODE DESIGNATION:	BSL_OUTFALL1	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.07	7.00
			TOTALS	**0.07**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomella fine sand - 34 St. Lucie fine sand - 38 Seffner fine sand - 44 Tavares-Millhopper fine sand - 47 Zolfo fine sand - 54	A	49	31.96	1566.04
Offsite Open Spaces (fair condition)	Smyrna-smyrna fine sand - 44	A/D	84	8.61	723.24
			TOTALS	**40.57**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.07**	**TOTAL BASIN AREA**	**40.64**	**COMPOSITE CN**	**56.43**
PERCENT DCIA	**0.17%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**56.50**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	7.70	1.82	**6.16**
ORANGE COUNTY	25-Year 24-Hour	8.60	7.70	3.38	**11.44**
FDOT	50-Year 24-Hour	9.10	7.70	3.75	**12.69**
SFWMD	25-year 72-Hour	10.00	7.70	4.43	**15.00**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSNPND142			
POND/ NODE DESIGNATION:	BSL_OUTFALL1	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38	A	49	0.70	0.00
Open Spaces (fair condition)	Seffner fine sand - 43	A/D	84	6.18	519.12
			TOTALS	**6.88**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**6.88**	**COMPOSITE CN**	**75.45**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**75.45**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.25	3.58	**2.06**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	3.25	5.64	**3.23**
FDOT	50-Year 24-Hour	9.10	3.25	6.10	**3.50**
SFWMD	25-year 72-Hour	10.00	3.25	6.94	**3.98**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142A			
POND/ NODE DESIGNATION:	BSL_OUTFALL1	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	10.27	1006.46
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**10.27**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomella fine sand - 34 St. Lucie fine sand - 38 Seffner fine sand - 44 Tavares-Millhopper fine sand - 47 Zolfo fine sand - 54	A	49	6.85	335.65
Open Spaces (fair condition)	Seffner fine sand - 43	A/D	84	3.33	279.72
			TOTALS	**10.18**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**20.45**	**COMPOSITE CN**	**79.31**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**79.31**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	2.61	3.98	**6.78**
ORANGE COUNTY	25-Year 24-Hour	8.60	2.61	6.11	**10.41**
FDOT	50-Year 24-Hour	9.10	2.61	6.58	**11.21**
SFWMD	25-year 72-Hour	10.00	2.61	7.43	**12.67**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142C			
POND/ NODE DESIGNATION:	BSL_OUTFALL1	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	1.40	137.20
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**1.40**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.93	45.57
Open Spaces (fair condition)	Ona fine sand - 20	B/D	84	0.48	40.32
Offsite Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54	A	49	0.85	41.65
			TOTALS	**2.26**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**3.66**	**COMPOSITE CN**	**72.33**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**72.33**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.82	3.27	**1.00**
ORANGE COUNTY	25-Year 24-Hour	8.60	3.82	5.26	**1.61**
FDOT	50-Year 24-Hour	9.10	3.82	5.71	**1.74**
SFWMD	25-year 72-Hour	10.00	3.82	6.53	**1.99**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 2)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142E1			
POND/ NODE DESIGNATION:	EX_DEP142E1	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.67	65.66
			TOTALS	**0.67**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Ona fine sand - 26	B/D	84	0.85	71.40
			TOTALS	**0.85**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.67**	**TOTAL BASIN AREA**	**1.52**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**44.08%**				
ESTIMATE OF RUNOFF VOLUME					

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**90.17**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.09	5.16	**0.65**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	1.09	7.42	**0.94**
FDOT	50-Year 24-Hour	9.10	1.09	7.91	**1.00**
SFWMD	25-year 72-Hour	10.00	1.09	8.80	**1.11**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 2 - FDOT BMP)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	EX_BSN142E1			**DATE**
POND/ NODE DESIGNATION:	EX_DEP142E1	**MADE BY:**	DG	2/13/2017
ANALYSIS	PRE	**CHECKED BY:**		

Existing Pond Information

The information provided on this sheet was based on the available design topographic survey of the existing facility. There is no SFWMD permit for the facility.

Based on the available design survey of the control structure, there is no drawdown structure proposed for this facility. The grate elevation is provided; as such, existing treatment and attenuation would conservatively be estimated at this elevation.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
114.00	Outside Berm	0.49				1.92
			0.48	0.57	0.27	
113.43	ATT (grate)	0.46				1.65
			0.45	0.43	0.19	
113.00	Inside Berm	0.43				1.46
			0.40	1.00	0.40	
112.00		0.37				1.06
			0.35	1.00	0.35	
111.00		0.32				0.71
			0.30	1.00	0.30	
110.00		0.27				0.41
			0.24	1.00	0.24	
109.00		0.21				0.17
			0.17	1.00	0.17	
108.00	Pond Bottom	0.12				0.00

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 2)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142E2			
POND/ NODE DESIGNATION:	EX_DEP142E2	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.79	77.42
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.79**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Tavares fine sand - 43 Tavares-Millhopper fine sand - 47	A	49	0.00	0.00
Open Spaces (fair condition)	Ona fine sand - 26	B/D	84	1.10	92.40
			TOTALS	**1.10**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.79**	**TOTAL BASIN AREA**	**1.89**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**41.80%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**89.85**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.13	5.12	**0.81**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	1.13	7.38	**1.16**
FDOT	50-Year 24-Hour	9.10	1.13	7.87	**1.24**
SFWMD	25-year 72-Hour	10.00	1.13	8.76	**1.38**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 2 - FDOT DITCH)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142E2			
POND/ NODE DESIGNATION:	EX_DEP142E2	**MADE BY:**	DG	2/13/2017
ANALYSIS	PRE	**CHECKED BY:**		

Existing Pond Information

The information provided on this sheet was based on the available design topographic survey of the existing ditch. This junction has two outfalls. One to Big Sand Lake and the other to Valencia Water Control District. To accurately depicts the amount of flow rates discharging to each of the system, the junction was added in the model.

Stage Storage Calculations

ELEV. (ft)	AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
104.00	0.10				0.55
		0.08	4.00	0.32	
103.00	0.06				0.23
		0.05	1.00	0.05	
102.00	0.05				0.18
		0.04	1.00	0.04	
101.00	0.04				0.14
		0.04	1.00	0.04	
100.00	0.03				0.10
		0.03	1.00	0.03	
99.00	0.03				0.07
		0.02	1.00	0.02	
98.00	0.02				0.05
		0.02	1.00	0.02	
97.00	0.02				0.03
		0.02	1.00	0.02	
96.00	0.02				0.01
		0.01	0.94	0.01	
95.06	0.01				0.00
		0.01	0.06	0.00	
95.00 Pond Bottom	0.01				0.00

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 2)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			**DATE**
BASIN DESIGNATION:	EX_BSN142E3			
POND/ NODE DESIGNATION:	BSL_OUTFALL2	**MADE BY:**	DG	2/13/2017
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.11	10.78
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.11**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.21	20.58
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.21**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38	A	49	0.46	0.00
Open Spaces (fair condition)	Seffner fine sand - 43	A/D	84	1.25	105.00
			TOTALS	**1.71**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.11**	**TOTAL BASIN AREA**	**2.03**	**COMPOSITE CN**	**65.41**
PERCENT DCIA	**5.42%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**67.17**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	4.89	2.77	**0.47**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	4.89	4.64	**0.79**
FDOT	50-Year 24-Hour	9.10	4.89	5.07	**0.86**
SFWMD	25-year 72-Hour	10.00	4.89	5.85	**0.99**

OFFSITE BIG SAND LAKE OUTFALL 1				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	EX_BSL0130			
POND/ NODE DESIGNATION:	BSL_OUTFALL1	**MADE BY:**	DG	9/30/2016
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Tavares fine sand - 43 Tavares-Millhopper fine sand - 47	A	49	1.50	73.50
Open Spaces (fair condition)	Seffner fine sand - 43	A/D	84	5.52	463.68
			TOTALS	**7.02**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**7.02**	**COMPOSITE CN**	**76.52**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**76.52**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.07	3.69	**2.16**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	3.07	5.77	**3.38**
FDOT	50-Year 24-Hour	9.10	3.07	6.23	**3.65**
SFWMD	25-year 72-Hour	10.00	3.07	7.07	**4.14**

SHINGLE CREEK OUTFAL (VWCD)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			DATE
BASIN DESIGNATION:	EX_BSN142D			
POND/ NODE DESIGNATION:	VWCD	MADE BY:	DG	08/26/2016
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	5.88	576.24
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**5.88**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54 Pomello fine sand - 34 Tavares fine sand - 46	A	49	1.28	62.72
Open Spaces (fair condition)	Basinger fine sand - 3 Seffner fine sand - 43	A/D	84	0.43	36.12
Open Spaces (fair condition)	Ona fine sand - 26 St. Johns fine sand - 37	B/D	84	4.89	410.76
Offsite Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54 Pomello fine sand - 34	A	49	0.69	33.81
Offsite Open Spaces (fair condition)	Basinger fine sand - 3	A/D	84	0.43	36.12
Offsite Open Spaces (fair condition)	St. Johns fine sand - 37	B/D	84	0.31	26.04
			TOTALS	**8.03**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**13.91**	**COMPOSITE CN**	**84.96**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.96**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.77	4.58	**5.31**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.77	6.79	**7.87**
FDOT	50-Year 24-Hour	9.10	1.77	7.27	**8.43**
SFWMD	25-year 72-Hour	10.00	1.77	8.15	**9.45**

SHINGLE CREEK OUTFAL (VWCD)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	EX_BSNVWCD			DATE
POND/ NODE DESIGNATION:	VWCD	MADE BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	PRE	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

Information provided by CH2M

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.09	8.82
			TOTALS	**0.09**	
PERVIOUS AREAS					
Open Spaces (good condition)	N/A	A	39	0.00	0.00
Open Spaces (fair condition)	N/A	D	84	0.88	73.92
			TOTALS	**0.88**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**0.97**	**COMPOSITE CN**	**85.30**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**85.30**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.72	4.62	**0.37**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.72	6.83	**0.55**
FDOT	50-Year 24-Hour	9.10	1.72	7.32	**0.59**
SFWMD	25-year 72-Hour	10.00	1.72	8.19	**0.66**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 2 - CH2MHILL BASIN)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	EX_BSN200A			**DATE**
POND/ NODE DESIGNATION:	BSL_OUTFALL2	**MADE BY:**	KTD	2/13/2017
		REVISED BY:	KTD	07/10/2017
BASIN ANALYSIS (PRE/POST):	PRE	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

Information provided by CH2M

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	5.32	521.36
			TOTALS	**5.32**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (faircondition)	N/A	A	49	3.16	154.84
Open Spaces (fair condition)	N/A	D	84	0.69	57.96
			TOTALS	**3.85**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**5.32**	**TOTAL BASIN AREA**	**9.17**	**COMPOSITE CN**	**55.27**
PERCENT DCIA	**58.02%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

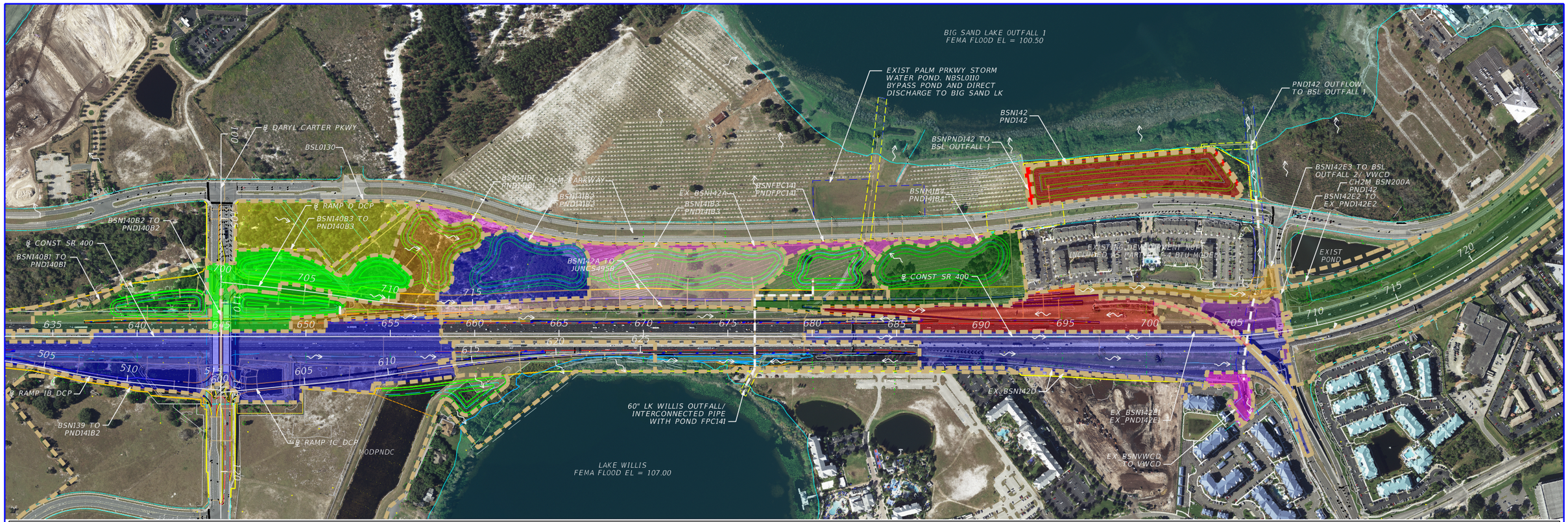
2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**80.06**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	2.49	4.06	**3.10**
ORANGE COUNTY	25-Year 24-Hour	8.60	2.49	6.20	**4.74**
FDOT	50-Year 24-Hour	9.10	2.49	6.67	**5.10**
SFWMD	25-year 72-Hour	10.00	2.49	7.53	**5.75**



BSL OUTFALL 1

ONSITE TREATED:

BSN139
TOTAL AREA: 20.52 AC.
IMPERVIOUS AREA: 9.76 AC.
PERVIOUS AREA: 10.76 AC.
WATER SURFACE: 0.00 AC.
CN: 71.16
DCIA: 5.18 AC. (25.24%)
NDCIA: 4.58 AC.
Tc: 25.44 MINS (TAB)

BSN140B1
TOTAL AREA: 6.03 AC.
IMPERVIOUS AREA: 3.08 AC.
PERVIOUS AREA: 2.19 AC.
WATER SURFACE: 0.76 AC.
CN: 72.17
DCIA: 3.42 AC. (56.72%)
NDCIA: 0.42 AC.
Tc: 17.62 MINS (TAB)

BSN140B2
TOTAL AREA: 3.44 AC.
IMPERVIOUS AREA: 1.51 AC.
PERVIOUS AREA: 1.13 AC.
WATER SURFACE: 0.80 AC.
CN: 67.89
DCIA: 2.31 AC. (67.15%)
NDCIA: 0.00 AC.
Tc: 11.24 MINS (TAB)

BSN140B3
TOTAL AREA: 6.00 AC.
IMPERVIOUS AREA: 1.65 AC.
PERVIOUS AREA: 2.59 AC.
WATER SURFACE: 1.76 AC.
CN: 64.54
DCIA: 3.41 AC. (56.83%)
NDCIA: 0.00 AC.
Tc: 11.00 MINS (TAB)

BSN141B1
TOTAL AREA: 5.75 AC.
IMPERVIOUS AREA: 1.25 AC.
PERVIOUS AREA: 2.68 AC.
WATER SURFACE: 1.82 AC.
CN: 52.26
DCIA: 3.07 AC. (53.39 %)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSN141B2
TOTAL AREA: 6.68 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 3.78 AC.
WATER SURFACE: 2.90 AC.
CN: 49.00
DCIA: 2.90 AC. (43.41 %)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSN141B3
TOTAL AREA: 9.60 AC.
IMPERVIOUS AREA: 2.42 AC.
PERVIOUS AREA: 3.75 AC.
WATER SURFACE: 3.43 AC.
CN: 71.31
DCIA: 5.85 AC. (60.94%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (TAB)

BSN141B4
TOTAL AREA: 8.50 AC.
IMPERVIOUS AREA: 1.90 AC.
PERVIOUS AREA: 3.81 AC.
WATER SURFACE: 2.79 AC.
CN: 50.10
DCIA: 4.69 AC. (55.18%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSN142
TOTAL AREA: 13.96 AC.
IMPERVIOUS AREA: 3.83 AC.
PERVIOUS AREA: 7.56 AC.
WATER SURFACE: 2.57 AC.
CN: 79.42
DCIA: 3.16 AC. (22.64%)
NDCIA: 3.24 AC.
Tc: 39.50 MINS (TAB)

ONSITE UNTREATED:

BSN142A
TOTAL AREA: 3.39 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 3.39 AC.
WATER SURFACE: 0.00 AC.
CN: 62.11
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BSNPND142
TOTAL AREA: 0.48 AC.
IMPERVIOUS AREA: 0.00 AC.
PERVIOUS AREA: 0.48 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

CH2M ONSITE TREATED:

BSN200A
TOTAL AREA: 12.04 AC.
IMPERVIOUS AREA: 11.87 AC.
PERVIOUS AREA: 0.17 AC.
WATER SURFACE: 0.00 AC.
CN: 67.53
DCIA: 11.87 AC. (98.59%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

EX_BSN200C
TOTAL AREA: 1.20 AC.
IMPERVIOUS AREA: 1.20 AC.
PERVIOUS AREA: 0.00 AC.
WATER SURFACE: 0.00 AC.
CN:
DCIA: 1.20 AC. (100%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

OFFSITE UNTREATED:

BSL0130
TOTAL AREA: 7.56 AC.
IMPERVIOUS AREA: 5.13 AC.
PERVIOUS AREA: 2.43 AC.
WATER SURFACE: 0.00 AC.
CN: 65.11
DCIA: 5.13 AC. (67.91%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

BIG SAND LAKE OUTFALL 2/ VWCD

ONSITE UNTREATED:

BSN142E3
TOTAL AREA: 1.66 AC.
IMPERVIOUS AREA: 0.52 AC.
PERVIOUS AREA: 1.14 AC.
WATER SURFACE: 0.00 AC.
CN: 83.20
DCIA: 0.18 AC. (10.84%)
NDCIA: 0.34 AC.
Tc: 23.58 MINS (DITCH CALC)

ONSITE TREATED:

EX_BSN142E1
TOTAL AREA: 1.52 AC.
IMPERVIOUS AREA: 0.67 AC.
PERVIOUS AREA: 0.85 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.67 AC. (44.08%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

VWCD OUTFALL

ONSITE UNTREATED:

EX_BSN142D
TOTAL AREA: 13.91 AC.
IMPERVIOUS AREA: 5.88 AC.
PERVIOUS AREA: 8.03 AC.
WATER SURFACE: 0.00 AC.
CN: 84.96
DCIA: 0.00 AC. (0.00%)
NDCIA: 5.88 AC.
Tc: 33.33 MINS (CALCULATED)

EX_BSNVWCD
TOTAL AREA: 0.97 AC.
IMPERVIOUS AREA: 0.09 AC.
PERVIOUS AREA: 0.88 AC.
WATER SURFACE: 0.00 AC.
CN: 85.30
DCIA: 0.00 AC. (0.00%)
NDCIA: 0.09 AC.
Tc: 10.00 MINS (ESTIMATED)

BSL OUTFALL 2

ONSITE UNTREATED:

EX_BSN142E2
TOTAL AREA: 1.89 AC.
IMPERVIOUS AREA: 0.79 AC.
PERVIOUS AREA: 1.10 AC.
WATER SURFACE: 0.00 AC.
CN: 84.00
DCIA: 0.79 AC. (41.80%)
NDCIA: 0.00 AC.
Tc: 10.00 MINS (ESTIMATED)

0 120 600
Feet

NOTE: THE OFFSITE BASIN BSL0130 WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE STUDY AND ADJUSTED TO DEPICT ONLY THE OFFSITE AREA. FDOT ROW WAS TAKEN OUT AND IS INCLUDED AS BSN142A. THE CN FOR THE BASIN WAS INTERPOLATED TO REFLECT THE OFFSITE CONTRIBUTING AREA ONLY.

INFORMATION FOR BASIN BSN200A WAS PROVIDED BY CH2M AND IS INCLUDED AS REFERENCES TO SUPPORT THE MODELING INFORMATION.

BASINS BSN200B, BSNCFP1, AND BSNCFP2 ARE INCLUDED AS PART OF THE CH2M ICPR ROUTING, BUT IS SHOWN HERE FOR REFERENCES AND CONNECTIVITIES BETWEEN THE TWO SEGMENTS.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115
www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL (BIG SAND LAKE/ VWCD) PROPOSED BASIN MAP

FIGURE 17

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SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN139			**DATE**
POND/ NODE DESIGNATION:	PND141B2	**MADE BY:**	DG	2/13/2017
		REVISED BY:	CJH	1/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Ramps B and C (Treated)	N/A	N/A	98	2.73	267.54
Existing Roadway (Treated)	N/A	N/A	98	1.08	105.84
Existing/Proposed Daryl Carter (Treated)	N/A	N/A	98	1.02	99.96
Proposed Roadway Widening (Treated)	N/A	N/A	98	0.35	34.30
			TOTALS	**5.18**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Treated)	N/A	N/A	98	4.58	448.84
Proposed Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**4.58**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54 Tavares fine sand - 46	A	49	7.46	365.54
Open Spaces (fair condition)	Ona fine sand - 20	A/D	84	3.30	277.20
			TOTALS	**10.76**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**5.18**	**TOTAL BASIN AREA**	**20.52**	**COMPOSITE CN**	**71.16**
PERCENT DCIA	**25.24%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**77.93**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	2.83	3.84	**6.56**
ORANGE COUNTY	25-Year 24-Hour	8.60	2.83	5.94	**10.16**
FDOT	50-Year 24-Hour	9.10	2.83	6.41	**10.96**
SFWMD	25-year 72-Hour	10.00	2.83	7.26	**12.41**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B1			DATE
POND/ NODE DESIGNATION:	PND140B1	MADE BY:	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	0.76	76.00
			TOTALS	**0.76**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.22	21.56
Future Ramp A (Treated)	N/A	N/A	98	1.05	102.90
Future Roadway (Treated)	N/A	N/A	98	0.38	37.24
Existing Roadway (Treated)	N/A	N/A	98	1.01	98.98
			TOTALS	**2.66**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Exist Roadway (Treated)	N/A	N/A	98	0.42	41.16
			TOTALS	**0.42**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34	A	49	1.05	51.45
Open Spaces (fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.14	95.76
			TOTALS	**2.19**	

Pervious areas for the interim condition is actually higher than what is accounted on the spreadsheet to compensate for the future roadway impervious areas.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.42**	**TOTAL BASIN AREA**	**6.03**	**COMPOSITE CN**	**72.17**
PERCENT DCIA	**56.72%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**87.07**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.49	4.81	**2.42**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.49	7.04	**3.54**
FDOT	50-Year 24-Hour	9.10	1.49	7.53	**3.78**
SFWMD	25-year 72-Hour	10.00	1.49	8.42	**4.23**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B2			**DATE**
POND/ NODE DESIGNATION:	PND140B2	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	0.80	80.00
			TOTALS	**0.80**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.51	49.98
Existing Daryl Carter (Treated)	N/A	N/A	98	0.41	40.18
Existing Roadway (Treated)	N/A	N/A	98	0.47	46.06
Future Roadway (Treated)	N/A	N/A	98	0.12	
			TOTALS	**1.51**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Exist Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34	A	49	0.52	25.48
Open Spaces (fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	0.61	51.24
			TOTALS	**1.13**	

Pervious areas for the interim condition is actually higher than what is accounted on the spreadsheet to compensate for the future roadway impervious areas.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.31**	**TOTAL BASIN AREA**	**3.44**	**COMPOSITE CN**	**67.89**
PERCENT DCIA	**67.15%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**85.16**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.74	4.60	**1.32**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.74	6.81	**1.95**
FDOT	50-Year 24-Hour	9.10	1.74	7.30	**2.09**
SFWMD	25-year 72-Hour	10.00	1.74	8.18	**2.34**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B3			**DATE**
POND/ NODE DESIGNATION:	PND140B3	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	1.76	176.00
			TOTALS	**1.76**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.66	64.68
Future Roadway (Treated)	N/A	N/A	98	0.00	0.00
Existing Daryl Carter (Treated)	N/A	N/A	98	0.99	97.02
			TOTALS	**1.65**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34	A	49	1.44	70.56
Open Spaces (retention w/ fair condition)	Smyrna-Smyrna fine sand - 44	A/D	84	1.15	96.60
			TOTALS	**2.59**	

Pervious areas for the interim condition is actually higher than what is accounted on the spreadsheet to compensate for the future roadway impervious areas.

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.41**	**TOTAL BASIN AREA**	**6.00**	**COMPOSITE CN**	**64.54**
PERCENT DCIA	**56.83%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.14**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.88	4.49	**2.25**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.88	6.69	**3.34**
FDOT	50-Year 24-Hour	9.10	1.88	7.17	**3.59**
SFWMD	25-year 72-Hour	10.00	1.88	8.05	**4.02**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN140B1, BSN140B2, & BSN140B3			
POND/ NODE DESIGNATION:	PND140B1, PND140B2, & PND140B3	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Water Quality

	BSN140B1	BSN140B2	BSN140B3	TOTAL	
Total Basin Area =	6.03	3.44	6.00 =	**15.47**	ac
Pond Area at NWL =	0.76	0.8	1.76 =	**3.32**	ac
Paved Area (Treated) =	3.08	1.51	1.65 =	**6.24**	ac
Paved Area (Untreated) =	0.00	0.00	0.00 =	**0.00**	ac

A.	1.0	" Over Total Basin Area =	1.29	Ac-Ft
B.	2.5	" Times Treated Paved Area =	1.30	Ac-Ft
		Required PAV =	**1.30**	Ac-Ft

These proposed interconnected ponds will be constructed as a part of this project, but will be regraded to fit the ultimate condition of I-4 Beyond the Ultimate. As shown, the bottom of ponds 140B1 and 140B2 will be constructed to have the ultimate footprint with minor regrading in the future from the water surface to the top of bank. The control structure and weir is designed to accommodate this phase of development as well as the build out condition (I-4 Beyond the Ultimate).

Note 1: The treatment elevation is set for the greater of the two phases. Therefore, treatment volume shown will be a surplus of what is required.

Pond 140 (Combined) Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
131.00	Outside Berm	5.08				15.72	
			4.78	1.00	4.78		
130.00	Inside Berm	4.49				10.94	
			4.30	0.90	3.87		
129.10	(025Y072H)	4.12				7.06	<=== SFWMD
			4.06	0.25	1.02		
128.85	(025Y024H)	4.01				6.05	<=== ORANGE
			3.78	1.10	4.16		
127.75	(PAV)	3.55				1.89	<=== See Note 1 above
			3.44	0.55	1.89		
127.20	(NWL)	3.32				0.00	<===Seasonal High water elevation from permitted documentation
			2.78	-2.00	(5.56)		
125.20	2ft Depth	2.24				(5.56)	
			1.95	-4.00	(7.78)		
121.20	6ft Depth	1.65				(13.34)	
			1.14	-7.00	(7.95)		
114.20	Pnd Bot (PPV)	0.62				(21.29)	

Provided PAV = **1.89 ac-ft.** okay

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 0.51 Ac-Ft

Elevation at 1/2" of required detention volume = 127.35 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 1.38 Ac-Ft

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B1, BSN140B2, & BSN140B3			**DATE**
POND/ NODE DESIGNATION:	PND140B1, PND140B2, & PND140B3	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B1			**DATE**
POND/ NODE DESIGNATION:	PND140B1	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Pond 140B1 Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
132.50	Outside Berm	1.70				5.61
			1.49	0.50	0.74	
132.00	Inside Berm	1.27				4.87
			1.22	1.00	1.22	
131.00		1.16				3.66
			1.11	1.00	1.11	
130.00		1.06				2.54
			1.01	0.90	0.91	
129.10	(025Y072H)	0.96				1.64
			0.95	0.25	0.24	
128.85	(025Y024H)	0.94				1.40
			0.88	1.10	0.96	
127.75	(PAV)	0.82				0.43
			0.79	0.55	0.43	
127.20	(NWL)	0.76				0.00
			0.60	-2.00	(1.20)	
125.20	2ft Depth	0.44				(1.20)
			0.37	-4.00	(1.48)	
121.20	6ft Depth	0.30				(2.68)
			0.17	-7.00	(1.22)	
114.20	Pnd Bot (PPV)	0.05				(3.90)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B1, BSN140B2, & BSN140B3			**DATE**
POND/ NODE DESIGNATION:	PND140B1, PND140B2, & PND140B3	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B2			**DATE**
POND/ NODE DESIGNATION:	PND140B2	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Pond 140B2 Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
131.00	Outside Berm	1.40				3.95
			1.26	1.00	1.26	
130.00	Inside Berm	1.12				2.69
			1.07	0.90	0.96	
129.10		1.02				1.73
			1.00	0.25	0.25	
128.85	(ATT)	0.99				1.48
			0.93	1.10	1.02	
127.75	(PAV)	0.86				0.46
			0.83	0.55	0.46	
127.20	(NWL)	0.80				0.00
			0.62	-2.00	(1.24)	
125.20	2ft Depth	0.44				(1.24)
			0.37	-4.00	(1.47)	
121.20	6ft Depth	0.29				(2.71)
			0.17	-7.00	(1.17)	
114.20	Pnd Bot (PPV)	0.04				(3.88)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B1, BSN140B2, & BSN140B3			**DATE**
POND/ NODE DESIGNATION:	PND140B1, PND140B2, & PND140B3	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN140B3			**DATE**
POND/ NODE DESIGNATION:	PND140B3	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Pond 140B3 Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)
132.50	Outside Berm	3.49				12.28
			3.10	0.50	1.55	
132.00	Inside Berm	2.71				10.73
			2.61	1.00	2.61	
131.00		2.51				8.12
			2.41	1.00	2.41	
130.00		2.31				5.70
			2.23	0.90	2.00	
129.10	Tailwater	2.14				3.70
			2.11	0.25	0.53	
128.85	(ATT)	2.09				3.17
			1.98	1.10	2.18	
127.75	(PAV)	1.87				1.00
			1.81	0.55	1.00	
127.20	(NWL)	1.76				0.00
			1.56	-2.00	(3.12)	
125.20	2ft Depth	1.36				(3.12)
			1.21	-4.00	(4.84)	
121.20	6ft Depth	1.06				(7.96)
			0.79	-7.00	(5.56)	
114.20	Pnd Bot (PPV)	0.53				(13.52)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN140B1, BSN140B2, & BSN140B3	**MADE BY:**	CJH	02/04/2019
POND DESIGNATION:	PND140B1, PND140B2, & PND140B3	**CHECKED BY:**		

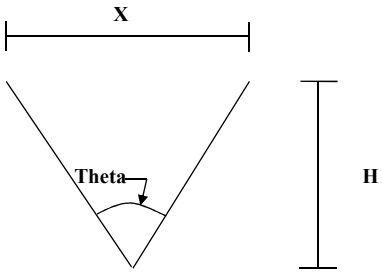
WATER QUALITY CONTROL DEVICE

Pond Bleed Down Design:

V-notch Design

Theta = 2*atan(0.492*Vdet/H^2.5)

X = tan(theta/2)*(H)*(2)



	Required	Interim	Ultimate	
Vdet =	0.51	**0.21**	**0.21**	Ac-Ft
H =	0.55	**0.55**	**0.55**	ft
Theta =	96.0	**48.6**	**48.6**	deg
X =	1.22	**0.50**	**0.50**	ft

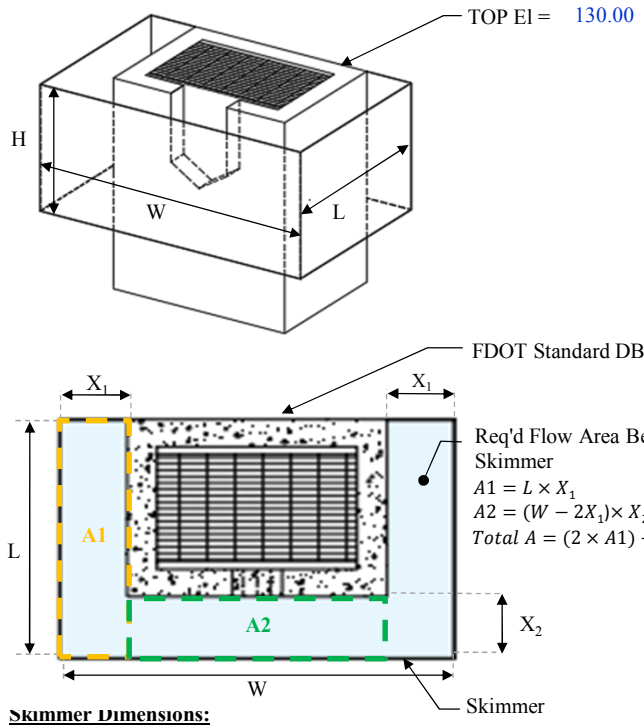
NOTE:
Vdet = Maximum design discharge: 1/2 inch of the detention volume in 24 hrs
(Refer to Pond Calculations for determination of **Vdet**)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN140B1, BSN140B2, & BSN140B3	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	PND140B1, PND140B2, & PND140B3	**CHECKED BY:**	KTD	04/28/2018

Skimmer Check:

Design Note 2 Check: Flow Area Beneath the Skimmer must be 3 times larger than the Area of Weir

Skimmer Dimension Diagram:



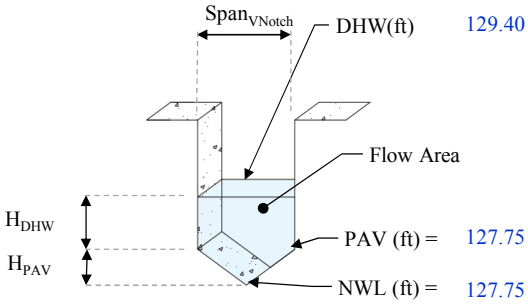
Skimmer Dimensions:

FDOT DBI Type = E
Length "**L**" (In.) = 64.00
Height "**H**" (In.) = 33.00
Width "**W**" (In.) = 88.00
Standoff "**X_1**" (In.) = 12.00
Standoff "**X_2**" (In.) = 12.00

Notes:

1. Width Based upon C.I.P Construction wall thickness (8").

Flow Area Calculations:



H_{DHW} (ft) = 1.65
H_{PAV} (ft) = 0.00
$Span_{VNotch}$ (ft) = 0.50

Area over PAV

$H_{DHW} \times Span_{VNotch}$ = 0.83 ft²

Area thru V-Notch

$\left(\frac{1}{2} \times H_{PAV} \times \frac{Span_{VNotch}}{2}\right) \times 2$ = 0.00 ft²

Total Area = **0.83** ft²

Flow Area of Weir =	**0.83**	ft²
Req'd Flow Area Beneath the Skimmer =	**2.48**	ft²
Flow Area Beneath Skimmer =	**16.00**	ft²

Design Checks:

Flow Area Beneath the Skimmer is 3 times greater than area of Weir : **YES**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B1			
POND/ NODE DESIGNATION:	PND141B1	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	1/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Modified Pond NWL	N/A	N/A	100	1.82	182.00
			TOTALS	**1.82**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.97	95.06
Existing Roadway (Treated)	Smyrna-Smyrna fine sand - 44	A/D	84	0.28	23.52
			TOTALS	**1.25**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Grading Open Spaces	St. Lucie fine sand - 38	A	49	2.43	119.07
Grading Open Spaces	Smyrna-Smyrna fine sand - 44	A/D	84	0.25	21.00
			TOTALS	**2.68**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.07**	**TOTAL BASIN AREA**	**5.75**	**COMPOSITE CN**	**52.26**
PERCENT DCIA	**53.39%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**76.63**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	3.05	3.70	**1.78**
ORANGE COUNTY	25-Year 24-Hour	8.60	3.05	5.78	**2.77**
FDOT	50-Year 24-Hour	9.10	3.05	6.25	**2.99**
SFWMD	25-year 72-Hour	10.00	3.05	7.09	**3.40**
FDOT	100-year 72-Hour	13.50	3.05	10.42	**4.99**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN141B1			**DATE**
POND/ NODE DESIGNATION:	PND141B1	**MADE BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Water Quality

	BSL0130	BSN141B1	Total	
Total Basin Area =	7.56	5.75	**13.31**	ac
Pond Area at NWL =	0.00	1.82	**1.82**	ac
Paved Area (Treated) =	5.13	1.25	**6.38**	ac
Paved Area (Untreated) =	0.00	0.00	**0.00**	ac

A.	1.0	" Over Total Basin Area =	1.11	Ac-Ft
B.	2.5	" Times Treated Paved Area =	1.33	Ac-Ft
		Required PAV =	**1.33**	Ac-Ft

This pond will be constructed as a part of this project, but will be sized to accommodate the ultimate condition of I-4 Beyond the Ultimate. The control structure and the V-notch weir designed for this phase will not change in the future condition.

Note 1: The treatment elevation is set for the greatere of the two phases; therefore treatment volume shown will be in some cases a surplus of what is required.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
122.00	Outside Berm	3.01				13.47	
			2.74	1.00	2.74		
121.00	Inside Berm	2.47				10.73	
			2.30	2.58	5.94		
118.42	(025Y072H)	2.13				4.79	<=== SFWMD
			2.11	0.42	0.89		
118.00	(025Y024H)	2.08				3.90	<=== ORANGE
			2.03	0.75	1.52		
117.25	(PAV)	1.98				2.38	<=== See note 1 above
			1.90	1.25	2.38		
116.00	(NWL)	1.82				0.00	<===Seasonal High water elevation from March 2018 boring logs
			1.70	-2.00	(3.39)		
114.00		1.57				(3.39)	
			1.26	-11.00	(13.81)		
103.00	Pnd Bot (PPV)	0.94				(17.20)	

Provided PAV = **2.38** **ac-ft.** okay

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 0.48 Ac-Ft

Elevation at 1/2" of required detention volume = 116.25 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 1.90 Ac-Ft

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B1	**MADE BY:**	CJH	01/30/2019
POND DESIGNATION:	PND141B1	**CHECKED BY:**		

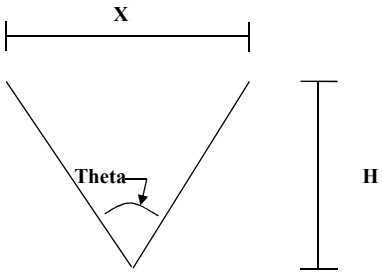
WATER QUALITY CONTROL DEVICE

Pond Bleed Down Design:

V-notch Design

Theta = 2*atan(0.492*Vdet/H^2.5)

X = tan(theta/2)*(H)*(2)



	Required	Designed	Ultimate	
Vdet =	0.48	0.64	**0.64**	Ac-Ft
H =	1.250	1.250	**1.25**	ft
Theta =	15.4	20.4	**20.4**	deg
X =	0.30	0.50	**0.50**	ft

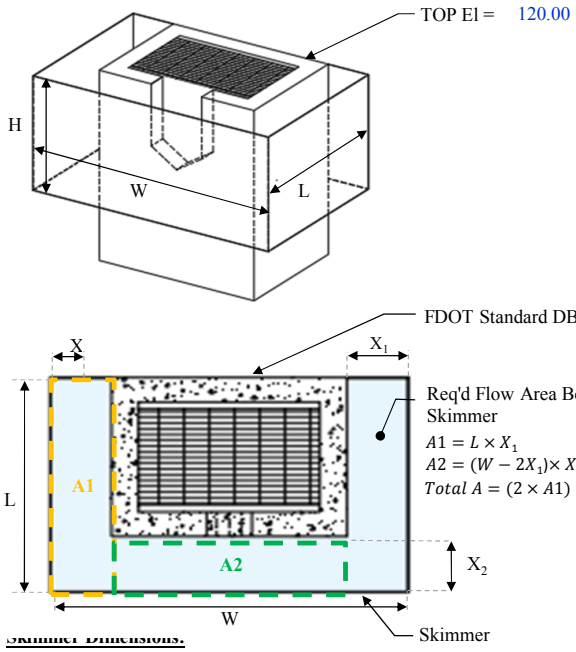
NOTE:
Vdet = Maximum design discharge: 1/2 inch of the detention volume in 24 hrs
(Refer to Pond Calculations for determination of **Vdet**)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B1	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	PND141B1	**CHECKED BY:**	KTD	04/28/2018

Skimmer Check:

Design Note 2 Check: Flow Area Beneath the Skimmer must be 3 times larger than the Area of Weir

Skimmer Dimension Diagram:



Req'd Flow Area Beneath the Skimmer

$A1 = L \times X_1$

$A2 = (W - 2X_1) \times X_2$

$Total\ A = (2 \times A1) + A2$

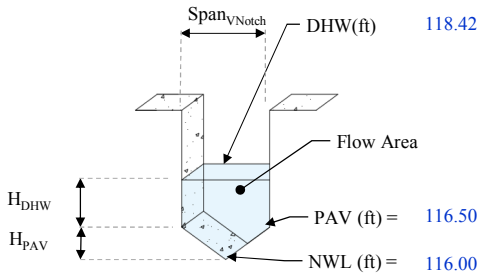
Skimmer Dimensions:

FDOT DBI Type =	E
Length "**L**" (In.) =	60.00
Height "**H**" (In.) =	54.00
Width "**W**" (In.) =	88.00
Standoff "$\mathbf{X_1}$" (In.) =	12.00
Standoff "$\mathbf{X_2}$" (In.) =	12.00

Notes:

1. Width Based upon C.I.P Construction wall thickness (8").

Flow Area Calculations:



H_{DHW} (ft) =	1.92
H_{PAV} (ft) =	0.50
$Span_{VNotch}$ (ft) =	0.50

Area over PAV

$H_{DHW} \times Span_{VNotch}$ = 0.96 ft^2

Area thru V-Notch

$\left(\frac{1}{2} \times H_{PAV} \times \frac{Span_{VNotch}}{2}\right) \times 2$ = 0.13 ft^2

Total Area = **1.09** ft^2

Flow Area of Weir =	**1.09**	ft^2
Req'd Flow Area Beneath the Skimmer =	**3.26**	ft^2
Flow Area Beneath Skimmer =	**15.33**	ft^2

Design Checks:

Flow Area Beneath the Skimmer is 3 times greater than area of Weir : **YES**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			DATE
BASIN DESIGNATION:	BSN141B2			
POND/ NODE DESIGNATION:	PND141B2	MADE BY:	DG	08/26/2016
		REVISED BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Modified Pond NWL	N/A	N/A	100	2.90	290.00
			TOTALS	**2.90**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Grading Open Spaces	Pomello fine sand - 34 St. Lucie fine sand - 38 Tavares fine sand - 46	A	49	3.78	185.22
			TOTALS	**3.78**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**2.90**	**TOTAL BASIN AREA**	**6.68**	**COMPOSITE CN**	**49.00**
PERCENT DCIA	**43.41%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**71.14**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	4.06	3.16	**1.76**
ORANGE COUNTY	25-Year 24-Hour	8.60	4.06	5.12	**2.85**
FDOT	50-Year 24-Hour	9.10	4.06	5.56	**3.10**
SFWMD	25-year 72-Hour	10.00	4.06	6.37	**3.55**
FDOT	100-year 72-Hour	13.50	4.06	9.61	**5.35**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN141B2			**DATE**
POND/ NODE DESIGNATION:	PND141B2	**MADE BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Water Quality

	BSN139	BSN141B2	Total	
Total Basin Area =	20.52	6.68	**27.20**	ac
Pond Area at NWL =	0.00	2.90	**2.90**	ac
Paved Area (Treated) =	9.76	0.00	**9.76**	ac
Paved Area (Untreated) =	0.00	0.00	**0.00**	ac

A.	1.0	" Over Total Basin Area =	2.27	Ac-Ft
B.	2.5	" Times Treated Paved Area =	2.03	Ac-Ft
		Required PAV =	**2.27**	Ac-Ft

This pond will be constructed as a part of this project, but will be sized to accommodate the ultimate condition of I-4 Beyond the Ultimate. The control structure and the V-notch weir designed for this phase will not change in the future condition.

Note 1: The treatment elevation is set for the greater of the two phases. Therefore, treatment volume shown will be a surplus of what is required.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
118.70	Outside Berm	4.30				20.44	
			3.99	1.00	3.99		
117.70	Inside Berm	3.68				16.45	
			3.48	2.52	8.78		
115.18	(025Y072H)	3.29				7.67	<=== SFWMD
			3.27	0.18	0.59		
115.00	(025Y024H)	3.26				7.08	<=== ORANGE
			3.14	1.50	4.71		
113.50	(PAV)	3.02				2.37	<=== See note 1 above
			2.96	0.80	2.37		
112.70	(NWL)	2.90				0.00	<===Seasonal High water elevation from March 2018 boring logs
			2.75	-2.00	(5.50)		
110.70		2.60				(5.50)	
			2.22	-11.00	(24.42)		
99.70	Pnd Bot (PPV)	1.84				(29.92)	

Provided PAV = **2.37** **ac-ft.** okay

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 1.13 Ac-Ft

Elevation at 1/2" of required detention volume = 113.08 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 1.24 Ac-Ft

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN139 & BSN141B2	**MADE BY:**	CJH	01/30/2019
POND DESIGNATION:	PND141B2	**CHECKED BY:**		

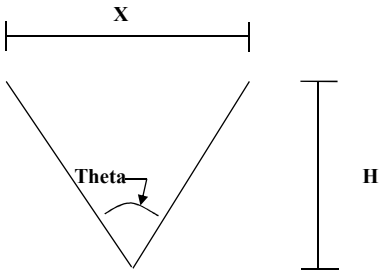
WATER QUALITY CONTROL DEVICE

Pond Bleed Down Design:

V-notch Design

Theta = 2*atan(0.492*Vdet/H^2.5)

X = tan(theta/2)*(H)*(2)



	Required	Designed	Ultimate	
Vdet =	1.13	0.36	**0.36**	Ac-Ft
H =	0.800	0.800	**0.80**	ft
Theta =	88.5	34.4	**34.4**	deg
X =	1.56	0.50	**0.50**	ft

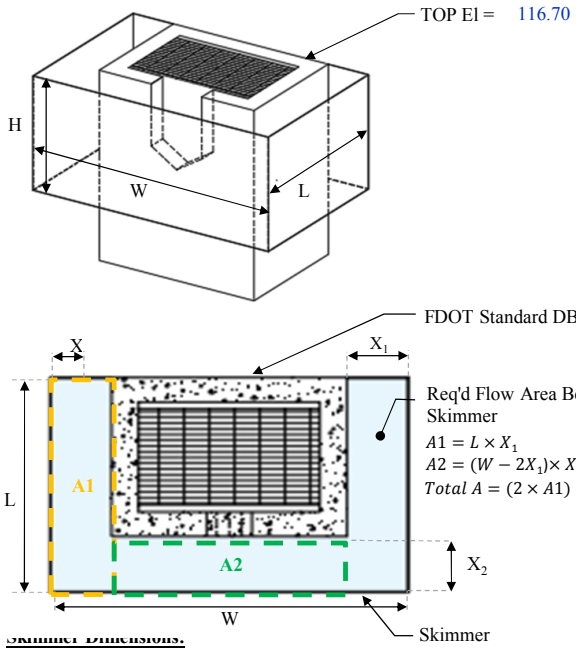
NOTE:
Vdet = Maximum design discharge: 1/2 inch of the detention volume in 24 hrs
(Refer to Pond Calculations for determination of **Vdet**)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B1	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	PND141B1	**CHECKED BY:**	KTD	04/28/2018

Skimmer Check:

Design Note 2 Check: Flow Area Beneath the Skimmer must be 3 times larger than the Area of Weir

Skimmer Dimension Diagram:



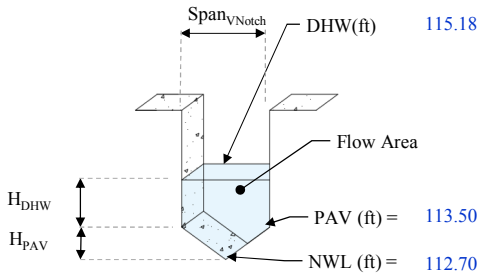
Skimmer Dimensions:

FDOT DBI Type =	E
Length "**L**" (In.) =	60.00
Height "**H**" (In.) =	54.00
Width "**W**" (In.) =	88.00
Standoff "$\mathbf{X_1}$" (In.) =	12.00
Standoff "$\mathbf{X_2}$" (In.) =	12.00

Notes:

1. Width Based upon C.I.P Construction wall thickness (8").

Flow Area Calculations:



H_{DHW} (ft) =	1.68
H_{PAV} (ft) =	0.80
$Span_{VNotch}$ (ft) =	0.50

Area over PAV

$H_{DHW} \times Span_{VNotch}$ = 0.84 ft^2

Area thru V-Notch

$\left(\frac{1}{2} \times H_{PAV} \times \frac{Span_{VNotch}}{2}\right) \times 2$ = 0.20 ft^2

Total Area = **1.04** ft^2

Flow Area of Weir =	**1.04**	ft^2
Req'd Flow Area Beneath the Skimmer =	**3.12**	ft^2
Flow Area Beneath Skimmer =	**15.33**	ft^2

Design Checks:

Flow Area Beneath the Skimmer is 3 times greater than area of Weir : **YES**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			DATE
BASIN DESIGNATION:	BSN141B3			
POND/ NODE DESIGNATION:	PND141B3	MADE BY:	DG	08/26/2016
		REVISED BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Modified Pond NWL	N/A	N/A	100	3.43	343.00
			TOTALS	**3.43**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (I-4BTU, Treated)	N/A	N/A	98	2.42	237.16
			TOTALS	**2.42**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (I-4BTU, Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Grading Open Spaces	Pomello fine sand - 34 St. Lucie fine sand - 38 Tavares fine sand - 46	A	49	1.36	66.64
Grading Open Spaces	Seffner fine sand, 0 to 2% slopes - 43	A/D	84	2.39	200.76
			TOTALS	**3.75**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**5.85**	**TOTAL BASIN AREA**	**9.60**	**COMPOSITE CN**	**71.31**
PERCENT DCIA	**60.94%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**88.29**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.33	4.95	**3.96**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.33	7.19	**5.75**
FDOT	50-Year 24-Hour	9.10	1.33	7.68	**6.15**
SFWMD	25-year 72-Hour	10.00	1.33	8.57	**6.85**
FDOT	100-year 72-Hour	13.50	1.33	12.03	**9.62**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN141B3			**DATE**
POND/ NODE DESIGNATION:	PND141B3	**MADE BY:**	CJH	1/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Water Quality

Total Basin Area =	**9.60**	ac
Pond Area at NWL =	**3.43**	ac
Paved Area (Treated) =	**2.42**	ac
Paved Area (Untreated) =	**0.00**	ac

A.	1.0	" Over Total Basin Area =	0.80	Ac-Ft
B.	2.5	" Times Treated Paved Area =	0.50	Ac-Ft
		Required PAV =	**0.80**	Ac-Ft

This pond will be constructed as a part of this project, but will be sized to accommodate the ultimate condition of I-4 Beyond the Ultimate. The control structure and the V-notch weir designed for this phase will not change in the future condition.

Note 1: The treatment elevation is set for the greater of the two phases. Therefore, treatment volume shown will be a surplus of what is required.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
114.50	Outside Berm	5.29				24.63	
			4.88	1.00	4.88		
113.50	Inside Berm	4.47				19.75	
			4.29	1.74	7.46		
111.76	(025Y072H)	4.11				12.29	<=== SFWMD
			4.08	0.26	1.06		
111.50	(025Y024H)	4.05				11.23	<=== ORANGE
			3.85	2.00	7.69		
109.50	(PAV)	3.64				3.53	<=== See note 1 above
			3.53	1.00	3.53		
108.50	(NWL)	3.43				0.00	<===Seasonal High water elevation from March 2018 boring logs
			3.23	-2.00	(6.46)		
106.50		3.03				(6.46)	
			2.51	-11.00	(27.56)		
95.50	Pnd Bot (PPV)	1.98				(34.02)	

Provided PAV = **3.53** **ac-ft.** okay

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 0.26 Ac-Ft

Elevation at 1/2" of required detention volume = 108.57 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 3.28 Ac-Ft

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B3	**MADE BY:**	CJH	01/30/2019
POND DESIGNATION:	PND141B3	**CHECKED BY:**		

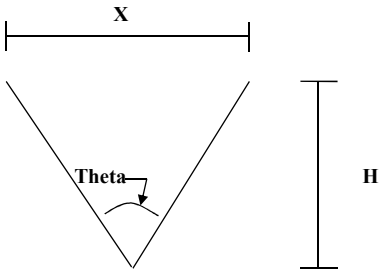
WATER QUALITY CONTROL DEVICE

Pond Bleed Down Design:

V-notch Design

Theta = 2*atan(0.492*Vdet/H^2.5)

X = tan(theta/2)*(H)*(2)



	Required	Designed	Ultimate	
Vdet =	0.26	0.36	**0.36**	Ac-Ft
H =	1.000	1.000	**1.00**	ft
Theta =	14.4	20.0	**20.0**	deg
X =	0.25	0.35	**0.35**	ft

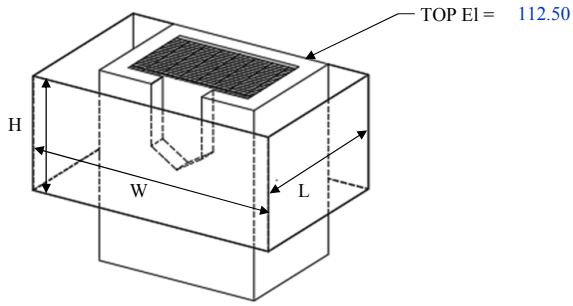
NOTE:
Vdet = Maximum design discharge: 1/2 inch of the detention volume in 24 hrs
(Refer to Pond Calculations for determination of **Vdet**)

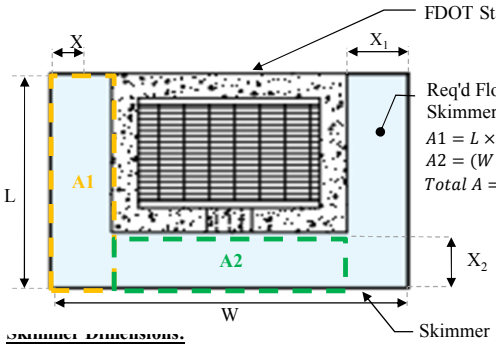
SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B1	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	PND141B1	**CHECKED BY:**	KTD	04/28/2018

Skimmer Check:

Design Note 2 Check: Flow Area Beneath the Skimmer must be 3 times larger than the Area of Weir

Skimmer Dimension Diagram:





Req'd Flow Area Beneath the Skimmer

$A1 = L \times X_1$

$A2 = (W - 2X_1) \times X_2$

$Total\ A = (2 \times A1) + A2$

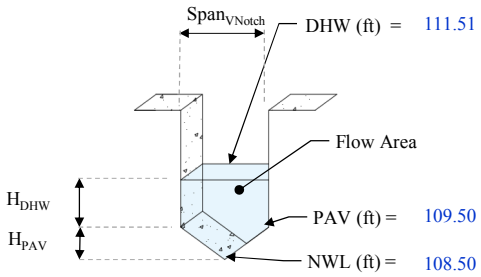
Skimmer Dimensions:

FDOT DBI Type =	E
Length "**L**" (In.) =	60.00
Height "**H**" (In.) =	54.00
Width "**W**" (In.) =	88.00
Standoff "$\mathbf{X_1}$" (In.) =	12.00
Standoff "$\mathbf{X_2}$" (In.) =	12.00

Notes:

1. Width Based upon C.I.P Construction wall thickness (8").

Flow Area Calculations:



H_{DHW} (ft) =	2.01
H_{PAV} (ft) =	1.00
$Span_{VNotch}$ (ft) =	0.50

Area over PAV

$H_{DHW} \times Span_{VNotch}$ = 1.01 ft^2

Area thru V-Notch

$\left(\frac{1}{2} \times H_{PAV} \times \frac{Span_{VNotch}}{2}\right) \times 2$ = 0.25 ft^2

Total Area = **1.26** ft^2

Flow Area of Weir =	**1.26**	ft^2
Req'd Flow Area Beneath the Skimmer =	**3.77**	ft^2
Flow Area Beneath Skimmer =	**15.33**	ft^2

Design Checks:

Flow Area Beneath the Skimmer is 3 times greater than area of Weir : **YES**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B4			
POND/ NODE DESIGNATION:	PND141B4	**MADE BY:**	DG	08/26/2016
		REVISED BY:	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Modified Pond NWL	N/A	N/A	100	2.79	279.00
			TOTALS	**2.79**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	1.90	186.20
			TOTALS	**1.90**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Grading Open Spaces	Pomello fine sand - 34 Zolfo fine sand, 0 to 2% slopes -54 St. Lucie fine sand, 0 to 5% slopes -38 Tavares-Millhopper fine sands, 0 to 5% slopes -47	A	49	3.69	180.81
Grading Open Spaces	Seffner fine sand, 0 to 2% slopes - 43	A/D	84	0.12	10.08
			TOTALS	**3.81**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**4.69**	**TOTAL BASIN AREA**	**8.50**	**COMPOSITE CN**	**50.10**
PERCENT DCIA	**55.18%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**77.19**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	2.96	3.76	**2.66**
ORANGE COUNTY	25-Year 24-Hour	8.60	2.96	5.85	**4.14**
FDOT	50-Year 24-Hour	9.10	2.96	6.32	**4.47**
SFWMD	25-year 72-Hour	10.00	2.96	7.16	**5.07**
FDOT	100-year 72-Hour	13.50	2.96	10.50	**7.44**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN141B4			**DATE**
POND/ NODE DESIGNATION:	PND141B4	**MADE BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Water Quality

Total Basin Area =	**8.50**	ac
Pond Area at NWL =	**2.79**	ac
Paved Area (Treated) =	**1.90**	ac
Paved Area (Untreated) =	**0.00**	ac

A.	1.0	" Over Total Basin Area =	0.71	Ac-Ft
B.	2.5	" Times Treated Paved Area =	0.40	Ac-Ft
		Required PAV =	**0.71**	Ac-Ft

This pond will be constructed as a part of this project, but will be sized to accommodate the ultimate condition of I-4 Beyond the Ultimate. The control structure and the V-notch weir designed for this phase will not change in the future condition.

Note 1: The treatment elevation is set for the greater of the two phases. Therefore, treatment volume shown will be a surplus of what is required.

Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
111.80	Outside Berm	4.30				20.02	
			3.97	1.00	3.97		
110.80	Inside Berm	3.63				16.05	
			3.47	1.87	6.49		
108.93	(025Y072H)	3.32				9.56	<=== SFWMD
			3.30	0.13	0.43		
108.80	(025Y024H)	3.29				9.13	<=== ORANGE
			3.12	2.05	6.40		
106.75	(PAV)	2.95				2.73	<=== See note 1 above
			2.87	0.95	2.73		
105.80	(NWL)	2.79				0.00	<===Seasonal High water elevation from March 2018 boring logs
			2.63	-2.00	(5.26)		
103.80		2.47				(5.26)	
			2.06	-11.00	(22.61)		
92.80	Pnd Bot (PPV)	1.64				(27.87)	

Provided PAV = **2.73** **ac-ft.** okay

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 0.24 Ac-Ft

Elevation at 1/2" of required detention volume = 105.88 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 2.49 Ac-Ft

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B4	**MADE BY:**	CJH	01/30/2019
POND DESIGNATION:	PND141B4	**CHECKED BY:**		

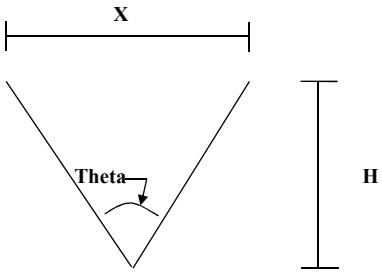
WATER QUALITY CONTROL DEVICE

Pond Bleed Down Design:

V-notch Design

Theta = 2*atan(0.492*Vdet/H^2.5)

X = tan(theta/2)*(H)*(2)



	Required	Designed	Ultimate	
Vdet =	0.24	0.32	**0.32**	Ac-Ft
H =	0.950	0.950	**0.95**	ft
Theta =	15.2	20.0	**20.0**	deg
X =	0.25	0.33	**0.33**	ft

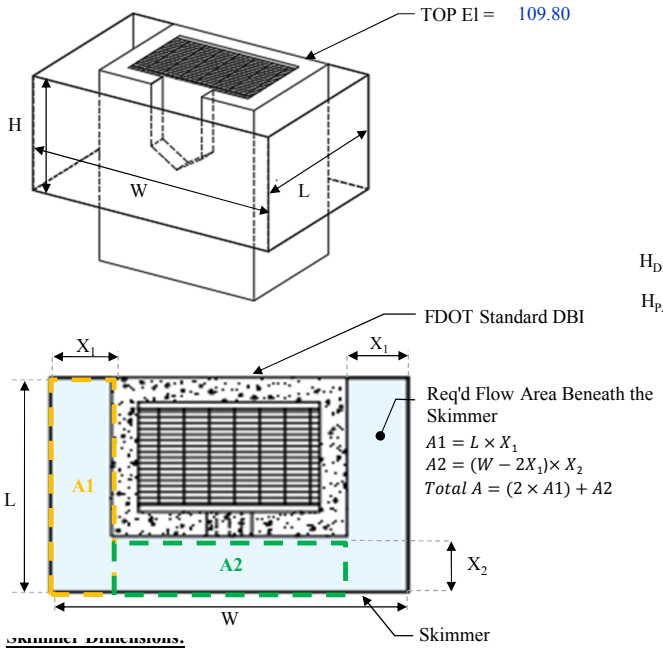
NOTE:
Vdet = Maximum design discharge: 1/2 inch of the detention volume in 24 hrs
(Refer to Pond Calculations for determination of **Vdet**)

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - MODIFIED FDOT PONDS)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN141B1	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	PND141B1	**CHECKED BY:**	KTD	04/28/2018

Skimmer Check:

Design Note 2 Check: Flow Area Beneath the Skimmer must be 3 times larger than the Area of Weir

Skimmer Dimension Diagram:



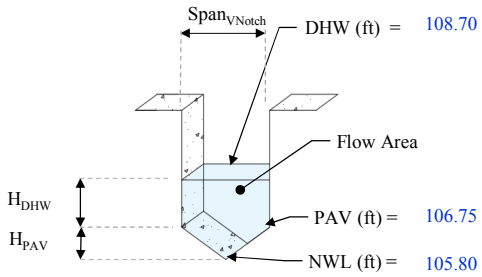
Skimmer Dimensions:

FDOT DBI Type =	E
Length "**L**" (In.) =	60.00
Height "**H**" (In.) =	54.00
Width "**W**" (In.) =	88.00
Standoff "$\mathbf{X_1}$" (In.) =	12.00
Standoff "$\mathbf{X_2}$" (In.) =	12.00

Notes:

1. Width Based upon C.I.P Construction wall thickness (8").

Flow Area Calculations:



H_{DHW} (ft) =	1.95
H_{PAV} (ft) =	0.95
$Span_{VNotch}$ (ft) =	0.50

Area over PAV

$H_{DHW} \times Span_{VNotch}$ = 0.98 ft^2

Area thru V-Notch

$\left(\frac{1}{2} \times H_{PAV} \times \frac{Span_{VNotch}}{2}\right) \times 2$ = 0.24 ft^2

Total Area = **1.21** ft^2

Flow Area of Weir =	**1.21**	ft^2
Req'd Flow Area Beneath the Skimmer =	**3.64**	ft^2
Flow Area Beneath Skimmer =	**15.33**	ft^2

Design Checks:

Flow Area Beneath the Skimmer is 3 times greater than area of Weir : **YES**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN142			
POND/ NODE DESIGNATION:	PND142	**MADE BY:**	DG	2/13/2017
		REVISED BY:	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	2.57	257.00
			TOTALS	**2.57**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Treated)	N/A	N/A	98	0.20	19.60
Existing Roadway (Treated)	N/A	N/A	98	0.39	38.22
			TOTALS	**0.59**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Treated)	N/A	N/A	98	2.74	268.52
Proposed Roadway (Treated)	N/A	N/A	98	0.50	49.00
			TOTALS	**3.24**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Tavares fine sand, 0 to 5% slopes - 46 Tavares-Millhopper fine sands, 0 to 5% slopes - 47	A	49	2.04	99.96
Open Spaces (fair condition)	Seffner fine sand - 43 Basinger fine sand, depressional, 0 to 1% slopes - 3	A/D	84	1.71	143.64
Open Spaces (Retention fair condition)	Tavares fine sand, 0 to 5% slopes - 46 Tavares-Millhopper fine sands, 0 to 5% slopes - 47	A	49	0.67	32.83
Open Spaces (Retention fair condition)	Seffner fine sand - 43 Basinger fine sand, depressional, 0 to 1% slopes - 3	A/D	84	3.14	263.76
			TOTALS	**7.56**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**3.16**	**TOTAL BASIN AREA**	**13.96**	**COMPOSITE CN**	**79.42**
PERCENT DCIA	**22.64%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**83.99**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.91	4.48	**5.21**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.91	6.67	**7.76**
FDOT	50-Year 24-Hour	9.10	1.91	7.15	**8.32**
SFWMD	25-year 72-Hour	10.00	1.91	8.03	**9.34**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN142, BSN200A, BSN200C			
POND/ NODE DESIGNATION:	PND142	**MADE BY:**	DG	2/13/2017
		REVISED BY:	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

Water Quality AECOM

	BSN142	BSN200A	BSN200C	TOTAL	
Total Basin Area =	13.96	12.04	1.20 =	**27.20**	ac
Pond Area at NWL =	2.57	0.00	0.00 =	**2.57**	ac
Paved Area (Treated) =	3.83	11.87	1.20 =	**16.90**	ac
Paved Area (Untreated) =	0.00	0.00	0.00 =	**0.00**	

A.	1.0	" Over Total Basin Area =	2.27	Ac-Ft
B.	2.5	" Times Treated Paved Area =	3.52	Ac-Ft
		Required PAV =	**3.52**	Ac-Ft

Pond 142 Stage Storage Calculations

ELEV. (ft)		AREA (ac)	AVG AREA (ac)	Delta D (ft)	Delta storage (ac-ft)	Sum Storage (ac-ft)	
106.00	Outside Berm	5.44				35.13	
			4.98	1.00	4.98		
105.00	Inside Berm	4.52				30.15	
			4.33	1.66	7.19		
103.34	(025Y024H)	4.14				22.96	<=== ORANGE Ultimate
			3.67	4.11	15.08		
99.23	(025Y024H)	3.20				7.88	<=== ORANGE Interim
			3.15	0.48	1.51		
98.75	(PAV)	3.09				6.37	
			2.83	2.25	6.37		
96.50	(NWL)	2.57				0.00	<===Seasonal High water elevation from October 2016 boring logs
			2.36	-2.00	(4.72)		
94.50	6ft Depth	2.14				(4.72)	
			1.83	-6.00	(10.98)		
88.50	8ft Depth	1.53				(15.70)	
			1.27	-5.00	(6.35)		
83.50	Pnd Bot (PPV)	1.02				(22.05)	

Provided PAV = **6.37** **ac-ft.**

Bleed Down Volume in the 1st 24hrs

1/2" of the required detention volume = 0.5"(Total Site -Water Surface)(1ft/12in) = 1.19 Ac-Ft

Elevation at 1/2" of required detention volume = 96.92 Ft

Volume Remaining in Pond after Bleed Down = PAV - Bleed Down Volume = 5.18 Ac-Ft

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN142, BSN200A, BSN200C	**MADE BY:**	CJH	01/31/2019
POND DESIGNATION:	PND142	**CHECKED BY:**		

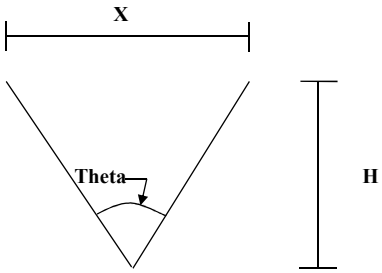
WATER QUALITY CONTROL DEVICE

Pond Bleed Down Design:

V-notch Design

Theta = 2*atan(0.492*Vdet/H^2.5)

X = tan(theta/2)*(H)*(2)



	Maximum	Designed	Ultimate	
Vdet =	1.19	2.75	**2.75**	Ac-Ft
H =	2.25	2.25	**2.25**	ft
Theta =	8.8	20.2	**20.2**	deg
X =	0.35	0.80	**0.80**	ft

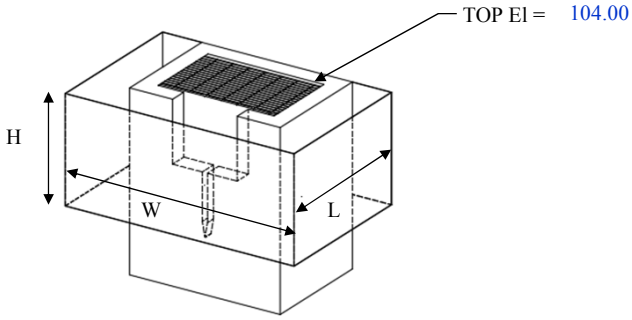
NOTE:
Vdet = Maximum design discharge: 1/2 inch of the detention volume in 24 hrs
(Refer to Pond Calculations for determination of **Vdet**)

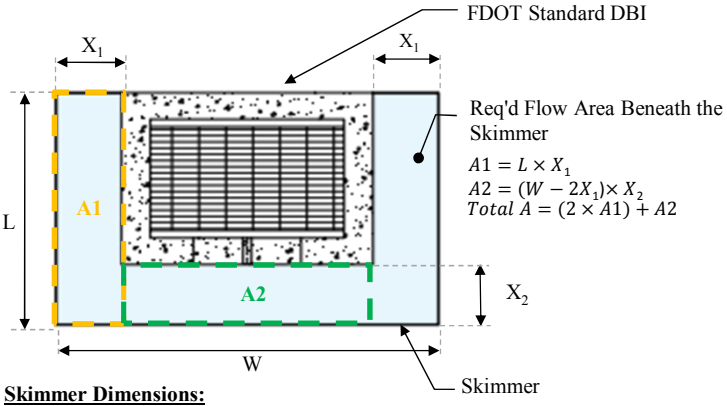
SHINGEL CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND)				
PROJECT TITLE:	I-4 Beyond the Ultimate	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSN142, BSN200A, BSN200C	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	PND142	**CHECKED BY:**	KTD	04/28/2018

Skimmer Check:

Design Note 2 Check: Flow Area Beneath the Skimmer must be 3 times larger than the Area of Weir

Skimmer Dimension Diagram:





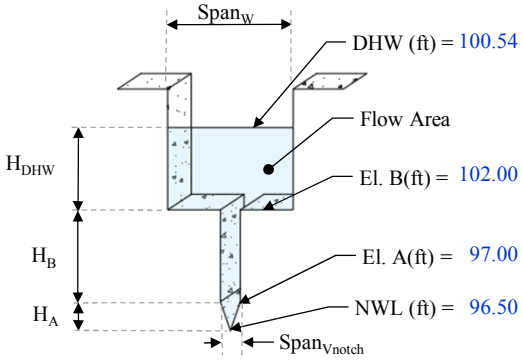
Skimmer Dimensions:

FDOT DBI Type =	E
Length "**L**" (In.) =	60.00
Height "**H**" (In.) =	96.00
Width "**W**" (In.) =	64.00
Standoff "$\mathbf{X_1}$" (In.) =	0.00
Standoff "$\mathbf{X_2}$" (In.) =	12.00

Notes:

1. Width Based upon C.I.P Construction wall thickness (8").

Flow Area Calculations:



H_{DHW} (ft) =	-1.46
H_B (ft) =	5.00
H_A (ft) =	0.50
$Span_W$ (ft) =	2.50
$Span_{VNotch}$ (ft) =	0.80

Area over V-Notch

$(H_{DHW} \times Span_W)$ =	-3.65	ft^2
+		
$(H_B \times Span_{Vnotch})$ =	4.00	ft^2
Total Subarea 1 =	**0.35**	ft^2

Area thru V-Notch

$\left(\frac{1}{2} \times H_A \times \frac{Span_{VNotch}}{2}\right) \times 2$ =	0.20	ft^2
Total Subarea 2 =	**0.20**	ft^2
Total Area =	**0.55**	ft^2

Flow Area of Weir =	**0.55**	ft^2
Req'd Flow Area Beneath the Skimmer =	**1.65**	ft^2
Flow Area Beneath Skimmer =	**5.33**	ft^2

Skimmer is designed to accommodate for the I-4 BTU Ultimate flow area; which is conservative for the Interim Daryl Carter conditions.

Design Checks:

Flow Area Beneath the Skimmer is 3 times greater than area of Weir : **YES**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN142A			**DATE**
POND/ NODE DESIGNATION:	MHS495B	**MADE BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38 Tavares fine sand, 0 to 5% slopes - 46 Tavares-Millhopper fine sands, 0 to 5% slopes - 47	A	49	2.12	103.88
Open Spaces (fair condition)	Seffner fine sand - 43 Smyrna-Smyrna, wet, fine sand, 0 to 2% slopes - 44	A/D	84	1.27	106.68
			TOTALS	**3.39**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**3.39**	**COMPOSITE CN**	**62.11**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**62.11**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	6.10	2.31	**0.65**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	6.10	4.04	**1.14**
FDOT	50-Year 24-Hour	9.10	6.10	4.44	**1.25**
SFWMD	25-year 72-Hour	10.00	6.10	5.18	**1.46**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	BSNPND142			
POND/ NODE DESIGNATION:	OUTFALL1	**MADE BY:**	CJH	01/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Proposed Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Seffner fine sand - 43	A/D	84	0.48	40.32
			TOTALS	**0.48**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**0.48**	**COMPOSITE CN**	**84.00**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.90	4.48	**0.18**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	1.90	6.67	**0.27**
FDOT	50-Year 24-Hour	9.10	1.90	7.16	**0.29**
SFWMD	25-year 72-Hour	10.00	1.90	8.03	**0.32**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			
BASIN DESIGNATION:	BSN142E3			**DATE**
POND/ NODE DESIGNATION:	BSL_OUTFALL2	**MADE BY:**	CJH	1/30/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Proposed Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Proposed Roadway (Untreated)	N/A	N/A	98	0.18	17.64
			TOTALS	**0.18**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.34	33.32
			TOTALS	**0.34**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38	A	49	0.17	8.33
Open Spaces (fair condition)	Seffner Fine Sand - 43	A/D	84	0.97	81.48
			TOTALS	**1.14**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.18**	**TOTAL BASIN AREA**	**1.66**	**COMPOSITE CN**	**83.20**
PERCENT DCIA	**10.84%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.80**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.79	4.56	**0.63**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.79	6.77	**0.94**
FDOT	50-Year 24-Hour	9.10	1.79	7.25	**1.00**
SFWMD	25-year 72-Hour	10.00	1.79	8.13	**1.12**

SHINGLE CREEK OUTFAL (VWCD)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	4411131-52-1			DATE
BASIN DESIGNATION:	EX_BSN142D			
POND/ NODE DESIGNATION:	VWCD	MADE BY:	DG	08/26/2016
		REVISED BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	KTD	04/28/2018

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	5.88	576.24
Existing Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**5.88**	
PERVIOUS AREAS					
Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54 Pomello fine sand - 34 Tavares fine sand - 46	A	49	1.28	62.72
Open Spaces (fair condition)	Basinger fine sand - 3 Seffner fine sand - 43	A/D	84	0.43	36.12
Open Spaces (fair condition)	Ona fine sand - 26 St. Johns fine sand - 37	B/D	84	4.89	410.76
Offsite Open Spaces (fair condition)	St. Lucie fine sand - 38 Zolfo fine sand - 54 Pomello fine sand - 34	A	49	0.69	33.81
Offsite Open Spaces (fair condition)	Basinger fine sand - 3	A/D	84	0.43	36.12
Offsite Open Spaces (fair condition)	St. Johns fine sand - 37	B/D	84	0.31	26.04
			TOTALS	**8.03**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**13.91**	**COMPOSITE CN**	**84.96**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**84.96**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.77	4.58	**5.31**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.77	6.79	**7.87**
FDOT	50-Year 24-Hour	9.10	1.77	7.27	**8.43**
SFWMD	25-year 72-Hour	10.00	1.77	8.15	**9.45**

SHINGLE CREEK OUTFAL (VWCD)				
PROJECT TITLE:	Interim Daryl Carter			
PROJECT NUMBER:	4411131-52-1			DATE
BASIN DESIGNATION:	EX_BSNVWCD			
POND/ NODE DESIGNATION:	VWCD	MADE BY:	DG	07/08/2017
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	KTD	04/28/2018

SFWMD SANTA BARBARA WORKSHEET

Information provided by CH2M

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Existing Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Existing Roadway (Untreated)	N/A	N/A	98	0.09	8.82
			TOTALS	**0.09**	
PERVIOUS AREAS					
Open Spaces (good condition)	N/A	A	39	0.00	0.00
Open Spaces (fair condition)	N/A	D	84	0.88	73.92
			TOTALS	**0.88**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**0.00**	**TOTAL BASIN AREA**	**0.97**	**COMPOSITE CN**	**85.30**
PERCENT DCIA	**0.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**85.30**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.72	4.62	**0.37**
ORANGE COUNTY	25-Year 24-Hour	8.60	1.72	6.83	**0.55**
FDOT	50-Year 24-Hour	9.10	1.72	7.32	**0.59**
SFWMD	25-year 72-Hour	10.00	1.72	8.19	**0.66**

OFFSITE BIG SAND LAKE OUTFALL 1				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	BSL0130			**DATE**
POND/ NODE DESIGNATION:	PND141B1	**MADE BY:**	CJH	02/04/2019
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**		

SFWMD SANTA BARBARA WORKSHEET

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Development (Treated)	N/A	N/A	98	5.13	503.13
Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**5.13**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Roadway (Untreated)	N/A	N/A	98	0.00	0.00
Roadway (Treated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38	A	49	0.44	21.54
Open Spaces (fair condition)	Smyrna-Smyrna, wet fine sand, 0 to 2% slopes - 44	A/D	84	0.47	39.19
FDOT right-of-way (fair condition)	Pomello fine sand - 34 St. Lucie fine sand - 38 Tavares fine sand - 43 Tavares-Millhopper fine sand - 47	A	49	0.87	42.63
FDOT right-of-way (fair condition)	Seffner fine sand - 43	A/D	84	0.65	54.60
			TOTALS	**2.43**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**5.13**	**TOTAL BASIN AREA**	**7.56**	**COMPOSITE CN**	**65.11**
PERCENT DCIA	**67.91%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**87.45**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	1.44	4.85	**3.06**
FDOT, SFWMD, & ORANGE COUNTY	25-Year 24-Hour	8.60	1.44	7.09	**4.47**
FDOT	50-Year 24-Hour	9.10	1.44	7.58	**4.77**
SFWMD	25-year 72-Hour	10.00	1.44	8.46	**5.33**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND - CH2MHILL BASIN)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	BSN200A			**DATE**
POND/ NODE DESIGNATION:	PND142	**MADE BY:**	KTD	2/13/2017
		REVISED BY:	KTD	07/10/2017
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	KS	02/19/2018

SFWMD SANTA BARBARA WORKSHEET

Information provided by CH2M

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Roadway (Treated)	N/A	N/A	98	11.87	1163.26
Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**11.87**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Roadway (Pavement)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
Open Spaces (fair condition)	N/A	A	49	0.08	3.92
Open Spaces (fair condition)	N/A	C	84	0.09	7.56
			TOTALS	**0.17**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**11.87**	**TOTAL BASIN AREA**	**12.04**	**COMPOSITE CN**	**67.53**
PERCENT DCIA	**98.59%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**97.57**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	0.25	6.01	**6.03**
ORANGE COUNTY	25-Year 24-Hour	8.60	0.25	8.31	**8.34**
FDOT	50-Year 24-Hour	9.10	0.25	8.81	**8.84**
SFWMD	25-year 72-Hour	10.00	0.25	9.71	**9.74**

SHINGLE CREEK OUTFALL (BIG SAND LAKE OUTFALL 1 - FDOT POND - CH2MHILL BASIN)				
PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	4411131-52-1			
BASIN DESIGNATION:	BSN200C			**DATE**
POND/ NODE DESIGNATION:	PND142	**MADE BY:**	KTD	2/13/2017
		REVISED BY:	KTD	07/10/2017
BASIN ANALYSIS (PRE/POST):	POST	**CHECKED BY:**	KS	02/19/2018

SFWMD SANTA BARBARA WORKSHEET

Information provided by CH2M

LAND-USE DESCRIPTION	SOIL NAME	SOIL GROUP	CN	AREA (ac)	PRODUCT
WATER SURFACE					
Pond NWL	N/A	N/A	100	0.00	0.00
			TOTALS	**0.00**	
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)					
Roadway (Untreated)	N/A	N/A	98	1.20	117.60
			TOTALS	**1.20**	
NON-DIRECTLY CONNECTED IMPERVIOUS AREA (NDCIA)					
Roadway (Untreated)	N/A	N/A	98	0.00	0.00
			TOTALS	**0.00**	
PERVIOUS AREAS					
			TOTALS	**0.00**	

ICPR DATA					
* BASED ON TOTAL DRAINAGE AREA		* BASED ON TOTAL DRAINAGE AREA		* BASED ON NDCIA AND PERVIOUS AREAS	
TOTAL DCIA	**1.20**	**TOTAL BASIN AREA**	**1.20**	**COMPOSITE CN**	
PERCENT DCIA	**100.00%**				

ESTIMATE OF RUNOFF VOLUME

PROCEDURE TO DETERMINE RUNOFF VOLUME IS BASED ON THE SCS EQUATION AND IS AS FOLLOWS:

1) DETERMINE SOIL STORAGE - S ----------> S = (1000 / CN) - 10 (inches)

2) DETERMINE RUNOFF - R ----------> R = (P - 0.2*S)^2 / (P + 0.8*S) (inches)

P = rainfall in inches

3) DETERMINE RUNOFF VOLUME - V(R) ----------> V(R) = (R / 12)*BASIN AREA (acres-feet)

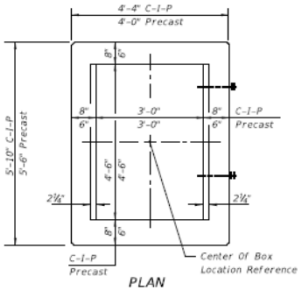
CALCULATION TABLE

			BASED ON TOTAL DRAINAGE AREA		
			COMPOSITE CN		**98.00**
Agency	**Design Storm Frequency**	**P (in)**	**S (in)**	**R (in)**	**V(R) (ac-ft)**
FDOT	10-Year 24-Hour	6.30	0.20	6.06	**0.61**
ORANGE COUNTY	25-Year 24-Hour	8.60	0.20	8.36	**0.84**
FDOT	50-Year 24-Hour	9.10	0.20	8.86	**0.89**
SFWMD	25-year 72-Hour	10.00	0.20	9.76	**0.98**

PROJECT TITLE:	Interim Daryl Carter	FDOT		AECOM
PROJECT NUMBER:	441113-1-52-01			**DATE**
BASIN DESIGNATION:	SEGMENT G	**MADE BY:**	DG	07/08/2017
POND DESIGNATION:	ALL	**CHECKED BY:**		

Weir/Orifice Coefficient Calculations:

Structure Type:	***DBI Type E***
Grate Type:	***Cast Iron***
Grate Size = 3'-4" x 4'-4"	
Inlet Opening = 3' x 4'-6"	



PLAN

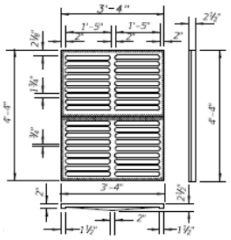
1. Weir Flow (Percent Reduction Based on Effective Weir Considering Grate):
Short Side (Width): 17"+ 17" = 34"
Long Side (Length): 1.75" x 18 = 31.5"

Inlet Weir Length: 54"+54"+36"+36" = 180"
Grate Opening Weir Length: 31.5"+31.5"+34"+34" = 131"

$\frac{180}{131} = \frac{3.2}{X} = 2.33$ **X=2.33**

2. Orifice Flow (Percent Reduction Based on Effective Grate Openings):
Area of Inlet Opening = 54" x 36" = 1944 sq in
Area of Grate openings = 17" x 1.75" x 36 = 1071 sq in

$\frac{1944}{1071} = \frac{0.6}{X} = 0.33$ **X=0.33**

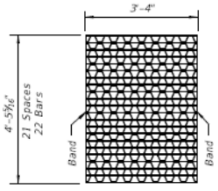


TYPE E
Approx. Weight 465 Lbs.
CAST IRON GRATES

Structure Type:	***DBI Type E***
Grate Type:	***Steel Grate***
Grate Size = 3'-4" x 4'-5.3125"	
Inlet Opening = 3' x 4'-6"	

3. Weir Flow (Percent Reduction Based on Effective Weir Considering Grate):
Short Side (Width): 40"-3"-0.5" = 36.5"
Reticuline bars: (16)x(3/16") = 3"
Perimeter bands: (2)x(1/4") = 0.5"
Long Side (Length): 53.3125"-5.5" = 47.8125"
Straight bars: (22) x (1/4")= 5.5"

Inlet length: 54"+54"+36"+36" = 180"
Grate opening length: 36.5"+36.5"+47.8125"+47.8125" = 168.625"



TYPE E
STEEL GRATES

$\frac{180}{168.625} = \frac{3.2}{X} = 3.00$ **X=3.0**

4. Orifice Flow (Percent Reduction Based on Grate Area):
Area of Grate: (53.3125") x (40") = 2132.5 sq in
On the long side: (20 bars) x (40") x (1/4") = 200 sq in
On the short side: (16 bars) x (53.3125") x (1/4") = 213.25 sq in
Perimeter band: (40" +40 " + 53.3125" + 53.3125")x(1/4") = 46.66 sq in
Grate Area Opening (sq in) = 2132.5 - 200 - 213.25 - 46.66 = 1672.59 sq in

$\frac{2132.5}{1672.59} = \frac{0.6}{X} = 0.47$ **X=0.47**

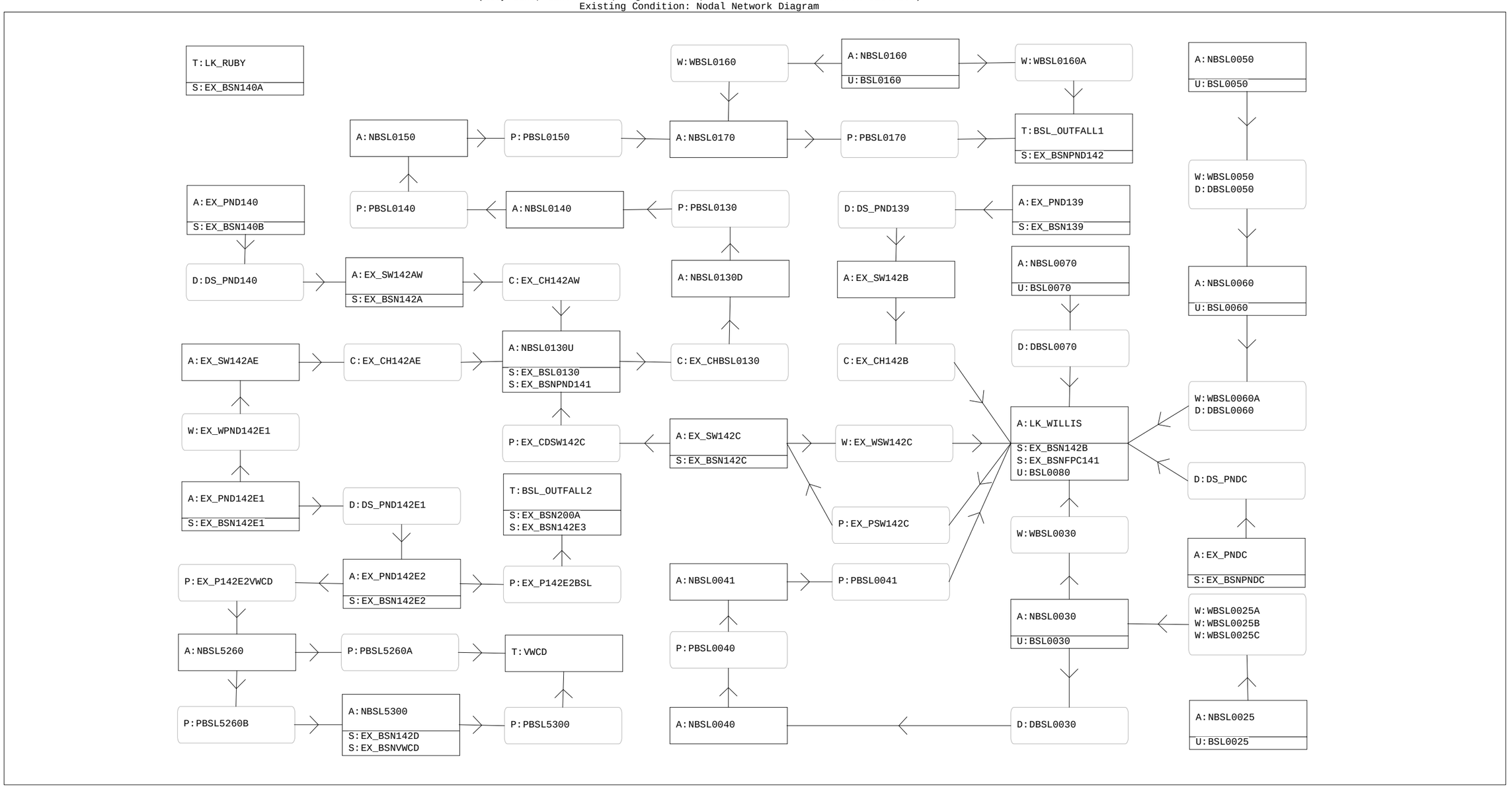
APPENDIX C.1.7: Ruby Lk and Shingle Creek Outfalls Existing ICPR-3 Model

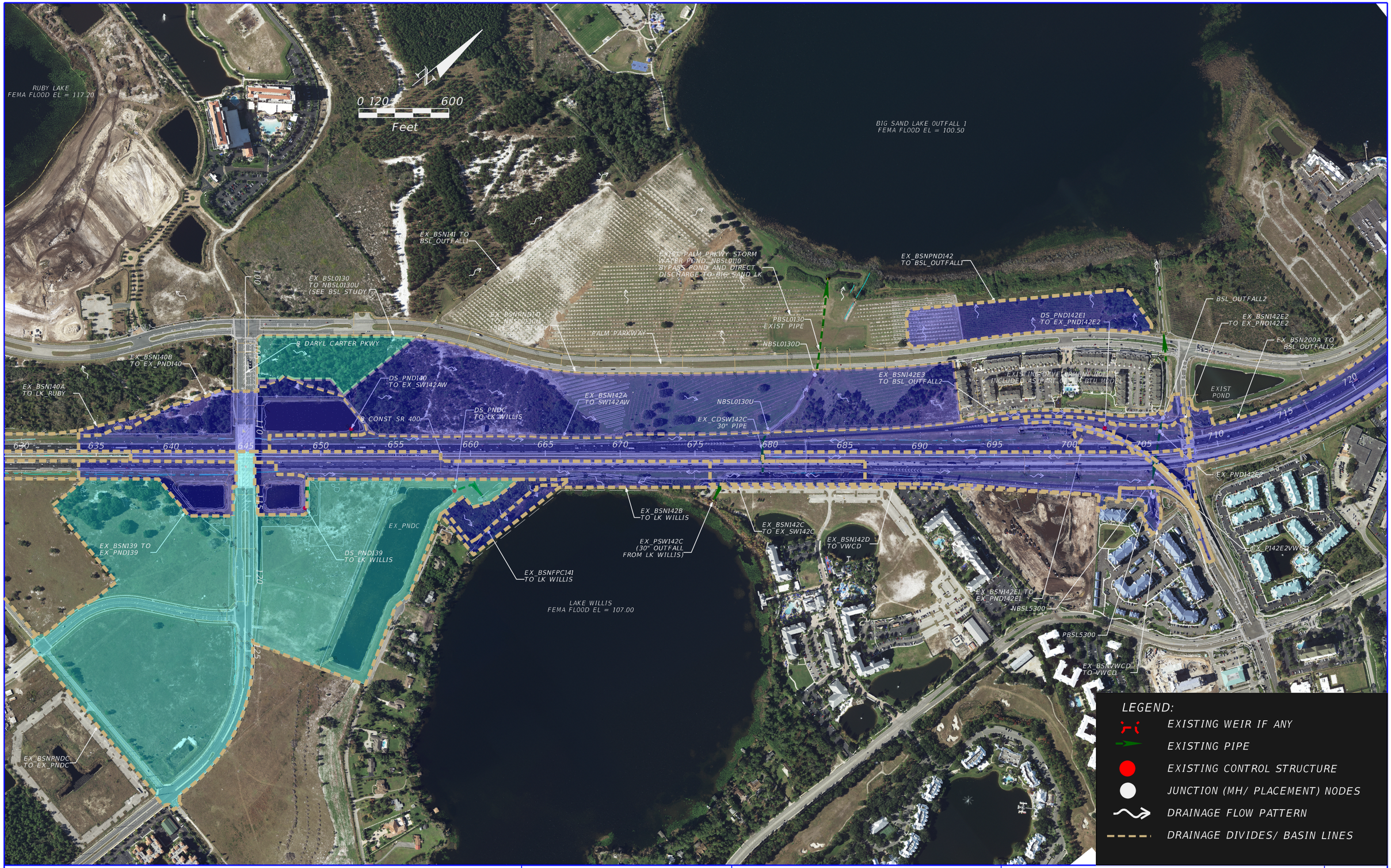
I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: Nodal Network Diagram

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALLS EXISTING NODAL NETWORK

FIGURE 12

==========
==== Basins ====
==========

Name: BSL0025 Node: NBSL0025 Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 17.365 Time Shift(hrs): 0.00
Curve Number: 75.90 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSL0030 Node: NBSL0030 Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 9.907 Time Shift(hrs): 0.00
Curve Number: 90.30 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSL0050 Node: NBSL0050 Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 16.215 Time Shift(hrs): 0.00
Curve Number: 69.70 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSL0060 Node: NBSL0060 Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 9.249 Time Shift(hrs): 0.00
Curve Number: 77.30 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSL0070 Node: NBSL0070 Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 39.70
Area(ac): 77.313 Time Shift(hrs): 0.00
Curve Number: 58.20 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSL0080 Node: LK_WILLIS Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 25.20
Area(ac): 209.029 Time Shift(hrs): 0.00
Curve Number: 88.70 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSL0160 Node: NBSL0160 Status: Onsite
Group: EXISTING Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 17.309 Time Shift(hrs): 0.00
Curve Number: 85.70 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: EX_BSL0130 Node: NBSL0130U Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 56.90
Area(ac): 7.020 Time Shift(hrs): 0.00
Curve Number: 76.52 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

THIS BASIN IS A CONTRIBUTING BASIN TO NODE NBSL0110 AS OUTLINED IN THE 2016 ORANGE COUNTY BIG SAND LAKE STUDY BY GEOSYNTEC THE BASIN INCLUDED PART OF I-4, WHICH IS BROKEN OUT AS PART OF THIS PROJECT AND NAMED BASIN EX_BSN142A AND EX_BSN141. THE CN FOR THIS BASIN WAS THEN COMPUTED BASED ON THE CURRENT INFORMATION. TRAVEL TIME TO NODE NBSL0110 REMAINS THE SAME AS THE COUNTY MODEL. NO CHANGES WERE MADE TO THE TIME OF CONCENTRATION.

Name: EX_BSN139 Node: EX_PND139 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 7.450 Time Shift(hrs): 0.00
Curve Number: 77.17 Time Increment(min): 1.00
DCIA(%): 35.30 Max Allowable Q(cfs): 999999.000

INFORMATION PROVIDED FOR THIS DRAINAGE BASIN WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 070307-6 AND 080205-41 FOR POST CONDITION OF BASIN 2 EB. THE DRAINAGE AREA MARGINALLY DEVIATES FROM THE PERMITTED VALUE OF 8.30 ACRES. WITH MORE RECENT DESIGN SURVEY INFORMATION, APPROXIMATELY 0.43 ACRES WITHIN THE POND AREA DRAINS AWAY FROM THE PONDS AND OVERLAND FLOW TOWARD EXISTING ORANGE COUNTY POND C (SFWMD PERMIT APPLICATION NO. 090610-12). THIS AREA WILL BE INCLUDED AS PART OF BASIN EX_PNDC DRAINAGE AREA.

THE CURVE NUMBER SHOWN IS LOWER THAN THE INFORMATION PROVIDED IN THE PERMIT. WHILE THE PERMITTED CN VALUE IS A COMPOSITE CN OF THE BASIN AREA. THE CN PROVIDED IS THE COMPOSITE CN VALUE FOR THE INDIRECTLY CONNECTED IMPERVIOUS AND OPEN AREA WITHIN THE BASIN. THE DIRECTLY CONNECTED IMPERVIOUS (INCLUDING POND SURFACE) IS PROVIDED AS A PERCENT AS SHOWN. TIME OF CONCENTRATION FOR THIS BASIN WAS TAKEN FROM THE PERMITTED CALCULATIONS.

Name: EX_BSN140A Node: LK_RUBY Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.550 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

BASED ON DESIGN TOPOGRAPHIC SURVEY, THIS PORTION OF THE BASIN DRAINS TOWARD RUBY LAKE. HOWEVER, IT WAS PERMITTED AS PART OF SFWMD PERMIT APPLICATION NO. 070307-6 AND 080205-41 FOR POST CONDITION OF BASIN 1 WB TO DRAIN TO EXISTING POND EX_PND140. TIME OF CONCENTRATION USED IS THE MINIMUM ALLOWABLE.

Name: EX_BSN140B Node: EX_PND140 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 12.600 Time Shift(hrs): 0.00
Curve Number: 72.06 Time Increment(min): 1.00
DCIA(%): 22.22 Max Allowable Q(cfs): 999999.000

INFORMATION PROVIDED FOR THIS DRAINAGE BASIN WAS TAKEN FROM SFWMD PERMIT APPLICATION NO. 070307-6 AND 080205-41 FOR POST CONDITION OF BASIN 1 WB. THE DRAINAGE AREA MAGINALLY DEVIATE FROM THE PERMITTED VALUE OF 12.12 ACRES. WITH MORE RECENT DESIGN SURVEY INFORMATION, APPROXIMATELY 0.3 ACRES WITHIN THE BASIN LIMITS DRAIN TOWARD RUBY LAKE.

THE CURVE NUMBER SHOWN IS LOWER THAN THE INFORMATION PROVIDED IN THE PERMIT. WHILE THE PERMITTED CN VALUE IS A COMPOSITE CN OF THE BASIN AREA. THE CN PROVIDED IS THE COMPOSITE CN VALUE FOR THE INDIRECTLY CONNECTED IMPERVIOUS AND OPEN AREA WITHIN THE BASIN. THE DIRECTLY CONNECTED IMPERVIOUS (INCLUDING POND SURFACE) IS PROVIDED

AS A PERCENT AS SHOWN. TIME OF CONCENTRATION FOR THIS BASIN WAS TAKEN FROM THE PERMITTED CALCULATIONS.

Name: EX_BSN142A Node: EX_SW142AW Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 56.90
Area(ac): 20.450 Time Shift(hrs): 0.00
Curve Number: 79.31 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (PERMITTED BASIN 3 AND BASIN 5 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO BIG SAND LAKE THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY WAS INCLUDED IN THIS UPDATED MODEL. HOWEVER, IT WAS INCLUDED WITH A BIGGER OFFSITE AREA AND MAKES IT DIFFICULT TO DETERMINE THE RUNOFF CONTRIBUTED BY FDOT TO BOTH BIG SAND LAKE AND LAKE WILLIS. AS SUCH, ORANGE COUNTY BASIN BSL0130 (WHICH INCLUDED THIS BASIN LIMITS) WAS DIVIDED INTO TWO SUB-BASINS (BASINS EX_BSN142A AND BSL0130) FOR THIS MODEL.

THE TIME OF CONCENTRATION FOR THE BASIN WAS TAKEN FROM THE ORANGE COUNTY MODEL AND VERIFIED.

Name: EX_BSN142B Node: LK_WILLIS Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 28.56
Area(ac): 14.130 Time Shift(hrs): 0.00
Curve Number: 77.19 Time Increment(min): 1.00
DCIA(%): 6.09 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (A PART OF PERMITTED BASIN 4 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO BIG SAND LAKE THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY WAS INCLUDED IN THIS UPDATED MODEL. BASIN BSL0090 OF THE 2016 ORANGE COUNTY BIG SAND LAKE (BSL) STUDY INCLUDED THIS BASIN LIMITS. HOWEVER, THE MODEL (WHICH CORRELATES TO SFWMD PERMIT APPLICATION #011109-7) ASSUMED THE BASIN DIRECT DISCHARGE TO BIG SAND LAKE. WITH MORE UPDATED DESIGN SURVEY, ONLY A SMALL PORTION OF THE BASIN (EX_BSN142C) DISCHARGED TO BIG SAND LAKE. THE MAJORITY OF THE BASIN (EX_BSN142B) DRAINED TO LAKE WILLIS BEFORE LAKE WILLIS OVERFLOWS THROUGH AN EXISTING 36" CROSS DRAIN UNDER I-4 TO BIG SAND LAKE.

Name: EX_BSN142C Node: EX_SW142C Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.660 Time Shift(hrs): 0.00
Curve Number: 72.33 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (A PART OF PERMITTED BASIN 4 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO BIG SAND LAKE THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY WAS INCLUDED IN THIS UPDATED MODEL. BASIN BSL0090 OF THE 2016 ORANGE COUNTY BIG SAND LAKE (BSL) STUDY INCLUDED THIS BASIN LIMITS. TIME OF CONCENTRATION FOR BASIN WAS SET AT THE MINIMUM ALLOWABLE.

Name: EX_BSN142D Node: NBSL5300 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 33.30
Area(ac): 13.910 Time Shift(hrs): 0.00
Curve Number: 84.96 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (A PART OF PERMITTED BASIN 6 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO VALENCIA WATER CONTROL DISTRICT THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY WAS INCLUDED IN THIS UPDATED MODEL. THE ORANGE COUNTY MODEL HAD THIS BASIN CALLED OUT AS BSL5300 WITH A TIME OF CONCENTRATION OF 42.70 MIN. ADDITIONALLY, THE ORANGE COUNTY MODEL HAD APPROXIMATELY 4.31 ACRES OF THE DRAINAGE AREA INCLUDED AS PART OF BASIN BSL0130. UPDATED DESIGN SURVEY AND FIELD VISITS SUGGESTED OTHERWISE. AS SUCH, THE BASIN IS UPDATED TO REFLECT CURRENT CONDITION.

TIMLE OF CONCENTRATION WAS VERIFY AND ADJUSTED AS NEEDED BASED ON AVAILABLE DESIGN SURVEY.

Name: EX_BSN142E1 Node: EX_PND142E1 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.520 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 44.08 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (A PART OF PERMITTED BASIN 5 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO BIG SAND LAKE THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY, WAS INCLUDED IN THIS UPDATED MODEL. THE 2016 ORANGE COUNTY MODEL HAD THIS BASIN AS A PART OF A BIGGER BASIN BSL5250. WITH UPDATED DESIGN SURVEY AND SITE VISIT, IT WAS DETERMINED THAT THE AREA IS MUCH LESS THAN WHAT WAS DEPICTED IN THE ORANGE COUNTY MODEL. ADDITIONALLY, THE TIME OF CONCENTRATION OF 33.3 MIN. USED IN THE ORANGE COUNTY MODEL APPEARED TO BE TOO HIGH. THEREFORE, THE MINIMUM TIME OF CONCENTRATION WAS USED TO MORE REFLECT THE EXISTING CONDITION.

Name: EX_BSN142E2 Node: EX_PND142E2 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.890 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 41.80 Max Allowable Q(cfs): 999999.000

THIS BASIN IS A SMALL PORTION OF THE OVERALL BASIN FROM THE ORANGE COUNTY MODEL.

Name: EX_BSN142E3 Node: BSL_OUTFALL2 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 23.58
Area(ac): 2.030 Time Shift(hrs): 0.00
Curve Number: 65.41 Time Increment(min): 1.00
DCIA(%): 5.42 Max Allowable Q(cfs): 999999.000

Name: EX_BSN200A Node: BSL_OUTFALL2 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 9.170 Time Shift(hrs): 0.00
Curve Number: 55.27 Time Increment(min): 1.00
DCIA(%): 58.02 Max Allowable Q(cfs): 999999.000

INFORMATION WAS PROVIDED BY CH2M TO BE INCORPORATED INTO MODEL; CURVE NUMBER WAS ADJUSTED BASED ON JUNE 7, 2017 COMMENTS (FROM CN=75.96 TO CN=55.86)

Name: EX_BSNFPC141 Node: LK_WILLIS Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.370 Time Shift(hrs): 0.00
Curve Number: 76.47 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNPND141 Node: NBSL0130U Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 46.90
Area(ac): 40.640 Time Shift(hrs): 0.00
Curve Number: 56.43 Time Increment(min): 1.00
DCIA(%): 0.17 Max Allowable Q(cfs): 999999.000

PROPOSED NEW POND SITE TO REPLACE PND139 INTERCONNECTED PONDS.

Name: EX_BSNPND142 Node: BSL_OUTFALL1 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 6.880 Time Shift(hrs): 0.00
Curve Number: 75.45 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

Name: EX_BSNPNDC Node: EX_PNDC Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 80.170 Time Shift(hrs): 0.00
Curve Number: 79.00 Time Increment(min): 1.00
DCIA(%): 78.60 Max Allowable Q(cfs): 999999.000

EXISTING DRAINAGE BASIN WAS INCLUDED AS PART OF SFWMD PERMIT APPLICATION #090610-12 FOR ORANGE COUNTY POND C. BASIN AREA AND CURVE NUMBER WERE VERIFIED AND ADJUSTED ACCORDINGLY TO REFLECT CURRENT SITE CONDITION. THERE IS A SLIGHT DEVIATION FROM THE PERMITTED BASIN AREA COMPUTED. THIS IS DUE TO MORE RECENT TOPOGRAPHIC SURVEY SHOWING THAT APPROXIMATELY 0.43 ACRES DRAINS AWAY FROM THE EXISTING POND 139 AND OVERLAND FLOW TO EXISTING POND C, WHICH IS ADDED TO THIS DRAINAGE AREA (FROM 79.74 ACRES TO NOW 80.17 ACRES).

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY, WAS INCLUDED IN THIS UPDATED MODEL. THE 2016 ORANGE COUNTY MODEL HAD THIS BASIN CALLED OUT AS BSL0070 (77.31-AC AND 39.7-MIN TC), WHICH DO NOT CORRESPOND TO INFORMATION OBTAINED FROM PERMITTED DOCUMENTATION OR SURVEY DATA. AS SUCH, THE BASIN HAD BEEN REVISED AND UPDATED TO REFLECT CURRENT CONDITION.

ADDITIONALLY, THE TC USED IN THE ORANGE COUNTY MODEL IS MUCH HIGHER THAN THE PERMITTED DATA. AS SUCH, THIS MODEL WILL INCORPORATE AND USE THE PERMITTED DATA.

Name: EX_BSNVWCD Node: NBSL5300 Status: Onsite
Group: EXISTING Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.970 Time Shift(hrs): 0.00
Curve Number: 85.30 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY, WAS INCLUDED IN THIS UPDATED MODEL. THE ORANGE COUNTY MODEL HAD THIS BASIN AS BSL5330 (0.63-AC WTIH 10-MIN OF TC).

WITH UPDATED DESIGN SURVEY AND SITE VISIT, IT WAS DETERMINED THAT THE AREA IS MARGINALLY LARGER AT ROUGHLY 0.97-AC. AS SUCH, THE BASIN WAS UPDATED TO REFLECT THE CURRENT CONDITION INSTEAD OF USING THE ORANGE COUNTY MODEL.

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==== Nodes ==========
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Name: BSL_OUTFALL1 Base Flow(cfs): 0.000 Init Stage(ft): 91.730
Group: EXISTING Warn Stage(ft): 110.000
Type: Time/Stage

INFORMATION FOR THIS WAS TAKEN FROM THE 2016 ORANGE COUNTY EXISTING MODEL OF THE PEAK STAGES AT NODE NBSL5160 (THE PEAK STAGE OF BIG SAND LAKE). THE PEAK STAGE WAS THEN PUT INTO A HYDROGRAPH TO BE ADDED TO THE MODEL TO MORE ACCURATELY REPLICATE RISE AND FALL FOR A PARTICULAR DURATION. ALTHOUGH THE PEAK STAGE MAY BE LOWER FOR STORM EVENTS SMALLER THAN THE 100-YR/ 24-HR PEAK STAGE, THE 100-YR/ 72-HR PEAK STAGE WAS USE FOR ALL SIMULATIONS.

REFER TO BOUNDARY CONDITIONS FOR THE HYDROGRAPH ESTABLISHED.

Time(hrs)	Stage(ft)
0.00	0.000
240.00	0.000

Name: BSL_OUTFALL2 Base Flow(cfs): 0.000 Init Stage(ft): 94.630
Group: EXISTING Warn Stage(ft): 108.000
Type: Time/Stage

INFORMATION FOR THIS WAS TAKEN FROM THE 2016 ORANGE COUNTY EXISTING MODEL OF THE PEAK STAGES AT NODE NBSL5190 (THE PEAK STAGE AT THE UPSTREAM END OF THE EXISTING DOUBLE 48" UNDER RAMP A_CFP). THE PEAK STAGE WAS THEN PUT INTO A HYDROGRAPH TO BE ADDED TO THE MODEL TO MORE ACCURATELY REPLICATE RISE AND FALL FOR A PARTICULAR DURATION. ALTHOUGH THE PEAK STAGE MAY BE LOWER FOR STORM EVENTS SMALLER THAN THE 100-YR/ 24-HR PEAK STAGE, THE PEAK STAGE OF THE 100-YR/ 72-HR WAS USED FOR ALL SIMULATIONS.

REFER TO BOUNDARY CONDITIONS FOR THE HYDROGRAPH ESTABLISHED.

Time(hrs)	Stage(ft)
0.00	0.000
240.00	0.000

Name: EX_PND139 Base Flow(cfs): 0.000 Init Stage(ft): 127.700
Group: EXISTING Warn Stage(ft): 129.700
Type: Stage/Area

EXISTING POND INFORMATION WAS DIRECTLY TAKEN FROM SFWMD PERMIT APPLICATION #070307-6 AND 080205-41 FOR POND 2 EB; THE DATUM AT THE TIME OF THE PERMIT WAS NGVD. TO CONVERT THE PERMITTED DATUM TO THE CURRENT NAVD DATUM, AN ADJUSTEMENT (-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS. THE WARNING STAGE IS ASSUMED 1 FEET BELOW THE INSIDE BERM ELEVATION.

Stage(ft)	Area(ac)
119.200	1.5400
123.700	1.8800
127.700	2.6300
129.700	2.9600
131.700	3.2900
132.700	4.3200

Name: EX_PND140 Base Flow(cfs): 0.000 Init Stage(ft): 127.200
Group: EXISTING Warn Stage(ft): 130.200
Type: Stage/Area

EXISTING POND INFORMATION WAS DIRECTLY TAKEN FROM SFWMD PERMIT APPLICATION #070307-6 AND 080205-41 FOR POND 1 WB; THE DATUM AT THE TIME OF THE PERMIT WAS NGVD. TO CONVERT THE PERMITTED DATUM TO THE CURRENT NAVD DATUM, AN ADJUSTMENT (-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS. THE WARNING STAGE IS ASSUMED 1 FEET BELOW THE INSIDE BERM ELEVATION.

Stage(ft)	Area(ac)
115.200	2.0800
125.200	2.5000
127.200	2.8000
130.200	3.2600
131.200	3.8900

Name: EX_PND142E1 Base Flow(cfs): 0.000 Init Stage(ft): 108.000
Group: EXISTING Warn Stage(ft): 113.000
Type: Stage/Area

EXISTING POND INFORMATION WAS DIRECTLY TAKEN FROM DESIGN SURVEY.

Stage(ft)	Area(ac)
108.000	0.1200
109.000	0.2100
110.000	0.2700
111.000	0.3200
112.000	0.3700
113.000	0.4300
114.000	0.4900

Name: EX_PND142E2 Base Flow(cfs): 0.000 Init Stage(ft): 95.060
Group: EXISTING Warn Stage(ft): 103.000
Type: Stage/Area

EXISTING INFORMATION WAS TAKEN FROM THE DESIGN SURVEY.

ORANGE COUNTY BIG SAND LAKE MODEL NODE BSL5250. THE INFORMATION WITHIN THE ORANGE COUNTY MODEL SIGNIFICANTLY DIFFERENT FROM THE DESIGN SURVEY. AS SUCH USE DESIGN SURVEY INFORMATION INSTEAD OF ORANGE COUNTY MODEL.

Stage(ft)	Area(ac)

95.000	0.0120
96.000	0.0150
97.000	0.0180
98.000	0.0220
99.000	0.0270
100.000	0.0320
101.000	0.0380
102.000	0.0470
103.000	0.0570
104.000	0.0950

Name: EX_PNDC Base Flow(cfs): 0.000 Init Stage(ft): 111.200
Group: EXISTING Warn Stage(ft): 116.700
Type: Stage/Area

EXISTING POND INFORMATION WAS DIRECTLY TAKEN FROM SFWMD PERMIT APPLICATION #090610-12 FOR ORANGE COUNTY POND C; THE DATUM AT THE TIME OF THE PERMIT WAS NGVD. TO CONVERT THE PERMITTED DATUM TO THE CURRENT NAVD DATUM, AN ADJUSTMENT (-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS. THE WARNING STAGE IS ASSUMED 1 FEET BELOW THE INSIDE BERM ELEVATION.

Stage(ft)	Area(ac)
101.200	1.5400
109.200	1.8800
111.200	7.2500
116.700	8.7800
117.700	10.0600

Name: EX_SW142AE Base Flow(cfs): 0.000 Init Stage(ft): 109.000
Group: EXISTING Warn Stage(ft): 113.000
Type: Stage/Area

Stage(ft)	Area(ac)
109.000	0.0000
114.000	0.0000

Name: EX_SW142AW Base Flow(cfs): 0.000 Init Stage(ft): 126.180
Group: EXISTING Warn Stage(ft): 132.000
Type: Stage/Area

Stage(ft)	Area(ac)
126.180	0.0000
132.000	0.0000

Name: EX_SW142B Base Flow(cfs): 0.000 Init Stage(ft): 127.160
Group: EXISTING Warn Stage(ft): 130.000
Type: Stage/Area

Stage(ft)	Area(ac)
127.160	0.0000
130.000	0.0000

Name: EX_SW142C Base Flow(cfs): 0.000 Init Stage(ft): 103.180
Group: EXISTING Warn Stage(ft): 108.000
Type: Stage/Area

EXISTING CROSS-DRAIN

Stage(ft)	Area(ac)
103.000	0.0006
104.000	0.0290
105.000	0.0330
106.000	0.2592
107.000	0.5890

Name: LK_RUBY Base Flow(cfs): 0.000 Init Stage(ft): 132.000
Group: EXISTING Warn Stage(ft): 99999.000

Type: Time/Stage

THE TAILWATER ELEVATION USE FOR THIS NODE WAS TAKEN DIRECTLY FROM SURVEY INFORMATION NEAREST POINT TO BASIN AND NOT AT LAKE LOCATI

Time(hrs)	Stage(ft)
0.00	132.000
24.00	132.000
72.00	132.000

Name: LK_WILLIS Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: EXISTING Warn Stage(ft): 107.000
Type: Stage/Area

IC: Control Elevation

THE INFORMATION WAS TAKEN DIRECTLY FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE (NODE NBSL0080).

Stage(ft)	Area(ac)
103.000	128.0000
104.000	129.8972
105.000	132.0259
106.000	138.5448
107.000	148.4609
108.000	159.7525
109.000	169.1791
110.000	176.3618
111.000	180.9311
112.000	183.8758
113.000	186.3995
114.000	188.3607
115.000	190.6906
116.000	192.4948
117.000	194.0296
118.000	195.3659
119.000	196.8280
120.000	198.0501
121.000	199.1803
122.000	200.6462
123.000	202.2380
124.000	203.6318
125.000	205.0417
126.000	206.3287
127.000	207.8344
128.000	208.5839
129.000	209.0278

Name: NBSL0025 Base Flow(cfs): 0.000 Init Stage(ft): 108.590
Group: EXISTING Warn Stage(ft): 112.000
Type: Stage/Area

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE (NODE NBSL0025).

Stage(ft)	Area(ac)
0.000	0.0000
109.000	1.9691
110.000	2.1316
111.000	2.3494
112.000	5.2676
113.000	13.8270
114.000	16.0445
115.000	16.9705
116.000	17.1896
117.000	17.2493
118.000	17.3656

Name: NBSL0030 Base Flow(cfs): 0.000 Init Stage(ft): 108.000
Group: EXISTING Warn Stage(ft): 111.500
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
108.000	1.0923
109.000	1.2580
110.000	1.4008

111.000	2.4519
112.000	7.2346
113.000	9.2907
114.000	9.9067

Name: NBSL0040 Base Flow(cfs): 0.000 Init Stage(ft): 103.290
Group: EXISTING Warn Stage(ft): 112.000
Type: Stage/Area

IC: Downstream Water Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
102.580	0.0001
200.000	0.0001

Name: NBSL0041 Base Flow(cfs): 0.000 Init Stage(ft): 103.290
Group: EXISTING Warn Stage(ft): 111.120
Type: Stage/Area

IC: Downstream Water Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
101.470	0.0001
200.000	0.0001

Name: NBSL0050 Base Flow(cfs): 0.000 Init Stage(ft): 107.000
Group: EXISTING Warn Stage(ft): 111.000
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
107.000	1.5300
108.000	1.6600
109.000	1.8000
110.000	2.0200
111.000	2.7400
112.000	5.1600
113.000	12.3800
114.000	15.7200
115.000	16.0800
116.000	16.2100

Name: NBSL0060 Base Flow(cfs): 0.000 Init Stage(ft): 104.000
Group: EXISTING Warn Stage(ft): 109.000
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
104.000	1.0881
105.000	1.1991
106.000	1.3140
107.000	1.4372
108.000	1.6972
109.000	2.5641
110.000	4.7250
111.000	6.9749
112.000	8.6810
113.000	9.1258
114.000	9.1838
115.000	9.2088
116.000	9.2153
117.000	9.2490

Name: NBSL0070 Base Flow(cfs): 0.000 Init Stage(ft): 105.120
Group: EXISTING Warn Stage(ft): 117.500
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
105.120	6.5600
106.120	6.7400
107.120	6.9200
108.120	7.1000
109.120	7.2800
110.120	7.5800
111.120	7.9200
112.120	8.3200
113.120	8.7800
114.120	9.3500
115.120	9.9300
116.120	10.7000
117.120	11.9100
118.120	12.9700
119.120	13.1900
120.120	13.4100
121.120	13.7200
122.120	14.1900
123.120	14.8100
124.120	16.1100
125.120	17.5600
126.120	19.4000
127.120	21.0600
128.120	24.7900
129.120	29.7500
130.120	35.2100
131.120	44.0300
132.120	62.5300
133.120	76.5600
134.120	77.3100
135.000	77.3100

Name: NBSL0130D Base Flow(cfs): 0.000 Init Stage(ft): 101.880
Group: EXISTING Warn Stage(ft): 109.000
Type: Stage/Area

IC: Invert

Stage(ft)	Area(ac)
101.880	0.0005
105.000	0.0005

Name: NBSL0130U Base Flow(cfs): 0.000 Init Stage(ft): 102.250
Group: EXISTING Warn Stage(ft): 109.000
Type: Stage/Area

IC: Invert

Stage(ft)	Area(ac)
102.250	0.0005
107.000	0.0005

Name: NBSL0140 Base Flow(cfs): 0.000 Init Stage(ft): 93.950
Group: EXISTING Warn Stage(ft): 105.330
Type: Stage/Area

IC: Invert

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
93.400	0.0001
106.330	0.0001

Name: NBSL0150 Base Flow(cfs): 0.000 Init Stage(ft): 93.490
Group: EXISTING Warn Stage(ft): 104.370
Type: Stage/Area

IC: Invert

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
93.490	0.0001
104.370	0.0001

Name: NBSL0160 Base Flow(cfs): 0.000 Init Stage(ft): 100.000
Group: EXISTING Warn Stage(ft): 105.000
Type: Stage/Area

IC: Bottom Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
100.000	0.4029
101.000	2.1759
102.000	2.4098
103.000	2.7089
104.000	2.9521
105.000	3.1593
106.000	4.7671
107.000	5.5231
108.000	6.2680
109.000	7.4375
110.000	8.5760
111.000	9.9086
112.000	11.4606
113.000	13.2461
114.000	14.1120
115.000	14.5637
116.000	14.9442
117.000	15.3873
118.000	15.8201
119.000	16.3241
120.000	16.8629
121.000	17.2124
122.460	17.3086

Name: NBSL0170 Base Flow(cfs): 0.000 Init Stage(ft): 92.450
Group: EXISTING Warn Stage(ft): 101.000
Type: Stage/Area

IC: Invert

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
92.450	0.0001
102.300	0.0001

Name: NBSL5260 Base Flow(cfs): 0.000 Init Stage(ft): 94.800
Group: EXISTING Warn Stage(ft): 123.500
Type: Stage/Area

IC: Invert

Stage(ft)	Area(ac)
0.000	0.0000
94.820	0.0001
200.000	0.0001

Name: NBSL5300 Base Flow(cfs): 0.000 Init Stage(ft): 94.600
Group: EXISTING Warn Stage(ft): 106.920
Type: Stage/Area

IC: Invert

Stage(ft)	Area(ac)

0.000	0.0000
106.920	0.0001
107.000	2.0100
108.000	2.8800
109.000	4.0900
110.000	5.6900
111.000	6.2800
112.000	6.5100
113.000	6.7300
114.000	6.9200
115.000	7.0800
116.000	7.2600
117.000	7.4300
118.000	7.6100
119.000	7.8000
120.000	8.0000
121.000	8.2100
122.000	8.5100
123.000	8.8700
124.000	9.3500
125.000	9.5900

Name: VWCD Base Flow(cfs): 0.000 Init Stage(ft): 94.800
Group: EXISTING Warn Stage(ft): 107.460
Type: Time/Stage

INFORMATION FOR THIS WAS TAKEN FROM THE 2016 ORANGE COUNTY EXISTING MODEL OF THE PEAK STAGES AT NODE NBSL5330 (THE EXIST DITCH AT THE SOUTHEAST QUADRANT OF SR400 AND CENTRAL FLORIDA PARKWAY INTERSECTION (EAST OF RAMP B_CFP). THE PEAK STAGE WAS THEN PUT INTO A HYDROGRAPH TO BE ADDED TO THE MODEL TO MORE ACCURATELY REPLICATE RISE AND FALL FOR A PARTICULAR DURATION. ALTHOUGH THE PEAK STAGE MAY BE LOWER FOR STORM EVENTS SMALLER THAN THE 100-YR/ 72-HR PEAK STAGE, THE PEAK STAGE IS USE FOR ALL SIMULATIONS.

REFER TO BOUNDARY CONDITIONS FOR THE HYDROGRAPH ESTABLISHED.

Time(hrs)	Stage(ft)
0.00	0.000
240.00	0.000

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==== Cross Sections ==========
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Name: EX_NBSL0130D Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	105.000	0.060000
7.130	101.880	0.042000
10.130	101.880	0.042000
17.260	105.000	0.060000

Name: EX_NBSL0130U Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	107.000	0.060000
7.130	102.250	0.042000
10.130	102.250	0.042000
17.260	107.000	0.060000

Name: EX_XSW142AED Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	111.000	0.060000
20.200	106.430	0.042000
25.200	106.430	0.042000
38.200	109.000	0.060000

Name: EX_XSW142AEU Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	111.000	0.060000
49.500	109.000	0.042000
70.500	109.660	0.042000

Name: EX_XSW142AWD Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	106.900	0.060000
21.000	107.000	0.042000
35.000	110.000	0.060000

Name: EX_XSW142AWU Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	131.500	0.060000
4.300	131.000	0.060000
16.060	130.000	0.060000
20.690	126.180	0.042000
25.690	126.180	0.042000
30.320	130.000	0.042000
49.100	132.000	0.060000

Name: EX_XSW142BDWN Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	107.000	0.042000
65.000	104.000	0.042000
79.000	104.000	0.042000
97.000	109.000	0.042000

Name: EX_XSW142BUP Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	131.000	0.060000
18.100	127.160	0.042000
25.670	127.160	0.042000
32.640	130.000	0.060000

Name: EX_XSW142C Group: EXISTING
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	107.000	0.060000
29.830	106.750	0.060000
87.690	106.750	0.060000
145.640	107.000	0.060000

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==== Pipes ==========
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Name: EX_CDSW142C From Node: EX_SW142C Length(ft): 270.00
Group: EXISTING To Node: NBSL0130U Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30.00	30.00	Entrance Loss Coef:	0.00
Rise(in):	30.00	30.00	Exit Loss Coef:	0.00
Invert(ft):	103.180	102.250	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Survey

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Name:	EX_P142E2BSL	From Node: EX_PND142E2	Length(ft): 78.00
Group:	EXISTING	To Node: BSL_OUTFALL2	Count: 2
			Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Most Restrictive
Geometry:	Circular	Circular	Flow:	Both
Span(in):	48.00	48.00	Entrance Loss Coef:	0.00
Rise(in):	48.00	48.00	Exit Loss Coef:	1.00
Invert(ft):	95.410	94.710	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	EX_P142E2VWCD	From Node: EX_PND142E2	Length(ft): 247.00
Group:	EXISTING	To Node: NBSL5260	Count: 1
			Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Most Restrictive
Geometry:	Rectangular	Rectangular	Flow:	Both
Span(in):	66.00	66.00	Entrance Loss Coef:	0.00
Rise(in):	50.00	50.00	Exit Loss Coef:	1.00
Invert(ft):	95.070	94.710	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dc
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Rectangular Box: 90° headwall w/ 45° bevels

Downstream FHWA Inlet Edge Description:
Rectangular Box: 90° headwall w/ 45° bevels

Name:	EX_PSW142C	From Node: LK_WILLIS	Length(ft): 156.00
Group:	EXISTING	To Node: EX_SW142C	Count: 1
			Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30.00	30.00	Entrance Loss Coef:	0.70
Rise(in):	30.00	30.00	Exit Loss Coef:	1.00
Invert(ft):	103.400	103.450	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:

Circular: Smooth tapered inlet throat

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Survey

Name:	PBSL0040	From Node:	NBSL0040	Length(ft): 350.00
Group:	EXISTING	To Node:	NBSL0041	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	24.00	24.00		Entrance Loss Coef: 0.00
Rise(in):	24.00	24.00		Exit Loss Coef: 0.00
Invert(ft):	102.550	101.440		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Plans

Name:	PBSL0041	From Node:	NBSL0041	Length(ft): 257.00
Group:	EXISTING	To Node:	LK_WILLIS	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	18.00	18.00		Entrance Loss Coef: 0.50
Rise(in):	18.00	18.00		Exit Loss Coef: 1.00
Invert(ft):	102.550	101.440		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Plans

Name:	PBSL0130	From Node:	NBSL0130D	Length(ft): 10.00
Group:	EXISTING	To Node:	NBSL0140	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow: Both
Span(in):	60.00	60.00		Entrance Loss Coef: 0.70
Rise(in):	38.00	38.00		Exit Loss Coef: 0.00
Invert(ft):	101.880	101.660		Bend Loss Coef: 0.16
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Plans/ SURVEY

Name:	PBSL0140	From Node:	NBSL0140	Length(ft): 138.00
Group:	EXISTING	To Node:	NBSL0150	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse		Flow: Both

Span(in):	60.00	60.00	Entrance Loss Coef: 0.50
Rise(in):	38.00	38.00	Exit Loss Coef: 1.00
Invert(ft):	93.400	93.590	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Source: Plans/SURVEY

Name:	PBSL0150	From Node: NBSL0150	Length(ft): 156.00
Group:	EXISTING	To Node: NBSL0170	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	48.00	48.00	Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00	Exit Loss Coef: 1.00
Invert(ft):	93.490	92.450	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Downstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Source: Plans/SURVEY

Name:	PBSL0170	From Node: NBSL0170	Length(ft): 354.00
Group:	EXISTING	To Node: BSL_OUTFALL1	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	54.00	54.00	Entrance Loss Coef: 0.00
Rise(in):	54.00	54.00	Exit Loss Coef: 1.00
Invert(ft):	92.520	89.460	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Name:	PBSL5260A	From Node: NBSL5260	Length(ft): 162.00
Group:	EXISTING	To Node: VWCD	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	48.00	48.00	Entrance Loss Coef: 0.00
Rise(in):	48.00	48.00	Exit Loss Coef: 1.00
Invert(ft):	94.790	94.370	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

Name:	PBSL5260B	From Node: NBSL5260	Length(ft): 75.00
Group:	EXISTING	To Node: NBSL5300	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	48.00	48.00	Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00	Exit Loss Coef: 1.00
Invert(ft):	94.790	94.600	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

Name:	PBSL5300	From Node: NBSL5300	Length(ft): 87.00
Group:	EXISTING	To Node: VWCD	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	48.00	48.00	Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00	Exit Loss Coef: 1.00
Invert(ft):	94.600	94.460	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM ORANGE COUNTY BIG SAND LAKE MODEL.

==========
==== Channels ==========
==========

Name:	EX_CH142AE	From Node: EX_SW142AE	Length(ft): 1130.00
Group:	EXISTING	To Node: NBSL0130U	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Irregular	Irregular	Flow: Both
Invert(ft):	109.000	106.430	Contraction Coef: 0.300
TClpInitZ(ft):	9999.000	9999.000	Expansion Coef: 0.500
Manning's N:			Entrance Loss Coef: 0.000
Top Clip(ft):			Exit Loss Coef: 0.000
Bot Clip(ft):			Outlet Ctrl Spec: Use dc or tw
Main XSec:	EX_XSW142AEU	EX_XSW142AED	Inlet Ctrl Spec: Use dc
AuxElev1(ft):	0.000	0.000	Stabilizer Option: None
Aux XSec1:			
AuxElev2(ft):	0.000	0.000	
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):			
LtSdSlp(h/v):			
RtSdSlp(h/v):			

Name:	EX_CH142AW	From Node: EX_SW142AW	Length(ft): 2620.00
Group:	EXISTING	To Node: NBSL0130U	Count: 1
			Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Irregular	Irregular	Flow: Both
Invert(ft):	126.180	107.000	

```
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.300
   Manning's N:                                            Expansion Coef: 0.500
  Top Clip(ft):                                         Entrance Loss Coef: 0.000
  Bot Clip(ft):                                             Exit Loss Coef: 0.000
     Main XSec: EX_XSW142AWU   EX_XSW142AWD               Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.000          0.000                      Inlet Ctrl Spec: Use dc
     Aux XSec1:                                          Stabilizer Option: None
  AuxElev2(ft): 0.000          0.000
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: EX_CH142B           From Node: EX_SW142B         Length(ft): 1595.00
         Group: EXISTING              To Node: LK_WILLIS              Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(ft): 127.160        109.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.300
   Manning's N:                                            Expansion Coef: 0.500
  Top Clip(ft):                                         Entrance Loss Coef: 0.000
  Bot Clip(ft):                                             Exit Loss Coef: 0.000
     Main XSec: EX_XSW142BUP   EX_XSW142BDWN              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.000          0.000                      Inlet Ctrl Spec: Use dc
     Aux XSec1:                                          Stabilizer Option: None
  AuxElev2(ft): 0.000          0.000
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: EX_CHBSL0130        From Node: NBSL0130U         Length(ft): 525.00
         Group: EXISTING              To Node: NBSL0130D              Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(ft): 102.250        101.880                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.300
   Manning's N:                                            Expansion Coef: 0.500
  Top Clip(ft):                                         Entrance Loss Coef: 0.000
  Bot Clip(ft):                                             Exit Loss Coef: 0.000
     Main XSec: EX_NBSL0130U   EX_NBSL0130D               Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft): 0.000          0.000                      Inlet Ctrl Spec: Use dc
     Aux XSec1:                                          Stabilizer Option: None
  AuxElev2(ft): 0.000          0.000
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



=================================================================================================
==== Drop Structures ============================================================================
=================================================================================================

          Name: DBSL0030            From Node: NBSL0030          Length(ft): 110.00
         Group: EXISTING              To Node: NBSL0040               Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Average Conveyance
      Geometry: Circular       Circular                   Solution Algorithm: Automatic
      Span(in): 24.00          24.00                                 Flow: Both
      Rise(in): 24.00          24.00                      Entrance Loss Coef: 0.500
    Invert(ft): 102.690        102.550                        Exit Loss Coef: 0.000
   Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                           Solution Incs: 0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 1 for Drop Structure DBSL0030 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	53.00	Invert(ft):	110.090
Rise(in):	36.00	Control Elev(ft):	110.090

Name:	DBSL0050	From Node:	NBSL0050	Length(ft):	99.00
Group:	EXISTING	To Node:	NBSL0060	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	15.00	15.00	Solution Algorithm:	Automatic
Rise(in):	15.00	15.00	Flow:	Both
Invert(ft):	98.780	98.520	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 1 for Drop Structure DBSL0050 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	36.00	Invert(ft):	110.090
Rise(in):	28.00	Control Elev(ft):	110.090

Name:	DBSL0060	From Node:	NBSL0060	Length(ft):	166.00
Group:	EXISTING	To Node:	LK_WILLIS	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	100.360	100.090	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 1 for Drop Structure DBSL0060 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	53.00	Invert(ft):	108.090
Rise(in):	36.00	Control Elev(ft):	108.090

```
-------------------------------------------------------------------------------------------------
         Name: DBSL0070            From Node: NBSL0070          Length(ft): 84.00
        Group: EXISTING              To Node: LK_WILLIS              Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 36.00          36.00                                Flow: Both
     Rise(in): 36.00          36.00                     Entrance Loss Coef: 0.500
   Invert(ft): 108.090        107.970                       Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                          Solution Incs: 0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source:  Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 5 for Drop Structure DBSL0070 ***
                                                                                      TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 54.00                       Invert(ft): 117.090
               Rise(in): 36.00                  Control Elev(ft): 117.090

*** Weir 2 of 5 for Drop Structure DBSL0070 ***
                                                                                      TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Vertical: Mavis            Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 7.00                        Invert(ft): 111.990
               Rise(in): 61.20                  Control Elev(ft): 111.990

*** Weir 3 of 5 for Drop Structure DBSL0070 ***
                                                                                      TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Vertical: Mavis            Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 111.090
               Rise(in): 6.00                   Control Elev(ft): 111.090

*** Weir 4 of 5 for Drop Structure DBSL0070 ***
                                                                                      TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Vertical: Mavis            Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 111.090
               Rise(in): 6.00                   Control Elev(ft): 111.090

*** Weir 5 of 5 for Drop Structure DBSL0070 ***
                                                                                      TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Vertical: Mavis            Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 111.090
               Rise(in): 6.00                   Control Elev(ft): 111.090


-------------------------------------------------------------------------------------------------
         Name: DS_PND139           From Node: EX_PND139         Length(ft): 219.00
        Group: EXISTING              To Node: EX_SW142B              Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                     Entrance Loss Coef: 0.500
   Invert(ft): 127.050        127.160                       Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
```

```
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION # 070307-6 and 080205-41
for DROP STRUCTURE S-744. THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. TO CONVERT THE PERMITTED
DATUM TO THE CURRENT NAVD DATUM, AN ADJUSTMENT (-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS.
THE PERMITTED CONDITION SHOWED POND 139 DISCHARGING TO THE SWALE EB TO LAKE WILLIS AND EVENTUALLY
TO BIG SAND LAKE VIA AN EXISTING 36" UNDER I-4 (LAKE WILLIS OUTFALL).


*** Weir 1 of 2 for Drop Structure DS_PND139 ***
                                                                                TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Vertical: Mavis            Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.200
               Geometry: Circular               Orifice Disc Coef: 0.600

               Span(in): 4.00                         Invert(ft): 127.200
               Rise(in): 4.00                   Control Elev(ft): 127.200

*** Weir 2 of 2 for Drop Structure DS_PND139 ***
                                                                                TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.200
               Geometry: Rectangular            Orifice Disc Coef: 0.600

               Span(in): 49.00                        Invert(ft): 130.700
               Rise(in): 37.00                  Control Elev(ft): 130.700


--------------------------------------------------------------------------------------------------
        Name: DS_PND140           From Node: EX_PND140          Length(ft): 58.00
       Group: EXISTING              To Node: EX_SW142AW              Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
    Geometry: Circular       Circular                  Solution Algorithm: Automatic
    Span(in): 18.00          18.00                                Flow: Both
    Rise(in): 18.00          18.00                     Entrance Loss Coef: 0.500
  Invert(ft): 125.670        126.180                       Exit Loss Coef: 1.000
 Manning's N: 0.012000       0.012000                  Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                      Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION # 070307-6 and 080205-41 for DROP
STRUCTURE S-748. THE DATUM AT THE TIME OF THE PERMIT WAS IN NGVD. TO CONVERT THE PERMITTED DATUM TO THE CURRENT
NAVD DATUM, AN ADJUSTMENT (-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS. THE PERMITTED CONDITION SHOWED
POND 140 DISCHARGING TO THE SWALE WB AND EVENTUALLY TO BIG SAND LAKE.

FLOWLINE IS REVERSED AS PER PERMITTED CONSTRUCTION PLANS.

*** Weir 1 of 2 for Drop Structure DS_PND140 ***
                                                                                TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Vertical: Mavis            Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.200
               Geometry: Circular               Orifice Disc Coef: 0.600

               Span(in): 3.00                         Invert(ft): 127.120
               Rise(in): 3.00                   Control Elev(ft): 127.200

*** Weir 2 of 2 for Drop Structure DS_PND140 ***
                                                                                TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.200
               Geometry: Rectangular            Orifice Disc Coef: 0.600

               Span(in): 49.00                        Invert(ft): 130.200
               Rise(in): 37.00                  Control Elev(ft): 130.200


--------------------------------------------------------------------------------------------------
        Name: DS_PND142E1         From Node: EX_PND142E1        Length(ft): 353.00
```

```
       Group: EXISTING             To Node: EX_PND142E2            Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
    Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
    Span(in): 24.00          24.00                                 Flow: Both
    Rise(in): 24.00          24.00                    Entrance Loss Coef: 0.500
   Invert(ft): 100.290       98.950                       Exit Loss Coef: 1.000
  Manning's N: 0.012000      0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000         0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000         0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM DESIGN SURVEY INFORMATION AND FIELD VERIFIED.


*** Weir 1 of 2 for Drop Structure DS_PND142E1 ***
                                                                                TABLE
                  Count: 2                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 4.00                        Invert(ft): 111.930
              Rise(in): 4.00                 Control Elev(ft): 111.930

*** Weir 2 of 2 for Drop Structure DS_PND142E1 ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 49.00                       Invert(ft): 113.430
              Rise(in): 37.00                Control Elev(ft): 113.430


--------------------------------------------------------------------------------------------------
        Name: DS_PNDC             From Node: EX_PNDC            Length(ft): 222.00
       Group: EXISTING              To Node: LK_WILLIS               Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
    Geometry: Circular       Circular                 Solution Algorithm: Automatic
    Span(in): 36.00          36.00                                 Flow: Both
    Rise(in): 36.00          36.00                    Entrance Loss Coef: 0.500
   Invert(ft): 108.400       108.200                      Exit Loss Coef: 1.000
  Manning's N: 0.012000      0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000         0.000                       Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000         0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #090610-12. THE DATUM AT THE
 TIME OF THE PERMIT WAS IN NGVD. TO COVNERT THE PERMITTED DATUM TO THE CURRENT NAVD DATUM, AN ADJUSTMENT
(-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS.

ORIFICE INFORMATION WAS ADJUSTED SLIGHTLY TO REFLECT THE CORRECT MODELING RECOMMENDATION; FLOW WAS
ADJUSTED FROM VERTICAL TO HORIZONTAL AND INVERT ELEVATION IS ADJUSTED TO REFLECT THE 90 DEGREE BEND IN THE PIPE.


*** Weir 1 of 3 for Drop Structure DS_PNDC ***
                                                                                TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 18.00                       Invert(ft): 112.750
              Rise(in): 9999.00              Control Elev(ft): 112.750

*** Weir 2 of 3 for Drop Structure DS_PNDC ***
                                                                                TABLE
                  Count: 3                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 5.75                      Invert(ft): 110.700
              Rise(in): 5.75                 Control Elev(ft): 111.200

*** Weir 3 of 3 for Drop Structure DS_PNDC ***
                                                                      TABLE
                 Count: 1                     Bottom Clip(in): 0.000
                  Type: Horizontal               Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 54.00                     Invert(ft): 116.700
              Rise(in): 36.00                Control Elev(ft): 116.700


================================================================================
==== Weirs =====================================================================
================================================================================

         Name: EX_WPND142E1        From Node: EX_PND142E1
        Group: EXISTING              To Node: EX_SW142AE
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Trapezoidal

            Bottom Width(ft): 19.00
       Left Side Slope(h/v): 4.00
      Right Side Slope(h/v): 4.00
                Invert(ft): 114.400
      Control Elevation(ft): 114.400
     Struct Opening Dim(ft): 1.00
                                        TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600



--------------------------------------------------------------------------------------------------------
         Name: EX_WSW142C          From Node: EX_SW142C
        Group: EXISTING              To Node: LK_WILLIS
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                       XSec: EX_XSW142C
                Invert(ft): 106.750
      Control Elevation(ft): 106.750
     Struct Opening Dim(ft): 1.00
                                        TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600



--------------------------------------------------------------------------------------------------------
         Name: WBSL0025A           From Node: NBSL0025
        Group: EXISTING              To Node: NBSL0030
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                    Span(in): 4.00
                    Rise(in): 4.00
                  Invert(ft): 108.590
      Control Elevation(ft): 108.590
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

--------------------------------------------------------------------------------------------------------
         Name: WBSL0025B           From Node: NBSL0025
        Group: EXISTING              To Node: NBSL0030
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 3.00
                    Rise(in): 27.72
                  Invert(ft): 109.280
      Control Elevation(ft): 109.280
                                        TABLE
           Bottom Clip(in): 0.000
```

```
               Top Clip(in): 0.000
         Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------------
         Name: WBSL0025C           From Node: NBSL0025
        Group: EXISTING              To Node: NBSL0030
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 144.00
                    Rise(in): 6.00
                  Invert(ft): 111.590
       Control Elevation(ft): 111.590
                                          TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
         Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------------
         Name: WBSL0030            From Node: NBSL0030
        Group: EXISTING              To Node: LK_WILLIS
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                    Span(in): 2200.00
                    Rise(in): 99999.00
                  Invert(ft): 111.500
       Control Elevation(ft): 111.500
                                          TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
         Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------------
         Name: WBSL0050            From Node: NBSL0050
        Group: EXISTING              To Node: NBSL0060
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                    Span(in): 3600.00
                    Rise(in): 99999.00
                  Invert(ft): 111.000
       Control Elevation(ft): 111.000
                                          TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
         Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------------
         Name: WBSL0060A           From Node: NBSL0060
        Group: EXISTING              To Node: LK_WILLIS
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                    Span(in): 2700.00
                    Rise(in): 99999.00
                  Invert(ft): 108.000
       Control Elevation(ft): 108.000
                                          TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
         Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------------
         Name: WBSL0160            From Node: NBSL0160
        Group: EXISTING              To Node: NBSL0170
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Rectangular

                    Span(in): 40.00
```

```
                  Rise(in): 78.00
                Invert(ft): 103.050
       Control Elevation(ft): 103.050
                                       TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

------------------------------------------------------------------------------------------------------
         Name: WBSL0160A           From Node: NBSL0160
        Group: EXISTING              To Node: BSL_OUTFALL1
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                  Span(in): 3960.00
                  Rise(in): 99999.00
                Invert(ft): 103.200
       Control Elevation(ft): 103.200
                                       TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

==========================================================================================
==== Hydrology Simulations ===============================================================
==========================================================================================

         Name: 002Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 2.12

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00

------------------------------------------------------------------------------------------------------
         Name: 002Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 2.65

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

------------------------------------------------------------------------------------------------------
         Name: 002Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 3.06

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

------------------------------------------------------------------------------------------------------
         Name: 002Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 3.50

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
```

16.000 30.00

Name: 002Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 4.33

Time(hrs)	Print Inc(min)
8.000	30.00
14.000	15.00
30.000	30.00

Name: 002Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 5.43

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

Name: 002Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 6.86

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 002Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 7.83

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: 005Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.53

Time(hrs)	Print Inc(min)
2.000	15.00

Name: 005Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y002H.R32

Override Defaults: Yes

```
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 3.17

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

------------------------------------------------------------------------------------------------------
         Name: 005Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 3.69

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

------------------------------------------------------------------------------------------------------
         Name: 005Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 4.25

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
16.000          30.00

------------------------------------------------------------------------------------------------------
         Name: 005Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 5.31

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.00
14.000          15.00
30.000          30.00

------------------------------------------------------------------------------------------------------
         Name: 005Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y072H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 6.71

Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.00
65.000          15.00
80.000          30.00

------------------------------------------------------------------------------------------------------
         Name: 005Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 8.12

Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.00
24.000          15.00
48.000          30.00
148.000         15.00
168.000         30.00
170.000         30.00

------------------------------------------------------------------------------------------------------
         Name: 005Y240H
```

```
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y240H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 9.11

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00
48.000          30.00
168.000         15.00
200.000         30.00
240.000         30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 2.85

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00

-------------------------------------------------------------------------------------------------
         Name: 010Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 3.58

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

-------------------------------------------------------------------------------------------------
         Name: 010Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 4.21

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

-------------------------------------------------------------------------------------------------
         Name: 010Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 4.90

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
16.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 6.26

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.00
14.000          15.00
30.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 010Y072H
```

Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 7.94

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

Name: 010Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 9.34

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 010Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 10.30

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: 025Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.26

Time(hrs)	Print Inc(min)
2.000	15.00

Name: 025Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.11

Time(hrs)	Print Inc(min)
4.000	15.00

Name: 025Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.91

Time(hrs)	Print Inc(min)

8.000 15.00

Name: 025Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 5.85

Time(hrs)	Print Inc(min)
8.000	15.00
16.000	30.00

Name: 025Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 7.77

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 025Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 9.91

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

Name: 025Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 11.30

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 025Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 12.30

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: 050Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y001H.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 3.56

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00

-------------------------------------------------------------------------------------------------------
         Name: 050Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 4.48

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

-------------------------------------------------------------------------------------------------------
         Name: 050Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 5.44

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

-------------------------------------------------------------------------------------------------------
         Name: 050Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 6.62

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
16.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 050Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 9.10

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.00
14.000          15.00
30.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 050Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y072H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 11.60

Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.00
65.000          15.00
80.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 050Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
```

Rainfall File: Fdot-168
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 050Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 14.00

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: 100Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.84

Time(hrs)	Print Inc(min)
2.000	15.00

Name: 100Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.83

Time(hrs)	Print Inc(min)
4.000	15.00

Name: 100Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.95

Time(hrs)	Print Inc(min)
8.000	15.00

Name: 100Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.42

Time(hrs)	Print Inc(min)
8.000	15.00
16.000	30.00

Name: 100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
8.000	30.00
14.000	15.00
30.000	30.00

Name: 100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 13.50

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

Name: 100Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 100Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 15.90

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: ORANGE25Y24H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\ORANGE25Y24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: SFWMD25Y72H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\SFWMD25Y72H.R32

Override Defaults: Yes

```
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 10.00

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00
24.000          10.00
36.000          10.00
48.000          10.00
80.000          15.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 002Y001HR           Hydrology Sim: 002Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------------
         Name: 002Y002HR           Hydrology Sim: 002Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------------
         Name: 002Y004HR           Hydrology Sim: 002Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes
```

```
-------------------------------------------------------------------------------------------------
         Name: 002Y008HR           Hydrology Sim: 002Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y008HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 002Y024HR           Hydrology Sim: 002Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y024HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 002Y072HR           Hydrology Sim: 002Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y072HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 002Y168HR           Hydrology Sim: 002Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y168HR.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No
```

```
        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 170.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y168H            Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 002Y240HR           Hydrology Sim: 002Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\002Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y240H            Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y001HR           Hydrology Sim: 005Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                   Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 005Y002HR           Hydrology Sim: 005Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
```

```
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 005Y004HR           Hydrology Sim: 005Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 005Y008HR           Hydrology Sim: 005Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 005Y024HR           Hydrology Sim: 005Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
```

EXISTING	Yes

Name: 005Y072HR Hydrology Sim: 005Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_005Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run
EXISTING	Yes

Name: 005Y168HR Hydrology Sim: 005Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_005Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
EXISTING	Yes

Name: 005Y240HR Hydrology Sim: 005Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\005Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_005Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
EXISTING	Yes

```
-------------------------------------------------------------------------------------------------
         Name: 010Y001HR           Hydrology Sim: 010Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 010Y002HR           Hydrology Sim: 010Y002H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y002HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 010Y004HR           Hydrology Sim: 010Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
         Name: 010Y008HR           Hydrology Sim: 010Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
```

Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	30.000

Group	Run
EXISTING	Yes

Name: 010Y024HR Hydrology Sim: 010Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
EXISTING	Yes

Name: 010Y072HR Hydrology Sim: 010Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run
EXISTING	Yes

Name: 010Y168HR Hydrology Sim: 010Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000

48.000 30.000
148.000 15.000
168.000 30.000
170.000 30.000

Group Run
--- ---
EXISTING Yes

Name: 010Y240HR Hydrology Sim: 010Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\010Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y240H Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
24.000 15.000
48.000 30.000
168.000 15.000
200.000 30.000
240.000 30.000

Group Run
--- ---
EXISTING Yes

Name: 025Y001HR Hydrology Sim: 025Y001H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y001HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
2.000 15.000

Group Run
--- ---
EXISTING Yes

Name: 025Y002HR Hydrology Sim: 025Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y002HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
4.000 15.000

Group Run
--- ---
EXISTING Yes

```
--------------------------------------------------------------------------------------------------
         Name: 025Y004HR           Hydrology Sim: 025Y004H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y004HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------
         Name: 025Y008HR           Hydrology Sim: 025Y008H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y008HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------
         Name: 025Y024HR           Hydrology Sim: 025Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_025Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


--------------------------------------------------------------------------------------------------
         Name: 025Y072HR           Hydrology Sim: 025Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
```

```
        Start Time(hrs): 0.000                  End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_025Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y168HR           Hydrology Sim: 025Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y168HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 170.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_025Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 025Y240HR           Hydrology Sim: 025Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\025Y240HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_025Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y001HR           Hydrology Sim: 050Y001H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y001HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
```

Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
EXISTING	Yes

Name: 050Y002HR Hydrology Sim: 050Y002H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y002HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
EXISTING	Yes

Name: 050Y004HR Hydrology Sim: 050Y004H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y004HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
EXISTING	Yes

Name: 050Y008HR Hydrology Sim: 050Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y008HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	30.000

Group	Run
EXISTING	Yes

```
---------------------------------------------------------------------------------------------------
         Name: 050Y024HR           Hydrology Sim: 050Y024H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y024HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_050Y024H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


---------------------------------------------------------------------------------------------------
         Name: 050Y072HR           Hydrology Sim: 050Y072H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y072HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_050Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
EXISTING        Yes


---------------------------------------------------------------------------------------------------
         Name: 050Y168HR           Hydrology Sim: 050Y168H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y168HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 170.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_050Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


---------------------------------------------------------------------------------------------------
         Name: 050Y240HR           Hydrology Sim: 050Y240H
     Filename: C:\pwworking\aecom_na\duongt2\d0190917\050Y240HR.I32
```

```
     Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_050Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
        Name: 100Y001HR           Hydrology Sim: 100Y001H
    Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y001HR.I32

     Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
        Name: 100Y002HR           Hydrology Sim: 100Y002H
    Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y002HR.I32

     Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
EXISTING        Yes


-------------------------------------------------------------------------------------------------
        Name: 100Y004HR           Hydrology Sim: 100Y002H
    Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y004HR.I32

     Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_4                  Boundary Flows:
```

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
EXISTING	Yes

Name: 100Y008HR Hydrology Sim: 100Y008H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y008HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	30.000

Group	Run
EXISTING	Yes

Name: 100Y024HR Hydrology Sim: 100Y024H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y024HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
EXISTING	Yes

Name: 100Y072HR Hydrology Sim: 100Y072H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y072HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run

EXISTING	Yes

Name: 100Y168HR Hydrology Sim: 100Y168H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y168HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
EXISTING	Yes

Name: 100Y240HR Hydrology Sim: 100Y240H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\100Y240HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
EXISTING	Yes

Name: ORANGE25Y24H_G Hydrology Sim: ORANGE25Y24H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\ORANGE25Y24H_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: ORANGE_025Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
3.000	30.000
6.000	15.000
12.000	15.000
15.000	15.000
18.000	15.000
30.000	30.000

Group	Run
EXISTING	Yes

Name: SFWMD25Y72H_G Hydrology Sim: SFWMD25Y72H
Filename: C:\pwworking\aecom_na\duongt2\d0190917\SFWMD25Y72H_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: SFWMD_025Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	15.000
24.000	10.000
36.000	10.000
48.000	10.000
80.000	15.000

Group	Run
EXISTING	Yes

==========
==== Boundary Conditions ====
==========

Name: Node: Type: Flow

Time(hrs)	Flow(cfs)

Name: FDOT_1 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.100	92.440
0.200	93.870
0.300	96.010
0.400	99.220
0.500	99.400
0.600	98.150
0.700	95.650
0.800	94.220
0.900	92.080
1.000	91.910
2.000	91.730

Name: FDOT_2 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.200	94.800
0.400	96.330
0.600	97.870
0.800	99.400
1.000	94.800
1.200	93.570
1.400	93.260
1.600	92.960
1.800	92.650
2.000	92.340
4.000	91.730

Name: FDOT_4 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.500	92.910

1.000	94.680
1.500	97.040
2.000	99.400
2.500	97.930
3.000	95.860
3.500	93.210
4.000	92.320
8.000	91.730

Name: FDOT_8 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.000	92.260
2.000	93.930
3.000	94.730
4.000	100.120
5.000	94.930
6.000	92.930
7.000	92.730
8.000	92.330
16.000	91.730

Name: FDOT_4 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.500	96.140
1.000	98.160
1.500	100.840
2.000	103.530
2.500	101.850
3.000	99.500
3.500	96.480
4.000	95.470
8.000	94.800

Name: FDOT_8 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.000	95.260
2.000	97.310
3.000	98.230
4.000	104.400
5.000	98.460
6.000	96.170
7.000	95.940
8.000	95.490
16.000	94.800

Name: FDOT_1 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.100	95.610
0.200	97.240
0.300	99.670
0.400	103.330
0.500	103.530
0.600	102.110
0.700	99.270
0.800	97.640
0.900	95.210
1.000	95.000
2.000	94.800

Name: FDOT_2 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.200	98.290
0.400	100.040
0.600	101.780
0.800	103.530

1.000	98.290
1.200	96.900
1.400	96.550
1.600	96.200
1.800	95.850
2.000	94.500
4.000	94.800

Name: FDOT_4 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.500	95.980
1.000	98.000
1.500	100.690
2.000	103.380
2.500	101.700
3.000	99.340
3.500	96.310
4.000	95.300
8.000	94.630

Name: FDOT_8 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.000	95.080
2.000	97.110
3.000	98.010
4.000	104.090
5.000	98.230
6.000	95.980
7.000	95.760
8.000	95.310
16.000	94.630

Name: FDOT_1 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.100	95.440
0.200	97.070
0.300	99.510
0.400	103.180
0.500	103.380
0.600	101.960
0.700	99.110
0.800	97.480
0.900	95.040
1.000	94.830
2.000	94.630

Name: FDOT_2 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.200	98.130
0.400	99.880
0.600	101.630
0.800	103.380
1.000	98.130
1.200	96.730
1.400	96.380
1.600	96.030
1.800	95.680
2.000	95.330
4.000	94.630

Name: FDOT_002Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.497
1.999	93.264
3.000	94.031

4.001	94.031
4.999	94.031
6.000	94.798
7.001	94.798
7.999	94.798
9.000	96.332
10.001	96.332
10.999	97.866
12.000	99.400
13.001	97.099
13.999	96.332
15.000	96.332
16.001	95.565
16.999	94.798
18.000	94.798
19.001	94.798
19.999	94.031
21.000	94.031
22.001	93.264
22.999	92.497
24.000	92.497
30.000	91.730

Name: FDOT_005Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.524
1.999	93.318
3.000	94.112
4.001	94.112
4.999	94.112
6.000	94.906
7.001	94.906
7.999	94.906
9.000	96.494
10.001	96.494
10.999	98.082
12.000	99.670
13.001	97.288
13.999	96.494
15.000	96.494
16.001	95.700
16.999	94.906
18.000	94.906
19.001	94.906
19.999	94.112
21.000	94.112
22.001	93.318
22.999	92.524
24.000	92.524
30.000	91.730

Name: FDOT_010Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.569
1.999	93.408
3.000	94.247
4.001	94.247
4.999	94.247
6.000	95.086
7.001	95.086
7.999	95.086
9.000	96.764
10.001	96.764
10.999	98.442
12.000	100.120
13.001	97.603
13.999	96.764
15.000	96.764
16.001	95.925
16.999	95.086
18.000	95.086
19.001	95.086
19.999	94.247
21.000	94.247
22.001	93.408
22.999	92.569
24.000	92.569

30.000	91.730

Name: FDOT_025Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.599
1.999	93.468
3.000	94.337
4.001	94.337
4.999	94.337
6.000	95.206
7.001	95.206
7.999	95.206
9.000	96.944
10.001	96.944
10.999	98.682
12.000	100.420
13.001	97.813
13.999	96.944
15.000	96.944
16.001	96.075
16.999	95.206
18.000	95.206
19.001	95.206
19.999	94.337
21.000	94.337
22.001	93.468
22.999	92.599
24.000	92.599
30.000	91.730

Name: FDOT_050Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.618
1.999	93.507
3.000	94.395
4.001	94.395
4.999	94.395
6.000	95.283
7.001	95.283
7.999	95.283
9.000	97.060
10.001	97.060
10.999	98.837
12.000	100.613
13.001	97.948
13.999	97.060
15.000	97.060
16.001	96.172
16.999	95.283
18.000	95.283
19.001	95.283
19.999	94.395
21.000	94.395
22.001	93.507
22.999	92.618
24.000	92.618
30.000	91.730

Name: FDOT_100Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.657
1.999	93.584
3.000	94.511
4.001	94.511
4.999	94.511
6.000	95.438
7.001	95.438
7.999	95.438
9.000	97.292
10.001	97.292
10.999	99.146
12.000	101.000
13.001	98.219

13.999	97.292
15.000	97.292
16.001	96.365
16.999	95.438
18.000	95.438
19.001	95.438
19.999	94.511
21.000	94.511
22.001	93.584
22.999	92.657
24.000	92.657
30.000	91.730

Name: FDOT_050Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.798
1.999	96.795
3.000	97.793
4.001	97.793
4.999	97.793
6.000	98.791
7.001	98.791
7.999	98.791
9.000	100.786
10.001	100.786
10.999	102.781
12.000	104.777
13.001	101.784
13.999	100.786
15.000	100.786
16.001	99.788
16.999	98.791
18.000	98.791
19.001	98.791
19.999	97.793
21.000	97.793
22.001	96.795
22.999	95.798
24.000	95.798
30.000	94.800

Name: FDOT_100Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.827
1.999	96.854
3.000	97.881
4.001	97.881
4.999	97.881
6.000	98.908
7.001	98.908
7.999	98.908
9.000	100.962
10.001	100.962
10.999	103.016
12.000	105.070
13.001	101.989
13.999	100.962
15.000	100.962
16.001	99.935
16.999	98.908
18.000	98.908
19.001	98.908
19.999	97.881
21.000	97.881
22.001	96.854
22.999	95.827
24.000	95.827
30.000	94.800

Name: FDOT_010Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.760
1.999	96.720

3.000	97.680
4.001	97.680
4.999	97.680
6.000	98.640
7.001	98.640
7.999	98.640
9.000	100.560
10.001	100.560
10.999	102.480
12.000	104.400
13.001	101.520
13.999	100.560
15.000	100.560
16.001	99.600
16.999	98.640
18.000	98.640
19.001	98.640
19.999	97.680
21.000	97.680
22.001	96.720
22.999	95.760
24.000	95.760
30.000	94.800

Name: FDOT_025Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.783
1.999	96.766
3.000	97.749
4.001	97.749
4.999	97.749
6.000	98.732
7.001	98.732
7.999	98.732
9.000	100.698
10.001	100.698
10.999	102.664
12.000	104.630
13.001	101.681
13.999	100.698
15.000	100.698
16.001	99.715
16.999	98.732
18.000	98.732
19.001	98.732
19.999	97.749
21.000	97.749
22.001	96.766
22.999	95.783
24.000	95.783
30.000	94.800

Name: FDOT_002Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.673
1.999	96.546
3.000	97.419
4.001	97.419
4.999	97.419
6.000	98.292
7.001	98.292
7.999	98.292
9.000	100.038
10.001	100.038
10.999	101.784
12.000	103.530
13.001	100.911
13.999	100.038
15.000	100.038
16.001	99.165
16.999	98.292
18.000	98.292
19.001	98.292
19.999	97.419
21.000	97.419
22.001	96.546
22.999	95.673

24.000	95.673
30.000	94.800

Name: FDOT_005Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.706
1.999	96.611
3.000	97.517
4.001	97.517
4.999	97.517
6.000	98.422
7.001	98.422
7.999	98.422
9.000	100.234
10.001	100.234
10.999	102.045
12.000	103.856
13.001	101.139
13.999	100.234
15.000	100.234
16.001	99.328
16.999	98.422
18.000	98.422
19.001	98.422
19.999	97.517
21.000	97.517
22.001	96.611
22.999	95.706
24.000	95.706
30.000	94.800

Name: FDOT_050Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.420
1.999	96.209
3.000	96.999
4.001	96.999
4.999	96.999
6.000	97.789
7.001	97.789
7.999	97.789
9.000	99.368
10.001	99.368
10.999	100.947
12.000	102.527
13.001	100.158
13.999	99.368
15.000	99.368
16.001	98.578
16.999	97.789
18.000	97.789
19.001	97.789
19.999	96.999
21.000	96.999
22.001	96.209
22.999	95.420
24.000	95.420
30.000	94.630

Name: FDOT_100Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.535
1.999	96.440
3.000	97.345
4.001	97.345
4.999	97.345
6.000	98.250
7.001	98.250
7.999	98.250
9.000	100.060
10.001	100.060
10.999	101.870
12.000	103.680

13.001	100.965
13.999	100.060
15.000	100.060
16.001	99.155
16.999	98.250
18.000	98.250
19.001	98.250
19.999	97.345
21.000	97.345
22.001	96.440
22.999	95.535
24.000	95.535
30.000	94.630

Name: FDOT_010Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.332
1.999	96.034
3.000	96.736
4.001	96.736
4.999	96.736
6.000	97.438
7.001	97.438
7.999	97.438
9.000	98.842
10.001	98.842
10.999	100.246
12.000	101.650
13.001	99.544
13.999	98.842
15.000	98.842
16.001	98.140
16.999	97.438
18.000	97.438
19.001	97.438
19.999	96.736
21.000	96.736
22.001	96.034
22.999	95.332
24.000	95.332
30.000	94.630

Name: FDOT_025Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.362
1.999	96.094
3.000	96.826
4.001	96.826
4.999	96.826
6.000	97.558
7.001	97.558
7.999	97.558
9.000	99.022
10.001	99.022
10.999	100.486
12.000	101.950
13.001	99.754
13.999	99.022
15.000	99.022
16.001	98.290
16.999	97.558
18.000	97.558
19.001	97.558
19.999	96.826
21.000	96.826
22.001	96.094
22.999	95.362
24.000	95.362
30.000	94.630

Name: FDOT_002Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.260

1.999	95.890
3.000	96.520
4.001	96.520
4.999	96.520
6.000	97.150
7.001	97.150
7.999	97.150
9.000	98.410
10.001	98.410
10.999	99.670
12.000	100.930
13.001	99.040
13.999	98.410
15.000	98.410
16.001	97.780
16.999	97.150
18.000	97.150
19.001	97.150
19.999	96.520
21.000	96.520
22.001	95.890
22.999	95.260
24.000	95.260
30.000	94.630

Name: FDOT_005Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.215
1.999	95.800
3.000	96.385
4.001	96.385
4.999	96.385
6.000	96.970
7.001	96.970
7.999	96.970
9.000	98.140
10.001	98.140
10.999	99.310
12.000	100.480
13.001	98.725
13.999	98.140
15.000	98.140
16.001	97.555
16.999	96.970
18.000	96.970
19.001	96.970
19.999	96.385
21.000	96.385
22.001	95.800
22.999	95.215
24.000	95.215
30.000	94.630

Name: FDOT_002Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.175
7.999	93.289
12.002	96.630
15.998	94.536
20.002	92.710
23.998	92.175
28.001	92.532
31.997	93.334
36.000	97.610
40.003	95.071
43.999	92.933
48.002	92.265
51.998	92.933
56.002	94.135
59.998	100.550
64.001	96.764
67.997	93.512
72.000	92.532
80.000	91.730

Name: FDOT_005Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.181
7.999	93.307
12.002	96.686
15.998	94.569
20.002	92.721
23.998	92.181
28.001	92.541
31.997	93.352
36.000	97.677
40.003	95.109
43.999	92.947
48.002	92.271
51.998	92.947
56.002	94.163
59.998	100.651
64.001	96.821
67.997	93.532
72.000	92.541
80.000	91.730

Name: FDOT_010Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.189
7.999	93.337
12.002	96.780
15.998	94.622
20.002	92.740
23.998	92.189
28.001	92.556
31.997	93.383
36.000	97.790
40.003	95.173
43.999	92.970
48.002	92.281
51.998	92.970
56.002	94.209
59.998	100.820
64.001	96.918
67.997	93.566
72.000	92.556
80.000	91.730

Name: FDOT_025Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.227
7.999	93.469
12.002	97.197
15.998	94.861
20.002	92.823
23.998	92.227
28.001	92.625
31.997	93.519
36.000	98.290
40.003	95.457
43.999	93.072
48.002	92.326
51.998	93.072
56.002	94.414
59.998	101.570
64.001	97.346
67.997	93.718
72.000	92.625
80.000	91.730

Name: FDOT_050Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.237
7.999	93.504
12.002	97.304

15.998	94.922
20.002	92.845
23.998	92.237
28.001	92.642
31.997	93.554
36.000	98.419
40.003	95.531
43.999	93.098
48.002	92.338
51.998	93.098
56.002	94.466
59.998	101.763
64.001	97.456
67.997	93.757
72.000	92.642
80.000	91.730

Name: FDOT_100Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.256
7.999	93.572
12.002	97.519
15.998	95.045
20.002	92.888
23.998	92.256
28.001	92.677
31.997	93.625
36.000	98.677
40.003	95.677
43.999	93.151
48.002	92.362
51.998	93.151
56.002	94.572
59.998	102.150
64.001	97.677
67.997	93.835
72.000	92.677
80.000	91.730

Name: FDOT_050Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.395
7.999	96.881
12.002	101.341
15.998	98.546
20.002	96.108
23.998	95.395
28.001	95.870
31.997	96.941
36.000	102.649
40.003	99.260
43.999	96.405
48.002	95.514
51.998	96.405
56.002	98.011
59.998	106.573
64.001	101.519
67.997	97.178
72.000	95.870
80.000	94.800

Name: FDOT_100Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.414
7.999	96.949
12.002	101.556
15.998	98.669
20.002	96.151
23.998	95.414
28.001	95.905
31.997	97.011
36.000	102.907
40.003	99.406

43.999	96.458
48.002	95.537
51.998	96.458
56.002	98.116
59.998	106.960
64.001	101.740
67.997	97.257
72.000	95.905
80.000	94.800

Name: FDOT_010Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.347
7.999	96.714
12.002	100.817
15.998	98.246
20.002	96.003
23.998	95.347
28.001	95.785
31.997	96.769
36.000	102.020
40.003	98.902
43.999	96.277
48.002	95.456
51.998	96.277
56.002	97.754
59.998	105.630
64.001	100.981
67.997	96.988
72.000	95.785
80.000	94.800

Name: FDOT_025Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.385
7.999	96.847
12.002	101.233
15.998	98.485
20.002	96.087
23.998	95.385
28.001	95.853
31.997	96.905
36.000	102.520
40.003	99.186
43.999	96.379
48.002	95.502
51.998	96.379
56.002	97.958
59.998	106.380
64.001	101.409
67.997	97.139
72.000	95.853
80.000	94.800

Name: FDOT_002Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.333
7.999	96.667
12.002	100.667
15.998	98.160
20.002	95.973
23.998	95.333
28.001	95.760
31.997	96.720
36.000	101.840
40.003	98.800
43.999	96.240
48.002	95.440
51.998	96.240
56.002	97.680
59.998	105.360
64.001	100.827
67.997	96.933

72.000	95.760
80.000	94.800

Name: FDOT_005Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.338
7.999	96.685
12.002	100.723
15.998	98.192
20.002	95.985
23.998	95.338
28.001	95.769
31.997	96.738
36.000	101.908
40.003	98.838
43.999	96.254
48.002	95.446
51.998	96.254
56.002	97.708
59.998	105.461
64.001	100.884
67.997	96.954
72.000	95.769
80.000	94.800

Name: FDOT_050Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.176
7.999	96.541
12.002	100.637
15.998	98.071
20.002	95.831
23.998	95.176
28.001	95.613
31.997	96.596
36.000	101.839
40.003	98.726
43.999	96.105
48.002	95.285
51.998	96.105
56.002	97.579
59.998	105.443
64.001	100.801
67.997	96.815
72.000	95.613
80.000	94.630

Name: FDOT_100Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.196
7.999	96.610
12.002	100.852
15.998	98.194
20.002	95.874
23.998	95.196
28.001	95.648
31.997	96.666
36.000	102.097
40.003	98.872
43.999	96.157
48.002	95.309
51.998	96.157
56.002	97.685
59.998	105.830
64.001	101.022
67.997	96.893
72.000	95.648
80.000	94.630

Name: FDOT_010Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)

0.000	94.630
4.003	95.128
7.999	96.375
12.002	100.113
15.998	97.770
20.002	95.727
23.998	95.128
28.001	95.527
31.997	96.425
36.000	101.210
40.003	98.369
43.999	95.976
48.002	95.228
51.998	95.976
56.002	97.322
59.998	104.500
64.001	100.263
67.997	96.624
72.000	95.527
80.000	94.630

Name: FDOT_025Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.166
7.999	96.507
12.002	100.530
15.998	98.009
20.002	95.810
23.998	95.166
28.001	95.595
31.997	96.561
36.000	101.710
40.003	98.653
43.999	96.078
48.002	95.274
51.998	96.078
56.002	97.526
59.998	105.250
64.001	100.691
67.997	96.775
72.000	95.595
80.000	94.630

Name: FDOT_002Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.115
7.999	96.327
12.002	99.963
15.998	97.685
20.002	95.697
23.998	95.115
28.001	95.503
31.997	96.375
36.000	101.030
40.003	98.266
43.999	95.939
48.002	95.212
51.998	95.939
56.002	97.248
59.998	104.230
64.001	100.109
67.997	96.569
72.000	95.503
80.000	94.630

Name: FDOT_005Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.120
7.999	96.345
12.002	100.020
15.998	97.717
20.002	95.708

23.998	95.120
28.001	95.512
31.997	96.394
36.000	101.098
40.003	98.305
43.999	95.953
48.002	95.218
51.998	95.953
56.002	97.276
59.998	104.331
64.001	100.167
67.997	96.590
72.000	95.512
80.000	94.630

Name: FDOT_002Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.743
15.994	92.706
24.007	92.743
32.004	93.081
40.001	96.909
47.998	92.706
55.994	93.231
64.008	93.231
72.005	93.231
80.002	92.218
87.998	92.255
95.995	92.218
103.992	92.481
112.006	92.481
120.002	92.481
127.999	93.719
135.996	93.757
143.993	93.719
152.006	94.019
160.003	100.550
168.000	93.381
170.000	91.730

Name: FDOT_005Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.755
15.994	92.717
24.007	92.755
32.004	93.097
40.001	96.969
47.998	92.717
55.994	93.249
64.008	93.249
72.005	93.249
80.002	92.224
87.998	92.261
95.995	92.224
103.992	92.489
112.006	92.489
120.002	92.489
127.999	93.742
135.996	93.780
143.993	93.742
152.006	94.046
160.003	100.651
168.000	93.400
170.000	91.730

Name: FDOT_010Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.774
15.994	92.736
24.007	92.774
32.004	93.123
40.001	97.068
47.998	92.736

55.994	93.277
64.008	93.277
72.005	93.277
80.002	92.233
87.998	92.272
95.995	92.233
103.992	92.504
112.006	92.504
120.002	92.504
127.999	93.780
135.996	93.819
143.993	93.780
152.006	94.090
160.003	100.820
168.000	93.432
170.000	91.730

Name: FDOT_025Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.861
15.994	92.819
24.007	92.861
32.004	93.237
40.001	97.508
47.998	92.819
55.994	93.405
64.008	93.405
72.005	93.405
80.002	92.274
87.998	92.316
95.995	92.274
103.992	92.567
112.006	92.567
120.002	92.567
127.999	93.949
135.996	93.991
143.993	93.949
152.006	94.284
160.003	101.570
168.000	93.572
170.000	91.730

Name: FDOT_050Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.883
15.994	92.840
24.007	92.883
32.004	93.267
40.001	97.622
47.998	92.840
55.994	93.438
64.008	93.438
72.005	93.438
80.002	92.285
87.998	92.328
95.995	92.285
103.992	92.584
112.006	92.584
120.002	92.584
127.999	93.993
135.996	94.036
143.993	93.993
152.006	94.334
160.003	101.763
168.000	93.609
170.000	91.730

Name: FDOT_100Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.927
15.994	92.883
24.007	92.927
32.004	93.326

40.001	97.849
47.998	92.883
55.994	93.504
64.008	93.504
72.005	93.504
80.002	92.306
87.998	92.351
95.995	92.306
103.992	92.617
112.006	92.617
120.002	92.617
127.999	94.080
135.996	94.124
143.993	94.080
152.006	94.435
160.003	102.150
168.000	93.681
170.000	91.730

Name: FDOT_050Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.153
15.994	96.103
24.007	96.153
32.004	96.604
40.001	101.714
47.998	96.103
55.994	96.804
64.008	96.804
72.005	96.804
80.002	95.451
87.998	95.501
95.995	95.451
103.992	95.802
112.006	95.802
120.002	95.802
127.999	97.455
135.996	97.505
143.993	97.455
152.006	97.856
160.003	106.573
168.000	97.004
170.000	94.800

Name: FDOT_100Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.197
15.994	96.145
24.007	96.197
32.004	96.663
40.001	101.941
47.998	96.145
55.994	96.870
64.008	96.870
72.005	96.870
80.002	95.473
87.998	95.524
95.995	95.473
103.992	95.835
112.006	95.835
120.002	95.835
127.999	97.542
135.996	97.594
143.993	97.542
152.006	97.956
160.003	106.960
168.000	97.077
170.000	94.800

Name: FDOT_010Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.044
15.994	95.998

24.007	96.044
32.004	96.459
40.001	101.160
47.998	95.998
55.994	96.643
64.008	96.643
72.005	96.643
80.002	95.399
87.998	95.445
95.995	95.399
103.992	95.722
112.006	95.722
120.002	95.722
127.999	97.243
135.996	97.289
143.993	97.243
152.006	97.611
160.003	105.630
168.000	96.828
170.000	94.800

Name: FDOT_025Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.130
15.994	96.081
24.007	96.130
32.004	96.574
40.001	101.600
47.998	96.081
55.994	96.771
64.008	96.771
72.005	96.771
80.002	95.441
87.998	95.490
95.995	95.441
103.992	95.786
112.006	95.786
120.002	95.786
127.999	97.412
135.996	97.461
143.993	97.412
152.006	97.806
160.003	106.380
168.000	96.968
170.000	94.800

Name: FDOT_002Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.013
15.994	95.968
24.007	96.013
32.004	96.418
40.001	101.001
47.998	95.968
55.994	96.597
64.008	96.597
72.005	96.597
80.002	95.384
87.998	95.429
95.995	95.384
103.992	95.699
112.006	95.699
120.002	95.699
127.999	97.182
135.996	97.227
143.993	97.182
152.006	97.541
160.003	105.360
168.000	96.777
170.000	94.800

Name: FDOT_005Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800

7.997	96.025
15.994	95.980
24.007	96.025
32.004	96.433
40.001	101.061
47.998	95.980
55.994	96.615
64.008	96.615
72.005	96.615
80.002	95.390
87.998	95.435
95.995	95.390
103.992	95.707
112.006	95.707
120.002	95.707
127.999	97.204
135.996	97.250
143.993	97.204
152.006	97.567
160.003	105.461
168.000	96.796
170.000	94.800

Name: FDOT_050Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.872
15.994	95.826
24.007	95.872
32.004	96.287
40.001	100.980
47.998	95.826
55.994	96.471
64.008	96.471
72.005	96.471
80.002	95.228
87.998	95.274
95.995	95.228
103.992	95.550
112.006	95.550
120.002	95.550
127.999	97.069
135.996	97.115
143.993	97.069
152.006	97.437
160.003	105.443
168.000	96.655
170.000	94.630

Name: FDOT_100Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.917
15.994	95.869
24.007	95.917
32.004	96.346
40.001	101.207
47.998	95.869
55.994	96.536
64.008	96.536
72.005	96.536
80.002	95.250
87.998	95.297
95.995	95.250
103.992	95.583
112.006	95.583
120.002	95.583
127.999	97.156
135.996	97.204
143.993	97.156
152.006	97.537
160.003	105.830
168.000	96.727
170.000	94.630

Name: FDOT_010Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)

0.000	94.630
7.997	95.764
15.994	95.722
24.007	95.764
32.004	96.142
40.001	100.426
47.998	95.722
55.994	96.310
64.008	96.310
72.005	96.310
80.002	95.176
87.998	95.218
95.995	95.176
103.992	95.470
112.006	95.470
120.002	95.470
127.999	96.856
135.996	96.898
143.993	96.856
152.006	97.192
160.003	104.500
168.000	96.478
170.000	94.630

Name: FDOT_025Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.850
15.994	95.805
24.007	95.850
32.004	96.257
40.001	100.866
47.998	95.805
55.994	96.438
64.008	96.438
72.005	96.438
80.002	95.217
87.998	95.263
95.995	95.217
103.992	95.534
112.006	95.534
120.002	95.534
127.999	97.025
135.996	97.070
143.993	97.025
152.006	97.387
160.003	105.250
168.000	96.618
170.000	94.630

Name: FDOT_002Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.733
15.994	95.692
24.007	95.733
32.004	96.101
40.001	100.267
47.998	95.692
55.994	96.264
64.008	96.264
72.005	96.264
80.002	95.161
87.998	95.202
95.995	95.161
103.992	95.447
112.006	95.447
120.002	95.447
127.999	96.795
135.996	96.836
143.993	96.795
152.006	97.122
160.003	104.230
168.000	96.427
170.000	94.630

Name: FDOT_005Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.745
15.994	95.703
24.007	95.745
32.004	96.116
40.001	100.327
47.998	95.703
55.994	96.281
64.008	96.281
72.005	96.281
80.002	95.167
87.998	95.208
95.995	95.167
103.992	95.456
112.006	95.456
120.002	95.456
127.999	96.818
135.996	96.859
143.993	96.818
152.006	97.148
160.003	104.331
168.000	96.446
170.000	94.630

Name: FDOT_002Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.145
16.008	92.177
24.000	92.145
31.992	93.008
40.008	96.492
48.000	92.721
55.992	92.593
64.008	92.561
72.000	92.593
79.992	91.954
88.008	91.922
96.000	91.954
103.992	91.954
112.008	91.922
120.000	91.954
127.992	91.954
136.008	91.922
144.000	91.954
151.992	92.369
160.008	92.369
168.000	92.369
175.992	94.031
184.008	100.550
192.000	93.392
199.992	92.785
208.008	92.785
216.000	92.817
223.992	92.145
232.008	92.145
240.000	92.177
250.000	91.730

Name: FDOT_005Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.150
16.008	92.183
24.000	92.150
31.992	93.023
40.008	96.546
48.000	92.732
55.992	92.603
64.008	92.570
72.000	92.603
79.992	91.956
88.008	91.924
96.000	91.956
103.992	91.956
112.008	91.924

120.000	91.956
127.992	91.956
136.008	91.924
144.000	91.956
151.992	92.376
160.008	92.376
168.000	92.376
175.992	94.057
184.008	100.651
192.000	93.411
199.992	92.797
208.008	92.797
216.000	92.829
223.992	92.150
232.008	92.150
240.000	92.183
250.000	91.730

Name: FDOT_010Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.158
16.008	92.191
24.000	92.158
31.992	93.047
40.008	96.637
48.000	92.751
55.992	92.619
64.008	92.586
72.000	92.619
79.992	91.961
88.008	91.928
96.000	91.961
103.992	91.961
112.008	91.928
120.000	91.961
127.992	91.961
136.008	91.928
144.000	91.961
151.992	92.389
160.008	92.389
168.000	92.389
175.992	94.101
184.008	100.820
192.000	93.443
199.992	92.817
208.008	92.817
216.000	92.850
223.992	92.158
232.008	92.158
240.000	92.191
250.000	91.730

Name: FDOT_025Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.193
16.008	92.229
24.000	92.193
31.992	93.156
40.008	97.042
48.000	92.835
55.992	92.693
64.008	92.657
72.000	92.693
79.992	91.980
88.008	91.944
96.000	91.980
103.992	91.980
112.008	91.944
120.000	91.980
127.992	91.980
136.008	91.944
144.000	91.980
151.992	92.443
160.008	92.443
168.000	92.443
175.992	94.297
184.008	101.570

192.000	93.584
199.992	92.907
208.008	92.907
216.000	92.942
223.992	92.193
232.008	92.193
240.000	92.229
250.000	91.730

Name: FDOT_050Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.203
16.008	92.239
24.000	92.203
31.992	93.184
40.008	97.147
48.000	92.857
55.992	92.712
64.008	92.675
72.000	92.712
79.992	91.984
88.008	91.948
96.000	91.984
103.992	91.984
112.008	91.948
120.000	91.984
127.992	91.984
136.008	91.948
144.000	91.984
151.992	92.457
160.008	92.457
168.000	92.457
175.992	94.347
184.008	101.763
192.000	93.620
199.992	92.930
208.008	92.930
216.000	92.966
223.992	92.203
232.008	92.203
240.000	92.239
250.000	91.730

Name: FDOT_100Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.221
16.008	92.259
24.000	92.221
31.992	93.240
40.008	97.355
48.000	92.900
55.992	92.749
64.008	92.712
72.000	92.749
79.992	91.994
88.008	91.957
96.000	91.994
103.992	91.994
112.008	91.957
120.000	91.994
127.992	91.994
136.008	91.957
144.000	91.994
151.992	92.485
160.008	92.485
168.000	92.485
175.992	94.448
184.008	102.150
192.000	93.693
199.992	92.976
208.008	92.976
216.000	93.014
223.992	92.221
232.008	92.221
240.000	92.259
250.000	91.730

Name: FDOT_050Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.355
16.008	95.397
24.000	95.355
31.992	96.506
40.008	101.156
48.000	96.122
55.992	95.952
64.008	95.909
72.000	95.952
79.992	95.099
88.008	95.056
96.000	95.099
103.992	95.099
112.008	95.056
120.000	95.099
127.992	95.099
136.008	95.056
144.000	95.099
151.992	95.653
160.008	95.653
168.000	95.653
175.992	97.871
184.008	106.573
192.000	97.018
199.992	96.208
208.008	96.208
216.000	96.250
223.992	95.355
232.008	95.355
240.000	95.397
250.000	94.800

Name: FDOT_100Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.373
16.008	95.417
24.000	95.373
31.992	96.562
40.008	101.365
48.000	96.166
55.992	95.990
64.008	95.946
72.000	95.990
79.992	95.108
88.008	95.064
96.000	95.108
103.992	95.108
112.008	95.064
120.000	95.108
127.992	95.108
136.008	95.064
144.000	95.108
151.992	95.681
160.008	95.681
168.000	95.681
175.992	97.972
184.008	106.960
192.000	97.091
199.992	96.254
208.008	96.254
216.000	96.298
223.992	95.373
232.008	95.373
240.000	95.417
250.000	94.800

Name: FDOT_010Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.310
16.008	95.349
24.000	95.310

31.992	96.370
40.008	100.647
48.000	96.016
55.992	95.859
64.008	95.820
72.000	95.859
79.992	95.075
88.008	95.035
96.000	95.075
103.992	95.075
112.008	95.035
120.000	95.075
127.992	95.075
136.008	95.035
144.000	95.075
151.992	95.585
160.008	95.585
168.000	95.585
175.992	97.625
184.008	105.630
192.000	96.840
199.992	96.095
208.008	96.095
216.000	96.134
223.992	95.310
232.008	95.310
240.000	95.349
250.000	94.800

Name: FDOT_025Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.345
16.008	95.387
24.000	95.345
31.992	96.478
40.008	101.052
48.000	96.101
55.992	95.933
64.008	95.891
72.000	95.933
79.992	95.094
88.008	95.052
96.000	95.094
103.992	95.094
112.008	95.052
120.000	95.094
127.992	95.094
136.008	95.052
144.000	95.094
151.992	95.639
160.008	95.639
168.000	95.639
175.992	97.821
184.008	106.380
192.000	96.982
199.992	96.185
208.008	96.185
216.000	96.227
223.992	95.345
232.008	95.345
240.000	95.387
250.000	94.800

Name: FDOT_002Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.297
16.008	95.336
24.000	95.297
31.992	96.330
40.008	100.501
48.000	95.986
55.992	95.833
64.008	95.795
72.000	95.833
79.992	95.068
88.008	95.030
96.000	95.068

103.992	95.068
112.008	95.030
120.000	95.068
127.992	95.068
136.008	95.030
144.000	95.068
151.992	95.565
160.008	95.565
168.000	95.565
175.992	97.555
184.008	105.360
192.000	96.790
199.992	96.063
208.008	96.063
216.000	96.101
223.992	95.297
232.008	95.297
240.000	95.336
250.000	94.800

Name: FDOT_005Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.302
16.008	95.341
24.000	95.302
31.992	96.345
40.008	100.556
48.000	95.997
55.992	95.843
64.008	95.804
72.000	95.843
79.992	95.070
88.008	95.032
96.000	95.070
103.992	95.070
112.008	95.032
120.000	95.070
127.992	95.070
136.008	95.032
144.000	95.070
151.992	95.573
160.008	95.573
168.000	95.573
175.992	97.581
184.008	105.461
192.000	96.809
199.992	96.075
208.008	96.075
216.000	96.113
223.992	95.302
232.008	95.302
240.000	95.341
250.000	94.800

Name: FDOT_050Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.139
16.008	95.179
24.000	95.139
31.992	96.197
40.008	100.468
48.000	95.845
55.992	95.688
64.008	95.649
72.000	95.688
79.992	94.904
88.008	94.865
96.000	94.904
103.992	94.904
112.008	94.865
120.000	94.904
127.992	94.904
136.008	94.865
144.000	94.904
151.992	95.414
160.008	95.414
168.000	95.414

175.992	97.451
184.008	105.443
192.000	96.667
199.992	95.923
208.008	95.923
216.000	95.962
223.992	95.139
232.008	95.139
240.000	95.179
250.000	94.630

Name: FDOT_100Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.158
16.008	95.198
24.000	95.158
31.992	96.253
40.008	100.676
48.000	95.888
55.992	95.726
64.008	95.685
72.000	95.726
79.992	94.914
88.008	94.873
96.000	94.914
103.992	94.914
112.008	94.873
120.000	94.914
127.992	94.914
136.008	94.873
144.000	94.914
151.992	95.442
160.008	95.442
168.000	95.442
175.992	97.552
184.008	105.830
192.000	96.740
199.992	95.969
208.008	95.969
216.000	96.010
223.992	95.158
232.008	95.158
240.000	95.198
250.000	94.630

Name: FDOT_010Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.095
16.008	95.131
24.000	95.095
31.992	96.060
40.008	99.958
48.000	95.739
55.992	95.596
64.008	95.560
72.000	95.596
79.992	94.880
88.008	94.845
96.000	94.880
103.992	94.880
112.008	94.845
120.000	94.880
127.992	94.880
136.008	94.845
144.000	94.880
151.992	95.345
160.008	95.345
168.000	95.345
175.992	97.205
184.008	104.500
192.000	96.490
199.992	95.810
208.008	95.810
216.000	95.846
223.992	95.095
232.008	95.095
240.000	95.131

250.000	94.630

Name: FDOT_025Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.130
16.008	95.169
24.000	95.130
31.992	96.169
40.008	100.363
48.000	95.823
55.992	95.669
64.008	95.630
72.000	95.669
79.992	94.899
88.008	94.861
96.000	94.899
103.992	94.899
112.008	94.861
120.000	94.899
127.992	94.899
136.008	94.861
144.000	94.899
151.992	95.400
160.008	95.400
168.000	95.400
175.992	97.400
184.008	105.250
192.000	96.631
199.992	95.900
208.008	95.900
216.000	95.938
223.992	95.130
232.008	95.130
240.000	95.169
250.000	94.630

Name: FDOT_002Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.082
16.008	95.117
24.000	95.082
31.992	96.021
40.008	99.813
48.000	95.708
55.992	95.569
64.008	95.534
72.000	95.569
79.992	94.873
88.008	94.839
96.000	94.873
103.992	94.873
112.008	94.839
120.000	94.873
127.992	94.873
136.008	94.839
144.000	94.873
151.992	95.326
160.008	95.326
168.000	95.326
175.992	97.134
184.008	104.230
192.000	96.439
199.992	95.778
208.008	95.778
216.000	95.813
223.992	95.082
232.008	95.082
240.000	95.117
250.000	94.630

Name: FDOT_005Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.087

16.008	95.122
24.000	95.087
31.992	96.036
40.008	99.867
48.000	95.720
55.992	95.579
64.008	95.544
72.000	95.579
79.992	94.876
88.008	94.841
96.000	94.876
103.992	94.876
112.008	94.841
120.000	94.876
127.992	94.876
136.008	94.841
144.000	94.876
151.992	95.333
160.008	95.333
168.000	95.333
175.992	97.161
184.008	104.331
192.000	96.458
199.992	95.790
208.008	95.790
216.000	95.825
223.992	95.087
232.008	95.087
240.000	95.122
250.000	94.630

Name: SFWMD_025Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
23.998	95.991
36.000	94.825
48.002	94.857
49.003	92.020
49.997	92.024
50.998	92.079
51.998	92.111
52.999	92.226
54.000	92.341
55.001	92.460
56.002	92.579
57.002	92.722
57.499	92.313
58.003	92.373
58.500	92.432
58.997	92.662
59.501	93.190
59.998	101.570
60.502	93.861
60.998	92.841
61.502	92.547
61.999	92.401
62.503	92.226
63.000	92.166
64.001	92.607
65.002	92.254
66.002	92.258
67.997	92.781
69.998	92.428
72.000	92.432
80.000	91.730

Name: ORANGE_025Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.504	91.814
1.008	91.814
1.512	91.814
1.992	92.148
2.496	92.148
3.000	92.398
3.504	92.816
4.008	92.983
4.512	93.485
4.992	93.485

5.496	93.568
6.000	93.652
6.504	95.657
7.008	96.159
7.512	97.328
7.992	98.665
8.496	100.420
9.000	100.336
9.504	97.830
10.008	97.579
10.512	94.738
10.992	94.822
11.496	93.735
12.000	93.401
12.504	93.652
13.008	93.568
13.512	92.983
13.992	92.900
14.496	92.231
15.000	92.315
15.504	92.064
16.008	92.148
16.512	92.064
16.992	92.148
17.496	92.148
18.000	92.064
18.504	92.148
19.008	92.064
19.512	91.981
19.992	92.064
20.496	91.897
21.000	91.981
21.504	91.897
22.008	91.981
22.512	91.897
22.992	91.981
23.496	91.814
24.000	91.814
30.000	91.730

Name: ORANGE_100Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.504	91.819
1.008	91.819
1.512	91.819
1.992	92.176
2.496	92.176
3.000	92.443
3.504	92.889
4.008	93.067
4.512	93.602
4.992	93.602
5.496	93.691
6.000	93.780
6.504	95.919
7.008	96.454
7.512	97.702
7.992	99.128
8.496	101.000
9.000	100.911
9.504	98.237
10.008	97.969
10.512	94.939
10.992	95.028
11.496	93.869
12.000	93.513
12.504	93.780
13.008	93.691
13.512	93.067
13.992	92.978
14.496	92.265
15.000	92.354
15.504	92.087
16.008	92.176
16.512	92.087
16.992	92.176
17.496	92.176
18.000	92.087
18.504	92.176
19.008	92.087
19.512	91.997

19.992	92.087
20.496	91.908
21.000	91.997
21.504	91.908
22.008	91.997
22.512	91.908
22.992	91.997
23.496	91.819
24.000	91.819
30.000	91.730

Name: ORANGE_010Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.504	94.700
1.008	94.700
1.512	94.700
1.992	94.982
2.496	94.982
3.000	95.193
3.504	95.545
4.008	95.686
4.512	96.108
4.992	96.108
5.496	96.178
6.000	96.249
6.504	97.938
7.008	98.360
7.512	99.346
7.992	100.472
8.496	101.950
9.000	101.880
9.504	99.768
10.008	99.557
10.512	97.164
10.992	97.234
11.496	96.319
12.000	96.038
12.504	96.249
13.008	96.178
13.512	95.686
13.992	95.615
14.496	95.052
15.000	95.123
15.504	94.912
16.008	94.982
16.512	94.912
16.992	94.982
17.496	94.982
18.000	94.912
18.504	94.982
19.008	94.912
19.512	94.841
19.992	94.912
20.496	94.771
21.000	94.841
21.504	94.771
22.008	94.841
22.512	94.771
22.992	94.841
23.496	94.700
24.000	94.700
30.000	94.630

Name: ORANGE_100Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.504	94.899
1.008	94.899
1.512	94.899
1.992	95.294
2.496	95.294
3.000	95.590
3.504	96.084
4.008	96.281
4.512	96.874
4.992	96.874
5.496	96.972
6.000	97.071

6.504	99.441
7.008	100.034
7.512	101.416
7.992	102.996
8.496	105.070
9.000	104.971
9.504	102.009
10.008	101.713
10.512	98.355
10.992	98.454
11.496	97.170
12.000	96.775
12.504	97.071
13.008	96.972
13.512	96.281
13.992	96.183
14.496	95.392
15.000	95.491
15.504	95.195
16.008	95.294
16.512	95.195
16.992	95.294
17.496	95.294
18.000	95.195
18.504	95.294
19.008	95.195
19.512	95.096
19.992	95.195
20.496	94.998
21.000	95.096
21.504	94.998
22.008	95.096
22.512	94.998
22.992	95.096
23.496	94.899
24.000	94.899
30.000	94.800

Name: ORANGE_010Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.504	94.895
1.008	94.895
1.512	94.895
1.992	95.273
2.496	95.273
3.000	95.556
3.504	96.029
4.008	96.218
4.512	96.785
4.992	96.785
5.496	96.879
6.000	96.974
6.504	99.242
7.008	99.810
7.512	101.133
7.992	102.645
8.496	104.630
9.000	104.536
9.504	101.728
10.008	101.447
10.512	98.264
10.992	98.358
11.496	97.141
12.000	96.767
12.504	97.048
13.008	96.954
13.512	96.299
13.992	96.205
14.496	95.456
15.000	95.550
15.504	95.269
16.008	95.363
16.512	95.269
16.992	95.363
17.496	95.363
18.000	95.269
18.504	95.363
19.008	95.269
19.512	95.175
19.992	95.269
20.496	95.082

21.000	95.175
21.504	95.082
22.008	95.175
22.512	95.082
22.992	95.175
23.496	94.988
24.000	94.988
30.000	94.800

Name: SFWMD_025Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
23.998	99.815
36.000	98.442
48.002	98.479
49.003	95.141
49.997	95.146
50.998	95.211
51.998	95.248
52.999	95.384
54.000	95.519
55.001	95.659
56.002	95.799
57.002	95.967
57.499	95.486
58.003	95.556
58.500	95.626
58.997	95.897
59.501	96.518
59.998	106.380
60.502	97.307
60.998	96.107
61.502	95.762
61.999	95.589
62.503	95.384
63.000	95.314
64.001	95.832
65.002	95.416
66.002	95.421
67.997	96.037
69.998	95.622
72.000	95.626
80.000	94.800

Name: ORANGE_025Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.504	94.895
1.008	94.895
1.512	94.895
1.992	95.273
2.496	95.273
3.000	95.556
3.504	96.029
4.008	96.218
4.512	96.785
4.992	96.785
5.496	96.879
6.000	96.974
6.504	99.242
7.008	99.810
7.512	101.133
7.992	102.645
8.496	104.630
9.000	104.536
9.504	101.728
10.008	101.447
10.512	98.264
10.992	98.358
11.496	97.141
12.000	96.767
12.504	97.048
13.008	96.954
13.512	96.299
13.992	96.205
14.496	95.456
15.000	95.550
15.504	95.269
16.008	95.363

16.512	95.269
16.992	95.363
17.496	95.363
18.000	95.269
18.504	95.363
19.008	95.269
19.512	95.175
19.992	95.269
20.496	95.082
21.000	95.175
21.504	95.082
22.008	95.175
22.512	95.082
22.992	95.175
23.496	94.988
24.000	94.988
30.000	94.800

Name: ORANGE_100Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	96.430
0.504	96.500
1.008	96.500
1.512	96.500
1.992	96.779
2.496	96.779
3.000	96.988
3.504	97.336
4.008	97.476
4.512	97.894
4.992	97.894
5.496	97.964
6.000	98.033
6.504	99.706
7.008	100.125
7.512	101.101
7.992	102.216
8.496	103.680
9.000	103.610
9.504	101.519
10.008	101.310
10.512	98.940
10.992	99.009
11.496	98.103
12.000	97.824
12.504	98.033
13.008	97.964
13.512	97.476
13.992	97.406
14.496	96.848
15.000	96.918
15.504	96.709
16.008	96.779
16.512	96.709
16.992	96.779
17.496	96.779
18.000	96.709
18.504	96.779
19.008	96.709
19.512	96.639
19.992	96.709
20.496	96.569
21.000	96.639
21.504	96.569
22.008	96.639
22.512	96.569
22.992	96.639
23.496	96.500
24.000	96.500
30.000	96.430

Name: ORANGE_010Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.504	94.700
1.008	94.700
1.512	94.700
1.992	94.982
2.496	94.982

3.000	95.193
3.504	95.545
4.008	95.686
4.512	96.108
4.992	96.108
5.496	96.178
6.000	96.249
6.504	97.938
7.008	98.360
7.512	99.346
7.992	100.472
8.496	101.950
9.000	101.880
9.504	99.768
10.008	99.557
10.512	97.164
10.992	97.234
11.496	96.319
12.000	96.038
12.504	96.249
13.008	96.178
13.512	95.686
13.992	95.615
14.496	95.052
15.000	95.123
15.504	94.912
16.008	94.982
16.512	94.912
16.992	94.982
17.496	94.982
18.000	94.912
18.504	94.982
19.008	94.912
19.512	94.841
19.992	94.912
20.496	94.771
21.000	94.841
21.504	94.771
22.008	94.841
22.512	94.771
22.992	94.841
23.496	94.700
24.000	94.700
30.000	94.630

Name: SFWMD_025Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
23.998	99.229
36.000	97.970
48.002	98.004
49.003	94.943
49.997	94.947
50.998	95.007
51.998	95.041
52.999	95.165
54.000	95.289
55.001	95.418
56.002	95.546
57.002	95.701
57.499	95.259
58.003	95.324
58.500	95.388
58.997	95.636
59.501	96.206
59.998	105.250
60.502	96.930
60.998	95.829
61.502	95.512
61.999	95.354
62.503	95.165
63.000	95.101
64.001	95.576
65.002	95.195
66.002	95.200
67.997	95.765
69.998	95.384
72.000	95.388
80.000	94.630

Name: ORANGE_025Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.504	94.700
1.008	94.700
1.512	94.700
1.992	94.982
2.496	94.982
3.000	95.193
3.504	95.545
4.008	95.686
4.512	96.108
4.992	96.108
5.496	96.178
6.000	96.249
6.504	97.938
7.008	98.360
7.512	99.346
7.992	100.472
8.496	101.950
9.000	101.880
9.504	99.768
10.008	99.557
10.512	97.164
10.992	97.234
11.496	96.319
12.000	96.038
12.504	96.249
13.008	96.178
13.512	95.686
13.992	95.615
14.496	95.052
15.000	95.123
15.504	94.912
16.008	94.982
16.512	94.912
16.992	94.982
17.496	94.982
18.000	94.912
18.504	94.982
19.008	94.912
19.512	94.841
19.992	94.912
20.496	94.771
21.000	94.841
21.504	94.771
22.008	94.841
22.512	94.771
22.992	94.841
23.496	94.700
24.000	94.700
30.000	94.630

Name:	EX_BSL0130	EX_BSL0130	EX_BSN139	EX_BSN139	EX_BSN140A
Group:	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	NBSL0130U	NBSL0130U	EX_PND139	EX_PND139	LK_RUBY
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	56.90	56.90	10.00	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	7.020	7.020	7.450	7.450	0.550
Curve Num:	76.520	76.520	77.170	77.170	84.000
DCIA(%):	0.000	0.000	35.300	35.300	0.000
Time Max(hrs):	9.00	60.00	8.98	59.98	8.98
Flow Max(cfs):	8.11	14.31	11.74	33.13	0.89
Runoff Volume(in):	5.770	7.074	6.784	8.126	6.673
Runoff Volume(ft3):	147023	180259	183467	219747	13322

Name:	EX_BSN140A	EX_BSN140B	EX_BSN140B	EX_BSN141	EX_BSN141
Group:	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	LK_RUBY	EX_PND140	EX_PND140	NBSL0130U	NBSL0130U
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	10.00	10.00	46.90	46.90
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	0.550	12.600	12.600	40.640	40.640
Curve Num:	84.000	72.060	72.060	56.430	56.430
DCIA(%):	0.000	22.220	22.220	0.170	0.170
Time Max(hrs):	59.98	8.98	59.98	9.98	60.00
Flow Max(cfs):	2.49	18.12	52.84	28.60	64.85
Runoff Volume(in):	8.029	5.958	7.251	3.378	4.429
Runoff Volume(ft3):	16030	272511	331661	498301	653414

Name:	EX_BSN142A	EX_BSN142A	EX_BSN142B	EX_BSN142B	EX_BSN142C
Group:	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	EX_SW142AW	EX_SW142AW	LK_WILLIS	LK_WILLIS	EX_SW142C
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	56.90	56.90	28.56	28.56	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	20.450	20.450	14.130	14.130	3.660
Curve Num:	79.310	79.310	77.190	77.190	72.330
DCIA(%):	0.000	0.000	6.090	6.090	0.000
Time Max(hrs):	9.00	60.00	8.98	59.98	8.98
Flow Max(cfs):	25.03	43.02	19.70	43.33	4.94
Runoff Volume(in):	6.106	7.433	6.012	7.327	5.264
Runoff Volume(ft3):	453293	551744	308354	375819	69942

Name:	EX_BSN142C	EX_BSN142D	EX_BSN142D	EX_BSN142E1	EX_BSN142E1
Group:	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	EX_SW142C	NBSL5300	NBSL5300	EX_PND142E1	EX_PND142E1
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	33.30	33.30	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	3.660	13.910	13.910	1.520	1.520
Curve Num:	72.330	84.960	84.960	84.000	84.000
DCIA(%):	0.000	0.000	0.000	44.080	44.080
Time Max(hrs):	59.98	8.98	59.98	8.98	59.97
Flow Max(cfs):	14.79	21.12	42.03	2.56	7.05
Runoff Volume(in):	6.530	6.789	8.150	7.478	8.854

Runoff Volume(ft3):	86755	342778	411531	41261	48852

Name:	EX_BSN142E2	EX_BSN142E2	EX_BSN142E3	EX_BSN142E3	EX_BSN200A
Group:	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	EX_PND142E2	EX_PND142E2	BSL_OUTFALL2	BSL_OUTFALL2	BSL_OUTFALL2
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	10.00	23.58	23.58	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	1.890	1.890	2.030	2.030	9.170
Curve Num:	84.000	84.000	65.410	65.410	55.270
DCIA(%):	41.800	41.800	5.420	5.420	58.020
Time Max(hrs):	8.98	59.97	8.98	59.98	8.98
Flow Max(cfs):	3.17	8.75	2.27	5.82	12.72
Runoff Volume(in):	7.436	8.811	4.654	5.851	6.289
Runoff Volume(ft3):	51020	60451	34296	43118	209344

Name:	EX_BSN200A	EX_BSNFPC141	EX_BSNFPC141	EX_BSNPND142	EX_BSNPND142
Group:	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	BSL_OUTFALL2	LK_WILLIS	LK_WILLIS	BSL_OUTFALL1	BSL_OUTFALL1
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	10.00	10.00	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	9.170	2.370	2.370	6.880	6.880
Curve Num:	55.270	76.470	76.470	75.450	75.450
DCIA(%):	58.020	0.000	0.000	0.000	0.000
Time Max(hrs):	59.98	8.98	59.98	8.98	59.98
Flow Max(cfs):	36.87	3.44	10.04	9.82	28.83
Runoff Volume(in):	7.534	5.764	7.067	5.640	6.935
Runoff Volume(ft3):	250786	49584	60801	140867	173210

Name:	EX_BSNPNDC	EX_BSNPNDC	EX_BSNVWCD	EX_BSNVWCD
Group:	EXISTING	EXISTING	EXISTING	EXISTING
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	EX_PNDC	EX_PNDC	NBSL5300	NBSL5300
Type:	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	8.600	10.000	8.600	10.000
Duration(hrs):	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	10.00	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00
Area(ac):	80.170	80.170	0.970	0.970
Curve Num:	79.000	79.000	85.300	85.300
DCIA(%):	78.600	78.600	0.000	0.000
Time Max(hrs):	8.98	59.97	8.98	59.98
Flow Max(cfs):	137.57	375.84	1.58	4.42
Runoff Volume(in):	7.980	9.363	6.830	8.193
Runoff Volume(ft3):	2322241	2724928	24048	28848

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: SFWMD Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL_OUTFALL1	EXISTING	ORANGE25Y24H_G	8.50	100.42	110.00	0.0012	40	10.42	62.07	0.00	0.00
BSL_OUTFALL1	EXISTING	SFWMD25Y72H_G	60.00	101.57	110.00	0.0026	40	60.50	181.36	0.00	0.00
BSL_OUTFALL2	EXISTING	ORANGE25Y24H_G	8.50	101.95	108.00	0.0010	16	9.01	157.94	0.00	0.00
BSL_OUTFALL2	EXISTING	SFWMD25Y72H_G	60.00	105.25	108.00	0.0028	16	60.02	156.11	0.00	0.00
EX_PND139	EXISTING	ORANGE25Y24H_G	19.02	128.99	129.70	0.0001	123848	9.00	11.58	19.02	0.49
EX_PND139	EXISTING	SFWMD25Y72H_G	72.06	129.00	129.70	0.0001	123910	60.00	31.83	72.06	0.49
EX_PND140	EXISTING	ORANGE25Y24H_G	23.34	129.18	130.20	0.0001	135211	9.00	17.90	23.34	0.33
EX_PND140	EXISTING	SFWMD25Y72H_G	72.21	129.53	130.20	0.0002	137503	60.00	50.78	72.21	0.36
EX_PND142E1	EXISTING	ORANGE25Y24H_G	25.50	111.74	113.00	0.0002	15541	8.75	2.54	0.00	0.00
EX_PND142E1	EXISTING	SFWMD25Y72H_G	72.05	112.10	113.00	0.0002	16382	60.00	6.76	72.05	0.11
EX_PND142E2	EXISTING	ORANGE25Y24H_G	8.51	102.60	103.00	0.0015	2360	8.75	3.15	10.16	6.59
EX_PND142E2	EXISTING	SFWMD25Y72H_G	60.00	105.48	103.00	0.0069	6630	60.00	8.40	60.03	36.20
EX_PNDC	EXISTING	ORANGE25Y24H_G	11.64	115.78	116.70	-0.0003	371354	8.75	137.01	11.64	30.49
EX_PNDC	EXISTING	SFWMD25Y72H_G	61.52	115.96	116.70	0.0005	373543	60.00	360.70	61.52	32.78
EX_SW142AE	EXISTING	ORANGE25Y24H_G	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	SFWMD25Y72H_G	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AW	EXISTING	ORANGE25Y24H_G	9.12	127.03	132.00	-0.0001	14180	9.00	25.26	9.12	24.98
EX_SW142AW	EXISTING	SFWMD25Y72H_G	60.10	127.34	132.00	0.0002	15073	60.00	43.29	60.10	41.22
EX_SW142B	EXISTING	ORANGE25Y24H_G	19.16	127.21	130.00	0.0001	7659	19.02	0.49	19.16	0.49
EX_SW142B	EXISTING	SFWMD25Y72H_G	72.17	127.21	130.00	0.0001	7659	72.06	0.49	72.17	0.49
EX_SW142C	EXISTING	ORANGE25Y24H_G	9.64	105.49	108.00	-0.0011	6587	30.00	4.99	7.91	5.48
EX_SW142C	EXISTING	SFWMD25Y72H_G	60.32	106.30	108.00	0.0012	15614	80.00	7.46	80.00	7.46
LK_RUBY	EXISTING	ORANGE25Y24H_G	0.00	132.00	99999.00	0.0000	0	9.00	0.87	0.00	0.00
LK_RUBY	EXISTING	SFWMD25Y72H_G	0.00	132.00	99999.00	0.0000	0	60.00	2.39	0.00	0.00
LK_WILLIS	EXISTING	ORANGE25Y24H_G	30.00	104.79	107.00	0.0001	5741988	9.00	370.98	30.00	4.99
LK_WILLIS	EXISTING	SFWMD25Y72H_G	80.00	105.07	107.00	0.0001	5780381	60.00	648.24	80.00	7.46
VWCD	EXISTING	ORANGE25Y24H_G	8.50	104.63	107.46	0.0013	25	14.49	3.71	0.00	0.00
VWCD	EXISTING	SFWMD25Y72H_G	60.00	106.38	107.46	0.0031	25	61.00	13.14	0.00	0.00

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL_OUTFALL1	EXISTING	002Y001HR	0.50	99.40	110.00	0.0045	40	0.77	36.81	0.00	0.00
BSL_OUTFALL1	EXISTING	002Y002HR	0.80	99.40	110.00	-0.0032	40	1.02	25.02	0.00	0.00
BSL_OUTFALL1	EXISTING	002Y004HR	2.00	99.40	110.00	-0.0007	40	3.22	32.77	0.00	0.00
BSL_OUTFALL1	EXISTING	002Y008HR	4.00	100.12	110.00	0.0007	40	5.11	32.75	0.00	0.00
BSL_OUTFALL1	EXISTING	002Y024HR	12.00	99.40	110.00	-0.0003	40	19.12	31.45	0.00	0.00
BSL_OUTFALL1	EXISTING	002Y072HR	60.00	100.55	110.00	0.0003	40	56.36	32.25	0.00	0.00
BSL_OUTFALL1	EXISTING	005Y001HR	0.50	99.40	110.00	0.0045	40	0.77	39.58	0.00	0.00
BSL_OUTFALL1	EXISTING	005Y002HR	0.80	99.40	110.00	-0.0032	40	1.02	37.85	0.00	0.00
BSL_OUTFALL1	EXISTING	005Y004HR	2.00	99.40	110.00	-0.0007	40	3.09	31.00	0.00	0.00
BSL_OUTFALL1	EXISTING	005Y008HR	4.00	100.12	110.00	0.0009	40	5.11	33.26	0.00	0.00
BSL_OUTFALL1	EXISTING	005Y024HR	12.00	99.67	110.00	-0.0010	40	19.26	31.72	0.00	0.00
BSL_OUTFALL1	EXISTING	005Y072HR	60.00	100.65	110.00	0.0004	40	56.34	33.16	0.00	0.00
BSL_OUTFALL1	EXISTING	010Y001HR	0.50	99.40	110.00	0.0045	40	0.77	41.67	0.00	0.00
BSL_OUTFALL1	EXISTING	010Y002HR	0.80	99.40	110.00	-0.0032	40	1.02	39.58	0.00	0.00
BSL_OUTFALL1	EXISTING	010Y004HR	2.00	99.40	110.00	-0.0007	40	3.05	41.17	0.00	0.00
BSL_OUTFALL1	EXISTING	010Y008HR	4.00	100.12	110.00	0.0007	40	4.87	38.10	0.00	0.00
BSL_OUTFALL1	EXISTING	010Y024HR	12.00	100.12	110.00	-0.0009	40	13.00	19.14	0.00	0.00
BSL_OUTFALL1	EXISTING	010Y072HR	60.00	100.82	110.00	0.0008	40	56.31	34.07	0.00	0.00
BSL_OUTFALL1	EXISTING	025Y001HR	0.50	99.40	110.00	0.0045	40	0.70	31.91	0.00	0.00
BSL_OUTFALL1	EXISTING	025Y002HR	0.80	99.40	110.00	-0.0032	40	1.02	42.00	0.00	0.00
BSL_OUTFALL1	EXISTING	025Y004HR	2.00	99.40	110.00	-0.0007	40	3.25	54.44	0.00	0.00
BSL_OUTFALL1	EXISTING	025Y008HR	4.00	100.12	110.00	0.0007	40	5.19	52.35	0.00	0.00
BSL_OUTFALL1	EXISTING	025Y024HR	12.00	100.42	110.00	-0.0007	40	19.57	32.72	0.00	0.00
BSL_OUTFALL1	EXISTING	025Y072HR	60.00	101.57	110.00	0.0008	40	60.01	36.34	0.00	0.00
BSL_OUTFALL1	EXISTING	050Y001HR	0.50	99.40	110.00	0.0045	40	0.70	35.71	0.00	0.00
BSL_OUTFALL1	EXISTING	050Y002HR	0.80	99.40	110.00	-0.0032	40	1.57	47.24	0.00	0.00
BSL_OUTFALL1	EXISTING	050Y004HR	2.00	99.40	110.00	-0.0007	40	3.01	63.61	0.00	0.00
BSL_OUTFALL1	EXISTING	050Y008HR	4.00	100.12	110.00	0.0007	40	4.16	65.09	0.00	0.00
BSL_OUTFALL1	EXISTING	050Y024HR	12.00	100.61	110.00	-0.0006	40	15.11	37.09	0.00	0.00
BSL_OUTFALL1	EXISTING	050Y072HR	60.00	101.76	110.00	0.0010	40	60.01	44.65	0.00	0.00
BSL_OUTFALL1	EXISTING	100Y001HR	0.50	99.40	110.00	0.0045	40	1.16	39.88	0.00	0.00
BSL_OUTFALL1	EXISTING	100Y002HR	0.80	99.40	110.00	-0.0032	40	1.53	54.81	0.00	0.00
BSL_OUTFALL1	EXISTING	100Y004HR	2.00	99.40	110.00	-0.0007	40	1.48	54.31	0.00	0.00
BSL_OUTFALL1	EXISTING	100Y008HR	4.00	100.12	110.00	0.0007	40	4.29	83.75	0.00	0.00
BSL_OUTFALL1	EXISTING	100Y024HR	12.00	101.00	110.00	-0.0009	40	13.39	48.83	0.00	0.00
BSL_OUTFALL1	EXISTING	100Y072HR	60.00	102.15	110.00	0.0009	40	60.01	54.99	0.00	0.00
BSL_OUTFALL2	EXISTING	002Y001HR	0.50	103.38	108.00	0.0051	16	0.61	66.00	0.00	0.00
BSL_OUTFALL2	EXISTING	002Y002HR	0.80	103.38	108.00	-0.0036	16	0.81	66.78	0.00	0.00
BSL_OUTFALL2	EXISTING	002Y004HR	2.00	103.38	108.00	-0.0008	16	2.01	46.47	0.00	0.00
BSL_OUTFALL2	EXISTING	002Y008HR	4.00	104.09	108.00	0.0008	16	4.01	64.19	0.00	0.00
BSL_OUTFALL2	EXISTING	002Y024HR	12.00	100.93	108.00	-0.0003	16	12.01	138.51	0.00	0.00
BSL_OUTFALL2	EXISTING	002Y072HR	60.00	104.23	108.00	0.0004	16	60.02	92.31	0.00	0.00
BSL_OUTFALL2	EXISTING	005Y001HR	0.50	103.38	108.00	0.0051	16	0.60	70.87	0.00	0.00
BSL_OUTFALL2	EXISTING	005Y002HR	0.80	103.38	108.00	-0.0036	16	0.81	71.28	0.00	0.00
BSL_OUTFALL2	EXISTING	005Y004HR	2.00	103.38	108.00	-0.0008	16	2.01	49.38	0.00	0.00
BSL_OUTFALL2	EXISTING	005Y008HR	4.00	104.09	108.00	0.0011	16	4.01	67.70	0.00	0.00
BSL_OUTFALL2	EXISTING	005Y024HR	12.00	100.48	108.00	-0.0007	16	12.01	158.39	0.00	0.00
BSL_OUTFALL2	EXISTING	005Y072HR	60.00	104.33	108.00	0.0004	16	60.02	93.29	0.00	0.00
BSL_OUTFALL2	EXISTING	010Y001HR	0.50	103.38	108.00	0.0051	16	0.61	74.97	0.00	0.00
BSL_OUTFALL2	EXISTING	010Y002HR	0.80	103.38	108.00	-0.0036	16	0.81	75.30	0.00	0.00
BSL_OUTFALL2	EXISTING	010Y004HR	2.00	103.38	108.00	-0.0008	16	2.01	52.29	0.00	0.00
BSL_OUTFALL2	EXISTING	010Y008HR	4.00	104.09	108.00	0.0008	16	4.01	70.66	0.00	0.00
BSL_OUTFALL2	EXISTING	010Y024HR	12.00	101.65	108.00	-0.0007	16	12.01	145.17	0.00	0.00
BSL_OUTFALL2	EXISTING	010Y072HR	60.00	104.50	108.00	0.0009	16	60.02	94.27	0.00	0.00
BSL_OUTFALL2	EXISTING	025Y001HR	0.50	103.38	108.00	0.0051	16	0.61	80.68	0.00	0.00
BSL_OUTFALL2	EXISTING	025Y002HR	0.80	103.38	108.00	-0.0036	16	0.81	80.86	0.00	0.00
BSL_OUTFALL2	EXISTING	025Y004HR	2.00	103.38	108.00	-0.0008	16	2.01	56.09	0.00	0.00
BSL_OUTFALL2	EXISTING	025Y008HR	4.00	104.09	108.00	0.0008	16	4.01	75.24	0.00	0.00

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL_OUTFALL2	EXISTING	025Y024HR	12.00	101.95	108.00	-0.0006	16	12.01	145.65	0.00	0.00
BSL_OUTFALL2	EXISTING	025Y072HR	60.00	105.25	108.00	0.0008	16	60.03	96.06	0.00	0.00
BSL_OUTFALL2	EXISTING	050Y001HR	0.50	103.38	108.00	0.0051	16	0.61	85.07	0.00	0.00
BSL_OUTFALL2	EXISTING	050Y002HR	0.80	103.38	108.00	-0.0036	16	0.81	84.89	0.00	0.00
BSL_OUTFALL2	EXISTING	050Y004HR	2.00	103.38	108.00	-0.0008	16	2.01	59.30	0.00	0.00
BSL_OUTFALL2	EXISTING	050Y008HR	4.00	104.09	108.00	0.0008	16	4.01	79.21	0.00	0.00
BSL_OUTFALL2	EXISTING	050Y024HR	12.00	102.53	108.00	-0.0006	16	12.01	136.48	0.00	0.00
BSL_OUTFALL2	EXISTING	050Y072HR	60.00	105.44	108.00	0.0010	16	60.03	97.43	0.00	0.00
BSL_OUTFALL2	EXISTING	100Y001HR	0.50	103.38	108.00	0.0051	16	0.61	89.30	0.00	0.00
BSL_OUTFALL2	EXISTING	100Y002HR	0.80	103.38	108.00	-0.0036	16	0.81	88.79	0.00	0.00
BSL_OUTFALL2	EXISTING	100Y004HR	2.00	103.38	108.00	-0.0008	16	0.74	69.90	0.00	0.00
BSL_OUTFALL2	EXISTING	100Y008HR	4.00	104.09	108.00	0.0008	16	4.01	83.56	0.00	0.00
BSL_OUTFALL2	EXISTING	100Y024HR	12.00	103.68	108.00	-0.0009	16	12.02	113.01	0.00	0.00
BSL_OUTFALL2	EXISTING	100Y072HR	60.00	105.83	108.00	0.0010	16	60.03	99.32	0.00	0.00
EX_PND139	EXISTING	002Y001HR	1.46	127.94	129.70	0.0001	116266	0.50	12.76	1.46	0.27
EX_PND139	EXISTING	002Y002HR	2.34	128.03	129.70	0.0001	116904	0.75	12.58	2.34	0.29
EX_PND139	EXISTING	002Y004HR	4.19	128.08	129.70	0.0000	117316	2.00	7.28	4.19	0.31
EX_PND139	EXISTING	002Y008HR	8.26	128.13	129.70	0.0000	117680	4.00	7.78	8.26	0.32
EX_PND139	EXISTING	002Y024HR	22.44	128.17	129.70	0.0000	117969	12.00	2.36	22.44	0.33
EX_PND139	EXISTING	002Y072HR	68.13	128.10	129.70	-0.0000	117450	59.75	1.77	68.13	0.31
EX_PND139	EXISTING	005Y001HR	1.48	128.01	129.70	0.0001	116774	0.50	16.65	1.48	0.29
EX_PND139	EXISTING	005Y002HR	2.37	128.12	129.70	0.0001	117593	0.75	16.37	2.37	0.32
EX_PND139	EXISTING	005Y004HR	4.21	128.20	129.70	0.0000	118168	2.00	9.52	4.21	0.33
EX_PND139	EXISTING	005Y008HR	8.29	128.28	129.70	0.0000	118702	4.00	10.08	8.29	0.35
EX_PND139	EXISTING	005Y024HR	22.80	128.36	129.70	0.0001	119279	12.00	3.09	22.80	0.37
EX_PND139	EXISTING	005Y072HR	68.20	128.32	129.70	-0.0000	119007	59.75	2.26	68.20	0.36
EX_PND139	EXISTING	010Y001HR	1.49	128.06	129.70	0.0001	117186	0.50	19.87	1.49	0.30
EX_PND139	EXISTING	010Y002HR	2.39	128.20	129.70	0.0001	118153	0.75	19.48	2.39	0.33
EX_PND139	EXISTING	010Y004HR	4.22	128.30	129.70	0.0000	118888	2.00	11.44	4.22	0.36
EX_PND139	EXISTING	010Y008HR	8.31	128.40	129.70	0.0001	119613	4.00	12.10	8.31	0.38
EX_PND139	EXISTING	010Y024HR	24.01	128.54	129.70	0.0001	120590	11.75	3.81	24.01	0.40
EX_PND139	EXISTING	010Y072HR	68.26	128.53	129.70	-0.0000	120540	59.75	2.74	68.26	0.40
EX_PND139	EXISTING	025Y001HR	1.50	128.14	129.70	0.0001	117728	0.50	24.18	1.50	0.32
EX_PND139	EXISTING	025Y002HR	2.41	128.30	129.70	0.0001	118892	0.75	23.62	2.41	0.36
EX_PND139	EXISTING	025Y004HR	4.23	128.44	129.70	0.0001	119880	2.00	14.07	4.23	0.38
EX_PND139	EXISTING	025Y008HR	8.34	128.59	129.70	0.0001	120973	4.00	15.09	8.34	0.41
EX_PND139	EXISTING	025Y024HR	24.03	128.83	129.70	0.0001	122656	11.98	5.03	24.03	0.46
EX_PND139	EXISTING	025Y072HR	68.32	128.88	129.70	-0.0000	123018	59.75	3.49	68.32	0.47
EX_PND139	EXISTING	050Y001HR	1.53	128.20	129.70	0.0001	118133	0.50	27.46	1.53	0.33
EX_PND139	EXISTING	050Y002HR	2.42	128.38	129.70	0.0001	119417	0.75	26.58	2.41	0.37
EX_PND139	EXISTING	050Y004HR	4.24	128.55	129.70	0.0001	120647	2.00	16.10	4.24	0.41
EX_PND139	EXISTING	050Y008HR	8.35	128.75	129.70	0.0001	122083	4.00	17.52	8.35	0.44
EX_PND139	EXISTING	050Y024HR	24.10	129.09	129.70	0.0001	124559	11.75	6.01	24.10	0.50
EX_PND139	EXISTING	050Y072HR	68.36	129.17	129.70	0.0000	125162	59.75	4.14	68.36	0.52
EX_PND139	EXISTING	100Y001HR	1.55	128.25	129.70	0.0001	118515	0.50	30.59	1.54	0.34
EX_PND139	EXISTING	100Y002HR	2.42	128.45	129.70	0.0001	119920	0.75	29.41	2.42	0.39
EX_PND139	EXISTING	100Y004HR	2.42	128.45	129.70	0.0001	119920	0.75	29.41	2.42	0.39
EX_PND139	EXISTING	100Y008HR	8.36	128.91	129.70	0.0001	123247	4.00	20.06	8.36	0.47
EX_PND139	EXISTING	100Y024HR	24.13	129.38	129.70	0.0001	126668	11.75	7.17	24.13	0.55
EX_PND139	EXISTING	100Y072HR	68.40	129.51	129.70	0.0000	127575	59.75	4.86	68.40	0.57
EX_PND140	EXISTING	002Y001HR	1.66	127.47	130.20	0.0001	123747	0.75	14.62	1.66	0.11
EX_PND140	EXISTING	002Y002HR	2.49	127.59	130.20	0.0001	124557	0.75	14.72	2.49	0.14
EX_PND140	EXISTING	002Y004HR	4.37	127.68	130.20	0.0000	125190	2.50	9.44	4.37	0.16
EX_PND140	EXISTING	002Y008HR	8.43	127.79	130.20	0.0000	125879	4.00	10.55	8.43	0.17
EX_PND140	EXISTING	002Y024HR	24.27	127.96	130.20	0.0000	127071	12.00	3.22	24.27	0.20
EX_PND140	EXISTING	002Y072HR	72.05	128.14	130.20	0.0000	128270	59.75	2.71	72.05	0.22
EX_PND140	EXISTING	005Y001HR	1.68	127.56	130.20	0.0001	124363	0.75	19.70	1.68	0.13
EX_PND140	EXISTING	005Y002HR	2.50	127.72	130.20	0.0001	125425	0.75	20.23	2.50	0.16

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PND140	EXISTING	005Y004HR	4.39	127.85	130.20	0.0001	126287	2.50	12.61	4.39	0.18
EX_PND140	EXISTING	005Y008HR	8.44	127.99	130.20	0.0001	127232	4.00	14.24	8.44	0.20
EX_PND140	EXISTING	005Y024HR	24.30	128.24	130.20	0.0001	128888	12.00	4.40	24.30	0.24
EX_PND140	EXISTING	005Y072HR	72.09	128.49	130.20	0.0000	130559	59.75	3.55	72.09	0.26
EX_PND140	EXISTING	010Y001HR	1.69	127.64	130.20	0.0001	124879	0.75	23.90	1.69	0.15
EX_PND140	EXISTING	010Y002HR	2.52	127.83	130.20	0.0001	126153	0.75	24.90	2.52	0.18
EX_PND140	EXISTING	010Y004HR	4.40	127.99	130.20	0.0001	127242	2.50	15.32	4.40	0.20
EX_PND140	EXISTING	010Y008HR	8.44	128.17	130.20	0.0001	128461	4.00	17.55	8.44	0.23
EX_PND140	EXISTING	010Y024HR	24.31	128.51	130.20	0.0001	130720	12.00	5.58	24.31	0.27
EX_PND140	EXISTING	010Y072HR	72.13	128.83	130.20	0.0000	132822	59.75	4.35	72.13	0.30
EX_PND140	EXISTING	025Y001HR	1.70	127.74	130.20	0.0001	125574	0.75	29.52	1.70	0.17
EX_PND140	EXISTING	025Y002HR	2.54	127.97	130.20	0.0001	127132	0.75	31.26	2.54	0.20
EX_PND140	EXISTING	025Y004HR	4.41	128.19	130.20	0.0001	128577	2.00	19.52	4.41	0.23
EX_PND140	EXISTING	025Y008HR	8.45	128.45	130.20	0.0001	130322	4.00	22.51	8.45	0.26
EX_PND140	EXISTING	025Y024HR	24.17	128.95	130.20	0.0001	133632	11.98	7.61	24.17	0.31
EX_PND140	EXISTING	025Y072HR	72.16	129.38	130.20	0.0000	136535	59.75	5.65	72.16	0.35
EX_PND140	EXISTING	050Y001HR	1.71	127.82	130.20	0.0001	126102	0.50	33.87	1.71	0.18
EX_PND140	EXISTING	050Y002HR	2.55	128.08	130.20	0.0001	127835	0.75	35.87	2.55	0.22
EX_PND140	EXISTING	050Y004HR	4.42	128.35	130.20	0.0001	129616	2.00	22.80	4.42	0.25
EX_PND140	EXISTING	050Y008HR	8.46	128.68	130.20	0.0001	131860	4.00	26.59	8.46	0.28
EX_PND140	EXISTING	050Y024HR	24.35	129.35	130.20	0.0001	136356	12.00	9.23	24.35	0.34
EX_PND140	EXISTING	050Y072HR	72.19	129.86	130.20	0.0000	139755	59.75	6.75	72.19	0.38
EX_PND140	EXISTING	100Y001HR	1.71	127.89	130.20	0.0002	126606	0.50	38.47	1.71	0.19
EX_PND140	EXISTING	100Y002HR	2.56	128.18	130.20	0.0002	128511	0.75	40.34	2.56	0.23
EX_PND140	EXISTING	100Y004HR	2.57	128.18	130.20	0.0002	128511	0.75	40.34	2.57	0.23
EX_PND140	EXISTING	100Y008HR	8.46	128.92	130.20	0.0001	133481	4.00	30.86	8.46	0.31
EX_PND140	EXISTING	100Y024HR	24.36	129.80	130.20	0.0001	139366	11.75	11.20	24.36	0.38
EX_PND140	EXISTING	100Y072HR	68.05	130.28	130.20	0.0001	144267	59.75	7.99	68.05	1.50
EX_PND142E1	EXISTING	002Y001HR	2.00	109.04	113.00	0.0003	9251	0.50	3.52	0.00	0.00
EX_PND142E1	EXISTING	002Y002HR	4.00	109.32	113.00	0.0002	9979	0.75	3.30	0.00	0.00
EX_PND142E1	EXISTING	002Y004HR	5.75	109.50	113.00	0.0001	10463	2.00	1.85	0.00	0.00
EX_PND142E1	EXISTING	002Y008HR	10.00	109.71	113.00	0.0001	11008	4.00	1.86	0.00	0.00
EX_PND142E1	EXISTING	002Y024HR	25.50	110.08	113.00	0.0001	11939	11.75	0.56	0.00	0.00
EX_PND142E1	EXISTING	002Y072HR	73.50	110.54	113.00	0.0000	12939	59.75	0.39	0.00	0.00
EX_PND142E1	EXISTING	005Y001HR	2.00	109.24	113.00	0.0003	9786	0.50	4.47	0.00	0.00
EX_PND142E1	EXISTING	005Y002HR	4.00	109.57	113.00	0.0003	10638	0.75	4.15	0.00	0.00
EX_PND142E1	EXISTING	005Y004HR	5.75	109.80	113.00	0.0001	11233	2.00	2.35	0.00	0.00
EX_PND142E1	EXISTING	005Y008HR	10.00	110.05	113.00	0.0001	11866	4.00	2.34	0.00	0.00
EX_PND142E1	EXISTING	005Y024HR	26.00	110.50	113.00	0.0002	12845	11.75	0.72	0.00	0.00
EX_PND142E1	EXISTING	005Y072HR	73.50	111.05	113.00	0.0000	14040	59.75	0.49	0.00	0.00
EX_PND142E1	EXISTING	010Y001HR	2.00	109.40	113.00	0.0004	10193	0.50	5.23	0.00	0.00
EX_PND142E1	EXISTING	010Y002HR	4.00	109.76	113.00	0.0003	11141	0.75	4.84	0.00	0.00
EX_PND142E1	EXISTING	010Y004HR	5.75	110.03	113.00	0.0002	11825	2.00	2.76	0.00	0.00
EX_PND142E1	EXISTING	010Y008HR	10.00	110.33	113.00	0.0001	12475	4.00	2.76	0.00	0.00
EX_PND142E1	EXISTING	010Y024HR	26.00	110.88	113.00	0.0002	13680	11.75	0.87	0.00	0.00
EX_PND142E1	EXISTING	010Y072HR	73.50	111.50	113.00	0.0000	15036	59.75	0.58	0.00	0.00
EX_PND142E1	EXISTING	025Y001HR	2.00	109.59	113.00	0.0004	10701	0.50	6.24	0.00	0.00
EX_PND142E1	EXISTING	025Y002HR	4.00	110.00	113.00	0.0003	11768	0.75	5.74	0.00	0.00
EX_PND142E1	EXISTING	025Y004HR	5.75	110.33	113.00	0.0002	12480	2.00	3.31	0.00	0.00
EX_PND142E1	EXISTING	025Y008HR	10.00	110.72	113.00	0.0002	13327	3.75	3.38	0.00	0.00
EX_PND142E1	EXISTING	025Y024HR	25.58	111.44	113.00	0.0002	14891	11.98	1.11	0.00	0.00
EX_PND142E1	EXISTING	025Y072HR	68.43	112.08	113.00	0.0001	16319	59.75	0.74	68.43	0.08
EX_PND142E1	EXISTING	050Y001HR	2.00	109.73	113.00	0.0004	11064	0.50	6.98	0.00	0.00
EX_PND142E1	EXISTING	050Y002HR	4.00	110.17	113.00	0.0003	12123	0.75	6.38	0.00	0.00
EX_PND142E1	EXISTING	050Y004HR	5.75	110.55	113.00	0.0002	12963	2.00	3.74	0.00	0.00
EX_PND142E1	EXISTING	050Y008HR	10.00	111.02	113.00	0.0002	13983	3.75	3.89	0.00	0.00
EX_PND142E1	EXISTING	050Y024HR	26.00	111.91	113.00	0.0002	15930	11.75	1.31	0.00	0.00
EX_PND142E1	EXISTING	050Y072HR	64.14	112.29	113.00	0.0001	16882	59.75	0.87	64.14	0.35

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PND142E1	EXISTING	100Y001HR	2.00	109.86	113.00	0.0005	11396	0.50	7.69	0.00	0.00
EX_PND142E1	EXISTING	100Y002HR	4.00	110.32	113.00	0.0004	12452	0.75	6.98	0.00	0.00
EX_PND142E1	EXISTING	100Y004HR	4.00	110.32	113.00	0.0004	12452	0.75	6.98	0.00	0.00
EX_PND142E1	EXISTING	100Y008HR	10.00	111.32	113.00	0.0002	14641	3.75	4.41	0.00	0.00
EX_PND142E1	EXISTING	100Y024HR	22.20	112.22	113.00	0.0002	16680	11.75	1.55	22.20	0.26
EX_PND142E1	EXISTING	100Y072HR	64.03	112.48	113.00	0.0001	17383	59.75	1.01	64.03	0.52
EX_PND142E2	EXISTING	002Y001HR	0.50	103.42	103.00	0.0051	3230	0.50	4.28	0.61	21.53
EX_PND142E2	EXISTING	002Y002HR	0.80	103.41	103.00	0.0067	3216	0.75	4.04	0.81	24.06
EX_PND142E2	EXISTING	002Y004HR	2.00	103.42	103.00	-0.0058	3221	2.00	2.28	0.74	21.22
EX_PND142E2	EXISTING	002Y008HR	4.00	104.16	103.00	0.0059	4452	4.00	2.30	1.92	20.28
EX_PND142E2	EXISTING	002Y024HR	12.00	101.52	103.00	0.0012	1910	11.75	0.69	13.34	6.01
EX_PND142E2	EXISTING	002Y072HR	60.00	104.48	103.00	0.0075	4988	59.75	0.48	54.97	16.46
EX_PND142E2	EXISTING	005Y001HR	0.50	103.42	103.00	0.0051	3234	0.50	5.45	0.60	21.38
EX_PND142E2	EXISTING	005Y002HR	0.80	103.41	103.00	0.0067	3219	0.75	5.10	0.81	26.56
EX_PND142E2	EXISTING	005Y004HR	2.00	103.42	103.00	-0.0058	3224	2.00	2.89	0.74	21.28
EX_PND142E2	EXISTING	005Y008HR	4.00	104.16	103.00	0.0063	4456	4.00	2.90	1.92	20.84
EX_PND142E2	EXISTING	005Y024HR	12.00	101.25	103.00	-0.0012	1804	11.75	0.89	13.07	7.11
EX_PND142E2	EXISTING	005Y072HR	60.00	104.59	103.00	0.0075	5158	59.75	0.61	54.90	16.51
EX_PND142E2	EXISTING	010Y001HR	0.50	103.43	103.00	0.0051	3237	0.50	6.40	0.61	22.22
EX_PND142E2	EXISTING	010Y002HR	0.80	103.42	103.00	0.0067	3222	0.75	5.96	0.81	27.34
EX_PND142E2	EXISTING	010Y004HR	2.00	103.42	103.00	0.0059	3226	2.00	3.40	0.74	20.76
EX_PND142E2	EXISTING	010Y008HR	4.00	104.16	103.00	0.0063	4459	4.00	3.42	1.92	20.38
EX_PND142E2	EXISTING	010Y024HR	12.00	102.28	103.00	0.0013	2220	11.75	1.07	15.01	6.12
EX_PND142E2	EXISTING	010Y072HR	60.00	104.76	103.00	0.0075	5439	59.75	0.72	54.79	16.60
EX_PND142E2	EXISTING	025Y001HR	0.50	103.43	103.00	0.0051	3242	0.50	7.64	0.61	23.35
EX_PND142E2	EXISTING	025Y002HR	0.80	103.42	103.00	0.0069	3227	0.75	7.08	0.81	28.39
EX_PND142E2	EXISTING	025Y004HR	2.00	103.42	103.00	0.0061	3228	2.00	4.10	0.74	20.83
EX_PND142E2	EXISTING	025Y008HR	4.00	104.17	103.00	0.0061	4463	3.75	4.18	1.92	20.97
EX_PND142E2	EXISTING	025Y024HR	12.00	102.57	103.00	0.0015	2346	11.98	1.38	21.46	6.89
EX_PND142E2	EXISTING	025Y072HR	60.01	105.51	103.00	0.0076	6680	59.75	0.91	54.32	16.95
EX_PND142E2	EXISTING	050Y001HR	0.50	103.43	103.00	0.0051	3246	0.50	8.56	0.61	24.19
EX_PND142E2	EXISTING	050Y002HR	0.80	103.42	103.00	0.0069	3231	0.75	7.87	0.81	29.13
EX_PND142E2	EXISTING	050Y004HR	2.00	103.42	103.00	0.0058	3231	2.00	4.62	0.74	21.47
EX_PND142E2	EXISTING	050Y008HR	4.00	104.17	103.00	0.0061	4467	3.75	4.81	1.92	21.04
EX_PND142E2	EXISTING	050Y024HR	12.00	103.05	103.00	0.0020	2622	11.75	1.63	2.60	9.49
EX_PND142E2	EXISTING	050Y072HR	60.01	105.70	103.00	0.0077	7003	60.00	1.10	54.21	17.04
EX_PND142E2	EXISTING	100Y001HR	0.50	103.43	103.00	0.0051	3251	0.50	9.44	0.61	24.99
EX_PND142E2	EXISTING	100Y002HR	0.80	103.42	103.00	0.0067	3235	0.75	8.62	0.81	29.85
EX_PND142E2	EXISTING	100Y004HR	2.00	103.41	103.00	0.0056	3218	0.75	8.62	0.74	24.88
EX_PND142E2	EXISTING	100Y008HR	4.00	104.17	103.00	0.0061	4471	3.75	5.47	1.92	20.61
EX_PND142E2	EXISTING	100Y024HR	12.00	104.01	103.00	0.0063	4204	11.75	1.92	21.53	14.90
EX_PND142E2	EXISTING	100Y072HR	60.01	106.09	103.00	0.0077	7648	59.75	1.70	54.00	17.21
EX_PNDC	EXISTING	002Y001HR	1.49	112.71	116.70	0.0004	334097	0.50	241.38	1.49	3.20
EX_PNDC	EXISTING	002Y002HR	2.28	113.12	116.70	0.0003	339080	0.75	205.84	2.28	4.69
EX_PNDC	EXISTING	002Y004HR	4.12	113.36	116.70	0.0002	341983	2.00	111.14	4.12	6.11
EX_PNDC	EXISTING	002Y008HR	8.03	113.52	116.70	0.0002	343979	3.75	106.66	8.03	7.24
EX_PNDC	EXISTING	002Y024HR	21.33	113.62	116.70	0.0001	345093	11.75	32.03	21.33	7.92
EX_PNDC	EXISTING	002Y072HR	64.20	113.51	116.70	-0.0001	343776	59.75	20.98	64.20	7.12
EX_PNDC	EXISTING	005Y001HR	1.48	113.03	116.70	0.0005	337999	0.50	293.95	1.48	4.24
EX_PNDC	EXISTING	005Y002HR	2.24	113.51	116.70	0.0004	343829	0.75	250.98	2.24	7.15
EX_PNDC	EXISTING	005Y004HR	4.06	113.81	116.70	0.0002	347429	2.00	136.61	4.06	9.44
EX_PNDC	EXISTING	005Y008HR	7.35	113.98	116.70	0.0002	349485	3.75	131.88	7.35	10.88
EX_PNDC	EXISTING	005Y024HR	21.11	114.05	116.70	-0.0001	350300	11.75	39.96	21.11	11.48
EX_PNDC	EXISTING	005Y072HR	64.12	113.99	116.70	-0.0001	349631	59.75	26.16	64.12	10.99
EX_PNDC	EXISTING	010Y001HR	1.46	113.28	116.70	0.0005	340990	0.50	335.57	1.46	5.59
EX_PNDC	EXISTING	010Y002HR	2.23	113.81	116.70	0.0004	347489	0.75	286.97	2.23	9.48
EX_PNDC	EXISTING	010Y004HR	4.02	114.17	116.70	0.0002	351775	2.00	157.82	4.02	12.59
EX_PNDC	EXISTING	010Y008HR	7.19	114.36	116.70	0.0002	354127	3.75	153.88	7.19	14.45

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
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Shingle Creek/ Valencia Water Control District Outfall
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Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PNDC	EXISTING	010Y024HR	19.50	114.43	116.70	-0.0002	354901	11.75	47.69	19.50	15.09
EX_PNDC	EXISTING	010Y072HR	64.09	114.33	116.70	-0.0001	353780	59.75	31.15	64.09	14.17
EX_PNDC	EXISTING	025Y001HR	1.44	113.59	116.70	0.0006	344776	0.50	389.54	1.44	7.72
EX_PNDC	EXISTING	025Y002HR	2.21	114.20	116.70	0.0005	352131	0.75	333.86	2.21	12.87
EX_PNDC	EXISTING	025Y004HR	3.93	114.64	116.70	0.0003	357485	2.00	186.55	3.93	17.29
EX_PNDC	EXISTING	025Y008HR	7.09	114.90	116.70	0.0003	360670	3.75	186.17	7.09	20.16
EX_PNDC	EXISTING	025Y024HR	19.14	114.99	116.70	-0.0002	361713	11.98	60.25	19.14	21.14
EX_PNDC	EXISTING	025Y072HR	64.06	114.80	116.70	-0.0002	359415	59.75	39.11	64.06	19.01
EX_PNDC	EXISTING	050Y001HR	1.43	113.82	116.70	0.0007	347514	0.50	429.38	1.43	9.50
EX_PNDC	EXISTING	050Y002HR	2.20	114.46	116.70	0.0005	355319	0.75	366.78	2.20	15.44
EX_PNDC	EXISTING	050Y004HR	3.85	114.99	116.70	0.0003	361776	2.00	208.40	3.85	21.20
EX_PNDC	EXISTING	050Y008HR	7.02	115.32	116.70	-0.0003	365756	3.75	212.41	7.02	24.94
EX_PNDC	EXISTING	050Y024HR	19.16	115.46	116.70	-0.0002	367392	11.75	70.85	19.16	26.51
EX_PNDC	EXISTING	050Y072HR	64.05	115.15	116.70	-0.0001	363726	59.75	45.93	64.05	23.04
EX_PNDC	EXISTING	100Y001HR	1.42	114.03	116.70	0.0007	350047	0.50	466.79	1.42	11.29
EX_PNDC	EXISTING	100Y002HR	2.19	114.71	116.70	0.0006	358298	0.75	398.03	2.19	18.01
EX_PNDC	EXISTING	100Y004HR	2.19	114.71	116.70	0.0006	358298	0.75	398.03	2.19	18.01
EX_PNDC	EXISTING	100Y008HR	6.40	115.75	116.70	0.0003	370999	3.75	239.70	6.40	30.12
EX_PNDC	EXISTING	100Y024HR	19.06	115.95	116.70	-0.0003	373395	11.75	83.09	19.06	32.62
EX_PNDC	EXISTING	100Y072HR	64.04	115.53	116.70	-0.0001	368266	59.75	53.59	64.04	27.36
EX_SW142AE	EXISTING	002Y001HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	002Y002HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	002Y004HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	002Y008HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	002Y024HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	002Y072HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	005Y001HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	005Y002HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	005Y004HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	005Y008HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	005Y024HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	005Y072HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	010Y001HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	010Y002HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	010Y004HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	010Y008HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	010Y024HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	010Y072HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	025Y001HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	025Y002HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	025Y004HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	025Y008HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	025Y024HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	025Y072HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	050Y001HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	050Y002HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	050Y004HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	050Y008HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	050Y024HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	050Y072HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	100Y001HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	100Y002HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	100Y004HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	100Y008HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	100Y024HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AE	EXISTING	100Y072HR	0.00	109.00	113.00	0.0000	113	0.00	0.00	0.00	0.00
EX_SW142AW	EXISTING	002Y001HR	0.97	126.62	132.00	0.0001	13026	0.75	9.76	0.97	8.67
EX_SW142AW	EXISTING	002Y002HR	1.34	126.66	132.00	0.0001	13128	1.25	10.00	1.34	9.87

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW142AW	EXISTING	002Y004HR	3.02	126.70	132.00	0.0001	13240	3.00	11.37	3.02	11.24
EX_SW142AW	EXISTING	002Y008HR	4.17	126.68	132.00	0.0001	13197	4.00	11.20	4.17	10.71
EX_SW142AW	EXISTING	002Y024HR	12.17	126.48	132.00	0.0000	12654	12.00	4.86	12.17	4.77
EX_SW142AW	EXISTING	002Y072HR	60.01	126.48	132.00	-0.0000	12649	60.00	4.73	60.01	4.72
EX_SW142AW	EXISTING	005Y001HR	0.93	126.74	132.00	0.0002	13347	0.75	14.00	0.93	12.61
EX_SW142AW	EXISTING	005Y002HR	1.28	126.77	132.00	0.0002	13443	1.00	14.16	1.28	13.88
EX_SW142AW	EXISTING	005Y004HR	3.01	126.81	132.00	0.0001	13546	3.00	15.38	3.01	15.29
EX_SW142AW	EXISTING	005Y008HR	4.13	126.80	132.00	0.0001	13530	4.00	15.68	4.13	15.07
EX_SW142AW	EXISTING	005Y024HR	12.13	126.55	132.00	-0.0000	12838	12.00	6.72	12.13	6.60
EX_SW142AW	EXISTING	005Y072HR	60.00	126.53	132.00	-0.0000	12791	60.00	6.13	60.00	6.12
EX_SW142AW	EXISTING	010Y001HR	0.91	126.83	132.00	0.0002	13593	0.75	17.55	0.91	15.96
EX_SW142AW	EXISTING	010Y002HR	1.24	126.86	132.00	0.0002	13685	1.00	17.68	1.24	17.27
EX_SW142AW	EXISTING	010Y004HR	3.01	126.89	132.00	0.0001	13785	3.00	18.81	3.01	18.75
EX_SW142AW	EXISTING	010Y008HR	4.11	126.90	132.00	-0.0001	13803	4.00	19.73	4.11	19.02
EX_SW142AW	EXISTING	010Y024HR	12.10	126.61	132.00	-0.0000	13005	12.00	8.56	12.10	8.43
EX_SW142AW	EXISTING	010Y072HR	60.00	126.58	132.00	-0.0000	12918	60.00	7.46	60.00	7.45
EX_SW142AW	EXISTING	025Y001HR	0.89	126.94	132.00	-0.0003	13901	0.75	22.35	0.89	20.51
EX_SW142AW	EXISTING	025Y002HR	1.19	126.97	132.00	0.0002	13989	1.00	22.45	1.19	21.88
EX_SW142AW	EXISTING	025Y004HR	2.95	127.00	132.00	0.0001	14091	2.50	23.53	2.95	23.51
EX_SW142AW	EXISTING	025Y008HR	4.09	127.04	132.00	-0.0001	14181	4.00	25.82	4.09	25.00
EX_SW142AW	EXISTING	025Y024HR	12.07	126.70	132.00	-0.0000	13252	11.98	11.53	12.07	11.39
EX_SW142AW	EXISTING	025Y072HR	60.00	126.65	132.00	-0.0001	13103	60.00	9.57	60.00	9.57
EX_SW142AW	EXISTING	050Y001HR	0.88	127.01	132.00	0.0003	14120	0.75	26.00	0.88	23.99
EX_SW142AW	EXISTING	050Y002HR	1.16	127.04	132.00	0.0002	14196	1.00	25.90	1.16	25.24
EX_SW142AW	EXISTING	050Y004HR	2.76	127.08	132.00	0.0001	14317	2.50	27.43	2.76	27.27
EX_SW142AW	EXISTING	050Y008HR	4.08	127.14	132.00	-0.0002	14471	4.00	30.85	4.08	29.95
EX_SW142AW	EXISTING	050Y024HR	12.07	126.77	132.00	-0.0001	13451	12.00	14.16	12.07	13.99
EX_SW142AW	EXISTING	050Y072HR	60.00	126.70	132.00	0.0001	13250	60.00	11.37	60.00	11.37
EX_SW142AW	EXISTING	100Y001HR	0.87	127.08	132.00	0.0003	14320	0.75	29.49	0.87	27.33
EX_SW142AW	EXISTING	100Y002HR	1.15	127.11	132.00	0.0003	14388	1.00	29.23	1.15	28.49
EX_SW142AW	EXISTING	100Y004HR	1.15	127.11	132.00	-0.0003	14388	1.00	29.23	1.15	28.49
EX_SW142AW	EXISTING	100Y008HR	4.07	127.24	132.00	-0.0002	14758	4.00	36.15	4.07	35.16
EX_SW142AW	EXISTING	100Y024HR	12.06	126.85	132.00	-0.0001	13662	12.00	17.13	12.06	16.94
EX_SW142AW	EXISTING	100Y072HR	60.00	126.76	132.00	0.0001	13405	59.75	13.38	60.00	13.38
EX_SW142B	EXISTING	002Y001HR	1.82	127.19	130.00	0.0001	7585	1.46	0.27	1.82	0.27
EX_SW142B	EXISTING	002Y002HR	2.60	127.20	130.00	0.0001	7594	2.34	0.29	2.60	0.29
EX_SW142B	EXISTING	002Y004HR	4.39	127.20	130.00	0.0001	7599	4.19	0.31	4.39	0.31
EX_SW142B	EXISTING	002Y008HR	8.41	127.20	130.00	0.0001	7603	8.26	0.32	8.41	0.32
EX_SW142B	EXISTING	002Y024HR	22.65	127.20	130.00	0.0001	7607	22.44	0.33	22.65	0.33
EX_SW142B	EXISTING	002Y072HR	68.26	127.20	130.00	0.0001	7601	68.13	0.31	68.26	0.31
EX_SW142B	EXISTING	005Y001HR	1.84	127.20	130.00	0.0001	7592	1.48	0.29	1.84	0.29
EX_SW142B	EXISTING	005Y002HR	2.62	127.20	130.00	0.0001	7602	2.37	0.32	2.62	0.31
EX_SW142B	EXISTING	005Y004HR	4.42	127.20	130.00	0.0001	7609	4.21	0.33	4.42	0.33
EX_SW142B	EXISTING	005Y008HR	8.45	127.20	130.00	0.0001	7615	8.29	0.35	8.45	0.35
EX_SW142B	EXISTING	005Y024HR	23.06	127.20	130.00	0.0001	7621	22.80	0.37	23.06	0.37
EX_SW142B	EXISTING	005Y072HR	68.34	127.20	130.00	0.0001	7618	68.20	0.36	68.34	0.36
EX_SW142B	EXISTING	010Y001HR	1.86	127.20	130.00	0.0001	7597	1.49	0.30	1.86	0.30
EX_SW142B	EXISTING	010Y002HR	2.64	127.20	130.00	0.0001	7609	2.39	0.33	2.64	0.33
EX_SW142B	EXISTING	010Y004HR	4.44	127.20	130.00	0.0001	7617	4.22	0.36	4.44	0.36
EX_SW142B	EXISTING	010Y008HR	8.47	127.20	130.00	0.0001	7624	8.31	0.38	8.47	0.38
EX_SW142B	EXISTING	010Y024HR	24.08	127.20	130.00	0.0001	7633	24.01	0.40	24.08	0.40
EX_SW142B	EXISTING	010Y072HR	68.40	127.20	130.00	0.0001	7632	68.26	0.40	68.40	0.40
EX_SW142B	EXISTING	025Y001HR	1.87	127.20	130.00	0.0001	7604	1.50	0.32	1.87	0.32
EX_SW142B	EXISTING	025Y002HR	2.65	127.20	130.00	0.0001	7617	2.41	0.36	2.65	0.36
EX_SW142B	EXISTING	025Y004HR	4.45	127.20	130.00	0.0001	7626	4.23	0.38	4.45	0.38
EX_SW142B	EXISTING	025Y008HR	8.48	127.21	130.00	0.0001	7636	8.34	0.41	8.48	0.41
EX_SW142B	EXISTING	025Y024HR	24.11	127.21	130.00	0.0001	7650	24.03	0.46	24.11	0.46
EX_SW142B	EXISTING	025Y072HR	68.46	127.21	130.00	0.0001	7653	68.32	0.47	68.46	0.47

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW142B	EXISTING	050Y001HR	1.88	127.20	130.00	0.0001	7608	1.53	0.33	1.88	0.33
EX_SW142B	EXISTING	050Y002HR	2.66	127.20	130.00	0.0001	7622	2.41	0.37	2.66	0.37
EX_SW142B	EXISTING	050Y004HR	4.46	127.20	130.00	0.0001	7633	4.24	0.41	4.46	0.41
EX_SW142B	EXISTING	050Y008HR	8.49	127.21	130.00	0.0001	7646	8.35	0.44	8.49	0.44
EX_SW142B	EXISTING	050Y024HR	24.21	127.21	130.00	0.0001	7664	24.10	0.50	24.21	0.50
EX_SW142B	EXISTING	050Y072HR	68.50	127.21	130.00	0.0001	7668	68.36	0.52	68.50	0.52
EX_SW142B	EXISTING	100Y001HR	1.89	127.20	130.00	0.0001	7613	1.54	0.34	1.89	0.34
EX_SW142B	EXISTING	100Y002HR	2.67	127.20	130.00	0.0001	7627	2.42	0.39	2.67	0.39
EX_SW142B	EXISTING	100Y004HR	2.67	127.20	130.00	0.0001	7627	2.42	0.39	2.67	0.39
EX_SW142B	EXISTING	100Y008HR	8.50	127.21	130.00	0.0001	7655	8.36	0.47	8.50	0.47
EX_SW142B	EXISTING	100Y024HR	24.25	127.21	130.00	0.0001	7678	24.13	0.55	24.25	0.55
EX_SW142B	EXISTING	100Y072HR	68.54	127.22	130.00	0.0001	7683	68.40	0.57	68.54	0.57
EX_SW142C	EXISTING	002Y001HR	0.78	103.84	108.00	0.0003	1485	0.75	2.41	0.78	2.17
EX_SW142C	EXISTING	002Y002HR	2.09	103.93	108.00	0.0003	1629	0.75	2.24	0.90	2.04
EX_SW142C	EXISTING	002Y004HR	3.42	104.20	108.00	0.0002	1786	2.50	1.93	2.52	1.88
EX_SW142C	EXISTING	002Y008HR	5.12	104.18	108.00	-0.0002	1781	4.00	2.13	4.02	2.06
EX_SW142C	EXISTING	002Y024HR	15.23	103.70	108.00	0.0001	1300	21.00	0.84	21.02	0.84
EX_SW142C	EXISTING	002Y072HR	60.05	103.94	108.00	0.0001	1666	64.00	1.48	64.00	1.48
EX_SW142C	EXISTING	005Y001HR	0.77	103.99	108.00	0.0004	1705	0.75	3.39	0.77	3.13
EX_SW142C	EXISTING	005Y002HR	1.94	104.38	108.00	0.0003	1822	0.75	3.36	0.85	3.00
EX_SW142C	EXISTING	005Y004HR	3.19	104.66	108.00	-0.0012	1844	2.35	2.45	2.68	5.32
EX_SW142C	EXISTING	005Y008HR	5.01	104.61	108.00	-0.0005	1845	3.89	2.72	4.17	5.28
EX_SW142C	EXISTING	005Y024HR	13.14	103.94	108.00	-0.0001	1644	21.00	1.45	21.01	1.45
EX_SW142C	EXISTING	005Y072HR	60.07	104.16	108.00	-0.0001	1786	64.00	2.62	64.01	2.61
EX_SW142C	EXISTING	010Y001HR	1.41	104.20	108.00	0.0005	1786	0.75	4.19	0.77	3.92
EX_SW142C	EXISTING	010Y002HR	1.80	104.68	108.00	0.0003	1843	0.75	4.28	0.83	3.83
EX_SW142C	EXISTING	010Y004HR	3.10	104.95	108.00	-0.0010	1852	2.16	2.93	2.45	5.58
EX_SW142C	EXISTING	010Y008HR	4.58	104.88	108.00	-0.0009	1847	3.75	3.20	3.93	5.71
EX_SW142C	EXISTING	010Y024HR	12.96	104.21	108.00	-0.0001	1790	21.00	2.21	21.07	2.21
EX_SW142C	EXISTING	010Y072HR	60.04	104.36	108.00	0.0008	1828	80.00	3.89	61.29	5.31
EX_SW142C	EXISTING	025Y001HR	1.30	104.59	108.00	0.0007	1842	0.75	5.23	0.76	4.98
EX_SW142C	EXISTING	025Y002HR	1.64	104.98	108.00	-0.0009	1854	0.75	5.49	1.08	5.81
EX_SW142C	EXISTING	025Y004HR	3.06	105.28	108.00	-0.0009	4588	2.00	3.77	2.23	5.81
EX_SW142C	EXISTING	025Y008HR	4.36	105.27	108.00	-0.0008	4510	3.56	3.74	3.71	5.99
EX_SW142C	EXISTING	025Y024HR	12.37	104.59	108.00	0.0009	1845	23.03	3.70	20.27	5.30
EX_SW142C	EXISTING	025Y072HR	60.03	104.67	108.00	0.0011	1852	80.00	7.17	80.00	7.17
EX_SW142C	EXISTING	050Y001HR	1.20	104.83	108.00	-0.0008	1842	0.75	6.00	0.88	6.09
EX_SW142C	EXISTING	050Y002HR	1.59	105.19	108.00	-0.0007	3683	0.75	6.36	1.00	6.37
EX_SW142C	EXISTING	050Y004HR	3.05	105.52	108.00	-0.0007	6870	2.00	4.30	2.11	6.09
EX_SW142C	EXISTING	050Y008HR	4.31	105.58	108.00	-0.0007	7409	3.47	4.16	3.57	6.21
EX_SW142C	EXISTING	050Y024HR	12.18	104.83	108.00	0.0014	1843	24.00	5.73	24.01	5.75
EX_SW142C	EXISTING	050Y072HR	60.05	104.89	108.00	-0.0010	1850	72.00	10.02	69.35	18.52
EX_SW142C	EXISTING	100Y001HR	1.16	105.04	108.00	0.0008	2264	0.75	6.71	0.81	7.08
EX_SW142C	EXISTING	100Y002HR	1.55	105.38	108.00	0.0007	5486	0.75	7.20	0.94	7.00
EX_SW142C	EXISTING	100Y004HR	1.55	105.38	108.00	0.0007	5486	0.75	7.20	0.94	7.00
EX_SW142C	EXISTING	100Y008HR	4.22	105.85	108.00	0.0008	9944	3.37	4.46	3.45	6.41
EX_SW142C	EXISTING	100Y024HR	12.15	105.07	108.00	-0.0014	2575	30.00	8.50	24.37	18.46
EX_SW142C	EXISTING	100Y072HR	60.24	105.16	108.00	0.0013	3439	68.00	12.87	73.30	18.52
LK_RUBY	EXISTING	002Y001HR	0.00	132.00	99999.00	0.0000	0	0.75	0.82	0.00	0.00
LK_RUBY	EXISTING	002Y002HR	0.00	132.00	99999.00	0.0000	0	0.75	0.85	0.00	0.00
LK_RUBY	EXISTING	002Y004HR	0.00	132.00	99999.00	0.0000	0	2.50	0.52	0.00	0.00
LK_RUBY	EXISTING	002Y008HR	0.00	132.00	99999.00	0.0000	0	4.00	0.58	0.00	0.00
LK_RUBY	EXISTING	002Y024HR	0.00	132.00	99999.00	0.0000	0	12.00	0.18	0.00	0.00
LK_RUBY	EXISTING	002Y072HR	0.00	132.00	99999.00	0.0000	0	59.75	0.13	0.00	0.00
LK_RUBY	EXISTING	005Y001HR	0.00	132.00	99999.00	0.0000	0	0.75	1.09	0.00	0.00
LK_RUBY	EXISTING	005Y002HR	0.00	132.00	99999.00	0.0000	0	0.75	1.15	0.00	0.00
LK_RUBY	EXISTING	005Y004HR	0.00	132.00	99999.00	0.0000	0	2.00	0.70	0.00	0.00
LK_RUBY	EXISTING	005Y008HR	0.00	132.00	99999.00	0.0000	0	4.00	0.76	0.00	0.00

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
LK_RUBY	EXISTING	005Y024HR	0.00	132.00	99999.00	0.0000	0	12.00	0.23	0.00	0.00
LK_RUBY	EXISTING	005Y072HR	0.00	132.00	99999.00	0.0000	0	59.75	0.17	0.00	0.00
LK_RUBY	EXISTING	010Y001HR	0.00	132.00	99999.00	0.0000	0	0.75	1.31	0.00	0.00
LK_RUBY	EXISTING	010Y002HR	0.00	132.00	99999.00	0.0000	0	0.75	1.40	0.00	0.00
LK_RUBY	EXISTING	010Y004HR	0.00	132.00	99999.00	0.0000	0	2.00	0.85	0.00	0.00
LK_RUBY	EXISTING	010Y008HR	0.00	132.00	99999.00	0.0000	0	4.00	0.91	0.00	0.00
LK_RUBY	EXISTING	010Y024HR	0.00	132.00	99999.00	0.0000	0	11.75	0.29	0.00	0.00
LK_RUBY	EXISTING	010Y072HR	0.00	132.00	99999.00	0.0000	0	59.75	0.21	0.00	0.00
LK_RUBY	EXISTING	025Y001HR	0.00	132.00	99999.00	0.0000	0	0.50	1.62	0.00	0.00
LK_RUBY	EXISTING	025Y002HR	0.00	132.00	99999.00	0.0000	0	0.75	1.73	0.00	0.00
LK_RUBY	EXISTING	025Y004HR	0.00	132.00	99999.00	0.0000	0	2.00	1.06	0.00	0.00
LK_RUBY	EXISTING	025Y008HR	0.00	132.00	99999.00	0.0000	0	4.00	1.14	0.00	0.00
LK_RUBY	EXISTING	025Y024HR	0.00	132.00	99999.00	0.0000	0	11.98	0.38	0.00	0.00
LK_RUBY	EXISTING	025Y072HR	0.00	132.00	99999.00	0.0000	0	59.75	0.26	0.00	0.00
LK_RUBY	EXISTING	050Y001HR	0.00	132.00	99999.00	0.0000	0	0.50	1.87	0.00	0.00
LK_RUBY	EXISTING	050Y002HR	0.00	132.00	99999.00	0.0000	0	0.75	1.96	0.00	0.00
LK_RUBY	EXISTING	050Y004HR	0.00	132.00	99999.00	0.0000	0	2.00	1.21	0.00	0.00
LK_RUBY	EXISTING	050Y008HR	0.00	132.00	99999.00	0.0000	0	4.00	1.32	0.00	0.00
LK_RUBY	EXISTING	050Y024HR	0.00	132.00	99999.00	0.0000	0	11.75	0.45	0.00	0.00
LK_RUBY	EXISTING	050Y072HR	0.00	132.00	99999.00	0.0000	0	59.75	0.31	0.00	0.00
LK_RUBY	EXISTING	100Y001HR	0.00	132.00	99999.00	0.0000	0	0.50	2.12	0.00	0.00
LK_RUBY	EXISTING	100Y002HR	0.00	132.00	99999.00	0.0000	0	0.75	2.18	0.00	0.00
LK_RUBY	EXISTING	100Y004HR	0.00	132.00	99999.00	0.0000	0	0.75	2.18	0.00	0.00
LK_RUBY	EXISTING	100Y008HR	0.00	132.00	99999.00	0.0000	0	4.00	1.51	0.00	0.00
LK_RUBY	EXISTING	100Y024HR	0.00	132.00	99999.00	0.0000	0	11.75	0.54	0.00	0.00
LK_RUBY	EXISTING	100Y072HR	0.00	132.00	99999.00	0.0000	0	59.75	0.36	0.00	0.00
LK_WILLIS	EXISTING	002Y001HR	2.00	103.59	107.00	0.0000	5634876	0.75	247.31	2.00	0.04
LK_WILLIS	EXISTING	002Y002HR	4.00	103.68	107.00	0.0000	5641935	1.00	254.34	3.04	0.12
LK_WILLIS	EXISTING	002Y004HR	8.00	103.75	107.00	0.0000	5647430	2.50	210.24	8.00	0.20
LK_WILLIS	EXISTING	002Y008HR	16.00	103.83	107.00	0.0000	5654396	4.00	216.64	16.00	0.34
LK_WILLIS	EXISTING	002Y024HR	30.00	103.97	107.00	0.0000	5666266	12.00	79.49	30.00	0.68
LK_WILLIS	EXISTING	002Y072HR	80.00	104.20	107.00	0.0000	5686916	60.00	62.91	80.00	1.46
LK_WILLIS	EXISTING	005Y001HR	2.00	103.64	107.00	0.0000	5638750	0.75	328.74	0.36	0.00
LK_WILLIS	EXISTING	005Y002HR	4.00	103.75	107.00	0.0000	5647873	1.00	332.99	3.39	0.22
LK_WILLIS	EXISTING	005Y004HR	8.00	103.84	107.00	0.0000	5655268	2.50	272.41	5.12	0.37
LK_WILLIS	EXISTING	005Y008HR	16.00	103.95	107.00	0.0000	5664575	4.00	282.00	16.00	0.63
LK_WILLIS	EXISTING	005Y024HR	30.00	104.15	107.00	0.0001	5682352	12.00	102.97	30.00	1.27
LK_WILLIS	EXISTING	005Y072HR	80.00	104.43	107.00	0.0000	5708591	60.00	85.31	80.00	2.56
LK_WILLIS	EXISTING	010Y001HR	2.00	103.68	107.00	0.0001	5641940	0.75	394.53	0.34	0.00
LK_WILLIS	EXISTING	010Y002HR	4.00	103.81	107.00	0.0000	5652770	1.00	397.06	3.56	0.33
LK_WILLIS	EXISTING	010Y004HR	8.00	103.92	107.00	0.0000	5661976	2.50	324.84	5.27	0.56
LK_WILLIS	EXISTING	010Y008HR	16.00	104.07	107.00	0.0001	5674842	4.00	339.73	16.00	0.98
LK_WILLIS	EXISTING	010Y024HR	30.00	104.33	107.00	0.0001	5698771	12.00	126.75	30.00	2.03
LK_WILLIS	EXISTING	010Y072HR	80.00	104.66	107.00	0.0000	5729643	60.00	103.96	80.00	3.89
LK_WILLIS	EXISTING	025Y001HR	2.00	103.73	107.00	0.0001	5646195	0.75	481.37	0.32	0.00
LK_WILLIS	EXISTING	025Y002HR	4.00	103.89	107.00	0.0000	5659272	1.00	481.74	3.74	0.51
LK_WILLIS	EXISTING	025Y004HR	8.00	104.04	107.00	0.0000	5671997	2.50	396.36	5.44	0.90
LK_WILLIS	EXISTING	025Y008HR	16.00	104.24	107.00	0.0001	5691097	4.00	424.99	16.00	1.65
LK_WILLIS	EXISTING	025Y024HR	30.00	104.61	107.00	0.0001	5725137	12.08	165.39	30.00	3.58
LK_WILLIS	EXISTING	025Y072HR	80.00	105.04	107.00	0.0000	5771340	60.00	132.87	80.00	7.17
LK_WILLIS	EXISTING	050Y001HR	2.00	103.77	107.00	0.0001	5649380	0.75	546.38	0.31	0.00
LK_WILLIS	EXISTING	050Y002HR	4.00	103.95	107.00	0.0001	5663949	1.00	541.73	3.83	0.67
LK_WILLIS	EXISTING	050Y004HR	8.00	104.13	107.00	0.0000	5680472	2.50	451.01	5.56	1.22
LK_WILLIS	EXISTING	050Y008HR	16.00	104.39	107.00	0.0001	5704406	4.00	494.48	16.00	2.33
LK_WILLIS	EXISTING	050Y024HR	30.00	104.87	107.00	0.0001	5749471	12.00	202.18	30.00	5.70
LK_WILLIS	EXISTING	050Y072HR	79.00	105.36	107.00	0.0000	5863356	60.00	170.09	79.01	9.98
LK_WILLIS	EXISTING	100Y001HR	2.00	103.81	107.00	0.0001	5652395	0.75	607.89	0.31	0.00
LK_WILLIS	EXISTING	100Y002HR	4.00	104.00	107.00	0.0001	5668580	1.00	598.98	3.92	0.85

I-4 Interim Daryl Carter Parkway (DCP)
FDOT District 5
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: FDOT Node Min/ Max Condition Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
LK_WILLIS	EXISTING	100Y004HR	8.00	104.03	107.00	0.0001	5671548	1.00	598.98	8.00	0.86
LK_WILLIS	EXISTING	100Y008HR	16.00	104.54	107.00	0.0001	5718292	4.00	567.49	16.00	3.14
LK_WILLIS	EXISTING	100Y024HR	30.00	105.18	107.00	0.0001	5812153	12.00	246.51	30.00	8.50
LK_WILLIS	EXISTING	100Y072HR	78.98	105.74	107.00	0.0000	5970103	60.00	200.04	78.98	12.50
VWCD	EXISTING	002Y001HR	0.50	103.53	107.46	0.0051	25	0.86	24.78	0.00	0.00
VWCD	EXISTING	002Y002HR	0.80	103.53	107.46	-0.0036	25	1.82	11.74	0.00	0.00
VWCD	EXISTING	002Y004HR	2.00	103.53	107.46	-0.0008	25	3.95	5.36	0.00	0.00
VWCD	EXISTING	002Y008HR	4.00	104.40	107.46	0.0009	25	7.78	1.92	0.00	0.00
VWCD	EXISTING	002Y024HR	12.00	103.53	107.46	-0.0004	25	26.52	1.87	0.00	0.00
VWCD	EXISTING	002Y072HR	60.00	105.36	107.46	0.0004	25	75.78	1.79	0.00	0.00
VWCD	EXISTING	005Y001HR	0.50	103.53	107.46	0.0051	25	0.85	28.43	0.00	0.00
VWCD	EXISTING	005Y002HR	0.80	103.53	107.46	-0.0036	25	1.82	13.50	0.00	0.00
VWCD	EXISTING	005Y004HR	2.00	103.53	107.46	-0.0008	25	3.95	6.41	0.00	0.00
VWCD	EXISTING	005Y008HR	4.00	104.40	107.46	0.0011	25	7.78	2.38	0.00	0.00
VWCD	EXISTING	005Y024HR	12.00	103.86	107.46	-0.0011	25	26.65	1.89	0.00	0.00
VWCD	EXISTING	005Y072HR	60.00	105.46	107.46	0.0004	25	75.82	1.77	0.00	0.00
VWCD	EXISTING	010Y001HR	0.50	103.53	107.46	0.0051	25	0.85	31.40	0.00	0.00
VWCD	EXISTING	010Y002HR	0.80	103.53	107.46	-0.0036	25	1.81	14.85	0.00	0.00
VWCD	EXISTING	010Y004HR	2.00	103.53	107.46	-0.0008	25	3.50	7.59	0.00	0.00
VWCD	EXISTING	010Y008HR	4.00	104.40	107.46	0.0009	25	7.77	2.82	0.00	0.00
VWCD	EXISTING	010Y024HR	12.00	104.40	107.46	-0.0010	25	26.84	1.83	0.00	0.00
VWCD	EXISTING	010Y072HR	60.00	105.63	107.46	0.0010	25	75.89	1.79	0.00	0.00
VWCD	EXISTING	025Y001HR	0.50	103.53	107.46	0.0051	25	0.85	35.31	0.00	0.00
VWCD	EXISTING	025Y002HR	0.80	103.53	107.46	-0.0036	25	1.20	19.09	0.00	0.00
VWCD	EXISTING	025Y004HR	2.00	103.53	107.46	-0.0008	25	3.50	9.68	0.00	0.00
VWCD	EXISTING	025Y008HR	4.00	104.40	107.46	0.0009	25	6.00	3.82	0.00	0.00
VWCD	EXISTING	025Y024HR	12.00	104.63	107.46	-0.0008	25	26.91	1.59	0.00	0.00
VWCD	EXISTING	025Y072HR	60.00	106.38	107.46	0.0009	25	76.16	1.87	0.00	0.00
VWCD	EXISTING	050Y001HR	0.50	103.53	107.46	0.0051	25	0.85	38.22	0.00	0.00
VWCD	EXISTING	050Y002HR	0.80	103.53	107.46	-0.0036	25	1.20	22.08	0.00	0.00
VWCD	EXISTING	050Y004HR	2.00	103.53	107.46	-0.0008	25	3.50	11.26	0.00	0.00
VWCD	EXISTING	050Y008HR	4.00	104.40	107.46	0.0009	25	6.00	4.87	0.00	0.00
VWCD	EXISTING	050Y024HR	12.00	104.78	107.46	-0.0007	25	26.96	1.40	0.00	0.00
VWCD	EXISTING	050Y072HR	60.00	106.57	107.46	0.0011	25	76.22	1.83	0.00	0.00
VWCD	EXISTING	100Y001HR	0.50	103.53	107.46	0.0051	25	0.84	40.97	0.00	0.00
VWCD	EXISTING	100Y002HR	0.80	103.53	107.46	-0.0036	25	1.20	24.89	0.00	0.00
VWCD	EXISTING	100Y004HR	2.00	103.53	107.46	-0.0008	25	0.74	22.64	0.00	0.00
VWCD	EXISTING	100Y008HR	4.00	104.40	107.46	0.0009	25	6.00	5.93	0.00	0.00
VWCD	EXISTING	100Y024HR	12.00	105.07	107.46	-0.0010	25	27.04	1.87	0.00	0.00
VWCD	EXISTING	100Y072HR	60.00	106.96	107.46	0.0011	25	76.34	1.83	0.00	0.00

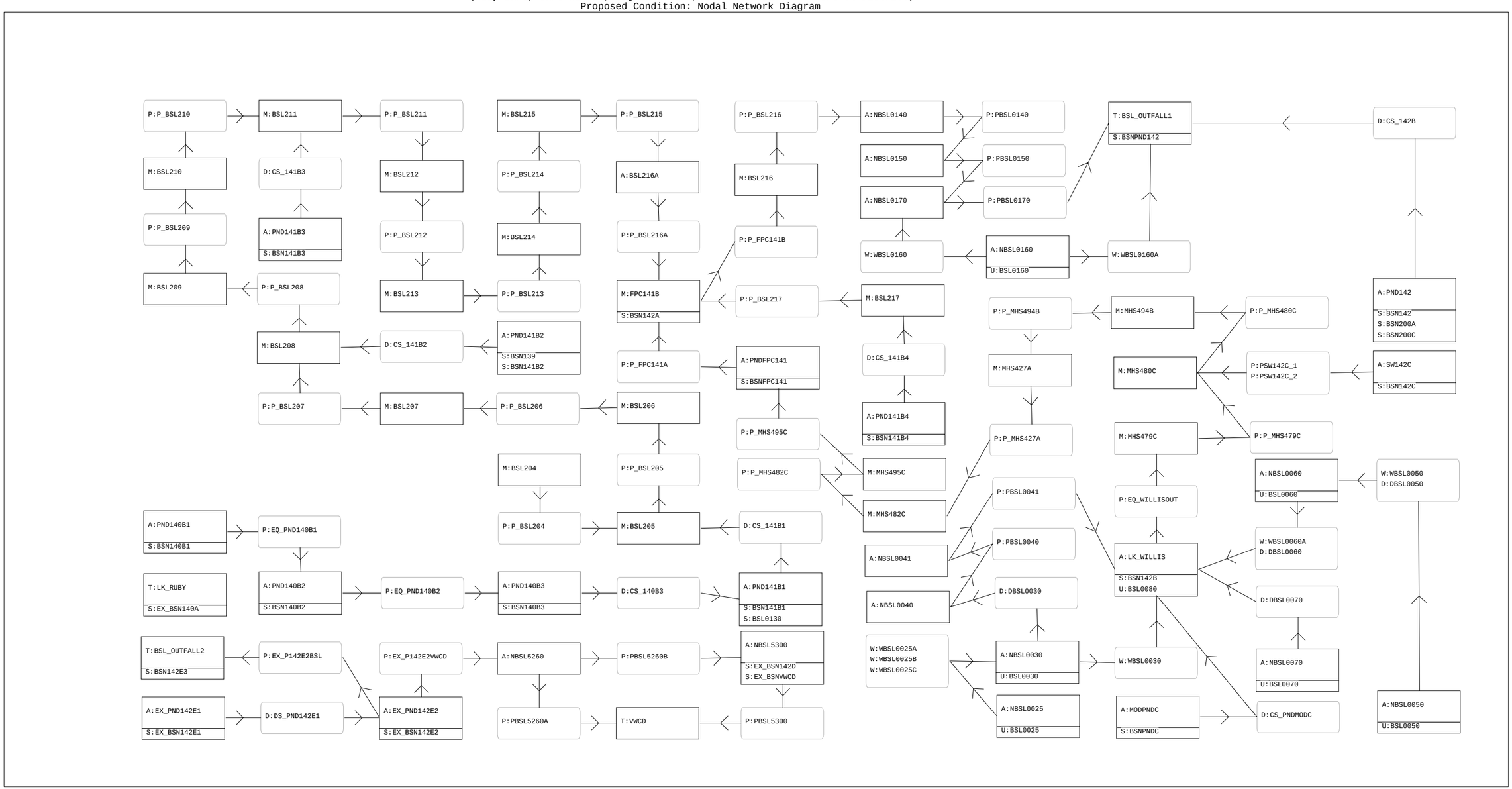
APPENDIX C.1.8: Ruby Lk and Shingle Creek Outfalls Proposed ICPR-3 Model

I-4 Interim Daryl Carter (DCP)
FDOT District 5
FPID NO.: 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District) -
Proposed Condition: Nodal Network Diagram

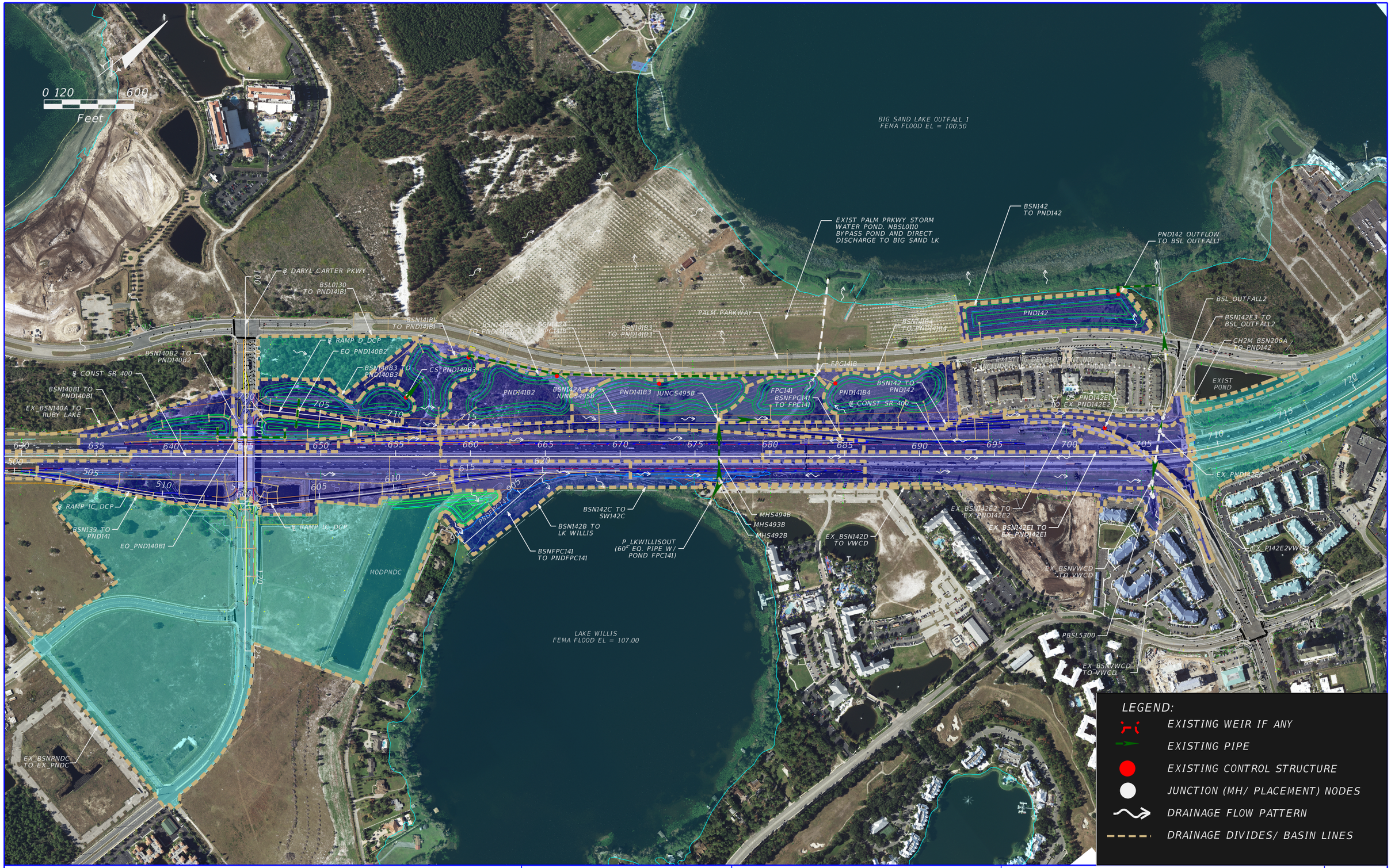
Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench



Interconnected Channel and Pond Routing Model (ICPR) ©2002 Streamline Technologies, Inc.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

TRANSPORTATION
AECOM TECHNICAL SERVICES, Inc.
315 East Robinson Street, Suite 245
Orlando, FL. 32801
T 407.422.0353 F 407.423.2695
Certificate of Authorization No. 8115 www.aecom.com

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	441113-1-52-01

SHINGLE CREEK OUTFALL PROPOSED NODAL NETWORK

FIGURE 18

```
================================================================================
==== Basins ====================================================================
================================================================================

        Name: BSL0025                 Node: NBSL0025              Status: Onsite
       Group: PROPOSE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 17.365                  Time Shift(hrs): 0.00
         Curve Number: 75.90             Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED
BY GEOSYNTEC.

--------------------------------------------------------------------------------
        Name: BSL0030                 Node: NBSL0030              Status: Onsite
       Group: PROPOSE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 9.907                   Time Shift(hrs): 0.00
         Curve Number: 90.30             Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED
BY GEOSYNTEC.

--------------------------------------------------------------------------------
        Name: BSL0050                 Node: NBSL0050              Status: Onsite
       Group: PROPOSE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 16.215                  Time Shift(hrs): 0.00
         Curve Number: 69.70             Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED
BY GEOSYNTEC.

--------------------------------------------------------------------------------
        Name: BSL0060                 Node: NBSL0060              Status: Onsite
       Group: PROPOSE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 9.249                   Time Shift(hrs): 0.00
         Curve Number: 77.30             Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED
BY GEOSYNTEC.

--------------------------------------------------------------------------------
        Name: BSL0070                 Node: NBSL0070              Status: Onsite
       Group: PROPOSE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 39.70
             Area(ac): 77.313                  Time Shift(hrs): 0.00
         Curve Number: 58.20             Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED
BY GEOSYNTEC.

--------------------------------------------------------------------------------
        Name: BSL0080                 Node: LK_WILLIS             Status: Onsite
       Group: PROPOSE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 25.20
             Area(ac): 209.029                 Time Shift(hrs): 0.00
         Curve Number: 88.70             Max Allowable Q(cfs): 0.000
              DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED
```

BY GEOSYNTEC.

Name: BSL0130 Node: PND141B1 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 7.560 Time Shift(hrs): 0.00
Curve Number: 65.11 Time Increment(min): 1.00
DCIA(%): 67.91 Max Allowable Q(cfs): 999999.000

25.44

Name: BSL0160 Node: NBSL0160 Status: Onsite
Group: PROPOSE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 17.309 Time Shift(hrs): 0.00
Curve Number: 85.70 Max Allowable Q(cfs): 0.000
DCIA(%): 0.00

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC.

Name: BSN139 Node: PND141B2 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 28.07
Area(ac): 20.520 Time Shift(hrs): 0.00
Curve Number: 71.16 Time Increment(min): 1.00
DCIA(%): 25.24 Max Allowable Q(cfs): 999999.000

IN EXISTING CONDITION PORTION OF SR 400 OF THIS BASIN DRAIN TO TWO EXISTING PONDS EAST AND WEST OF DARYL CARTER. THE PONDS WERE INTERCONNECTED THROUGH AN EXISTING PIPE UNDER DARYL CARTER AND DISCHARGES INTO EXISTING FDOT ROADSIDE SWALE WITHIN BASIN EX_BSN142B PRIOR TO ENTERING LAKE WILLIS WITH AND ULTIMATE DISCHARGE TO BIG SAND LAKE. DUE TO R/W CONSTRAINT, THE ONLY AVAILABLE POND SITE IS LOCATED ON AN OLD GROVES BETWEEN BIG SAND LAKE AND PALM PARKWAY (TURKEY LAKE ROAD).

Name: BSN140A Node: LK_RUBY Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.550 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

BASED ON DESIGN TOPOGRAPHIC SURVEY, THIS PORTION OF THE BASIN DRAINS TOWARD RUBY LAKE. HOWEVER, IT WAS PERMITTED AS PART OF SFWMD PERMIT APPLICATION NO. 070307-6 AND 080205-41 FOR POST CONDITION OF BASIN 1 WB TO DRAIN TO EXISTING POND EX_PND140. TIME OF CONCENTRATION USED IS THE MINIMUM ALLOWABLE.

BASIN WAS ADJUSTED TO REFLECT CURRENT CONDITION.

Name: BSN140B1 Node: PND140B1 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 17.62
Area(ac): 6.030 Time Shift(hrs): 0.00
Curve Number: 72.17 Time Increment(min): 1.00
DCIA(%): 56.72 Max Allowable Q(cfs): 999999.000

PROPOSED BASIN DISCHARGES TO A SERIE OF INTERCONNECTED PONDS 140 WITHIN THE NORTH PORTION OF THE SR 400 AND DARYL CARTER INTERCHANGE.

Name: BSN140B2 Node: PND140B2 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 11.24
Area(ac): 3.440 Time Shift(hrs): 0.00
Curve Number: 67.89 Time Increment(min): 1.00
DCIA(%): 67.15 Max Allowable Q(cfs): 999999.000

PROPOSED BASIN DISCHARGES TO A SERIE OF INTERCONNECTED PONDS 140 WITHIN THE NORTH PORTION OF THE SR 400 AND DARYL CARTER INTERCHANGE.

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--------------------------------------------------------------------------------------------------
         Name: BSN140B3                Node: PND140B3              Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 11.00
              Area(ac): 6.000                   Time Shift(hrs): 0.00
          Curve Number: 64.54               Time Increment(min): 1.00
               DCIA(%): 56.83              Max Allowable Q(cfs): 999999.000

PROPOSED BASIN DISCHARGES TO A SERIE OF INTERCONNECTED PONDS 140 WITHIN THE NORTH PORTION OF THE SR 400 AND DARYL CARTER
INTERCHANGE.

--------------------------------------------------------------------------------------------------
         Name: BSN141B1                Node: PND141B1              Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 5.750                   Time Shift(hrs): 0.00
          Curve Number: 52.26               Time Increment(min): 1.00
               DCIA(%): 53.39              Max Allowable Q(cfs): 999999.000

POND 141 SITE

--------------------------------------------------------------------------------------------------
         Name: BSN141B2                Node: PND141B2              Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 6.680                   Time Shift(hrs): 0.00
          Curve Number: 49.00               Time Increment(min): 1.00
               DCIA(%): 43.41              Max Allowable Q(cfs): 999999.000

POND 141 SITE

--------------------------------------------------------------------------------------------------
         Name: BSN141B3                Node: PND141B3              Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 9.600                   Time Shift(hrs): 0.00
          Curve Number: 71.31               Time Increment(min): 1.00
               DCIA(%): 60.94              Max Allowable Q(cfs): 999999.000

POND 141 SITE

--------------------------------------------------------------------------------------------------
         Name: BSN141B4                Node: PND141B4              Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 8.500                   Time Shift(hrs): 0.00
          Curve Number: 50.10               Time Increment(min): 1.00
               DCIA(%): 55.18              Max Allowable Q(cfs): 999999.000

POND 141 SITE

--------------------------------------------------------------------------------------------------
         Name: BSN142                  Node: PND142                Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 39.50
              Area(ac): 13.960                  Time Shift(hrs): 0.00
          Curve Number: 79.42               Time Increment(min): 1.00
               DCIA(%): 22.64              Max Allowable Q(cfs): 999999.000

ULTIMATE BASIN 142E3

--------------------------------------------------------------------------------------------------
         Name: BSN142A                 Node: FPC141B               Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 38.29
              Area(ac): 3.390                   Time Shift(hrs): 0.00
          Curve Number: 62.11               Time Increment(min): 1.00
               DCIA(%): 0.00               Max Allowable Q(cfs): 999999.000
```

```
--------------------------------------------------------------------------------------------------
         Name: BSN142B                 Node: LK_WILLIS             Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 8.400                   Time Shift(hrs): 0.00
           Curve Number: 78.78              Time Increment(min): 1.00
                DCIA(%): 39.52             Max Allowable Q(cfs): 999999.000

IN EXISTING CONDITION, SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY)
WERE USED TO DELINEATE THE BASIN BOUNDARY.  THE BASIN WAS PERMITTED AS A PART OF BASIN 4 UNDER SFWMD APPLICATION #011109-7
FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) TO DIRECT DISCHARGE TO BIG SAND LAKE THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.
HOWEVER, IT ACTUALLY DISCHARGES INTO LAKE WILLIS PRIOR TO DISCHARGING TO BIG SAND LAKE THROUGH AN EXISTING 30" PIPE UNDER I-4.

WITH THE WIDENING OF SR 400, MOST OF THE AREA WILL BE INTERCEPTED AND TAKEN TO EITHER FDOT PONDS 141 OR 142 FOR TREATMENT AND
ATTENUATION. A SMALL AREA (MOSTLY SIDESLOPE AND WATER) WILL CONTINUE TO DISCHARGE TO LAKE WILLIS DUE TO GRADING CONSTRAINT.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL.  ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF
DARYL CARTER  TO CENTRAL FLORIDA PARKWAY WAS INCLUDED IN THIS UPDATED MODEL.  BASIN BSL0090 OF THE 2016 ORANGE COUNTY
BIG SAND LAKE (BSL) STUDY INCLUDED THIS BASIN LIMITS.  HOWEVER, THE MODEL (WHICH CORRELATES TO SFWMD PERMIT APPLICATION
#011109-7) ASSUMED THE BASIN DIRECT DISCHARGE TO BIG SAND LAKE.  WITH MORE UPDATED DESIGN SURVEY, ONLY A SMALL PORTION
OF THE BASIN (EX_BSN142C) DISCHARGED TO BIG SAND LAKE.  THE MAJORITY OF THE BASIN (EX_BSN142B) DRAINED
TO LAKE WILLIS BEFORE LAKE WILLIS OVERFLOWS THROUGH AN EXISTING 36" CROSS DRAIN UNDER I-4 TO BIG SAND LAKE.



--------------------------------------------------------------------------------------------------
         Name: BSN142C                 Node: SW142C                Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 39.50
              Area(ac): 5.740                   Time Shift(hrs): 0.00
           Curve Number: 74.60              Time Increment(min): 1.00
                DCIA(%): 0.00              Max Allowable Q(cfs): 999999.000



--------------------------------------------------------------------------------------------------
         Name: BSN142E3                Node: BSL_OUTFALL2          Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 23.58
              Area(ac): 1.660                   Time Shift(hrs): 0.00
           Curve Number: 83.20              Time Increment(min): 1.00
                DCIA(%): 10.84             Max Allowable Q(cfs): 999999.000



--------------------------------------------------------------------------------------------------
         Name: BSN200C                 Node: PND142                Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 1.200                   Time Shift(hrs): 0.00
           Curve Number: 84.00              Time Increment(min): 1.00
                DCIA(%): 100.00            Max Allowable Q(cfs): 999999.000



--------------------------------------------------------------------------------------------------
         Name: BSNFPC141               Node: PNDFPC141             Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 15.200                  Time Shift(hrs): 0.00
           Curve Number: 72.22              Time Increment(min): 1.00
                DCIA(%): 8.82              Max Allowable Q(cfs): 999999.000

POND FPC141 SITE.


--------------------------------------------------------------------------------------------------
         Name: BSNPND142               Node: BSL_OUTFALL1          Status: Onsite
        Group: PROPOSE                 Type: Santa Barbara CN

          Rainfall File:                    Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
              Area(ac): 0.480                   Time Shift(hrs): 0.00
           Curve Number: 84.00              Time Increment(min): 1.00
```

DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

PROPOSED NEW POND SITE TO REPLACE PND139 INTERCONNECTED PONDS.

Name: BSNPNDC Node: MODPNDC Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 75.010 Time Shift(hrs): 0.00
Curve Number: 77.22 Time Increment(min): 1.00
DCIA(%): 75.43 Max Allowable Q(cfs): 999999.000

THE PROPOSED WIDENING OF SR 400 (I-4 BTU) WILL IMPACT THE NORTHERN MOST PORTION OF EXISTING POND C. IT WILL ALSO INTERCEPT AND DIRECT A PORTION OF DARYL CARTER FROM THE CROWN OF THE BRIDGE TO RAMPS B_DCP AND C_DCP (MOSTLY IMPERVIOUS) INTERSECTIONS TO A NEWLY CONSTRUCTED FDOT POND 141 FOR TREATMENT/ ATTENUATION. AS SUCH, THE DRAINAGE AREA TO POND C WILL BE REDUCE IN THE PROPOSED DEVELOPMENT. HOWEVER, WITH THE WIDENING ALONG DARYL CARTER, THE TOTAL IMPERVIOUS FROM DARYL CARTER CONTRIBUTING TO POND C WILL NOT BE MORE THAN THE TOTAL EXISTING IMPERVIOUS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY, WAS INCLUDED IN THIS UPDATED MODEL. THE 2016 ORANGE COUNTY MODEL HAD THIS BASIN CALLED OUT AS BSL0070 (77.31-AC AND 39.7-MIN TC), WHICH DO NOT CORRESPOND TO INFORMATION OBTAINED FROM PERMITTED DOCUMENTATION OR SURVEY DATA. AS SUCH, THE BASIN HAD BEEN REVISED AND UPDATED TO REFLECT CURRENT CONDITION.

ADDITIONALLY, THE TC USED IN THE ORANGE COUNTY MODEL IS MUCH HIGHER THAN THE PERMITTED DATA. AS SUCH, THIS MODEL WILL INCORPORATE AND USE THE PERMITTED DATA.

Name: EX_BSN142D Node: NBSL5300 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 33.30
Area(ac): 13.910 Time Shift(hrs): 0.00
Curve Number: 84.96 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (A PART OF PERMITTED BASIN 6 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO VALENCIA WATER CONTROL DISTRICT THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY WAS INCLUDED IN THIS UPDATED MODEL. THE ORANGE COUNTY MODEL HAD THIS BASIN CALLED OUT AS BSL5300 WITH A TIME OF CONCENTRATION OF 42.70 MIN. ADDITIONALLY, THE ORANGE COUNTY MODEL HAD APPROXIMATELY 4.31 ACRES OF THE DRAINAGE AREA INCLUDED AS PART OF BASIN BSL0130. UPDATED DESIGN SURVEY AND FIELD VISITS SUGGESTED OTHER-WISE. AS SUCH, THE BASIN IS UPDATED TO REFLECT CURRENT CONDITION.

TIMLE OF CONCENTRATION WAS VERIFY AND ADJUSTED AS NEEDED BASED ON AVAILABLE DESIGN SURVEY.

Name: EX_BSN142E1 Node: EX_PND142E1 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.520 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 44.08 Max Allowable Q(cfs): 999999.000

SEVERAL SOURCES (RECENT DESIGN SURVEY, EXISTING PERMIT DATA, AND ORANGE COUNTY BIG SAND LAKE STUDY) WERE USED TO DELINEATE THE BASIN BOUNDARY. AS SUCH, IT DEVIATED FROM THE PERMITTED INFORMATION MARGINALLY. THIS BASIN (A PART OF PERMITTED BASIN 5 UNDER SFWMD APPLICATION #011109-7 FOR THE WIDENING OF I-4 FROM SR 535 TO SR 528) WAS PERMITTED TO DIRECT DISCHARGE TO BIG SAND LAKE THROUGH A SERIES OF DITCHES AND PIPES SYSTEMS.

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY, WAS INCLUDED IN THIS UPDATED MODEL. THE 2016 ORANGE COUNTY MODEL HAD THIS BASIN AS A PART OF A BIGGER BASIN BSL5250. WITH UPDATED DESIGN SURVEY AND SITE VISIT, IT WAS DETERMINED THAT THE AREA IS MUCH LESS THAN WHAT WAS DEPICTED IN THE ORANGE COUNTY MODEL. ADDITIONALLY, THE TIME OF CONCENTRATION OF 33.3 MIN. USED IN THE ORANGE COUNTY MODEL APPEARED TO BE TOO HIGH. THEREFORE, THE MINIMUM TIME OF CONCENTRATION WAS USED TO MORE RE-FLECT THE EXISTING CONDITION.

Name: EX_BSN142E2 Node: EX_PND142E2 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.890 Time Shift(hrs): 0.00
Curve Number: 84.00 Time Increment(min): 1.00
DCIA(%): 43.92 Max Allowable Q(cfs): 999999.000

THIS BASIN IS A SMALL PORTION OF THE OVERALL BASIN FROM THE ORANGE COUNTY MODEL.

Name: EX_BSNVWCD Node: NBSL5300 Status: Onsite
Group: PROPOSE Type: Santa Barbara CN

Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.970 Time Shift(hrs): 0.00
Curve Number: 85.30 Time Increment(min): 1.00
DCIA(%): 0.00 Max Allowable Q(cfs): 999999.000

ORANGE COUNTY IS CURRENTLY UPDATING THE BIG SAND LAKE MODEL. ALL OF FDOT ROW FROM SEVERAL HUNDRED FEETS WEST OF DARYL CARTER TO CENTRAL FLORIDA PARKWAY, WAS INCLUDED IN THIS UPDATED MODEL. THE ORANGE COUNTY MODEL HAD THIS BASIN AS BSL5330 (0.63-AC WTIH 10-MIN OF TC).

WITH UPDATED DESIGN SURVEY AND SITE VISIT, IT WAS DETERMINED THAT THE AREA IS MARGINALLY LARGER AT ROUGHLY 0.97-AC. AS SUCH, THE BASIN WAS UPDATED TO REFLECT THE CURRENT CONDITION INSTEAD OF USING THE ORANGE COUNTY MODEL.

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==== Nodes ==========

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Name: BSL204 Base Flow(cfs): 0.000 Init Stage(ft): 114.700
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 119.000
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
114.400	0.0006
120.000	0.0006

Name: BSL205 Base Flow(cfs): 0.000 Init Stage(ft): 112.900
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 120.200
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
112.700	0.0006
121.200	0.0006

Name: BSL206 Base Flow(cfs): 0.000 Init Stage(ft): 110.300
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 117.000
Type: Manhole, Flat Floor

IC: Invert

Stage(ft)	Area(ac)
109.700	0.0006
118.000	0.0006

Name: BSL207 Base Flow(cfs): 0.000 Init Stage(ft): 109.700
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 114.000
Type: Manhole, Flat Floor

IC: Invert

Stage(ft)	Area(ac)
109.300	0.0006
115.000	0.0006

Name: BSL208 Base Flow(cfs): 0.000 Init Stage(ft): 107.200
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 117.250
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
106.700	0.0006
118.150	0.0006

```
--------------------------------------------------------------------------------------------
      Name: BSL209              Base Flow(cfs): 0.000         Init Stage(ft): 106.700
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 112.000
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
        106.300          0.0006
        112.000          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL210              Base Flow(cfs): 0.000         Init Stage(ft): 106.300
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 113.250
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
        105.800          0.0006
        114.000          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL211              Base Flow(cfs): 0.000         Init Stage(ft): 105.800
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 111.000
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
        105.400          0.0006
        112.000          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL212              Base Flow(cfs): 0.000         Init Stage(ft): 105.400
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 113.250
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
        105.000          0.0006
        114.250          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL213              Base Flow(cfs): 0.000         Init Stage(ft): 103.200
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 111.000
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
        102.700          0.0006
        112.000          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL214              Base Flow(cfs): 0.000         Init Stage(ft): 100.200
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 107.000
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
         99.700          0.0006
        108.000          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL215              Base Flow(cfs): 0.000         Init Stage(ft): 99.700
     Group: PROPOSE              Plunge Factor: 0.00          Warn Stage(ft): 104.000
      Type: Manhole, Flat Floor


      Stage(ft)        Area(ac)
--------------- ---------------
         99.400          0.0006
        105.000          0.0006

--------------------------------------------------------------------------------------------
      Name: BSL216              Base Flow(cfs): 0.000         Init Stage(ft): 93.420
```

Group: PROPOSE Plunge Factor: 1.00 Warn Stage(ft): 105.000
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
93.400	0.0006
106.000	0.0006

Name: BSL216A Base Flow(cfs): 0.000 Init Stage(ft): 99.400
Group: PROPOSE Warn Stage(ft): 108.000
Type: Stage/Area

Stage(ft)	Area(ac)
99.300	0.0006
109.000	0.0006

Name: BSL217 Base Flow(cfs): 0.000 Init Stage(ft): 100.940
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 109.800
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
100.000	0.0006
107.000	0.0006
110.800	0.0010

Name: BSL_OUTFALL1 Base Flow(cfs): 0.000 Init Stage(ft): 91.730
Group: PROPOSE Warn Stage(ft): 110.000
Type: Time/Stage

INFORMATION FOR THIS WAS TAKEN FROM THE 2016 ORANGE COUNTY EXISTING MODEL OF THE PEAK STAGES AT NODE NBSL5160 (THE PEAK STAGE OF BIG SAND LAKE). THE PEAK STAGE WAS THEN PUT INTO A HYDROGRAPH TO BE ADDED TO THE MODEL TO MORE ACCURATELY REPLICATE RISE AND FALL FOR A PARTICULAR DURATION. ALTHOUGH THE PEAK STAGE MAY BE LOWER FOR STORM EVENTS SMALLER THAN THE 100-YR/ 24-HR PEAK STAGE, THE 100-YR/ 72-HR PEAK STAGE WAS USE FOR ALL SIMULATIONS.

REFER TO BOUNDARY CONDITIONS FOR THE HYDROGRAPH ESTABLISHED.

Time(hrs)	Stage(ft)
0.00	0.000
240.00	0.000

Name: BSL_OUTFALL2 Base Flow(cfs): 0.000 Init Stage(ft): 94.630
Group: PROPOSE Warn Stage(ft): 108.000
Type: Time/Stage

INFORMATION FOR THIS WAS TAKEN FROM THE 2016 ORANGE COUNTY EXISTING MODEL OF THE PEAK STAGES AT NODE NBSL5170 (THE PEAK STAGE AT THE UPSTREAM END OF THE EXISTING DOUBLE 48" UNDER RAMP A_CFP). THE PEAK STAGE WAS THEN PUT INTO A HYDROGRAPH TO BE ADDED TO THE MODEL TO MORE ACCURATELY REPLICATE RISE AND FALL FOR A PARTICULAR DURATION. ALTHOUGH THE PEAK STAGE MAY BE LOWER FOR STORM EVENTS SMALLER THAN THE 100-YR/ 72-HR PEAK STAGE, THE PEAK STAGE OF THE 100-YR/ 24-HR WAS USED FOR ALL SIMULATIONS.

REFER TO BOUNDARY CONDITIONS FOR THE HYDROGRAPH ESTABLISHED.

Time(hrs)	Stage(ft)
0.00	0.000
240.00	0.000

Name: EX_PND142E1 Base Flow(cfs): 0.000 Init Stage(ft): 108.000
Group: PROPOSE Warn Stage(ft): 113.000
Type: Stage/Area

EXISTING POND INFORMATION WAS DIRECTLY TAKEN FROM DESIGN SURVEY.

Stage(ft)	Area(ac)
108.000	0.1200
109.000	0.2100
110.000	0.2700
111.000	0.3200
112.000	0.3700

113.000	0.4300
114.000	0.4900

Name: EX_PND142E2 Base Flow(cfs): 0.000 Init Stage(ft): 95.060
Group: PROPOSE Warn Stage(ft): 103.000
Type: Stage/Area

EXISTING INFORMATION WAS TAKEN FROM THE DESIGN SURVEY.

ORANGE COUNTY BIG SAND LAKE MODEL NODE BSL5250. THE INFORMATION WITHIN THE ORANGE COUNTY MODEL SIGNIFICANTLY DIFFERENT FROM THE DESIGN SURVEY. AS SUCH USE DESIGN SURVEY INFORMATION INSTEAD OF ORANGE COUNTY MODEL.

Stage(ft)	Area(ac)
95.000	0.0120
96.000	0.0150
97.000	0.0180
98.000	0.0220
99.000	0.0270
100.000	0.0320
101.000	0.0380
102.000	0.0470
103.000	0.0570
104.000	0.0950

Name: FPC141B Base Flow(cfs): 0.000 Init Stage(ft): 96.940
Group: PROPOSE Plunge Factor: 1.00 Warn Stage(ft): 110.000
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
96.900	0.0006
110.000	0.0006

Name: LK_RUBY Base Flow(cfs): 0.000 Init Stage(ft): 132.000
Group: PROPOSE Warn Stage(ft): 99999.000
Type: Time/Stage

THE TAILWATER ELEVATION USE FOR THIS NODE WAS TAKEN DIRECTLY FROM SURVEY INFORMATION NEAREST POINT TO BASIN AND NOT AT LAKE LOCATI

Time(hrs)	Stage(ft)
0.00	132.000
24.00	132.000
72.00	132.000

Name: LK_WILLIS Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Warn Stage(ft): 107.000
Type: Stage/Area

IC: Control Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
103.000	128.0000
104.000	129.8972
105.000	132.0259
106.000	138.5448
107.000	148.4609
108.000	159.7525
109.000	169.1791
110.000	176.3618
111.000	180.9311
112.000	183.8758
113.000	186.3995
114.000	188.3607
115.000	190.6906
116.000	192.4948
117.000	194.0296
118.000	195.3659
119.000	196.8280
120.000	198.0501
121.000	199.1803
122.000	200.6462
123.000	202.2380
124.000	203.6318

125.000	205.0417
126.000	206.3287
127.000	207.8344
128.000	208.5839
129.000	209.0278

Name: MHS427A Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 108.000
Type: Manhole, Flat Floor

EXISTING JUNCTION MANHOLE

Stage(ft)	Area(ac)
92.000	0.0015
108.780	0.0015

Name: MHS479C Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 109.000
Type: Manhole, Flat Floor

EXISTING JUNCTION MANHOLE

Stage(ft)	Area(ac)
97.340	0.0015
109.380	0.0015

Name: MHS480C Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 109.000
Type: Manhole, Flat Floor

EXISTING JUNCTION MANHOLE

Stage(ft)	Area(ac)
92.000	0.0015
109.030	0.0015

Name: MHS482C Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 118.000
Type: Manhole, Flat Floor

EXISTING JUNCTION MANHOLE

Stage(ft)	Area(ac)
92.000	0.0015
118.270	0.0015

Name: MHS494B Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 108.000
Type: Manhole, Flat Floor

EXISTING JUNCTION MANHOLE

Stage(ft)	Area(ac)
92.000	0.0015
108.550	0.0015

Name: MHS495C Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Plunge Factor: 0.00 Warn Stage(ft): 115.000
Type: Manhole, Flat Floor

EXISTING JUNCTION MANHOLE

Stage(ft)	Area(ac)

91.000	0.0015
115.030	0.0015

Name: MODPNDC Base Flow(cfs): 0.000 Init Stage(ft): 111.200
Group: PROPOSE Warn Stage(ft): 116.700
Type: Stage/Area

THE INFORMATION PROVIDED FOR THIS POND WAS TAKEN FROM SFWMD PERMIT APPLICATION #090610-12 FOR ORANGE COUNTY POND C AND UPDATED TO REFLECT THE IMPACTED AREA. THE CONTROL STRUCTURE WILL BE SET AS PREVIOUSLY DESIGNED AND PERMITTED TO BETTER DETERMINE THE OVERALL RATE ENTERING LAKE WILLIS AS FDOT IS PROPOSING TO NOT PROVIDE A CURE FOR THE EFFECT OF LOSS VOLUME.

AT A LATER DATE, THE DEVELOPER WILL REQUEST A PERMIT MODIFICATION FOR AN ALTERNATIVE SOLUTION TO OFFSET THE IMPACTS DUE TO THE SR 400 WIDENING.

Stage(ft)	Area(ac)
104.500	6.2600
109.200	6.6500
111.200	6.9900
116.700	8.6200
117.700	9.5900

Name: NBSL0025 Base Flow(cfs): 0.000 Init Stage(ft): 108.590
Group: PROPOSE Warn Stage(ft): 112.000
Type: Stage/Area

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
109.000	1.9691
110.000	2.1316
111.000	2.3494
112.000	5.2676
113.000	13.8270
114.000	16.0445
115.000	16.9705
116.000	17.1896
117.000	17.2493
118.000	17.3656

Name: NBSL0030 Base Flow(cfs): 0.000 Init Stage(ft): 108.000
Group: PROPOSE Warn Stage(ft): 111.500
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
108.000	1.0923
109.000	1.2580
110.000	1.4008
111.000	2.4519
112.000	7.2346
113.000	9.2907
114.000	9.9067

Name: NBSL0040 Base Flow(cfs): 0.000 Init Stage(ft): 103.290
Group: PROPOSE Warn Stage(ft): 112.000
Type: Stage/Area

IC: Downstream Water Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
102.580	0.0001
200.000	0.0001

Name: NBSL0041 Base Flow(cfs): 0.000 Init Stage(ft): 103.290

Group: PROPOSE Warn Stage(ft): 111.120
Type: Stage/Area

IC: Downstream Water Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
101.470	0.0001
200.000	0.0001

Name: NBSL0050 Base Flow(cfs): 0.000 Init Stage(ft): 107.000
Group: PROPOSE Warn Stage(ft): 111.000
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
107.000	1.5300
108.000	1.6600
109.000	1.8000
110.000	2.0200
111.000	2.7400
112.000	5.1600
113.000	12.3800
114.000	15.7200
115.000	16.0800
116.000	16.2100

Name: NBSL0060 Base Flow(cfs): 0.000 Init Stage(ft): 104.000
Group: PROPOSE Warn Stage(ft): 109.000
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
104.000	1.0881
105.000	1.1991
106.000	1.3140
107.000	1.4372
108.000	1.6972
109.000	2.5641
110.000	4.7250
111.000	6.9749
112.000	8.6810
113.000	9.1258
114.000	9.1838
115.000	9.2088
116.000	9.2153
117.000	9.2490

Name: NBSL0070 Base Flow(cfs): 0.000 Init Stage(ft): 105.120
Group: PROPOSE Warn Stage(ft): 117.500
Type: Stage/Area

IC: DEM Water Surface

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
105.120	6.5600
106.120	6.7400
107.120	6.9200
108.120	7.1000
109.120	7.2800
110.120	7.5800
111.120	7.9200
112.120	8.3200
113.120	8.7800
114.120	9.3500
115.120	9.9300

116.120	10.7000
117.120	11.9100
118.120	12.9700
119.120	13.1900
120.120	13.4100
121.120	13.7200
122.120	14.1900
123.120	14.8100
124.120	16.1100
125.120	17.5600
126.120	19.4000
127.120	21.0600
128.120	24.7900
129.120	29.7500
130.120	35.2100
131.120	44.0300
132.120	62.5300
133.120	76.5600
134.120	77.3100
135.000	77.3100

Name: NBSL0140 Base Flow(cfs): 0.000 Init Stage(ft): 93.950
Group: PROPOSE Warn Stage(ft): 105.330
Type: Stage/Area

IC: Invert

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
93.400	0.0001
106.330	0.0001

Name: NBSL0150 Base Flow(cfs): 0.000 Init Stage(ft): 93.490
Group: PROPOSE Warn Stage(ft): 104.370
Type: Stage/Area

IC: Invert

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
93.400	0.0001
104.370	0.0001

Name: NBSL0160 Base Flow(cfs): 0.000 Init Stage(ft): 100.000
Group: PROPOSE Warn Stage(ft): 105.000
Type: Stage/Area

IC: Bottom Elevation

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Stage(ft)	Area(ac)
0.000	0.0000
100.000	0.4029
101.000	2.1759
102.000	2.4098
103.000	2.7089
104.000	2.9521
105.000	3.1593
106.000	4.7671
107.000	5.5231
108.000	6.2680
109.000	7.4375
110.000	8.5760
111.000	9.9086
112.000	11.4606
113.000	13.2461
114.000	14.1120
115.000	14.5637
116.000	14.9442
117.000	15.3873
118.000	15.8201
119.000	16.3241
120.000	16.8629
121.000	17.2124
122.460	17.3086

Name: NBSL0170 Base Flow(cfs): 0.000 Init Stage(ft): 92.450
Group: PROPOSE Warn Stage(ft): 101.000
Type: Stage/Area

IC: Invert

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

MAKE ADJUSTMENT TO THE STARTING ELEVATION (91.48') TO MATCH OUTFALL1 STARTING ELEVATION OF 92.58'

Stage(ft)	Area(ac)
92.450	0.0001
102.300	0.0001

Name: NBSL5260 Base Flow(cfs): 0.000 Init Stage(ft): 94.800
Group: PROPOSE Warn Stage(ft): 123.500
Type: Stage/Area

IC: Invert

Stage(ft)	Area(ac)
0.000	0.0000
94.820	0.0001
200.000	0.0001

Name: NBSL5300 Base Flow(cfs): 0.000 Init Stage(ft): 94.840
Group: PROPOSE Warn Stage(ft): 106.920
Type: Stage/Area

IC: Invert

Stage(ft)	Area(ac)
0.000	0.0000
106.920	0.0001
107.000	2.0100
108.000	2.8800
109.000	4.0900
110.000	5.6900
111.000	6.2800
112.000	6.5100
113.000	6.7300
114.000	6.9200
115.000	7.0800
116.000	7.2600
117.000	7.4300
118.000	7.6100
119.000	7.8000
120.000	8.0000
121.000	8.2100
122.000	8.5100
123.000	8.8700
124.000	9.3500
125.000	9.5900

Name: PND140B1 Base Flow(cfs): 0.000 Init Stage(ft): 127.200
Group: PROPOSE Warn Stage(ft): 129.000
Type: Stage/Area

PROPOSED SERIES OF INTERCONNECTED POND 140 TO REPLACE EXISTING POND 140 THAT WAS PER PERMITTED UNDER SFWMD PERMIT APPLICATION NO. 070307-6 AND 080205-41 FOR POND 1 WB; THE CONTROL ELEVATION IN THE POND WILL BE AS PERMITTED (127.20')

Stage(ft)	Area(ac)
114.200	0.0500
125.200	0.4400
127.200	0.7600
130.000	1.0600
131.000	1.1600
132.000	1.2700
132.500	1.7000

Name: PND140B2 Base Flow(cfs): 0.000 Init Stage(ft): 127.200
Group: PROPOSE Warn Stage(ft): 129.000
Type: Stage/Area

PROPOSED SERIES OF INTERCONNECTED POND 140 TO REPLACE EXISTING POND 140 THAT WAS PER PERMITTED UNDER SFWMD PERMIT APPLICATION NO. 070307-6 AND 080205-41 FOR POND 1 WB; THE CONTROL ELEVATION IN THE POND WILL BE AS PERMITTED (127.20')

Stage(ft)	Area(ac)
114.200	0.0400
125.200	0.4400
127.200	0.8000
130.000	1.1200
131.000	1.4000

Name: PND140B3 Base Flow(cfs): 0.000 Init Stage(ft): 127.200
Group: PROPOSE Warn Stage(ft): 129.000
Type: Stage/Area

Stage(ft)	Area(ac)
114.200	0.5300
125.200	1.3600
127.200	1.7600
130.000	2.3100
131.000	2.5100
132.000	2.7100
132.500	3.4900

Name: PND141B1 Base Flow(cfs): 0.000 Init Stage(ft): 116.000
Group: PROPOSE Warn Stage(ft): 120.000
Type: Stage/Area

FDOT POND SITE

Stage(ft)	Area(ac)
103.000	0.9400
114.000	1.5700
116.000	1.8200
121.000	2.4700
122.000	3.0100

Name: PND141B2 Base Flow(cfs): 0.000 Init Stage(ft): 112.700
Group: PROPOSE Warn Stage(ft): 116.700
Type: Stage/Area

FDOT POND SITE

Stage(ft)	Area(ac)
99.700	1.8400
110.700	2.6000
112.700	2.9000
117.700	3.6800
118.700	4.3000

Name: PND141B3 Base Flow(cfs): 0.000 Init Stage(ft): 108.500
Group: PROPOSE Warn Stage(ft): 112.500
Type: Stage/Area

FDOT POND SITE

Stage(ft)	Area(ac)
95.500	1.9800
106.500	3.0300
108.500	3.4300
113.500	4.4700
114.500	5.2900

Name: PND141B4 Base Flow(cfs): 0.000 Init Stage(ft): 105.800
Group: PROPOSE Warn Stage(ft): 109.800
Type: Stage/Area

FDOT POND SITE

Stage(ft)	Area(ac)
92.800	1.6400
103.800	2.4700
105.800	2.7900
110.800	3.6300
111.800	4.3000

Name: PND142 Base Flow(cfs): 0.000 Init Stage(ft): 96.500
Group: PROPOSE Warn Stage(ft): 104.000
Type: Stage/Area

JOINT USE POND WITH SEGMENT 2

Stage(ft)	Area(ac)
83.500	1.0200
94.500	2.1400
96.500	2.5700
105.000	4.5200
106.000	5.4400

Name: PNDFPC141 Base Flow(cfs): 0.000 Init Stage(ft): 103.450
Group: PROPOSE Warn Stage(ft): 106.000
Type: Stage/Area

THIS POND WILL BE CONSTRUCTED TO COMPENSATE FOR THE FLOODPLAIN IMPACT ALONG THE NORTHERN TIP OF LAKE WILLIS DUE TO THE PROPOSED SR 400 WIDENING. CONTROL ELEVATION (NWL) WAS BASED ON LAKE WILLIS NWL. THE POND WILL BE INTERGRADED INTO THE LAKE THROUGH A 60" EQUALIZER PIPE.

Stage(ft)	Area(ac)
91.000	0.6800
102.000	1.1500
103.450	1.3000
109.000	1.8500
110.000	2.2700

Name: SW142C Base Flow(cfs): 0.000 Init Stage(ft): 104.100
Group: PROPOSE Warn Stage(ft): 107.260
Type: Stage/Area

Stage(ft)	Area(ac)
103.350	0.0001
104.090	0.0001
104.100	0.0100
105.040	0.0310
106.230	0.3150
107.260	0.6100
107.670	0.7400

Name: VWCD Base Flow(cfs): 0.000 Init Stage(ft): 94.800
Group: PROPOSE Warn Stage(ft): 107.460
Type: Time/Stage

INFORMATION FOR THIS WAS TAKEN FROM THE 2016 ORANGE COUNTY EXISTING MODEL OF THE PEAK STAGES AT NODE NBSL5350 (THE EXIST DITCH AT THE SOUTHEAST QUADRANT OF SR400 AND CENTRAL FLORIDA PARKWAY INTERSECTION (EAST OF RAMP B_CFP). THE PEAK STAGE WAS THEN PUT INTO A HYDROGRAPH TO BE ADDED TO THE MODEL TO MORE ACCURATELY REPLICATE RISE AND FALL FOR A PARTICULAR DURATION. ALTHOUGH THE PEAK STAGE MAY BE LOWER FOR STORM EVENTS SMALLER THAN THE 100-YR/ 72-HR PEAK STAGE, THE PEAK STAGE IS USE FOR ALL SIMULATIONS.

REFER TO BOUNDARY CONDITIONS FOR THE HYDROGRAPH ESTABLISHED.

Time(hrs)	Stage(ft)
0.00	0.000
240.00	0.000

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==== Cross Sections ==========

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Name: EX_XSW142AED Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	111.000	0.060000
20.200	106.430	0.042000
25.200	106.430	0.042000
38.200	109.000	0.060000

Name: EX_XSW142AEU Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	111.000	0.060000
49.500	109.000	0.042000
70.500	109.660	0.042000

Name: EX_XSW142AWD Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	106.900	0.060000
21.000	107.000	0.042000
35.000	110.000	0.060000

Name: EX_XSW142AWU Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	131.500	0.060000
4.300	131.000	0.060000
16.060	130.000	0.060000
20.690	126.180	0.042000
25.690	126.180	0.042000
30.320	130.000	0.042000
49.100	132.000	0.060000

Name: EX_XSW142BDWN Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	107.000	0.042000
65.000	104.000	0.042000
79.000	104.000	0.042000
97.000	109.000	0.042000

Name: EX_XSW142BUP Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	131.000	0.060000
18.100	127.160	0.042000
25.670	127.160	0.042000
32.640	130.000	0.060000

Name: EX_XSW142C Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	107.000	0.060000
29.830	106.750	0.042000
87.690	106.750	0.042000
145.640	107.000	0.060000

Name: X_JNCS495BD Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	105.420	0.060000
13.360	102.080	0.042000
23.360	102.080	0.042000
36.720	105.420	0.060000

Name: X_JNCS495BU Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	105.300	0.060000
12.200	102.250	0.042000
22.200	102.250	0.042000
34.400	105.300	0.060000

Name: X_PND140B3 Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	131.000	0.013000
0.000	127.750	0.013000
0.250	127.200	0.013000
0.500	127.750	0.013000
0.500	131.000	0.013000

Name: X_PND141B1 Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	120.000	0.013000
0.000	117.250	0.013000
0.225	116.000	0.013000
0.450	117.250	0.013000
0.450	120.000	0.013000

Name: X_PND141B2 Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	116.700	0.013000
0.000	113.500	0.013000
0.250	112.700	0.013000
0.500	113.500	0.013000
0.500	116.700	0.013000

Name: X_PND141B3 Group: PROPOSE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	112.500	0.013000
0.000	109.500	0.013000
0.175	108.500	0.013000

```
         0.350         109.500        0.013000
         0.350         112.500        0.013000

-------------------------------------------------------------------
             Name: X_PND141B4                   Group: PROPOSE
      Encroachment: No


    Station(ft)   Elevation(ft)     Manning's N
--------------- --------------- ---------------
         0.000         109.800        0.013000
         0.000         106.750        0.013000
         0.165         105.800        0.013000
         0.330         106.750        0.013000
         0.330         109.800        0.013000

-------------------------------------------------------------------
             Name: X_PND142                     Group: PROPOSE
      Encroachment: No


    Station(ft)   Elevation(ft)     Manning's N
--------------- --------------- ---------------
         0.000         104.000        0.013000
         0.000         102.000        0.013000
         0.850         102.000        0.013000
         0.850          98.750        0.013000
         1.250          96.500        0.013000
         1.650          98.750        0.013000
         1.650         102.000        0.013000
         2.500         102.000        0.013000
         2.500         104.000        0.013000

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==== Pipes ====================================================================================
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         Name: EQ_PND140B1         From Node: PND140B1           Length(ft): 575.00
        Group: PROPOSE               To Node: PND140B2                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                          Flow: Both
     Span(in): 48.00          48.00                     Entrance Loss Coef: 0.00
     Rise(in): 48.00          48.00                         Exit Loss Coef: 1.00
   Invert(ft): 115.500        115.200                       Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EQUALIZER PIPE BETWEEN PONDS 140B1 AND 140B2

-----------------------------------------------------------------------------------------------
         Name: EQ_PND140B2         From Node: PND140B2           Length(ft): 195.00
        Group: PROPOSE               To Node: PND140B3                Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                          Flow: Both
     Span(in): 48.00          48.00                     Entrance Loss Coef: 0.00
     Rise(in): 48.00          48.00                         Exit Loss Coef: 1.00
   Invert(ft): 115.500        115.200                       Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                     Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EQUALIZER PIPE BETWEEN PONDS 140B2 AND 140B3

-----------------------------------------------------------------------------------------------
         Name: EQ_WILLISOUT        From Node: LK_WILLIS          Length(ft): 103.00
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       Group: PROPOSE              To Node: MHS479C               Count: 1
                                                    Friction Equation: Average Conveyance
              UPSTREAM       DOWNSTREAM             Solution Algorithm: Automatic
    Geometry: Circular       Circular                         Flow: Both
    Span(in): 60.00          60.00                  Entrance Loss Coef: 0.70
    Rise(in): 60.00          60.00                      Exit Loss Coef: 1.00
  Invert(ft): 97.340         97.450                     Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                     Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



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        Name: EX_P142E2BSL        From Node: EX_PND142E2        Length(ft): 78.00
       Group: PROPOSE               To Node: BSL_OUTFALL2            Count: 2
                                                    Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM             Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                         Flow: Both
    Span(in): 48.00          48.00                  Entrance Loss Coef: 0.00
    Rise(in): 48.00          48.00                      Exit Loss Coef: 1.00
  Invert(ft): 95.410         94.710                     Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                     Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



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        Name: EX_P142E2VWCD       From Node: EX_PND142E2        Length(ft): 247.00
       Group: PROPOSE               To Node: NBSL5260                Count: 1
                                                    Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM             Solution Algorithm: Most Restrictive
    Geometry: Rectangular    Rectangular                      Flow: Both
    Span(in): 66.00          66.00                  Entrance Loss Coef: 0.00
    Rise(in): 50.00          50.00                      Exit Loss Coef: 1.00
  Invert(ft): 95.070         94.710                     Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                     Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Rectangular: Tapered inlet throat

Downstream FHWA Inlet Edge Description:
Rectangular: Tapered inlet throat



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        Name: P_BSL204            From Node: BSL204             Length(ft): 141.00
       Group: PROPOSE               To Node: BSL205                  Count: 1
                                                    Friction Equation: Average Conveyance
              UPSTREAM       DOWNSTREAM             Solution Algorithm: Automatic
    Geometry: Circular       Circular                         Flow: Both
    Span(in): 18.00          18.00                  Entrance Loss Coef: 0.70
    Rise(in): 18.00          18.00                      Exit Loss Coef: 1.00
  Invert(ft): 114.700        114.400                    Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                     Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                   Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
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Circular Concrete: Square edge w/ headwall

Name:	P_BSL205	From Node: BSL205	Length(ft): 104.00
Group:	PROPOSE	To Node: BSL206	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	18.00	18.00	Entrance Loss Coef: 0.70
Rise(in):	18.00	18.00	Exit Loss Coef: 1.00
Invert(ft):	112.900	112.700	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL206	From Node: BSL206	Length(ft): 300.00
Group:	PROPOSE	To Node: BSL207	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	24.00	24.00	Entrance Loss Coef: 0.70
Rise(in):	24.00	24.00	Exit Loss Coef: 1.00
Invert(ft):	110.300	109.700	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL207	From Node: BSL207	Length(ft): 187.00
Group:	PROPOSE	To Node: BSL208	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	24.00	24.00	Entrance Loss Coef: 0.70
Rise(in):	24.00	24.00	Exit Loss Coef: 1.00
Invert(ft):	109.700	109.300	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL208	From Node: BSL208	Length(ft): 237.00
Group:	PROPOSE	To Node: BSL209	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.70
Rise(in):	30.00	30.00	Exit Loss Coef: 1.00
Invert(ft):	107.200	106.700	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL209	From Node: BSL209	Length(ft):	211.00
Group:	PROPOSE	To Node: BSL210	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30.00	30.00	Entrance Loss Coef:	0.70
Rise(in):	30.00	30.00	Exit Loss Coef:	1.00
Invert(ft):	106.700	106.300	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL210	From Node: BSL210	Length(ft):	224.00
Group:	PROPOSE	To Node: BSL211	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30.00	30.00	Entrance Loss Coef:	0.70
Rise(in):	30.00	30.00	Exit Loss Coef:	1.00
Invert(ft):	106.300	105.800	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL211	From Node: BSL211	Length(ft):	203.00
Group:	PROPOSE	To Node: BSL212	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30.00	30.00	Entrance Loss Coef:	0.70
Rise(in):	30.00	30.00	Exit Loss Coef:	1.00
Invert(ft):	105.800	105.400	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL212	From Node: BSL212	Length(ft):	184.00
Group:	PROPOSE	To Node: BSL213	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30.00	30.00	Entrance Loss Coef:	0.70

Rise(in):	30.00	30.00	Exit Loss Coef: 1.00
Invert(ft):	105.400	105.000	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL213	From Node: BSL213	Length(ft): 226.00
Group:	PROPOSE	To Node: BSL214	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.70
Rise(in):	30.00	30.00	Exit Loss Coef: 1.00
Invert(ft):	103.200	102.700	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL214	From Node: BSL214	Length(ft): 242.00
Group:	PROPOSE	To Node: BSL215	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.70
Rise(in):	30.00	30.00	Exit Loss Coef: 1.00
Invert(ft):	100.200	99.700	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_BSL215	From Node: BSL215	Length(ft): 131.00
Group:	PROPOSE	To Node: BSL216A	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Circular	Circular	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.70
Rise(in):	30.00	30.00	Exit Loss Coef: 1.00
Invert(ft):	99.700	99.400	Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```
        Name: P_BSL216           From Node: BSL216            Length(ft): 13.00
       Group: PROPOSE              To Node: NBSL0140               Count: 1
                                                      Friction Equation: Average Conveyance
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Automatic
    Geometry: Horz Ellipse   Horz Ellipse                       Flow: Both
    Span(in): 60.00          60.00                    Entrance Loss Coef: 0.70
    Rise(in): 38.00          38.00                        Exit Loss Coef: 1.00
  Invert(ft): 93.600         93.400                       Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                  Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                    Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

The inverts set for the storm tab differ from the information provided on this run because geopak will not run if the downstream i
As such, Geopak was adjusted so that the very upstream inverts correspond to the inverts of the highest elevation established in t

-------------------------------------------------------------------------------------------------
        Name: P_BSL216A          From Node: BSL216A           Length(ft): 33.00
       Group: PROPOSE              To Node: FPC141B                Count: 1
                                                      Friction Equation: Average Conveyance
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Automatic
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 30.00          30.00                    Entrance Loss Coef: 0.70
    Rise(in): 30.00          30.00                        Exit Loss Coef: 1.00
  Invert(ft): 99.400         99.300                       Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                  Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                    Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


-------------------------------------------------------------------------------------------------
        Name: P_BSL217           From Node: BSL217            Length(ft): 71.00
       Group: PROPOSE              To Node: FPC141B                Count: 1
                                                      Friction Equation: Average Conveyance
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Automatic
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 18.00          18.00                    Entrance Loss Coef: 0.70
    Rise(in): 18.00          18.00                        Exit Loss Coef: 1.00
  Invert(ft): 98.700         98.600                       Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                  Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                    Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


-------------------------------------------------------------------------------------------------
        Name: P_FPC141A          From Node: PNDFPC141         Length(ft): 12.00
       Group: PROPOSE              To Node: FPC141B                Count: 1
                                                      Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM               Solution Algorithm: Most Restrictive
    Geometry: Circular       Circular                          Flow: Both
    Span(in): 30.00          30.00                    Entrance Loss Coef: 0.70
    Rise(in): 30.00          30.00                        Exit Loss Coef: 1.00
  Invert(ft): 103.450        103.390                      Bend Loss Coef: 0.00
 Manning's N: 0.012000       0.012000                  Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                    Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat
```

Downstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Name:	P_FPC141B	From Node:	FPC141B	Length(ft): 17.00
Group:	PROPOSE	To Node:	BSL216	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Horz Ellipse	Horz Ellipse		Flow: Both
Span(in):	60.00	60.00		Entrance Loss Coef: 0.70
Rise(in):	38.00	38.00		Exit Loss Coef: 1.00
Invert(ft):	93.700	93.600		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Name:	P_MHS427A	From Node:	MHS427A	Length(ft): 133.00
Group:	PROPOSE	To Node:	MHS482C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	60.00	60.00		Entrance Loss Coef: 0.70
Rise(in):	60.00	60.00		Exit Loss Coef: 1.00
Invert(ft):	97.230	97.120		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_MHS479C	From Node:	MHS479C	Length(ft): 31.00
Group:	PROPOSE	To Node:	MHS480C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	60.00	60.00		Entrance Loss Coef: 0.70
Rise(in):	60.00	60.00		Exit Loss Coef: 1.00
Invert(ft):	97.450	97.430		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	P_MHS480C	From Node:	MHS480C	Length(ft): 144.00
Group:	PROPOSE	To Node:	MHS494B	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	60.00	60.00		Entrance Loss Coef: 0.70
Rise(in):	60.00	60.00		Exit Loss Coef: 1.00
Invert(ft):	97.430	97.310		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn

Bot Clip(in): 0.000 0.000 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: P_MHS482C From Node: MHS482C Length(ft): 337.00
Group: PROPOSE To Node: MHS495C Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:	0.70
Rise(in):	60.00	60.00	Exit Loss Coef:	1.00
Invert(ft):	97.120	96.780	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: P_MHS494B From Node: MHS494B Length(ft): 101.00
Group: PROPOSE To Node: MHS427A Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:	0.70
Rise(in):	60.00	60.00	Exit Loss Coef:	1.00
Invert(ft):	97.310	97.230	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: P_MHS495C From Node: MHS495C Length(ft): 80.00
Group: PROPOSE To Node: PNDFPC141 Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
			Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:	0.70
Rise(in):	60.00	60.00	Exit Loss Coef:	1.00
Invert(ft):	91.360	91.000	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: PBSL0040 From Node: NBSL0040 Length(ft): 350.00
Group: PROPOSE To Node: NBSL0041 Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM	
			Solution Algorithm: Automatic

Geometry:	Circular	Circular	Flow:	Both
Span(in):	24.00	24.00	Entrance Loss Coef:	0.00
Rise(in):	24.00	24.00	Exit Loss Coef:	0.00
Invert(ft):	102.550	101.440	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Plans

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Name:	PBSL0041	From Node: NBSL0041	Length(ft):	257.00
Group:	PROPOSE	To Node: LK_WILLIS	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	18.00	18.00	Entrance Loss Coef:	0.50
Rise(in):	18.00	18.00	Exit Loss Coef:	1.00
Invert(ft):	102.550	101.440	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN (EXISTING CONDITIOONS ASSESSMENT) AS PREPARED BY GEOSYNTEC. Source: Plans

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Name:	PBSL0140	From Node: NBSL0140	Length(ft):	138.00
Group:	PROPOSE	To Node: NBSL0150	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow:	Both
Span(in):	60.00	60.00	Entrance Loss Coef:	0.50
Rise(in):	38.00	38.00	Exit Loss Coef:	1.00
Invert(ft):	93.400	93.950	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Square edge with headwall

Source: Plans/SURVEY

Name:	PBSL0150	From Node: NBSL0150	Length(ft):	156.00
Group:	PROPOSE	To Node: NBSL0170	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	48.00	48.00	Entrance Loss Coef:	0.50
Rise(in):	48.00	48.00	Exit Loss Coef:	1.00
Invert(ft):	93.490	92.450	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans/SURVEY

Name:	PBSL0170	From Node:	NBSL0170	Length(ft): 354.00
Group:	PROPOSE	To Node:	BSL_OUTFALL1	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	54.00	54.00		Entrance Loss Coef: 0.00
Rise(in):	54.00	54.00		Exit Loss Coef: 1.00
Invert(ft):	92.520	89.460		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

Name:	PBSL5260A	From Node:	NBSL5260	Length(ft): 162.00
Group:	PROPOSE	To Node:	VWCD	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	48.00	48.00		Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00		Exit Loss Coef: 1.00
Invert(ft):	94.790	94.370		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

Name:	PBSL5260B	From Node:	NBSL5260	Length(ft): 75.00
Group:	PROPOSE	To Node:	NBSL5300	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	48.00	48.00		Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00		Exit Loss Coef: 1.00
Invert(ft):	94.790	94.600		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

Name:	PBSL5300	From Node:	NBSL5300	Length(ft): 87.00
Group:	PROPOSE	To Node:	VWCD	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	48.00	48.00		Entrance Loss Coef: 0.50
Rise(in):	48.00	48.00		Exit Loss Coef: 1.00
Invert(ft):	94.600	94.460		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM ORANGE COUNTY BIG SAND LAKE MODEL.

Name:	PSW142C_1	From Node: SW142C	Length(ft):	38.58
Group:	PROPOSE	To Node: MHS480C	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	18.00	18.00	Entrance Loss Coef:	0.00
Rise(in):	18.00	18.00	Exit Loss Coef:	0.00
Invert(ft):	104.980	103.400	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY BIG SAND LAKE WATER MANAGEMENT PLAN

Name:	PSW142C_2	From Node: SW142C	Length(ft):	38.58
Group:	PROPOSE	To Node: MHS480C	Count:	1
			Friction Equation:	Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm:	Automatic
Geometry:	Circular	Circular	Flow:	Both
Span(in):	18.00	18.00	Entrance Loss Coef:	0.00
Rise(in):	18.00	18.00	Exit Loss Coef:	0.00
Invert(ft):	103.550	103.350	Bend Loss Coef:	0.00
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

==========
==== Drop Structures ==========
==========

Name:	CS_140B3	From Node: PND140B3	Length(ft):	162.00
Group:	PROPOSE	To Node: PND141B1	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Automatic
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(in):	18.00	18.00	Flow:	Both
Rise(in):	18.00	18.00	Entrance Loss Coef:	0.500
Invert(ft):	114.340	114.000	Exit Loss Coef:	1.000
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Downstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

PROPOSED DROP STRUCTURE CS-140B1

*** Weir 1 of 2 for Drop Structure CS_140B3 ***

TABLE

Count: 1 Bottom Clip(ft): 0.000

```
                  Type: Vertical: Mavis           Top Clip(ft): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Irregular             Orifice Disc Coef: 0.600

         Cross Section: X_PND140B3             Control Elev(ft): 127.200
            Invert(ft): 127.200          Struct Opening Dim(ft): 3.80

*** Weir 2 of 2 for Drop Structure CS_140B3 ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.470

              Span(in): 54.00                       Invert(ft): 131.000
              Rise(in): 36.00                 Control Elev(ft): 131.000


-------------------------------------------------------------------------------------------------
         Name: CS_141B1            From Node: PND141B1          Length(ft): 15.00
        Group: PROPOSE               To Node: BSL205               Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                               Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 115.400        115.350                      Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



*** Weir 1 of 2 for Drop Structure CS_141B1 ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(ft): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Irregular             Orifice Disc Coef: 0.600

         Cross Section: X_PND141B1             Control Elev(ft): 116.000
            Invert(ft): 116.000          Struct Opening Dim(ft): 4.00

*** Weir 2 of 2 for Drop Structure CS_141B1 ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 54.00                       Invert(ft): 120.000
              Rise(in): 36.00                 Control Elev(ft): 120.000


-------------------------------------------------------------------------------------------------
         Name: CS_141B2            From Node: PND141B2          Length(ft): 11.00
        Group: PROPOSE               To Node: BSL208               Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                               Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 108.300        108.200                      Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



*** Weir 1 of 2 for Drop Structure CS_141B2 ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(ft): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
```

```
              Geometry: Irregular            Orifice Disc Coef: 0.600

          Cross Section: X_PND141B2           Control Elev(ft): 112.700
             Invert(ft): 112.700         Struct Opening Dim(ft): 4.00

*** Weir 2 of 2 for Drop Structure CS_141B2 ***
                                                                          TABLE
                  Count: 1                     Bottom Clip(in): 0.000
                   Type: Horizontal               Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.000
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 54.00                      Invert(ft): 116.700
              Rise(in): 36.00                Control Elev(ft): 116.700


-------------------------------------------------------------------------------------------------
         Name: CS_141B3           From Node: PND141B3          Length(ft): 39.00
        Group: PROPOSE              To Node: BSL211               Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 107.950        107.850                      Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


*** Weir 1 of 2 for Drop Structure CS_141B3 ***
                                                                          TABLE
                  Count: 1                     Bottom Clip(ft): 0.000
                   Type: Vertical: Mavis          Top Clip(ft): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Irregular            Orifice Disc Coef: 0.600

          Cross Section: X_PND141B3           Control Elev(ft): 108.500
             Invert(ft): 108.500         Struct Opening Dim(ft): 4.00

*** Weir 2 of 2 for Drop Structure CS_141B3 ***
                                                                          TABLE
                  Count: 1                     Bottom Clip(in): 0.000
                   Type: Horizontal               Top Clip(in): 0.000
                   Flow: Both                   Weir Disc Coef: 3.000
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 54.00                      Invert(ft): 112.500
              Rise(in): 36.00                Control Elev(ft): 112.500


-------------------------------------------------------------------------------------------------
         Name: CS_141B4           From Node: PND141B4          Length(ft): 65.00
        Group: PROPOSE              To Node: BSL217               Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 101.100        101.000                      Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


*** Weir 1 of 2 for Drop Structure CS_141B4 ***
                                                                          TABLE
                  Count: 1                     Bottom Clip(ft): 0.000
                   Type: Vertical: Mavis          Top Clip(ft): 0.000
                   Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Irregular            Orifice Disc Coef: 0.600
```

```
         Cross Section: X_PND141B4            Control Elev(ft): 105.800
            Invert(ft): 105.800         Struct Opening Dim(ft): 4.00

*** Weir 2 of 2 for Drop Structure CS_141B4 ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.000
             Geometry: Rectangular          Orifice Disc Coef: 0.600

             Span(in): 54.00                      Invert(ft): 109.800
             Rise(in): 36.00                Control Elev(ft): 109.800


-------------------------------------------------------------------------------------------------
         Name: CS_142B            From Node: PND142            Length(ft): 313.00
        Group: PROPOSE              To Node: BSL_OUTFALL1           Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Circular       Circular                 Solution Algorithm: Automatic
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 94.500         92.690                       Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

MODIFIED TYPE H (4-GRATES)



*** Weir 1 of 2 for Drop Structure CS_142B ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(ft): 0.000
                  Type: Vertical: Mavis           Top Clip(ft): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
             Geometry: Irregular            Orifice Disc Coef: 0.600

          Cross Section: X_PND142              Control Elev(ft): 96.500
             Invert(ft): 96.500           Struct Opening Dim(ft): 7.50

*** Weir 2 of 2 for Drop Structure CS_142B ***
                                                                        TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.000
             Geometry: Rectangular          Orifice Disc Coef: 0.470

             Span(in): 54.00                      Invert(ft): 104.000
             Rise(in): 36.00                Control Elev(ft): 104.000


-------------------------------------------------------------------------------------------------
         Name: CS_PNDMODC         From Node: MODPNDC           Length(ft): 80.00
        Group: PROPOSE              To Node: LK_WILLIS              Count: 1

              UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Circular       Circular                 Solution Algorithm: Automatic
     Span(in): 36.00          36.00                                Flow: Both
     Rise(in): 36.00          36.00                    Entrance Loss Coef: 0.500
   Invert(ft): 105.700        105.500                      Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM SFWMD PERMIT APPLICATION #090610-12. THE DATUM AT THE
 TIME OF THE PERMIT WAS IN NGVD. TO COVNERT THE PERMITTED DATUM TO THE CURRENT NAVD DATUM, AN ADJUSTMENT
(-0.80-FT) WAS APPLIED TO THE PERMITTED ELEVATIONS.

ORIFICE INFORMATION WAS ADJUSTED SLIGHTLY TO REFLECT THE CORRECT MODELING RECOMMENDATION; FLOW WAS
ADJUSTED FROM VERTICAL TO HORIZONTAL AND INVERT ELEVATION IS ADJUSTED TO REFLECT THE 90 DEGREE BEND IN THE PIPE.


*** Weir 1 of 3 for Drop Structure CS_PNDMODC ***
```

```
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 18.00                       Invert(ft): 112.750
              Rise(in): 9999.00                Control Elev(ft): 112.750

*** Weir 2 of 3 for Drop Structure CS_PNDMODC ***
                                                                                TABLE
                 Count: 3                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 5.75                        Invert(ft): 110.700
              Rise(in): 5.75                   Control Elev(ft): 111.200

*** Weir 3 of 3 for Drop Structure CS_PNDMODC ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 54.00                       Invert(ft): 116.700
              Rise(in): 36.00                  Control Elev(ft): 116.700


-------------------------------------------------------------------------------------------------
         Name: DBSL0030            From Node: NBSL0030           Length(ft): 110.00
        Group: PROPOSE               To Node: NBSL0040                Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 24.00          24.00                                  Flow: Both
     Rise(in): 24.00          24.00                     Entrance Loss Coef: 0.500
   Invert(ft): 102.690        102.550                       Exit Loss Coef: 0.000
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                          Solution Incs: 0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source:  Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 1 for Drop Structure DBSL0030 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 53.00                       Invert(ft): 110.090
              Rise(in): 36.00                  Control Elev(ft): 110.090


-------------------------------------------------------------------------------------------------
         Name: DBSL0050            From Node: NBSL0050           Length(ft): 99.00
        Group: PROPOSE               To Node: NBSL0060                Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Circular       Circular                  Solution Algorithm: Automatic
     Span(in): 15.00          15.00                                  Flow: Both
     Rise(in): 15.00          15.00                     Entrance Loss Coef: 0.500
   Invert(ft): 98.780         98.520                        Exit Loss Coef: 1.000
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000          0.000                          Solution Incs: 0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.
```

*** Weir 1 of 1 for Drop Structure DBSL0050 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	36.00	Invert(ft):	110.090
Rise(in):	28.00	Control Elev(ft):	110.090

Name:	DBSL0060	From Node:	NBSL0060	Length(ft):	166.00
Group:	PROPOSE	To Node:	LK_WILLIS	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	100.360	100.090	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 1 for Drop Structure DBSL0060 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	53.00	Invert(ft):	108.090
Rise(in):	36.00	Control Elev(ft):	108.090

Name:	DBSL0070	From Node:	NBSL0070	Length(ft):	84.00
Group:	PROPOSE	To Node:	LK_WILLIS	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	36.00	36.00	Solution Algorithm:	Automatic
Rise(in):	36.00	36.00	Flow:	Both
Invert(ft):	108.090	107.970	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	0

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

*** Weir 1 of 5 for Drop Structure DBSL0070 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	54.00	Invert(ft):	117.090
Rise(in):	36.00	Control Elev(ft):	117.090

*** Weir 2 of 5 for Drop Structure DBSL0070 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600

```
              Span(in): 7.00                      Invert(ft): 111.990
              Rise(in): 61.20                Control Elev(ft): 111.990

*** Weir 3 of 5 for Drop Structure DBSL0070 ***
                                                                    TABLE
                 Count: 1                     Bottom Clip(in): 0.000
                  Type: Vertical: Mavis          Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 6.00                      Invert(ft): 111.090
              Rise(in): 6.00                 Control Elev(ft): 111.090

*** Weir 4 of 5 for Drop Structure DBSL0070 ***
                                                                    TABLE
                 Count: 1                     Bottom Clip(in): 0.000
                  Type: Vertical: Mavis          Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 6.00                      Invert(ft): 111.090
              Rise(in): 6.00                 Control Elev(ft): 111.090

*** Weir 5 of 5 for Drop Structure DBSL0070 ***
                                                                    TABLE
                 Count: 1                     Bottom Clip(in): 0.000
                  Type: Vertical: Mavis          Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 6.00                      Invert(ft): 111.090
              Rise(in): 6.00                 Control Elev(ft): 111.090


-------------------------------------------------------------------------------------------------
        Name: DS_PND142E1         From Node: EX_PND142E1       Length(ft): 353.00
       Group: PROPOSE               To Node: EX_PND142E2            Count: 1

              UPSTREAM       DOWNSTREAM               Friction Equation: Automatic
    Geometry: Circular       Circular                Solution Algorithm: Most Restrictive
    Span(in): 24.00          24.00                              Flow: Both
    Rise(in): 24.00          24.00                   Entrance Loss Coef: 0.500
  Invert(ft): 100.290        98.950                      Exit Loss Coef: 1.000
 Manning's N: 0.012000       0.012000                  Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                      Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000          0.000                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular: Smooth tapered inlet throat

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

EXISTING DROP STRUCTURE INFORMATION WAS TAKEN FROM DESIGN SURVEY INFORMATION AND FIELD VERIFIED.


*** Weir 1 of 2 for Drop Structure DS_PND142E1 ***
                                                                    TABLE
                 Count: 2                     Bottom Clip(in): 0.000
                  Type: Vertical: Mavis          Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 4.00                      Invert(ft): 111.930
              Rise(in): 4.00                 Control Elev(ft): 111.930

*** Weir 2 of 2 for Drop Structure DS_PND142E1 ***
                                                                    TABLE
                 Count: 1                     Bottom Clip(in): 0.000
                  Type: Horizontal               Top Clip(in): 0.000
                  Flow: Both                   Weir Disc Coef: 3.200
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 49.00                     Invert(ft): 113.430
              Rise(in): 37.00                Control Elev(ft): 113.430


===============================================================================================
==== Weirs ====================================================================================
===============================================================================================

        Name: WBSL0025A           From Node: NBSL0025
       Group: PROPOSE               To Node: NBSL0030
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Circular
```

```
                  Span(in): 4.00
                  Rise(in): 4.00
                Invert(ft): 108.590
       Control Elevation(ft): 108.590
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0025B           From Node: NBSL0025
        Group: PROPOSE               To Node: NBSL0030
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                  Span(in): 3.00
                  Rise(in): 27.72
                Invert(ft): 109.280
       Control Elevation(ft): 109.280
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0025C           From Node: NBSL0025
        Group: PROPOSE               To Node: NBSL0030
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                  Span(in): 144.00
                  Rise(in): 6.00
                Invert(ft): 111.590
       Control Elevation(ft): 111.590
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0030            From Node: NBSL0030
        Group: PROPOSE               To Node: LK_WILLIS
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                  Span(in): 2200.00
                  Rise(in): 99999.00
                Invert(ft): 111.500
       Control Elevation(ft): 111.500
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0050            From Node: NBSL0050
        Group: PROPOSE               To Node: NBSL0060
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                  Span(in): 3600.00
                  Rise(in): 99999.00
                Invert(ft): 111.000
       Control Elevation(ft): 111.000
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
          Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0060A           From Node: NBSL0060
```

```
        Group: PROPOSE               To Node: LK_WILLIS
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                    Span(in): 2700.00
                    Rise(in): 99999.00
                  Invert(ft): 108.000
       Control Elevation(ft): 108.000
                                         TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
           Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0160            From Node: NBSL0160
        Group: PROPOSE               To Node: NBSL0170
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Rectangular

                    Span(in): 40.00
                    Rise(in): 78.00
                  Invert(ft): 103.050
       Control Elevation(ft): 103.050
                                         TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
           Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

Source: Plans

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

-------------------------------------------------------------------------------------------------
         Name: WBSL0160A           From Node: NBSL0160
        Group: PROPOSE               To Node: BSL_OUTFALL1
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Rectangular

                    Span(in): 3960.00
                    Rise(in): 99999.00
                  Invert(ft): 103.200
       Control Elevation(ft): 103.200
                                         TABLE
              Bottom Clip(in): 0.000
                 Top Clip(in): 0.000
           Weir Discharge Coef: 2.800
      Orifice Discharge Coef: 0.600

INFORMATION WAS TAKEN FROM THE ORANGE COUNTY 2016 MODEL FOR BIG SAND LAKE.

=================================================================================================
==== Hydrology Simulations =====================================================================
=================================================================================================

         Name: 002Y001H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 2.12

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00

-------------------------------------------------------------------------------------------------
         Name: 002Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 2.65

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

-------------------------------------------------------------------------------------------------
         Name: 002Y004H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y004H.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 3.06

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

-------------------------------------------------------------------------------------------------------
         Name: 002Y008H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 3.50

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
16.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 002Y024H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 4.33

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.00
14.000          15.00
30.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 002Y072H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y072H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 5.43

Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.00
65.000          15.00
80.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 002Y168H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 6.86

Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.00
24.000          15.00
48.000          30.00
148.000         15.00
168.000         30.00
170.000         30.00

-------------------------------------------------------------------------------------------------------
         Name: 002Y240H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y240H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 7.83

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00
48.000          30.00
168.000         15.00
```

200.000	30.00
240.000	30.00

Name: 005Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.53

Time(hrs)	Print Inc(min)
2.000	15.00

Name: 005Y002H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.17

Time(hrs)	Print Inc(min)
4.000	15.00

Name: 005Y004H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.69

Time(hrs)	Print Inc(min)
8.000	15.00

Name: 005Y008H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.25

Time(hrs)	Print Inc(min)
8.000	15.00
16.000	30.00

Name: 005Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 5.31

Time(hrs)	Print Inc(min)
8.000	30.00
14.000	15.00
30.000	30.00

Name: 005Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 6.71

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

```
--------------------------------------------------------------------------------------------------------
         Name: 005Y168H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 8.12

Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.00
24.000          15.00
48.000          30.00
148.000         15.00
168.000         30.00
170.000         30.00

--------------------------------------------------------------------------------------------------------
         Name: 005Y240H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y240H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 9.11

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00
48.000          30.00
168.000         15.00
200.000         30.00
240.000         30.00

--------------------------------------------------------------------------------------------------------
         Name: 010Y001H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 2.85

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00

--------------------------------------------------------------------------------------------------------
         Name: 010Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 3.58

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

--------------------------------------------------------------------------------------------------------
         Name: 010Y004H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 4.21

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

--------------------------------------------------------------------------------------------------------
         Name: 010Y008H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 4.90

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
```

16.000 30.00

Name: 010Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 6.26

Time(hrs)	Print Inc(min)
8.000	30.00
14.000	15.00
30.000	30.00

Name: 010Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 7.94

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

Name: 010Y168H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 9.34

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 010Y240H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 10.30

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: 025Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.26

Time(hrs)	Print Inc(min)
2.000	15.00

Name: 025Y002H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00

```
          Rainfall File: Fdot-2
    Rainfall Amount(in): 4.11

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

------------------------------------------------------------------------------------------------------------
         Name: 025Y004H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 4.91

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

------------------------------------------------------------------------------------------------------------
         Name: 025Y008H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 5.85

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00
16.000          30.00

------------------------------------------------------------------------------------------------------------
         Name: 025Y024H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 7.77

Time(hrs)       Print Inc(min)
--------------- ---------------
10.000          5.00
12.000          1.00
30.000          5.00

------------------------------------------------------------------------------------------------------------
         Name: 025Y072H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y072H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 9.91

Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.00
65.000          15.00
80.000          30.00

------------------------------------------------------------------------------------------------------------
         Name: 025Y168H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 11.30

Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.00
24.000          15.00
48.000          30.00
148.000         15.00
168.000         30.00
170.000         30.00

------------------------------------------------------------------------------------------------------------
         Name: 025Y240H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y240H.R32
```

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 12.30

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: 050Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.56

Time(hrs)	Print Inc(min)
2.000	15.00

Name: 050Y002H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.48

Time(hrs)	Print Inc(min)
4.000	15.00

Name: 050Y004H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.44

Time(hrs)	Print Inc(min)
8.000	15.00

Name: 050Y008H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 6.62

Time(hrs)	Print Inc(min)
8.000	15.00
16.000	30.00

Name: 050Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.10

Time(hrs)	Print Inc(min)
8.000	30.00
14.000	15.00
30.000	30.00

Name: 050Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y072H.R32

Override Defaults: Yes

```
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 11.60

Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.00
65.000          15.00
80.000          30.00

------------------------------------------------------------------------------------------------------------
         Name: 050Y168H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y168H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 13.00

Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.00
24.000          15.00
48.000          30.00
148.000         15.00
168.000         30.00
170.000         30.00

------------------------------------------------------------------------------------------------------------
         Name: 050Y240H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y240H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 14.00

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00
48.000          30.00
168.000         15.00
200.000         30.00
240.000         30.00

------------------------------------------------------------------------------------------------------------
         Name: 100Y001H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 3.84

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.00

------------------------------------------------------------------------------------------------------------
         Name: 100Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 4.83

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.00

------------------------------------------------------------------------------------------------------------
         Name: 100Y004H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 5.95

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.00

------------------------------------------------------------------------------------------------------------
         Name: 100Y008H
```

Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.42

Time(hrs)	Print Inc(min)
8.000	15.00
16.000	30.00

Name: 100Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
8.000	30.00
14.000	15.00
30.000	30.00

Name: 100Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 13.50

Time(hrs)	Print Inc(min)
50.000	30.00
65.000	15.00
80.000	30.00

Name: 100Y168H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
9.000	30.00
24.000	15.00
48.000	30.00
148.000	15.00
168.000	30.00
170.000	30.00

Name: 100Y240H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 15.90

Time(hrs)	Print Inc(min)
24.000	15.00
48.000	30.00
168.000	15.00
200.000	30.00
240.000	30.00

Name: ORANGE25Y24H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\ORANGE25Y24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
3.000	30.00
6.000	15.00
12.000	15.00
15.000	15.00
18.000	15.00
30.000	30.00

Name: SFWMD25Y72H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\SFWMD25Y72H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 10.00

Time(hrs)	Print Inc(min)
12.000	15.00
24.000	10.00
36.000	10.00
48.000	10.00
80.000	15.00

==========
==== Routing Simulations ==========
==========

Name: 002Y001HR_G Hydrology Sim: 002Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y001HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
PROPOSE	Yes

Name: 002Y002HR_G Hydrology Sim: 002Y002H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y002HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
PROPOSE	Yes

Name: 002Y004HR_G Hydrology Sim: 002Y004H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y004HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000

```
        Start Time(hrs): 0.000                  End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                 Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
         Name: 002Y008HR_G         Hydrology Sim: 002Y008H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y008HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                 Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
         Name: 002Y024HR_G         Hydrology Sim: 002Y024H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y024HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y024H          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
         Name: 002Y072HR_G         Hydrology Sim: 002Y072H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y072HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                   Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 80.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_002Y072H          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000
```

Group	Run
PROPOSE	Yes

Name: 002Y168HR_G Hydrology Sim: 002Y168H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y168HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_002Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 002Y240HR_G Hydrology Sim: 002Y240H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\002Y240HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_002Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: 005Y001HR_G Hydrology Sim: 005Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y001HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
PROPOSE	Yes

```
--------------------------------------------------------------------------------------------------
         Name: 005Y002HR_G         Hydrology Sim: 005Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y002HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 005Y004HR_G         Hydrology Sim: 005Y004H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y004HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 005Y008HR_G         Hydrology Sim: 005Y008H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y008HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


--------------------------------------------------------------------------------------------------
         Name: 005Y024HR_G         Hydrology Sim: 005Y024H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y024HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 30.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_005Y024H           Boundary Flows:
```

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
PROPOSE	Yes

Name: 005Y072HR_G Hydrology Sim: 005Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y072HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_050Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run
PROPOSE	Yes

Name: 005Y168HR_G Hydrology Sim: 005Y168H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y168HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_005Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 005Y240HR_G Hydrology Sim: 005Y240H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\005Y240HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_005Y240H Boundary Flows:

Time(hrs)	Print Inc(min)

24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: 010Y001HR_G Hydrology Sim: 010Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y001HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
PROPOSE	Yes

Name: 010Y002HR_G Hydrology Sim: 010Y002H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y002HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	15.000

Group	Run
PROPOSE	Yes

Name: 010Y004HR_G Hydrology Sim: 010Y004H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y004HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
PROPOSE	Yes

Name: 010Y008HR_G Hydrology Sim: 010Y008H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y008HR_G.I32

```
     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 16.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_8                Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
        Name: 010Y024HR_G         Hydrology Sim: 010Y024H
    Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y024HR_G.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_010Y024H         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.000
14.000          15.000
30.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
        Name: 010Y072HR_G         Hydrology Sim: 010Y072H
    Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y072HR_G.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 80.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_010Y072H         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
        Name: 010Y168HR_G         Hydrology Sim: 010Y168H
    Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y168HR_G.I32

     Execute: No          Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 170.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_010Y168H         Boundary Flows:
```

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 010Y240HR_G Hydrology Sim: 010Y240H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\010Y240HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_010Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: 025Y001HR_G Hydrology Sim: 025Y001H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y001HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_1 Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	15.000

Group	Run
PROPOSE	Yes

Name: 025Y002HR_G Hydrology Sim: 025Y002H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y002HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_2 Boundary Flows:

Time(hrs)	Print Inc(min)

4.000 15.000

Group Run
--- ---
PROPOSE Yes

Name: 025Y004HR_G Hydrology Sim: 025Y004H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y004HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
8.000 15.000

Group Run
--- ---
PROPOSE Yes

Name: 025Y008HR_G Hydrology Sim: 025Y008H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y008HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
8.000 15.000
16.000 30.000

Group Run
--- ---
PROPOSE Yes

Name: 025Y024HR_G Hydrology Sim: 025Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y024HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_025Y024H Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
8.000 30.000
14.000 15.000
30.000 30.000

Group Run
--- ---
PROPOSE Yes

Name: 025Y072HR_G Hydrology Sim: 025Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y072HR_G.I32

```
     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 80.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_025Y072H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          30.000
65.000          15.000
80.000          30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
        Name: 025Y168HR_G         Hydrology Sim: 025Y168H
    Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y168HR_G.I32

     Execute: No          Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 170.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_025Y168H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           30.000
24.000          15.000
48.000          30.000
148.000         15.000
168.000         30.000
170.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
        Name: 025Y240HR_G         Hydrology Sim: 025Y240H
    Filename: c:\pwworking\aecom_na\duongt2\d0190918\025Y240HR_G.I32

     Execute: No          Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 240.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages: FDOT_025Y240H           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------
        Name: 050Y001HR_G         Hydrology Sim: 050Y001H
    Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y001HR_G.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No
```

```
        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y002HR_G         Hydrology Sim: 050Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y002HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y004HR_G         Hydrology Sim: 050Y004H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y004HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_4                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 050Y008HR_G         Hydrology Sim: 050Y008H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y008HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 16.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_8                  Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          30.000

Group           Run
```

PROPOSE	Yes

Name: 050Y024HR_G Hydrology Sim: 050Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y024HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_050Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
PROPOSE	Yes

Name: 050Y072HR_G Hydrology Sim: 050Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y072HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_050Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run
PROPOSE	Yes

Name: 050Y168HR_G Hydrology Sim: 050Y168H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y168HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_050Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

```
         Name: 050Y240HR_G         Hydrology Sim: 050Y240H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\050Y240HR_G.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_050Y240H           Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.000
48.000          30.000
168.000         15.000
200.000         30.000
240.000         30.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 100Y001HR_G         Hydrology Sim: 100Y001H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y001HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_1                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 100Y002HR_G         Hydrology Sim: 100Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y002HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages: FDOT_2                  Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           15.000

Group           Run
--------------- -----
PROPOSE         Yes


-------------------------------------------------------------------------------------------------------
         Name: 100Y004HR_G         Hydrology Sim: 100Y002H
     Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y004HR_G.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
```

Boundary Stages: FDOT_4 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

Group	Run
PROPOSE	Yes

Name: 100Y008HR_G Hydrology Sim: 100Y008H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y008HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_8 Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	30.000

Group	Run
PROPOSE	Yes

Name: 100Y024HR_G Hydrology Sim: 100Y024H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y024HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
14.000	15.000
30.000	30.000

Group	Run
PROPOSE	Yes

Name: 100Y072HR_G Hydrology Sim: 100Y072H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y072HR_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y072H Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	30.000
65.000	15.000
80.000	30.000

Group	Run

PROPOSE	Yes

Name: 100Y168HR_G Hydrology Sim: 100Y168H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y168HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 170.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y168H Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	30.000
24.000	15.000
48.000	30.000
148.000	15.000
168.000	30.000
170.000	30.000

Group	Run
PROPOSE	Yes

Name: 100Y240HR_G Hydrology Sim: 100Y240H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\100Y240HR_G.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: FDOT_100Y240H Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000
48.000	30.000
168.000	15.000
200.000	30.000
240.000	30.000

Group	Run
PROPOSE	Yes

Name: ORANGE25Y24H_G Hydrology Sim: ORANGE25Y24H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\ORANGE25Y24H_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: ORANGE_025Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
3.000	30.000
6.000	15.000
12.000	15.000
15.000	15.000
18.000	15.000
30.000	30.000

Group	Run

PROPOSE	Yes

Name: SFWMD25Y72H_G Hydrology Sim: SFWMD25Y72H
Filename: c:\pwworking\aecom_na\duongt2\d0190918\SFWMD25Y72H_G.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: SFWMD_025Y024H Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	15.000
24.000	10.000
36.000	10.000
48.000	10.000
80.000	15.000

Group	Run
PROPOSE	Yes

Boundary Conditions

Name: FDOT_002Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.175
7.999	93.289
12.002	96.630
15.998	94.536
20.002	92.710
23.998	92.175
28.001	92.532
31.997	93.334
36.000	97.610
40.003	95.071
43.999	92.933
48.002	92.265
51.998	92.933
56.002	94.135
59.998	100.550
64.001	96.764
67.997	93.512
72.000	92.532
80.000	91.730

Name: FDOT_1 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.100	92.440
0.200	93.870
0.300	96.010
0.400	99.220
0.500	99.400
0.600	98.150
0.700	95.650
0.800	94.220
0.900	92.080
1.000	91.910
2.000	91.730

Name: FDOT_2 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.200	94.800

0.400	96.330
0.600	97.870
0.800	99.400
1.000	94.800
1.200	93.570
1.400	93.260
1.600	92.960
1.800	92.650
2.000	92.340
4.000	91.730

Name: FDOT_4 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.500	92.910
1.000	94.680
1.500	97.040
2.000	99.400
2.500	97.930
3.000	95.860
3.500	93.210
4.000	92.320
8.000	91.730

Name: FDOT_8 Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.000	92.260
2.000	93.930
3.000	94.730
4.000	100.120
5.000	94.930
6.000	92.930
7.000	92.730
8.000	92.330
16.000	91.730

Name: FDOT_4 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.500	96.140
1.000	98.160
1.500	100.840
2.000	103.530
2.500	101.850
3.000	99.500
3.500	96.480
4.000	95.470
8.000	94.800

Name: FDOT_8 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.000	95.260
2.000	97.310
3.000	98.230
4.000	104.400
5.000	98.460
6.000	96.170
7.000	95.940
8.000	95.490
16.000	94.800

Name: FDOT_1 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.100	95.610
0.200	97.240
0.300	99.670
0.400	103.330
0.500	103.530

0.600	102.110
0.700	99.270
0.800	97.640
0.900	95.210
1.000	95.000
2.000	94.800

Name: FDOT_2 Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.200	98.290
0.400	100.040
0.600	101.780
0.800	103.530
1.000	98.290
1.200	96.900
1.400	96.550
1.600	96.200
1.800	95.850
2.000	94.500
4.000	94.800

Name: FDOT_4 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.500	95.980
1.000	98.000
1.500	100.690
2.000	103.380
2.500	101.700
3.000	99.340
3.500	96.310
4.000	95.300
8.000	94.630

Name: FDOT_8 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.000	95.080
2.000	97.110
3.000	98.010
4.000	104.090
5.000	98.230
6.000	95.980
7.000	95.760
8.000	95.310
16.000	94.630

Name: FDOT_1 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.100	95.440
0.200	97.070
0.300	99.510
0.400	103.180
0.500	103.380
0.600	101.960
0.700	99.110
0.800	97.480
0.900	95.040
1.000	94.830
2.000	94.630

Name: FDOT_2 Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.200	98.130
0.400	99.880
0.600	101.630
0.800	103.380
1.000	98.130

1.200	96.730
1.400	96.380
1.600	96.030
1.800	95.680
2.000	95.330
4.000	94.630

Name: FDOT_002Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.497
1.999	93.264
3.000	94.031
4.001	94.031
4.999	94.031
6.000	94.798
7.001	94.798
7.999	94.798
9.000	96.332
10.001	96.332
10.999	97.866
12.000	99.400
13.001	97.099
13.999	96.332
15.000	96.332
16.001	95.565
16.999	94.798
18.000	94.798
19.001	94.798
19.999	94.031
21.000	94.031
22.001	93.264
22.999	92.497
24.000	92.497
30.000	91.730

Name: FDOT_005Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.524
1.999	93.318
3.000	94.112
4.001	94.112
4.999	94.112
6.000	94.906
7.001	94.906
7.999	94.906
9.000	96.494
10.001	96.494
10.999	98.082
12.000	99.670
13.001	97.288
13.999	96.494
15.000	96.494
16.001	95.700
16.999	94.906
18.000	94.906
19.001	94.906
19.999	94.112
21.000	94.112
22.001	93.318
22.999	92.524
24.000	92.524
30.000	91.730

Name: FDOT_010Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.569
1.999	93.408
3.000	94.247
4.001	94.247
4.999	94.247
6.000	95.086
7.001	95.086
7.999	95.086
9.000	96.764

10.001	96.764
10.999	98.442
12.000	100.120
13.001	97.603
13.999	96.764
15.000	96.764
16.001	95.925
16.999	95.086
18.000	95.086
19.001	95.086
19.999	94.247
21.000	94.247
22.001	93.408
22.999	92.569
24.000	92.569
30.000	91.730

Name: FDOT_025Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.599
1.999	93.468
3.000	94.337
4.001	94.337
4.999	94.337
6.000	95.206
7.001	95.206
7.999	95.206
9.000	96.944
10.001	96.944
10.999	98.682
12.000	100.420
13.001	97.813
13.999	96.944
15.000	96.944
16.001	96.075
16.999	95.206
18.000	95.206
19.001	95.206
19.999	94.337
21.000	94.337
22.001	93.468
22.999	92.599
24.000	92.599
30.000	91.730

Name: FDOT_050Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
1.001	92.618
1.999	93.507
3.000	94.395
4.001	94.395
4.999	94.395
6.000	95.283
7.001	95.283
7.999	95.283
9.000	97.060
10.001	97.060
10.999	98.837
12.000	100.613
13.001	97.948
13.999	97.060
15.000	97.060
16.001	96.172
16.999	95.283
18.000	95.283
19.001	95.283
19.999	94.395
21.000	94.395
22.001	93.507
22.999	92.618
24.000	92.618
30.000	91.730

Name: FDOT_100Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)

0.000	91.730
1.001	92.657
1.999	93.584
3.000	94.511
4.001	94.511
4.999	94.511
6.000	95.438
7.001	95.438
7.999	95.438
9.000	97.292
10.001	97.292
10.999	99.146
12.000	101.000
13.001	98.219
13.999	97.292
15.000	97.292
16.001	96.365
16.999	95.438
18.000	95.438
19.001	95.438
19.999	94.511
21.000	94.511
22.001	93.584
22.999	92.657
24.000	92.657
30.000	91.730

Name: FDOT_050Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.798
1.999	96.795
3.000	97.793
4.001	97.793
4.999	97.793
6.000	98.791
7.001	98.791
7.999	98.791
9.000	100.786
10.001	100.786
10.999	102.781
12.000	104.777
13.001	101.784
13.999	100.786
15.000	100.786
16.001	99.788
16.999	98.791
18.000	98.791
19.001	98.791
19.999	97.793
21.000	97.793
22.001	96.795
22.999	95.798
24.000	95.798
30.000	94.800

Name: FDOT_100Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.827
1.999	96.854
3.000	97.881
4.001	97.881
4.999	97.881
6.000	98.908
7.001	98.908
7.999	98.908
9.000	100.962
10.001	100.962
10.999	103.016
12.000	105.070
13.001	101.989
13.999	100.962
15.000	100.962
16.001	99.935
16.999	98.908
18.000	98.908
19.001	98.908
19.999	97.881
21.000	97.881

22.001	96.854
22.999	95.827
24.000	95.827
30.000	94.800

Name: FDOT_010Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.760
1.999	96.720
3.000	97.680
4.001	97.680
4.999	97.680
6.000	98.640
7.001	98.640
7.999	98.640
9.000	100.560
10.001	100.560
10.999	102.480
12.000	104.400
13.001	101.520
13.999	100.560
15.000	100.560
16.001	99.600
16.999	98.640
18.000	98.640
19.001	98.640
19.999	97.680
21.000	97.680
22.001	96.720
22.999	95.760
24.000	95.760
30.000	94.800

Name: FDOT_025Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.783
1.999	96.766
3.000	97.749
4.001	97.749
4.999	97.749
6.000	98.732
7.001	98.732
7.999	98.732
9.000	100.698
10.001	100.698
10.999	102.664
12.000	104.630
13.001	101.681
13.999	100.698
15.000	100.698
16.001	99.715
16.999	98.732
18.000	98.732
19.001	98.732
19.999	97.749
21.000	97.749
22.001	96.766
22.999	95.783
24.000	95.783
30.000	94.800

Name: FDOT_002Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.673
1.999	96.546
3.000	97.419
4.001	97.419
4.999	97.419
6.000	98.292
7.001	98.292
7.999	98.292
9.000	100.038
10.001	100.038
10.999	101.784

12.000	103.530
13.001	100.911
13.999	100.038
15.000	100.038
16.001	99.165
16.999	98.292
18.000	98.292
19.001	98.292
19.999	97.419
21.000	97.419
22.001	96.546
22.999	95.673
24.000	95.673
30.000	94.800

Name: FDOT_005Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
1.001	95.706
1.999	96.611
3.000	97.517
4.001	97.517
4.999	97.517
6.000	98.422
7.001	98.422
7.999	98.422
9.000	100.234
10.001	100.234
10.999	102.045
12.000	103.856
13.001	101.139
13.999	100.234
15.000	100.234
16.001	99.328
16.999	98.422
18.000	98.422
19.001	98.422
19.999	97.517
21.000	97.517
22.001	96.611
22.999	95.706
24.000	95.706
30.000	94.800

Name: FDOT_050Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.420
1.999	96.209
3.000	96.999
4.001	96.999
4.999	96.999
6.000	97.789
7.001	97.789
7.999	97.789
9.000	99.368
10.001	99.368
10.999	100.947
12.000	102.527
13.001	100.158
13.999	99.368
15.000	99.368
16.001	98.578
16.999	97.789
18.000	97.789
19.001	97.789
19.999	96.999
21.000	96.999
22.001	96.209
22.999	95.420
24.000	95.420
30.000	94.630

Name: FDOT_100Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.535

1.999	96.440
3.000	97.345
4.001	97.345
4.999	97.345
6.000	98.250
7.001	98.250
7.999	98.250
9.000	100.060
10.001	100.060
10.999	101.870
12.000	103.680
13.001	100.965
13.999	100.060
15.000	100.060
16.001	99.155
16.999	98.250
18.000	98.250
19.001	98.250
19.999	97.345
21.000	97.345
22.001	96.440
22.999	95.535
24.000	95.535
30.000	94.630

Name: FDOT_010Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.332
1.999	96.034
3.000	96.736
4.001	96.736
4.999	96.736
6.000	97.438
7.001	97.438
7.999	97.438
9.000	98.842
10.001	98.842
10.999	100.246
12.000	101.650
13.001	99.544
13.999	98.842
15.000	98.842
16.001	98.140
16.999	97.438
18.000	97.438
19.001	97.438
19.999	96.736
21.000	96.736
22.001	96.034
22.999	95.332
24.000	95.332
30.000	94.630

Name: FDOT_025Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.362
1.999	96.094
3.000	96.826
4.001	96.826
4.999	96.826
6.000	97.558
7.001	97.558
7.999	97.558
9.000	99.022
10.001	99.022
10.999	100.486
12.000	101.950
13.001	99.754
13.999	99.022
15.000	99.022
16.001	98.290
16.999	97.558
18.000	97.558
19.001	97.558
19.999	96.826
21.000	96.826
22.001	96.094
22.999	95.362

24.000	95.362
30.000	94.630

Name: FDOT_002Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.260
1.999	95.890
3.000	96.520
4.001	96.520
4.999	96.520
6.000	97.150
7.001	97.150
7.999	97.150
9.000	98.410
10.001	98.410
10.999	99.670
12.000	100.930
13.001	99.040
13.999	98.410
15.000	98.410
16.001	97.780
16.999	97.150
18.000	97.150
19.001	97.150
19.999	96.520
21.000	96.520
22.001	95.890
22.999	95.260
24.000	95.260
30.000	94.630

Name: FDOT_005Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
1.001	95.215
1.999	95.800
3.000	96.385
4.001	96.385
4.999	96.385
6.000	96.970
7.001	96.970
7.999	96.970
9.000	98.140
10.001	98.140
10.999	99.310
12.000	100.480
13.001	98.725
13.999	98.140
15.000	98.140
16.001	97.555
16.999	96.970
18.000	96.970
19.001	96.970
19.999	96.385
21.000	96.385
22.001	95.800
22.999	95.215
24.000	95.215
30.000	94.630

Name: FDOT_005Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.181
7.999	93.307
12.002	96.686
15.998	94.569
20.002	92.721
23.998	92.181
28.001	92.541
31.997	93.352
36.000	97.677
40.003	95.109
43.999	92.947
48.002	92.271
51.998	92.947

56.002	94.163
59.998	100.651
64.001	96.821
67.997	93.532
72.000	92.541
80.000	91.730

Name: FDOT_010Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.189
7.999	93.337
12.002	96.780
15.998	94.622
20.002	92.740
23.998	92.189
28.001	92.556
31.997	93.383
36.000	97.790
40.003	95.173
43.999	92.970
48.002	92.281
51.998	92.970
56.002	94.209
59.998	100.820
64.001	96.918
67.997	93.566
72.000	92.556
80.000	91.730

Name: FDOT_025Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.227
7.999	93.469
12.002	97.197
15.998	94.861
20.002	92.823
23.998	92.227
28.001	92.625
31.997	93.519
36.000	98.290
40.003	95.457
43.999	93.072
48.002	92.326
51.998	93.072
56.002	94.414
59.998	101.570
64.001	97.346
67.997	93.718
72.000	92.625
80.000	91.730

Name: FDOT_050Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.237
7.999	93.504
12.002	97.304
15.998	94.922
20.002	92.845
23.998	92.237
28.001	92.642
31.997	93.554
36.000	98.419
40.003	95.531
43.999	93.098
48.002	92.338
51.998	93.098
56.002	94.466
59.998	101.763
64.001	97.456
67.997	93.757
72.000	92.642
80.000	91.730

Name: FDOT_100Y072H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
4.003	92.256
7.999	93.572
12.002	97.519
15.998	95.045
20.002	92.888
23.998	92.256
28.001	92.677
31.997	93.625
36.000	98.677
40.003	95.677
43.999	93.151
48.002	92.362
51.998	93.151
56.002	94.572
59.998	102.150
64.001	97.677
67.997	93.835
72.000	92.677
80.000	91.730

Name: FDOT_050Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.395
7.999	96.881
12.002	101.341
15.998	98.546
20.002	96.108
23.998	95.395
28.001	95.870
31.997	96.941
36.000	102.649
40.003	99.260
43.999	96.405
48.002	95.514
51.998	96.405
56.002	98.011
59.998	106.573
64.001	101.519
67.997	97.178
72.000	95.870
80.000	94.800

Name: FDOT_100Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.414
7.999	96.949
12.002	101.556
15.998	98.669
20.002	96.151
23.998	95.414
28.001	95.905
31.997	97.011
36.000	102.907
40.003	99.406
43.999	96.458
48.002	95.537
51.998	96.458
56.002	98.116
59.998	106.960
64.001	101.740
67.997	97.257
72.000	95.905
80.000	94.800

Name: FDOT_010Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.347
7.999	96.714
12.002	100.817

15.998	98.246
20.002	96.003
23.998	95.347
28.001	95.785
31.997	96.769
36.000	102.020
40.003	98.902
43.999	96.277
48.002	95.456
51.998	96.277
56.002	97.754
59.998	105.630
64.001	100.981
67.997	96.988
72.000	95.785
80.000	94.800

Name: FDOT_025Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.385
7.999	96.847
12.002	101.233
15.998	98.485
20.002	96.087
23.998	95.385
28.001	95.853
31.997	96.905
36.000	102.520
40.003	99.186
43.999	96.379
48.002	95.502
51.998	96.379
56.002	97.958
59.998	106.380
64.001	101.409
67.997	97.139
72.000	95.853
80.000	94.800

Name: FDOT_002Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.333
7.999	96.667
12.002	100.667
15.998	98.160
20.002	95.973
23.998	95.333
28.001	95.760
31.997	96.720
36.000	101.840
40.003	98.800
43.999	96.240
48.002	95.440
51.998	96.240
56.002	97.680
59.998	105.360
64.001	100.827
67.997	96.933
72.000	95.760
80.000	94.800

Name: FDOT_005Y072H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
4.003	95.338
7.999	96.685
12.002	100.723
15.998	98.192
20.002	95.985
23.998	95.338
28.001	95.769
31.997	96.738
36.000	101.908
40.003	98.838
43.999	96.254

48.002	95.446
51.998	96.254
56.002	97.708
59.998	105.461
64.001	100.884
67.997	96.954
72.000	95.769
80.000	94.800

Name: FDOT_050Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.176
7.999	96.541
12.002	100.637
15.998	98.071
20.002	95.831
23.998	95.176
28.001	95.613
31.997	96.596
36.000	101.839
40.003	98.726
43.999	96.105
48.002	95.285
51.998	96.105
56.002	97.579
59.998	105.443
64.001	100.801
67.997	96.815
72.000	95.613
80.000	94.630

Name: FDOT_100Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.196
7.999	96.610
12.002	100.852
15.998	98.194
20.002	95.874
23.998	95.196
28.001	95.648
31.997	96.666
36.000	102.097
40.003	98.872
43.999	96.157
48.002	95.309
51.998	96.157
56.002	97.685
59.998	105.830
64.001	101.022
67.997	96.893
72.000	95.648
80.000	94.630

Name: FDOT_010Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.128
7.999	96.375
12.002	100.113
15.998	97.770
20.002	95.727
23.998	95.128
28.001	95.527
31.997	96.425
36.000	101.210
40.003	98.369
43.999	95.976
48.002	95.228
51.998	95.976
56.002	97.322
59.998	104.500
64.001	100.263
67.997	96.624
72.000	95.527
80.000	94.630

Name: FDOT_025Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.166
7.999	96.507
12.002	100.530
15.998	98.009
20.002	95.810
23.998	95.166
28.001	95.595
31.997	96.561
36.000	101.710
40.003	98.653
43.999	96.078
48.002	95.274
51.998	96.078
56.002	97.526
59.998	105.250
64.001	100.691
67.997	96.775
72.000	95.595
80.000	94.630

Name: FDOT_002Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.115
7.999	96.327
12.002	99.963
15.998	97.685
20.002	95.697
23.998	95.115
28.001	95.503
31.997	96.375
36.000	101.030
40.003	98.266
43.999	95.939
48.002	95.212
51.998	95.939
56.002	97.248
59.998	104.230
64.001	100.109
67.997	96.569
72.000	95.503
80.000	94.630

Name: FDOT_005Y072H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
4.003	95.120
7.999	96.345
12.002	100.020
15.998	97.717
20.002	95.708
23.998	95.120
28.001	95.512
31.997	96.394
36.000	101.098
40.003	98.305
43.999	95.953
48.002	95.218
51.998	95.953
56.002	97.276
59.998	104.331
64.001	100.167
67.997	96.590
72.000	95.512
80.000	94.630

Name: FDOT_002Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.743

15.994	92.706
24.007	92.743
32.004	93.081
40.001	96.909
47.998	92.706
55.994	93.231
64.008	93.231
72.005	93.231
80.002	92.218
87.998	92.255
95.995	92.218
103.992	92.481
112.006	92.481
120.002	92.481
127.999	93.719
135.996	93.757
143.993	93.719
152.006	94.019
160.003	100.550
168.000	93.381
170.000	91.730

Name: FDOT_005Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.755
15.994	92.717
24.007	92.755
32.004	93.097
40.001	96.969
47.998	92.717
55.994	93.249
64.008	93.249
72.005	93.249
80.002	92.224
87.998	92.261
95.995	92.224
103.992	92.489
112.006	92.489
120.002	92.489
127.999	93.742
135.996	93.780
143.993	93.742
152.006	94.046
160.003	100.651
168.000	93.400
170.000	91.730

Name: FDOT_010Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.774
15.994	92.736
24.007	92.774
32.004	93.123
40.001	97.068
47.998	92.736
55.994	93.277
64.008	93.277
72.005	93.277
80.002	92.233
87.998	92.272
95.995	92.233
103.992	92.504
112.006	92.504
120.002	92.504
127.999	93.780
135.996	93.819
143.993	93.780
152.006	94.090
160.003	100.820
168.000	93.432
170.000	91.730

Name: FDOT_025Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730

7.997	92.861
15.994	92.819
24.007	92.861
32.004	93.237
40.001	97.508
47.998	92.819
55.994	93.405
64.008	93.405
72.005	93.405
80.002	92.274
87.998	92.316
95.995	92.274
103.992	92.567
112.006	92.567
120.002	92.567
127.999	93.949
135.996	93.991
143.993	93.949
152.006	94.284
160.003	101.570
168.000	93.572
170.000	91.730

Name: FDOT_050Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.883
15.994	92.840
24.007	92.883
32.004	93.267
40.001	97.622
47.998	92.840
55.994	93.438
64.008	93.438
72.005	93.438
80.002	92.285
87.998	92.328
95.995	92.285
103.992	92.584
112.006	92.584
120.002	92.584
127.999	93.993
135.996	94.036
143.993	93.993
152.006	94.334
160.003	101.763
168.000	93.609
170.000	91.730

Name: FDOT_100Y168H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.997	92.927
15.994	92.883
24.007	92.927
32.004	93.326
40.001	97.849
47.998	92.883
55.994	93.504
64.008	93.504
72.005	93.504
80.002	92.306
87.998	92.351
95.995	92.306
103.992	92.617
112.006	92.617
120.002	92.617
127.999	94.080
135.996	94.124
143.993	94.080
152.006	94.435
160.003	102.150
168.000	93.681
170.000	91.730

Name: FDOT_002Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)

0.000	91.730
7.992	92.145
16.008	92.177
24.000	92.145
31.992	93.008
40.008	96.492
48.000	92.721
55.992	92.593
64.008	92.561
72.000	92.593
79.992	91.954
88.008	91.922
96.000	91.954
103.992	91.954
112.008	91.922
120.000	91.954
127.992	91.954
136.008	91.922
144.000	91.954
151.992	92.369
160.008	92.369
168.000	92.369
175.992	94.031
184.008	100.550
192.000	93.392
199.992	92.785
208.008	92.785
216.000	92.817
223.992	92.145
232.008	92.145
240.000	92.177
250.000	91.730

Name: FDOT_005Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.150
16.008	92.183
24.000	92.150
31.992	93.023
40.008	96.546
48.000	92.732
55.992	92.603
64.008	92.570
72.000	92.603
79.992	91.956
88.008	91.924
96.000	91.956
103.992	91.956
112.008	91.924
120.000	91.956
127.992	91.956
136.008	91.924
144.000	91.956
151.992	92.376
160.008	92.376
168.000	92.376
175.992	94.057
184.008	100.651
192.000	93.411
199.992	92.797
208.008	92.797
216.000	92.829
223.992	92.150
232.008	92.150
240.000	92.183
250.000	91.730

Name: FDOT_010Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.158
16.008	92.191
24.000	92.158
31.992	93.047
40.008	96.637
48.000	92.751
55.992	92.619
64.008	92.586
72.000	92.619

79.992	91.961
88.008	91.928
96.000	91.961
103.992	91.961
112.008	91.928
120.000	91.961
127.992	91.961
136.008	91.928
144.000	91.961
151.992	92.389
160.008	92.389
168.000	92.389
175.992	94.101
184.008	100.820
192.000	93.443
199.992	92.817
208.008	92.817
216.000	92.850
223.992	92.158
232.008	92.158
240.000	92.191
250.000	91.730

Name: FDOT_025Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.193
16.008	92.229
24.000	92.193
31.992	93.156
40.008	97.042
48.000	92.835
55.992	92.693
64.008	92.657
72.000	92.693
79.992	91.980
88.008	91.944
96.000	91.980
103.992	91.980
112.008	91.944
120.000	91.980
127.992	91.980
136.008	91.944
144.000	91.980
151.992	92.443
160.008	92.443
168.000	92.443
175.992	94.297
184.008	101.570
192.000	93.584
199.992	92.907
208.008	92.907
216.000	92.942
223.992	92.193
232.008	92.193
240.000	92.229
250.000	91.730

Name: FDOT_050Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.203
16.008	92.239
24.000	92.203
31.992	93.184
40.008	97.147
48.000	92.857
55.992	92.712
64.008	92.675
72.000	92.712
79.992	91.984
88.008	91.948
96.000	91.984
103.992	91.984
112.008	91.948
120.000	91.984
127.992	91.984
136.008	91.948
144.000	91.984
151.992	92.457

160.008	92.457
168.000	92.457
175.992	94.347
184.008	101.763
192.000	93.620
199.992	92.930
208.008	92.930
216.000	92.966
223.992	92.203
232.008	92.203
240.000	92.239
250.000	91.730

Name: FDOT_100Y240H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
7.992	92.221
16.008	92.259
24.000	92.221
31.992	93.240
40.008	97.355
48.000	92.900
55.992	92.749
64.008	92.712
72.000	92.749
79.992	91.994
88.008	91.957
96.000	91.994
103.992	91.994
112.008	91.957
120.000	91.994
127.992	91.994
136.008	91.957
144.000	91.994
151.992	92.485
160.008	92.485
168.000	92.485
175.992	94.448
184.008	102.150
192.000	93.693
199.992	92.976
208.008	92.976
216.000	93.014
223.992	92.221
232.008	92.221
240.000	92.259
250.000	91.730

Name: FDOT_050Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.153
15.994	96.103
24.007	96.153
32.004	96.604
40.001	101.714
47.998	96.103
55.994	96.804
64.008	96.804
72.005	96.804
80.002	95.451
87.998	95.501
95.995	95.451
103.992	95.802
112.006	95.802
120.002	95.802
127.999	97.455
135.996	97.505
143.993	97.455
152.006	97.856
160.003	106.573
168.000	97.004
170.000	94.800

Name: FDOT_100Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800

7.997	96.197
15.994	96.145
24.007	96.197
32.004	96.663
40.001	101.941
47.998	96.145
55.994	96.870
64.008	96.870
72.005	96.870
80.002	95.473
87.998	95.524
95.995	95.473
103.992	95.835
112.006	95.835
120.002	95.835
127.999	97.542
135.996	97.594
143.993	97.542
152.006	97.956
160.003	106.960
168.000	97.077
170.000	94.800

Name: FDOT_010Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.044
15.994	95.998
24.007	96.044
32.004	96.459
40.001	101.160
47.998	95.998
55.994	96.643
64.008	96.643
72.005	96.643
80.002	95.399
87.998	95.445
95.995	95.399
103.992	95.722
112.006	95.722
120.002	95.722
127.999	97.243
135.996	97.289
143.993	97.243
152.006	97.611
160.003	105.630
168.000	96.828
170.000	94.800

Name: FDOT_025Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.130
15.994	96.081
24.007	96.130
32.004	96.574
40.001	101.600
47.998	96.081
55.994	96.771
64.008	96.771
72.005	96.771
80.002	95.441
87.998	95.490
95.995	95.441
103.992	95.786
112.006	95.786
120.002	95.786
127.999	97.412
135.996	97.461
143.993	97.412
152.006	97.806
160.003	106.380
168.000	96.968
170.000	94.800

Name: FDOT_002Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)

0.000	94.800
7.997	96.013
15.994	95.968
24.007	96.013
32.004	96.418
40.001	101.001
47.998	95.968
55.994	96.597
64.008	96.597
72.005	96.597
80.002	95.384
87.998	95.429
95.995	95.384
103.992	95.699
112.006	95.699
120.002	95.699
127.999	97.182
135.996	97.227
143.993	97.182
152.006	97.541
160.003	105.360
168.000	96.777
170.000	94.800

Name: FDOT_005Y168H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.997	96.025
15.994	95.980
24.007	96.025
32.004	96.433
40.001	101.061
47.998	95.980
55.994	96.615
64.008	96.615
72.005	96.615
80.002	95.390
87.998	95.435
95.995	95.390
103.992	95.707
112.006	95.707
120.002	95.707
127.999	97.204
135.996	97.250
143.993	97.204
152.006	97.567
160.003	105.461
168.000	96.796
170.000	94.800

Name: FDOT_050Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.872
15.994	95.826
24.007	95.872
32.004	96.287
40.001	100.980
47.998	95.826
55.994	96.471
64.008	96.471
72.005	96.471
80.002	95.228
87.998	95.274
95.995	95.228
103.992	95.550
112.006	95.550
120.002	95.550
127.999	97.069
135.996	97.115
143.993	97.069
152.006	97.437
160.003	105.443
168.000	96.655
170.000	94.630

Name: FDOT_100Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)

0.000	94.630
7.997	95.917
15.994	95.869
24.007	95.917
32.004	96.346
40.001	101.207
47.998	95.869
55.994	96.536
64.008	96.536
72.005	96.536
80.002	95.250
87.998	95.297
95.995	95.250
103.992	95.583
112.006	95.583
120.002	95.583
127.999	97.156
135.996	97.204
143.993	97.156
152.006	97.537
160.003	105.830
168.000	96.727
170.000	94.630

Name: FDOT_010Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.764
15.994	95.722
24.007	95.764
32.004	96.142
40.001	100.426
47.998	95.722
55.994	96.310
64.008	96.310
72.005	96.310
80.002	95.176
87.998	95.218
95.995	95.176
103.992	95.470
112.006	95.470
120.002	95.470
127.999	96.856
135.996	96.898
143.993	96.856
152.006	97.192
160.003	104.500
168.000	96.478
170.000	94.630

Name: FDOT_025Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.850
15.994	95.805
24.007	95.850
32.004	96.257
40.001	100.866
47.998	95.805
55.994	96.438
64.008	96.438
72.005	96.438
80.002	95.217
87.998	95.263
95.995	95.217
103.992	95.534
112.006	95.534
120.002	95.534
127.999	97.025
135.996	97.070
143.993	97.025
152.006	97.387
160.003	105.250
168.000	96.618
170.000	94.630

Name: FDOT_002Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.733
15.994	95.692
24.007	95.733
32.004	96.101
40.001	100.267
47.998	95.692
55.994	96.264
64.008	96.264
72.005	96.264
80.002	95.161
87.998	95.202
95.995	95.161
103.992	95.447
112.006	95.447
120.002	95.447
127.999	96.795
135.996	96.836
143.993	96.795
152.006	97.122
160.003	104.230
168.000	96.427
170.000	94.630

Name: FDOT_005Y168H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.997	95.745
15.994	95.703
24.007	95.745
32.004	96.116
40.001	100.327
47.998	95.703
55.994	96.281
64.008	96.281
72.005	96.281
80.002	95.167
87.998	95.208
95.995	95.167
103.992	95.456
112.006	95.456
120.002	95.456
127.999	96.818
135.996	96.859
143.993	96.818
152.006	97.148
160.003	104.331
168.000	96.446
170.000	94.630

Name: FDOT_050Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.355
16.008	95.397
24.000	95.355
31.992	96.506
40.008	101.156
48.000	96.122
55.992	95.952
64.008	95.909
72.000	95.952
79.992	95.099
88.008	95.056
96.000	95.099
103.992	95.099
112.008	95.056
120.000	95.099
127.992	95.099
136.008	95.056
144.000	95.099
151.992	95.653
160.008	95.653
168.000	95.653
175.992	97.871
184.008	106.573
192.000	97.018
199.992	96.208

208.008	96.208
216.000	96.250
223.992	95.355
232.008	95.355
240.000	95.397
250.000	94.800

Name: FDOT_100Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.373
16.008	95.417
24.000	95.373
31.992	96.562
40.008	101.365
48.000	96.166
55.992	95.990
64.008	95.946
72.000	95.990
79.992	95.108
88.008	95.064
96.000	95.108
103.992	95.108
112.008	95.064
120.000	95.108
127.992	95.108
136.008	95.064
144.000	95.108
151.992	95.681
160.008	95.681
168.000	95.681
175.992	97.972
184.008	106.960
192.000	97.091
199.992	96.254
208.008	96.254
216.000	96.298
223.992	95.373
232.008	95.373
240.000	95.417
250.000	94.800

Name: FDOT_010Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.310
16.008	95.349
24.000	95.310
31.992	96.370
40.008	100.647
48.000	96.016
55.992	95.859
64.008	95.820
72.000	95.859
79.992	95.075
88.008	95.035
96.000	95.075
103.992	95.075
112.008	95.035
120.000	95.075
127.992	95.075
136.008	95.035
144.000	95.075
151.992	95.585
160.008	95.585
168.000	95.585
175.992	97.625
184.008	105.630
192.000	96.840
199.992	96.095
208.008	96.095
216.000	96.134
223.992	95.310
232.008	95.310
240.000	95.349
250.000	94.800

Name: FDOT_025Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.345
16.008	95.387
24.000	95.345
31.992	96.478
40.008	101.052
48.000	96.101
55.992	95.933
64.008	95.891
72.000	95.933
79.992	95.094
88.008	95.052
96.000	95.094
103.992	95.094
112.008	95.052
120.000	95.094
127.992	95.094
136.008	95.052
144.000	95.094
151.992	95.639
160.008	95.639
168.000	95.639
175.992	97.821
184.008	106.380
192.000	96.982
199.992	96.185
208.008	96.185
216.000	96.227
223.992	95.345
232.008	95.345
240.000	95.387
250.000	94.800

Name: FDOT_002Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.297
16.008	95.336
24.000	95.297
31.992	96.330
40.008	100.501
48.000	95.986
55.992	95.833
64.008	95.795
72.000	95.833
79.992	95.068
88.008	95.030
96.000	95.068
103.992	95.068
112.008	95.030
120.000	95.068
127.992	95.068
136.008	95.030
144.000	95.068
151.992	95.565
160.008	95.565
168.000	95.565
175.992	97.555
184.008	105.360
192.000	96.790
199.992	96.063
208.008	96.063
216.000	96.101
223.992	95.297
232.008	95.297
240.000	95.336
250.000	94.800

Name: FDOT_005Y240H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
7.992	95.302
16.008	95.341
24.000	95.302
31.992	96.345
40.008	100.556
48.000	95.997
55.992	95.843

64.008	95.804
72.000	95.843
79.992	95.070
88.008	95.032
96.000	95.070
103.992	95.070
112.008	95.032
120.000	95.070
127.992	95.070
136.008	95.032
144.000	95.070
151.992	95.573
160.008	95.573
168.000	95.573
175.992	97.581
184.008	105.461
192.000	96.809
199.992	96.075
208.008	96.075
216.000	96.113
223.992	95.302
232.008	95.302
240.000	95.341
250.000	94.800

Name: FDOT_050Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.139
16.008	95.179
24.000	95.139
31.992	96.197
40.008	100.468
48.000	95.845
55.992	95.688
64.008	95.649
72.000	95.688
79.992	94.904
88.008	94.865
96.000	94.904
103.992	94.904
112.008	94.865
120.000	94.904
127.992	94.904
136.008	94.865
144.000	94.904
151.992	95.414
160.008	95.414
168.000	95.414
175.992	97.451
184.008	105.443
192.000	96.667
199.992	95.923
208.008	95.923
216.000	95.962
223.992	95.139
232.008	95.139
240.000	95.179
250.000	94.630

Name: FDOT_100Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.158
16.008	95.198
24.000	95.158
31.992	96.253
40.008	100.676
48.000	95.888
55.992	95.726
64.008	95.685
72.000	95.726
79.992	94.914
88.008	94.873
96.000	94.914
103.992	94.914
112.008	94.873
120.000	94.914
127.992	94.914
136.008	94.873

144.000	94.914
151.992	95.442
160.008	95.442
168.000	95.442
175.992	97.552
184.008	105.830
192.000	96.740
199.992	95.969
208.008	95.969
216.000	96.010
223.992	95.158
232.008	95.158
240.000	95.198
250.000	94.630

Name: FDOT_010Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.095
16.008	95.131
24.000	95.095
31.992	96.060
40.008	99.958
48.000	95.739
55.992	95.596
64.008	95.560
72.000	95.596
79.992	94.880
88.008	94.845
96.000	94.880
103.992	94.880
112.008	94.845
120.000	94.880
127.992	94.880
136.008	94.845
144.000	94.880
151.992	95.345
160.008	95.345
168.000	95.345
175.992	97.205
184.008	104.500
192.000	96.490
199.992	95.810
208.008	95.810
216.000	95.846
223.992	95.095
232.008	95.095
240.000	95.131
250.000	94.630

Name: FDOT_025Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.130
16.008	95.169
24.000	95.130
31.992	96.169
40.008	100.363
48.000	95.823
55.992	95.669
64.008	95.630
72.000	95.669
79.992	94.899
88.008	94.861
96.000	94.899
103.992	94.899
112.008	94.861
120.000	94.899
127.992	94.899
136.008	94.861
144.000	94.899
151.992	95.400
160.008	95.400
168.000	95.400
175.992	97.400
184.008	105.250
192.000	96.631
199.992	95.900
208.008	95.900
216.000	95.938

223.992	95.130
232.008	95.130
240.000	95.169
250.000	94.630

Name: FDOT_002Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.082
16.008	95.117
24.000	95.082
31.992	96.021
40.008	99.813
48.000	95.708
55.992	95.569
64.008	95.534
72.000	95.569
79.992	94.873
88.008	94.839
96.000	94.873
103.992	94.873
112.008	94.839
120.000	94.873
127.992	94.873
136.008	94.839
144.000	94.873
151.992	95.326
160.008	95.326
168.000	95.326
175.992	97.134
184.008	104.230
192.000	96.439
199.992	95.778
208.008	95.778
216.000	95.813
223.992	95.082
232.008	95.082
240.000	95.117
250.000	94.630

Name: FDOT_005Y240H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
7.992	95.087
16.008	95.122
24.000	95.087
31.992	96.036
40.008	99.867
48.000	95.720
55.992	95.579
64.008	95.544
72.000	95.579
79.992	94.876
88.008	94.841
96.000	94.876
103.992	94.876
112.008	94.841
120.000	94.876
127.992	94.876
136.008	94.841
144.000	94.876
151.992	95.333
160.008	95.333
168.000	95.333
175.992	97.161
184.008	104.331
192.000	96.458
199.992	95.790
208.008	95.790
216.000	95.825
223.992	95.087
232.008	95.087
240.000	95.122
250.000	94.630

Name: SFWMD_025Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)

0.000	91.730
23.998	95.991
36.000	94.825
48.002	94.857
49.003	92.020
49.997	92.024
50.998	92.079
51.998	92.111
52.999	92.226
54.000	92.341
55.001	92.460
56.002	92.579
57.002	92.722
57.499	92.313
58.003	92.373
58.500	92.432
58.997	92.662
59.501	93.190
59.998	101.570
60.502	93.861
60.998	92.841
61.502	92.547
61.999	92.401
62.503	92.226
63.000	92.166
64.001	92.607
65.002	92.254
66.002	92.258
67.997	92.781
69.998	92.428
72.000	92.432
80.000	91.730

Name: ORANGE_025Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.504	91.814
1.008	91.814
1.512	91.814
1.992	92.148
2.496	92.148
3.000	92.398
3.504	92.816
4.008	92.983
4.512	93.485
4.992	93.485
5.496	93.568
6.000	93.652
6.504	95.657
7.008	96.159
7.512	97.328
7.992	98.665
8.496	100.420
9.000	100.336
9.504	97.830
10.008	97.579
10.512	94.738
10.992	94.822
11.496	93.735
12.000	93.401
12.504	93.652
13.008	93.568
13.512	92.983
13.992	92.900
14.496	92.231
15.000	92.315
15.504	92.064
16.008	92.148
16.512	92.064
16.992	92.148
17.496	92.148
18.000	92.064
18.504	92.148
19.008	92.064
19.512	91.981
19.992	92.064
20.496	91.897
21.000	91.981
21.504	91.897
22.008	91.981
22.512	91.897
22.992	91.981
23.496	91.814

24.000	91.814
30.000	91.730

Name: ORANGE_100Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	91.730
0.504	91.819
1.008	91.819
1.512	91.819
1.992	92.176
2.496	92.176
3.000	92.443
3.504	92.889
4.008	93.067
4.512	93.602
4.992	93.602
5.496	93.691
6.000	93.780
6.504	95.919
7.008	96.454
7.512	97.702
7.992	99.128
8.496	101.000
9.000	100.911
9.504	98.237
10.008	97.969
10.512	94.939
10.992	95.028
11.496	93.869
12.000	93.513
12.504	93.780
13.008	93.691
13.512	93.067
13.992	92.978
14.496	92.265
15.000	92.354
15.504	92.087
16.008	92.176
16.512	92.087
16.992	92.176
17.496	92.176
18.000	92.087
18.504	92.176
19.008	92.087
19.512	91.997
19.992	92.087
20.496	91.908
21.000	91.997
21.504	91.908
22.008	91.997
22.512	91.908
22.992	91.997
23.496	91.819
24.000	91.819
30.000	91.730

Name: ORNAGE_010Y024H Node: BSL_OUTFALL1 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.504	94.700
1.008	94.700
1.512	94.700
1.992	94.982
2.496	94.982
3.000	95.193
3.504	95.545
4.008	95.686
4.512	96.108
4.992	96.108
5.496	96.178
6.000	96.249
6.504	97.938
7.008	98.360
7.512	99.346
7.992	100.472
8.496	101.950
9.000	101.880
9.504	99.768
10.008	99.557
10.512	97.164

10.992	97.234
11.496	96.319
12.000	96.038
12.504	96.249
13.008	96.178
13.512	95.686
13.992	95.615
14.496	95.052
15.000	95.123
15.504	94.912
16.008	94.982
16.512	94.912
16.992	94.982
17.496	94.982
18.000	94.912
18.504	94.982
19.008	94.912
19.512	94.841
19.992	94.912
20.496	94.771
21.000	94.841
21.504	94.771
22.008	94.841
22.512	94.771
22.992	94.841
23.496	94.700
24.000	94.700
30.000	94.630

Name: ORANGE_100Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.504	94.899
1.008	94.899
1.512	94.899
1.992	95.294
2.496	95.294
3.000	95.590
3.504	96.084
4.008	96.281
4.512	96.874
4.992	96.874
5.496	96.972
6.000	97.071
6.504	99.441
7.008	100.034
7.512	101.416
7.992	102.996
8.496	105.070
9.000	104.971
9.504	102.009
10.008	101.713
10.512	98.355
10.992	98.454
11.496	97.170
12.000	96.775
12.504	97.071
13.008	96.972
13.512	96.281
13.992	96.183
14.496	95.392
15.000	95.491
15.504	95.195
16.008	95.294
16.512	95.195
16.992	95.294
17.496	95.294
18.000	95.195
18.504	95.294
19.008	95.195
19.512	95.096
19.992	95.195
20.496	94.998
21.000	95.096
21.504	94.998
22.008	95.096
22.512	94.998
22.992	95.096
23.496	94.899
24.000	94.899
30.000	94.800

Name: ORNAGE_010Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.504	94.895
1.008	94.895
1.512	94.895
1.992	95.273
2.496	95.273
3.000	95.556
3.504	96.029
4.008	96.218
4.512	96.785
4.992	96.785
5.496	96.879
6.000	96.974
6.504	99.242
7.008	99.810
7.512	101.133
7.992	102.645
8.496	104.630
9.000	104.536
9.504	101.728
10.008	101.447
10.512	98.264
10.992	98.358
11.496	97.141
12.000	96.767
12.504	97.048
13.008	96.954
13.512	96.299
13.992	96.205
14.496	95.456
15.000	95.550
15.504	95.269
16.008	95.363
16.512	95.269
16.992	95.363
17.496	95.363
18.000	95.269
18.504	95.363
19.008	95.269
19.512	95.175
19.992	95.269
20.496	95.082
21.000	95.175
21.504	95.082
22.008	95.175
22.512	95.082
22.992	95.175
23.496	94.988
24.000	94.988
30.000	94.800

Name: SFWMD_025Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
23.998	99.815
36.000	98.442
48.002	98.479
49.003	95.141
49.997	95.146
50.998	95.211
51.998	95.248
52.999	95.384
54.000	95.519
55.001	95.659
56.002	95.799
57.002	95.967
57.499	95.486
58.003	95.556
58.500	95.626
58.997	95.897
59.501	96.518
59.998	106.380
60.502	97.307
60.998	96.107
61.502	95.762
61.999	95.589
62.503	95.384
63.000	95.314
64.001	95.832

65.002	95.416
66.002	95.421
67.997	96.037
69.998	95.622
72.000	95.626
80.000	94.800

Name: ORANGE_025Y024H Node: VWCD Type: Stage

Time(hrs)	Stage(ft)
0.000	94.800
0.504	94.895
1.008	94.895
1.512	94.895
1.992	95.273
2.496	95.273
3.000	95.556
3.504	96.029
4.008	96.218
4.512	96.785
4.992	96.785
5.496	96.879
6.000	96.974
6.504	99.242
7.008	99.810
7.512	101.133
7.992	102.645
8.496	104.630
9.000	104.536
9.504	101.728
10.008	101.447
10.512	98.264
10.992	98.358
11.496	97.141
12.000	96.767
12.504	97.048
13.008	96.954
13.512	96.299
13.992	96.205
14.496	95.456
15.000	95.550
15.504	95.269
16.008	95.363
16.512	95.269
16.992	95.363
17.496	95.363
18.000	95.269
18.504	95.363
19.008	95.269
19.512	95.175
19.992	95.269
20.496	95.082
21.000	95.175
21.504	95.082
22.008	95.175
22.512	95.082
22.992	95.175
23.496	94.988
24.000	94.988
30.000	94.800

Name: ORANGE_100Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	96.430
0.504	96.500
1.008	96.500
1.512	96.500
1.992	96.779
2.496	96.779
3.000	96.988
3.504	97.336
4.008	97.476
4.512	97.894
4.992	97.894
5.496	97.964
6.000	98.033
6.504	99.706
7.008	100.125
7.512	101.101
7.992	102.216
8.496	103.680

9.000	103.610
9.504	101.519
10.008	101.310
10.512	98.940
10.992	99.009
11.496	98.103
12.000	97.824
12.504	98.033
13.008	97.964
13.512	97.476
13.992	97.406
14.496	96.848
15.000	96.918
15.504	96.709
16.008	96.779
16.512	96.709
16.992	96.779
17.496	96.779
18.000	96.709
18.504	96.779
19.008	96.709
19.512	96.639
19.992	96.709
20.496	96.569
21.000	96.639
21.504	96.569
22.008	96.639
22.512	96.569
22.992	96.639
23.496	96.500
24.000	96.500
30.000	96.430

Name: ORNAGE_010Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.504	94.700
1.008	94.700
1.512	94.700
1.992	94.982
2.496	94.982
3.000	95.193
3.504	95.545
4.008	95.686
4.512	96.108
4.992	96.108
5.496	96.178
6.000	96.249
6.504	97.938
7.008	98.360
7.512	99.346
7.992	100.472
8.496	101.950
9.000	101.880
9.504	99.768
10.008	99.557
10.512	97.164
10.992	97.234
11.496	96.319
12.000	96.038
12.504	96.249
13.008	96.178
13.512	95.686
13.992	95.615
14.496	95.052
15.000	95.123
15.504	94.912
16.008	94.982
16.512	94.912
16.992	94.982
17.496	94.982
18.000	94.912
18.504	94.982
19.008	94.912
19.512	94.841
19.992	94.912
20.496	94.771
21.000	94.841
21.504	94.771
22.008	94.841
22.512	94.771
22.992	94.841
23.496	94.700

24.000	94.700
30.000	94.630

Name: SFWMD_025Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
23.998	99.229
36.000	97.970
48.002	98.004
49.003	94.943
49.997	94.947
50.998	95.007
51.998	95.041
52.999	95.165
54.000	95.289
55.001	95.418
56.002	95.546
57.002	95.701
57.499	95.259
58.003	95.324
58.500	95.388
58.997	95.636
59.501	96.206
59.998	105.250
60.502	96.930
60.998	95.829
61.502	95.512
61.999	95.354
62.503	95.165
63.000	95.101
64.001	95.576
65.002	95.195
66.002	95.200
67.997	95.765
69.998	95.384
72.000	95.388
80.000	94.630

Name: ORANGE_025Y024H Node: BSL_OUTFALL2 Type: Stage

Time(hrs)	Stage(ft)
0.000	94.630
0.504	94.700
1.008	94.700
1.512	94.700
1.992	94.982
2.496	94.982
3.000	95.193
3.504	95.545
4.008	95.686
4.512	96.108
4.992	96.108
5.496	96.178
6.000	96.249
6.504	97.938
7.008	98.360
7.512	99.346
7.992	100.472
8.496	101.950
9.000	101.880
9.504	99.768
10.008	99.557
10.512	97.164
10.992	97.234
11.496	96.319
12.000	96.038
12.504	96.249
13.008	96.178
13.512	95.686
13.992	95.615
14.496	95.052
15.000	95.123
15.504	94.912
16.008	94.982
16.512	94.912
16.992	94.982
17.496	94.982
18.000	94.912
18.504	94.982
19.008	94.912
19.512	94.841

19.992	94.912
20.496	94.771
21.000	94.841
21.504	94.771
22.008	94.841
22.512	94.771
22.992	94.841
23.496	94.700
24.000	94.700
30.000	94.630

Name:	BSN139	BSN139	BSN140B1	BSN140B1	BSN140B2
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	PND141B2	PND141B2	PND140B1	PND140B1	PND140B2
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	28.07	28.07	13.40	13.40	12.45
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	20.520	20.520	6.030	6.030	3.440
Curve Num:	71.160	71.160	72.170	72.170	67.890
DCIA(%):	25.240	25.240	56.720	56.720	67.150
Time Max(hrs):	8.98	59.98	8.98	59.98	8.98
Flow Max(cfs):	27.61	61.64	9.53	25.43	5.47
Runoff Volume(in):	5.976	7.266	7.091	8.432	7.262
Runoff Volume(ft3):	445124	541241	155221	184576	90680

Name:	BSN140B2	BSN140B3	BSN140B3	BSN141B1	BSN141B1
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	PND140B2	PND140B3	PND140B3	PND141B1	PND141B1
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	12.45	14.58	14.58	15.55	15.55
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	3.440	6.000	6.000	5.750	5.750
Curve Num:	67.890	64.540	64.540	52.260	52.260
DCIA(%):	67.150	56.830	56.830	53.390	53.390
Time Max(hrs):	59.98	8.98	59.98	8.98	59.98
Flow Max(cfs):	14.76	8.92	23.71	7.38	19.95
Runoff Volume(in):	8.602	6.700	8.002	5.882	7.084
Runoff Volume(ft3):	107409	145920	174288	122777	147870

Name:	BSN141B2	BSN141B2	BSN141B3	BSN141B3	BSN141B4
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	PND141B2	PND141B2	PND141B3	PND141B3	PND141B4
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	29.15	29.15	16.85	16.85	25.32
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	6.680	6.680	9.600	9.600	8.500
Curve Num:	49.000	49.000	71.310	71.310	50.100
DCIA(%):	43.410	43.410	60.940	60.940	55.180
Time Max(hrs):	8.98	59.98	8.98	59.98	8.98
Flow Max(cfs):	7.04	16.24	15.17	38.12	10.44
Runoff Volume(in):	5.110	6.234	7.188	8.532	5.872
Runoff Volume(ft3):	123918	151157	250496	297308	181166

Name:	BSN141B4	BSN142	BSN142	BSN142A	BSN142A
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	PND141B4	PND142	PND142	FPC141B	FPC141B
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	25.32	31.04	31.04	21.18	21.18
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	8.500	13.960	13.960	3.390	3.390
Curve Num:	50.100	79.420	79.420	62.110	62.110
DCIA(%):	55.180	22.640	22.640	0.000	0.000
Time Max(hrs):	59.98	8.98	59.98	8.98	59.98
Flow Max(cfs):	24.24	20.64	42.73	3.40	9.39
Runoff Volume(in):	7.062	6.659	8.002	4.040	5.180

Runoff Volume(ft3):	217912	337419	405504	49717	63749
Name:	BSN142B	BSN142B	BSN142C	BSN142C	BSN142E3
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	LK_WILLIS	LK_WILLIS	SW142C	SW142C	BSL_OUTFALL2
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	29.09	29.09	39.50	39.50	23.58
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	8.400	8.400	5.740	5.740	1.660
Curve Num:	78.780	78.780	74.600	74.600	83.200
DCIA(%):	39.520	39.520	0.000	0.000	10.840
Time Max(hrs):	8.98	59.98	8.98	59.98	8.98
Flow Max(cfs):	12.86	26.94	7.05	14.23	2.60
Runoff Volume(in):	7.014	8.367	5.538	6.825	6.785
Runoff Volume(ft3):	213859	255114	115390	142214	40883
Name:	BSN142E3	BSN200C	BSN200C	BSNFPC141	BSNFPC141
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	BSL_OUTFALL2	PND142	PND142	PNDFPC141	PNDFPC141
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	23.58	10.00	10.00	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	1.660	1.200	1.200	15.200	15.200
Curve Num:	83.200	84.000	84.000	72.220	72.220
DCIA(%):	10.840	100.000	100.000	8.820	8.820
Time Max(hrs):	59.98	8.50	59.97	8.98	59.98
Flow Max(cfs):	5.88	2.13	5.74	21.04	62.32
Runoff Volume(in):	8.142	8.500	9.900	5.538	6.814
Runoff Volume(ft3):	49060	37026	43124	305550	375972
Name:	BSNPND142	BSNPND142	BSNPNDC	BSNPNDC	EX_BSN140A
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H
Node:	BSL_OUTFALL1	BSL_OUTFALL1	MODPNDC	MODPNDC	LK_RUBY
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72	Orange
Rain Amount(in):	8.600	10.000	8.600	10.000	8.600
Duration(hrs):	24.00	72.00	24.00	72.00	24.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	10.00	10.00	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	0.480	0.480	75.010	75.010	0.550
Curve Num:	84.000	84.000	77.220	77.220	84.000
DCIA(%):	0.000	0.000	75.430	75.430	0.000
Time Max(hrs):	8.98	59.98	8.98	59.97	8.98
Flow Max(cfs):	0.77	2.17	127.35	349.21	0.89
Runoff Volume(in):	6.673	8.029	7.850	9.228	6.673
Runoff Volume(ft3):	11626	13990	2137415	2512599	13322
Name:	EX_BSN140A	EX_BSN142D	EX_BSN142D	EX_BSN142E1	EX_BSN142E1
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	LK_RUBY	NBSL5300	NBSL5300	EX_PND142E1	EX_PND142E1
Type:	SB	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00	1.00
Rain File:	Sfwmd72	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	10.000	8.600	10.000	8.600	10.000
Duration(hrs):	72.00	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	33.30	33.30	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00	0.00
Area(ac):	0.550	13.910	13.910	1.520	1.520
Curve Num:	84.000	84.960	84.960	84.000	84.000
DCIA(%):	0.000	0.000	0.000	44.080	44.080

Time Max(hrs):	59.98	8.98	59.98	8.98	59.97
Flow Max(cfs):	2.49	21.12	42.03	2.56	7.05
Runoff Volume(in):	8.029	6.789	8.150	7.478	8.854
Runoff Volume(ft3):	16030	342778	411531	41261	48852

Name:	EX_BSN142E2	EX_BSN142E2	EX_BSNVWCD	EX_BSNVWCD
Group:	PROPOSE	PROPOSE	PROPOSE	PROPOSE
Simulation:	ORANGE25Y24H	SFWMD25Y72H	ORANGE25Y24H	SFWMD25Y72H
Node:	EX_PND142E2	EX_PND142E2	NBSL5300	NBSL5300
Type:	SB	SB	SB	SB
Spec Time Inc(min):	1.00	1.00	1.00	1.00
Comp Time Inc(min):	1.00	1.00	1.00	1.00
Rain File:	Orange	Sfwmd72	Orange	Sfwmd72
Rain Amount(in):	8.600	10.000	8.600	10.000
Duration(hrs):	24.00	72.00	24.00	72.00
Status:	Onsite	Onsite	Onsite	Onsite
TC(min):	10.00	10.00	10.00	10.00
Time Shift(hrs):	0.00	0.00	0.00	0.00
Area(ac):	1.890	1.890	0.970	0.970
Curve Num:	84.000	84.000	85.300	85.300
DCIA(%):	43.920	43.920	0.000	0.000
Time Max(hrs):	8.98	59.97	8.98	59.98
Flow Max(cfs):	3.18	8.76	1.58	4.42
Runoff Volume(in):	7.475	8.851	6.830	8.193
Runoff Volume(ft3):	51285	60723	24048	28848

I-4 Interim Daryl Carter (DCP)
FPID NO.: 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District) -
Proposed Condition: SFWMD Node Min/ Max Condition Reports

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL_OUTFALL1	PROPOSE	ORANGE25Y24H_G	8.50	100.42	110.00	-0.0008	40	11.05	40.36	0.00	0.00
BSL_OUTFALL1	PROPOSE	SFWMD25Y72H_G	60.00	101.57	110.00	0.0023	40	60.21	78.34	0.00	0.00
BSL_OUTFALL2	PROPOSE	ORANGE25Y24H_G	8.50	101.95	108.00	-0.0007	16	9.01	142.03	0.00	0.00
BSL_OUTFALL2	PROPOSE	SFWMD25Y72H_G	60.00	105.25	108.00	0.0025	16	60.03	121.26	0.00	0.00
EX_PND142E1	PROPOSE	ORANGE25Y24H_G	25.50	111.74	113.00	0.0001	15541	8.75	2.54	0.00	0.00
EX_PND142E1	PROPOSE	SFWMD25Y72H_G	72.05	112.10	113.00	0.0002	16382	60.00	6.76	72.05	0.11
EX_PND142E2	PROPOSE	ORANGE25Y24H_G	8.51	102.57	103.00	0.0016	2345	8.75	3.15	6.09	6.33
EX_PND142E2	PROPOSE	SFWMD25Y72H_G	60.00	105.46	103.00	0.0072	6611	60.00	8.41	60.03	36.10
FPC141B	PROPOSE	ORANGE25Y24H_G	8.55	100.55	110.00	-0.1000	170	14.00	18.38	0.00	52.61
FPC141B	PROPOSE	SFWMD25Y72H_G	60.00	101.88	110.00	-0.1000	135	60.14	30.16	0.00	52.61
LK_RUBY	PROPOSE	ORANGE25Y24H_G	0.00	132.00	99999.00	0.0000	0	9.00	0.87	0.00	0.00
LK_RUBY	PROPOSE	SFWMD25Y72H_G	0.00	132.00	99999.00	0.0000	0	60.00	2.39	0.00	0.00
LK_WILLIS	PROPOSE	ORANGE25Y24H_G	30.00	104.76	107.00	0.0000	5728791	9.00	358.97	25.48	34.11
LK_WILLIS	PROPOSE	SFWMD25Y72H_G	80.00	105.03	107.00	0.0001	5760764	60.00	629.15	74.14	36.27
PND140B1	PROPOSE	ORANGE25Y24H_G	14.06	129.07	129.00	0.0001	41929	9.00	9.39	9.00	4.20
PND140B1	PROPOSE	SFWMD25Y72H_G	62.54	129.23	129.00	0.0002	42715	60.00	23.09	60.01	9.00
PND140B2	PROPOSE	ORANGE25Y24H_G	14.06	129.07	129.00	0.0001	44290	9.00	9.62	9.00	4.16
PND140B2	PROPOSE	SFWMD25Y72H_G	62.54	129.23	129.00	0.0002	45128	60.00	23.47	60.01	8.80
PND140B3	PROPOSE	ORANGE25Y24H_G	14.06	129.07	129.00	0.0001	92666	9.00	13.02	14.06	3.22
PND140B3	PROPOSE	SFWMD25Y72H_G	62.54	129.23	129.00	0.0002	94106	60.00	33.10	62.54	3.74
PND141B1	PROPOSE	ORANGE25Y24H_G	14.18	119.00	120.00	0.0001	96272	9.00	20.56	14.18	5.15
PND141B1	PROPOSE	SFWMD25Y72H_G	64.07	119.31	120.00	0.0003	98029	60.00	55.47	64.07	6.11
PND141B2	PROPOSE	ORANGE25Y24H_G	13.73	115.65	116.70	0.0001	146351	9.00	35.06	13.73	6.53
PND141B2	PROPOSE	SFWMD25Y72H_G	62.25	116.04	116.70	0.0003	149041	60.00	83.61	62.25	8.10
PND141B3	PROPOSE	ORANGE25Y24H_G	15.07	109.89	112.50	0.0000	161966	8.75	15.15	15.07	0.97
PND141B3	PROPOSE	SFWMD25Y72H_G	64.56	110.06	112.50	0.0001	163554	60.00	41.22	64.56	1.26
PND141B4	PROPOSE	ORANGE25Y24H_G	15.09	107.03	109.80	0.0000	130535	9.00	10.81	15.09	0.73
PND141B4	PROPOSE	SFWMD25Y72H_G	67.81	107.20	109.80	0.0001	131776	60.00	30.97	67.81	0.97
PND142	PROPOSE	ORANGE25Y24H_G	13.87	98.93	104.00	0.0001	136227	9.00	21.91	13.87	4.16
PND142	PROPOSE	SFWMD25Y72H_G	62.68	99.10	104.00	0.0002	137978	60.00	42.99	62.68	4.93
PNDFPC141	PROPOSE	ORANGE25Y24H_G	30.00	104.66	106.00	0.0002	61870	9.10	40.39	30.00	5.07
PNDFPC141	PROPOSE	SFWMD25Y72H_G	60.17	104.90	106.00	0.0002	62894	59.64	51.11	60.17	6.98
SW142C	PROPOSE	SFWMD25Y72H_G	60.07	105.65	107.26	-0.0040	7746	60.00	14.23	60.07	19.04
VWCD	PROPOSE	ORANGE25Y24H_G	8.50	104.63	107.46	-0.0009	25	14.50	3.64	0.00	0.00
VWCD	PROPOSE	SFWMD25Y72H_G	60.00	106.38	107.46	0.0028	25	61.00	12.97	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL204	PROPOSE	002Y001HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	002Y002HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	002Y004HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	002Y008HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	002Y024HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	002Y072HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	005Y001HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	005Y002HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	005Y004HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	005Y008HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	005Y024HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	005Y072HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	010Y001HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	010Y002HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	010Y004HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	010Y008HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	010Y024HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	010Y072HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	025Y001HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	025Y002HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	025Y004HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	025Y008HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	025Y024HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	025Y072HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	050Y001HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	050Y002HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	050Y004HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	050Y008HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	050Y024HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	050Y072HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	100Y001HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	100Y002HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	100Y004HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	100Y008HR_G	0.00	114.70	119.00	0.0000	118	0.00	0.00	0.00	0.00
BSL204	PROPOSE	100Y024HR_G	21.35	114.91	119.00	0.0000	193	0.00	0.00	29.55	0.01
BSL204	PROPOSE	100Y072HR_G	64.22	114.91	119.00	0.0000	194	0.00	0.00	74.12	0.01
BSL205	PROPOSE	002Y001HR_G	1.91	113.16	120.20	0.0001	175	1.88	0.23	1.91	0.23
BSL205	PROPOSE	002Y002HR_G	2.67	113.27	120.20	0.0001	183	2.65	0.44	2.67	0.44
BSL205	PROPOSE	002Y004HR_G	4.46	113.34	120.20	0.0000	187	4.44	0.63	4.46	0.63
BSL205	PROPOSE	002Y008HR_G	8.43	113.44	120.20	0.0000	191	8.41	0.90	8.43	0.90
BSL205	PROPOSE	002Y024HR_G	23.00	113.57	120.20	0.0000	194	22.99	1.36	23.00	1.36
BSL205	PROPOSE	002Y072HR_G	64.47	113.68	120.20	0.0000	195	64.46	1.76	64.47	1.76
BSL205	PROPOSE	005Y001HR_G	1.87	113.24	120.20	0.0001	181	1.85	0.38	1.87	0.38
BSL205	PROPOSE	005Y002HR_G	2.59	113.38	120.20	0.0001	189	2.57	0.72	2.59	0.72
BSL205	PROPOSE	005Y004HR_G	4.36	113.49	120.20	0.0000	192	4.35	1.06	4.36	1.06
BSL205	PROPOSE	005Y008HR_G	8.37	113.60	120.20	0.0000	195	8.35	1.47	8.37	1.47
BSL205	PROPOSE	005Y024HR_G	22.37	113.76	120.20	0.0000	195	22.36	2.09	22.37	2.09
BSL205	PROPOSE	005Y072HR_G	64.30	113.87	120.20	0.0000	193	64.28	2.55	64.30	2.55
BSL205	PROPOSE	010Y001HR_G	1.82	113.30	120.20	0.0001	185	1.80	0.53	1.82	0.53
BSL205	PROPOSE	010Y002HR_G	2.51	113.47	120.20	0.0001	192	2.49	1.01	2.51	1.01
BSL205	PROPOSE	010Y004HR_G	4.29	113.61	120.20	0.0001	195	4.27	1.49	4.29	1.49
BSL205	PROPOSE	010Y008HR_G	8.32	113.75	120.20	0.0001	195	8.31	2.03	8.32	2.03
BSL205	PROPOSE	010Y024HR_G	22.24	113.95	120.20	0.0000	191	22.23	2.88	22.24	2.88
BSL205	PROPOSE	010Y072HR_G	64.25	114.05	120.20	0.0000	187	64.23	3.32	64.25	3.32
BSL205	PROPOSE	025Y001HR_G	1.76	113.39	120.20	0.0001	189	1.74	0.77	1.76	0.77
BSL205	PROPOSE	025Y002HR_G	2.48	113.60	120.20	0.0001	195	2.46	1.45	2.48	1.45
BSL205	PROPOSE	025Y004HR_G	4.24	113.78	120.20	0.0001	195	4.23	2.14	4.24	2.14
BSL205	PROPOSE	025Y008HR_G	8.26	113.97	120.20	0.0001	191	8.25	2.96	8.26	2.96
BSL205	PROPOSE	025Y024HR_G	22.04	114.25	120.20	0.0001	173	22.03	4.18	22.04	4.18

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL205	PROPOSE	025Y072HR_G	64.22	114.35	120.20	0.0001	159	64.21	4.58	64.22	4.58
BSL205	PROPOSE	050Y001HR_G	1.73	113.46	120.20	0.0002	192	1.71	0.98	1.73	0.98
BSL205	PROPOSE	050Y002HR_G	2.46	113.69	120.20	0.0001	195	2.45	1.79	2.46	1.79
BSL205	PROPOSE	050Y004HR_G	4.23	113.91	120.20	0.0001	192	4.22	2.69	4.23	2.69
BSL205	PROPOSE	050Y008HR_G	8.22	114.15	120.20	0.0001	181	8.21	3.77	8.22	3.77
BSL205	PROPOSE	050Y024HR_G	21.81	114.57	120.20	0.0001	187	21.80	5.42	21.81	5.42
BSL205	PROPOSE	050Y072HR_G	64.22	114.63	120.20	0.0001	193	64.20	5.66	64.22	5.66
BSL205	PROPOSE	100Y001HR_G	1.70	113.53	120.20	0.0002	193	1.69	1.20	1.70	1.20
BSL205	PROPOSE	100Y002HR_G	2.44	113.77	120.20	0.0001	195	2.43	2.13	2.44	2.13
BSL205	PROPOSE	100Y004HR_G	2.44	113.77	120.20	0.0001	195	2.43	2.13	2.44	2.13
BSL205	PROPOSE	100Y008HR_G	8.20	114.37	120.20	0.0001	153	8.17	4.67	8.20	4.67
BSL205	PROPOSE	100Y024HR_G	21.43	114.91	120.20	0.0001	228	21.44	6.87	21.43	6.87
BSL205	PROPOSE	100Y072HR_G	64.22	114.91	120.20	0.0001	228	64.19	6.89	64.22	6.89
BSL206	PROPOSE	002Y001HR_G	1.01	110.49	117.00	0.0001	338	1.91	0.23	1.90	0.23
BSL206	PROPOSE	002Y002HR_G	2.54	110.55	117.00	0.0001	377	2.67	0.44	2.68	0.44
BSL206	PROPOSE	002Y004HR_G	4.32	110.60	117.00	0.0000	398	4.46	0.63	4.48	0.63
BSL206	PROPOSE	002Y008HR_G	8.42	110.67	117.00	0.0000	419	8.43	0.90	8.45	0.90
BSL206	PROPOSE	002Y024HR_G	23.00	110.77	117.00	0.0000	444	23.00	1.36	23.03	1.36
BSL206	PROPOSE	002Y072HR_G	64.48	110.85	117.00	0.0000	459	64.47	1.76	64.50	1.76
BSL206	PROPOSE	005Y001HR_G	1.77	110.53	117.00	0.0001	368	1.87	0.38	1.87	0.38
BSL206	PROPOSE	005Y002HR_G	2.53	110.63	117.00	0.0001	406	2.59	0.72	2.60	0.72
BSL206	PROPOSE	005Y004HR_G	4.29	110.70	117.00	0.0000	429	4.36	1.06	4.37	1.06
BSL206	PROPOSE	005Y008HR_G	8.37	110.79	117.00	0.0000	448	8.37	1.47	8.39	1.47
BSL206	PROPOSE	005Y024HR_G	22.38	110.91	117.00	0.0000	468	22.37	2.09	22.40	2.09
BSL206	PROPOSE	005Y072HR_G	64.31	111.00	117.00	0.0000	477	64.30	2.55	64.32	2.55
BSL206	PROPOSE	010Y001HR_G	1.76	110.57	117.00	0.0001	387	1.82	0.53	1.83	0.53
BSL206	PROPOSE	010Y002HR_G	2.51	110.69	117.00	0.0001	426	2.51	1.01	2.56	1.01
BSL206	PROPOSE	010Y004HR_G	4.28	110.79	117.00	0.0000	449	4.29	1.49	4.31	1.49
BSL206	PROPOSE	010Y008HR_G	8.33	110.90	117.00	0.0000	467	8.32	2.03	8.34	2.03
BSL206	PROPOSE	010Y024HR_G	22.26	111.06	117.00	0.0000	482	22.24	2.88	22.26	2.88
BSL206	PROPOSE	010Y072HR_G	64.27	111.14	117.00	0.0000	485	64.25	3.32	64.28	3.32
BSL206	PROPOSE	025Y001HR_G	1.75	110.64	117.00	0.0001	409	1.76	0.77	1.79	0.77
BSL206	PROPOSE	025Y002HR_G	2.48	110.79	117.00	0.0001	448	2.48	1.45	2.50	1.45
BSL206	PROPOSE	025Y004HR_G	4.26	110.92	117.00	0.0000	469	4.24	2.14	4.27	2.14
BSL206	PROPOSE	025Y008HR_G	8.28	111.07	117.00	0.0001	482	8.26	2.96	8.29	2.96
BSL206	PROPOSE	025Y024HR_G	22.06	111.29	117.00	0.0000	483	22.04	4.18	22.06	4.18
BSL206	PROPOSE	025Y072HR_G	64.25	111.36	117.00	0.0000	477	64.22	4.58	64.24	4.58
BSL206	PROPOSE	050Y001HR_G	1.73	110.69	117.00	0.0002	424	1.73	0.98	1.76	0.98
BSL206	PROPOSE	050Y002HR_G	2.47	110.85	117.00	0.0001	460	2.46	1.79	2.48	1.79
BSL206	PROPOSE	050Y004HR_G	4.25	111.02	117.00	0.0001	479	4.23	2.69	4.25	2.69
BSL206	PROPOSE	050Y008HR_G	8.24	111.22	117.00	0.0001	485	8.22	3.77	8.24	3.77
BSL206	PROPOSE	050Y024HR_G	21.84	111.52	117.00	0.0000	463	21.81	5.42	21.84	5.42
BSL206	PROPOSE	050Y072HR_G	64.24	111.56	117.00	0.0000	459	64.22	5.66	64.24	5.66
BSL206	PROPOSE	100Y001HR_G	1.70	110.73	117.00	0.0002	436	1.70	1.20	1.73	1.20
BSL206	PROPOSE	100Y002HR_G	2.45	110.92	117.00	0.0001	469	2.44	2.13	2.46	2.13
BSL206	PROPOSE	100Y004HR_G	2.45	110.92	117.00	0.0001	469	2.44	2.13	2.46	2.13
BSL206	PROPOSE	100Y008HR_G	8.23	111.38	117.00	0.0001	474	8.20	4.67	8.22	4.67
BSL206	PROPOSE	100Y024HR_G	21.47	111.79	117.00	-0.0000	430	21.43	6.87	21.47	6.87
BSL206	PROPOSE	100Y072HR_G	64.24	111.79	117.00	-0.0000	429	64.22	6.89	64.24	6.89
BSL207	PROPOSE	002Y001HR_G	1.97	109.93	114.00	0.0001	416	1.90	0.23	1.97	0.23
BSL207	PROPOSE	002Y002HR_G	2.73	110.02	114.00	0.0001	460	2.68	0.44	2.73	0.44
BSL207	PROPOSE	002Y004HR_G	4.52	110.08	114.00	0.0000	487	4.48	0.63	4.52	0.63
BSL207	PROPOSE	002Y008HR_G	8.49	110.16	114.00	0.0000	513	8.45	0.90	8.49	0.90
BSL207	PROPOSE	002Y024HR_G	23.07	110.27	114.00	0.0000	544	23.03	1.36	23.07	1.36
BSL207	PROPOSE	002Y072HR_G	64.53	110.36	114.00	0.0000	563	64.50	1.76	64.53	1.76
BSL207	PROPOSE	005Y001HR_G	1.93	110.00	114.00	0.0001	449	1.87	0.38	1.93	0.38
BSL207	PROPOSE	005Y002HR_G	2.65	110.11	114.00	0.0001	497	2.60	0.72	2.65	0.72
BSL207	PROPOSE	005Y004HR_G	4.42	110.20	114.00	0.0001	526	4.37	1.06	4.42	1.06
BSL207	PROPOSE	005Y008HR_G	8.42	110.30	114.00	0.0000	550	8.39	1.47	8.42	1.47

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL207	PROPOSE	005Y024HR_G	22.42	110.43	114.00	0.0000	574	22.40	2.09	22.43	2.09
BSL207	PROPOSE	005Y072HR_G	64.36	110.52	114.00	0.0000	585	64.32	2.55	64.36	2.55
BSL207	PROPOSE	010Y001HR_G	1.89	110.05	114.00	0.0001	473	1.83	0.53	1.89	0.53
BSL207	PROPOSE	010Y002HR_G	2.61	110.19	114.00	0.0001	522	2.56	1.01	2.62	1.01
BSL207	PROPOSE	010Y004HR_G	4.35	110.30	114.00	0.0001	551	4.31	1.49	4.35	1.49
BSL207	PROPOSE	010Y008HR_G	8.37	110.42	114.00	0.0001	573	8.34	2.03	8.37	2.03
BSL207	PROPOSE	010Y024HR_G	22.29	110.58	114.00	0.0000	591	22.26	2.88	22.29	2.88
BSL207	PROPOSE	010Y072HR_G	64.31	110.65	114.00	0.0000	595	64.28	3.32	64.31	3.32
BSL207	PROPOSE	025Y001HR_G	1.83	110.12	114.00	0.0002	501	1.79	0.77	1.83	0.77
BSL207	PROPOSE	025Y002HR_G	2.54	110.30	114.00	0.0001	549	2.50	1.45	2.54	1.45
BSL207	PROPOSE	025Y004HR_G	4.31	110.44	114.00	0.0001	576	4.27	2.14	4.31	2.14
BSL207	PROPOSE	025Y008HR_G	8.32	110.59	114.00	0.0001	592	8.29	2.96	8.32	2.96
BSL207	PROPOSE	025Y024HR_G	22.09	110.80	114.00	0.0000	596	22.06	4.18	22.09	4.18
BSL207	PROPOSE	025Y072HR_G	64.27	110.86	114.00	0.0000	593	64.24	4.58	64.27	4.58
BSL207	PROPOSE	050Y001HR_G	1.80	110.18	114.00	0.0002	520	1.76	0.98	1.80	0.98
BSL207	PROPOSE	050Y002HR_G	2.51	110.37	114.00	0.0002	564	2.48	1.79	2.51	1.79
BSL207	PROPOSE	050Y004HR_G	4.28	110.54	114.00	0.0001	588	4.25	2.69	4.28	2.69
BSL207	PROPOSE	050Y008HR_G	8.27	110.73	114.00	0.0001	597	8.24	3.77	8.27	3.77
BSL207	PROPOSE	050Y024HR_G	21.86	110.99	114.00	0.0000	581	21.84	5.42	21.86	5.42
BSL207	PROPOSE	050Y072HR_G	64.26	111.03	114.00	0.0000	576	64.24	5.66	64.26	5.66
BSL207	PROPOSE	100Y001HR_G	1.76	110.24	114.00	0.0002	535	1.73	1.20	1.76	1.20
BSL207	PROPOSE	100Y002HR_G	2.49	110.44	114.00	0.0002	575	2.46	2.13	2.49	2.13
BSL207	PROPOSE	100Y004HR_G	2.49	110.44	114.00	0.0002	575	2.46	2.13	2.49	2.13
BSL207	PROPOSE	100Y008HR_G	8.25	110.88	114.00	0.0001	593	8.22	4.67	8.25	4.67
BSL207	PROPOSE	100Y024HR_G	21.48	111.21	114.00	0.0000	539	21.47	6.87	21.48	6.87
BSL207	PROPOSE	100Y072HR_G	64.26	111.22	114.00	0.0000	538	64.24	6.89	64.26	6.89
BSL208	PROPOSE	002Y001HR_G	2.00	107.45	117.25	0.0001	400	2.00	0.43	2.00	0.43
BSL208	PROPOSE	002Y002HR_G	3.18	107.56	117.25	0.0001	447	3.17	0.91	3.20	0.91
BSL208	PROPOSE	002Y004HR_G	4.75	107.65	117.25	0.0000	476	4.68	1.38	4.75	1.39
BSL208	PROPOSE	002Y008HR_G	8.42	107.75	117.25	0.0000	503	8.41	1.96	8.43	1.96
BSL208	PROPOSE	002Y024HR_G	22.46	107.88	117.25	0.0000	533	22.44	2.85	22.45	2.85
BSL208	PROPOSE	002Y072HR_G	64.47	108.00	117.25	0.0000	552	64.46	3.67	64.48	3.67
BSL208	PROPOSE	005Y001HR_G	2.00	107.53	117.25	0.0001	435	2.00	0.76	2.00	0.76
BSL208	PROPOSE	005Y002HR_G	3.01	107.69	117.25	0.0001	487	3.01	1.58	3.03	1.58
BSL208	PROPOSE	005Y004HR_G	4.55	107.81	117.25	0.0001	518	4.54	2.38	4.56	2.38
BSL208	PROPOSE	005Y008HR_G	8.34	107.94	117.25	0.0001	542	8.32	3.25	8.34	3.25
BSL208	PROPOSE	005Y024HR_G	22.23	108.10	117.25	0.0000	565	22.20	4.43	22.22	4.43
BSL208	PROPOSE	005Y072HR_G	64.35	108.29	117.25	0.0006	578	64.33	5.34	64.35	5.34
BSL208	PROPOSE	010Y001HR_G	2.00	107.60	117.25	0.0001	461	2.00	1.11	2.00	1.11
BSL208	PROPOSE	010Y002HR_G	2.93	107.79	117.25	0.0001	513	2.93	2.24	2.95	2.24
BSL208	PROPOSE	010Y004HR_G	4.48	107.96	117.25	0.0001	544	4.47	3.38	4.49	3.38
BSL208	PROPOSE	010Y008HR_G	8.28	108.11	117.25	0.0001	565	8.26	4.55	8.28	4.55
BSL208	PROPOSE	010Y024HR_G	22.06	108.39	117.25	0.0007	583	22.04	6.12	22.06	6.12
BSL208	PROPOSE	010Y072HR_G	64.31	108.49	117.25	0.0006	586	64.28	6.99	64.30	6.99
BSL208	PROPOSE	025Y001HR_G	2.00	107.70	117.25	0.0002	491	2.00	1.67	2.00	1.67
BSL208	PROPOSE	025Y002HR_G	2.84	107.94	117.25	0.0001	541	2.83	3.26	2.85	3.26
BSL208	PROPOSE	025Y004HR_G	4.41	108.16	117.25	0.0001	569	4.40	4.93	4.42	4.93
BSL208	PROPOSE	025Y008HR_G	8.19	108.46	117.25	0.0007	584	8.17	6.70	8.19	6.70
BSL208	PROPOSE	025Y024HR_G	21.30	108.82	117.25	0.0053	579	21.36	8.97	21.38	8.97
BSL208	PROPOSE	025Y072HR_G	64.25	108.88	117.25	0.0063	575	64.23	9.69	64.25	9.69
BSL208	PROPOSE	050Y001HR_G	2.00	107.78	117.25	0.0002	511	2.00	2.16	2.00	2.16
BSL208	PROPOSE	050Y002HR_G	2.79	108.05	117.25	0.0002	557	2.81	4.05	2.82	4.05
BSL208	PROPOSE	050Y004HR_G	4.38	108.40	117.25	0.0007	582	4.35	6.26	4.37	6.26
BSL208	PROPOSE	050Y008HR_G	8.08	108.80	117.25	0.0054	579	8.11	8.60	8.13	8.60
BSL208	PROPOSE	050Y024HR_G	21.33	109.10	117.25	0.0054	551	21.33	11.71	21.35	11.71
BSL208	PROPOSE	050Y072HR_G	64.36	109.16	117.25	0.0052	540	64.21	12.04	64.18	12.04
BSL208	PROPOSE	100Y001HR_G	2.00	107.86	117.25	0.0002	527	2.00	2.67	2.00	2.67
BSL208	PROPOSE	100Y002HR_G	2.75	108.15	117.25	0.0002	568	2.74	4.86	2.76	4.86
BSL208	PROPOSE	100Y004HR_G	2.75	108.15	117.25	0.0002	568	2.74	4.86	2.76	4.86

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL208	PROPOSE	100Y008HR_G	8.02	109.00	117.25	0.0066	564	8.02	10.73	8.09	10.73
BSL208	PROPOSE	100Y024HR_G	21.33	109.68	117.25	0.0055	340	21.14	14.87	21.25	14.87
BSL208	PROPOSE	100Y072HR_G	64.33	109.69	117.25	0.0061	326	64.19	14.70	64.27	14.69
BSL209	PROPOSE	002Y001HR_G	2.00	106.97	112.00	0.0001	459	2.00	0.43	2.00	0.43
BSL209	PROPOSE	002Y002HR_G	3.21	107.10	112.00	0.0001	520	3.20	0.91	3.23	0.91
BSL209	PROPOSE	002Y004HR_G	4.75	107.20	112.00	0.0001	557	4.75	1.39	4.75	1.38
BSL209	PROPOSE	002Y008HR_G	8.46	107.30	112.00	0.0000	588	8.43	1.96	8.46	1.96
BSL209	PROPOSE	002Y024HR_G	22.48	107.44	112.00	0.0000	621	22.45	2.85	22.47	2.85
BSL209	PROPOSE	002Y072HR_G	64.49	107.55	112.00	0.0000	641	64.48	3.67	64.50	3.67
BSL209	PROPOSE	005Y001HR_G	2.00	107.06	112.00	0.0001	504	2.00	0.76	2.00	0.76
BSL209	PROPOSE	005Y002HR_G	3.05	107.24	112.00	0.0001	569	3.03	1.58	3.06	1.58
BSL209	PROPOSE	005Y004HR_G	4.58	107.37	112.00	0.0001	605	4.56	2.38	4.59	2.38
BSL209	PROPOSE	005Y008HR_G	8.36	107.50	112.00	0.0001	632	8.34	3.25	8.37	3.25
BSL209	PROPOSE	005Y024HR_G	22.24	107.65	112.00	0.0000	655	22.22	4.43	22.25	4.43
BSL209	PROPOSE	005Y072HR_G	64.37	107.76	112.00	-0.0006	666	64.35	5.34	64.37	5.34
BSL209	PROPOSE	010Y001HR_G	2.00	107.14	112.00	0.0002	537	2.00	1.11	2.00	1.10
BSL209	PROPOSE	010Y002HR_G	2.97	107.35	112.00	0.0002	600	2.95	2.24	2.97	2.24
BSL209	PROPOSE	010Y004HR_G	4.51	107.52	112.00	0.0001	635	4.49	3.38	4.51	3.38
BSL209	PROPOSE	010Y008HR_G	8.29	107.66	112.00	0.0001	656	8.28	4.55	8.30	4.55
BSL209	PROPOSE	010Y024HR_G	22.08	107.85	112.00	-0.0006	671	22.06	6.12	22.08	6.12
BSL209	PROPOSE	010Y072HR_G	64.32	107.95	112.00	-0.0006	673	64.30	6.99	64.32	6.99
BSL209	PROPOSE	025Y001HR_G	2.00	107.25	112.00	0.0002	574	2.00	1.67	2.00	1.67
BSL209	PROPOSE	025Y002HR_G	2.87	107.50	112.00	0.0002	632	2.85	3.26	2.88	3.26
BSL209	PROPOSE	025Y004HR_G	4.43	107.71	112.00	0.0001	661	4.42	4.93	4.44	4.93
BSL209	PROPOSE	025Y008HR_G	8.20	107.91	112.00	-0.0006	673	8.19	6.70	8.20	6.70
BSL209	PROPOSE	025Y024HR_G	21.42	108.18	112.00	-0.0050	661	21.38	8.97	21.40	8.97
BSL209	PROPOSE	025Y072HR_G	64.28	108.28	112.00	-0.0058	652	64.25	9.69	64.27	9.69
BSL209	PROPOSE	050Y001HR_G	2.00	107.33	112.00	0.0003	597	2.00	2.16	2.00	2.16
BSL209	PROPOSE	050Y002HR_G	2.83	107.60	112.00	0.0002	649	2.82	4.05	2.84	4.05
BSL209	PROPOSE	050Y004HR_G	4.39	107.86	112.00	-0.0006	671	4.37	6.26	4.39	6.26
BSL209	PROPOSE	050Y008HR_G	8.15	108.14	112.00	-0.0051	665	8.13	8.60	7.49	8.96
BSL209	PROPOSE	050Y024HR_G	21.39	108.54	112.00	-0.0050	604	21.35	11.71	21.37	11.71
BSL209	PROPOSE	050Y072HR_G	64.37	108.65	112.00	-0.0048	574	64.18	12.04	64.18	12.03
BSL209	PROPOSE	100Y001HR_G	2.00	107.42	112.00	0.0003	616	2.00	2.67	2.00	2.67
BSL209	PROPOSE	100Y002HR_G	2.77	107.70	112.00	0.0003	660	2.76	4.86	2.78	4.86
BSL209	PROPOSE	100Y004HR_G	2.77	107.70	112.00	0.0003	660	2.76	4.86	2.78	4.86
BSL209	PROPOSE	100Y008HR_G	8.11	108.40	112.00	-0.0060	633	8.09	10.73	8.10	10.73
BSL209	PROPOSE	100Y024HR_G	21.36	109.15	112.00	-0.0050	258	21.25	14.87	21.28	14.87
BSL209	PROPOSE	100Y072HR_G	64.34	109.17	112.00	-0.0057	225	64.27	14.69	64.31	14.68
BSL210	PROPOSE	002Y001HR_G	2.00	106.56	113.25	0.0001	446	2.00	0.43	2.00	0.43
BSL210	PROPOSE	002Y002HR_G	3.26	106.67	113.25	0.0001	502	3.23	0.91	3.26	0.91
BSL210	PROPOSE	002Y004HR_G	4.76	106.76	113.25	0.0001	536	4.75	1.38	4.78	1.38
BSL210	PROPOSE	002Y008HR_G	8.47	106.85	113.25	0.0001	566	8.46	1.96	8.48	1.96
BSL210	PROPOSE	002Y024HR_G	22.43	106.97	113.25	0.0000	598	22.47	2.85	22.49	2.85
BSL210	PROPOSE	002Y072HR_G	64.51	107.07	113.25	0.0000	619	64.50	3.67	64.52	3.67
BSL210	PROPOSE	005Y001HR_G	2.00	106.64	113.25	0.0002	487	2.00	0.76	2.00	0.75
BSL210	PROPOSE	005Y002HR_G	3.08	106.79	113.25	0.0002	547	3.06	1.58	3.09	1.58
BSL210	PROPOSE	005Y004HR_G	4.60	106.91	113.25	0.0001	583	4.59	2.38	4.61	2.38
BSL210	PROPOSE	005Y008HR_G	8.38	107.02	113.25	0.0001	609	8.37	3.25	8.39	3.25
BSL210	PROPOSE	005Y024HR_G	22.26	107.17	113.25	0.0000	634	22.25	4.43	22.27	4.43
BSL210	PROPOSE	005Y072HR_G	64.40	107.29	113.25	-0.0001	646	64.37	5.34	64.40	5.34
BSL210	PROPOSE	010Y001HR_G	2.00	106.71	113.25	0.0002	517	2.00	1.10	2.00	1.10
BSL210	PROPOSE	010Y002HR_G	2.99	106.89	113.25	0.0002	577	2.97	2.24	3.00	2.24
BSL210	PROPOSE	010Y004HR_G	4.53	107.04	113.25	0.0001	613	4.51	3.38	4.53	3.38
BSL210	PROPOSE	010Y008HR_G	8.32	107.19	113.25	0.0001	636	8.30	4.55	8.32	4.55
BSL210	PROPOSE	010Y024HR_G	22.11	107.39	113.25	-0.0001	653	22.08	6.12	22.10	6.12
BSL210	PROPOSE	010Y072HR_G	64.36	107.50	113.25	-0.0001	656	64.32	6.99	64.35	6.99
BSL210	PROPOSE	025Y001HR_G	2.00	106.80	113.25	0.0003	552	2.00	1.67	2.00	1.66
BSL210	PROPOSE	025Y002HR_G	2.89	107.02	113.25	0.0002	610	2.88	3.26	2.90	3.26

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL210	PROPOSE	025Y004HR_G	4.46	107.24	113.25	0.0001	641	4.44	4.93	4.46	4.93
BSL210	PROPOSE	025Y008HR_G	8.23	107.46	113.25	0.0001	656	8.20	6.70	8.22	6.70
BSL210	PROPOSE	025Y024HR_G	21.47	107.76	113.25	-0.0004	647	21.40	8.97	21.43	8.97
BSL210	PROPOSE	025Y072HR_G	64.31	107.87	113.25	0.0004	636	64.27	9.69	64.30	9.69
BSL210	PROPOSE	050Y001HR_G	2.00	106.88	113.25	0.0003	574	2.00	2.16	2.00	2.15
BSL210	PROPOSE	050Y002HR_G	2.85	107.13	113.25	0.0002	627	2.84	4.05	2.86	4.05
BSL210	PROPOSE	050Y004HR_G	4.42	107.40	113.25	0.0001	654	4.39	6.26	4.42	6.26
BSL210	PROPOSE	050Y008HR_G	8.18	107.70	113.25	-0.0004	651	7.49	8.96	8.17	8.60
BSL210	PROPOSE	050Y024HR_G	21.42	108.14	113.25	-0.0004	588	21.37	11.71	21.39	11.71
BSL210	PROPOSE	050Y072HR_G	64.38	108.29	113.25	-0.0004	544	64.18	12.03	64.39	12.03
BSL210	PROPOSE	100Y001HR_G	2.00	106.95	113.25	0.0003	592	2.00	2.67	2.00	2.66
BSL210	PROPOSE	100Y002HR_G	2.80	107.23	113.25	0.0003	641	2.78	4.86	2.80	4.86
BSL210	PROPOSE	100Y004HR_G	2.80	107.23	113.25	0.0003	641	2.78	4.86	2.80	4.86
BSL210	PROPOSE	100Y008HR_G	8.14	107.99	113.25	0.0005	619	8.10	10.73	8.12	10.72
BSL210	PROPOSE	100Y024HR_G	21.37	108.72	113.25	-0.0004	291	21.28	14.87	21.30	14.86
BSL210	PROPOSE	100Y072HR_G	64.35	108.75	113.25	0.0004	246	64.31	14.68	64.34	14.68
BSL211	PROPOSE	002Y001HR_G	1.26	106.05	111.00	0.0001	429	2.00	0.46	2.00	0.45
BSL211	PROPOSE	002Y002HR_G	3.26	106.17	111.00	0.0001	496	3.25	0.96	3.28	0.96
BSL211	PROPOSE	002Y004HR_G	4.79	106.27	111.00	0.0001	532	4.77	1.46	4.80	1.46
BSL211	PROPOSE	002Y008HR_G	8.50	106.38	111.00	0.0001	565	8.48	2.07	8.51	2.07
BSL211	PROPOSE	002Y024HR_G	22.54	106.53	111.00	0.0000	599	22.52	3.03	22.54	3.03
BSL211	PROPOSE	002Y072HR_G	64.57	106.66	111.00	0.0000	620	64.55	3.94	64.57	3.94
BSL211	PROPOSE	005Y001HR_G	2.00	106.13	111.00	0.0002	480	2.00	0.80	2.00	0.79
BSL211	PROPOSE	005Y002HR_G	3.10	106.31	111.00	0.0002	545	3.08	1.66	3.11	1.66
BSL211	PROPOSE	005Y004HR_G	4.63	106.45	111.00	0.0001	582	4.61	2.51	4.64	2.51
BSL211	PROPOSE	005Y008HR_G	8.42	106.59	111.00	0.0001	610	8.39	3.44	8.42	3.44
BSL211	PROPOSE	005Y024HR_G	22.32	106.77	111.00	0.0000	633	22.30	4.74	22.32	4.74
BSL211	PROPOSE	005Y072HR_G	64.44	106.91	111.00	-0.0001	643	64.41	5.81	64.44	5.81
BSL211	PROPOSE	010Y001HR_G	2.00	106.21	111.00	0.0002	512	2.00	1.16	2.00	1.16
BSL211	PROPOSE	010Y002HR_G	3.01	106.43	111.00	0.0002	577	2.99	2.36	3.02	2.36
BSL211	PROPOSE	010Y004HR_G	4.55	106.61	111.00	0.0001	613	4.53	3.57	4.56	3.57
BSL211	PROPOSE	010Y008HR_G	8.35	106.79	111.00	0.0001	634	8.33	4.83	8.35	4.83
BSL211	PROPOSE	010Y024HR_G	22.17	107.02	111.00	-0.0001	646	22.15	6.59	22.17	6.59
BSL211	PROPOSE	010Y072HR_G	64.38	107.15	111.00	0.0001	645	64.36	7.68	64.38	7.68
BSL211	PROPOSE	025Y001HR_G	2.00	106.33	111.00	0.0003	550	2.00	1.75	2.00	1.75
BSL211	PROPOSE	025Y002HR_G	2.92	106.59	111.00	0.0003	610	2.89	3.44	2.92	3.44
BSL211	PROPOSE	025Y004HR_G	4.48	106.84	111.00	0.0001	638	4.46	5.22	4.48	5.22
BSL211	PROPOSE	025Y008HR_G	8.26	107.09	111.00	0.0001	646	8.23	7.15	8.26	7.15
BSL211	PROPOSE	025Y024HR_G	21.55	107.40	111.00	-0.0002	626	21.53	9.75	21.55	9.75
BSL211	PROPOSE	025Y072HR_G	64.33	107.52	111.00	-0.0002	609	64.30	10.76	64.32	10.76
BSL211	PROPOSE	050Y001HR_G	2.00	106.41	111.00	0.0003	573	2.00	2.27	2.00	2.27
BSL211	PROPOSE	050Y002HR_G	2.87	106.71	111.00	0.0003	626	2.85	4.28	2.87	4.28
BSL211	PROPOSE	050Y004HR_G	4.44	107.02	111.00	0.0001	646	4.41	6.65	4.44	6.65
BSL211	PROPOSE	050Y008HR_G	8.21	107.34	111.00	-0.0002	633	8.18	9.23	8.20	9.23
BSL211	PROPOSE	050Y024HR_G	21.44	107.77	111.00	-0.0002	553	21.42	12.81	21.44	12.81
BSL211	PROPOSE	050Y072HR_G	64.58	107.97	111.00	0.0018	492	64.39	13.44	64.34	15.43
BSL211	PROPOSE	100Y001HR_G	2.00	106.50	111.00	0.0004	592	2.00	2.81	2.00	2.80
BSL211	PROPOSE	100Y002HR_G	2.82	106.83	111.00	0.0003	638	2.80	5.15	2.82	5.15
BSL211	PROPOSE	100Y004HR_G	2.82	106.83	111.00	0.0003	638	2.80	5.15	2.82	5.15
BSL211	PROPOSE	100Y008HR_G	8.16	107.62	111.00	0.0001	591	8.13	11.56	8.15	11.56
BSL211	PROPOSE	100Y024HR_G	21.39	108.27	111.00	0.0018	252	21.37	16.36	21.39	16.36
BSL211	PROPOSE	100Y072HR_G	64.35	108.30	111.00	0.0018	164	64.33	16.48	64.34	16.48
BSL212	PROPOSE	002Y001HR_G	2.00	105.70	113.25	0.0002	420	2.00	0.45	2.00	0.45
BSL212	PROPOSE	002Y002HR_G	3.31	105.84	113.25	0.0002	473	3.28	0.96	3.31	0.96
BSL212	PROPOSE	002Y004HR_G	4.83	105.95	113.25	0.0001	505	4.80	1.46	5.01	1.46
BSL212	PROPOSE	002Y008HR_G	8.53	106.06	113.25	0.0001	532	8.51	2.07	8.53	2.07
BSL212	PROPOSE	002Y024HR_G	22.56	106.22	113.25	0.0000	560	22.54	3.03	22.56	3.03
BSL212	PROPOSE	002Y072HR_G	65.13	106.35	113.25	0.0000	576	64.57	3.94	65.10	3.95
BSL212	PROPOSE	005Y001HR_G	2.00	105.80	113.25	0.0002	459	2.00	0.79	2.00	0.79

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL212	PROPOSE	005Y002HR_G	3.14	105.99	113.25	0.0002	515	3.11	1.66	3.14	1.66
BSL212	PROPOSE	005Y004HR_G	4.66	106.14	113.25	0.0001	546	4.64	2.51	4.66	2.51
BSL212	PROPOSE	005Y008HR_G	8.44	106.28	113.25	0.0001	568	8.42	3.44	8.44	3.44
BSL212	PROPOSE	005Y024HR_G	22.34	106.46	113.25	0.0000	586	22.32	4.74	22.35	4.74
BSL212	PROPOSE	005Y072HR_G	64.46	106.60	113.25	0.0000	592	64.44	5.81	64.46	5.81
BSL212	PROPOSE	010Y001HR_G	2.00	105.89	113.25	0.0003	487	2.00	1.16	2.00	1.16
BSL212	PROPOSE	010Y002HR_G	3.04	106.11	113.25	0.0003	542	3.02	2.36	3.04	2.36
BSL212	PROPOSE	010Y004HR_G	4.58	106.30	113.25	0.0001	570	4.56	3.57	4.58	3.57
BSL212	PROPOSE	010Y008HR_G	8.37	106.47	113.25	0.0001	586	8.35	4.83	8.37	4.83
BSL212	PROPOSE	010Y024HR_G	22.19	106.69	113.25	0.0000	593	22.17	6.59	22.19	6.59
BSL212	PROPOSE	010Y072HR_G	64.40	106.82	113.25	0.0000	591	64.38	7.68	64.40	7.68
BSL212	PROPOSE	025Y001HR_G	2.00	106.00	113.25	0.0003	519	2.00	1.75	2.00	1.75
BSL212	PROPOSE	025Y002HR_G	2.94	106.28	113.25	0.0003	568	2.92	3.44	2.94	3.44
BSL212	PROPOSE	025Y004HR_G	4.50	106.53	113.25	0.0001	589	4.48	5.22	4.50	5.22
BSL212	PROPOSE	025Y008HR_G	8.28	106.76	113.25	0.0001	593	8.26	7.15	8.28	7.15
BSL212	PROPOSE	025Y024HR_G	21.57	107.05	113.25	-0.0001	575	21.55	9.75	21.57	9.75
BSL212	PROPOSE	025Y072HR_G	64.34	107.16	113.25	-0.0001	561	64.32	10.76	64.34	10.76
BSL212	PROPOSE	050Y001HR_G	2.00	106.10	113.25	0.0004	539	2.00	2.27	2.00	2.26
BSL212	PROPOSE	050Y002HR_G	2.89	106.40	113.25	0.0004	581	2.87	4.28	2.89	4.28
BSL212	PROPOSE	050Y004HR_G	4.46	106.70	113.25	0.0002	593	4.44	6.65	4.46	6.64
BSL212	PROPOSE	050Y008HR_G	8.22	106.99	113.25	0.0001	580	8.20	9.23	8.22	9.23
BSL212	PROPOSE	050Y024HR_G	21.45	107.37	113.25	-0.0001	519	21.44	12.81	21.45	12.81
BSL212	PROPOSE	050Y072HR_G	64.41	107.44	113.25	-0.0020	496	64.34	15.43	64.18	13.55
BSL212	PROPOSE	100Y001HR_G	2.00	106.18	113.25	0.0004	554	2.00	2.80	2.00	2.80
BSL212	PROPOSE	100Y002HR_G	2.84	106.52	113.25	0.0004	589	2.82	5.15	2.84	5.15
BSL212	PROPOSE	100Y004HR_G	2.84	106.52	113.25	0.0004	589	2.82	5.15	2.84	5.15
BSL212	PROPOSE	100Y008HR_G	8.17	107.24	113.25	0.0002	547	8.15	11.56	8.17	11.56
BSL212	PROPOSE	100Y024HR_G	21.39	107.75	113.25	-0.0019	355	21.39	16.36	21.40	16.36
BSL212	PROPOSE	100Y072HR_G	64.35	107.77	113.25	-0.0020	334	64.34	16.48	64.35	16.48
BSL213	PROPOSE	002Y001HR_G	2.00	103.50	111.00	0.0002	425	2.00	0.45	2.00	0.45
BSL213	PROPOSE	002Y002HR_G	3.34	103.64	111.00	0.0002	480	3.31	0.96	3.34	0.96
BSL213	PROPOSE	002Y004HR_G	4.86	103.75	111.00	0.0001	513	5.01	1.46	4.86	1.46
BSL213	PROPOSE	002Y008HR_G	8.56	103.86	111.00	0.0001	541	8.53	2.07	8.56	2.07
BSL213	PROPOSE	002Y024HR_G	22.58	104.02	111.00	0.0000	570	22.56	3.03	22.58	3.03
BSL213	PROPOSE	002Y072HR_G	64.62	104.16	111.00	0.0000	589	65.10	3.95	64.83	3.95
BSL213	PROPOSE	005Y001HR_G	2.00	103.60	111.00	0.0002	465	2.00	0.79	2.00	0.79
BSL213	PROPOSE	005Y002HR_G	3.17	103.79	111.00	0.0002	523	3.14	1.66	3.17	1.66
BSL213	PROPOSE	005Y004HR_G	4.69	103.94	111.00	0.0001	556	4.66	2.51	4.69	2.51
BSL213	PROPOSE	005Y008HR_G	8.46	104.09	111.00	0.0001	579	8.44	3.44	8.46	3.44
BSL213	PROPOSE	005Y024HR_G	22.37	104.28	111.00	0.0000	600	22.35	4.74	22.37	4.74
BSL213	PROPOSE	005Y072HR_G	64.48	104.42	111.00	0.0000	609	64.46	5.81	64.48	5.81
BSL213	PROPOSE	010Y001HR_G	2.00	103.68	111.00	0.0003	495	2.00	1.16	2.00	1.15
BSL213	PROPOSE	010Y002HR_G	3.07	103.92	111.00	0.0003	551	3.04	2.36	3.07	2.36
BSL213	PROPOSE	010Y004HR_G	4.60	104.11	111.00	0.0001	582	4.58	3.57	4.60	3.57
BSL213	PROPOSE	010Y008HR_G	8.39	104.29	111.00	0.0001	601	8.37	4.83	8.39	4.83
BSL213	PROPOSE	010Y024HR_G	22.21	104.52	111.00	0.0000	612	22.19	6.59	22.21	6.59
BSL213	PROPOSE	010Y072HR_G	64.42	104.65	111.00	0.0000	614	64.40	7.68	64.42	7.68
BSL213	PROPOSE	025Y001HR_G	2.00	103.80	111.00	0.0004	527	2.00	1.75	2.00	1.74
BSL213	PROPOSE	025Y002HR_G	2.96	104.09	111.00	0.0003	579	2.94	3.44	2.96	3.44
BSL213	PROPOSE	025Y004HR_G	4.52	104.34	111.00	0.0002	604	4.50	5.22	4.52	5.22
BSL213	PROPOSE	025Y008HR_G	8.30	104.59	111.00	0.0001	614	8.28	7.15	8.30	7.15
BSL213	PROPOSE	025Y024HR_G	21.59	104.89	111.00	-0.0001	605	21.57	9.75	22.01	9.75
BSL213	PROPOSE	025Y072HR_G	64.35	105.01	111.00	-0.0001	597	64.34	10.76	64.35	10.76
BSL213	PROPOSE	050Y001HR_G	2.00	103.90	111.00	0.0004	548	2.00	2.26	2.00	2.25
BSL213	PROPOSE	050Y002HR_G	2.91	104.21	111.00	0.0004	594	2.89	4.28	2.91	4.28
BSL213	PROPOSE	050Y004HR_G	4.48	104.52	111.00	0.0002	613	4.46	6.64	4.48	6.64
BSL213	PROPOSE	050Y008HR_G	8.24	104.83	111.00	0.0001	609	8.22	9.23	8.24	9.23
BSL213	PROPOSE	050Y024HR_G	21.47	105.24	111.00	0.0001	567	21.45	12.81	21.47	12.81
BSL213	PROPOSE	050Y072HR_G	64.43	105.31	111.00	0.0003	554	64.18	13.55	64.43	13.44

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL213	PROPOSE	100Y001HR_G	2.00	103.99	111.00	0.0005	564	2.00	2.80	2.00	2.79
BSL213	PROPOSE	100Y002HR_G	2.86	104.33	111.00	0.0004	604	2.84	5.15	2.86	5.15
BSL213	PROPOSE	100Y004HR_G	2.86	104.33	111.00	0.0004	604	2.84	5.15	2.86	5.15
BSL213	PROPOSE	100Y008HR_G	8.18	105.10	111.00	0.0002	587	8.17	11.56	8.18	11.56
BSL213	PROPOSE	100Y024HR_G	21.41	105.72	111.00	0.0003	393	21.40	16.36	21.41	16.36
BSL213	PROPOSE	100Y072HR_G	64.37	105.73	111.00	0.0003	391	64.35	16.48	64.37	16.48
BSL214	PROPOSE	002Y001HR_G	2.00	100.49	107.00	0.0002	468	2.00	0.45	2.00	0.45
BSL214	PROPOSE	002Y002HR_G	3.35	100.61	107.00	0.0002	530	3.34	0.96	3.37	0.96
BSL214	PROPOSE	002Y004HR_G	4.86	100.70	107.00	0.0001	566	4.86	1.46	4.89	1.46
BSL214	PROPOSE	002Y008HR_G	8.57	100.79	107.00	-0.0002	598	8.56	2.07	8.59	2.07
BSL214	PROPOSE	002Y024HR_G	22.60	100.93	107.00	0.0000	633	22.58	3.03	22.61	3.03
BSL214	PROPOSE	002Y072HR_G	64.64	101.05	107.00	0.0001	656	64.83	3.95	64.64	3.94
BSL214	PROPOSE	005Y001HR_G	2.00	100.58	107.00	0.0003	513	2.00	0.79	2.00	0.79
BSL214	PROPOSE	005Y002HR_G	3.17	100.73	107.00	0.0003	578	3.17	1.66	3.19	1.66
BSL214	PROPOSE	005Y004HR_G	4.69	100.85	107.00	0.0002	616	4.69	2.51	4.71	2.51
BSL214	PROPOSE	005Y008HR_G	8.48	100.98	107.00	-0.0002	644	8.46	3.44	8.49	3.44
BSL214	PROPOSE	005Y024HR_G	22.40	101.17	107.00	0.0000	670	22.37	4.74	22.39	4.74
BSL214	PROPOSE	005Y072HR_G	60.01	102.10	107.00	0.0003	610	64.48	5.81	64.51	5.81
BSL214	PROPOSE	010Y001HR_G	2.00	100.65	107.00	0.0003	545	2.00	1.15	2.00	1.15
BSL214	PROPOSE	010Y002HR_G	3.07	100.83	107.00	0.0003	610	3.07	2.36	3.09	2.36
BSL214	PROPOSE	010Y004HR_G	4.62	101.00	107.00	0.0002	648	4.60	3.57	4.63	3.57
BSL214	PROPOSE	010Y008HR_G	8.42	101.18	107.00	0.0002	671	8.39	4.83	8.42	4.83
BSL214	PROPOSE	010Y024HR_G	22.24	101.43	107.00	0.0001	687	22.21	6.59	22.23	6.59
BSL214	PROPOSE	010Y072HR_G	64.45	101.58	107.00	0.0001	687	64.42	7.68	64.45	7.68
BSL214	PROPOSE	025Y001HR_G	2.00	100.74	107.00	0.0004	582	2.00	1.74	2.00	1.74
BSL214	PROPOSE	025Y002HR_G	2.98	100.98	107.00	0.0004	644	2.96	3.44	2.99	3.44
BSL214	PROPOSE	025Y004HR_G	4.56	101.23	107.00	0.0002	677	4.52	5.22	4.55	5.22
BSL214	PROPOSE	025Y008HR_G	8.33	101.50	107.00	0.0002	688	8.30	7.15	8.32	7.15
BSL214	PROPOSE	025Y024HR_G	21.64	101.86	107.00	0.0001	673	22.01	9.75	21.63	9.75
BSL214	PROPOSE	025Y072HR_G	60.02	102.38	107.00	0.0003	567	64.35	10.76	64.38	10.76
BSL214	PROPOSE	050Y001HR_G	2.00	100.82	107.00	0.0005	606	2.00	2.25	2.00	2.25
BSL214	PROPOSE	050Y002HR_G	2.94	101.10	107.00	0.0004	663	2.91	4.28	2.94	4.28
BSL214	PROPOSE	050Y004HR_G	4.51	101.43	107.00	0.0002	687	4.48	6.64	4.51	6.64
BSL214	PROPOSE	050Y008HR_G	8.27	101.79	107.00	0.0002	678	8.24	9.23	8.26	9.23
BSL214	PROPOSE	050Y024HR_G	21.51	102.30	107.00	0.0001	603	21.47	12.81	21.50	12.81
BSL214	PROPOSE	050Y072HR_G	60.03	102.96	107.00	0.0004	401	64.43	13.44	64.50	13.43
BSL214	PROPOSE	100Y001HR_G	2.00	100.89	107.00	0.0005	626	2.00	2.79	2.00	2.79
BSL214	PROPOSE	100Y002HR_G	2.89	101.22	107.00	0.0005	676	2.86	5.15	2.89	5.15
BSL214	PROPOSE	100Y004HR_G	2.89	101.22	107.00	0.0005	676	2.86	5.15	2.89	5.15
BSL214	PROPOSE	100Y008HR_G	8.21	102.11	107.00	0.0002	640	8.18	11.56	8.20	11.56
BSL214	PROPOSE	100Y024HR_G	21.44	102.96	107.00	0.0002	343	21.41	16.36	21.43	16.36
BSL214	PROPOSE	100Y072HR_G	60.05	103.96	107.00	0.0005	388	64.37	16.48	64.40	16.48
BSL215	PROPOSE	002Y001HR_G	1.47	99.95	104.00	0.0002	391	2.00	0.45	2.00	0.45
BSL215	PROPOSE	002Y002HR_G	3.39	100.06	104.00	0.0002	448	3.37	0.96	3.40	0.96
BSL215	PROPOSE	002Y004HR_G	4.92	100.17	104.00	0.0002	482	4.89	1.46	4.92	1.46
BSL215	PROPOSE	002Y008HR_G	8.61	100.30	104.00	0.0008	513	8.59	2.07	8.61	2.07
BSL215	PROPOSE	002Y024HR_G	22.63	100.47	104.00	0.0000	544	22.61	3.03	22.63	3.03
BSL215	PROPOSE	002Y072HR_G	60.02	100.75	104.00	0.0003	568	64.64	3.94	64.67	3.94
BSL215	PROPOSE	005Y001HR_G	2.00	100.02	104.00	0.0003	432	2.00	0.79	2.00	0.78
BSL215	PROPOSE	005Y002HR_G	3.22	100.22	104.00	0.0003	494	3.19	1.66	3.22	1.66
BSL215	PROPOSE	005Y004HR_G	4.74	100.38	104.00	0.0002	529	4.71	2.51	4.74	2.51
BSL215	PROPOSE	005Y008HR_G	8.52	100.54	104.00	0.0008	554	8.49	3.44	8.51	3.44
BSL215	PROPOSE	005Y024HR_G	22.42	100.75	104.00	0.0001	573	22.39	4.74	22.42	4.74
BSL215	PROPOSE	005Y072HR_G	60.01	101.97	104.00	-0.0004	381	64.51	5.81	64.52	5.81
BSL215	PROPOSE	010Y001HR_G	2.00	100.11	104.00	0.0004	462	2.00	1.15	2.00	1.14
BSL215	PROPOSE	010Y002HR_G	3.12	100.35	104.00	0.0004	524	3.09	2.36	3.12	2.36
BSL215	PROPOSE	010Y004HR_G	4.66	100.57	104.00	0.0002	556	4.63	3.57	4.65	3.57
BSL215	PROPOSE	010Y008HR_G	8.44	100.76	104.00	0.0008	573	8.42	4.83	8.44	4.83
BSL215	PROPOSE	010Y024HR_G	22.25	101.01	104.00	0.0002	579	22.23	6.59	22.25	6.59

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL215	PROPOSE	010Y072HR_G	60.02	101.20	104.00	-0.0004	569	64.45	7.68	64.47	7.68
BSL215	PROPOSE	025Y001HR_G	2.00	100.23	104.00	0.0004	497	2.00	1.74	2.00	1.73
BSL215	PROPOSE	025Y002HR_G	3.02	100.55	104.00	0.0004	554	2.99	3.44	3.01	3.44
BSL215	PROPOSE	025Y004HR_G	4.58	100.82	104.00	0.0002	576	4.55	5.22	4.58	5.22
BSL215	PROPOSE	025Y008HR_G	8.35	101.08	104.00	0.0007	577	8.32	7.15	8.35	7.15
BSL215	PROPOSE	025Y024HR_G	21.66	101.41	104.00	-0.0002	548	21.63	9.75	21.65	9.75
BSL215	PROPOSE	025Y072HR_G	60.02	102.12	104.00	-0.0004	288	64.38	10.76	64.40	10.76
BSL215	PROPOSE	050Y001HR_G	2.00	100.33	104.00	0.0005	520	2.00	2.25	2.00	2.25
BSL215	PROPOSE	050Y002HR_G	2.97	100.68	104.00	0.0005	568	2.94	4.28	2.97	4.28
BSL215	PROPOSE	050Y004HR_G	4.53	101.01	104.00	0.0002	579	4.51	6.64	4.53	6.64
BSL215	PROPOSE	050Y008HR_G	8.28	101.34	104.00	0.0006	556	8.26	9.23	8.28	9.23
BSL215	PROPOSE	050Y024HR_G	21.52	101.77	104.00	0.0002	464	21.50	12.81	21.51	12.81
BSL215	PROPOSE	050Y072HR_G	60.02	102.57	104.00	-0.0006	136	64.50	13.43	64.50	13.43
BSL215	PROPOSE	100Y001HR_G	2.00	100.43	104.00	0.0006	537	2.00	2.79	2.00	2.78
BSL215	PROPOSE	100Y002HR_G	2.92	100.81	104.00	0.0005	576	2.89	5.15	2.92	5.15
BSL215	PROPOSE	100Y004HR_G	2.92	100.81	104.00	0.0005	576	2.89	5.15	2.92	5.15
BSL215	PROPOSE	100Y008HR_G	8.22	101.62	104.00	0.0005	506	8.20	11.56	8.22	11.56
BSL215	PROPOSE	100Y024HR_G	21.44	102.23	104.00	-0.0004	152	21.43	16.36	21.44	16.36
BSL215	PROPOSE	100Y072HR_G	60.04	103.40	104.00	-0.0008	136	64.40	16.48	64.40	16.48
BSL216	PROPOSE	002Y001HR_G	0.50	99.43	105.00	0.1000	117	0.00	52.61	0.63	28.32
BSL216	PROPOSE	002Y002HR_G	0.80	99.31	105.00	0.1000	117	0.00	52.61	0.00	15.37
BSL216	PROPOSE	002Y004HR_G	2.00	99.43	105.00	0.1000	117	0.00	52.61	2.62	27.47
BSL216	PROPOSE	002Y008HR_G	4.00	100.15	105.00	0.1000	117	0.00	52.61	4.05	28.41
BSL216	PROPOSE	002Y024HR_G	12.00	99.45	105.00	0.1000	117	0.00	52.61	12.85	27.27
BSL216	PROPOSE	002Y072HR_G	60.00	100.59	105.00	0.1000	117	0.00	52.61	36.26	26.79
BSL216	PROPOSE	005Y001HR_G	0.50	99.43	105.00	0.1000	117	0.00	52.61	0.63	28.83
BSL216	PROPOSE	005Y002HR_G	0.80	99.33	105.00	0.1000	117	0.00	52.61	0.00	15.37
BSL216	PROPOSE	005Y004HR_G	2.00	99.44	105.00	0.1000	117	0.00	52.61	2.62	28.46
BSL216	PROPOSE	005Y008HR_G	4.00	100.17	105.00	0.1000	117	0.00	52.61	4.05	29.36
BSL216	PROPOSE	005Y024HR_G	12.00	99.74	105.00	0.1000	117	0.00	52.61	12.02	28.78
BSL216	PROPOSE	005Y072HR_G	60.00	101.91	105.00	0.1000	117	0.00	52.61	64.79	33.05
BSL216	PROPOSE	010Y001HR_G	0.50	99.44	105.00	0.1000	117	0.00	52.61	0.63	29.30
BSL216	PROPOSE	010Y002HR_G	0.80	99.43	105.00	0.1000	117	0.00	52.61	0.81	29.72
BSL216	PROPOSE	010Y004HR_G	2.00	99.45	105.00	0.1000	117	0.00	52.61	2.62	29.25
BSL216	PROPOSE	010Y008HR_G	4.00	100.20	105.00	0.1000	117	0.00	52.61	4.04	30.12
BSL216	PROPOSE	010Y024HR_G	12.00	100.22	105.00	0.1000	117	0.00	52.61	12.10	30.67
BSL216	PROPOSE	010Y072HR_G	60.00	100.93	105.00	0.1000	117	0.00	52.61	59.43	33.45
BSL216	PROPOSE	025Y001HR_G	0.50	99.44	105.00	0.1000	117	0.00	52.61	0.63	29.75
BSL216	PROPOSE	025Y002HR_G	0.80	99.45	105.00	0.1000	117	0.00	52.61	0.81	30.19
BSL216	PROPOSE	025Y004HR_G	2.00	99.46	105.00	0.1000	117	0.00	52.61	2.62	30.04
BSL216	PROPOSE	025Y008HR_G	4.00	100.23	105.00	0.1000	117	0.00	52.61	4.05	31.54
BSL216	PROPOSE	025Y024HR_G	12.00	100.47	105.00	0.1000	117	0.00	52.61	13.88	34.82
BSL216	PROPOSE	025Y072HR_G	60.02	101.76	105.00	0.1000	117	0.00	52.61	57.68	33.65
BSL216	PROPOSE	050Y001HR_G	0.50	99.45	105.00	0.1000	117	0.00	52.61	0.63	30.05
BSL216	PROPOSE	050Y002HR_G	0.80	99.37	105.00	0.1000	117	0.00	52.61	0.00	15.37
BSL216	PROPOSE	050Y004HR_G	2.00	99.48	105.00	0.1000	117	0.00	52.61	2.44	30.12
BSL216	PROPOSE	050Y008HR_G	4.00	100.27	105.00	0.1000	117	0.00	52.61	4.47	34.16
BSL216	PROPOSE	050Y024HR_G	12.00	100.76	105.00	0.1000	117	0.00	52.61	15.03	32.76
BSL216	PROPOSE	050Y072HR_G	60.00	102.07	105.00	0.1000	117	0.00	52.61	36.63	29.63
BSL216	PROPOSE	100Y001HR_G	0.50	99.46	105.00	0.1000	117	0.00	52.61	0.63	30.28
BSL216	PROPOSE	100Y002HR_G	0.80	99.48	105.00	0.1000	117	0.00	52.61	0.81	30.69
BSL216	PROPOSE	100Y004HR_G	2.00	99.55	105.00	0.1000	117	0.00	52.61	2.50	30.08
BSL216	PROPOSE	100Y008HR_G	4.00	100.28	105.00	0.1000	117	0.00	52.61	4.21	32.66
BSL216	PROPOSE	100Y024HR_G	12.00	101.12	105.00	0.1000	117	0.00	52.61	11.44	34.68
BSL216	PROPOSE	100Y072HR_G	60.01	102.64	105.00	0.1000	117	0.00	52.61	37.66	33.96
BSL216A	PROPOSE	002Y001HR_G	2.00	99.71	108.00	0.0003	244	2.00	0.45	2.00	0.44
BSL216A	PROPOSE	002Y002HR_G	3.42	99.87	108.00	0.0003	269	3.40	0.96	3.42	0.96
BSL216A	PROPOSE	002Y004HR_G	4.94	100.00	108.00	0.0002	284	4.92	1.46	4.94	1.46
BSL216A	PROPOSE	002Y008HR_G	8.63	100.12	108.00	0.0016	295	8.61	2.07	8.63	2.07

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL216A	PROPOSE	002Y024HR_G	22.65	100.30	108.00	0.0000	307	22.63	3.03	22.65	3.03
BSL216A	PROPOSE	002Y072HR_G	60.01	100.70	108.00	0.0002	317	64.67	3.94	64.68	3.94
BSL216A	PROPOSE	005Y001HR_G	2.00	99.82	108.00	0.0004	262	2.00	0.78	2.00	0.78
BSL216A	PROPOSE	005Y002HR_G	3.24	100.04	108.00	0.0004	288	3.22	1.66	3.24	1.66
BSL216A	PROPOSE	005Y004HR_G	4.75	100.21	108.00	0.0002	301	4.74	2.51	4.75	2.51
BSL216A	PROPOSE	005Y008HR_G	8.53	100.36	108.00	-0.0014	310	8.51	3.44	8.53	3.44
BSL216A	PROPOSE	005Y024HR_G	22.43	100.55	108.00	0.0001	316	22.42	4.74	22.43	4.74
BSL216A	PROPOSE	005Y072HR_G	60.00	101.95	108.00	-0.0013	145	64.52	5.81	60.68	6.38
BSL216A	PROPOSE	010Y001HR_G	2.00	99.92	108.00	0.0005	275	2.00	1.14	2.00	1.14
BSL216A	PROPOSE	010Y002HR_G	3.13	100.18	108.00	0.0005	300	3.12	2.36	3.13	2.36
BSL216A	PROPOSE	010Y004HR_G	4.67	100.38	108.00	0.0003	311	4.65	3.57	4.67	3.57
BSL216A	PROPOSE	010Y008HR_G	8.45	100.56	108.00	0.0014	316	8.44	4.83	8.45	4.83
BSL216A	PROPOSE	010Y024HR_G	22.26	100.79	108.00	-0.0003	316	22.25	6.59	22.26	6.59
BSL216A	PROPOSE	010Y072HR_G	60.01	101.11	108.00	-0.0013	306	64.47	7.68	64.48	7.68
BSL216A	PROPOSE	025Y001HR_G	2.00	100.06	108.00	0.0006	289	2.00	1.73	2.00	1.73
BSL216A	PROPOSE	025Y002HR_G	3.03	100.36	108.00	0.0006	310	3.01	3.44	3.03	3.44
BSL216A	PROPOSE	025Y004HR_G	4.59	100.62	108.00	0.0003	317	4.58	5.22	4.59	5.22
BSL216A	PROPOSE	025Y008HR_G	8.36	100.85	108.00	0.0008	315	8.35	7.15	8.36	7.15
BSL216A	PROPOSE	025Y024HR_G	21.66	101.14	108.00	-0.0004	303	21.65	9.75	21.66	9.75
BSL216A	PROPOSE	025Y072HR_G	60.02	102.00	108.00	-0.0019	136	64.40	10.76	64.41	10.76
BSL216A	PROPOSE	050Y001HR_G	2.00	100.16	108.00	0.0007	298	2.00	2.25	2.00	2.24
BSL216A	PROPOSE	050Y002HR_G	2.98	100.49	108.00	0.0007	315	2.97	4.28	2.98	4.28
BSL216A	PROPOSE	050Y004HR_G	4.54	100.79	108.00	0.0004	316	4.53	6.64	4.54	6.64
BSL216A	PROPOSE	050Y008HR_G	8.29	101.09	108.00	0.0007	306	8.28	9.23	8.29	9.23
BSL216A	PROPOSE	050Y024HR_G	21.52	101.45	108.00	-0.0013	273	21.51	12.81	21.52	12.81
BSL216A	PROPOSE	050Y072HR_G	60.01	102.38	108.00	-0.0014	123	64.50	13.43	64.51	13.42
BSL216A	PROPOSE	100Y001HR_G	2.00	100.25	108.00	0.0008	304	2.00	2.78	2.00	2.78
BSL216A	PROPOSE	100Y002HR_G	2.93	100.61	108.00	0.0008	317	2.92	5.15	2.93	5.15
BSL216A	PROPOSE	100Y004HR_G	2.93	100.61	108.00	0.0008	317	2.92	5.15	2.93	5.15
BSL216A	PROPOSE	100Y008HR_G	8.23	101.32	108.00	0.0008	287	8.22	11.56	8.23	11.56
BSL216A	PROPOSE	100Y024HR_G	21.44	101.78	108.00	-0.0015	190	21.44	16.36	21.44	16.36
BSL216A	PROPOSE	100Y072HR_G	60.02	103.09	108.00	-0.0023	123	64.40	16.48	64.41	16.48
BSL217	PROPOSE	002Y001HR_G	0.00	100.94	109.80	-0.0324	127	1.92	0.02	0.00	8.25
BSL217	PROPOSE	002Y002HR_G	0.00	100.94	109.80	-0.0324	127	2.68	0.04	0.00	8.25
BSL217	PROPOSE	002Y004HR_G	0.00	100.94	109.80	-0.0324	127	4.47	0.05	0.00	8.25
BSL217	PROPOSE	002Y008HR_G	0.00	100.94	109.80	-0.0324	127	8.46	0.07	0.00	8.25
BSL217	PROPOSE	002Y024HR_G	0.00	100.94	109.80	-0.0324	127	24.26	0.13	0.00	8.25
BSL217	PROPOSE	002Y072HR_G	0.00	100.94	109.80	-0.0324	127	68.40	0.20	0.00	8.25
BSL217	PROPOSE	005Y001HR_G	0.00	100.94	109.80	-0.0324	127	1.87	0.03	0.00	8.25
BSL217	PROPOSE	005Y002HR_G	0.00	100.94	109.80	-0.0324	127	2.63	0.06	0.00	8.25
BSL217	PROPOSE	005Y004HR_G	0.00	100.94	109.80	-0.0324	127	4.43	0.09	0.00	8.25
BSL217	PROPOSE	005Y008HR_G	0.00	100.94	109.80	-0.0324	127	8.43	0.13	0.00	8.25
BSL217	PROPOSE	005Y024HR_G	0.00	100.94	109.80	-0.0324	127	24.17	0.22	0.00	8.25
BSL217	PROPOSE	005Y072HR_G	60.00	101.93	109.80	-0.0324	116	68.21	0.34	0.00	8.25
BSL217	PROPOSE	010Y001HR_G	0.00	100.94	109.80	-0.0324	127	1.83	0.04	0.00	8.25
BSL217	PROPOSE	010Y002HR_G	0.00	100.94	109.80	-0.0324	127	2.60	0.08	0.00	8.25
BSL217	PROPOSE	010Y004HR_G	0.00	100.94	109.80	-0.0324	127	4.40	0.13	0.00	8.25
BSL217	PROPOSE	010Y008HR_G	0.00	100.94	109.80	-0.0324	127	8.41	0.19	0.00	8.25
BSL217	PROPOSE	010Y024HR_G	0.00	100.94	109.80	-0.0324	127	24.07	0.34	0.00	8.25
BSL217	PROPOSE	010Y072HR_G	60.00	101.14	109.80	-0.0339	116	68.05	0.51	60.90	8.31
BSL217	PROPOSE	025Y001HR_G	0.00	100.94	109.80	-0.0324	127	1.78	0.06	0.00	8.25
BSL217	PROPOSE	025Y002HR_G	0.00	100.94	109.80	-0.0324	127	2.54	0.12	0.00	8.25
BSL217	PROPOSE	025Y004HR_G	0.00	100.94	109.80	-0.0324	127	4.35	0.20	0.00	8.25
BSL217	PROPOSE	025Y008HR_G	0.00	100.94	109.80	-0.0324	127	8.37	0.32	0.00	8.25
BSL217	PROPOSE	025Y024HR_G	0.00	100.94	109.80	-0.0324	127	22.41	0.59	0.00	8.25
BSL217	PROPOSE	025Y072HR_G	60.01	101.92	109.80	-0.0336	116	64.45	0.83	61.76	8.51
BSL217	PROPOSE	050Y001HR_G	0.00	100.94	109.80	-0.0324	127	1.75	0.08	0.00	8.25
BSL217	PROPOSE	050Y002HR_G	0.00	100.94	109.80	-0.0324	127	2.50	0.16	0.00	8.25
BSL217	PROPOSE	050Y004HR_G	0.00	100.94	109.80	-0.0324	127	4.30	0.27	0.00	8.25

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL217	PROPOSE	050Y008HR_G	0.00	100.94	109.80	-0.0324	127	8.34	0.45	0.00	8.25
BSL217	PROPOSE	050Y024HR_G	0.00	100.94	109.80	-0.0324	127	22.36	0.86	0.00	8.25
BSL217	PROPOSE	050Y072HR_G	60.01	102.24	109.80	-0.0328	116	64.32	1.13	62.08	8.63
BSL217	PROPOSE	100Y001HR_G	0.00	100.94	109.80	-0.0324	127	1.74	0.10	0.00	8.25
BSL217	PROPOSE	100Y002HR_G	0.00	100.94	109.80	-0.0324	127	2.49	0.20	0.00	8.25
BSL217	PROPOSE	100Y004HR_G	0.00	100.94	109.80	-0.0324	127	2.49	0.20	0.00	8.25
BSL217	PROPOSE	100Y008HR_G	0.00	100.94	109.80	-0.0324	127	8.31	0.62	0.00	8.25
BSL217	PROPOSE	100Y024HR_G	12.00	101.21	109.80	-0.0358	116	22.24	1.19	12.42	8.96
BSL217	PROPOSE	100Y072HR_G	60.01	102.87	109.80	-0.0418	116	64.24	1.49	71.20	10.94
BSL_OUTFALL1	PROPOSE	002Y001HR_G	0.50	99.40	110.00	0.0045	40	0.77	31.44	0.00	0.00
BSL_OUTFALL1	PROPOSE	002Y002HR_G	0.80	99.40	110.00	-0.0032	40	1.02	31.15	0.00	0.00
BSL_OUTFALL1	PROPOSE	002Y004HR_G	2.00	99.40	110.00	-0.0007	40	3.22	16.88	0.00	0.00
BSL_OUTFALL1	PROPOSE	002Y008HR_G	4.00	100.12	110.00	0.0007	40	5.11	30.95	0.00	0.00
BSL_OUTFALL1	PROPOSE	002Y024HR_G	12.00	99.40	110.00	-0.0003	40	19.13	31.31	0.00	0.00
BSL_OUTFALL1	PROPOSE	002Y072HR_G	60.00	100.55	110.00	0.0002	40	66.53	32.44	0.00	0.00
BSL_OUTFALL1	PROPOSE	005Y001HR_G	0.50	99.40	110.00	0.0045	40	0.77	31.53	0.00	0.00
BSL_OUTFALL1	PROPOSE	005Y002HR_G	0.80	99.40	110.00	-0.0032	40	1.02	24.51	0.00	0.00
BSL_OUTFALL1	PROPOSE	005Y004HR_G	2.00	99.40	110.00	-0.0007	40	3.22	31.14	0.00	0.00
BSL_OUTFALL1	PROPOSE	005Y008HR_G	4.00	100.12	110.00	0.0007	40	5.11	19.64	0.00	0.00
BSL_OUTFALL1	PROPOSE	005Y024HR_G	12.00	99.67	110.00	-0.0003	40	19.26	31.85	0.00	0.00
BSL_OUTFALL1	PROPOSE	005Y072HR_G	60.00	101.76	110.00	0.0003	40	66.97	33.92	0.00	0.00
BSL_OUTFALL1	PROPOSE	010Y001HR_G	0.50	99.40	110.00	0.0045	40	0.77	31.81	0.00	0.00
BSL_OUTFALL1	PROPOSE	010Y002HR_G	0.80	99.40	110.00	-0.0032	40	1.02	25.62	0.00	0.00
BSL_OUTFALL1	PROPOSE	010Y004HR_G	2.00	99.40	110.00	-0.0007	40	3.22	31.38	0.00	0.00
BSL_OUTFALL1	PROPOSE	010Y008HR_G	4.00	100.12	110.00	0.0007	40	5.11	31.45	0.00	0.00
BSL_OUTFALL1	PROPOSE	010Y024HR_G	12.00	100.12	110.00	-0.0003	40	19.45	32.64	0.00	0.00
BSL_OUTFALL1	PROPOSE	010Y072HR_G	60.00	100.82	110.00	0.0002	40	56.30	32.58	0.00	0.00
BSL_OUTFALL1	PROPOSE	025Y001HR_G	0.50	99.40	110.00	0.0045	40	0.77	32.00	0.00	0.00
BSL_OUTFALL1	PROPOSE	025Y002HR_G	0.80	99.40	110.00	-0.0032	40	1.02	31.68	0.00	0.00
BSL_OUTFALL1	PROPOSE	025Y004HR_G	2.00	99.40	110.00	-0.0007	40	3.22	31.68	0.00	0.00
BSL_OUTFALL1	PROPOSE	025Y008HR_G	4.00	100.12	110.00	0.0007	40	5.11	32.07	0.00	0.00
BSL_OUTFALL1	PROPOSE	025Y024HR_G	12.00	100.42	110.00	-0.0004	40	19.57	34.43	0.00	0.00
BSL_OUTFALL1	PROPOSE	025Y072HR_G	60.00	101.57	110.00	0.0002	40	66.91	35.74	0.00	0.00
BSL_OUTFALL1	PROPOSE	050Y001HR_G	0.50	99.40	110.00	0.0045	40	0.70	21.26	0.00	0.00
BSL_OUTFALL1	PROPOSE	050Y002HR_G	0.80	99.40	110.00	-0.0032	40	1.02	31.83	0.00	0.00
BSL_OUTFALL1	PROPOSE	050Y004HR_G	2.00	99.40	110.00	-0.0007	40	3.22	28.64	0.00	0.00
BSL_OUTFALL1	PROPOSE	050Y008HR_G	4.00	100.12	110.00	0.0007	40	5.11	32.60	0.00	0.00
BSL_OUTFALL1	PROPOSE	050Y024HR_G	12.00	100.61	110.00	-0.0004	40	19.65	36.02	0.00	0.00
BSL_OUTFALL1	PROPOSE	050Y072HR_G	60.00	101.76	110.00	0.0003	40	66.97	36.73	0.00	0.00
BSL_OUTFALL1	PROPOSE	100Y001HR_G	0.50	99.40	110.00	0.0045	40	0.70	22.03	0.00	0.00
BSL_OUTFALL1	PROPOSE	100Y002HR_G	0.80	99.40	110.00	-0.0032	40	1.02	31.95	0.00	0.00
BSL_OUTFALL1	PROPOSE	100Y004HR_G	2.00	99.40	110.00	-0.0007	40	1.01	32.26	0.00	0.00
BSL_OUTFALL1	PROPOSE	100Y008HR_G	4.00	100.12	110.00	0.0007	40	5.11	33.42	0.00	0.00
BSL_OUTFALL1	PROPOSE	100Y024HR_G	12.00	101.00	110.00	-0.0004	40	19.79	37.83	0.00	0.00
BSL_OUTFALL1	PROPOSE	100Y072HR_G	60.00	102.15	110.00	0.0003	40	67.12	50.42	0.00	0.00
BSL_OUTFALL2	PROPOSE	002Y001HR_G	0.50	103.38	108.00	0.0051	16	0.70	50.74	0.00	0.00
BSL_OUTFALL2	PROPOSE	002Y002HR_G	0.80	103.38	108.00	-0.0036	16	0.81	53.07	0.00	0.00
BSL_OUTFALL2	PROPOSE	002Y004HR_G	2.00	103.38	108.00	-0.0008	16	3.03	39.59	0.00	0.00
BSL_OUTFALL2	PROPOSE	002Y008HR_G	4.00	104.09	108.00	0.0008	16	4.02	55.70	0.00	0.00
BSL_OUTFALL2	PROPOSE	002Y024HR_G	12.00	100.93	108.00	-0.0003	16	12.01	132.14	0.00	0.00
BSL_OUTFALL2	PROPOSE	002Y072HR_G	60.00	104.23	108.00	0.0002	16	60.03	87.87	0.00	0.00
BSL_OUTFALL2	PROPOSE	005Y001HR_G	0.50	103.38	108.00	0.0051	16	0.70	52.22	0.00	0.00
BSL_OUTFALL2	PROPOSE	005Y002HR_G	0.80	103.38	108.00	-0.0036	16	0.81	54.57	0.00	0.00
BSL_OUTFALL2	PROPOSE	005Y004HR_G	2.00	103.38	108.00	-0.0008	16	3.03	40.25	0.00	0.00
BSL_OUTFALL2	PROPOSE	005Y008HR_G	4.00	104.09	108.00	0.0008	16	4.02	57.02	0.00	0.00
BSL_OUTFALL2	PROPOSE	005Y024HR_G	12.00	100.48	108.00	-0.0002	16	12.01	150.71	0.00	0.00
BSL_OUTFALL2	PROPOSE	005Y072HR_G	60.00	105.44	108.00	0.0003	16	60.04	88.85	0.00	0.00
BSL_OUTFALL2	PROPOSE	010Y001HR_G	0.50	103.38	108.00	0.0051	16	0.70	53.65	0.00	0.00
BSL_OUTFALL2	PROPOSE	010Y002HR_G	0.80	103.38	108.00	-0.0036	16	0.81	55.99	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BSL_OUTFALL2	PROPOSE	010Y004HR_G	2.00	103.38	108.00	-0.0008	16	3.03	40.92	0.00	0.00
BSL_OUTFALL2	PROPOSE	010Y008HR_G	4.00	104.09	108.00	0.0008	16	4.02	57.89	0.00	0.00
BSL_OUTFALL2	PROPOSE	010Y024HR_G	12.00	101.65	108.00	-0.0003	16	12.01	137.23	0.00	0.00
BSL_OUTFALL2	PROPOSE	010Y072HR_G	60.00	104.50	108.00	0.0002	16	60.03	88.77	0.00	0.00
BSL_OUTFALL2	PROPOSE	025Y001HR_G	0.50	103.38	108.00	0.0051	16	0.70	55.66	0.00	0.00
BSL_OUTFALL2	PROPOSE	025Y002HR_G	0.80	103.38	108.00	-0.0036	16	0.81	57.98	0.00	0.00
BSL_OUTFALL2	PROPOSE	025Y004HR_G	2.00	103.38	108.00	-0.0008	16	3.03	41.89	0.00	0.00
BSL_OUTFALL2	PROPOSE	025Y008HR_G	4.00	104.09	108.00	0.0008	16	4.02	59.31	0.00	0.00
BSL_OUTFALL2	PROPOSE	025Y024HR_G	12.00	101.95	108.00	-0.0003	16	12.01	136.55	0.00	0.00
BSL_OUTFALL2	PROPOSE	025Y072HR_G	60.00	105.25	108.00	0.0003	16	60.03	89.72	0.00	0.00
BSL_OUTFALL2	PROPOSE	050Y001HR_G	0.50	103.38	108.00	0.0051	16	0.70	57.19	0.00	0.00
BSL_OUTFALL2	PROPOSE	050Y002HR_G	0.80	103.38	108.00	-0.0036	16	0.81	59.42	0.00	0.00
BSL_OUTFALL2	PROPOSE	050Y004HR_G	2.00	103.38	108.00	-0.0008	16	2.01	42.64	0.00	0.00
BSL_OUTFALL2	PROPOSE	050Y008HR_G	4.00	104.09	108.00	0.0008	16	4.02	60.57	0.00	0.00
BSL_OUTFALL2	PROPOSE	050Y024HR_G	12.00	102.53	108.00	-0.0003	16	12.01	126.56	0.00	0.00
BSL_OUTFALL2	PROPOSE	050Y072HR_G	60.00	105.44	108.00	0.0003	16	60.04	90.35	0.00	0.00
BSL_OUTFALL2	PROPOSE	100Y001HR_G	0.50	103.38	108.00	0.0051	16	0.70	58.62	0.00	0.00
BSL_OUTFALL2	PROPOSE	100Y002HR_G	0.80	103.38	108.00	-0.0036	16	0.81	60.77	0.00	0.00
BSL_OUTFALL2	PROPOSE	100Y004HR_G	2.00	103.38	108.00	-0.0008	16	0.74	40.37	0.00	0.00
BSL_OUTFALL2	PROPOSE	100Y008HR_G	4.00	104.09	108.00	0.0008	16	4.02	62.05	0.00	0.00
BSL_OUTFALL2	PROPOSE	100Y024HR_G	12.00	103.68	108.00	-0.0004	16	12.02	102.68	0.00	0.00
BSL_OUTFALL2	PROPOSE	100Y072HR_G	60.00	105.83	108.00	0.0003	16	60.04	91.43	0.00	0.00
EX_PND142E1	PROPOSE	002Y001HR_G	2.00	109.04	113.00	0.0003	9251	0.50	3.52	0.00	0.00
EX_PND142E1	PROPOSE	002Y002HR_G	4.00	109.32	113.00	0.0002	9979	0.75	3.30	0.00	0.00
EX_PND142E1	PROPOSE	002Y004HR_G	5.75	109.50	113.00	0.0001	10463	2.00	1.85	0.00	0.00
EX_PND142E1	PROPOSE	002Y008HR_G	10.00	109.71	113.00	0.0001	11008	4.00	1.86	0.00	0.00
EX_PND142E1	PROPOSE	002Y024HR_G	25.50	110.08	113.00	0.0000	11939	11.75	0.56	0.00	0.00
EX_PND142E1	PROPOSE	002Y072HR_G	73.50	110.54	113.00	0.0000	12939	59.75	0.39	0.00	0.00
EX_PND142E1	PROPOSE	005Y001HR_G	2.00	109.24	113.00	0.0003	9786	0.50	4.47	0.00	0.00
EX_PND142E1	PROPOSE	005Y002HR_G	4.00	109.57	113.00	0.0003	10638	0.75	4.15	0.00	0.00
EX_PND142E1	PROPOSE	005Y004HR_G	5.75	109.80	113.00	0.0001	11233	2.00	2.35	0.00	0.00
EX_PND142E1	PROPOSE	005Y008HR_G	10.00	110.05	113.00	0.0001	11866	4.00	2.34	0.00	0.00
EX_PND142E1	PROPOSE	005Y024HR_G	26.00	110.50	113.00	0.0000	12845	11.75	0.72	0.00	0.00
EX_PND142E1	PROPOSE	005Y072HR_G	73.50	111.05	113.00	0.0000	14040	59.75	0.49	0.00	0.00
EX_PND142E1	PROPOSE	010Y001HR_G	2.00	109.40	113.00	0.0004	10193	0.50	5.23	0.00	0.00
EX_PND142E1	PROPOSE	010Y002HR_G	4.00	109.76	113.00	0.0003	11141	0.75	4.84	0.00	0.00
EX_PND142E1	PROPOSE	010Y004HR_G	5.75	110.03	113.00	0.0002	11825	2.00	2.76	0.00	0.00
EX_PND142E1	PROPOSE	010Y008HR_G	10.00	110.33	113.00	0.0001	12475	4.00	2.76	0.00	0.00
EX_PND142E1	PROPOSE	010Y024HR_G	26.00	110.88	113.00	0.0000	13680	11.75	0.87	0.00	0.00
EX_PND142E1	PROPOSE	010Y072HR_G	73.50	111.50	113.00	0.0000	15036	59.75	0.58	0.00	0.00
EX_PND142E1	PROPOSE	025Y001HR_G	2.00	109.59	113.00	0.0004	10701	0.50	6.24	0.00	0.00
EX_PND142E1	PROPOSE	025Y002HR_G	4.00	110.00	113.00	0.0003	11768	0.75	5.74	0.00	0.00
EX_PND142E1	PROPOSE	025Y004HR_G	5.75	110.33	113.00	0.0002	12480	2.00	3.31	0.00	0.00
EX_PND142E1	PROPOSE	025Y008HR_G	10.00	110.72	113.00	0.0002	13327	3.75	3.38	0.00	0.00
EX_PND142E1	PROPOSE	025Y024HR_G	25.58	111.44	113.00	0.0000	14891	11.98	1.11	0.00	0.00
EX_PND142E1	PROPOSE	025Y072HR_G	68.43	112.08	113.00	0.0000	16319	59.75	0.74	68.43	0.08
EX_PND142E1	PROPOSE	050Y001HR_G	2.00	109.73	113.00	0.0004	11064	0.50	6.98	0.00	0.00
EX_PND142E1	PROPOSE	050Y002HR_G	4.00	110.17	113.00	0.0003	12123	0.75	6.38	0.00	0.00
EX_PND142E1	PROPOSE	050Y004HR_G	5.75	110.55	113.00	0.0002	12963	2.00	3.74	0.00	0.00
EX_PND142E1	PROPOSE	050Y008HR_G	10.00	111.02	113.00	0.0002	13983	3.75	3.89	0.00	0.00
EX_PND142E1	PROPOSE	050Y024HR_G	26.00	111.91	113.00	0.0001	15930	11.75	1.31	0.00	0.00
EX_PND142E1	PROPOSE	050Y072HR_G	64.14	112.29	113.00	0.0000	16882	59.75	0.87	64.14	0.35
EX_PND142E1	PROPOSE	100Y001HR_G	2.00	109.86	113.00	0.0005	11396	0.50	7.69	0.00	0.00
EX_PND142E1	PROPOSE	100Y002HR_G	4.00	110.32	113.00	0.0004	12452	0.75	6.98	0.00	0.00
EX_PND142E1	PROPOSE	100Y004HR_G	4.00	110.32	113.00	0.0004	12452	0.75	6.98	0.00	0.00
EX_PND142E1	PROPOSE	100Y008HR_G	10.00	111.32	113.00	0.0002	14641	3.75	4.41	0.00	0.00
EX_PND142E1	PROPOSE	100Y024HR_G	22.20	112.22	113.00	0.0001	16680	11.75	1.55	22.20	0.26
EX_PND142E1	PROPOSE	100Y072HR_G	64.03	112.48	113.00	0.0000	17383	59.75	1.01	64.03	0.52
EX_PND142E2	PROPOSE	002Y001HR_G	0.50	103.42	103.00	0.0051	3227	0.50	4.37	0.61	21.44

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_PND142E2	PROPOSE	002Y002HR_G	0.80	103.41	103.00	0.0065	3213	0.75	4.09	0.81	24.25
EX_PND142E2	PROPOSE	002Y004HR_G	2.00	103.41	103.00	-0.0057	3218	2.00	2.30	0.74	20.74
EX_PND142E2	PROPOSE	002Y008HR_G	4.00	104.16	103.00	0.0061	4446	4.00	2.31	1.92	20.89
EX_PND142E2	PROPOSE	002Y024HR_G	12.00	101.49	103.00	0.0013	1896	11.75	0.70	21.18	5.76
EX_PND142E2	PROPOSE	002Y072HR_G	60.00	104.47	103.00	0.0076	4962	59.75	0.48	54.98	16.59
EX_PND142E2	PROPOSE	005Y001HR_G	0.50	103.42	103.00	0.0051	3232	0.50	5.55	0.61	20.76
EX_PND142E2	PROPOSE	005Y002HR_G	0.80	103.41	103.00	0.0065	3216	0.75	5.16	0.81	26.58
EX_PND142E2	PROPOSE	005Y004HR_G	2.00	103.42	103.00	-0.0057	3221	2.00	2.91	0.74	20.80
EX_PND142E2	PROPOSE	005Y008HR_G	4.00	104.16	103.00	0.0062	4450	4.00	2.91	1.92	20.94
EX_PND142E2	PROPOSE	005Y024HR_G	12.00	101.21	103.00	-0.0011	1786	11.75	0.89	13.02	6.95
EX_PND142E2	PROPOSE	005Y072HR_G	60.01	105.68	103.00	0.0078	6967	59.75	0.61	54.22	17.13
EX_PND142E2	PROPOSE	010Y001HR_G	0.50	103.42	103.00	0.0051	3235	0.50	6.50	0.61	22.29
EX_PND142E2	PROPOSE	010Y002HR_G	0.80	103.41	103.00	0.0065	3219	0.75	6.02	0.81	27.36
EX_PND142E2	PROPOSE	010Y004HR_G	2.00	103.42	103.00	-0.0058	3223	2.00	3.43	0.74	21.45
EX_PND142E2	PROPOSE	010Y008HR_G	4.00	104.16	103.00	0.0059	4453	4.00	3.43	1.92	20.99
EX_PND142E2	PROPOSE	010Y024HR_G	12.00	102.25	103.00	0.0014	2204	11.75	1.08	21.42	6.28
EX_PND142E2	PROPOSE	010Y072HR_G	60.00	104.74	103.00	0.0077	5413	59.75	0.73	54.79	16.74
EX_PND142E2	PROPOSE	025Y001HR_G	0.50	103.43	103.00	0.0051	3239	0.50	7.74	0.61	23.42
EX_PND142E2	PROPOSE	025Y002HR_G	0.80	103.42	103.00	0.0066	3224	0.75	7.14	0.81	28.39
EX_PND142E2	PROPOSE	025Y004HR_G	2.00	103.42	103.00	0.0060	3226	2.00	4.12	0.74	21.51
EX_PND142E2	PROPOSE	025Y008HR_G	4.00	104.16	103.00	0.0060	4458	3.75	4.20	1.92	20.56
EX_PND142E2	PROPOSE	025Y024HR_G	12.00	102.54	103.00	0.0015	2330	11.98	1.38	21.44	6.95
EX_PND142E2	PROPOSE	025Y072HR_G	60.01	105.49	103.00	0.0076	6655	59.75	0.91	54.33	17.08
EX_PND142E2	PROPOSE	050Y001HR_G	0.50	103.43	103.00	0.0051	3243	0.50	8.67	0.61	24.26
EX_PND142E2	PROPOSE	050Y002HR_G	0.80	103.42	103.00	0.0069	3228	0.75	7.93	0.81	29.14
EX_PND142E2	PROPOSE	050Y004HR_G	2.00	103.42	103.00	0.0058	3228	2.00	4.65	0.74	20.99
EX_PND142E2	PROPOSE	050Y008HR_G	4.00	104.16	103.00	0.0060	4461	3.75	4.83	1.92	20.63
EX_PND142E2	PROPOSE	050Y024HR_G	12.00	103.02	103.00	0.0021	2572	11.75	1.63	21.42	9.74
EX_PND142E2	PROPOSE	050Y072HR_G	60.01	105.69	103.00	0.0078	6978	60.00	1.10	54.21	17.16
EX_PND142E2	PROPOSE	100Y001HR_G	0.50	103.43	103.00	0.0051	3248	0.50	9.55	0.61	25.06
EX_PND142E2	PROPOSE	100Y002HR_G	0.80	103.42	103.00	0.0067	3232	0.75	8.68	0.81	29.85
EX_PND142E2	PROPOSE	100Y004HR_G	2.00	103.41	103.00	0.0052	3216	0.75	8.68	0.74	26.58
EX_PND142E2	PROPOSE	100Y008HR_G	4.00	104.17	103.00	0.0064	4465	3.75	5.48	1.92	20.70
EX_PND142E2	PROPOSE	100Y024HR_G	12.00	103.99	103.00	0.0063	4174	11.75	1.93	21.52	15.01
EX_PND142E2	PROPOSE	100Y072HR_G	60.01	106.08	103.00	0.0078	7623	59.75	1.70	54.01	17.21
FPC141B	PROPOSE	002Y001HR_G	0.50	99.36	110.00	-0.1000	184	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	002Y002HR_G	0.80	99.37	110.00	-0.1000	187	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	002Y004HR_G	2.00	99.37	110.00	-0.1000	186	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	002Y008HR_G	4.00	100.09	110.00	-0.1000	172	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	002Y024HR_G	12.00	99.40	110.00	-0.1000	201	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	002Y072HR_G	60.00	100.69	110.00	-0.1000	170	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	005Y001HR_G	0.50	99.37	110.00	-0.1000	185	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	005Y002HR_G	0.80	99.39	110.00	-0.1000	189	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	005Y004HR_G	2.00	99.39	110.00	-0.1000	188	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	005Y008HR_G	4.00	100.12	110.00	-0.1000	171	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	005Y024HR_G	12.00	99.70	110.00	-0.1000	203	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	005Y072HR_G	60.00	101.92	110.00	-0.1000	132	60.68	10.58	0.00	52.61
FPC141B	PROPOSE	010Y001HR_G	0.50	99.37	110.00	-0.1000	186	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	010Y002HR_G	0.80	99.38	110.00	-0.1000	188	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	010Y004HR_G	2.00	99.40	110.00	-0.1000	190	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	010Y008HR_G	4.00	100.16	110.00	-0.1000	170	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	010Y024HR_G	12.00	100.18	110.00	-0.1000	167	22.00	9.74	0.00	52.61
FPC141B	PROPOSE	010Y072HR_G	60.00	101.04	110.00	-0.1000	169	60.90	18.74	0.00	52.61
FPC141B	PROPOSE	025Y001HR_G	0.50	99.39	110.00	-0.1000	188	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	025Y002HR_G	0.80	99.41	110.00	-0.1000	190	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	025Y004HR_G	2.00	99.42	110.00	-0.1000	191	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	025Y008HR_G	4.01	100.21	110.00	-0.1000	168	8.00	10.10	0.00	52.61
FPC141B	PROPOSE	025Y024HR_G	12.00	100.57	110.00	-0.1000	170	21.20	14.76	0.00	52.61
FPC141B	PROPOSE	025Y072HR_G	60.00	101.93	110.00	-0.1000	134	61.76	24.37	0.00	52.61

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
FPC141B	PROPOSE	050Y001HR_G	0.50	99.40	110.00	-0.1000	189	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	050Y002HR_G	0.80	99.45	110.00	-0.1000	195	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	050Y004HR_G	2.00	99.44	110.00	-0.1000	193	3.66	9.66	0.00	52.61
FPC141B	PROPOSE	050Y008HR_G	4.00	100.26	110.00	-0.1000	169	8.00	13.06	0.00	52.61
FPC141B	PROPOSE	050Y024HR_G	12.00	100.77	110.00	-0.1000	170	21.24	19.58	0.00	52.61
FPC141B	PROPOSE	050Y072HR_G	60.01	102.23	110.00	-0.1000	134	62.08	29.45	0.00	52.61
FPC141B	PROPOSE	100Y001HR_G	0.50	99.41	110.00	-0.1000	190	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	100Y002HR_G	0.80	99.45	110.00	-0.1000	195	0.00	8.25	0.00	52.61
FPC141B	PROPOSE	100Y004HR_G	2.00	99.59	110.00	-0.1000	216	2.00	8.52	0.00	52.61
FPC141B	PROPOSE	100Y008HR_G	4.00	100.29	110.00	-0.1000	170	8.00	16.44	0.00	52.61
FPC141B	PROPOSE	100Y024HR_G	12.00	101.20	110.00	-0.1000	166	21.22	25.52	0.00	52.61
FPC141B	PROPOSE	100Y072HR_G	60.01	102.85	110.00	-0.1000	134	71.20	35.84	0.00	52.61
LK_RUBY	PROPOSE	002Y001HR_G	0.00	132.00	99999.00	0.0000	0	0.75	0.82	0.00	0.00
LK_RUBY	PROPOSE	002Y002HR_G	0.00	132.00	99999.00	0.0000	0	0.75	0.85	0.00	0.00
LK_RUBY	PROPOSE	002Y004HR_G	0.00	132.00	99999.00	0.0000	0	2.50	0.52	0.00	0.00
LK_RUBY	PROPOSE	002Y008HR_G	0.00	132.00	99999.00	0.0000	0	4.00	0.58	0.00	0.00
LK_RUBY	PROPOSE	002Y024HR_G	0.00	132.00	99999.00	0.0000	0	12.00	0.18	0.00	0.00
LK_RUBY	PROPOSE	002Y072HR_G	0.00	132.00	99999.00	0.0000	0	59.75	0.13	0.00	0.00
LK_RUBY	PROPOSE	005Y001HR_G	0.00	132.00	99999.00	0.0000	0	0.75	1.09	0.00	0.00
LK_RUBY	PROPOSE	005Y002HR_G	0.00	132.00	99999.00	0.0000	0	0.75	1.15	0.00	0.00
LK_RUBY	PROPOSE	005Y004HR_G	0.00	132.00	99999.00	0.0000	0	2.00	0.70	0.00	0.00
LK_RUBY	PROPOSE	005Y008HR_G	0.00	132.00	99999.00	0.0000	0	4.00	0.76	0.00	0.00
LK_RUBY	PROPOSE	005Y024HR_G	0.00	132.00	99999.00	0.0000	0	12.00	0.23	0.00	0.00
LK_RUBY	PROPOSE	005Y072HR_G	0.00	132.00	99999.00	0.0000	0	59.75	0.17	0.00	0.00
LK_RUBY	PROPOSE	010Y001HR_G	0.00	132.00	99999.00	0.0000	0	0.75	1.31	0.00	0.00
LK_RUBY	PROPOSE	010Y002HR_G	0.00	132.00	99999.00	0.0000	0	0.75	1.40	0.00	0.00
LK_RUBY	PROPOSE	010Y004HR_G	0.00	132.00	99999.00	0.0000	0	2.00	0.85	0.00	0.00
LK_RUBY	PROPOSE	010Y008HR_G	0.00	132.00	99999.00	0.0000	0	4.00	0.91	0.00	0.00
LK_RUBY	PROPOSE	010Y024HR_G	0.00	132.00	99999.00	0.0000	0	11.75	0.29	0.00	0.00
LK_RUBY	PROPOSE	010Y072HR_G	0.00	132.00	99999.00	0.0000	0	59.75	0.21	0.00	0.00
LK_RUBY	PROPOSE	025Y001HR_G	0.00	132.00	99999.00	0.0000	0	0.50	1.62	0.00	0.00
LK_RUBY	PROPOSE	025Y002HR_G	0.00	132.00	99999.00	0.0000	0	0.75	1.73	0.00	0.00
LK_RUBY	PROPOSE	025Y004HR_G	0.00	132.00	99999.00	0.0000	0	2.00	1.06	0.00	0.00
LK_RUBY	PROPOSE	025Y008HR_G	0.00	132.00	99999.00	0.0000	0	4.00	1.14	0.00	0.00
LK_RUBY	PROPOSE	025Y024HR_G	0.00	132.00	99999.00	0.0000	0	11.98	0.38	0.00	0.00
LK_RUBY	PROPOSE	025Y072HR_G	0.00	132.00	99999.00	0.0000	0	59.75	0.26	0.00	0.00
LK_RUBY	PROPOSE	050Y001HR_G	0.00	132.00	99999.00	0.0000	0	0.50	1.87	0.00	0.00
LK_RUBY	PROPOSE	050Y002HR_G	0.00	132.00	99999.00	0.0000	0	0.75	1.96	0.00	0.00
LK_RUBY	PROPOSE	050Y004HR_G	0.00	132.00	99999.00	0.0000	0	2.00	1.21	0.00	0.00
LK_RUBY	PROPOSE	050Y008HR_G	0.00	132.00	99999.00	0.0000	0	4.00	1.32	0.00	0.00
LK_RUBY	PROPOSE	050Y024HR_G	0.00	132.00	99999.00	0.0000	0	11.75	0.45	0.00	0.00
LK_RUBY	PROPOSE	050Y072HR_G	0.00	132.00	99999.00	0.0000	0	59.75	0.31	0.00	0.00
LK_RUBY	PROPOSE	100Y001HR_G	0.00	132.00	99999.00	0.0000	0	0.50	2.12	0.00	0.00
LK_RUBY	PROPOSE	100Y002HR_G	0.00	132.00	99999.00	0.0000	0	0.75	2.18	0.00	0.00
LK_RUBY	PROPOSE	100Y004HR_G	0.00	132.00	99999.00	0.0000	0	0.75	2.18	0.00	0.00
LK_RUBY	PROPOSE	100Y008HR_G	0.00	132.00	99999.00	0.0000	0	4.00	1.51	0.00	0.00
LK_RUBY	PROPOSE	100Y024HR_G	0.00	132.00	99999.00	0.0000	0	11.75	0.54	0.00	0.00
LK_RUBY	PROPOSE	100Y072HR_G	0.00	132.00	99999.00	0.0000	0	59.75	0.36	0.00	0.00
LK_WILLIS	PROPOSE	002Y001HR_G	2.00	103.60	107.00	0.0000	5625166	0.75	248.32	0.16	27.74
LK_WILLIS	PROPOSE	002Y002HR_G	4.00	103.68	107.00	0.0000	5632200	1.00	252.53	0.15	27.65
LK_WILLIS	PROPOSE	002Y004HR_G	8.00	103.75	107.00	0.0000	5637501	2.50	206.97	4.27	31.48
LK_WILLIS	PROPOSE	002Y008HR_G	16.00	103.83	107.00	0.0000	5644062	4.00	213.47	6.81	30.85
LK_WILLIS	PROPOSE	002Y024HR_G	30.00	103.97	107.00	0.0000	5655684	12.00	77.84	0.14	28.51
LK_WILLIS	PROPOSE	002Y072HR_G	80.00	104.18	107.00	0.0000	5674815	60.00	60.13	0.14	28.51
LK_WILLIS	PROPOSE	005Y001HR_G	2.00	103.65	107.00	0.0000	5629071	0.75	328.24	0.14	28.46
LK_WILLIS	PROPOSE	005Y002HR_G	4.00	103.75	107.00	0.0000	5638114	1.00	329.19	2.66	31.58
LK_WILLIS	PROPOSE	005Y004HR_G	8.00	103.84	107.00	0.0000	5645191	2.50	266.74	4.24	30.78
LK_WILLIS	PROPOSE	005Y008HR_G	16.00	103.95	107.00	0.0000	5653938	4.00	276.34	16.00	30.85
LK_WILLIS	PROPOSE	005Y024HR_G	30.00	104.14	107.00	0.0000	5671427	12.00	100.13	0.14	28.51

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
LK_WILLIS	PROPOSE	005Y072HR_G	80.00	104.41	107.00	0.0000	5696031	60.00	81.69	80.00	29.16
LK_WILLIS	PROPOSE	010Y001HR_G	2.00	103.68	107.00	0.0000	5632284	0.75	392.65	0.57	29.17
LK_WILLIS	PROPOSE	010Y002HR_G	4.00	103.81	107.00	0.0000	5642924	1.00	391.22	0.71	28.39
LK_WILLIS	PROPOSE	010Y004HR_G	8.00	103.92	107.00	0.0000	5651770	2.50	317.23	8.00	30.80
LK_WILLIS	PROPOSE	010Y008HR_G	16.00	104.06	107.00	0.0000	5663832	4.00	331.90	16.00	31.17
LK_WILLIS	PROPOSE	010Y024HR_G	30.00	104.31	107.00	0.0000	5687444	12.00	122.77	30.00	28.80
LK_WILLIS	PROPOSE	010Y072HR_G	80.00	104.63	107.00	0.0000	5716698	60.00	99.75	79.32	30.27
LK_WILLIS	PROPOSE	025Y001HR_G	2.00	103.74	107.00	0.0001	5636584	0.75	477.20	2.00	31.72
LK_WILLIS	PROPOSE	025Y002HR_G	4.00	103.89	107.00	0.0000	5649347	1.00	473.23	0.65	28.31
LK_WILLIS	PROPOSE	025Y004HR_G	8.00	104.03	107.00	0.0000	5661563	2.50	386.03	8.00	31.12
LK_WILLIS	PROPOSE	025Y008HR_G	16.00	104.23	107.00	0.0000	5679600	4.00	413.92	16.00	31.74
LK_WILLIS	PROPOSE	025Y024HR_G	30.00	104.59	107.00	0.0000	5712912	12.00	159.64	30.00	33.26
LK_WILLIS	PROPOSE	025Y072HR_G	80.00	105.00	107.00	0.0000	5752356	60.00	127.54	75.24	36.24
LK_WILLIS	PROPOSE	050Y001HR_G	2.00	103.77	107.00	0.0001	5639765	0.75	540.45	2.00	31.41
LK_WILLIS	PROPOSE	050Y002HR_G	4.00	103.95	107.00	0.0001	5653951	1.00	531.28	0.61	28.32
LK_WILLIS	PROPOSE	050Y004HR_G	8.00	104.12	107.00	0.0000	5669868	2.50	438.57	8.00	31.41
LK_WILLIS	PROPOSE	050Y008HR_G	16.00	104.37	107.00	0.0000	5692532	4.00	480.73	16.00	32.26
LK_WILLIS	PROPOSE	050Y024HR_G	30.00	104.85	107.00	0.0000	5736723	12.00	194.90	23.06	33.64
LK_WILLIS	PROPOSE	050Y072HR_G	78.76	105.33	107.00	0.0000	5844045	60.00	163.80	79.97	36.98
LK_WILLIS	PROPOSE	100Y001HR_G	2.00	103.81	107.00	0.0001	5642782	0.75	600.26	1.90	30.21
LK_WILLIS	PROPOSE	100Y002HR_G	4.00	104.00	107.00	0.0001	5658507	1.00	586.64	0.16	28.53
LK_WILLIS	PROPOSE	100Y004HR_G	8.00	104.03	107.00	0.0001	5660934	1.00	586.64	0.16	28.53
LK_WILLIS	PROPOSE	100Y008HR_G	16.00	104.51	107.00	0.0001	5706056	4.00	550.89	16.00	33.06
LK_WILLIS	PROPOSE	100Y024HR_G	30.00	105.15	107.00	0.0000	5792671	12.00	237.54	27.47	36.48
LK_WILLIS	PROPOSE	100Y072HR_G	78.21	105.70	107.00	0.0000	5948821	60.00	192.82	77.27	38.42
MHS427A	PROPOSE	002Y001HR_G	1.04	103.61	108.00	0.0639	142	0.14	50.40	0.00	0.00
MHS427A	PROPOSE	002Y002HR_G	2.06	103.67	108.00	0.0638	142	0.14	50.34	0.00	0.00
MHS427A	PROPOSE	002Y004HR_G	4.27	103.86	108.00	0.0697	142	0.14	50.44	4.27	44.93
MHS427A	PROPOSE	002Y008HR_G	16.00	103.93	108.00	0.0701	142	0.14	50.44	16.00	44.30
MHS427A	PROPOSE	002Y024HR_G	30.00	103.93	108.00	0.0638	142	0.14	50.44	0.00	0.00
MHS427A	PROPOSE	002Y072HR_G	80.00	104.13	108.00	0.0638	142	0.14	50.44	0.00	0.00
MHS427A	PROPOSE	005Y001HR_G	1.41	103.69	108.00	0.0640	142	0.14	50.37	0.00	0.00
MHS427A	PROPOSE	005Y002HR_G	2.66	103.86	108.00	0.0687	142	0.14	50.36	2.66	45.24
MHS427A	PROPOSE	005Y004HR_G	4.24	103.94	108.00	0.0681	142	0.14	50.44	4.24	44.61
MHS427A	PROPOSE	005Y008HR_G	16.00	104.04	108.00	0.0668	142	0.14	50.44	16.00	44.79
MHS427A	PROPOSE	005Y024HR_G	30.00	104.09	108.00	0.0638	142	0.14	50.44	0.00	0.00
MHS427A	PROPOSE	005Y072HR_G	80.00	104.34	108.00	0.0638	142	0.14	50.44	0.00	0.00
MHS427A	PROPOSE	010Y001HR_G	1.43	103.72	108.00	0.0671	142	0.14	50.36	0.58	35.06
MHS427A	PROPOSE	010Y002HR_G	2.25	103.85	108.00	0.0642	142	0.13	50.31	0.71	36.00
MHS427A	PROPOSE	010Y004HR_G	8.00	104.02	108.00	0.0647	142	0.14	50.44	8.00	44.72
MHS427A	PROPOSE	010Y008HR_G	16.00	104.15	108.00	0.0644	142	0.14	50.44	16.00	45.20
MHS427A	PROPOSE	010Y024HR_G	30.00	104.25	108.00	0.0638	142	0.14	50.44	0.00	0.00
MHS427A	PROPOSE	010Y072HR_G	80.00	104.54	108.00	0.0638	142	0.14	50.44	0.00	0.00
MHS427A	PROPOSE	025Y001HR_G	2.00	103.84	108.00	0.0653	142	0.14	50.30	2.00	45.74
MHS427A	PROPOSE	025Y002HR_G	2.26	103.92	108.00	-0.0845	142	0.14	50.31	0.65	39.50
MHS427A	PROPOSE	025Y004HR_G	8.00	104.12	108.00	0.0645	142	0.14	50.46	8.00	45.15
MHS427A	PROPOSE	025Y008HR_G	16.00	104.31	108.00	-0.0700	142	0.14	50.44	16.00	45.86
MHS427A	PROPOSE	025Y024HR_G	30.00	104.63	108.00	0.0722	142	0.14	50.44	24.45	46.87
MHS427A	PROPOSE	025Y072HR_G	72.26	105.02	108.00	-0.1000	142	78.77	54.90	75.88	50.47
MHS427A	PROPOSE	050Y001HR_G	2.00	103.88	108.00	-0.0818	142	0.14	50.29	2.00	45.63
MHS427A	PROPOSE	050Y002HR_G	2.26	103.98	108.00	-0.0760	142	0.14	50.29	0.61	39.49
MHS427A	PROPOSE	050Y004HR_G	8.00	104.21	108.00	0.0644	142	0.15	50.41	8.00	45.50
MHS427A	PROPOSE	050Y008HR_G	16.00	104.43	108.00	0.0767	142	0.14	50.44	16.00	46.42
MHS427A	PROPOSE	050Y024HR_G	30.00	104.83	108.00	0.0771	142	0.14	50.44	23.07	48.29
MHS427A	PROPOSE	050Y072HR_G	77.67	105.32	108.00	-0.1000	142	76.45	55.90	73.15	51.25
MHS427A	PROPOSE	100Y001HR_G	1.90	103.90	108.00	-0.0724	142	0.14	50.25	1.90	44.53
MHS427A	PROPOSE	100Y002HR_G	2.26	104.03	108.00	0.0641	142	0.14	50.27	0.58	35.99
MHS427A	PROPOSE	100Y004HR_G	2.27	104.03	108.00	0.0641	142	0.14	50.27	0.58	35.99
MHS427A	PROPOSE	100Y008HR_G	16.00	104.56	108.00	-0.0717	142	0.14	50.44	10.37	46.87

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MHS427A	PROPOSE	100Y024HR_G	29.68	105.16	108.00	-0.1000	142	29.23	55.11	29.68	50.77
MHS427A	PROPOSE	100Y072HR_G	76.60	105.65	108.00	-0.1000	142	79.19	58.14	74.45	52.76
MHS479C	PROPOSE	002Y001HR_G	2.00	103.56	109.00	0.0809	130	0.16	27.74	0.14	52.85
MHS479C	PROPOSE	002Y002HR_G	4.00	103.64	109.00	0.0802	130	0.15	27.65	0.15	52.88
MHS479C	PROPOSE	002Y004HR_G	8.00	103.73	109.00	-0.0719	130	4.27	31.48	0.14	52.93
MHS479C	PROPOSE	002Y008HR_G	16.00	103.80	109.00	-0.0721	130	6.81	30.85	0.14	52.93
MHS479C	PROPOSE	002Y024HR_G	30.00	103.92	109.00	-0.0706	130	0.14	28.51	0.14	52.93
MHS479C	PROPOSE	002Y072HR_G	80.00	104.13	109.00	-0.0706	130	0.14	28.51	0.14	52.93
MHS479C	PROPOSE	005Y001HR_G	2.00	103.72	109.00	-0.0706	130	0.14	28.46	0.14	52.85
MHS479C	PROPOSE	005Y002HR_G	4.00	103.73	109.00	-0.0745	130	2.66	31.58	0.14	52.88
MHS479C	PROPOSE	005Y004HR_G	8.00	103.82	109.00	-0.0733	130	4.24	30.78	0.14	52.93
MHS479C	PROPOSE	005Y008HR_G	16.00	103.92	109.00	0.0824	130	16.00	30.85	0.14	52.93
MHS479C	PROPOSE	005Y024HR_G	30.00	104.09	109.00	-0.0706	130	0.14	28.51	0.14	52.93
MHS479C	PROPOSE	005Y072HR_G	80.00	104.35	109.00	-0.0706	130	80.00	29.16	0.14	52.93
MHS479C	PROPOSE	010Y001HR_G	2.00	103.76	109.00	-0.0744	130	0.57	29.17	0.14	52.88
MHS479C	PROPOSE	010Y002HR_G	4.00	103.88	109.00	0.0737	130	0.71	28.39	0.15	52.89
MHS479C	PROPOSE	010Y004HR_G	8.00	103.90	109.00	0.0821	130	8.00	30.80	0.14	52.93
MHS479C	PROPOSE	010Y008HR_G	16.00	104.03	109.00	0.0763	130	16.00	31.17	0.14	52.93
MHS479C	PROPOSE	010Y024HR_G	30.00	104.26	109.00	-0.0706	130	30.00	28.80	0.14	52.93
MHS479C	PROPOSE	010Y072HR_G	80.00	104.57	109.00	-0.0706	130	79.32	30.27	0.14	52.93
MHS479C	PROPOSE	025Y001HR_G	2.00	103.71	109.00	0.0753	130	2.00	31.72	0.14	52.85
MHS479C	PROPOSE	025Y002HR_G	4.00	103.96	109.00	0.1000	130	0.65	28.31	0.14	52.83
MHS479C	PROPOSE	025Y004HR_G	8.00	104.01	109.00	0.0871	130	8.00	31.12	0.14	52.95
MHS479C	PROPOSE	025Y008HR_G	16.00	104.20	109.00	0.1000	130	16.00	31.74	0.14	52.93
MHS479C	PROPOSE	025Y024HR_G	30.00	104.56	109.00	0.1000	130	30.00	33.26	0.14	52.93
MHS479C	PROPOSE	025Y072HR_G	79.84	105.07	109.00	0.1000	130	75.24	36.24	77.64	59.34
MHS479C	PROPOSE	050Y001HR_G	2.00	103.75	109.00	0.1000	130	2.00	31.41	0.15	52.83
MHS479C	PROPOSE	050Y002HR_G	4.00	104.01	109.00	0.1000	130	0.61	28.32	0.14	52.83
MHS479C	PROPOSE	050Y004HR_G	8.00	104.10	109.00	0.0817	130	8.00	31.41	0.15	52.94
MHS479C	PROPOSE	050Y008HR_G	16.00	104.34	109.00	0.1000	130	16.00	32.26	0.14	52.93
MHS479C	PROPOSE	050Y024HR_G	30.00	104.87	109.00	0.1000	130	23.06	33.64	0.14	52.93
MHS479C	PROPOSE	050Y072HR_G	78.41	105.39	109.00	0.1000	130	79.97	36.98	79.95	59.52
MHS479C	PROPOSE	100Y001HR_G	1.90	103.79	109.00	0.1000	130	1.90	30.21	0.15	52.81
MHS479C	PROPOSE	100Y002HR_G	4.00	104.07	109.00	0.0854	130	0.16	28.53	0.16	52.79
MHS479C	PROPOSE	100Y004HR_G	8.00	104.09	109.00	0.0854	130	0.16	28.53	0.16	52.79
MHS479C	PROPOSE	100Y008HR_G	16.00	104.49	109.00	0.1000	130	16.00	33.06	0.14	52.93
MHS479C	PROPOSE	100Y024HR_G	29.93	105.21	109.00	0.1000	130	27.47	36.48	27.09	59.37
MHS479C	PROPOSE	100Y072HR_G	79.09	105.76	109.00	0.1000	130	77.27	38.42	75.31	60.97
MHS480C	PROPOSE	002Y001HR_G	2.00	103.62	109.00	0.0799	173	0.14	52.86	0.00	0.00
MHS480C	PROPOSE	002Y002HR_G	4.00	103.70	109.00	0.0800	176	0.15	52.90	0.00	0.00
MHS480C	PROPOSE	002Y004HR_G	8.00	103.82	109.00	0.0793	180	0.14	52.94	5.01	46.80
MHS480C	PROPOSE	002Y008HR_G	16.00	103.90	109.00	0.0793	182	0.14	52.94	10.75	46.80
MHS480C	PROPOSE	002Y024HR_G	30.00	103.98	109.00	0.0793	184	0.14	52.94	0.00	0.00
MHS480C	PROPOSE	002Y072HR_G	80.00	104.18	109.00	0.0793	186	0.14	52.94	0.00	0.00
MHS480C	PROPOSE	005Y001HR_G	1.32	103.66	109.00	0.1000	179	0.14	52.86	0.65	3.92
MHS480C	PROPOSE	005Y002HR_G	4.00	103.83	109.00	0.0796	181	0.14	52.89	3.32	46.80
MHS480C	PROPOSE	005Y004HR_G	8.00	103.91	109.00	0.0793	183	0.14	52.94	5.12	46.80
MHS480C	PROPOSE	005Y008HR_G	16.00	104.02	109.00	0.0793	185	0.14	52.94	9.39	46.80
MHS480C	PROPOSE	005Y024HR_G	30.00	104.14	109.00	0.0793	186	0.14	52.94	0.00	0.00
MHS480C	PROPOSE	005Y072HR_G	80.00	104.40	109.00	0.0793	183	0.14	52.94	0.00	0.00
MHS480C	PROPOSE	010Y001HR_G	1.30	103.69	109.00	0.1000	181	0.14	52.90	0.57	39.71
MHS480C	PROPOSE	010Y002HR_G	2.21	103.82	109.00	0.1000	182	0.15	52.90	0.71	38.78
MHS480C	PROPOSE	010Y004HR_G	8.00	103.99	109.00	0.0793	184	0.14	52.94	4.94	46.80
MHS480C	PROPOSE	010Y008HR_G	16.00	104.13	109.00	0.0793	186	0.14	52.94	8.82	46.80
MHS480C	PROPOSE	010Y024HR_G	30.00	104.31	109.00	0.0793	184	0.14	52.94	0.00	0.00
MHS480C	PROPOSE	010Y072HR_G	80.00	104.62	109.00	0.0793	175	0.14	52.94	0.00	0.00
MHS480C	PROPOSE	025Y001HR_G	2.00	103.82	109.00	0.0797	182	0.14	52.86	2.00	43.39
MHS480C	PROPOSE	025Y002HR_G	2.22	103.90	109.00	0.1000	184	0.14	52.84	0.65	38.57
MHS480C	PROPOSE	025Y004HR_G	8.00	104.10	109.00	0.1000	185	0.14	52.96	4.79	46.80

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MHS480C	PROPOSE	025Y008HR_G	16.00	104.29	109.00	0.1000	185	0.14	52.94	8.46	46.80
MHS480C	PROPOSE	025Y024HR_G	30.00	104.64	109.00	0.0793	174	0.14	52.94	30.00	48.94
MHS480C	PROPOSE	025Y072HR_G	77.37	105.07	109.00	0.1000	143	77.64	65.30	74.91	54.64
MHS480C	PROPOSE	050Y001HR_G	2.00	103.86	109.00	0.0800	183	0.15	52.84	2.00	42.78
MHS480C	PROPOSE	050Y002HR_G	2.24	103.95	109.00	0.1000	185	0.14	52.84	0.61	38.58
MHS480C	PROPOSE	050Y004HR_G	8.00	104.19	109.00	0.0798	186	0.15	52.96	4.70	46.80
MHS480C	PROPOSE	050Y008HR_G	16.00	104.43	109.00	0.0793	182	0.14	52.94	16.00	47.32
MHS480C	PROPOSE	050Y024HR_G	23.07	104.83	109.00	0.0793	156	0.14	52.94	23.07	50.66
MHS480C	PROPOSE	050Y072HR_G	77.21	105.38	109.00	0.1000	143	79.95	63.29	75.54	54.95
MHS480C	PROPOSE	100Y001HR_G	2.00	103.89	109.00	0.0801	184	0.15	52.82	2.00	42.64
MHS480C	PROPOSE	100Y002HR_G	2.25	104.00	109.00	0.1000	185	0.16	52.80	0.58	38.68
MHS480C	PROPOSE	100Y004HR_G	8.00	104.01	109.00	0.1000	185	0.16	52.80	0.58	38.68
MHS480C	PROPOSE	100Y008HR_G	16.00	104.57	109.00	0.0793	177	0.14	52.94	9.08	48.20
MHS480C	PROPOSE	100Y024HR_G	29.72	105.20	109.00	-0.1000	142	27.09	63.17	28.02	54.56
MHS480C	PROPOSE	100Y072HR_G	77.85	105.73	109.00	0.1000	145	75.31	65.59	74.70	56.66
MHS482C	PROPOSE	002Y001HR_G	0.99	103.74	118.00	0.0489	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	002Y002HR_G	1.99	103.79	118.00	0.0489	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	002Y004HR_G	2.54	103.80	118.00	-0.0614	172	4.27	44.93	0.00	33.57
MHS482C	PROPOSE	002Y008HR_G	16.00	103.82	118.00	-0.0614	172	16.00	44.30	0.00	33.57
MHS482C	PROPOSE	002Y024HR_G	30.00	104.03	118.00	0.0489	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	002Y072HR_G	80.00	104.22	118.00	0.0489	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	005Y001HR_G	1.41	103.80	118.00	-0.0526	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	005Y002HR_G	4.00	103.75	118.00	-0.0618	172	2.66	45.24	0.00	33.57
MHS482C	PROPOSE	005Y004HR_G	4.24	103.84	118.00	-0.0619	172	4.24	44.61	0.00	33.57
MHS482C	PROPOSE	005Y008HR_G	16.00	103.94	118.00	-0.0614	172	16.00	44.79	0.00	33.57
MHS482C	PROPOSE	005Y024HR_G	30.00	104.19	118.00	0.0489	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	005Y072HR_G	80.00	104.43	118.00	0.0489	172	0.00	0.00	80.00	33.95
MHS482C	PROPOSE	010Y001HR_G	1.43	103.84	118.00	-0.0627	172	0.58	35.06	0.00	33.57
MHS482C	PROPOSE	010Y002HR_G	2.25	103.97	118.00	-0.0605	172	0.71	36.00	0.00	33.57
MHS482C	PROPOSE	010Y004HR_G	8.00	103.91	118.00	-0.0616	172	8.00	44.72	0.00	33.57
MHS482C	PROPOSE	010Y008HR_G	16.00	104.04	118.00	-0.0608	172	16.00	45.20	0.00	33.57
MHS482C	PROPOSE	010Y024HR_G	30.00	104.35	118.00	0.0489	172	0.00	0.00	0.00	33.57
MHS482C	PROPOSE	010Y072HR_G	80.00	104.63	118.00	0.0489	172	0.00	0.00	79.23	35.05
MHS482C	PROPOSE	025Y001HR_G	0.88	103.79	118.00	-0.0608	172	2.00	45.74	0.00	33.57
MHS482C	PROPOSE	025Y002HR_G	2.17	104.04	118.00	-0.0600	172	0.65	39.50	0.00	33.57
MHS482C	PROPOSE	025Y004HR_G	2.96	104.08	118.00	-0.0611	172	8.00	45.15	0.00	33.57
MHS482C	PROPOSE	025Y008HR_G	16.00	104.19	118.00	-0.0597	172	16.00	45.86	0.00	33.57
MHS482C	PROPOSE	025Y024HR_G	30.00	104.51	118.00	0.0489	172	24.45	46.87	0.00	33.57
MHS482C	PROPOSE	025Y072HR_G	75.86	104.98	118.00	0.1000	172	75.88	50.47	77.16	39.10
MHS482C	PROPOSE	050Y001HR_G	0.89	103.86	118.00	0.0489	172	2.00	45.63	0.00	33.57
MHS482C	PROPOSE	050Y002HR_G	2.19	104.09	118.00	-0.0600	172	0.61	39.49	0.00	33.57
MHS482C	PROPOSE	050Y004HR_G	8.00	104.10	118.00	-0.0608	172	8.00	45.50	0.00	33.57
MHS482C	PROPOSE	050Y008HR_G	16.00	104.32	118.00	0.0489	172	16.00	46.42	0.00	33.57
MHS482C	PROPOSE	050Y024HR_G	30.00	104.71	118.00	0.0489	172	23.07	48.29	0.00	33.57
MHS482C	PROPOSE	050Y072HR_G	77.59	105.27	118.00	0.0981	172	73.15	51.25	76.04	39.99
MHS482C	PROPOSE	100Y001HR_G	0.90	103.93	118.00	0.0489	172	1.90	44.53	0.00	33.57
MHS482C	PROPOSE	100Y002HR_G	2.21	104.14	118.00	-0.0603	172	0.58	35.99	0.00	33.57
MHS482C	PROPOSE	100Y004HR_G	2.20	104.14	118.00	-0.0603	172	0.58	35.99	0.00	33.57
MHS482C	PROPOSE	100Y008HR_G	16.00	104.45	118.00	-0.0589	172	10.37	46.87	0.00	33.57
MHS482C	PROPOSE	100Y024HR_G	29.93	105.11	118.00	0.0982	172	29.68	50.77	27.82	39.25
MHS482C	PROPOSE	100Y072HR_G	77.04	105.58	118.00	0.1000	172	74.45	52.76	74.51	40.50
MHS494B	PROPOSE	002Y001HR_G	2.00	103.67	108.00	-0.0847	144	0.00	0.00	0.14	50.40
MHS494B	PROPOSE	002Y002HR_G	4.00	103.74	108.00	-0.0849	144	0.00	0.00	0.14	50.34
MHS494B	PROPOSE	002Y004HR_G	8.00	103.76	108.00	-0.0896	144	5.01	46.80	0.14	50.44
MHS494B	PROPOSE	002Y008HR_G	16.00	103.83	108.00	-0.0894	144	10.75	46.80	0.14	50.44
MHS494B	PROPOSE	002Y024HR_G	30.00	104.02	108.00	-0.0848	144	0.00	0.00	0.14	50.44
MHS494B	PROPOSE	002Y072HR_G	80.00	104.22	108.00	-0.0848	144	0.00	0.00	0.14	50.44
MHS494B	PROPOSE	005Y001HR_G	1.41	103.77	108.00	-0.1000	144	0.65	3.92	0.14	50.37
MHS494B	PROPOSE	005Y002HR_G	4.00	103.76	108.00	-0.0896	144	3.32	46.80	0.14	50.36

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MHS494B	PROPOSE	005Y004HR_G	8.00	103.84	108.00	-0.0903	144	5.12	46.80	0.14	50.44
MHS494B	PROPOSE	005Y008HR_G	16.00	103.95	108.00	-0.0892	144	9.39	46.80	0.14	50.44
MHS494B	PROPOSE	005Y024HR_G	30.00	104.18	108.00	-0.0848	144	0.00	0.00	0.14	50.44
MHS494B	PROPOSE	005Y072HR_G	80.00	104.44	108.00	-0.0848	144	0.00	0.00	0.14	50.44
MHS494B	PROPOSE	010Y001HR_G	1.43	103.81	108.00	-0.0947	144	0.57	39.71	0.14	50.36
MHS494B	PROPOSE	010Y002HR_G	2.25	103.93	108.00	-0.0999	144	0.71	38.78	0.13	50.31
MHS494B	PROPOSE	010Y004HR_G	8.00	103.92	108.00	-0.0895	144	4.94	46.80	0.14	50.44
MHS494B	PROPOSE	010Y008HR_G	16.00	104.05	108.00	-0.0880	144	8.82	46.80	0.14	50.44
MHS494B	PROPOSE	010Y024HR_G	30.00	104.35	108.00	-0.0848	144	0.00	0.00	0.14	50.44
MHS494B	PROPOSE	010Y072HR_G	80.00	104.64	108.00	-0.0848	144	0.00	0.00	0.14	50.44
MHS494B	PROPOSE	025Y001HR_G	2.00	103.74	108.00	-0.0871	144	2.00	43.39	0.14	50.30
MHS494B	PROPOSE	025Y002HR_G	2.26	104.01	108.00	-0.1000	144	0.65	38.57	0.14	50.31
MHS494B	PROPOSE	025Y004HR_G	8.00	104.03	108.00	-0.1000	144	4.79	46.80	0.14	50.46
MHS494B	PROPOSE	025Y008HR_G	16.00	104.21	108.00	-0.1000	144	8.46	46.80	0.14	50.44
MHS494B	PROPOSE	025Y024HR_G	30.00	104.55	108.00	-0.0848	144	30.00	48.94	0.14	50.44
MHS494B	PROPOSE	025Y072HR_G	79.91	105.05	108.00	0.1000	144	74.91	54.64	78.77	54.90
MHS494B	PROPOSE	050Y001HR_G	2.00	103.77	108.00	-0.0849	144	2.00	42.78	0.14	50.29
MHS494B	PROPOSE	050Y002HR_G	2.26	104.06	108.00	-0.1000	144	0.61	38.58	0.14	50.29
MHS494B	PROPOSE	050Y004HR_G	8.00	104.11	108.00	-0.0878	144	4.70	46.80	0.15	50.41
MHS494B	PROPOSE	050Y008HR_G	16.00	104.35	108.00	-0.0848	144	16.00	47.32	0.14	50.44
MHS494B	PROPOSE	050Y024HR_G	30.00	104.74	108.00	-0.0848	144	23.07	50.66	0.14	50.44
MHS494B	PROPOSE	050Y072HR_G	78.40	105.36	108.00	-0.1000	144	75.54	54.95	76.45	55.90
MHS494B	PROPOSE	100Y001HR_G	0.95	103.83	108.00	-0.0848	144	2.00	42.64	0.14	50.25
MHS494B	PROPOSE	100Y002HR_G	2.27	104.11	108.00	-0.1000	144	0.58	38.68	0.14	50.27
MHS494B	PROPOSE	100Y004HR_G	8.00	104.11	108.00	-0.1000	144	0.58	38.68	0.14	50.27
MHS494B	PROPOSE	100Y008HR_G	16.00	104.48	108.00	-0.0848	144	9.08	48.20	0.14	50.44
MHS494B	PROPOSE	100Y024HR_G	29.88	105.18	108.00	-0.1000	144	28.02	54.56	29.23	55.11
MHS494B	PROPOSE	100Y072HR_G	77.81	105.70	108.00	0.1000	144	74.70	56.66	79.19	58.14
MHS495C	PROPOSE	002Y001HR_G	0.96	103.69	115.00	-0.0217	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	002Y002HR_G	1.74	103.73	115.00	-0.0217	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	002Y004HR_G	3.16	103.86	115.00	0.0460	165	0.00	33.57	4.27	25.45
MHS495C	PROPOSE	002Y008HR_G	16.00	103.91	115.00	0.0460	165	0.00	33.57	16.00	25.64
MHS495C	PROPOSE	002Y024HR_G	30.00	103.94	115.00	-0.0217	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	002Y072HR_G	80.00	104.13	115.00	-0.0217	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	005Y001HR_G	1.13	103.73	115.00	-0.0295	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	005Y002HR_G	1.96	103.85	115.00	-0.0467	165	0.00	33.57	2.66	25.93
MHS495C	PROPOSE	005Y004HR_G	3.11	103.93	115.00	0.0463	165	0.00	33.57	8.00	25.72
MHS495C	PROPOSE	005Y008HR_G	16.00	104.01	115.00	0.0460	165	0.00	33.57	16.00	26.15
MHS495C	PROPOSE	005Y024HR_G	30.00	104.10	115.00	-0.0217	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	005Y072HR_G	80.00	104.33	115.00	-0.0217	165	80.00	33.95	0.00	0.00
MHS495C	PROPOSE	010Y001HR_G	0.65	103.78	115.00	-0.0480	165	0.00	33.57	0.57	22.57
MHS495C	PROPOSE	010Y002HR_G	2.00	103.89	115.00	0.0457	165	0.00	33.57	0.71	23.11
MHS495C	PROPOSE	010Y004HR_G	3.13	104.01	115.00	0.0460	165	0.00	33.57	8.00	26.07
MHS495C	PROPOSE	010Y008HR_G	16.00	104.12	115.00	0.0458	165	0.00	33.57	16.00	26.68
MHS495C	PROPOSE	010Y024HR_G	30.00	104.25	115.00	-0.0217	165	0.00	33.57	0.00	0.00
MHS495C	PROPOSE	010Y072HR_G	80.00	104.52	115.00	-0.0217	165	79.23	35.05	0.00	0.00
MHS495C	PROPOSE	025Y001HR_G	1.02	103.85	115.00	0.0459	165	0.00	33.57	2.00	26.81
MHS495C	PROPOSE	025Y002HR_G	2.06	103.97	115.00	-0.0459	165	0.00	33.57	0.65	23.20
MHS495C	PROPOSE	025Y004HR_G	8.00	104.09	115.00	0.0459	165	0.00	33.57	8.00	26.61
MHS495C	PROPOSE	025Y008HR_G	16.00	104.27	115.00	0.0450	165	0.00	33.57	16.00	27.55
MHS495C	PROPOSE	025Y024HR_G	30.00	104.57	115.00	0.0502	165	0.00	33.57	30.00	29.53
MHS495C	PROPOSE	025Y072HR_G	72.28	104.92	115.00	-0.0735	165	77.16	39.10	74.46	32.82
MHS495C	PROPOSE	050Y001HR_G	0.88	103.92	115.00	0.0586	165	0.00	33.57	2.00	26.78
MHS495C	PROPOSE	050Y002HR_G	2.04	104.02	115.00	0.0455	165	0.00	33.57	0.61	23.19
MHS495C	PROPOSE	050Y004HR_G	8.00	104.17	115.00	0.0458	165	0.00	33.57	8.00	27.06
MHS495C	PROPOSE	050Y008HR_G	16.00	104.39	115.00	0.0571	165	0.00	33.57	16.00	28.31
MHS495C	PROPOSE	050Y024HR_G	30.00	104.78	115.00	0.0484	165	0.00	33.57	30.00	31.07
MHS495C	PROPOSE	050Y072HR_G	74.86	105.20	115.00	-0.1000	165	76.04	39.99	70.37	36.24
MHS495C	PROPOSE	100Y001HR_G	0.89	104.00	115.00	0.0632	165	0.00	33.57	1.90	26.52

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MHS495C	PROPOSE	100Y002HR_G	2.05	104.07	115.00	0.0456	165	0.00	33.57	0.58	23.14
MHS495C	PROPOSE	100Y004HR_G	2.10	104.07	115.00	0.0456	165	0.00	33.57	0.58	23.14
MHS495C	PROPOSE	100Y008HR_G	16.00	104.51	115.00	0.0443	165	0.00	33.57	13.24	29.19
MHS495C	PROPOSE	100Y024HR_G	29.99	105.05	115.00	-0.0733	165	27.82	39.25	28.04	33.47
MHS495C	PROPOSE	100Y072HR_G	77.50	105.52	115.00	0.0945	165	74.51	40.50	73.09	39.07
MODPNDC	PROPOSE	002Y001HR_G	1.48	112.61	116.70	0.0003	322653	0.50	216.65	1.48	3.09
MODPNDC	PROPOSE	002Y002HR_G	2.29	113.00	116.70	0.0003	327697	0.75	185.81	2.29	4.08
MODPNDC	PROPOSE	002Y004HR_G	4.13	113.23	116.70	0.0002	330671	2.00	100.67	4.13	5.30
MODPNDC	PROPOSE	002Y008HR_G	8.06	113.39	116.70	0.0001	332804	3.75	97.03	8.06	6.33
MODPNDC	PROPOSE	002Y024HR_G	21.39	113.49	116.70	0.0000	334049	11.75	29.24	21.39	7.00
MODPNDC	PROPOSE	002Y072HR_G	64.22	113.36	116.70	0.0000	332384	59.75	19.40	64.22	6.12
MODPNDC	PROPOSE	005Y001HR_G	1.48	112.91	116.70	0.0004	326612	0.50	264.56	1.48	3.73
MODPNDC	PROPOSE	005Y002HR_G	2.24	113.37	116.70	0.0004	332542	0.75	227.40	2.24	6.20
MODPNDC	PROPOSE	005Y004HR_G	4.08	113.66	116.70	0.0002	336240	2.00	124.26	4.08	8.25
MODPNDC	PROPOSE	005Y008HR_G	7.46	113.83	116.70	0.0002	338436	3.75	120.48	7.46	9.61
MODPNDC	PROPOSE	005Y024HR_G	21.16	113.91	116.70	0.0001	339487	11.75	36.63	21.16	10.29
MODPNDC	PROPOSE	005Y072HR_G	64.14	113.86	116.70	0.0000	338792	59.75	24.26	64.14	9.84
MODPNDC	PROPOSE	010Y001HR_G	1.47	113.15	116.70	0.0005	329653	0.50	302.64	1.47	4.85
MODPNDC	PROPOSE	010Y002HR_G	2.23	113.66	116.70	0.0004	336277	0.75	260.66	2.23	8.27
MODPNDC	PROPOSE	010Y004HR_G	4.04	114.00	116.70	0.0002	340681	2.00	143.96	4.04	11.10
MODPNDC	PROPOSE	010Y008HR_G	7.22	114.20	116.70	0.0002	343187	3.75	140.98	7.22	12.87
MODPNDC	PROPOSE	010Y024HR_G	20.78	114.28	116.70	0.0001	344217	11.75	43.85	20.78	13.63
MODPNDC	PROPOSE	010Y072HR_G	64.10	114.21	116.70	0.0000	343331	59.75	28.93	64.10	12.98
MODPNDC	PROPOSE	025Y001HR_G	1.45	113.45	116.70	0.0006	333504	0.50	352.18	1.45	6.70
MODPNDC	PROPOSE	025Y002HR_G	2.22	114.03	116.70	0.0005	341013	0.75	304.12	2.22	11.33
MODPNDC	PROPOSE	025Y004HR_G	3.97	114.46	116.70	0.0003	346513	2.00	170.71	3.97	15.39
MODPNDC	PROPOSE	025Y008HR_G	7.11	114.72	116.70	0.0002	349888	3.75	171.14	7.11	18.12
MODPNDC	PROPOSE	025Y024HR_G	19.17	114.82	116.70	0.0001	351222	11.98	55.64	19.17	19.25
MODPNDC	PROPOSE	025Y072HR_G	64.07	114.67	116.70	0.0000	349233	59.75	36.40	64.07	17.58
MODPNDC	PROPOSE	050Y001HR_G	1.44	113.66	116.70	0.0006	336289	0.50	388.84	1.44	8.28
MODPNDC	PROPOSE	050Y002HR_G	2.20	114.28	116.70	0.0005	344262	0.75	334.69	2.20	13.66
MODPNDC	PROPOSE	050Y004HR_G	3.88	114.79	116.70	0.0003	350893	2.00	191.08	3.88	18.97
MODPNDC	PROPOSE	050Y008HR_G	7.04	115.12	116.70	0.0003	355070	3.75	195.68	7.04	22.65
MODPNDC	PROPOSE	050Y024HR_G	19.18	115.27	116.70	0.0001	357009	11.75	65.55	19.18	24.44
MODPNDC	PROPOSE	050Y072HR_G	64.05	115.01	116.70	0.0000	353711	59.75	42.80	64.05	21.43
MODPNDC	PROPOSE	100Y001HR_G	1.42	113.86	116.70	0.0007	338867	0.50	423.32	1.42	9.89
MODPNDC	PROPOSE	100Y002HR_G	2.20	114.52	116.70	0.0006	347301	0.75	363.75	2.20	16.01
MODPNDC	PROPOSE	100Y004HR_G	2.20	114.52	116.70	0.0006	347301	0.75	363.75	2.20	16.01
MODPNDC	PROPOSE	100Y008HR_G	6.51	115.53	116.70	0.0003	360339	3.75	221.23	6.51	27.62
MODPNDC	PROPOSE	100Y024HR_G	19.06	115.73	116.70	0.0001	363026	11.75	77.02	19.06	30.29
MODPNDC	PROPOSE	100Y072HR_G	64.04	115.37	116.70	0.0001	358308	59.75	49.98	64.04	25.66
NBSL0025	PROPOSE	002Y001HR_G	1.74	108.93	112.00	0.0001	85720	0.75	15.76	1.13	0.10
NBSL0025	PROPOSE	002Y002HR_G	4.00	109.16	112.00	0.0001	86900	1.00	13.54	1.24	0.11
NBSL0025	PROPOSE	002Y004HR_G	8.00	109.38	112.00	0.0001	88434	2.50	12.00	2.44	0.10
NBSL0025	PROPOSE	002Y008HR_G	14.70	109.62	112.00	0.0001	90134	4.00	13.33	3.95	0.10
NBSL0025	PROPOSE	002Y024HR_G	25.95	110.07	112.00	0.0000	93473	12.00	4.21	11.44	0.10
NBSL0025	PROPOSE	002Y072HR_G	68.01	110.41	112.00	0.0000	96783	60.00	3.73	68.05	0.79
NBSL0025	PROPOSE	005Y001HR_G	2.00	109.10	112.00	0.0001	86508	0.75	23.09	0.87	0.12
NBSL0025	PROPOSE	005Y002HR_G	4.00	109.41	112.00	0.0001	88710	1.00	19.48	1.02	0.11
NBSL0025	PROPOSE	005Y004HR_G	8.00	109.71	112.00	0.0001	90809	2.50	16.62	2.19	0.11
NBSL0025	PROPOSE	005Y008HR_G	13.45	110.02	112.00	0.0001	93054	4.00	18.67	3.71	0.11
NBSL0025	PROPOSE	005Y024HR_G	22.77	110.44	112.00	0.0000	97052	12.00	5.91	24.03	0.84
NBSL0025	PROPOSE	005Y072HR_G	64.37	110.86	112.00	0.0000	100987	60.00	4.90	64.68	1.55
NBSL0025	PROPOSE	010Y001HR_G	2.00	109.25	112.00	0.0002	87571	0.75	29.25	0.86	0.14
NBSL0025	PROPOSE	010Y002HR_G	4.00	109.63	112.00	0.0001	90227	1.00	24.47	1.01	0.13
NBSL0025	PROPOSE	010Y004HR_G	8.00	109.99	112.00	0.0001	92813	2.50	20.57	2.04	0.11
NBSL0025	PROPOSE	010Y008HR_G	8.43	110.32	112.00	0.0001	95900	4.00	23.47	9.25	0.57
NBSL0025	PROPOSE	010Y024HR_G	22.30	110.78	112.00	0.0000	100222	12.00	7.61	22.54	1.41
NBSL0025	PROPOSE	010Y072HR_G	64.26	111.20	112.00	0.0000	128078	60.00	6.03	64.49	2.16

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0025	PROPOSE	025Y001HR_G	2.00	109.46	112.00	0.0002	89011	0.75	37.58	0.77	0.15
NBSL0025	PROPOSE	025Y002HR_G	4.00	109.91	112.00	0.0002	92245	1.00	31.20	0.90	0.14
NBSL0025	PROPOSE	025Y004HR_G	4.47	110.33	112.00	0.0001	95945	2.50	26.00	5.62	0.57
NBSL0025	PROPOSE	025Y008HR_G	8.29	110.73	112.00	0.0002	99742	4.00	30.65	8.50	1.31
NBSL0025	PROPOSE	025Y024HR_G	22.09	111.25	112.00	0.0001	134080	12.00	10.37	22.19	2.25
NBSL0025	PROPOSE	025Y072HR_G	64.27	111.52	112.00	0.0000	168205	60.00	7.82	64.55	2.75
NBSL0025	PROPOSE	050Y001HR_G	2.00	109.61	112.00	0.0003	90106	0.75	43.92	0.72	0.16
NBSL0025	PROPOSE	050Y002HR_G	4.00	110.11	112.00	0.0002	93869	1.00	36.04	0.85	0.15
NBSL0025	PROPOSE	050Y004HR_G	4.36	110.58	112.00	0.0002	98391	2.50	30.18	5.10	1.03
NBSL0025	PROPOSE	050Y008HR_G	8.22	111.06	112.00	0.0002	109484	4.00	36.55	8.38	1.89
NBSL0025	PROPOSE	050Y024HR_G	22.03	111.58	112.00	0.0001	175673	12.00	12.83	22.20	2.87
NBSL0025	PROPOSE	050Y072HR_G	64.10	111.70	112.00	0.0000	191601	60.00	9.35	64.10	4.58
NBSL0025	PROPOSE	100Y001HR_G	2.00	109.76	112.00	0.0003	91152	0.75	49.98	0.68	0.17
NBSL0025	PROPOSE	100Y002HR_G	2.71	110.28	112.00	0.0002	95469	1.00	40.71	4.00	0.45
NBSL0025	PROPOSE	100Y004HR_G	2.71	110.28	112.00	0.0002	95469	1.00	40.71	4.13	0.45
NBSL0025	PROPOSE	100Y008HR_G	8.18	111.34	112.00	0.0002	145723	4.00	42.73	8.35	2.41
NBSL0025	PROPOSE	100Y024HR_G	19.43	111.75	112.00	0.0001	197407	12.00	15.60	19.43	5.65
NBSL0025	PROPOSE	100Y072HR_G	64.00	111.77	112.00	0.0000	200799	60.00	11.06	64.00	6.34
NBSL0030	PROPOSE	002Y001HR_G	2.00	108.87	111.50	0.0002	53863	0.75	20.52	0.00	0.00
NBSL0030	PROPOSE	002Y002HR_G	2.84	109.17	111.50	0.0002	55842	0.75	16.78	0.00	0.00
NBSL0030	PROPOSE	002Y004HR_G	4.58	109.41	111.50	0.0001	57332	2.00	11.59	0.00	0.00
NBSL0030	PROPOSE	002Y008HR_G	8.49	109.64	111.50	0.0001	58767	4.00	12.72	0.00	0.00
NBSL0030	PROPOSE	002Y024HR_G	24.89	110.07	111.50	0.0000	64033	12.00	3.88	0.00	0.00
NBSL0030	PROPOSE	002Y072HR_G	64.06	110.21	111.50	0.0000	70794	60.00	2.49	64.06	2.06
NBSL0030	PROPOSE	005Y001HR_G	1.93	109.10	111.50	0.0003	55450	0.75	26.22	0.00	0.00
NBSL0030	PROPOSE	005Y002HR_G	2.71	109.46	111.50	0.0002	57653	0.75	21.83	0.00	0.00
NBSL0030	PROPOSE	005Y004HR_G	4.47	109.75	111.50	0.0001	59493	2.00	14.92	0.00	0.00
NBSL0030	PROPOSE	005Y008HR_G	8.49	110.04	111.50	0.0001	62691	4.00	15.98	0.00	0.00
NBSL0030	PROPOSE	005Y024HR_G	21.13	110.22	111.50	0.0000	70929	12.00	4.74	21.13	2.13
NBSL0030	PROPOSE	005Y072HR_G	60.08	110.28	111.50	0.0000	73987	60.00	4.27	60.08	4.03
NBSL0030	PROPOSE	010Y001HR_G	1.75	109.29	111.50	0.0003	56580	0.75	30.73	0.00	0.00
NBSL0030	PROPOSE	010Y002HR_G	2.68	109.69	111.50	0.0003	59064	0.75	25.88	0.00	0.00
NBSL0030	PROPOSE	010Y004HR_G	4.45	110.04	111.50	0.0002	62682	2.00	17.68	0.00	0.00
NBSL0030	PROPOSE	010Y008HR_G	7.44	110.21	111.50	0.0002	70590	4.00	18.71	7.44	1.95
NBSL0030	PROPOSE	010Y024HR_G	19.14	110.26	111.50	0.0000	73029	12.00	5.63	19.14	3.39
NBSL0030	PROPOSE	010Y072HR_G	60.05	110.32	111.50	0.0000	75851	60.00	5.55	60.05	5.37
NBSL0030	PROPOSE	025Y001HR_G	1.73	109.52	111.50	0.0003	58022	0.75	36.53	0.00	0.00
NBSL0030	PROPOSE	025Y002HR_G	2.65	109.97	111.50	0.0003	60863	0.75	31.18	0.00	0.00
NBSL0030	PROPOSE	025Y004HR_G	3.76	110.26	111.50	0.0002	72914	2.00	21.35	3.76	3.32
NBSL0030	PROPOSE	025Y008HR_G	5.40	110.32	111.50	0.0002	75667	4.00	22.71	5.40	5.23
NBSL0030	PROPOSE	025Y024HR_G	15.23	110.32	111.50	0.0001	75701	11.98	7.03	15.23	5.26
NBSL0030	PROPOSE	025Y072HR_G	60.04	110.37	111.50	0.0000	77861	60.00	7.13	60.04	6.95
NBSL0030	PROPOSE	050Y001HR_G	1.72	109.69	111.50	0.0004	59067	0.75	40.76	0.00	0.00
NBSL0030	PROPOSE	050Y002HR_G	2.44	110.15	111.50	0.0003	67964	0.75	34.91	2.44	0.73
NBSL0030	PROPOSE	050Y004HR_G	3.52	110.36	111.50	0.0002	77715	2.00	24.08	3.52	6.83
NBSL0030	PROPOSE	050Y008HR_G	5.14	110.42	111.50	0.0002	80325	4.00	25.94	5.14	9.07
NBSL0030	PROPOSE	050Y024HR_G	15.17	110.37	111.50	0.0001	77890	12.00	8.52	15.17	6.97
NBSL0030	PROPOSE	050Y072HR_G	60.03	110.40	111.50	0.0000	79378	60.00	8.40	60.03	8.23
NBSL0030	PROPOSE	100Y001HR_G	1.72	109.84	111.50	0.0004	60033	0.75	44.71	0.00	0.00
NBSL0030	PROPOSE	100Y002HR_G	2.20	110.25	111.50	0.0004	72684	0.75	38.44	2.20	3.17
NBSL0030	PROPOSE	100Y004HR_G	2.20	110.25	111.50	0.0004	72684	0.75	38.44	2.20	3.17
NBSL0030	PROPOSE	100Y008HR_G	5.03	110.50	111.50	0.0002	83948	4.00	29.31	5.00	12.48
NBSL0030	PROPOSE	100Y024HR_G	19.24	110.43	111.50	0.0001	80674	12.00	11.13	19.24	9.38
NBSL0030	PROPOSE	100Y072HR_G	60.20	110.47	111.50	0.0000	82593	60.00	12.16	60.20	11.17
NBSL0040	PROPOSE	002Y001HR_G	2.00	103.60	112.00	0.0008	380	0.00	0.00	1.23	0.08
NBSL0040	PROPOSE	002Y002HR_G	4.00	103.68	112.00	0.0008	378	0.00	0.00	4.00	0.10
NBSL0040	PROPOSE	002Y004HR_G	8.00	103.75	112.00	0.0008	375	0.00	0.00	1.57	0.08
NBSL0040	PROPOSE	002Y008HR_G	16.00	103.83	112.00	0.0008	370	0.00	0.00	3.15	0.08
NBSL0040	PROPOSE	002Y024HR_G	30.00	103.97	112.00	0.0008	356	0.00	0.00	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0040	PROPOSE	002Y072HR_G	64.14	104.22	112.00	0.0008	312	64.06	2.06	64.07	2.06
NBSL0040	PROPOSE	005Y001HR_G	2.00	103.65	112.00	0.0008	379	0.00	0.00	0.50	0.08
NBSL0040	PROPOSE	005Y002HR_G	4.00	103.75	112.00	0.0008	374	0.00	0.00	4.00	0.10
NBSL0040	PROPOSE	005Y004HR_G	8.00	103.84	112.00	0.0008	369	0.00	0.00	8.00	0.12
NBSL0040	PROPOSE	005Y008HR_G	16.00	103.95	112.00	0.0008	358	0.00	0.00	3.00	0.08
NBSL0040	PROPOSE	005Y024HR_G	21.37	104.21	112.00	0.0008	315	21.13	2.13	21.14	2.13
NBSL0040	PROPOSE	005Y072HR_G	60.13	104.70	112.00	0.0015	131	60.08	4.03	60.09	4.03
NBSL0040	PROPOSE	010Y001HR_G	2.00	103.68	112.00	0.0008	378	0.00	0.00	0.44	0.08
NBSL0040	PROPOSE	010Y002HR_G	4.00	103.81	112.00	0.0008	371	0.00	0.00	0.47	0.08
NBSL0040	PROPOSE	010Y004HR_G	8.00	103.92	112.00	0.0008	361	0.00	0.00	1.33	0.08
NBSL0040	PROPOSE	010Y008HR_G	8.10	104.12	112.00	0.0008	332	7.44	1.95	7.45	1.95
NBSL0040	PROPOSE	010Y024HR_G	21.18	104.53	112.00	0.0008	161	19.14	3.39	19.16	3.39
NBSL0040	PROPOSE	010Y072HR_G	60.10	105.30	112.00	0.0015	131	60.05	5.37	60.06	5.37
NBSL0040	PROPOSE	025Y001HR_G	2.00	103.74	112.00	0.0008	375	0.00	0.00	2.00	0.09
NBSL0040	PROPOSE	025Y002HR_G	4.00	103.89	112.00	0.0008	364	0.00	0.00	0.04	0.08
NBSL0040	PROPOSE	025Y004HR_G	3.91	104.30	112.00	0.0008	290	3.76	3.32	3.79	3.31
NBSL0040	PROPOSE	025Y008HR_G	5.47	104.93	112.00	0.0021	131	5.40	5.23	5.41	5.23
NBSL0040	PROPOSE	025Y024HR_G	19.15	105.21	112.00	0.0017	131	15.23	5.26	15.25	5.25
NBSL0040	PROPOSE	025Y072HR_G	60.09	106.25	112.00	0.0011	131	60.04	6.95	60.05	6.95
NBSL0040	PROPOSE	050Y001HR_G	2.00	103.77	112.00	0.0008	373	0.00	0.00	2.00	0.10
NBSL0040	PROPOSE	050Y002HR_G	4.00	103.95	112.00	0.0008	358	2.44	0.73	2.45	0.72
NBSL0040	PROPOSE	050Y004HR_G	3.57	105.59	112.00	0.0027	131	3.52	6.83	3.54	6.82
NBSL0040	PROPOSE	050Y008HR_G	5.19	106.87	112.00	0.0028	131	5.14	9.07	5.16	9.04
NBSL0040	PROPOSE	050Y024HR_G	15.30	105.96	112.00	0.0021	131	15.17	6.97	15.19	6.97
NBSL0040	PROPOSE	050Y072HR_G	60.08	107.18	112.00	-0.0015	131	60.03	8.23	60.05	8.22
NBSL0040	PROPOSE	100Y001HR_G	2.00	103.81	112.00	0.0008	371	0.00	0.00	2.00	0.10
NBSL0040	PROPOSE	100Y002HR_G	2.26	104.24	112.00	0.0008	306	2.20	3.17	2.22	3.15
NBSL0040	PROPOSE	100Y004HR_G	2.26	104.24	112.00	0.0008	306	2.20	3.17	2.22	3.15
NBSL0040	PROPOSE	100Y008HR_G	5.06	109.46	112.00	0.0042	131	5.00	12.48	5.01	12.44
NBSL0040	PROPOSE	100Y024HR_G	19.32	107.87	112.00	0.0022	131	19.24	9.38	19.26	9.37
NBSL0040	PROPOSE	100Y072HR_G	60.26	109.46	112.00	0.0016	131	60.20	11.17	60.23	11.16
NBSL0041	PROPOSE	002Y001HR_G	2.00	103.60	111.12	0.0014	349	1.23	0.08	0.13	0.04
NBSL0041	PROPOSE	002Y002HR_G	4.00	103.68	111.12	0.0014	340	4.00	0.10	0.11	0.04
NBSL0041	PROPOSE	002Y004HR_G	8.00	103.75	111.12	0.0014	330	1.57	0.08	8.00	0.04
NBSL0041	PROPOSE	002Y008HR_G	16.00	103.83	111.12	0.0014	316	3.15	0.08	16.00	0.05
NBSL0041	PROPOSE	002Y024HR_G	30.00	103.97	111.12	0.0014	274	0.00	0.00	30.00	0.06
NBSL0041	PROPOSE	002Y072HR_G	64.16	104.20	111.12	0.0014	201	64.07	2.06	64.07	2.06
NBSL0041	PROPOSE	005Y001HR_G	2.00	103.65	111.12	0.0014	344	0.50	0.08	0.10	0.04
NBSL0041	PROPOSE	005Y002HR_G	4.00	103.75	111.12	0.0014	329	4.00	0.10	0.08	0.04
NBSL0041	PROPOSE	005Y004HR_G	8.00	103.84	111.12	0.0014	313	8.00	0.12	0.07	0.04
NBSL0041	PROPOSE	005Y008HR_G	16.00	103.95	111.12	0.0014	282	3.00	0.08	16.00	0.06
NBSL0041	PROPOSE	005Y024HR_G	21.42	104.19	111.12	0.0014	202	21.14	2.13	21.15	2.13
NBSL0041	PROPOSE	005Y072HR_G	60.15	104.58	111.12	0.0014	140	60.09	4.03	60.10	4.03
NBSL0041	PROPOSE	010Y001HR_G	2.00	103.68	111.12	0.0014	339	0.44	0.08	0.08	0.04
NBSL0041	PROPOSE	010Y002HR_G	4.00	103.81	111.12	0.0014	318	0.47	0.08	4.00	0.05
NBSL0041	PROPOSE	010Y004HR_G	8.00	103.92	111.12	0.0014	291	1.33	0.08	8.00	0.05
NBSL0041	PROPOSE	010Y008HR_G	8.11	104.10	111.12	0.0014	207	7.45	1.95	7.46	1.94
NBSL0041	PROPOSE	010Y024HR_G	21.21	104.48	111.12	0.0014	150	19.16	3.39	19.16	3.39
NBSL0041	PROPOSE	010Y072HR_G	60.11	105.09	111.12	0.0014	140	60.06	5.37	60.07	5.36
NBSL0041	PROPOSE	025Y001HR_G	2.00	103.74	111.12	0.0014	332	2.00	0.09	0.06	0.04
NBSL0041	PROPOSE	025Y002HR_G	4.00	103.89	111.12	0.0014	300	0.04	0.08	4.00	0.05
NBSL0041	PROPOSE	025Y004HR_G	3.93	104.25	111.12	0.0014	193	3.79	3.31	3.80	3.30
NBSL0041	PROPOSE	025Y008HR_G	5.48	104.73	111.12	0.0015	140	5.41	5.23	5.43	5.22
NBSL0041	PROPOSE	025Y024HR_G	19.17	105.03	111.12	0.0014	140	15.25	5.25	15.26	5.25
NBSL0041	PROPOSE	025Y072HR_G	60.09	105.90	111.12	0.0014	140	60.05	6.95	60.07	6.94
NBSL0041	PROPOSE	050Y001HR_G	2.00	103.77	111.12	0.0014	326	2.00	0.10	0.33	0.03
NBSL0041	PROPOSE	050Y002HR_G	4.00	103.95	111.12	0.0014	282	2.45	0.72	2.45	0.71
NBSL0041	PROPOSE	050Y004HR_G	3.58	105.25	111.12	0.0014	140	3.54	6.82	3.56	6.81
NBSL0041	PROPOSE	050Y008HR_G	5.20	106.27	111.12	0.0014	140	5.16	9.04	5.18	9.03

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0041	PROPOSE	050Y024HR_G	19.17	105.60	111.12	-0.0014	140	15.19	6.97	15.21	6.97
NBSL0041	PROPOSE	050Y072HR_G	64.10	106.68	111.12	0.0014	140	60.05	8.22	60.06	8.22
NBSL0041	PROPOSE	100Y001HR_G	2.00	103.81	111.12	0.0014	319	2.00	0.10	0.32	0.03
NBSL0041	PROPOSE	100Y002HR_G	2.27	104.19	111.12	0.0014	199	2.22	3.15	2.23	3.15
NBSL0041	PROPOSE	100Y004HR_G	2.27	104.19	111.12	0.0014	199	2.22	3.15	2.23	3.15
NBSL0041	PROPOSE	100Y008HR_G	5.08	108.32	111.12	0.0015	140	5.01	12.44	5.04	12.42
NBSL0041	PROPOSE	100Y024HR_G	19.34	107.22	111.12	0.0014	140	19.26	9.37	19.28	9.37
NBSL0041	PROPOSE	100Y072HR_G	60.27	108.54	111.12	0.0014	140	60.23	11.16	60.25	11.15
NBSL0050	PROPOSE	002Y001HR_G	2.00	107.24	111.00	0.0001	67985	0.75	8.99	0.00	0.00
NBSL0050	PROPOSE	002Y002HR_G	3.00	107.44	111.00	0.0001	69166	1.00	8.20	0.00	0.00
NBSL0050	PROPOSE	002Y004HR_G	5.00	107.63	111.00	0.0001	70235	2.50	8.19	0.00	0.00
NBSL0050	PROPOSE	002Y008HR_G	9.00	107.85	111.00	0.0001	71465	4.00	9.11	0.00	0.00
NBSL0050	PROPOSE	002Y024HR_G	25.00	108.29	111.00	0.0000	74087	12.00	2.96	0.00	0.00
NBSL0050	PROPOSE	002Y072HR_G	73.00	108.91	111.00	0.0000	77846	60.00	3.07	0.00	0.00
NBSL0050	PROPOSE	005Y001HR_G	2.00	107.39	111.00	0.0001	68850	0.75	14.50	0.00	0.00
NBSL0050	PROPOSE	005Y002HR_G	3.00	107.68	111.00	0.0001	70477	1.00	12.81	0.00	0.00
NBSL0050	PROPOSE	005Y004HR_G	5.00	107.95	111.00	0.0001	72004	2.50	12.07	0.00	0.00
NBSL0050	PROPOSE	005Y008HR_G	9.00	108.25	111.00	0.0001	73818	4.00	13.60	0.00	0.00
NBSL0050	PROPOSE	005Y024HR_G	25.00	108.85	111.00	0.0000	77466	12.00	4.41	0.00	0.00
NBSL0050	PROPOSE	005Y072HR_G	73.00	109.64	111.00	0.0000	84587	60.00	4.15	0.00	0.00
NBSL0050	PROPOSE	010Y001HR_G	2.00	107.53	111.00	0.0001	69625	0.75	19.32	0.00	0.00
NBSL0050	PROPOSE	010Y002HR_G	3.00	107.88	111.00	0.0001	71615	1.00	16.83	0.00	0.00
NBSL0050	PROPOSE	010Y004HR_G	5.00	108.22	111.00	0.0001	73666	2.50	15.47	0.00	0.00
NBSL0050	PROPOSE	010Y008HR_G	9.00	108.61	111.00	0.0001	76031	4.00	17.75	0.00	0.00
NBSL0050	PROPOSE	010Y024HR_G	25.00	109.39	111.00	0.0000	82193	12.00	5.91	0.00	0.00
NBSL0050	PROPOSE	010Y072HR_G	68.22	110.18	111.00	0.0000	93539	60.00	5.20	68.22	0.87
NBSL0050	PROPOSE	025Y001HR_G	2.00	107.72	111.00	0.0002	70714	0.75	26.01	0.00	0.00
NBSL0050	PROPOSE	025Y002HR_G	3.00	108.15	111.00	0.0002	73255	1.00	22.39	0.00	0.00
NBSL0050	PROPOSE	025Y004HR_G	5.00	108.61	111.00	0.0001	76044	2.50	20.25	0.00	0.00
NBSL0050	PROPOSE	025Y008HR_G	9.00	109.16	111.00	0.0002	79913	4.00	24.09	0.00	0.00
NBSL0050	PROPOSE	025Y024HR_G	24.11	110.17	111.00	0.0001	93430	12.00	8.39	24.11	0.82
NBSL0050	PROPOSE	025Y072HR_G	60.53	110.34	111.00	0.0000	98707	60.00	6.89	60.53	4.31
NBSL0050	PROPOSE	050Y001HR_G	2.00	107.87	111.00	0.0002	71566	0.75	31.21	0.00	0.00
NBSL0050	PROPOSE	050Y002HR_G	3.00	108.36	111.00	0.0002	74488	1.00	26.47	0.00	0.00
NBSL0050	PROPOSE	050Y004HR_G	5.00	108.92	111.00	0.0002	77899	2.50	23.98	0.00	0.00
NBSL0050	PROPOSE	050Y008HR_G	9.00	109.60	111.00	0.0002	84161	4.00	29.39	0.00	0.00
NBSL0050	PROPOSE	050Y024HR_G	21.01	110.32	111.00	0.0001	98147	12.00	10.63	21.01	3.86
NBSL0050	PROPOSE	050Y072HR_G	60.08	110.47	111.00	0.0000	102775	60.00	8.33	60.09	7.67
NBSL0050	PROPOSE	100Y001HR_G	2.00	108.01	111.00	0.0003	72399	0.75	36.26	0.00	0.00
NBSL0050	PROPOSE	100Y002HR_G	3.00	108.55	111.00	0.0002	75682	1.00	30.45	0.00	0.00
NBSL0050	PROPOSE	100Y004HR_G	3.00	108.55	111.00	0.0002	75682	1.00	30.45	0.00	0.00
NBSL0050	PROPOSE	100Y008HR_G	9.00	110.05	111.00	0.0002	89649	4.00	35.00	0.00	0.00
NBSL0050	PROPOSE	100Y024HR_G	19.04	110.40	111.00	0.0001	100688	12.00	13.20	19.04	6.03
NBSL0050	PROPOSE	100Y072HR_G	60.17	110.62	111.00	0.0000	107377	60.00	9.94	60.20	8.24
NBSL0060	PROPOSE	002Y001HR_G	2.00	104.36	109.00	0.0001	49141	0.75	9.24	0.00	0.00
NBSL0060	PROPOSE	002Y002HR_G	3.00	104.58	109.00	0.0001	50202	1.00	7.85	0.00	0.00
NBSL0060	PROPOSE	002Y004HR_G	5.00	104.77	109.00	0.0001	51133	2.50	6.79	0.00	0.00
NBSL0060	PROPOSE	002Y008HR_G	9.00	104.98	109.00	0.0001	52152	4.00	7.55	0.00	0.00
NBSL0060	PROPOSE	002Y024HR_G	25.00	105.39	109.00	0.0000	54204	12.00	2.37	0.00	0.00
NBSL0060	PROPOSE	002Y072HR_G	73.00	105.94	109.00	0.0000	56959	60.00	2.04	0.00	0.00
NBSL0060	PROPOSE	005Y001HR_G	2.00	104.53	109.00	0.0001	49959	0.75	13.30	0.00	0.00
NBSL0060	PROPOSE	005Y002HR_G	3.00	104.82	109.00	0.0001	51344	1.00	11.13	0.00	0.00
NBSL0060	PROPOSE	005Y004HR_G	5.00	105.07	109.00	0.0001	52603	2.50	9.30	0.00	0.00
NBSL0060	PROPOSE	005Y008HR_G	9.00	105.35	109.00	0.0001	54000	4.00	10.45	0.00	0.00
NBSL0060	PROPOSE	005Y024HR_G	25.00	105.89	109.00	0.0000	56684	12.00	3.29	0.00	0.00
NBSL0060	PROPOSE	005Y072HR_G	73.00	106.59	109.00	0.0000	60393	60.00	2.66	0.00	0.00
NBSL0060	PROPOSE	010Y001HR_G	2.00	104.67	109.00	0.0002	50646	0.75	16.70	0.00	0.00
NBSL0060	PROPOSE	010Y002HR_G	3.00	105.01	109.00	0.0001	52290	1.00	13.85	0.00	0.00
NBSL0060	PROPOSE	010Y004HR_G	5.00	105.33	109.00	0.0001	53890	2.50	11.43	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0060	PROPOSE	010Y008HR_G	9.00	105.68	109.00	0.0001	55638	4.00	13.03	0.00	0.00
NBSL0060	PROPOSE	010Y024HR_G	25.00	106.37	109.00	0.0000	59220	12.00	4.21	0.00	0.00
NBSL0060	PROPOSE	010Y072HR_G	80.00	107.51	109.00	0.0000	68332	60.00	3.26	0.00	0.00
NBSL0060	PROPOSE	025Y001HR_G	2.00	104.86	109.00	0.0002	51570	0.75	21.26	0.00	0.00
NBSL0060	PROPOSE	025Y002HR_G	3.00	105.27	109.00	0.0002	53589	1.00	17.52	0.00	0.00
NBSL0060	PROPOSE	025Y004HR_G	5.00	105.68	109.00	0.0001	55651	2.50	14.36	0.00	0.00
NBSL0060	PROPOSE	025Y008HR_G	9.00	106.16	109.00	0.0002	58104	4.00	16.89	0.00	0.00
NBSL0060	PROPOSE	025Y024HR_G	30.00	107.28	109.00	0.0001	65768	12.00	5.68	0.00	0.00
NBSL0060	PROPOSE	025Y072HR_G	62.64	108.05	109.00	0.0001	75716	60.00	7.96	62.64	6.47
NBSL0060	PROPOSE	050Y001HR_G	2.00	105.01	109.00	0.0002	52269	0.75	24.72	0.00	0.00
NBSL0060	PROPOSE	050Y002HR_G	3.00	105.45	109.00	0.0002	54510	1.00	20.15	0.00	0.00
NBSL0060	PROPOSE	050Y004HR_G	5.00	105.95	109.00	0.0002	56994	2.50	16.59	0.00	0.00
NBSL0060	PROPOSE	050Y008HR_G	9.00	106.55	109.00	0.0002	60178	4.00	20.05	0.00	0.00
NBSL0060	PROPOSE	050Y024HR_G	21.29	108.04	109.00	0.0001	75582	12.00	6.99	21.29	5.76
NBSL0060	PROPOSE	050Y072HR_G	60.00	108.07	109.00	0.0001	76724	60.00	12.69	60.00	12.67
NBSL0060	PROPOSE	100Y001HR_G	2.00	105.14	109.00	0.0003	52955	0.75	28.02	0.00	0.00
NBSL0060	PROPOSE	100Y002HR_G	3.00	105.63	109.00	0.0002	55386	1.00	22.68	0.00	0.00
NBSL0060	PROPOSE	100Y004HR_G	3.00	105.63	109.00	0.0002	55386	1.00	22.68	0.00	0.00
NBSL0060	PROPOSE	100Y008HR_G	9.00	106.94	109.00	0.0002	62305	4.00	23.35	0.00	0.00
NBSL0060	PROPOSE	100Y024HR_G	19.01	108.06	109.00	0.0001	76272	19.00	9.73	19.01	9.72
NBSL0060	PROPOSE	100Y072HR_G	60.00	108.08	109.00	0.0001	76936	60.00	14.15	60.00	14.14
NBSL0070	PROPOSE	002Y001HR_G	2.00	105.16	117.50	0.0000	286077	1.25	3.67	0.00	0.00
NBSL0070	PROPOSE	002Y002HR_G	4.00	105.28	117.50	0.0000	287031	2.00	7.36	0.00	0.00
NBSL0070	PROPOSE	002Y004HR_G	8.00	105.41	117.50	0.0000	288021	3.25	11.66	0.00	0.00
NBSL0070	PROPOSE	002Y008HR_G	12.00	105.57	117.50	0.0000	289275	5.25	10.71	0.00	0.00
NBSL0070	PROPOSE	002Y024HR_G	28.00	105.93	117.50	0.0000	292068	15.00	6.34	0.00	0.00
NBSL0070	PROPOSE	002Y072HR_G	76.00	106.49	117.50	0.0000	296512	60.00	10.05	0.00	0.00
NBSL0070	PROPOSE	005Y001HR_G	2.00	105.22	117.50	0.0000	286549	1.25	8.63	0.00	0.00
NBSL0070	PROPOSE	005Y002HR_G	4.00	105.43	117.50	0.0000	288219	1.75	13.73	0.00	0.00
NBSL0070	PROPOSE	005Y004HR_G	8.00	105.64	117.50	0.0000	289825	3.25	20.28	0.00	0.00
NBSL0070	PROPOSE	005Y008HR_G	12.00	105.89	117.50	0.0000	291782	5.00	18.42	0.00	0.00
NBSL0070	PROPOSE	005Y024HR_G	28.00	106.43	117.50	0.0000	295997	15.00	10.19	0.00	0.00
NBSL0070	PROPOSE	005Y072HR_G	76.00	107.25	117.50	0.0000	302419	60.00	14.74	0.00	0.00
NBSL0070	PROPOSE	010Y001HR_G	2.00	105.28	117.50	0.0000	287042	1.00	13.96	0.00	0.00
NBSL0070	PROPOSE	010Y002HR_G	4.00	105.58	117.50	0.0000	289362	1.75	19.81	0.00	0.00
NBSL0070	PROPOSE	010Y004HR_G	8.00	105.86	117.50	0.0000	291586	3.25	28.41	0.00	0.00
NBSL0070	PROPOSE	010Y008HR_G	12.00	106.21	117.50	0.0000	294294	4.50	26.40	0.00	0.00
NBSL0070	PROPOSE	010Y024HR_G	28.00	106.97	117.50	0.0000	300276	15.00	14.25	0.00	0.00
NBSL0070	PROPOSE	010Y072HR_G	76.00	108.03	117.50	0.0000	308583	60.00	19.47	0.00	0.00
NBSL0070	PROPOSE	025Y001HR_G	2.00	105.38	117.50	0.0000	287813	1.00	22.44	0.00	0.00
NBSL0070	PROPOSE	025Y002HR_G	4.00	105.80	117.50	0.0001	291063	1.50	29.14	0.00	0.00
NBSL0070	PROPOSE	025Y004HR_G	8.00	106.21	117.50	0.0001	294267	3.25	40.50	0.00	0.00
NBSL0070	PROPOSE	025Y008HR_G	12.00	106.73	117.50	0.0001	298395	4.25	41.24	0.00	0.00
NBSL0070	PROPOSE	025Y024HR_G	27.92	107.92	117.50	0.0000	307721	12.25	22.45	0.00	0.00
NBSL0070	PROPOSE	025Y072HR_G	76.00	109.37	117.50	0.0000	320327	60.00	27.28	0.00	0.00
NBSL0070	PROPOSE	050Y001HR_G	2.00	105.47	117.50	0.0001	288464	1.00	29.59	0.00	0.00
NBSL0070	PROPOSE	050Y002HR_G	4.00	105.96	117.50	0.0001	292379	1.50	36.55	0.00	0.00
NBSL0070	PROPOSE	050Y004HR_G	8.00	106.49	117.50	0.0001	296490	3.00	50.50	0.00	0.00
NBSL0070	PROPOSE	050Y008HR_G	12.00	107.19	117.50	0.0001	302004	4.25	54.87	0.00	0.00
NBSL0070	PROPOSE	050Y024HR_G	28.00	108.81	117.50	0.0001	314691	12.25	30.74	0.00	0.00
NBSL0070	PROPOSE	050Y072HR_G	76.00	110.53	117.50	0.0001	336316	60.00	34.10	0.00	0.00
NBSL0070	PROPOSE	100Y001HR_G	2.00	105.55	117.50	0.0001	289131	1.00	36.91	0.00	0.00
NBSL0070	PROPOSE	100Y002HR_G	4.00	106.13	117.50	0.0001	293708	1.50	44.04	0.00	0.00
NBSL0070	PROPOSE	100Y004HR_G	4.00	106.13	117.50	0.0001	293708	1.50	44.04	0.00	0.00
NBSL0070	PROPOSE	100Y008HR_G	12.00	107.70	117.50	0.0001	305954	4.25	70.01	0.00	0.00
NBSL0070	PROPOSE	100Y024HR_G	28.00	109.84	117.50	0.0001	326583	12.25	40.61	0.00	0.00
NBSL0070	PROPOSE	100Y072HR_G	72.88	111.72	117.50	0.0001	355446	60.00	41.83	72.88	1.75
NBSL0140	PROPOSE	002Y001HR_G	0.50	99.35	105.33	0.0179	132	0.63	28.32	0.70	6.04
NBSL0140	PROPOSE	002Y002HR_G	0.80	99.42	105.33	0.0179	132	0.00	15.37	0.81	22.25

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0140	PROPOSE	002Y004HR_G	2.00	99.35	105.33	0.0179	132	2.62	27.47	3.12	3.44
NBSL0140	PROPOSE	002Y008HR_G	4.00	100.07	105.33	0.0179	132	4.05	28.41	4.97	3.51
NBSL0140	PROPOSE	002Y024HR_G	12.00	99.37	105.33	0.0179	132	12.85	27.27	22.05	4.43
NBSL0140	PROPOSE	002Y072HR_G	60.00	100.66	105.33	0.0411	132	36.26	26.79	60.58	23.08
NBSL0140	PROPOSE	005Y001HR_G	0.50	99.36	105.33	0.0179	132	0.63	28.83	0.70	6.61
NBSL0140	PROPOSE	005Y002HR_G	0.80	99.43	105.33	0.0179	132	0.00	15.37	0.82	22.63
NBSL0140	PROPOSE	005Y004HR_G	2.00	99.36	105.33	0.0179	132	2.62	28.46	2.92	4.81
NBSL0140	PROPOSE	005Y008HR_G	4.00	100.09	105.33	0.0179	132	4.05	29.36	4.72	6.21
NBSL0140	PROPOSE	005Y024HR_G	12.00	99.66	105.33	0.0179	132	12.02	28.78	22.03	6.94
NBSL0140	PROPOSE	005Y072HR_G	60.00	101.82	105.33	0.0588	132	64.79	33.05	64.00	23.65
NBSL0140	PROPOSE	010Y001HR_G	0.50	99.36	105.33	0.0179	132	0.63	29.30	0.70	6.96
NBSL0140	PROPOSE	010Y002HR_G	0.80	99.36	105.33	0.0179	132	0.81	29.72	0.97	6.86
NBSL0140	PROPOSE	010Y004HR_G	2.00	99.37	105.33	0.0179	132	2.62	29.25	2.89	6.21
NBSL0140	PROPOSE	010Y008HR_G	4.00	100.11	105.33	0.0179	132	4.04	30.12	4.71	7.49
NBSL0140	PROPOSE	010Y024HR_G	12.00	100.13	105.33	0.0179	132	12.10	30.67	15.29	10.69
NBSL0140	PROPOSE	010Y072HR_G	60.00	100.95	105.33	0.0655	132	59.43	33.45	59.74	23.13
NBSL0140	PROPOSE	025Y001HR_G	0.50	99.37	105.33	0.0179	132	0.63	29.75	0.70	7.64
NBSL0140	PROPOSE	025Y002HR_G	0.80	99.37	105.33	0.0179	132	0.81	30.19	0.96	7.74
NBSL0140	PROPOSE	025Y004HR_G	2.00	99.38	105.33	0.0179	132	2.62	30.04	2.97	8.15
NBSL0140	PROPOSE	025Y008HR_G	4.00	100.14	105.33	0.0179	132	4.05	31.54	8.01	10.10
NBSL0140	PROPOSE	025Y024HR_G	12.00	100.54	105.33	0.0416	132	13.88	34.82	13.40	23.38
NBSL0140	PROPOSE	025Y072HR_G	60.00	101.74	105.33	0.0449	132	57.68	33.65	59.40	21.44
NBSL0140	PROPOSE	050Y001HR_G	0.50	99.37	105.33	0.0179	132	0.63	30.05	0.70	8.20
NBSL0140	PROPOSE	050Y002HR_G	0.80	99.46	105.33	0.0179	132	0.00	15.37	0.88	23.26
NBSL0140	PROPOSE	050Y004HR_G	2.00	99.39	105.33	0.0179	132	2.44	30.12	3.09	10.04
NBSL0140	PROPOSE	050Y008HR_G	4.00	100.16	105.33	0.0638	132	4.47	34.16	4.52	20.91
NBSL0140	PROPOSE	050Y024HR_G	12.01	100.72	105.33	0.0726	132	15.03	32.76	12.23	23.68
NBSL0140	PROPOSE	050Y072HR_G	60.00	102.01	105.33	0.0491	132	36.63	29.63	62.09	25.29
NBSL0140	PROPOSE	100Y001HR_G	0.50	99.38	105.33	0.0179	132	0.63	30.28	0.70	8.81
NBSL0140	PROPOSE	100Y002HR_G	0.80	99.39	105.33	0.0179	132	0.81	30.69	0.96	9.12
NBSL0140	PROPOSE	100Y004HR_G	2.00	99.46	105.33	0.0492	132	2.50	30.08	2.50	15.58
NBSL0140	PROPOSE	100Y008HR_G	4.00	100.18	105.33	0.0739	132	4.21	32.66	4.26	22.37
NBSL0140	PROPOSE	100Y024HR_G	12.00	101.11	105.33	0.0708	132	11.44	34.68	21.21	25.52
NBSL0140	PROPOSE	100Y072HR_G	60.01	102.55	105.33	0.0540	132	37.66	33.96	64.00	30.06
NBSL0150	PROPOSE	002Y001HR_G	0.50	99.43	104.37	-0.0077	146	0.70	6.04	0.63	19.03
NBSL0150	PROPOSE	002Y002HR_G	0.80	99.36	104.37	-0.0056	146	0.81	22.25	0.98	10.83
NBSL0150	PROPOSE	002Y004HR_G	2.00	99.43	104.37	0.0031	146	3.12	3.44	2.62	17.80
NBSL0150	PROPOSE	002Y008HR_G	4.00	100.14	104.37	0.0031	146	4.97	3.51	4.52	18.21
NBSL0150	PROPOSE	002Y024HR_G	12.00	99.44	104.37	0.0031	146	22.05	4.43	12.85	17.73
NBSL0150	PROPOSE	002Y072HR_G	60.00	100.56	104.37	-0.0363	146	60.58	23.08	58.05	18.61
NBSL0150	PROPOSE	005Y001HR_G	0.50	99.43	104.37	-0.0083	146	0.70	6.61	0.63	19.04
NBSL0150	PROPOSE	005Y002HR_G	0.80	99.36	104.37	-0.0058	146	0.82	22.63	0.98	11.31
NBSL0150	PROPOSE	005Y004HR_G	2.00	99.43	104.37	0.0031	146	2.92	4.81	2.62	18.58
NBSL0150	PROPOSE	005Y008HR_G	4.00	100.15	104.37	-0.0042	146	4.72	6.21	4.52	18.94
NBSL0150	PROPOSE	005Y024HR_G	12.00	99.72	104.37	0.0042	146	22.03	6.94	12.94	18.52
NBSL0150	PROPOSE	005Y072HR_G	60.00	101.84	104.37	0.0423	146	64.00	23.65	57.62	19.22
NBSL0150	PROPOSE	010Y001HR_G	0.50	99.43	104.37	-0.0127	146	0.70	6.96	0.63	19.27
NBSL0150	PROPOSE	010Y002HR_G	0.80	99.43	104.37	-0.0128	146	0.97	6.86	0.89	19.25
NBSL0150	PROPOSE	010Y004HR_G	2.00	99.43	104.37	-0.0041	146	2.89	6.21	2.62	19.02
NBSL0150	PROPOSE	010Y008HR_G	4.00	100.16	104.37	-0.0078	146	4.71	7.49	4.52	19.41
NBSL0150	PROPOSE	010Y024HR_G	12.00	100.17	104.37	-0.0053	146	15.29	10.69	13.22	19.17
NBSL0150	PROPOSE	010Y072HR_G	60.00	100.87	104.37	0.0360	146	59.74	23.13	57.94	19.51
NBSL0150	PROPOSE	025Y001HR_G	0.50	99.43	104.37	-0.0139	146	0.70	7.64	0.63	19.11
NBSL0150	PROPOSE	025Y002HR_G	0.80	99.43	104.37	-0.0144	146	0.96	7.74	0.89	19.43
NBSL0150	PROPOSE	025Y004HR_G	2.00	99.44	104.37	-0.0090	146	2.97	8.15	2.62	19.48
NBSL0150	PROPOSE	025Y008HR_G	4.00	100.18	104.37	-0.0123	146	8.01	10.10	4.05	18.71
NBSL0150	PROPOSE	025Y024HR_G	12.00	100.43	104.37	-0.0106	146	13.40	23.38	21.39	15.10
NBSL0150	PROPOSE	025Y072HR_G	60.02	101.67	104.37	-0.0263	146	59.40	21.44	61.76	20.41
NBSL0150	PROPOSE	050Y001HR_G	0.50	99.44	104.37	-0.0147	146	0.70	8.20	0.63	19.51

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0150	PROPOSE	050Y002HR_G	0.80	99.38	104.37	-0.0056	146	0.88	23.26	0.98	13.17
NBSL0150	PROPOSE	050Y004HR_G	2.00	99.44	104.37	-0.0093	146	3.09	10.04	2.62	19.41
NBSL0150	PROPOSE	050Y008HR_G	4.00	100.19	104.37	0.0317	146	4.52	20.91	4.05	18.71
NBSL0150	PROPOSE	050Y024HR_G	12.00	100.68	104.37	-0.0356	146	12.23	23.68	21.34	19.58
NBSL0150	PROPOSE	050Y072HR_G	60.00	101.93	104.37	-0.0125	146	62.09	25.29	62.09	25.21
NBSL0150	PROPOSE	100Y001HR_G	0.50	99.44	104.37	-0.0152	146	0.70	8.81	0.63	19.46
NBSL0150	PROPOSE	100Y002HR_G	0.80	99.44	104.37	-0.0116	146	0.96	9.12	0.89	19.33
NBSL0150	PROPOSE	100Y004HR_G	2.00	99.47	104.37	-0.0131	146	2.50	15.58	1.58	19.32
NBSL0150	PROPOSE	100Y008HR_G	4.00	100.19	104.37	-0.0328	146	4.26	22.37	3.99	18.63
NBSL0150	PROPOSE	100Y024HR_G	12.00	101.06	104.37	0.0420	146	21.21	25.52	21.20	25.52
NBSL0150	PROPOSE	100Y072HR_G	60.00	102.42	104.37	-0.0128	146	64.00	30.06	64.00	30.11
NBSL0160	PROPOSE	002Y001HR_G	2.00	101.02	105.00	0.0002	94982	0.75	28.43	0.00	0.00
NBSL0160	PROPOSE	002Y002HR_G	3.00	101.29	105.00	0.0002	97741	1.00	22.83	0.00	0.00
NBSL0160	PROPOSE	002Y004HR_G	5.00	101.52	105.00	0.0001	100049	2.50	17.40	0.00	0.00
NBSL0160	PROPOSE	002Y008HR_G	9.00	101.76	105.00	0.0001	102488	4.00	19.31	0.00	0.00
NBSL0160	PROPOSE	002Y024HR_G	25.00	102.21	105.00	0.0000	107645	12.00	5.89	0.00	0.00
NBSL0160	PROPOSE	002Y072HR_G	73.00	102.78	105.00	0.0000	115098	60.00	4.30	0.00	0.00
NBSL0160	PROPOSE	005Y001HR_G	2.00	101.23	105.00	0.0003	97147	0.75	37.68	0.00	0.00
NBSL0160	PROPOSE	005Y002HR_G	3.00	101.57	105.00	0.0002	100554	0.75	30.10	0.00	0.00
NBSL0160	PROPOSE	005Y004HR_G	5.00	101.86	105.00	0.0001	103518	2.50	22.41	0.00	0.00
NBSL0160	PROPOSE	005Y008HR_G	9.00	102.16	105.00	0.0001	107072	4.00	25.09	0.00	0.00
NBSL0160	PROPOSE	005Y024HR_G	25.00	102.72	105.00	0.0000	114358	12.00	7.69	0.00	0.00
NBSL0160	PROPOSE	005Y072HR_G	64.20	103.16	105.00	0.0000	119644	60.00	5.45	64.20	2.15
NBSL0160	PROPOSE	010Y001HR_G	2.00	101.40	105.00	0.0003	98875	0.75	45.12	0.00	0.00
NBSL0160	PROPOSE	010Y002HR_G	3.00	101.79	105.00	0.0003	102790	0.75	36.69	0.00	0.00
NBSL0160	PROPOSE	010Y004HR_G	5.00	102.14	105.00	0.0002	106763	2.50	26.56	0.00	0.00
NBSL0160	PROPOSE	010Y008HR_G	9.00	102.51	105.00	0.0002	111559	4.00	30.12	0.00	0.00
NBSL0160	PROPOSE	010Y024HR_G	22.79	103.12	105.00	0.0000	119241	12.00	9.44	22.79	1.10
NBSL0160	PROPOSE	010Y072HR_G	60.09	103.22	105.00	0.0000	120276	60.00	6.55	60.09	5.93
NBSL0160	PROPOSE	025Y001HR_G	2.00	101.62	105.00	0.0003	101112	0.75	54.82	0.00	0.00
NBSL0160	PROPOSE	025Y002HR_G	3.00	102.07	105.00	0.0003	105877	0.75	45.43	0.00	0.00
NBSL0160	PROPOSE	025Y004HR_G	5.00	102.51	105.00	0.0002	111592	2.00	32.81	0.00	0.00
NBSL0160	PROPOSE	025Y008HR_G	9.00	102.99	105.00	0.0002	117929	4.00	37.46	0.00	0.00
NBSL0160	PROPOSE	025Y024HR_G	19.00	103.21	105.00	0.0001	120237	12.00	12.21	19.00	5.19
NBSL0160	PROPOSE	025Y072HR_G	60.00	103.23	105.00	0.0000	120383	60.00	8.29	60.00	8.29
NBSL0160	PROPOSE	050Y001HR_G	2.00	101.78	105.00	0.0004	102755	0.75	62.02	0.00	0.00
NBSL0160	PROPOSE	050Y002HR_G	3.00	102.27	105.00	0.0003	108434	0.75	51.64	0.00	0.00
NBSL0160	PROPOSE	050Y004HR_G	5.00	102.78	105.00	0.0002	115171	2.00	37.64	0.00	0.00
NBSL0160	PROPOSE	050Y008HR_G	7.51	103.20	105.00	0.0002	120099	4.00	43.39	7.51	3.60
NBSL0160	PROPOSE	050Y024HR_G	15.17	103.23	105.00	0.0001	120397	12.00	14.64	15.17	8.64
NBSL0160	PROPOSE	050Y072HR_G	60.00	103.23	105.00	0.0000	120441	60.00	9.78	60.00	9.78
NBSL0160	PROPOSE	100Y001HR_G	2.00	101.93	105.00	0.0004	104287	0.75	68.78	0.00	0.00
NBSL0160	PROPOSE	100Y002HR_G	3.00	102.45	105.00	0.0003	110827	0.75	57.58	0.00	0.00
NBSL0160	PROPOSE	100Y004HR_G	3.00	102.45	105.00	0.0003	110827	0.75	57.58	0.00	0.00
NBSL0160	PROPOSE	100Y008HR_G	5.52	103.23	105.00	0.0002	120412	4.00	49.53	5.52	9.02
NBSL0160	PROPOSE	100Y024HR_G	13.59	103.23	105.00	0.0001	120479	12.00	17.36	13.59	10.81
NBSL0160	PROPOSE	100Y072HR_G	60.00	103.24	105.00	0.0000	120501	59.75	11.45	60.00	11.45
NBSL0170	PROPOSE	002Y001HR_G	0.50	99.38	101.00	0.0057	168	0.63	19.03	0.77	30.75
NBSL0170	PROPOSE	002Y002HR_G	0.80	99.41	101.00	-0.0061	168	0.98	10.83	1.02	30.60
NBSL0170	PROPOSE	002Y004HR_G	2.00	99.38	101.00	-0.0052	168	2.62	17.80	3.22	16.52
NBSL0170	PROPOSE	002Y008HR_G	4.00	100.10	101.00	-0.0060	168	4.52	18.21	5.11	30.54
NBSL0170	PROPOSE	002Y024HR_G	12.00	99.38	101.00	-0.0055	168	12.85	17.73	19.13	30.59
NBSL0170	PROPOSE	002Y072HR_G	60.00	100.58	101.00	0.0225	168	58.05	18.61	56.36	30.76
NBSL0170	PROPOSE	005Y001HR_G	0.50	99.38	101.00	0.0057	168	0.63	19.04	0.77	30.61
NBSL0170	PROPOSE	005Y002HR_G	0.80	99.42	101.00	-0.0061	168	0.98	11.31	1.02	23.78
NBSL0170	PROPOSE	005Y004HR_G	2.00	99.38	101.00	-0.0045	168	2.62	18.58	3.22	30.59
NBSL0170	PROPOSE	005Y008HR_G	4.00	100.10	101.00	-0.0051	168	4.52	18.94	5.11	19.00
NBSL0170	PROPOSE	005Y024HR_G	12.00	99.66	101.00	0.0048	168	12.94	18.52	19.26	30.59
NBSL0170	PROPOSE	005Y072HR_G	60.00	101.77	101.00	-0.0178	168	57.62	19.22	56.13	31.09

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL0170	PROPOSE	010Y001HR_G	0.50	99.38	101.00	-0.0075	168	0.63	19.27	0.77	30.69
NBSL0170	PROPOSE	010Y002HR_G	0.80	99.38	101.00	-0.0082	168	0.89	19.25	1.02	24.74
NBSL0170	PROPOSE	010Y004HR_G	2.00	99.38	101.00	0.0045	168	2.62	19.02	3.22	30.64
NBSL0170	PROPOSE	010Y008HR_G	4.00	100.10	101.00	-0.0052	168	4.52	19.41	5.11	30.54
NBSL0170	PROPOSE	010Y024HR_G	12.00	100.11	101.00	0.0057	168	13.22	19.17	19.45	30.70
NBSL0170	PROPOSE	010Y072HR_G	60.00	100.85	101.00	0.0206	168	59.53	20.49	56.30	31.70
NBSL0170	PROPOSE	025Y001HR_G	0.50	99.38	101.00	-0.0070	168	0.63	19.11	0.77	30.65
NBSL0170	PROPOSE	025Y002HR_G	0.80	99.38	101.00	-0.0055	168	0.89	19.43	1.02	30.60
NBSL0170	PROPOSE	025Y004HR_G	2.00	99.38	101.00	-0.0054	168	2.62	19.48	3.22	30.61
NBSL0170	PROPOSE	025Y008HR_G	4.00	100.11	101.00	-0.0104	168	4.05	18.71	5.11	30.65
NBSL0170	PROPOSE	025Y024HR_G	12.00	100.45	101.00	0.0121	168	21.32	18.72	19.57	30.87
NBSL0170	PROPOSE	025Y072HR_G	60.00	101.62	101.00	-0.0114	168	61.76	24.39	56.17	33.17
NBSL0170	PROPOSE	050Y001HR_G	0.50	99.38	101.00	0.0060	168	0.63	19.51	0.70	19.65
NBSL0170	PROPOSE	050Y002HR_G	0.80	99.42	101.00	-0.0087	168	0.98	13.17	1.02	30.61
NBSL0170	PROPOSE	050Y004HR_G	2.00	99.38	101.00	-0.0110	168	2.62	19.41	3.22	27.26
NBSL0170	PROPOSE	050Y008HR_G	4.00	100.12	101.00	-0.0120	168	4.05	18.71	5.11	30.67
NBSL0170	PROPOSE	050Y024HR_G	12.01	100.62	101.00	0.0180	168	21.11	23.50	19.65	30.77
NBSL0170	PROPOSE	050Y072HR_G	60.00	101.85	101.00	0.0238	168	62.09	29.37	56.14	34.67
NBSL0170	PROPOSE	100Y001HR_G	0.50	99.38	101.00	-0.0062	168	0.63	19.46	0.70	20.23
NBSL0170	PROPOSE	100Y002HR_G	0.80	99.38	101.00	-0.0066	168	0.89	19.33	1.02	30.58
NBSL0170	PROPOSE	100Y004HR_G	2.00	99.41	101.00	0.0269	168	1.58	19.32	1.01	30.88
NBSL0170	PROPOSE	100Y008HR_G	4.00	100.13	101.00	-0.0101	168	7.08	20.60	5.11	30.85
NBSL0170	PROPOSE	100Y024HR_G	12.00	101.02	101.00	-0.0308	168	21.11	29.61	19.79	30.61
NBSL0170	PROPOSE	100Y072HR_G	60.00	102.28	101.00	0.0139	168	64.00	34.44	67.12	43.00
NBSL5260	PROPOSE	002Y001HR_G	0.50	103.47	123.50	0.0082	171	0.87	2.77	0.86	8.24
NBSL5260	PROPOSE	002Y002HR_G	0.80	103.47	123.50	0.0044	171	1.84	1.76	1.84	3.23
NBSL5260	PROPOSE	002Y004HR_G	2.00	103.47	123.50	0.0037	171	4.00	0.72	4.00	1.31
NBSL5260	PROPOSE	002Y008HR_G	4.00	104.28	123.50	0.0052	171	8.00	0.20	13.20	0.40
NBSL5260	PROPOSE	002Y024HR_G	12.00	102.40	123.50	0.0088	171	26.54	0.05	28.34	0.37
NBSL5260	PROPOSE	002Y072HR_G	60.00	104.87	123.50	0.0056	171	48.00	0.08	77.98	0.43
NBSL5260	PROPOSE	005Y001HR_G	0.50	103.48	123.50	0.0074	171	0.87	1.88	0.86	7.21
NBSL5260	PROPOSE	005Y002HR_G	0.80	103.47	123.50	0.0046	171	1.84	1.46	1.84	2.81
NBSL5260	PROPOSE	005Y004HR_G	2.00	103.47	123.50	0.0038	171	4.00	0.73	4.00	1.30
NBSL5260	PROPOSE	005Y008HR_G	4.00	104.28	123.50	0.0032	171	8.00	0.24	13.20	0.54
NBSL5260	PROPOSE	005Y024HR_G	12.00	102.40	123.50	0.0100	171	26.69	0.06	28.40	0.49
NBSL5260	PROPOSE	005Y072HR_G	60.00	106.08	123.50	0.0056	171	24.00	0.09	78.19	0.44
NBSL5260	PROPOSE	010Y001HR_G	0.50	103.48	123.50	0.0074	171	0.87	1.13	0.86	6.36
NBSL5260	PROPOSE	010Y002HR_G	0.80	103.47	123.50	0.0046	171	1.83	1.17	1.83	2.43
NBSL5260	PROPOSE	010Y004HR_G	2.00	103.47	123.50	0.0038	171	4.00	0.73	4.00	1.29
NBSL5260	PROPOSE	010Y008HR_G	4.00	104.28	123.50	0.0036	171	8.00	0.27	13.20	0.60
NBSL5260	PROPOSE	010Y024HR_G	12.00	103.22	123.50	0.0087	171	26.05	0.07	28.49	0.32
NBSL5260	PROPOSE	010Y072HR_G	60.00	105.14	123.50	0.0056	171	24.00	0.09	78.03	0.44
NBSL5260	PROPOSE	025Y001HR_G	0.50	103.48	123.50	0.0086	171	1.67	0.30	0.86	5.24
NBSL5260	PROPOSE	025Y002HR_G	0.80	103.48	123.50	0.0044	171	1.83	0.76	1.83	1.91
NBSL5260	PROPOSE	025Y004HR_G	2.00	103.48	123.50	0.0039	171	4.00	0.71	4.00	1.25
NBSL5260	PROPOSE	025Y008HR_G	4.00	104.28	123.50	0.0054	171	8.00	0.31	13.20	0.60
NBSL5260	PROPOSE	025Y024HR_G	12.00	103.50	123.50	0.0077	171	26.14	0.07	28.52	0.58
NBSL5260	PROPOSE	025Y072HR_G	60.00	105.90	123.50	0.0057	171	24.00	0.11	78.16	0.46
NBSL5260	PROPOSE	050Y001HR_G	0.50	103.48	123.50	0.0086	171	1.75	0.30	0.85	4.39
NBSL5260	PROPOSE	050Y002HR_G	0.80	103.48	123.50	0.0044	171	1.83	0.46	1.83	1.51
NBSL5260	PROPOSE	050Y004HR_G	2.00	103.48	123.50	0.0039	171	4.00	0.70	4.00	1.22
NBSL5260	PROPOSE	050Y008HR_G	4.00	104.29	123.50	0.0054	171	8.00	0.35	13.20	0.60
NBSL5260	PROPOSE	050Y024HR_G	12.00	103.84	123.50	0.0077	171	26.81	0.06	28.55	0.36
NBSL5260	PROPOSE	050Y072HR_G	60.00	106.09	123.50	0.0059	171	24.00	0.12	78.19	0.51
NBSL5260	PROPOSE	100Y001HR_G	0.50	103.49	123.50	0.0084	171	1.76	0.27	0.85	3.58
NBSL5260	PROPOSE	100Y002HR_G	0.80	103.49	123.50	0.0047	171	2.44	0.32	1.82	1.12
NBSL5260	PROPOSE	100Y004HR_G	2.00	103.47	123.50	0.0030	171	0.30	1.14	4.00	1.29
NBSL5260	PROPOSE	100Y008HR_G	4.00	104.29	123.50	0.0054	171	8.00	0.38	8.00	0.52
NBSL5260	PROPOSE	100Y024HR_G	12.00	104.50	123.50	0.0062	171	26.44	0.18	28.59	0.38

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NBSL5260	PROPOSE	100Y072HR_G	60.00	106.49	123.50	0.0056	171	24.00	0.13	78.25	0.60
NBSL5300	PROPOSE	002Y001HR_G	0.50	103.52	106.92	0.0051	129	0.86	10.00	0.85	12.20
NBSL5300	PROPOSE	002Y002HR_G	0.80	103.53	106.92	-0.0085	129	1.20	6.50	1.20	7.26
NBSL5300	PROPOSE	002Y004HR_G	2.00	103.52	106.92	0.0018	129	3.50	3.45	3.50	4.15
NBSL5300	PROPOSE	002Y008HR_G	4.00	104.38	106.92	0.0018	129	6.00	1.60	6.00	1.87
NBSL5300	PROPOSE	002Y024HR_G	12.00	103.01	106.92	0.0015	129	23.00	0.39	23.00	0.48
NBSL5300	PROPOSE	002Y072HR_G	60.00	105.13	106.92	0.0012	129	48.00	0.17	0.00	0.36
NBSL5300	PROPOSE	005Y001HR_G	0.50	103.53	106.92	-0.0071	129	0.86	12.26	0.85	14.44
NBSL5300	PROPOSE	005Y002HR_G	0.80	103.52	106.92	-0.0039	129	1.20	8.85	1.20	9.52
NBSL5300	PROPOSE	005Y004HR_G	2.00	103.53	106.92	-0.0055	129	3.50	4.58	3.48	5.24
NBSL5300	PROPOSE	005Y008HR_G	4.00	104.39	106.92	0.0022	129	6.00	2.31	6.00	2.58
NBSL5300	PROPOSE	005Y024HR_G	12.00	103.19	106.92	0.0015	129	23.00	0.47	23.00	0.57
NBSL5300	PROPOSE	005Y072HR_G	60.00	106.35	106.92	0.0012	129	48.00	0.17	0.00	0.36
NBSL5300	PROPOSE	010Y001HR_G	0.50	103.52	106.92	0.0053	129	0.85	14.17	0.84	16.35
NBSL5300	PROPOSE	010Y002HR_G	0.80	103.53	106.92	-0.0039	129	1.20	10.64	1.20	11.40
NBSL5300	PROPOSE	010Y004HR_G	2.00	103.54	106.92	-0.0020	129	3.50	5.50	2.36	7.87
NBSL5300	PROPOSE	010Y008HR_G	4.00	104.40	106.92	-0.0057	129	6.00	2.88	6.00	3.15
NBSL5300	PROPOSE	010Y024HR_G	12.00	103.88	106.92	0.0015	129	23.00	0.47	23.00	0.58
NBSL5300	PROPOSE	010Y072HR_G	60.00	105.42	106.92	0.0012	129	48.50	0.32	0.00	0.36
NBSL5300	PROPOSE	025Y001HR_G	0.50	103.53	106.92	0.0052	129	0.85	16.77	0.84	18.89
NBSL5300	PROPOSE	025Y002HR_G	0.80	103.54	106.92	-0.0038	129	1.20	13.12	1.00	14.22
NBSL5300	PROPOSE	025Y004HR_G	2.00	103.53	106.92	-0.0039	129	2.50	6.97	3.43	7.47
NBSL5300	PROPOSE	025Y008HR_G	4.00	104.41	106.92	-0.0023	129	6.00	3.64	4.00	7.25
NBSL5300	PROPOSE	025Y024HR_G	12.00	104.15	106.92	0.0015	129	23.00	0.63	23.00	0.74
NBSL5300	PROPOSE	025Y072HR_G	60.00	106.18	106.92	0.0012	129	48.70	0.42	48.70	0.39
NBSL5300	PROPOSE	050Y001HR_G	0.50	103.54	106.92	0.0051	129	0.84	18.75	0.84	20.80
NBSL5300	PROPOSE	050Y002HR_G	0.80	103.55	106.92	-0.0038	129	1.19	14.90	1.00	16.44
NBSL5300	PROPOSE	050Y004HR_G	2.00	103.54	106.92	0.0021	129	2.50	9.59	2.50	9.76
NBSL5300	PROPOSE	050Y008HR_G	4.00	104.41	106.92	-0.0034	129	4.01	7.25	4.01	7.46
NBSL5300	PROPOSE	050Y024HR_G	12.00	104.41	106.92	0.0014	129	23.00	0.88	23.00	0.99
NBSL5300	PROPOSE	050Y072HR_G	60.00	106.38	106.92	0.0012	129	48.63	0.53	48.63	0.50
NBSL5300	PROPOSE	100Y001HR_G	0.50	103.55	106.92	0.0051	129	0.84	20.63	0.84	22.59
NBSL5300	PROPOSE	100Y002HR_G	0.80	103.56	106.92	-0.0038	129	1.19	16.58	1.00	18.48
NBSL5300	PROPOSE	100Y004HR_G	2.00	103.53	106.92	-0.0054	129	0.74	18.78	0.74	18.31
NBSL5300	PROPOSE	100Y008HR_G	4.00	104.42	106.92	0.0034	129	4.01	11.00	4.01	11.21
NBSL5300	PROPOSE	100Y024HR_G	12.00	104.88	106.92	0.0013	129	23.00	1.05	23.00	1.17
NBSL5300	PROPOSE	100Y072HR_G	60.00	106.78	106.92	0.0012	129	48.50	0.63	48.50	0.60
PND140B1	PROPOSE	002Y001HR_G	2.00	127.68	129.00	0.0001	35479	0.75	10.46	0.75	4.19
PND140B1	PROPOSE	002Y002HR_G	2.62	127.83	129.00	0.0001	36165	0.75	9.84	1.00	3.55
PND140B1	PROPOSE	002Y004HR_G	4.32	127.93	129.00	0.0001	36634	2.00	6.08	2.50	2.57
PND140B1	PROPOSE	002Y008HR_G	8.28	128.03	129.00	0.0001	37074	4.00	6.47	4.00	2.72
PND140B1	PROPOSE	002Y024HR_G	22.25	128.14	129.00	0.0000	37627	12.00	2.00	12.00	0.89
PND140B1	PROPOSE	002Y072HR_G	64.35	128.23	129.00	0.0000	38029	59.75	1.45	60.00	0.80
PND140B1	PROPOSE	005Y001HR_G	1.96	127.79	129.00	0.0001	35994	0.75	13.05	0.75	5.25
PND140B1	PROPOSE	005Y002HR_G	2.54	127.97	129.00	0.0001	36826	0.75	12.33	1.00	4.46
PND140B1	PROPOSE	005Y004HR_G	4.24	128.10	129.00	0.0001	37431	2.00	7.72	2.50	3.25
PND140B1	PROPOSE	005Y008HR_G	8.21	128.21	129.00	0.0001	37953	4.00	8.24	4.00	3.48
PND140B1	PROPOSE	005Y024HR_G	22.11	128.35	129.00	0.0000	38575	12.00	2.57	12.00	1.17
PND140B1	PROPOSE	005Y072HR_G	64.25	128.43	129.00	0.0000	38944	59.75	1.84	60.00	1.04
PND140B1	PROPOSE	010Y001HR_G	1.91	127.88	129.00	0.0001	36402	0.75	15.14	0.76	6.09
PND140B1	PROPOSE	010Y002HR_G	2.49	128.09	129.00	0.0001	37353	0.75	14.37	0.80	5.20
PND140B1	PROPOSE	010Y004HR_G	4.22	128.24	129.00	0.0001	38089	2.00	9.12	2.50	3.84
PND140B1	PROPOSE	010Y008HR_G	8.17	128.38	129.00	0.0001	38710	4.00	9.81	4.00	4.16
PND140B1	PROPOSE	010Y024HR_G	21.94	128.54	129.00	0.0000	39463	12.00	3.14	12.00	1.45
PND140B1	PROPOSE	010Y072HR_G	64.23	128.60	129.00	0.0000	39767	59.75	2.22	60.00	1.28
PND140B1	PROPOSE	025Y001HR_G	1.86	128.00	129.00	0.0002	36931	0.75	17.89	0.76	7.20
PND140B1	PROPOSE	025Y002HR_G	2.47	128.23	129.00	0.0002	38038	0.75	17.08	0.80	6.20
PND140B1	PROPOSE	025Y004HR_G	4.20	128.43	129.00	0.0001	38973	2.00	11.05	2.50	4.63
PND140B1	PROPOSE	025Y008HR_G	8.11	128.61	129.00	0.0001	39805	4.00	12.13	4.00	5.16

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PND140B1	PROPOSE	025Y024HR_G	21.32	128.82	129.00	0.0000	40793	11.98	4.08	11.99	1.92
PND140B1	PROPOSE	025Y072HR_G	64.20	128.86	129.00	0.0000	40986	59.75	2.83	60.00	1.66
PND140B1	PROPOSE	050Y001HR_G	1.83	128.08	129.00	0.0002	37321	0.75	19.93	0.76	8.02
PND140B1	PROPOSE	050Y002HR_G	2.45	128.33	129.00	0.0002	38517	0.75	19.02	0.80	6.90
PND140B1	PROPOSE	050Y004HR_G	4.18	128.58	129.00	0.0001	39645	2.00	12.54	2.50	5.25
PND140B1	PROPOSE	050Y008HR_G	8.06	128.80	129.00	0.0001	40672	4.00	14.04	4.00	5.97
PND140B1	PROPOSE	050Y024HR_G	21.32	129.07	129.00	0.0000	41943	12.00	4.86	12.00	2.33
PND140B1	PROPOSE	050Y072HR_G	64.19	129.07	129.00	0.0000	41961	59.75	3.35	60.00	1.99
PND140B1	PROPOSE	100Y001HR_G	1.80	128.16	129.00	0.0002	37686	0.75	21.87	0.76	8.80
PND140B1	PROPOSE	100Y002HR_G	2.44	128.43	129.00	0.0002	38970	0.75	20.87	0.80	7.58
PND140B1	PROPOSE	100Y004HR_G	2.44	128.43	129.00	0.0002	38970	0.75	20.87	0.80	7.58
PND140B1	PROPOSE	100Y008HR_G	8.02	128.99	129.00	0.0001	41561	4.00	16.03	4.00	6.83
PND140B1	PROPOSE	100Y024HR_G	21.22	129.33	129.00	0.0000	43169	12.00	5.78	12.00	2.81
PND140B1	PROPOSE	100Y072HR_G	64.17	129.29	129.00	0.0000	42995	59.75	3.93	60.00	2.36
PND140B2	PROPOSE	002Y001HR_G	2.00	127.68	129.00	0.0001	37411	0.51	11.12	0.75	4.33
PND140B2	PROPOSE	002Y002HR_G	2.62	127.83	129.00	0.0001	38142	0.75	10.59	0.76	3.96
PND140B2	PROPOSE	002Y004HR_G	4.32	127.93	129.00	0.0001	38643	2.00	6.38	2.01	2.54
PND140B2	PROPOSE	002Y008HR_G	8.28	128.03	129.00	0.0001	39112	4.00	6.64	4.00	2.70
PND140B2	PROPOSE	002Y024HR_G	22.25	128.14	129.00	0.0000	39702	12.00	2.07	12.00	0.91
PND140B2	PROPOSE	002Y072HR_G	64.35	128.23	129.00	0.0000	40130	59.75	1.62	60.00	0.94
PND140B2	PROPOSE	005Y001HR_G	1.96	127.79	129.00	0.0001	37960	0.52	13.73	0.75	5.33
PND140B2	PROPOSE	005Y002HR_G	2.54	127.97	129.00	0.0001	38847	0.75	13.16	0.76	4.89
PND140B2	PROPOSE	005Y004HR_G	4.24	128.10	129.00	0.0001	39493	2.00	8.03	2.01	3.18
PND140B2	PROPOSE	005Y008HR_G	8.21	128.21	129.00	0.0001	40050	4.00	8.42	4.00	3.40
PND140B2	PROPOSE	005Y024HR_G	22.11	128.35	129.00	0.0000	40713	12.00	2.67	12.00	1.20
PND140B2	PROPOSE	005Y072HR_G	64.25	128.43	129.00	0.0000	41107	59.75	2.09	60.00	1.25
PND140B2	PROPOSE	010Y001HR_G	1.92	127.88	129.00	0.0001	38395	0.52	15.84	0.75	6.12
PND140B2	PROPOSE	010Y002HR_G	2.49	128.09	129.00	0.0001	39410	0.75	15.25	0.76	5.63
PND140B2	PROPOSE	010Y004HR_G	4.22	128.24	129.00	0.0001	40195	2.00	9.44	2.02	3.71
PND140B2	PROPOSE	010Y008HR_G	8.17	128.38	129.00	0.0001	40857	4.00	9.98	4.00	4.03
PND140B2	PROPOSE	010Y024HR_G	21.94	128.54	129.00	0.0000	41660	12.00	3.27	12.00	1.50
PND140B2	PROPOSE	010Y072HR_G	64.23	128.60	129.00	0.0000	41984	59.75	2.54	60.00	1.56
PND140B2	PROPOSE	025Y001HR_G	1.86	127.99	129.00	0.0002	38960	0.52	18.61	0.75	7.15
PND140B2	PROPOSE	025Y002HR_G	2.47	128.23	129.00	0.0002	40141	0.75	18.01	0.76	6.60
PND140B2	PROPOSE	025Y004HR_G	4.20	128.43	129.00	0.0001	41138	2.00	11.37	2.02	4.45
PND140B2	PROPOSE	025Y008HR_G	8.11	128.61	129.00	0.0001	42025	4.00	12.31	4.00	4.97
PND140B2	PROPOSE	025Y024HR_G	21.32	128.82	129.00	0.0000	43079	11.98	4.28	11.99	2.00
PND140B2	PROPOSE	025Y072HR_G	64.20	128.86	129.00	0.0000	43285	59.75	3.27	60.00	2.05
PND140B2	PROPOSE	050Y001HR_G	1.83	128.08	129.00	0.0002	39375	0.52	20.69	0.75	7.91
PND140B2	PROPOSE	050Y002HR_G	2.45	128.33	129.00	0.0002	40652	0.75	19.97	0.77	7.27
PND140B2	PROPOSE	050Y004HR_G	4.18	128.58	129.00	0.0001	41855	2.00	12.86	2.03	5.01
PND140B2	PROPOSE	050Y008HR_G	8.06	128.80	129.00	0.0001	42949	4.00	14.22	4.00	5.73
PND140B2	PROPOSE	050Y024HR_G	21.32	129.07	129.00	0.0000	44305	12.00	5.12	12.00	2.45
PND140B2	PROPOSE	050Y072HR_G	64.19	129.07	129.00	0.0000	44325	59.75	3.89	60.00	2.48
PND140B2	PROPOSE	100Y001HR_G	1.80	128.16	129.00	0.0002	39764	0.52	22.65	0.75	8.62
PND140B2	PROPOSE	100Y002HR_G	2.44	128.43	129.00	0.0002	41134	0.75	21.84	0.77	7.92
PND140B2	PROPOSE	100Y004HR_G	2.44	128.43	129.00	0.0002	41134	0.75	21.84	0.77	7.92
PND140B2	PROPOSE	100Y008HR_G	8.03	128.99	129.00	0.0001	43898	4.00	16.21	4.00	6.53
PND140B2	PROPOSE	100Y024HR_G	21.23	129.33	129.00	0.0000	45612	12.00	6.12	12.00	2.99
PND140B2	PROPOSE	100Y072HR_G	64.17	129.29	129.00	0.0000	45427	59.75	4.59	60.00	2.96
PND140B3	PROPOSE	002Y001HR_G	2.00	127.68	129.00	0.0001	80845	0.50	15.81	2.00	0.19
PND140B3	PROPOSE	002Y002HR_G	2.62	127.83	129.00	0.0001	82102	0.75	14.47	2.62	0.36
PND140B3	PROPOSE	002Y004HR_G	4.32	127.93	129.00	0.0001	82963	2.00	8.40	4.32	0.52
PND140B3	PROPOSE	002Y008HR_G	8.28	128.03	129.00	0.0001	83768	4.00	8.72	8.28	0.67
PND140B3	PROPOSE	002Y024HR_G	22.25	128.14	129.00	0.0000	84783	12.00	2.73	22.25	0.89
PND140B3	PROPOSE	002Y072HR_G	64.35	128.23	129.00	0.0000	85519	59.75	2.29	64.35	1.07
PND140B3	PROPOSE	005Y001HR_G	1.96	127.79	129.00	0.0001	81789	0.50	19.44	1.96	0.31
PND140B3	PROPOSE	005Y002HR_G	2.54	127.97	129.00	0.0001	83314	0.75	18.03	2.54	0.58
PND140B3	PROPOSE	005Y004HR_G	4.24	128.10	129.00	0.0001	84423	2.00	10.63	4.24	0.81

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PND140B3	PROPOSE	005Y008HR_G	8.21	128.21	129.00	0.0001	85381	4.00	11.12	8.21	1.03
PND140B3	PROPOSE	005Y024HR_G	22.11	128.35	129.00	0.0000	86521	12.00	3.56	22.11	1.32
PND140B3	PROPOSE	005Y072HR_G	64.25	128.43	129.00	0.0000	87197	59.75	2.98	64.25	1.50
PND140B3	PROPOSE	010Y001HR_G	1.91	127.88	129.00	0.0001	82537	0.50	22.41	1.91	0.44
PND140B3	PROPOSE	010Y002HR_G	2.49	128.09	129.00	0.0001	84280	0.75	20.94	2.49	0.78
PND140B3	PROPOSE	010Y004HR_G	4.22	128.24	129.00	0.0001	85629	2.00	12.54	4.22	1.09
PND140B3	PROPOSE	010Y008HR_G	8.17	128.38	129.00	0.0001	86768	4.00	13.26	8.17	1.38
PND140B3	PROPOSE	010Y024HR_G	21.94	128.54	129.00	0.0000	88148	12.00	4.40	21.94	1.77
PND140B3	PROPOSE	010Y072HR_G	64.23	128.60	129.00	0.0000	88704	59.75	3.66	64.23	1.93
PND140B3	PROPOSE	025Y001HR_G	1.86	127.99	129.00	0.0002	83507	0.51	26.35	1.86	0.62
PND140B3	PROPOSE	025Y002HR_G	2.47	128.23	129.00	0.0002	85537	0.75	24.83	2.47	1.07
PND140B3	PROPOSE	025Y004HR_G	4.20	128.43	129.00	0.0001	87250	2.00	15.19	4.20	1.51
PND140B3	PROPOSE	025Y008HR_G	8.11	128.61	129.00	0.0001	88775	4.00	16.47	8.11	1.95
PND140B3	PROPOSE	025Y024HR_G	21.32	128.82	129.00	0.0000	90586	11.98	5.84	21.32	2.52
PND140B3	PROPOSE	025Y072HR_G	64.20	128.86	129.00	0.0000	90940	59.75	4.75	64.20	2.63
PND140B3	PROPOSE	050Y001HR_G	1.83	128.08	129.00	0.0002	84221	0.51	29.31	1.83	0.77
PND140B3	PROPOSE	050Y002HR_G	2.46	128.33	129.00	0.0002	86415	0.75	27.60	2.46	1.29
PND140B3	PROPOSE	050Y004HR_G	4.18	128.58	129.00	0.0001	88482	2.00	17.25	4.18	1.86
PND140B3	PROPOSE	050Y008HR_G	8.07	128.80	129.00	0.0001	90363	4.00	19.10	8.07	2.44
PND140B3	PROPOSE	050Y024HR_G	21.32	129.07	129.00	0.0000	92692	12.00	7.03	21.32	3.23
PND140B3	PROPOSE	050Y072HR_G	64.19	129.07	129.00	0.0000	92726	59.75	5.69	64.19	3.24
PND140B3	PROPOSE	100Y001HR_G	1.80	128.16	129.00	0.0002	84890	0.51	32.12	1.80	0.92
PND140B3	PROPOSE	100Y002HR_G	2.44	128.43	129.00	0.0002	87244	0.75	30.26	2.44	1.51
PND140B3	PROPOSE	100Y004HR_G	2.44	128.43	129.00	0.0002	87244	0.75	30.26	2.44	1.51
PND140B3	PROPOSE	100Y008HR_G	8.03	128.99	129.00	0.0001	91994	4.00	21.87	8.03	2.99
PND140B3	PROPOSE	100Y024HR_G	21.23	129.33	129.00	0.0000	94938	12.00	8.47	21.23	4.06
PND140B3	PROPOSE	100Y072HR_G	64.17	129.29	129.00	0.0000	94621	59.75	6.74	64.17	3.94
PND141B1	PROPOSE	002Y001HR_G	1.88	116.76	120.00	0.0002	83594	0.50	29.78	1.88	0.23
PND141B1	PROPOSE	002Y002HR_G	2.65	116.99	120.00	0.0002	84866	0.75	25.01	2.65	0.44
PND141B1	PROPOSE	002Y004HR_G	4.44	117.14	120.00	0.0001	85724	2.00	13.48	4.44	0.63
PND141B1	PROPOSE	002Y008HR_G	8.41	117.31	120.00	0.0001	86692	4.00	13.39	8.41	0.90
PND141B1	PROPOSE	002Y024HR_G	22.99	117.55	120.00	0.0000	88068	12.00	4.19	22.99	1.36
PND141B1	PROPOSE	002Y072HR_G	64.46	117.74	120.00	0.0000	89131	59.75	3.73	64.46	1.76
PND141B1	PROPOSE	005Y001HR_G	1.85	116.93	120.00	0.0002	84528	0.50	36.04	1.85	0.38
PND141B1	PROPOSE	005Y002HR_G	2.57	117.20	120.00	0.0002	86080	0.75	30.59	2.57	0.72
PND141B1	PROPOSE	005Y004HR_G	4.35	117.40	120.00	0.0001	87202	2.00	16.79	4.35	1.06
PND141B1	PROPOSE	005Y008HR_G	8.35	117.61	120.00	0.0001	88374	4.00	17.12	8.35	1.47
PND141B1	PROPOSE	005Y024HR_G	22.36	117.89	120.00	0.0000	89969	12.00	5.51	22.36	2.09
PND141B1	PROPOSE	005Y072HR_G	64.28	118.07	120.00	0.0000	91023	59.75	4.93	64.28	2.55
PND141B1	PROPOSE	010Y001HR_G	1.80	117.06	120.00	0.0003	85269	0.50	41.04	1.80	0.53
PND141B1	PROPOSE	010Y002HR_G	2.49	117.37	120.00	0.0002	87052	0.75	35.29	2.49	1.01
PND141B1	PROPOSE	010Y004HR_G	4.27	117.61	120.00	0.0001	88423	2.00	19.75	4.27	1.49
PND141B1	PROPOSE	010Y008HR_G	8.31	117.86	120.00	0.0001	89824	4.00	20.50	8.31	2.03
PND141B1	PROPOSE	010Y024HR_G	22.23	118.20	120.00	0.0000	91755	12.00	6.86	22.23	2.88
PND141B1	PROPOSE	010Y072HR_G	64.23	118.37	120.00	0.0000	92702	59.75	6.11	64.23	3.32
PND141B1	PROPOSE	025Y001HR_G	1.74	117.23	120.00	0.0003	86233	0.50	47.69	1.74	0.77
PND141B1	PROPOSE	025Y002HR_G	2.46	117.60	120.00	0.0002	88321	0.75	41.64	2.46	1.45
PND141B1	PROPOSE	025Y004HR_G	4.23	117.91	120.00	0.0001	90077	2.00	23.92	4.23	2.14
PND141B1	PROPOSE	025Y008HR_G	8.25	118.24	120.00	0.0001	91939	4.00	25.62	8.25	2.96
PND141B1	PROPOSE	025Y024HR_G	22.03	118.68	120.00	0.0000	94435	11.98	9.25	22.03	4.18
PND141B1	PROPOSE	025Y072HR_G	64.21	118.81	120.00	0.0000	95202	59.75	8.02	64.21	4.58
PND141B1	PROPOSE	050Y001HR_G	1.71	117.35	120.00	0.0003	86947	0.50	52.75	1.71	0.98
PND141B1	PROPOSE	050Y002HR_G	2.45	117.75	120.00	0.0003	89210	0.75	46.24	2.45	1.79
PND141B1	PROPOSE	050Y004HR_G	4.22	118.13	120.00	0.0002	91346	2.00	27.19	4.22	2.69
PND141B1	PROPOSE	050Y008HR_G	8.21	118.53	120.00	0.0002	93626	4.00	29.90	8.21	3.77
PND141B1	PROPOSE	050Y024HR_G	21.80	119.09	120.00	0.0001	96783	12.00	11.23	21.80	5.42
PND141B1	PROPOSE	050Y072HR_G	64.20	119.17	120.00	0.0000	97220	59.75	9.69	64.20	5.66
PND141B1	PROPOSE	100Y001HR_G	1.69	117.47	120.00	0.0004	87618	0.50	57.60	1.69	1.20
PND141B1	PROPOSE	100Y002HR_G	2.43	117.90	120.00	0.0003	90052	0.75	50.69	2.43	2.13

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PND141B1	PROPOSE	100Y004HR_G	2.43	117.90	120.00	0.0003	90052	0.75	50.69	2.43	2.13
PND141B1	PROPOSE	100Y008HR_G	8.17	118.84	120.00	0.0002	95374	4.00	34.43	8.17	4.67
PND141B1	PROPOSE	100Y024HR_G	21.44	119.54	120.00	0.0001	99345	12.00	13.67	21.44	6.87
PND141B1	PROPOSE	100Y072HR_G	64.19	119.55	120.00	0.0000	99386	59.75	11.57	64.19	6.89
PND141B2	PROPOSE	002Y001HR_G	2.00	113.28	116.70	0.0001	130254	0.75	25.75	2.00	0.20
PND141B2	PROPOSE	002Y002HR_G	3.24	113.51	116.70	0.0001	131835	0.75	23.64	3.24	0.47
PND141B2	PROPOSE	002Y004HR_G	4.73	113.68	116.70	0.0001	132995	2.50	17.71	4.73	0.75
PND141B2	PROPOSE	002Y008HR_G	8.34	113.84	116.70	0.0001	134090	4.00	18.98	8.34	1.06
PND141B2	PROPOSE	002Y024HR_G	22.24	114.04	116.70	0.0000	135447	12.00	6.31	22.24	1.50
PND141B2	PROPOSE	002Y072HR_G	64.42	114.21	116.70	0.0000	136613	59.75	5.49	64.42	1.91
PND141B2	PROPOSE	005Y001HR_G	2.00	113.44	116.70	0.0001	131385	0.75	33.51	2.00	0.38
PND141B2	PROPOSE	005Y002HR_G	3.10	113.74	116.70	0.0001	133384	0.75	30.62	3.10	0.86
PND141B2	PROPOSE	005Y004HR_G	4.60	113.97	116.70	0.0001	134929	2.50	23.71	4.60	1.32
PND141B2	PROPOSE	005Y008HR_G	8.24	114.16	116.70	0.0001	136264	4.00	25.67	8.24	1.78
PND141B2	PROPOSE	005Y024HR_G	22.02	114.38	116.70	0.0000	137731	12.00	8.62	22.02	2.34
PND141B2	PROPOSE	005Y072HR_G	64.30	114.54	116.70	0.0000	138828	59.75	7.24	64.30	2.79
PND141B2	PROPOSE	010Y001HR_G	2.00	113.58	116.70	0.0002	132318	0.75	40.13	2.00	0.58
PND141B2	PROPOSE	010Y002HR_G	3.00	113.93	116.70	0.0001	134658	0.75	36.60	3.00	1.24
PND141B2	PROPOSE	010Y004HR_G	4.51	114.21	116.70	0.0001	136577	2.50	28.95	4.51	1.90
PND141B2	PROPOSE	010Y008HR_G	8.16	114.44	116.70	0.0001	138170	4.00	31.81	8.16	2.52
PND141B2	PROPOSE	010Y024HR_G	21.47	114.70	116.70	0.0000	139889	12.00	10.97	21.47	3.25
PND141B2	PROPOSE	010Y072HR_G	64.23	114.83	116.70	0.0000	140808	59.75	8.94	64.23	3.67
PND141B2	PROPOSE	025Y001HR_G	2.00	113.76	116.70	0.0002	133560	0.75	49.17	2.00	0.91
PND141B2	PROPOSE	025Y002HR_G	2.93	114.18	116.70	0.0002	136356	0.75	45.03	2.93	1.82
PND141B2	PROPOSE	025Y004HR_G	4.44	114.54	116.70	0.0001	138843	2.50	36.29	4.44	2.80
PND141B2	PROPOSE	025Y008HR_G	8.06	114.85	116.70	0.0002	140965	4.00	41.18	8.06	3.74
PND141B2	PROPOSE	025Y024HR_G	21.16	115.18	116.70	0.0000	143151	11.98	14.94	21.16	4.81
PND141B2	PROPOSE	025Y072HR_G	64.19	115.26	116.70	0.0000	143745	59.75	11.69	64.19	5.12
PND141B2	PROPOSE	050Y001HR_G	2.00	113.90	116.70	0.0002	134497	0.75	56.11	2.00	1.19
PND141B2	PROPOSE	050Y002HR_G	2.88	114.35	116.70	0.0002	137564	0.75	51.29	2.88	2.28
PND141B2	PROPOSE	050Y004HR_G	4.40	114.80	116.70	0.0002	140588	2.50	42.02	4.40	3.57
PND141B2	PROPOSE	050Y008HR_G	7.93	115.19	116.70	0.0002	143214	4.00	49.01	7.93	4.84
PND141B2	PROPOSE	050Y024HR_G	21.09	115.59	116.70	0.0001	145942	12.00	18.37	21.09	6.30
PND141B2	PROPOSE	050Y072HR_G	64.17	115.61	116.70	0.0000	146084	59.75	14.06	64.17	6.38
PND141B2	PROPOSE	100Y001HR_G	2.00	114.03	116.70	0.0002	135389	0.75	62.78	2.00	1.48
PND141B2	PROPOSE	100Y002HR_G	2.84	114.52	116.70	0.0002	138719	0.75	57.45	2.84	2.75
PND141B2	PROPOSE	100Y004HR_G	2.84	114.52	116.70	0.0002	138719	0.75	57.45	2.84	2.75
PND141B2	PROPOSE	100Y008HR_G	7.61	115.53	116.70	0.0002	145549	4.00	57.32	7.61	6.08
PND141B2	PROPOSE	100Y024HR_G	20.16	116.03	116.70	0.0001	148932	12.00	22.40	20.16	8.04
PND141B2	PROPOSE	100Y072HR_G	64.14	115.97	116.70	0.0000	148560	59.75	16.72	64.14	7.81
PND141B3	PROPOSE	002Y001HR_G	1.94	108.82	112.50	0.0001	152273	0.50	22.28	1.94	0.02
PND141B3	PROPOSE	002Y002HR_G	2.69	108.92	112.50	0.0001	153189	0.75	19.60	2.69	0.05
PND141B3	PROPOSE	002Y004HR_G	4.47	108.99	112.50	0.0000	153822	2.00	10.80	4.47	0.07
PND141B3	PROPOSE	002Y008HR_G	8.46	109.07	112.50	0.0000	154549	4.00	10.81	8.46	0.11
PND141B3	PROPOSE	002Y024HR_G	24.25	109.20	112.50	0.0000	155775	11.75	3.27	24.25	0.18
PND141B3	PROPOSE	002Y072HR_G	68.37	109.34	112.50	0.0000	157051	59.75	2.32	68.37	0.29
PND141B3	PROPOSE	005Y001HR_G	1.89	108.89	112.50	0.0001	152951	0.50	27.56	1.89	0.04
PND141B3	PROPOSE	005Y002HR_G	2.64	109.02	112.50	0.0001	154078	0.75	24.45	2.64	0.08
PND141B3	PROPOSE	005Y004HR_G	4.43	109.11	112.50	0.0000	154905	2.00	13.62	4.43	0.13
PND141B3	PROPOSE	005Y008HR_G	8.43	109.21	112.50	0.0000	155821	4.00	13.68	8.43	0.19
PND141B3	PROPOSE	005Y024HR_G	24.15	109.37	112.50	0.0000	157320	11.75	4.18	24.15	0.32
PND141B3	PROPOSE	005Y072HR_G	68.18	109.53	112.50	0.0000	158752	59.75	2.95	68.18	0.48
PND141B3	PROPOSE	010Y001HR_G	1.84	108.95	112.50	0.0001	153492	0.50	31.85	1.84	0.06
PND141B3	PROPOSE	010Y002HR_G	2.60	109.09	112.50	0.0001	154792	0.75	28.40	2.60	0.12
PND141B3	PROPOSE	010Y004HR_G	4.39	109.21	112.50	0.0001	155809	2.00	16.02	4.39	0.19
PND141B3	PROPOSE	010Y008HR_G	8.41	109.33	112.50	0.0001	156930	4.00	16.21	8.41	0.28
PND141B3	PROPOSE	010Y024HR_G	24.05	109.53	112.50	0.0000	158772	11.75	5.09	24.05	0.48
PND141B3	PROPOSE	010Y072HR_G	68.01	109.70	112.50	0.0000	160262	59.75	3.55	68.01	0.69
PND141B3	PROPOSE	025Y001HR_G	1.78	109.03	112.50	0.0001	154197	0.50	37.52	1.78	0.09

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PND141B3	PROPOSE	025Y002HR_G	2.53	109.20	112.50	0.0001	155727	0.75	33.64	2.53	0.18
PND141B3	PROPOSE	025Y004HR_G	4.34	109.34	112.50	0.0001	157037	2.00	19.32	4.34	0.29
PND141B3	PROPOSE	025Y008HR_G	8.37	109.51	112.50	0.0001	158550	4.00	19.96	8.37	0.46
PND141B3	PROPOSE	025Y024HR_G	22.35	109.77	112.50	0.0000	160930	11.98	6.61	22.35	0.80
PND141B3	PROPOSE	025Y072HR_G	64.44	109.95	112.50	0.0000	162547	59.75	4.52	64.44	1.07
PND141B3	PROPOSE	050Y001HR_G	1.75	109.09	112.50	0.0001	154719	0.50	41.77	1.75	0.12
PND141B3	PROPOSE	050Y002HR_G	2.50	109.27	112.50	0.0001	156384	0.75	37.36	2.50	0.23
PND141B3	PROPOSE	050Y004HR_G	4.29	109.45	112.50	0.0001	157980	2.00	21.86	4.29	0.39
PND141B3	PROPOSE	050Y008HR_G	8.33	109.65	112.50	0.0001	159837	4.00	23.03	8.33	0.63
PND141B3	PROPOSE	050Y024HR_G	22.34	109.98	112.50	0.0000	162838	11.75	7.86	22.34	1.12
PND141B3	PROPOSE	050Y072HR_G	64.32	110.15	112.50	0.0000	164373	59.75	5.34	64.32	1.41
PND141B3	PROPOSE	100Y001HR_G	1.74	109.14	112.50	0.0002	155209	0.50	45.81	1.74	0.15
PND141B3	PROPOSE	100Y002HR_G	2.49	109.34	112.50	0.0001	157008	0.75	40.93	2.49	0.29
PND141B3	PROPOSE	100Y004HR_G	2.49	109.34	112.50	0.0001	157008	0.75	40.93	2.49	0.29
PND141B3	PROPOSE	100Y008HR_G	8.30	109.80	112.50	0.0001	161168	4.00	26.23	8.30	0.84
PND141B3	PROPOSE	100Y024HR_G	22.24	110.21	112.50	0.0000	164878	11.75	9.34	22.24	1.51
PND141B3	PROPOSE	100Y072HR_G	64.25	110.36	112.50	0.0000	166281	59.75	6.27	64.25	1.80
PND141B4	PROPOSE	002Y001HR_G	1.92	106.08	109.80	0.0001	123602	0.50	16.91	1.92	0.02
PND141B4	PROPOSE	002Y002HR_G	2.68	106.16	109.80	0.0001	124196	0.75	13.88	2.68	0.04
PND141B4	PROPOSE	002Y004HR_G	4.47	106.22	109.80	0.0000	124606	2.00	7.34	4.47	0.05
PND141B4	PROPOSE	002Y008HR_G	8.46	106.29	109.80	0.0000	125096	4.00	7.00	8.46	0.07
PND141B4	PROPOSE	002Y024HR_G	24.26	106.40	109.80	0.0000	125949	12.00	2.10	24.26	0.13
PND141B4	PROPOSE	002Y072HR_G	68.40	106.53	109.80	0.0000	126871	59.75	1.63	68.40	0.20
PND141B4	PROPOSE	005Y001HR_G	1.87	106.14	109.80	0.0001	124037	0.50	20.25	1.87	0.03
PND141B4	PROPOSE	005Y002HR_G	2.63	106.24	109.80	0.0001	124781	0.75	16.62	2.63	0.06
PND141B4	PROPOSE	005Y004HR_G	4.43	106.32	109.80	0.0000	125339	2.00	8.90	4.43	0.09
PND141B4	PROPOSE	005Y008HR_G	8.43	106.41	109.80	0.0000	125976	4.00	9.02	8.43	0.13
PND141B4	PROPOSE	005Y024HR_G	24.17	106.56	109.80	0.0000	127059	12.00	2.76	24.17	0.22
PND141B4	PROPOSE	005Y072HR_G	68.21	106.70	109.80	0.0000	128145	59.75	2.14	68.21	0.34
PND141B4	PROPOSE	010Y001HR_G	1.83	106.19	109.80	0.0001	124389	0.50	22.84	1.83	0.04
PND141B4	PROPOSE	010Y002HR_G	2.60	106.31	109.80	0.0001	125262	0.75	18.97	2.60	0.08
PND141B4	PROPOSE	010Y004HR_G	4.40	106.41	109.80	0.0000	125966	2.00	10.42	4.40	0.13
PND141B4	PROPOSE	010Y008HR_G	8.41	106.52	109.80	0.0000	126766	4.00	10.87	8.41	0.19
PND141B4	PROPOSE	010Y024HR_G	24.07	106.70	109.80	0.0000	128134	12.00	3.43	24.07	0.34
PND141B4	PROPOSE	010Y072HR_G	68.05	106.86	109.80	0.0000	129307	59.75	2.65	68.05	0.51
PND141B4	PROPOSE	025Y001HR_G	1.78	106.25	109.80	0.0001	124851	0.50	26.19	1.78	0.06
PND141B4	PROPOSE	025Y002HR_G	2.54	106.40	109.80	0.0001	125908	0.75	22.31	2.54	0.12
PND141B4	PROPOSE	025Y004HR_G	4.35	106.52	109.80	0.0001	126835	2.00	12.67	4.35	0.20
PND141B4	PROPOSE	025Y008HR_G	8.37	106.68	109.80	0.0001	127948	4.00	13.72	8.37	0.32
PND141B4	PROPOSE	025Y024HR_G	22.41	106.92	109.80	0.0000	129762	11.98	4.61	22.41	0.59
PND141B4	PROPOSE	025Y072HR_G	64.45	107.11	109.80	0.0000	131091	59.75	3.48	64.45	0.83
PND141B4	PROPOSE	050Y001HR_G	1.75	106.30	109.80	0.0001	125201	0.50	28.78	1.75	0.08
PND141B4	PROPOSE	050Y002HR_G	2.50	106.46	109.80	0.0001	126370	0.75	24.78	2.50	0.16
PND141B4	PROPOSE	050Y004HR_G	4.30	106.62	109.80	0.0001	127521	2.00	14.47	4.30	0.27
PND141B4	PROPOSE	050Y008HR_G	8.34	106.81	109.80	0.0001	128910	4.00	16.11	8.34	0.45
PND141B4	PROPOSE	050Y024HR_G	22.36	107.13	109.80	0.0000	131233	12.00	5.57	22.36	0.86
PND141B4	PROPOSE	050Y072HR_G	64.32	107.31	109.80	0.0000	132556	59.75	4.20	64.32	1.13
PND141B4	PROPOSE	100Y001HR_G	1.74	106.35	109.80	0.0001	125537	0.50	31.30	1.74	0.10
PND141B4	PROPOSE	100Y002HR_G	2.49	106.52	109.80	0.0001	126814	0.75	27.21	2.49	0.20
PND141B4	PROPOSE	100Y004HR_G	2.49	106.52	109.80	0.0001	126814	0.75	27.21	2.49	0.20
PND141B4	PROPOSE	100Y008HR_G	8.31	106.95	109.80	0.0001	129917	4.00	18.66	8.31	0.62
PND141B4	PROPOSE	100Y024HR_G	22.24	107.34	109.80	0.0000	132828	12.00	6.77	22.24	1.19
PND141B4	PROPOSE	100Y072HR_G	64.24	107.52	109.80	0.0000	134102	59.75	5.02	64.24	1.49
PND142	PROPOSE	002Y001HR_G	2.00	96.97	104.00	0.0001	116641	0.75	15.90	2.00	0.07
PND142	PROPOSE	002Y002HR_G	4.00	97.19	104.00	0.0001	118804	1.00	14.04	4.00	0.18
PND142	PROPOSE	002Y004HR_G	5.63	97.37	104.00	0.0001	120623	2.50	12.22	5.63	0.32
PND142	PROPOSE	002Y008HR_G	8.78	97.53	104.00	0.0001	122197	4.00	12.80	8.78	0.48
PND142	PROPOSE	002Y024HR_G	22.79	97.75	104.00	0.0000	124445	12.00	4.53	22.79	0.79
PND142	PROPOSE	002Y072HR_G	64.09	98.29	104.00	0.0000	129823	59.75	3.61	64.32	1.93

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PND142	PROPOSE	005Y001HR_G	2.00	97.10	104.00	0.0001	117939	0.75	20.60	2.00	0.13
PND142	PROPOSE	005Y002HR_G	4.00	97.37	104.00	0.0001	120629	1.00	18.27	4.00	0.32
PND142	PROPOSE	005Y004HR_G	5.42	97.59	104.00	0.0001	122827	2.50	15.90	5.42	0.56
PND142	PROPOSE	005Y008HR_G	8.54	97.78	104.00	0.0001	124711	4.00	16.78	8.54	0.83
PND142	PROPOSE	005Y024HR_G	22.30	98.04	104.00	0.0000	127299	12.00	5.96	22.30	1.32
PND142	PROPOSE	005Y072HR_G	63.31	98.87	104.00	0.0000	135662	59.75	4.62	64.79	3.68
PND142	PROPOSE	010Y001HR_G	2.00	97.20	104.00	0.0001	118985	0.75	24.43	2.00	0.19
PND142	PROPOSE	010Y002HR_G	3.99	97.51	104.00	0.0001	122079	1.00	21.73	3.99	0.47
PND142	PROPOSE	010Y004HR_G	5.27	97.77	104.00	0.0001	124643	2.50	19.03	5.27	0.82
PND142	PROPOSE	010Y008HR_G	8.43	97.99	104.00	0.0001	126843	4.00	20.32	8.43	1.23
PND142	PROPOSE	010Y024HR_G	21.93	98.30	104.00	0.0001	129969	12.00	7.37	21.93	1.98
PND142	PROPOSE	010Y072HR_G	63.27	98.84	104.00	0.0000	135353	59.75	5.58	64.38	3.70
PND142	PROPOSE	025Y001HR_G	2.00	97.34	104.00	0.0001	120352	0.75	29.49	2.00	0.29
PND142	PROPOSE	025Y002HR_G	3.84	97.70	104.00	0.0001	123951	0.75	26.37	3.84	0.72
PND142	PROPOSE	025Y004HR_G	5.12	98.01	104.00	0.0001	127064	2.50	23.31	5.12	1.27
PND142	PROPOSE	025Y008HR_G	8.29	98.29	104.00	0.0001	129845	4.00	25.57	8.29	1.94
PND142	PROPOSE	025Y024HR_G	21.18	98.65	104.00	0.0001	133482	11.98	9.67	21.18	3.08
PND142	PROPOSE	025Y072HR_G	63.11	99.35	104.00	0.0001	140445	59.75	7.12	65.09	5.54
PND142	PROPOSE	050Y001HR_G	2.00	97.44	104.00	0.0001	121365	0.75	33.29	2.00	0.39
PND142	PROPOSE	050Y002HR_G	3.73	97.83	104.00	0.0001	125252	0.75	29.74	3.73	0.93
PND142	PROPOSE	050Y004HR_G	5.01	98.19	104.00	0.0001	128872	2.50	26.59	5.01	1.69
PND142	PROPOSE	050Y008HR_G	8.18	98.52	104.00	0.0001	132164	4.00	29.88	8.18	2.63
PND142	PROPOSE	050Y024HR_G	20.33	98.93	104.00	0.0001	136227	12.00	11.64	20.33	4.16
PND142	PROPOSE	050Y072HR_G	63.16	99.64	104.00	0.0001	143292	59.75	8.43	65.23	6.63
PND142	PROPOSE	100Y001HR_G	2.00	97.54	104.00	0.0002	122317	0.75	36.89	2.00	0.50
PND142	PROPOSE	100Y002HR_G	3.66	97.95	104.00	0.0002	126474	0.75	32.98	3.66	1.15
PND142	PROPOSE	100Y004HR_G	3.60	98.00	104.00	0.0001	126982	0.75	32.98	3.60	1.26
PND142	PROPOSE	100Y008HR_G	8.08	98.75	104.00	0.0002	134471	4.00	34.38	8.08	3.45
PND142	PROPOSE	100Y024HR_G	19.38	99.24	104.00	0.0001	139347	12.00	13.89	19.38	5.57
PND142	PROPOSE	100Y072HR_G	63.32	99.98	104.00	0.0001	146735	59.75	9.90	65.91	7.88
PNDFPC141	PROPOSE	002Y001HR_G	0.96	103.75	106.00	0.0001	57944	0.00	0.00	0.96	0.42
PNDFPC141	PROPOSE	002Y002HR_G	1.66	103.79	106.00	0.0001	58115	0.00	0.00	1.66	0.52
PNDFPC141	PROPOSE	002Y004HR_G	3.11	103.84	106.00	-0.0001	58331	2.54	32.76	3.11	0.66
PNDFPC141	PROPOSE	002Y008HR_G	16.00	103.87	106.00	-0.0001	58454	3.97	34.07	16.00	0.75
PNDFPC141	PROPOSE	002Y024HR_G	30.00	103.99	106.00	0.0001	58973	0.00	0.00	30.00	1.18
PNDFPC141	PROPOSE	002Y072HR_G	80.00	104.17	106.00	0.0001	59771	0.00	0.00	80.00	2.01
PNDFPC141	PROPOSE	005Y001HR_G	1.11	103.78	106.00	0.0001	58085	0.00	0.00	1.11	0.50
PNDFPC141	PROPOSE	005Y002HR_G	1.85	103.83	106.00	0.0001	58302	0.78	41.90	1.85	0.64
PNDFPC141	PROPOSE	005Y004HR_G	3.12	103.92	106.00	-0.0001	58668	2.07	35.58	3.12	0.92
PNDFPC141	PROPOSE	005Y008HR_G	16.00	103.98	106.00	0.0001	58920	3.63	35.88	16.00	1.13
PNDFPC141	PROPOSE	005Y024HR_G	30.00	104.14	106.00	0.0001	59631	0.00	0.00	30.00	1.85
PNDFPC141	PROPOSE	005Y072HR_G	80.00	104.37	106.00	0.0001	60614	0.00	0.00	80.00	3.09
PNDFPC141	PROPOSE	010Y001HR_G	1.18	103.81	106.00	0.0002	58218	0.57	43.98	1.18	0.58
PNDFPC141	PROPOSE	010Y002HR_G	1.96	103.95	106.00	0.0002	58798	0.71	45.30	1.96	1.02
PNDFPC141	PROPOSE	010Y004HR_G	3.13	104.00	106.00	0.0001	59010	2.29	40.11	3.13	1.21
PNDFPC141	PROPOSE	010Y008HR_G	16.00	104.08	106.00	0.0001	59353	3.87	40.10	16.00	1.55
PNDFPC141	PROPOSE	010Y024HR_G	30.00	104.29	106.00	0.0001	60272	0.00	0.00	30.00	2.63
PNDFPC141	PROPOSE	010Y072HR_G	80.00	104.55	106.00	0.0001	61414	0.00	0.00	80.00	4.30
PNDFPC141	PROPOSE	025Y001HR_G	0.85	103.88	106.00	0.0002	58506	0.51	50.00	0.85	0.79
PNDFPC141	PROPOSE	025Y002HR_G	2.01	104.02	106.00	0.0002	59126	0.65	46.67	2.01	1.32
PNDFPC141	PROPOSE	025Y004HR_G	2.97	104.08	106.00	0.0002	59370	2.21	42.07	2.97	1.57
PNDFPC141	PROPOSE	025Y008HR_G	16.00	104.22	106.00	0.0001	59991	3.29	39.38	16.00	2.27
PNDFPC141	PROPOSE	025Y024HR_G	30.00	104.53	106.00	-0.0001	61298	11.63	32.70	30.00	4.12
PNDFPC141	PROPOSE	025Y072HR_G	72.17	104.86	106.00	0.0002	62758	71.91	33.06	72.17	6.71
PNDFPC141	PROPOSE	050Y001HR_G	0.87	103.96	106.00	0.0002	58854	0.48	50.91	0.87	1.07
PNDFPC141	PROPOSE	050Y002HR_G	2.03	104.08	106.00	0.0002	59357	0.61	47.45	2.03	1.55
PNDFPC141	PROPOSE	050Y004HR_G	3.18	104.15	106.00	0.0001	59662	2.70	41.87	3.18	1.88
PNDFPC141	PROPOSE	050Y008HR_G	16.00	104.34	106.00	0.0001	60505	3.32	39.77	16.00	2.94
PNDFPC141	PROPOSE	050Y024HR_G	30.00	104.73	106.00	-0.0001	62166	11.08	33.03	30.00	5.60

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
PNDFPC141	PROPOSE	050Y072HR_G	77.53	105.14	106.00	0.0002	63942	70.37	36.99	77.53	9.17
PNDFPC141	PROPOSE	100Y001HR_G	0.88	104.05	106.00	0.0003	59221	0.50	53.75	0.88	1.42
PNDFPC141	PROPOSE	100Y002HR_G	2.05	104.13	106.00	0.0002	59567	0.64	48.40	2.05	1.78
PNDFPC141	PROPOSE	100Y004HR_G	2.05	104.12	106.00	0.0002	59562	0.64	48.40	2.05	1.77
PNDFPC141	PROPOSE	100Y008HR_G	16.00	104.46	106.00	0.0001	61030	3.24	39.57	16.00	3.70
PNDFPC141	PROPOSE	100Y024HR_G	29.95	104.98	106.00	0.0002	63278	22.10	33.80	29.95	7.75
PNDFPC141	PROPOSE	100Y072HR_G	77.18	105.44	106.00	0.0002	65230	66.80	39.87	77.18	12.13
SW142C	PROPOSE	002Y001HR_G	0.80	104.37	107.26	-0.0040	729	0.75	2.55	0.80	2.44
SW142C	PROPOSE	002Y002HR_G	1.09	104.39	107.26	-0.0040	749	1.00	2.58	1.08	2.55
SW142C	PROPOSE	002Y004HR_G	3.00	104.44	107.26	-0.0040	805	3.00	2.86	3.00	2.85
SW142C	PROPOSE	002Y008HR_G	4.04	104.45	107.26	-0.0040	813	4.00	2.96	4.04	2.90
SW142C	PROPOSE	002Y024HR_G	0.00	104.10	107.26	-0.0040	467	12.00	1.18	0.00	1.18
SW142C	PROPOSE	002Y072HR_G	60.00	104.18	107.26	-0.0040	550	59.75	1.18	0.00	1.18
SW142C	PROPOSE	005Y001HR_G	0.81	104.58	107.26	-0.0040	939	0.75	3.85	0.80	3.67
SW142C	PROPOSE	005Y002HR_G	1.07	104.60	107.26	-0.0040	957	1.00	3.85	1.06	3.78
SW142C	PROPOSE	005Y004HR_G	2.63	104.64	107.26	-0.0040	991	2.50	4.02	2.62	4.00
SW142C	PROPOSE	005Y008HR_G	4.04	104.67	107.26	-0.0040	1026	4.00	4.31	4.04	4.22
SW142C	PROPOSE	005Y024HR_G	12.02	104.21	107.26	-0.0040	582	12.00	1.69	12.01	1.68
SW142C	PROPOSE	005Y072HR_G	80.00	104.40	107.26	-0.0040	762	59.75	1.57	59.79	1.55
SW142C	PROPOSE	010Y001HR_G	0.81	104.75	107.26	-0.0040	1102	0.75	4.97	0.81	4.73
SW142C	PROPOSE	010Y002HR_G	1.07	104.77	107.26	-0.0040	1119	1.00	4.93	1.06	4.84
SW142C	PROPOSE	010Y004HR_G	2.60	104.80	107.26	-0.0040	1151	2.50	5.10	2.59	5.05
SW142C	PROPOSE	010Y008HR_G	4.04	104.86	107.26	-0.0040	1205	4.00	5.55	4.04	5.42
SW142C	PROPOSE	010Y024HR_G	12.02	104.32	107.26	-0.0040	686	12.00	2.21	12.01	2.20
SW142C	PROPOSE	010Y072HR_G	80.00	104.60	107.26	-0.0040	955	59.75	1.94	62.64	3.13
SW142C	PROPOSE	025Y001HR_G	0.81	104.97	107.26	-0.0040	1309	0.75	6.52	0.81	6.16
SW142C	PROPOSE	025Y002HR_G	1.07	104.99	107.26	-0.0040	1326	1.00	6.43	1.06	6.29
SW142C	PROPOSE	025Y004HR_G	2.59	105.03	107.26	-0.0040	1361	2.50	6.61	2.58	6.54
SW142C	PROPOSE	025Y008HR_G	4.05	105.12	107.26	-0.0040	2174	4.00	7.43	4.05	7.22
SW142C	PROPOSE	025Y024HR_G	30.00	104.54	107.26	-0.0040	901	11.98	3.06	20.91	3.23
SW142C	PROPOSE	025Y072HR_G	77.78	104.97	107.26	-0.0040	1297	59.75	2.54	69.68	6.30
SW142C	PROPOSE	050Y001HR_G	0.82	105.12	107.26	-0.0040	2194	0.75	7.71	0.81	7.23
SW142C	PROPOSE	050Y002HR_G	1.08	105.13	107.26	-0.0040	2307	1.00	7.53	1.07	7.32
SW142C	PROPOSE	050Y004HR_G	2.62	105.17	107.26	-0.0040	2742	2.50	7.80	2.61	7.66
SW142C	PROPOSE	050Y008HR_G	4.08	105.28	107.26	-0.0040	3870	4.00	9.00	4.07	8.61
SW142C	PROPOSE	050Y024HR_G	30.00	104.81	107.26	-0.0040	1148	12.00	3.82	12.02	3.80
SW142C	PROPOSE	050Y072HR_G	77.67	105.29	107.26	-0.0040	3967	59.75	3.04	67.41	3.94
SW142C	PROPOSE	100Y001HR_G	0.84	105.23	107.26	-0.0040	3337	0.75	8.85	0.83	8.15
SW142C	PROPOSE	100Y002HR_G	1.10	105.24	107.26	-0.0040	3475	1.00	8.59	1.09	8.27
SW142C	PROPOSE	100Y004HR_G	1.10	105.24	107.26	-0.0040	3475	1.00	8.59	1.09	8.27
SW142C	PROPOSE	100Y008HR_G	4.09	105.43	107.26	-0.0040	5459	4.00	10.66	4.09	10.07
SW142C	PROPOSE	100Y024HR_G	29.93	105.12	107.26	-0.0040	2184	12.00	4.68	22.12	5.92
SW142C	PROPOSE	100Y072HR_G	79.67	105.65	107.26	-0.0040	7669	59.75	3.61	68.78	4.87
VWCD	PROPOSE	002Y001HR_G	0.50	103.53	107.46	0.0051	25	0.86	23.68	0.00	0.00
VWCD	PROPOSE	002Y002HR_G	0.80	103.53	107.46	-0.0036	25	1.84	11.26	0.00	0.00
VWCD	PROPOSE	002Y004HR_G	2.00	103.53	107.46	-0.0008	25	3.95	5.22	0.00	0.00
VWCD	PROPOSE	002Y008HR_G	4.00	104.40	107.46	0.0009	25	7.78	1.91	0.00	0.00
VWCD	PROPOSE	002Y024HR_G	12.00	103.53	107.46	-0.0004	25	23.00	0.42	0.00	0.00
VWCD	PROPOSE	002Y072HR_G	60.00	105.36	107.46	0.0003	25	77.98	0.44	0.00	0.00
VWCD	PROPOSE	005Y001HR_G	0.50	103.53	107.46	0.0051	25	0.85	27.17	0.00	0.00
VWCD	PROPOSE	005Y002HR_G	0.80	103.53	107.46	-0.0036	25	1.83	13.03	0.00	0.00
VWCD	PROPOSE	005Y004HR_G	2.00	103.53	107.46	-0.0008	25	3.95	6.24	0.00	0.00
VWCD	PROPOSE	005Y008HR_G	4.00	104.40	107.46	0.0009	25	7.78	2.37	0.00	0.00
VWCD	PROPOSE	005Y024HR_G	12.00	103.86	107.46	-0.0004	25	28.40	0.49	0.00	0.00
VWCD	PROPOSE	005Y072HR_G	60.00	106.57	107.46	0.0003	25	78.19	0.46	0.00	0.00
VWCD	PROPOSE	010Y001HR_G	0.50	103.53	107.46	0.0051	25	0.85	30.02	0.00	0.00
VWCD	PROPOSE	010Y002HR_G	0.80	103.53	107.46	-0.0036	25	1.20	14.69	0.00	0.00
VWCD	PROPOSE	010Y004HR_G	2.00	103.53	107.46	-0.0008	25	3.50	7.55	0.00	0.00
VWCD	PROPOSE	010Y008HR_G	4.00	104.40	107.46	0.0009	25	7.78	2.76	0.00	0.00

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
VWCD	PROPOSE	010Y024HR_G	12.00	104.40	107.46	-0.0004	25	0.00	0.36	0.00	0.00
VWCD	PROPOSE	010Y072HR_G	60.00	105.63	107.46	0.0003	25	48.00	0.48	0.00	0.00
VWCD	PROPOSE	025Y001HR_G	0.50	103.53	107.46	0.0051	25	0.85	33.80	0.00	0.00
VWCD	PROPOSE	025Y002HR_G	0.80	103.53	107.46	-0.0036	25	1.20	18.88	0.00	0.00
VWCD	PROPOSE	025Y004HR_G	2.00	103.53	107.46	-0.0008	25	3.50	9.61	0.00	0.00
VWCD	PROPOSE	025Y008HR_G	4.00	104.40	107.46	0.0009	25	6.00	3.83	0.00	0.00
VWCD	PROPOSE	025Y024HR_G	12.00	104.63	107.46	-0.0004	25	28.52	0.58	0.00	0.00
VWCD	PROPOSE	025Y072HR_G	60.00	106.38	107.46	0.0003	25	48.00	0.49	0.00	0.00
VWCD	PROPOSE	050Y001HR_G	0.50	103.53	107.46	0.0051	25	0.85	36.62	0.00	0.00
VWCD	PROPOSE	050Y002HR_G	0.80	103.53	107.46	-0.0036	25	1.20	21.78	0.00	0.00
VWCD	PROPOSE	050Y004HR_G	2.00	103.53	107.46	-0.0008	25	3.50	11.14	0.00	0.00
VWCD	PROPOSE	050Y008HR_G	4.00	104.40	107.46	0.0009	25	6.00	4.86	0.00	0.00
VWCD	PROPOSE	050Y024HR_G	12.00	104.78	107.46	-0.0004	25	23.00	0.78	0.00	0.00
VWCD	PROPOSE	050Y072HR_G	60.00	106.57	107.46	0.0003	25	24.00	0.56	0.00	0.00
VWCD	PROPOSE	100Y001HR_G	0.50	103.53	107.46	0.0051	25	0.84	39.28	0.00	0.00
VWCD	PROPOSE	100Y002HR_G	0.80	103.53	107.46	-0.0036	25	1.20	24.50	0.00	0.00
VWCD	PROPOSE	100Y004HR_G	2.00	103.53	107.46	-0.0008	25	0.74	22.55	0.00	0.00
VWCD	PROPOSE	100Y008HR_G	4.00	104.40	107.46	0.0009	25	6.00	5.91	0.00	0.00
VWCD	PROPOSE	100Y024HR_G	12.00	105.07	107.46	-0.0004	25	23.00	1.04	0.00	0.00
VWCD	PROPOSE	100Y072HR_G	60.00	106.96	107.46	0.0003	25	24.00	0.65	0.00	0.00

I-4 Interim Daryl Carter (DCP)
FDOT District 5
FPID NO.: 441113-1-52-01
Ruby Lake/ Shingle Creek Outfalls (Lake Willis, Big Sand Lake & VWCD) -
Proposed Condition: Node Time Series By Node Reports (010Y001H)

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
010Y001HR_G	BSL_OUTFALL1	PROPOSE	0.00	91.73	110.00	607	0.00	0.00	0.0	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	0.25	94.94	110.00	229	-13.56	0.00	-0.1	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	0.50	99.40	110.00	40	-11.84	0.00	-0.4	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	0.75	94.94	110.00	228	13.58	0.00	-0.4	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	1.00	91.91	110.00	428	2.26	0.00	-0.2	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	1.25	91.86	110.00	387	1.36	0.00	-0.2	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	1.50	91.82	110.00	354	0.84	0.00	-0.2	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	1.75	91.78	110.00	327	0.59	0.00	-0.1	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	2.00	91.73	110.00	308	0.46	0.00	-0.1	0.0
010Y001HR_G	BSL_OUTFALL1	PROPOSE	2.00	91.73	110.00	308	0.46	0.00	-0.1	0.0
010Y001HR_G	LK_WILLIS	PROPOSE	0.00	103.45	107.00	5612937	-1.47	0.00	0.0	0.0
010Y001HR_G	LK_WILLIS	PROPOSE	0.25	103.45	107.00	5612944	3.89	27.06	0.0	0.3
010Y001HR_G	LK_WILLIS	PROPOSE	0.50	103.46	107.00	5613818	124.31	19.21	1.3	0.8
010Y001HR_G	LK_WILLIS	PROPOSE	0.75	103.50	107.00	5617433	387.69	-24.28	6.6	0.7
010Y001HR_G	LK_WILLIS	PROPOSE	1.00	103.57	107.00	5622689	367.26	13.40	14.4	0.6
010Y001HR_G	LK_WILLIS	PROPOSE	1.25	103.62	107.00	5626768	232.62	9.49	20.6	0.8
010Y001HR_G	LK_WILLIS	PROPOSE	1.50	103.65	107.00	5629352	148.98	13.23	24.6	1.1
010Y001HR_G	LK_WILLIS	PROPOSE	1.75	103.67	107.00	5631063	105.17	19.31	27.2	1.4
010Y001HR_G	LK_WILLIS	PROPOSE	2.00	103.68	107.00	5632286	79.03	29.11	29.1	1.9
010Y001HR_G	LK_WILLIS	PROPOSE	2.00	103.68	107.00	5632286	79.03	29.11	29.1	1.9
010Y001HR_G	MODPNDC	PROPOSE	0.00	111.20	116.70	304484	0.00	0.00	0.0	0.0
010Y001HR_G	MODPNDC	PROPOSE	0.25	111.32	116.70	306034	82.35	0.90	0.9	0.0
010Y001HR_G	MODPNDC	PROPOSE	0.50	111.88	116.70	313202	302.64	2.14	4.8	0.0
010Y001HR_G	MODPNDC	PROPOSE	0.75	112.63	116.70	322896	233.44	3.11	10.4	0.1
010Y001HR_G	MODPNDC	PROPOSE	1.00	113.03	116.70	328162	68.90	4.25	13.5	0.2
010Y001HR_G	MODPNDC	PROPOSE	1.25	113.14	116.70	329489	15.35	4.78	14.4	0.3
010Y001HR_G	MODPNDC	PROPOSE	1.50	113.15	116.70	329650	3.42	4.85	14.6	0.4
010Y001HR_G	MODPNDC	PROPOSE	1.75	113.14	116.70	329553	0.76	4.81	14.6	0.5
010Y001HR_G	MODPNDC	PROPOSE	2.00	113.13	116.70	329401	0.17	4.74	14.6	0.6
010Y001HR_G	MODPNDC	PROPOSE	2.00	113.13	116.70	329401	0.17	4.74	14.6	0.6
010Y001HR_G	PND140B1	PROPOSE	0.00	127.20	129.00	33221	0.00	0.00	0.0	0.0
010Y001HR_G	PND140B1	PROPOSE	0.25	127.23	129.00	33375	4.00	1.55	0.0	0.0
010Y001HR_G	PND140B1	PROPOSE	0.50	127.40	129.00	34150	16.73	6.74	0.3	0.1
010Y001HR_G	PND140B1	PROPOSE	0.75	127.64	129.00	35293	15.82	6.68	0.6	0.2
010Y001HR_G	PND140B1	PROPOSE	1.00	127.80	129.00	36035	6.34	2.70	0.8	0.3
010Y001HR_G	PND140B1	PROPOSE	1.25	127.86	129.00	36319	2.07	0.86	0.9	0.4
010Y001HR_G	PND140B1	PROPOSE	1.50	127.88	129.00	36412	0.67	0.39	0.9	0.4
010Y001HR_G	PND140B1	PROPOSE	1.75	127.89	129.00	36441	0.22	0.00	0.9	0.4
010Y001HR_G	PND140B1	PROPOSE	2.00	127.89	129.00	36449	0.07	0.00	0.9	0.4
010Y001HR_G	PND140B1	PROPOSE	2.00	127.89	129.00	36449	0.07	0.00	0.9	0.4
010Y001HR_G	PND140B2	PROPOSE	0.00	127.20	129.00	35002	0.00	0.00	0.0	0.0
010Y001HR_G	PND140B2	PROPOSE	0.25	127.23	129.00	35165	4.41	1.85	0.0	0.0
010Y001HR_G	PND140B2	PROPOSE	0.50	127.40	129.00	35975	17.60	7.31	0.3	0.1
010Y001HR_G	PND140B2	PROPOSE	0.75	127.64	129.00	37193	16.22	6.57	0.6	0.3
010Y001HR_G	PND140B2	PROPOSE	1.00	127.80	129.00	38001	6.25	2.34	0.9	0.3
010Y001HR_G	PND140B2	PROPOSE	1.25	127.86	129.00	38306	1.92	0.63	0.9	0.4
010Y001HR_G	PND140B2	PROPOSE	1.50	127.88	129.00	38406	0.70	0.00	1.0	0.4
010Y001HR_G	PND140B2	PROPOSE	1.75	127.89	129.00	38437	0.10	0.00	1.0	0.4
010Y001HR_G	PND140B2	PROPOSE	2.00	127.89	129.00	38446	0.03	0.00	1.0	0.4
010Y001HR_G	PND140B2	PROPOSE	2.00	127.89	129.00	38446	0.03	0.00	1.0	0.4
010Y001HR_G	PND140B3	PROPOSE	0.00	127.20	129.00	76705	0.00	0.00	0.0	0.0
010Y001HR_G	PND140B3	PROPOSE	0.25	127.23	129.00	76984	5.58	0.00	0.1	0.0
010Y001HR_G	PND140B3	PROPOSE	0.50	127.39	129.00	78356	22.11	0.00	0.3	0.0
010Y001HR_G	PND140B3	PROPOSE	0.75	127.64	129.00	80455	20.91	0.00	0.8	0.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
010Y001HR_G	PND140B3	PROPOSE	1.00	127.80	129.00	81857	8.52	0.02	1.1	0.0
010Y001HR_G	PND140B3	PROPOSE	1.25	127.86	129.00	82384	2.84	0.06	1.2	0.0
010Y001HR_G	PND140B3	PROPOSE	1.50	127.88	129.00	82555	0.79	0.08	1.2	0.0
010Y001HR_G	PND140B3	PROPOSE	1.75	127.89	129.00	82609	0.28	0.08	1.3	0.0
010Y001HR_G	PND140B3	PROPOSE	2.00	127.89	129.00	82624	0.10	0.09	1.3	0.0
010Y001HR_G	PND140B3	PROPOSE	2.00	127.89	129.00	82624	0.10	0.09	1.3	0.0
010Y001HR_G	PND141B1	PROPOSE	0.00	116.00	120.00	79279	0.00	0.00	0.0	0.0
010Y001HR_G	PND141B1	PROPOSE	0.25	116.06	120.00	79621	10.66	0.00	0.1	0.0
010Y001HR_G	PND141B1	PROPOSE	0.50	116.33	120.00	81172	38.28	0.00	0.6	0.0
010Y001HR_G	PND141B1	PROPOSE	0.75	116.72	120.00	83348	31.97	0.00	1.3	0.0
010Y001HR_G	PND141B1	PROPOSE	1.00	116.95	120.00	84661	11.30	0.00	1.8	0.0
010Y001HR_G	PND141B1	PROPOSE	1.25	117.03	120.00	85102	3.40	0.00	1.9	0.0
010Y001HR_G	PND141B1	PROPOSE	1.50	117.05	120.00	85238	1.14	0.00	2.0	0.0
010Y001HR_G	PND141B1	PROPOSE	1.75	117.06	120.00	85285	0.44	0.00	2.0	0.0
010Y001HR_G	PND141B1	PROPOSE	2.00	117.06	120.00	85304	0.21	0.00	2.0	0.0
010Y001HR_G	PND141B1	PROPOSE	2.00	117.06	120.00	85304	0.21	0.00	2.0	0.0
010Y001HR_G	PND141B2	PROPOSE	0.00	112.70	116.70	126324	0.00	0.00	0.0	0.0
010Y001HR_G	PND141B2	PROPOSE	0.25	112.72	116.70	126445	5.02	0.00	0.1	0.0
010Y001HR_G	PND141B2	PROPOSE	0.50	112.83	116.70	127237	27.83	0.00	0.4	0.0
010Y001HR_G	PND141B2	PROPOSE	0.75	113.07	116.70	128816	38.26	0.00	1.1	0.0
010Y001HR_G	PND141B2	PROPOSE	1.00	113.29	116.70	130320	25.50	0.00	1.7	0.0
010Y001HR_G	PND141B2	PROPOSE	1.25	113.43	116.70	131267	15.01	0.00	2.2	0.0
010Y001HR_G	PND141B2	PROPOSE	1.50	113.51	116.70	131822	8.84	0.00	2.4	0.0
010Y001HR_G	PND141B2	PROPOSE	1.75	113.56	116.70	132146	5.20	0.02	2.5	0.0
010Y001HR_G	PND141B2	PROPOSE	2.00	113.58	116.70	132336	3.06	0.04	2.6	0.0
010Y001HR_G	PND141B2	PROPOSE	2.00	113.58	116.70	132336	3.06	0.04	2.6	0.0
010Y001HR_G	PND141B3	PROPOSE	0.00	108.50	112.50	149411	0.00	0.00	0.0	0.0
010Y001HR_G	PND141B3	PROPOSE	0.25	108.52	112.50	149566	5.69	0.00	0.1	0.0
010Y001HR_G	PND141B3	PROPOSE	0.50	108.61	112.50	150387	24.52	0.00	0.4	0.0
010Y001HR_G	PND141B3	PROPOSE	0.75	108.76	112.50	151725	25.06	0.00	0.9	0.0
010Y001HR_G	PND141B3	PROPOSE	1.00	108.87	112.50	152720	12.07	0.00	1.3	0.0
010Y001HR_G	PND141B3	PROPOSE	1.25	108.92	112.50	153173	4.95	0.00	1.4	0.0
010Y001HR_G	PND141B3	PROPOSE	1.50	108.94	112.50	153359	2.03	0.00	1.5	0.0
010Y001HR_G	PND141B3	PROPOSE	1.75	108.94	112.50	153436	0.83	0.00	1.5	0.0
010Y001HR_G	PND141B3	PROPOSE	2.00	108.95	112.50	153467	0.34	0.00	1.6	0.0
010Y001HR_G	PND141B3	PROPOSE	2.00	108.95	112.50	153467	0.34	0.00	1.6	0.0
010Y001HR_G	PND141B4	PROPOSE	0.00	105.80	109.80	121532	0.00	0.00	0.0	0.0
010Y001HR_G	PND141B4	PROPOSE	0.25	105.81	109.80	121620	3.23	0.00	0.0	0.0
010Y001HR_G	PND141B4	PROPOSE	0.50	105.87	109.80	122080	13.80	0.00	0.2	0.0
010Y001HR_G	PND141B4	PROPOSE	0.75	105.98	109.80	122860	15.20	0.00	0.5	0.0
010Y001HR_G	PND141B4	PROPOSE	1.00	106.07	109.80	123517	9.38	0.00	0.8	0.0
010Y001HR_G	PND141B4	PROPOSE	1.25	106.12	109.80	123905	5.19	0.00	0.9	0.0
010Y001HR_G	PND141B4	PROPOSE	1.50	106.15	109.80	124119	2.87	0.00	1.0	0.0
010Y001HR_G	PND141B4	PROPOSE	1.75	106.17	109.80	124237	1.59	0.00	1.0	0.0
010Y001HR_G	PND141B4	PROPOSE	2.00	106.18	109.80	124303	0.88	0.00	1.1	0.0
010Y001HR_G	PND141B4	PROPOSE	2.00	106.18	109.80	124303	0.88	0.00	1.1	0.0
010Y001HR_G	PND142	PROPOSE	0.00	96.50	104.00	111949	0.00	0.00	0.0	0.0
010Y001HR_G	PND142	PROPOSE	0.25	96.51	104.00	112092	3.56	0.00	0.0	0.0
010Y001HR_G	PND142	PROPOSE	0.50	96.62	104.00	113135	21.82	-1.07	0.3	-0.0
010Y001HR_G	PND142	PROPOSE	0.75	96.81	104.00	115089	27.58	0.00	0.8	-0.0
010Y001HR_G	PND142	PROPOSE	1.00	96.99	104.00	116835	17.44	0.00	1.3	-0.0
010Y001HR_G	PND142	PROPOSE	1.25	97.10	104.00	117896	10.27	0.00	1.6	-0.0
010Y001HR_G	PND142	PROPOSE	1.50	97.16	104.00	118524	6.22	0.00	1.7	-0.0
010Y001HR_G	PND142	PROPOSE	1.75	97.20	104.00	118904	3.81	0.00	1.8	-0.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
010Y001HR_G	PND142	PROPOSE	2.00	97.22	104.00	119137	2.35	0.00	1.9	-0.0
010Y001HR_G	PND142	PROPOSE	2.00	97.22	104.00	119137	2.35	0.00	1.9	-0.0
010Y001HR_G	PNDFPC141	PROPOSE	0.00	103.45	106.00	56639	0.00	0.00	0.0	0.0
010Y001HR_G	PNDFPC141	PROPOSE	0.25	103.49	106.00	56801	-22.45	0.01	-0.2	0.0
010Y001HR_G	PNDFPC141	PROPOSE	0.50	103.64	106.00	57480	-7.05	0.19	-0.5	0.0
010Y001HR_G	PNDFPC141	PROPOSE	0.75	103.77	106.00	58027	4.84	0.46	-0.6	0.0
010Y001HR_G	PNDFPC141	PROPOSE	1.00	103.78	106.00	58058	23.14	0.48	-0.3	0.0
010Y001HR_G	PNDFPC141	PROPOSE	1.25	103.76	106.00	58005	21.45	0.45	0.2	0.0
010Y001HR_G	PNDFPC141	PROPOSE	1.50	103.74	106.00	57885	23.19	0.38	0.7	0.0
010Y001HR_G	PNDFPC141	PROPOSE	1.75	103.72	106.00	57819	24.65	0.35	1.1	0.0
010Y001HR_G	PNDFPC141	PROPOSE	2.00	103.73	106.00	57839	26.60	0.36	1.7	0.1
010Y001HR_G	PNDFPC141	PROPOSE	2.00	103.73	106.00	57839	26.60	0.36	1.7	0.1

I-4 Interim Daryl Carter (DCP)
FDOT District 5
FPID NO.: 441113-1-52-01
Ruby Lake/ Shingle Creek Outfalls (Lake Willis, Big Sand Lake & VWCD) -
Proposed Condition: Node Time Series By Node Reports (050Y001H)

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
050Y001HR_G	BSL_OUTFALL1	PROPOSE	0.00	91.73	110.00	607	0.00	0.00	0.0	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	0.25	94.94	110.00	229	-13.54	0.00	-0.1	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	0.50	99.40	110.00	40	-10.23	0.00	-0.4	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	0.75	94.94	110.00	228	15.74	0.00	-0.3	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	1.00	91.91	110.00	489	3.97	0.00	-0.1	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	1.25	91.86	110.00	437	2.21	0.00	-0.1	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	1.50	91.82	110.00	390	1.35	0.00	-0.0	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	1.75	91.77	110.00	363	0.93	0.00	-0.0	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	2.00	91.73	110.00	371	1.02	0.00	0.0	0.0
050Y001HR_G	BSL_OUTFALL1	PROPOSE	2.00	91.73	110.00	371	1.02	0.00	0.0	0.0
050Y001HR_G	LK_WILLIS	PROPOSE	0.00	103.45	107.00	5612937	-1.47	0.00	0.0	0.0
050Y001HR_G	LK_WILLIS	PROPOSE	0.25	103.45	107.00	5612959	6.05	23.38	0.0	0.2
050Y001HR_G	LK_WILLIS	PROPOSE	0.50	103.47	107.00	5614278	185.86	10.77	2.0	0.6
050Y001HR_G	LK_WILLIS	PROPOSE	0.75	103.53	107.00	5619387	534.00	-30.48	9.5	0.4
050Y001HR_G	LK_WILLIS	PROPOSE	1.00	103.62	107.00	5626604	497.20	-26.99	20.1	-0.2
050Y001HR_G	LK_WILLIS	PROPOSE	1.25	103.68	107.00	5632188	315.68	17.41	28.5	-0.3
050Y001HR_G	LK_WILLIS	PROPOSE	1.50	103.73	107.00	5635698	203.21	25.22	33.9	0.1
050Y001HR_G	LK_WILLIS	PROPOSE	1.75	103.75	107.00	5638033	144.36	28.96	37.5	0.7
050Y001HR_G	LK_WILLIS	PROPOSE	2.00	103.77	107.00	5639711	7.95	28.61	39.0	1.3
050Y001HR_G	LK_WILLIS	PROPOSE	2.00	103.77	107.00	5639711	7.95	28.61	39.0	1.3
050Y001HR_G	MODPNDC	PROPOSE	0.00	111.20	116.70	304484	0.00	0.00	0.0	0.0
050Y001HR_G	MODPNDC	PROPOSE	0.25	111.36	116.70	306492	106.60	1.03	1.1	0.0
050Y001HR_G	MODPNDC	PROPOSE	0.50	112.07	116.70	315681	388.84	2.42	6.2	0.0
050Y001HR_G	MODPNDC	PROPOSE	0.75	113.02	116.70	327977	298.59	4.18	13.3	0.1
050Y001HR_G	MODPNDC	PROPOSE	1.00	113.53	116.70	334550	88.04	7.27	17.3	0.2
050Y001HR_G	MODPNDC	PROPOSE	1.25	113.65	116.70	336143	19.61	8.19	18.4	0.4
050Y001HR_G	MODPNDC	PROPOSE	1.50	113.66	116.70	336272	4.37	8.27	18.7	0.6
050Y001HR_G	MODPNDC	PROPOSE	1.75	113.65	116.70	336081	0.97	8.15	18.7	0.7
050Y001HR_G	MODPNDC	PROPOSE	2.00	113.63	116.70	335822	0.00	8.00	18.7	0.9
050Y001HR_G	MODPNDC	PROPOSE	2.00	113.63	116.70	335822	0.00	8.00	18.7	0.9
050Y001HR_G	PND140B1	PROPOSE	0.00	127.20	129.00	33221	0.00	0.00	0.0	0.0
050Y001HR_G	PND140B1	PROPOSE	0.25	127.24	129.00	33422	5.20	2.01	0.1	0.0
050Y001HR_G	PND140B1	PROPOSE	0.50	127.46	129.00	34440	22.10	8.88	0.3	0.1
050Y001HR_G	PND140B1	PROPOSE	0.75	127.78	129.00	35921	20.82	8.81	0.8	0.3
050Y001HR_G	PND140B1	PROPOSE	1.00	127.98	129.00	36870	8.33	3.62	1.1	0.4
050Y001HR_G	PND140B1	PROPOSE	1.25	128.06	129.00	37229	2.72	1.17	1.2	0.5
050Y001HR_G	PND140B1	PROPOSE	1.50	128.08	129.00	37343	0.89	0.43	1.2	0.5
050Y001HR_G	PND140B1	PROPOSE	1.75	128.09	129.00	37375	0.29	0.38	1.2	0.5
050Y001HR_G	PND140B1	PROPOSE	2.00	128.09	129.00	37380	0.00	0.00	1.2	0.5
050Y001HR_G	PND140B1	PROPOSE	2.00	128.09	129.00	37380	0.00	0.00	1.2	0.5
050Y001HR_G	PND140B2	PROPOSE	0.00	127.20	129.00	35002	0.00	0.00	0.0	0.0
050Y001HR_G	PND140B2	PROPOSE	0.25	127.24	129.00	35215	5.73	2.39	0.1	0.0
050Y001HR_G	PND140B2	PROPOSE	0.50	127.45	129.00	36270	22.96	9.45	0.4	0.1
050Y001HR_G	PND140B2	PROPOSE	0.75	127.77	129.00	37850	21.19	8.51	0.8	0.3
050Y001HR_G	PND140B2	PROPOSE	1.00	127.98	129.00	38889	8.22	3.12	1.1	0.5
050Y001HR_G	PND140B2	PROPOSE	1.25	128.06	129.00	39277	2.55	0.90	1.2	0.5
050Y001HR_G	PND140B2	PROPOSE	1.50	128.08	129.00	39399	0.85	0.00	1.3	0.5
050Y001HR_G	PND140B2	PROPOSE	1.75	128.09	129.00	39433	0.50	0.00	1.3	0.5
050Y001HR_G	PND140B2	PROPOSE	2.00	128.09	129.00	39439	0.00	0.00	1.3	0.5
050Y001HR_G	PND140B2	PROPOSE	2.00	128.09	129.00	39439	0.00	0.00	1.3	0.5
050Y001HR_G	PND140B3	PROPOSE	0.00	127.20	129.00	76705	0.00	0.00	0.0	0.0
050Y001HR_G	PND140B3	PROPOSE	0.25	127.24	129.00	77068	7.25	0.00	0.1	0.0
050Y001HR_G	PND140B3	PROPOSE	0.50	127.45	129.00	78849	28.85	0.00	0.4	0.0
050Y001HR_G	PND140B3	PROPOSE	0.75	127.77	129.00	81572	27.43	0.00	1.0	0.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
050Y001HR_G	PND140B3	PROPOSE	1.00	127.98	129.00	83382	11.27	0.18	1.4	0.0
050Y001HR_G	PND140B3	PROPOSE	1.25	128.06	129.00	84051	3.82	0.27	1.6	0.0
050Y001HR_G	PND140B3	PROPOSE	1.50	128.08	129.00	84261	1.04	0.31	1.6	0.0
050Y001HR_G	PND140B3	PROPOSE	1.75	128.09	129.00	84321	0.37	0.32	1.6	0.0
050Y001HR_G	PND140B3	PROPOSE	2.00	128.09	129.00	84331	0.00	0.32	1.7	0.0
050Y001HR_G	PND140B3	PROPOSE	2.00	128.09	129.00	84331	0.00	0.32	1.7	0.0
050Y001HR_G	PND141B1	PROPOSE	0.00	116.00	120.00	79279	0.00	0.00	0.0	0.0
050Y001HR_G	PND141B1	PROPOSE	0.25	116.08	120.00	79723	13.83	0.00	0.1	0.0
050Y001HR_G	PND141B1	PROPOSE	0.50	116.43	120.00	81713	49.21	0.00	0.8	0.0
050Y001HR_G	PND141B1	PROPOSE	0.75	116.92	120.00	84501	41.72	0.00	1.7	0.0
050Y001HR_G	PND141B1	PROPOSE	1.00	117.22	120.00	86192	14.93	0.00	2.3	0.0
050Y001HR_G	PND141B1	PROPOSE	1.25	117.32	120.00	86769	4.65	0.03	2.5	0.0
050Y001HR_G	PND141B1	PROPOSE	1.50	117.36	120.00	86953	1.70	0.05	2.6	0.0
050Y001HR_G	PND141B1	PROPOSE	1.75	117.37	120.00	87022	0.79	0.06	2.6	0.0
050Y001HR_G	PND141B1	PROPOSE	2.00	117.37	120.00	87056	0.32	0.07	2.6	0.0
050Y001HR_G	PND141B1	PROPOSE	2.00	117.37	120.00	87056	0.32	0.07	2.6	0.0
050Y001HR_G	PND141B2	PROPOSE	0.00	112.70	116.70	126324	0.00	0.00	0.0	0.0
050Y001HR_G	PND141B2	PROPOSE	0.25	112.72	116.70	126483	6.59	0.00	0.1	0.0
050Y001HR_G	PND141B2	PROPOSE	0.50	112.88	116.70	127575	38.74	0.00	0.5	0.0
050Y001HR_G	PND141B2	PROPOSE	0.75	113.21	116.70	129762	53.31	0.00	1.5	0.0
050Y001HR_G	PND141B2	PROPOSE	1.00	113.51	116.70	131838	35.47	0.00	2.4	0.0
050Y001HR_G	PND141B2	PROPOSE	1.25	113.70	116.70	133136	20.88	0.15	3.0	0.0
050Y001HR_G	PND141B2	PROPOSE	1.50	113.81	116.70	133885	12.29	0.28	3.3	0.0
050Y001HR_G	PND141B2	PROPOSE	1.75	113.88	116.70	134316	7.23	0.37	3.5	0.0
050Y001HR_G	PND141B2	PROPOSE	2.00	113.91	116.70	134559	0.00	0.42	3.6	0.0
050Y001HR_G	PND141B2	PROPOSE	2.00	113.91	116.70	134559	0.00	0.42	3.6	0.0
050Y001HR_G	PND141B3	PROPOSE	0.00	108.50	112.50	149411	0.00	0.00	0.0	0.0
050Y001HR_G	PND141B3	PROPOSE	0.25	108.52	112.50	149613	7.43	0.00	0.1	0.0
050Y001HR_G	PND141B3	PROPOSE	0.50	108.64	112.50	150688	32.12	0.00	0.5	0.0
050Y001HR_G	PND141B3	PROPOSE	0.75	108.83	112.50	152434	32.79	0.00	1.2	0.0
050Y001HR_G	PND141B3	PROPOSE	1.00	108.98	112.50	153727	15.77	0.00	1.7	0.0
050Y001HR_G	PND141B3	PROPOSE	1.25	109.04	112.50	154316	6.47	0.00	1.9	0.0
050Y001HR_G	PND141B3	PROPOSE	1.50	109.07	112.50	154557	2.66	0.00	2.0	0.0
050Y001HR_G	PND141B3	PROPOSE	1.75	109.08	112.50	154656	1.09	0.00	2.0	0.0
050Y001HR_G	PND141B3	PROPOSE	2.00	109.08	112.50	154697	0.00	0.00	2.0	0.0
050Y001HR_G	PND141B3	PROPOSE	2.00	109.08	112.50	154697	0.00	0.00	2.0	0.0
050Y001HR_G	PND141B4	PROPOSE	0.00	105.80	109.80	121532	0.00	0.00	0.0	0.0
050Y001HR_G	PND141B4	PROPOSE	0.25	105.82	109.80	121647	4.24	0.00	0.0	0.0
050Y001HR_G	PND141B4	PROPOSE	0.50	105.90	109.80	122232	17.43	0.00	0.3	0.0
050Y001HR_G	PND141B4	PROPOSE	0.75	106.03	109.80	123230	19.77	0.00	0.7	0.0
050Y001HR_G	PND141B4	PROPOSE	1.00	106.15	109.80	124083	12.25	0.00	1.0	0.0
050Y001HR_G	PND141B4	PROPOSE	1.25	106.22	109.80	124587	6.77	0.00	1.2	0.0
050Y001HR_G	PND141B4	PROPOSE	1.50	106.26	109.80	124864	3.74	0.00	1.3	0.0
050Y001HR_G	PND141B4	PROPOSE	1.75	106.28	109.80	125018	2.07	0.00	1.3	0.0
050Y001HR_G	PND141B4	PROPOSE	2.00	106.29	109.80	125102	0.00	0.00	1.4	0.0
050Y001HR_G	PND141B4	PROPOSE	2.00	106.29	109.80	125102	0.00	0.00	1.4	0.0
050Y001HR_G	PND142	PROPOSE	0.00	96.50	104.00	111949	0.00	0.00	0.0	0.0
050Y001HR_G	PND142	PROPOSE	0.25	96.52	104.00	112136	4.66	0.00	0.0	0.0
050Y001HR_G	PND142	PROPOSE	0.50	96.66	104.00	113553	30.16	-1.07	0.4	-0.0
050Y001HR_G	PND142	PROPOSE	0.75	96.93	104.00	116213	37.60	0.00	1.1	-0.0
050Y001HR_G	PND142	PROPOSE	1.00	97.16	104.00	118568	23.87	0.00	1.7	-0.0
050Y001HR_G	PND142	PROPOSE	1.25	97.31	104.00	120000	14.11	0.00	2.1	-0.0
050Y001HR_G	PND142	PROPOSE	1.50	97.39	104.00	120847	8.57	0.00	2.4	-0.0
050Y001HR_G	PND142	PROPOSE	1.75	97.44	104.00	121360	5.25	0.00	2.5	-0.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
050Y001HR_G	PND142	PROPOSE	2.00	97.47	104.00	121674	0.00	0.00	2.6	-0.0
050Y001HR_G	PND142	PROPOSE	2.00	97.47	104.00	121674	0.00	0.00	2.6	-0.0
050Y001HR_G	PNDFPC141	PROPOSE	0.00	103.45	106.00	56639	0.00	0.00	0.0	0.0
050Y001HR_G	PNDFPC141	PROPOSE	0.25	103.49	106.00	56818	-21.95	0.01	-0.2	0.0
050Y001HR_G	PNDFPC141	PROPOSE	0.50	103.73	106.00	57845	42.14	0.36	-0.0	0.0
050Y001HR_G	PNDFPC141	PROPOSE	0.75	103.92	106.00	58675	12.65	0.92	0.5	0.0
050Y001HR_G	PNDFPC141	PROPOSE	1.00	103.92	106.00	58661	-9.30	0.91	0.6	0.0
050Y001HR_G	PNDFPC141	PROPOSE	1.25	103.85	106.00	58361	20.21	0.68	0.7	0.1
050Y001HR_G	PNDFPC141	PROPOSE	1.50	103.82	106.00	58231	23.50	0.59	1.1	0.1
050Y001HR_G	PNDFPC141	PROPOSE	1.75	103.80	106.00	58164	25.54	0.55	1.7	0.1
050Y001HR_G	PNDFPC141	PROPOSE	2.00	103.81	106.00	58192	26.79	0.57	2.2	0.1
050Y001HR_G	PNDFPC141	PROPOSE	2.00	103.81	106.00	58192	26.79	0.57	2.2	0.1

APPENDIX C.2: Cross Drain Calculations

APPENDIX C.2.1: CD-1 (Exist & Proposed)

Project:	I-4 DCP	Design By:	Date:
FDIP No.:	441113-1-52-01		
	CD-1	Check by:	Date:
Subject:	Existing 48" Pipe		

Existing Culvert

Note: The information used to analyze this cross drain was obtained from the Existing ICPR-3 model for the Black Lake Outfall. All drainage area for the upstream basins were taken from existing permit documentation and modified to reflect current condition based on Design Survey.

Method used: *Rational Formula*

Existing culvert information:

Culvert span:	4 ft		Culvert rise:	4 ft
No of culverts:	1		Material:	RCP
Exist culvert length:	139.0 ft			
Avge flowline elev upstream:	97.86 (Navd)			
Avge flowline elev downstream:	97.96 (Navd)			
Longitudinal slope:	0.00072	=	0.0719%	
Tailwater:	(see below)			
Area of culvert (A):	16.00 sq ft			

Estimate existing drainage area (RAMP A1_WB):

	Runoff Coeff	Onsite From Station	Offsite From Station	Onsite To Station	Offsite To Station	Drainage Area (Ac)	Ground Slope (s) (ft/ft)	Concentration (Tc) (mins)
Total	(Note 1)					(Note 1)		(Note 1)
Elev								
Imp								
Perv								

Estimate existing drainage discharge:

Storm Frequency		Rainfall Intensity (i)	Storm Frequency Factor (X_T)	Q = CIAX$_T$ (Rational Formula)	Normal Depth (Dn)	Tailwater Elevation (NAVD)	HW (NAVD) (Note 7)
(yr)	(%)	(in/hr)		(cu-ft/s)	(ft)	(ft)	(ft)
50	2.00%	----	----	35.23 (Note 2)	----	----	102.33
100	1.00%	----	----	43.32 (Note 2)	----	----	102.80
500	0.20%	----	----	65.00 (Note 3)	----	----	103.90

Note 1: The area for this cross-drain is based on contributing areas from several stormwater management systems. As such, ICPR-3 was used to accurately determine the contributing flow rates.

Note 2: The rates for the events was determine from the ICPR-3 model maximum inflow. These rates were used in the analysis per FAC 14-86.

Note 3: The greatest frequency rate of discharge was interpolated by plotting the given discharge on a log-normal probability graph.

Note 4: The information from this column was taken from the max stage at Node EX_5FDOT138 of the ICPR-3 model.

Proposed Culvert Replacement

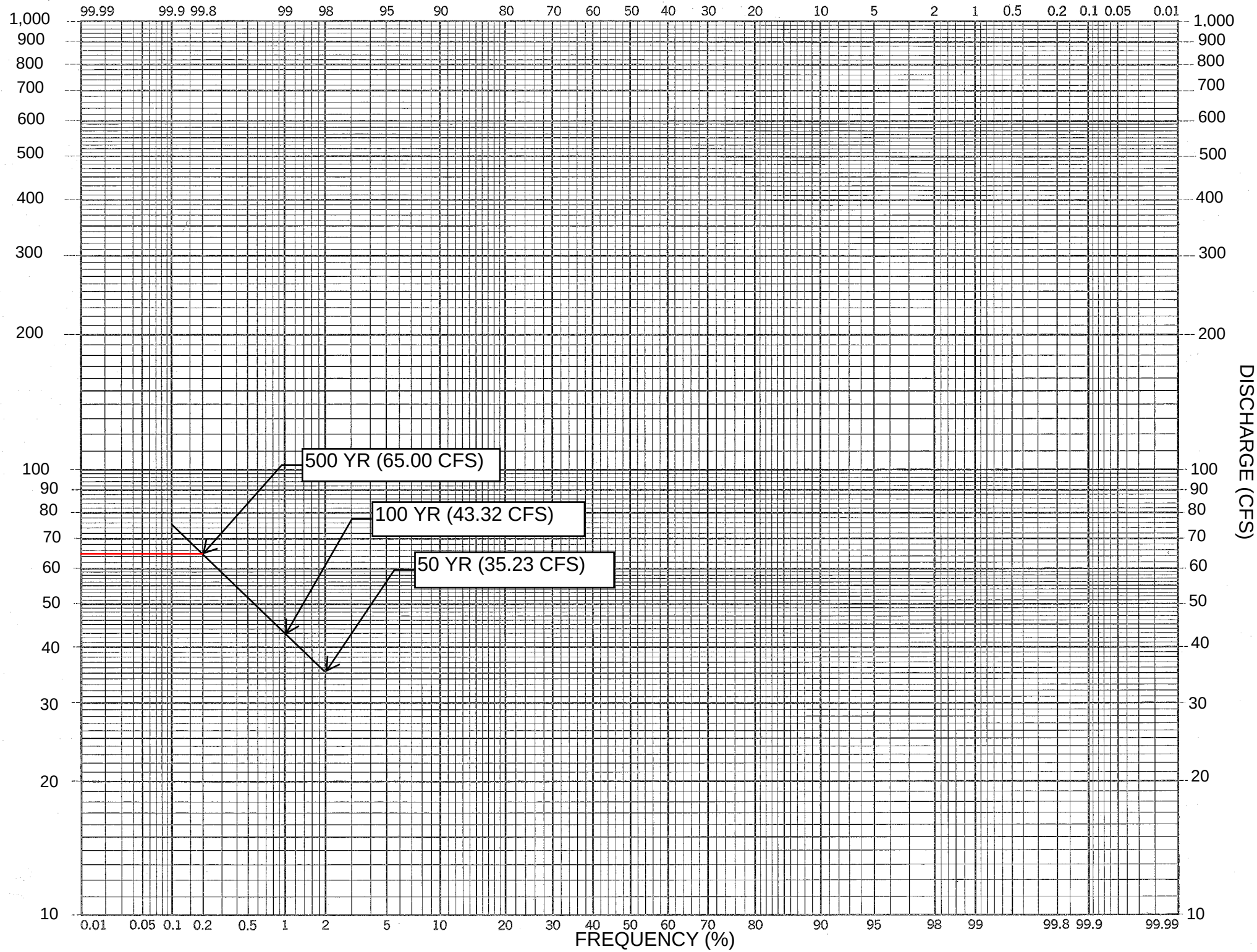
Note: THE EXISTING CROSS DRAIN WILL REMAIN IN PLACE. NO EXTENSION OR REPLACEMENT WILL TAKE PLACE. OVERTOPPING ELEVATION IS AT ELEVATION 107.27' (THIS IS THE CROWN OF THE ROAD). THIS ELEVATION IS HIGHER THAN THE HW FOR THE 500-YEAR STORM.

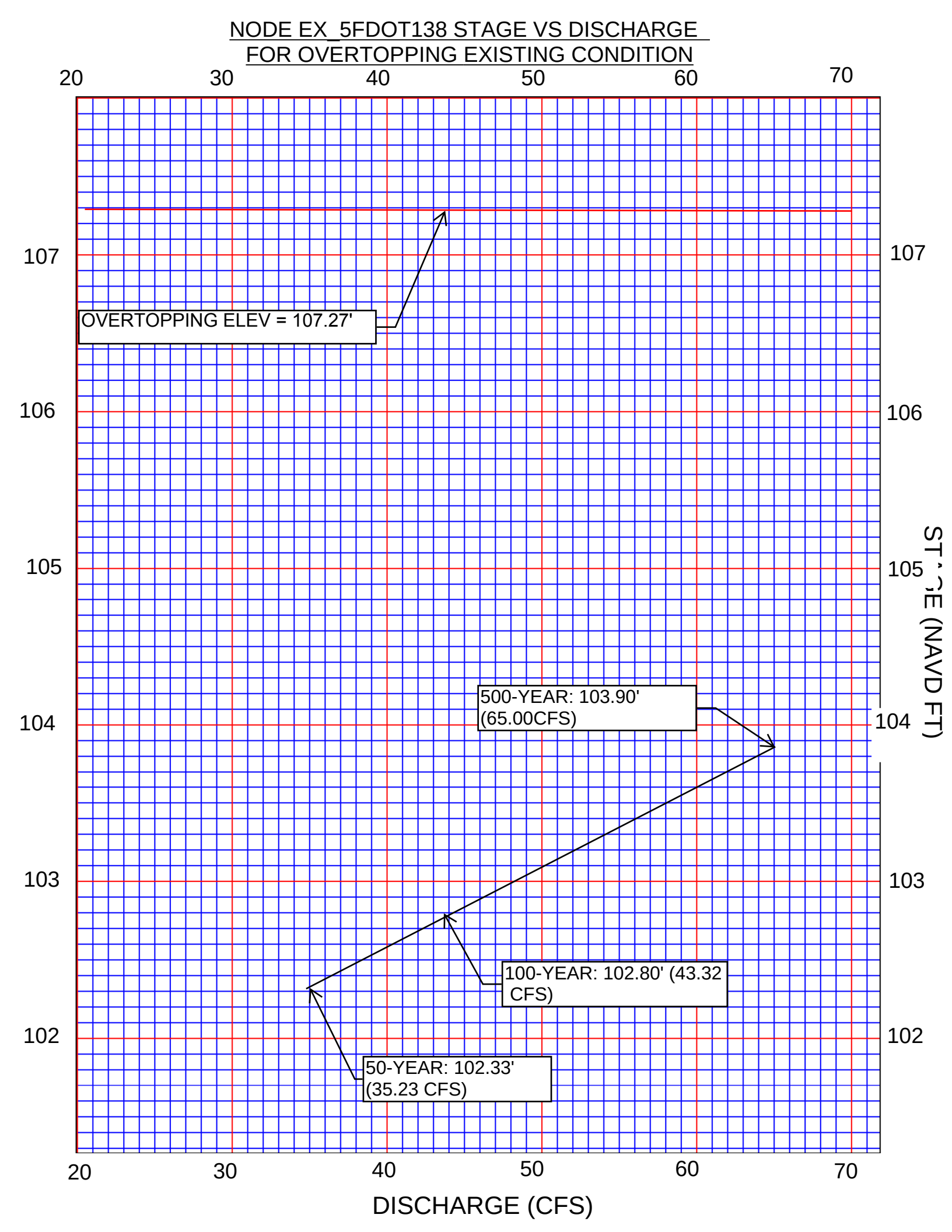
I-4 Interim Daryl Carter Parkway (DCP)
FPID No. : 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Existing Condition: Node Min/ Max Condition Reports

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_1AFDOT138	EXISTING	050Y024HR	15.27	98.34	107.40	0.00	2054	15.27	129.03	15.27	129.03
EX_1AFDOT138	EXISTING	100Y024HR	15.05	98.58	107.40	0.00	2082	15.04	157.45	15.05	157.44
EX_1BFDOT138	EXISTING	050Y024HR	15.27	98.55	107.10	0.00	605	15.30	125.23	15.30	125.23
EX_1BFDOT138	EXISTING	100Y024HR	15.07	98.81	107.10	0.00	627	15.07	152.86	15.07	152.85
EX_1CFDOT138	EXISTING	050Y024HR	15.28	99.94	105.60	0.00	6321	15.26	125.24	15.30	125.23
EX_1CFDOT138	EXISTING	100Y024HR	15.07	100.21	105.60	0.00	6586	15.04	152.95	15.07	152.86
EX_1DFDOT138	EXISTING	050Y024HR	15.30	100.27	105.60	0.00	8111	15.26	124.23	15.26	124.20
EX_1DFDOT138	EXISTING	100Y024HR	15.04	100.59	105.60	0.00	8203	15.04	153.46	15.04	151.73
EX_2FDOT138	EXISTING	050Y024HR	15.29	100.33	105.70	0.00	10842	15.26	121.16	15.31	121.08
EX_2FDOT138	EXISTING	100Y024HR	15.04	100.68	105.70	0.00	11019	12.03	236.16	15.04	149.43
EX_3FDOT138	EXISTING	050Y024HR	15.36	101.20	104.80	-0.00	13232	15.34	87.47	15.38	87.47
EX_3FDOT138	EXISTING	100Y024HR	16.43	101.31	104.80	-0.00	13556	15.11	109.95	16.43	190.78
EX_4AFDOT138	EXISTING	050Y024HR	15.38	101.84	103.49	0.00	12193	15.32	67.05	15.39	67.02
EX_4AFDOT138	EXISTING	100Y024HR	15.17	102.12	103.49	0.00	12773	15.12	84.62	15.15	84.62
EX_4BFDOT138	EXISTING	050Y024HR	15.31	102.04	103.49	-0.00	805	12.16	37.78	12.17	37.75
EX_4BFDOT138	EXISTING	100Y024HR	15.13	102.44	103.49	-0.00	768	12.20	46.47	12.20	46.46
EX_5FDOT138	EXISTING	050Y024HR	12.22	102.33	106.30	0.00	5295	12.12	35.23	12.19	35.03
EX_5FDOT138	EXISTING	100Y024HR	12.23	102.80	106.30	0.00	6111	12.14	43.32	12.23	43.17
EX_PND137	EXISTING	050Y024HR	16.33	106.99	108.20	0.00	373397	12.00	21.95	16.32	14.04
EX_PND137	EXISTING	100Y024HR	16.21	107.12	108.20	0.00	375022	12.00	26.99	16.21	17.47
EX_PND138D2	EXISTING	050Y024HR	15.08	103.23	105.00	0.00	128527	12.00	25.02	15.07	20.59
EX_PND138D2	EXISTING	100Y024HR	13.19	103.39	105.00	0.00	129660	12.00	31.52	13.19	25.79
EX_PND138D3	EXISTING	050Y024HR	15.18	103.28	105.00	0.00	122682	11.75	8.39	16.60	5.58
EX_PND138D3	EXISTING	100Y024HR	13.51	103.44	105.00	0.00	125004	11.75	9.91	16.56	6.83
EX_PND138RAY	EXISTING	050Y024HR	15.84	106.21	107.20	0.00	6975	11.75	1.23	15.84	0.63
EX_PND138RAY	EXISTING	100Y024HR	16.10	106.66	107.20	0.00	7370	11.75	1.45	16.10	0.70
EX_PNDHOTEL	EXISTING	050Y024HR	12.09	101.14	103.00	0.00	18443	11.75	5.56	12.07	5.10
EX_PNDHOTEL	EXISTING	100Y024HR	12.08	101.27	103.00	0.00	18963	11.75	6.61	12.07	6.10
EX_PNDOFF138A1	EXISTING	050Y024HR	15.20	105.74	107.20	0.00	7037	11.75	3.54	11.47	2.20
EX_PNDOFF138A1	EXISTING	100Y024HR	12.83	106.36	107.20	0.00	4680	11.75	4.15	12.82	2.93
EX_PNDOFF138A2A	EXISTING	050Y024HR	12.09	101.41	102.60	0.00	13939	11.75	3.29	11.87	3.26
EX_PNDOFF138A2A	EXISTING	100Y024HR	13.14	101.72	102.60	0.00	13939	11.75	3.84	11.18	3.25
EX_PNDOFF138A2B	EXISTING	050Y024HR	12.23	101.75	103.20	0.00	1909	11.75	0.80	12.23	0.63
EX_PNDOFF138A2B	EXISTING	100Y024HR	13.09	101.89	103.20	0.00	2061	11.75	0.94	11.76	0.92
EX_PNDSEMBASSY	EXISTING	050Y024HR	12.09	116.56	119.30	-0.00	49470	12.00	7.72	12.09	7.25
EX_PNDSEMBASSY	EXISTING	100Y024HR	12.08	116.61	119.30	-0.00	50185	12.00	9.28	12.08	8.77
EX_PNDSHERATON1	EXISTING	050Y024HR	12.27	101.76	103.40	0.00	13461	11.75	7.66	11.86	6.83
EX_PNDSHERATON1	EXISTING	100Y024HR	12.45	102.27	103.40	0.00	15133	11.86	9.45	12.25	7.36
EX_PNDSHERATON3	EXISTING	050Y024HR	13.10	102.39	103.50	0.00	2690	12.00	0.65	13.11	0.45
EX_PNDSHERATON3	EXISTING	100Y024HR	12.52	102.49	103.50	0.00	2617	11.75	0.77	11.86	0.64
EX_SW138B1	EXISTING	050Y024HR	15.25	102.54	106.38	-0.00	2791	11.47	2.20	15.25	2.01
EX_SW138B1	EXISTING	100Y024HR	13.02	102.67	106.38	0.00	2966	12.82	2.93	12.96	2.92
EX_SW138B2	EXISTING	050Y024HR	15.56	102.25	111.07	0.00	13070	15.83	28.78	15.86	28.82
EX_SW138B2	EXISTING	100Y024HR	15.23	102.44	111.07	0.00	13809	15.21	36.68	15.31	36.70
EX_SW138B3	EXISTING	050Y024HR	12.24	114.00	117.60	0.00	9923	12.12	19.16	12.24	19.07
EX_SW138B3	EXISTING	100Y024HR	12.23	114.13	117.60	0.00	10536	12.12	22.70	12.23	22.60
EX_SW138B4	EXISTING	050Y024HR	12.21	114.16	117.20	0.00	16330	12.01	16.28	12.18	16.03
EX_SW138B4	EXISTING	100Y024HR	12.22	114.27	117.20	-0.00	17962	12.00	19.20	12.19	18.85
EX_SW138C1	EXISTING	050Y024HR	16.37	106.48	110.00	0.00	5148	16.32	14.04	16.37	14.04
EX_SW138C1	EXISTING	100Y024HR	16.25	106.58	110.00	0.00	5557	16.21	17.47	16.25	17.46
EX_SW138C2	EXISTING	050Y024HR	12.16	102.61	106.00	0.00	8387	12.04	24.14	12.09	23.85
EX_SW138C2	EXISTING	100Y024HR	12.21	102.93	106.00	0.00	9975	12.03	29.82	12.11	29.06
EX_SW138C3	EXISTING	050Y024HR	12.06	113.58	115.51	0.00	21406	12.00	21.06	12.06	20.85
EX_SW138C3	EXISTING	100Y024HR	12.06	113.65	115.51	0.00	22477	12.00	26.05	12.06	25.82
EX_SW138C4	EXISTING	050Y024HR	12.01	114.49	116.55	0.00	7594	12.00	14.90	12.01	14.83
EX_SW138C4	EXISTING	100Y024HR	12.01	114.56	116.55	0.00	7946	12.00	18.62	12.01	18.54
EX_VCLK01	EXISTING	050Y024HR	19.24	116.24	118.20	0.00	94214	11.75	11.06	20.09	4.13
EX_VCLK01	EXISTING	100Y024HR	19.38	116.73	118.20	0.00	98591	11.75	12.99	20.58	4.52
EX_VCLK02	EXISTING	050Y024HR	12.05	114.68	119.20	0.00	23112	12.00	10.59	11.90	10.31
EX_VCLK02	EXISTING	100Y024HR	13.14	115.02	119.20	0.00	25969	12.00	12.89	11.55	10.35

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_VCLK03	EXISTING	050Y024HR	16.30	115.17	117.20	0.00	67214	11.75	7.12	12.59	3.70
EX_VCLK03	EXISTING	100Y024HR	19.10	115.52	117.20	0.00	70501	11.75	8.37	12.22	3.79
EX_VCLK04	EXISTING	050Y024HR	20.15	114.12	115.20	0.00	34029	12.00	4.47	11.57	4.25
EX_VCLK04	EXISTING	100Y024HR	20.60	114.35	115.20	0.00	36097	12.00	4.73	10.84	4.24
EX_VCLK05	EXISTING	050Y024HR	16.26	113.03	113.20	0.00	134532	11.90	26.08	16.26	14.40
EX_VCLK05	EXISTING	100Y024HR	15.56	113.14	113.20	0.00	135596	11.75	27.87	15.56	18.81
EX_VCLK06	EXISTING	050Y024HR	18.52	103.49	104.70	0.00	123950	11.83	9.05	25.45	8.14
EX_VCLK06	EXISTING	100Y024HR	19.41	104.12	104.70	0.00	129568	12.00	10.37	26.74	9.35
EX_VCLK07	EXISTING	050Y024HR	18.68	103.54	107.20	0.00	26941	12.00	6.78	11.82	4.57
EX_VCLK07	EXISTING	100Y024HR	19.17	104.17	107.20	0.00	29292	12.00	8.07	12.01	5.09
EX_VCLK09	EXISTING	050Y024HR	16.27	103.36	105.20	0.00	52074	11.50	11.30	22.77	11.55
EX_VCLK09	EXISTING	100Y024HR	16.85	103.94	105.20	0.00	54481	11.50	12.03	23.95	12.88
EX_VCLK10	EXISTING	050Y024HR	16.06	103.14	103.70	0.00	39423	10.60	21.58	20.30	18.08
EX_VCLK10	EXISTING	100Y024HR	16.18	103.72	103.70	0.00	41894	11.50	20.96	22.26	19.60
EX_VCRET2	EXISTING	050Y024HR	16.06	103.15	103.00	0.00	21612	11.75	4.97	27.69	13.60
EX_VCRET2	EXISTING	100Y024HR	16.18	103.73	103.00	0.00	23424	11.75	5.85	5.44	13.59
EX_VCRET3	EXISTING	050Y024HR	15.36	102.20	103.00	0.00	11352	11.75	1.58	17.56	0.94
EX_VCRET3	EXISTING	100Y024HR	16.14	102.71	103.00	0.00	14428	11.75	1.86	22.68	1.11
RCID_HOTEL	EXISTING	050Y024HR	12.00	96.14	105.00	0.00	1280	12.19	130.95	0.00	0.00
RCID_HOTEL	EXISTING	100Y024HR	12.00	96.31	105.00	0.00	1296	15.05	159.54	0.00	0.00

NODE EX_5FDOT138 DISCHARGE VS FREQUENCY FOR OVERTOPPING
EXISTING CONDITION




NODE EX_5FDOT138 STAGE VS DISCHARGE
FOR OVERTOPPING EXISTING CONDITION
20
30
40
50
60
70
107
106
105
104
103
102
OVERTOPPING ELEV = 107.27'
500-YEAR: 103.90'
(65.00CFS)
100-YEAR: 102.80' (43.32
CFS)
50-YEAR: 102.33'
(35.23 CFS)
DISCHARGE (CFS)
STAGE (NAVD FT)

Project:	I-4 DCP	Design By:	Date:
FDIP No.:	441113-1-52-01		
	CD-1	Check by:	Date:
Subject:	Proposed 48" Pipe		

Proposed Culvert

Note: The information used to analyze this cross drain was obtained from the Proposed ICPR-3 model for the Black Lake Outfall. All drainage area for the upstream basins were taken from existing permit documentation and modified to reflect current condition based on Design Survey.

Method used: *Rational Formula*

Proposed culvert information:

Culvert span:	*4 ft*	Culvert rise:	*4 ft*
No of culverts:	*1*	Material:	*RCP*
Exist culvert length:	*139.0 ft*		
Avge flowline elev upstream:	*97.86* (Navd)		
Avge flowline elev downstream:	*97.96* (Navd)		
Longitudinal slope:	0.00072	=	*0.0719%*
Tailwater:	*(see below)*		
Area of culvert (A):	16.00 sq ft		

Estimate existing drainage area (RAMP A1_WB):

	Runoff coeff	Onsite From Sta	Offsite From Sta	Onsite Sta to	Offsite Sta to	Area (Note 1) (Ac)	Slope (s) (ft/ft)	Tc (Note 2) (mins)
Total	(Note 1)					(Note 1)		(Note 1)
Elev								
Imp								
Perv								

Estimate proposed drainage discharge:

Storm Frequency	Rainfall Intensity (i)	Storm Frequency Factor (X_T)	Q = CIAX_T (Rational Formula)	Normal Depth (Dn) (Note 4)	Tailwater Elevation (NAVD)	HW (NAVD) (Note 7)
(yr)	(in/hr)		(cu-ft/s)	(ft)	(ft)	(ft)
50	----	----	33.86 (Note 2)	----	----	102.46
100	----	----	41.37 (Note 2)	----	----	102.99
500	----	----	62.00 (Note 3)	----	----	104.60

Note 1: The area for this cross-drain is based on contributing areas from several stormwater management systems. As such, ICPR-3 was used to accurately determine the contributing flow rates.

Note 2: The rates for the events was determine from the ICPR-3 model. These rates were used in the analysis per FAC 14-86.

Note 3: The greatest frequency rate of discharge was interpolated by plotting the given discharge on a log-normal probability graph.

Note 4: The information from this column was determined by subtracting the downstream invert from the Tailwater elevation provided.

Proposed Culvert Replacement

Note: THE EXISTING CROSS DRAIN WILL REMAIN IN PLACE. NO EXTENSION OR REPLACEMENT WILL TAKE PLACE. OVERTOPPING ELEVATION IS AT ELEVATION 107.27' (THIS IS THE CROWN OF THE ROAD). THIS ELEVATION IS HIGHER THAN THE HW FOR THE 500-YEAR STORM.

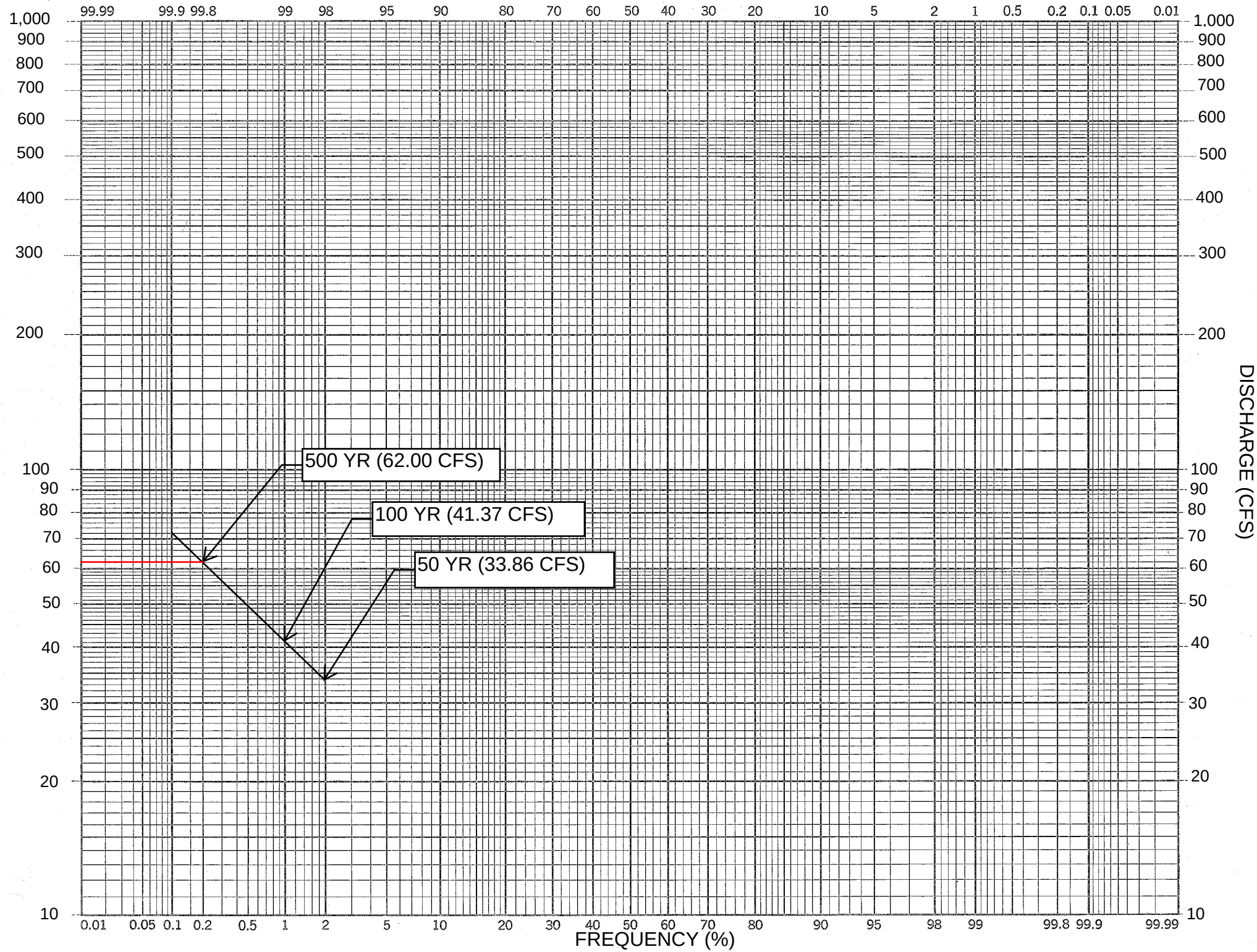
I-4 Interim Daryl Carter Parkway (DCP)
FPIC NO.: 441113-1-52-01
Reedy Creek: Bonnet Creek Outfall (L101 - Black Lake)
Propose Condition: Node Min/ Max Condition Reports

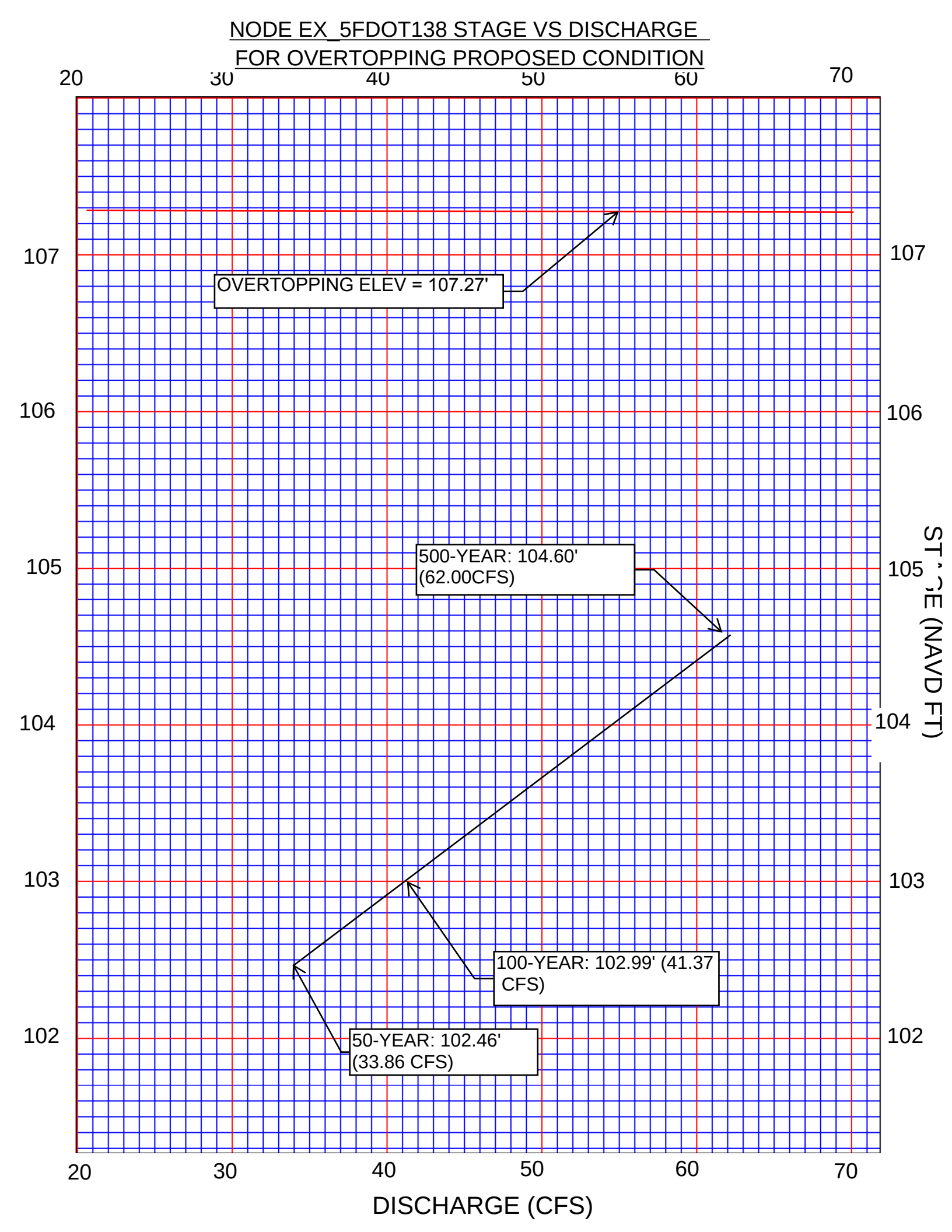
Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Max Stage ft	Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_1AFDOT138	PROPOSE	050Y024HR	15.28	98.33	107.40	0.00	2053	15.27	128.62	15.28	128.62
EX_1AFDOT138	PROPOSE	100Y024HR	15.09	98.57	107.40	0.00	2081	15.08	156.88	15.09	156.88
EX_1BFDOT138	PROPOSE	050Y024HR	15.29	98.55	107.10	0.00	605	15.29	124.82	15.30	124.82
EX_1BFDOT138	PROPOSE	100Y024HR	15.08	98.80	107.10	0.00	627	15.08	152.30	15.08	152.30
EX_1CFDOT138	PROPOSE	050Y024HR	15.29	99.93	105.60	0.00	6317	15.27	124.83	15.29	124.82
EX_1CFDOT138	PROPOSE	100Y024HR	15.08	100.21	105.60	0.00	6581	15.08	152.41	15.08	152.30
EX_1DFDOT138	PROPOSE	050Y024HR	15.29	100.26	105.60	0.00	8109	15.27	123.82	15.29	123.79
EX_1DFDOT138	PROPOSE	100Y024HR	15.08	100.59	105.60	0.00	8202	15.07	152.59	15.08	151.19
EX_2FDOT138	PROPOSE	050Y024HR	15.29	100.32	105.70	0.00	10837	15.26	121.17	15.29	120.68
EX_2FDOT138	PROPOSE	100Y024HR	15.07	100.67	105.70	0.00	11018	12.05	236.07	15.07	148.60
EX_3FDOT138	PROPOSE	050Y024HR	15.37	101.19	104.80	-0.00	13219	15.35	87.09	15.39	87.09
EX_3FDOT138	PROPOSE	100Y024HR	16.42	101.31	104.80	-0.00	13555	15.13	109.43	16.42	190.78
EX_4AFDOT138	PROPOSE	050Y024HR	15.39	101.84	103.49	0.00	12178	15.33	66.68	15.41	66.66
EX_4AFDOT138	PROPOSE	100Y024HR	15.19	102.11	103.49	0.00	12760	15.13	84.12	15.19	84.12
EX_4BFDOT138	PROPOSE	050Y024HR	15.32	102.03	103.49	-0.00	783	12.17	36.56	12.18	36.54
EX_4BFDOT138	PROPOSE	100Y024HR	15.16	102.42	103.49	-0.00	752	12.27	45.06	12.27	45.05
EX_5FDOT138	PROPOSE	050Y024HR	12.22	102.46	106.30	-0.00	5360	12.12	33.86	12.21	33.66
EX_5FDOT138	PROPOSE	100Y024HR	12.29	102.99	106.30	-0.00	6845	12.15	41.37	12.26	41.11
EX_PND137	PROPOSE	050Y024HR	16.33	106.99	108.20	0.00	373397	12.00	21.95	16.32	14.04
EX_PND137	PROPOSE	100Y024HR	16.22	107.12	108.20	0.00	375022	12.00	26.99	16.21	17.47
EX_PND138D2	PROPOSE	050Y024HR	15.08	103.23	105.00	0.00	128525	12.00	25.01	15.07	20.58
EX_PND138D2	PROPOSE	100Y024HR	13.19	103.39	105.00	0.00	129659	12.00	31.52	13.20	25.78
EX_PND138D3	PROPOSE	050Y024HR	15.18	103.28	105.00	0.00	122678	11.75	8.39	16.60	5.57
EX_PND138D3	PROPOSE	100Y024HR	13.52	103.44	105.00	0.00	125002	11.75	9.91	16.56	6.83
EX_PND138RAY	PROPOSE	050Y024HR	15.84	106.21	107.20	0.00	6975	11.75	1.23	15.84	0.63
EX_PND138RAY	PROPOSE	100Y024HR	16.10	106.66	107.20	0.00	7370	11.75	1.45	16.10	0.70
EX_PNDHOTEL	PROPOSE	050Y024HR	12.09	101.14	103.00	0.00	18443	11.75	5.56	12.08	5.10
EX_PNDHOTEL	PROPOSE	100Y024HR	12.08	101.27	103.00	0.00	18963	11.75	6.61	12.06	6.10
EX_PNDOFF138A1	PROPOSE	050Y024HR	15.20	105.74	107.20	0.00	7037	11.75	3.54	11.47	2.20
EX_PNDOFF138A1	PROPOSE	100Y024HR	12.83	106.36	107.20	0.00	4680	11.75	4.15	12.82	2.93
EX_PNDOFF138A2A	PROPOSE	050Y024HR	12.08	101.41	102.60	0.00	13939	11.75	3.29	11.89	3.26
EX_PNDOFF138A2A	PROPOSE	100Y024HR	13.19	101.71	102.60	0.00	13939	11.75	3.84	11.19	3.27
EX_PNDOFF138A2B	PROPOSE	050Y024HR	12.25	101.75	103.20	0.00	1906	11.75	0.80	12.26	0.62
EX_PNDOFF138A2B	PROPOSE	100Y024HR	13.08	101.88	103.20	0.00	2052	11.75	0.94	11.76	0.92
EX_PNDSEMBASSY	PROPOSE	050Y024HR	12.09	116.56	119.30	0.00	49470	12.00	7.72	12.09	7.25
EX_PNDSEMBASSY	PROPOSE	100Y024HR	12.08	116.61	119.30	0.00	50185	12.00	9.28	12.08	8.77
EX_PNDSHERATON1	PROPOSE	050Y024HR	12.26	101.75	103.40	0.00	13440	11.75	7.66	11.88	6.81
EX_PNDSHERATON1	PROPOSE	100Y024HR	12.45	102.26	103.40	0.00	15093	11.86	9.46	12.25	7.38
EX_PNDSHERATON3	PROPOSE	050Y024HR	13.11	102.39	103.50	0.00	2690	12.00	0.65	13.12	0.45
EX_PNDSHERATON3	PROPOSE	100Y024HR	12.50	102.49	103.50	-0.00	2621	11.75	0.77	11.87	0.64
EX_SW138B1	PROPOSE	050Y024HR	15.25	102.54	106.38	-0.00	2788	11.47	2.20	15.25	2.01
EX_SW138B1	PROPOSE	100Y024HR	13.01	102.67	106.38	0.00	2962	12.82	2.93	12.96	2.93
EX_SW138B2	PROPOSE	050Y024HR	15.57	102.25	111.07	0.00	13065	15.83	28.78	15.86	28.82
EX_SW138B2	PROPOSE	100Y024HR	15.24	102.44	111.07	0.00	13803	15.21	36.68	15.30	36.69
EX_SW138B3	PROPOSE	050Y024HR	12.24	114.00	117.60	0.00	9923	12.12	19.16	12.24	19.07
EX_SW138B3	PROPOSE	100Y024HR	12.23	114.13	117.60	0.00	10536	12.12	22.70	12.23	22.60
EX_SW138B4	PROPOSE	050Y024HR	12.21	114.16	117.20	0.00	16330	12.01	16.28	12.18	16.03
EX_SW138B4	PROPOSE	100Y024HR	12.22	114.27	117.20	0.00	17962	12.00	19.20	12.19	18.85
EX_SW138C1	PROPOSE	050Y024HR	16.37	106.48	110.00	0.00	5184	16.32	14.04	16.37	14.04
EX_SW138C1	PROPOSE	100Y024HR	16.25	106.58	110.00	0.00	5747	16.21	17.47	16.25	17.46
EX_SW138C3	PROPOSE	050Y024HR	12.06	113.57	115.51	0.00	21327	12.00	20.71	12.06	20.50
EX_SW138C3	PROPOSE	100Y024HR	12.06	113.65	115.51	0.00	22385	12.00	25.60	12.06	25.37
EX_SW138C4	PROPOSE	050Y024HR	12.01	114.48	116.55	0.00	7545	12.00	14.41	12.01	14.34
EX_SW138C4	PROPOSE	100Y024HR	12.01	114.55	116.55	0.00	7890	12.00	18.00	12.01	17.93
EX_VCLK01	PROPOSE	050Y024HR	19.24	116.24	118.20	0.00	94214	11.75	11.06	20.09	4.13
EX_VCLK01	PROPOSE	100Y024HR	19.38	116.73	118.20	0.00	98591	11.75	12.99	20.58	4.52
EX_VCLK02	PROPOSE	050Y024HR	12.05	114.68	119.20	0.00	23112	12.00	10.59	11.90	10.31
EX_VCLK02	PROPOSE	100Y024HR	13.14	115.02	119.20	0.00	25969	12.00	12.89	11.55	10.35
EX_VCLK03	PROPOSE	050Y024HR	16.30	115.17	117.20	0.00	67214	11.75	7.12	12.59	3.70
EX_VCLK03	PROPOSE	100Y024HR	19.10	115.52	117.20	0.00	70501	11.75	8.37	12.22	3.79

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_VCLK04	PROPOSE	050Y024HR	20.15	114.12	115.20	0.00	34029	12.00	4.47	11.57	4.25
EX_VCLK04	PROPOSE	100Y024HR	20.60	114.35	115.20	0.00	36097	12.00	4.73	10.84	4.24
EX_VCLK05	PROPOSE	050Y024HR	16.26	113.03	113.20	0.00	134532	11.90	26.08	16.26	14.40
EX_VCLK05	PROPOSE	100Y024HR	15.56	113.14	113.20	0.00	135596	11.75	27.87	15.56	18.81
EX_VCLK06	PROPOSE	050Y024HR	18.51	103.49	104.70	0.00	123933	11.83	9.06	25.45	8.14
EX_VCLK06	PROPOSE	100Y024HR	19.41	104.12	104.70	0.00	129551	12.00	10.37	26.74	9.35
EX_VCLK07	PROPOSE	050Y024HR	18.68	103.53	107.20	0.00	26934	12.00	6.78	11.83	4.58
EX_VCLK07	PROPOSE	100Y024HR	19.17	104.17	107.20	0.00	29285	12.00	8.07	12.01	5.10
EX_VCLK09	PROPOSE	050Y024HR	16.27	103.36	105.20	0.00	52066	11.50	11.32	22.76	11.55
EX_VCLK09	PROPOSE	100Y024HR	16.86	103.94	105.20	0.00	54473	11.50	12.05	23.94	12.87
EX_VCLK10	PROPOSE	050Y024HR	16.06	103.13	103.70	0.00	39413	10.57	21.55	20.34	18.08
EX_VCLK10	PROPOSE	100Y024HR	16.18	103.71	103.70	0.00	41886	11.50	20.99	22.37	19.60
EX_VCRET2	PROPOSE	050Y024HR	16.06	103.14	103.00	0.00	21605	11.75	4.97	6.36	13.65
EX_VCRET2	PROPOSE	100Y024HR	16.18	103.73	103.00	0.00	23418	11.75	5.85	5.45	13.60
EX_VCRET3	PROPOSE	050Y024HR	15.36	102.20	103.00	0.00	11310	11.75	1.58	17.57	0.94
EX_VCRET3	PROPOSE	100Y024HR	16.14	102.71	103.00	-0.00	14407	11.75	1.86	22.67	1.11
J5FDOT138	PROPOSE	050Y024HR	15.27	102.29	105.06	0.02	163	12.18	34.52	12.18	34.51
J5FDOT138	PROPOSE	100Y024HR	15.15	102.74	105.06	0.02	153	12.24	42.03	12.25	42.03
RCID_HOTEL	PROPOSE	050Y024HR	12.00	96.14	105.00	0.00	1279	15.25	130.29	0.00	0.00
RCID_HOTEL	PROPOSE	100Y024HR	12.00	96.31	105.00	0.00	1295	15.01	158.97	0.00	0.00
SW138B1B1	PROPOSE	050Y024HR	13.38	106.02	106.25	0.00	4029	12.00	0.61	13.38	0.47
SW138B1B1	PROPOSE	100Y024HR	12.32	106.04	106.25	0.00	4122	12.00	0.77	12.32	0.69
SW138B1B2	PROPOSE	050Y024HR	13.38	105.11	105.96	0.00	8821	13.22	2.20	13.38	2.18
SW138B1B2	PROPOSE	100Y024HR	12.31	105.14	105.96	0.00	8673	12.19	3.08	12.31	3.03
SW138B1B3	PROPOSE	050Y024HR	12.01	106.53	106.44	0.00	1960	12.00	0.92	12.01	0.92
SW138B1B3	PROPOSE	100Y024HR	12.00	106.55	106.44	0.00	1921	12.00	1.15	12.00	1.15
SW138C2	PROPOSE	050Y024HR	12.18	102.66	106.00	-0.00	7644	12.02	23.87	12.07	23.48
SW138C2	PROPOSE	100Y024HR	12.27	103.08	106.00	-0.00	10532	12.02	29.46	12.09	28.26
SW138C3B1	PROPOSE	050Y024HR	12.03	130.08	130.59	0.00	2371	12.00	0.87	12.03	0.86
SW138C3B1	PROPOSE	100Y024HR	12.02	130.09	130.59	0.00	2361	12.00	1.03	12.02	1.03
SW138C3B2	PROPOSE	050Y024HR	12.01	131.61	133.22	0.00	2022	12.00	0.54	12.01	0.54
SW138C3B2	PROPOSE	100Y024HR	12.01	131.62	133.22	0.00	1941	12.00	0.64	12.01	0.64

NODE EX_5FDOT138 DISCHARGE VS FREQUENCY FOR OVERTOPPING
PROPOSED CONDITION

probability x 2 log cycles




NODE EX_5FDOT138 STAGE VS DISCHARGE
FOR OVERTOPPING PROPOSED CONDITION
20
30
40
50
60
70
107
106
105
104
103
102
OVERTOPPING ELEV = 107.27'
500-YEAR: 104.60'
(62.00CFS)
100-YEAR: 102.99' (41.37
CFS)
50-YEAR: 102.46'
(33.86 CFS)
DISCHARGE (CFS)
STAGE (NAVD FT)

APPENDIX C.2.2: CD-2 (Exist only)

Project:	I-4 DCP	Design By:	Date:
FDIP No.:	441113-1-52-01		
	CD-2	Check by:	Date:
Subject:	Existing 30" Pipe		

Existing Culvert

Note: The information used to analyze this cross drain was obtained from the Existing ICPR-3 model for the Shingle Creek Outfalls. All offsite drainage area for the upstream basins were taken from existing permit documentation and or existing watershed study from Orange County. The node used to analyzed this cross drain is EX_CDSW142C.

Method used: *Rational Formula*

Existing culvert information:

Culvert span:	*2.5 ft*		Culvert rise:	*2.5 ft*
No of culverts:	*1*		Material:	*RCP*
Exist culvert length:	*270.0 ft*			
Avge flowline elev upstream:	*103.18* (Navd)			
Avge flowline elev downstream:	*102.25* (Navd)			
Longitudinal slope:	-0.00344	=	*-0.3444%*	
Tailwater:	*(see below)*			
Area of culvert (A):	6.25 sq ft			

Estimate existing drainage area (RAMP A1_WB):

	Runoff Coeff	Onsite From Station	Offsite From Station	Onsite To Station	Offsite To Station	Drainage Area (Ac)	Ground Slope (s) (ft/ft)	Concentration (Tc) (mins)
Total	(Note 1)					(Note 1)		(Note 1)
Elev								
Imp								
Perv								

Estimate existing drainage discharge:

Storm Frequency		Rainfall Intensity (i)	Storm Frequency Factor (X_T)	$Q = CIAX_T$ (Rational Formula)	Normal Depth (Dn)	Tailwater Elevation (NAVD)	HW (NAVD) (Note 7)
(yr)	(%)	(in/hr)		(cu-ft/s)	(ft)	(ft)	(ft)
50	2.00%	----	----	5.73 (Note 2)	----	----	104.83
100	1.00%	----	----	8.50 (Note 2)	----	----	105.07
500	0.20%	----	----	17.50 (Note 3)	----	----	105.50

Note 1: The area for this cross-drain is based on contributing areas from several stormwater management systems. As such, ICPR-3 was used to accurately determine the contributing flow rates.

Note 2: The rates for the events was determine from the ICPR-3 model. These rates were used in the analysis per FAC 14-86.

Note 3: The greatest frequency rate of discharge was interpolated by plotting the given discharge on a log-normal probability graph.

Note 4: The information from this column was determined by subtracting the downstream invert from the Tailwater elevation provided.

Proposed Culvert Replacement

Note: THE EXISTING CROSS DRAIN WILL BE RELOCATED. OVERTOPPING ELEVATION IS AT 109.40' (NOT THE CROWN OF THE ROAD, BUT THE BERM ELEVATION OF THE DITCH). THE OVERTOPPING ELEVATION IS GREATER THAN THE 500-YEAR STAGE.

I-4 Interim Daryl Carter Parkway (DCP)
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: CD-2 Node Min/ Max Condition Reports

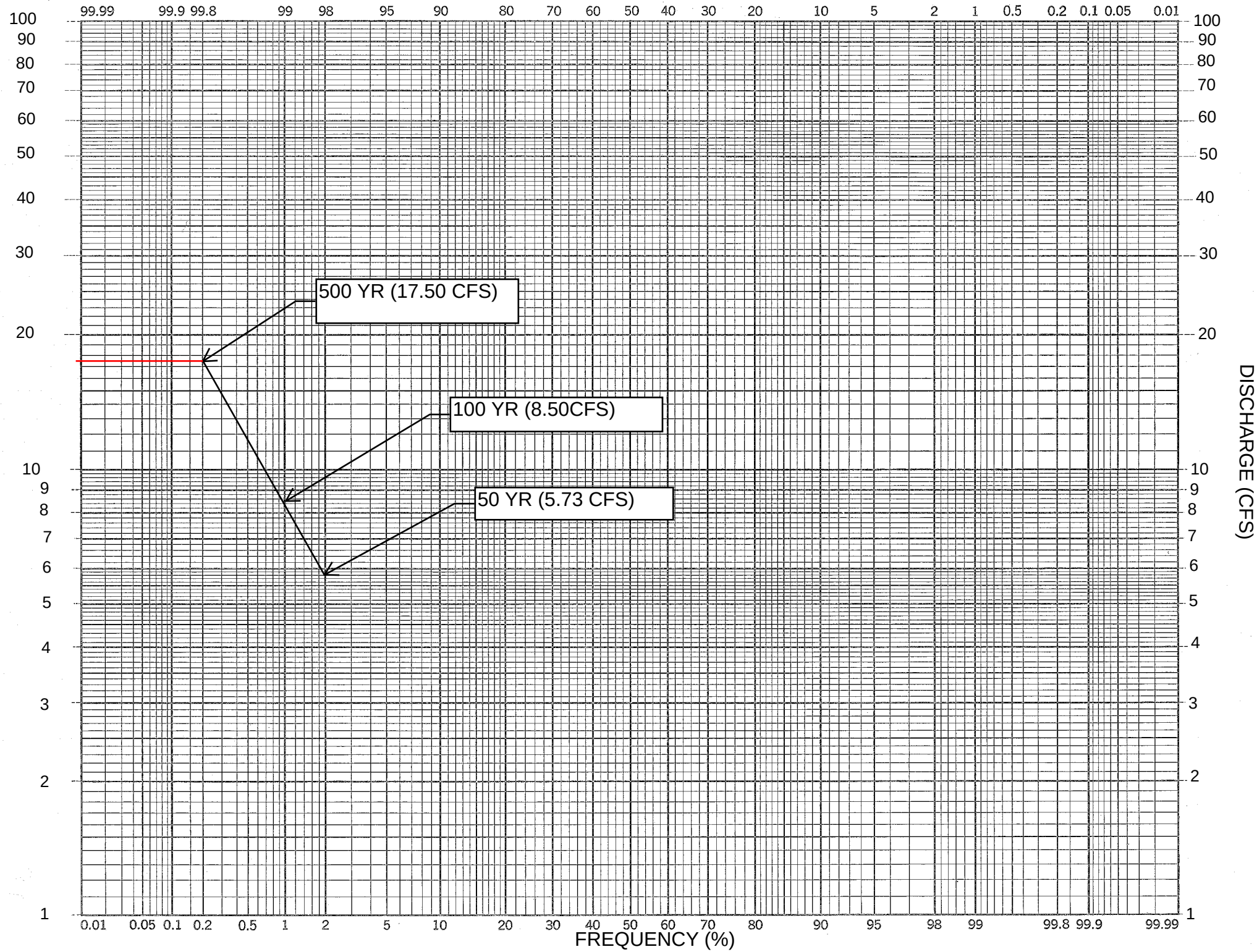
Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
EX_SW142C	EXISTING	050Y024HR	12.18	104.83	108.00	0.0014	1843	24.00	5.73	24.01	5.75
EX_SW142C	EXISTING	100Y024HR	12.15	105.07	108.00	-0.0014	2575	30.00	8.50	24.37	18.46
LK_WILLIS	EXISTING	050Y024HR	30.00	104.87	107.00	0.0001	5749471	12.00	202.18	30.00	5.70
LK_WILLIS	EXISTING	100Y024HR	30.00	105.18	107.00	0.0001	5812153	12.00	246.51	30.00	8.50

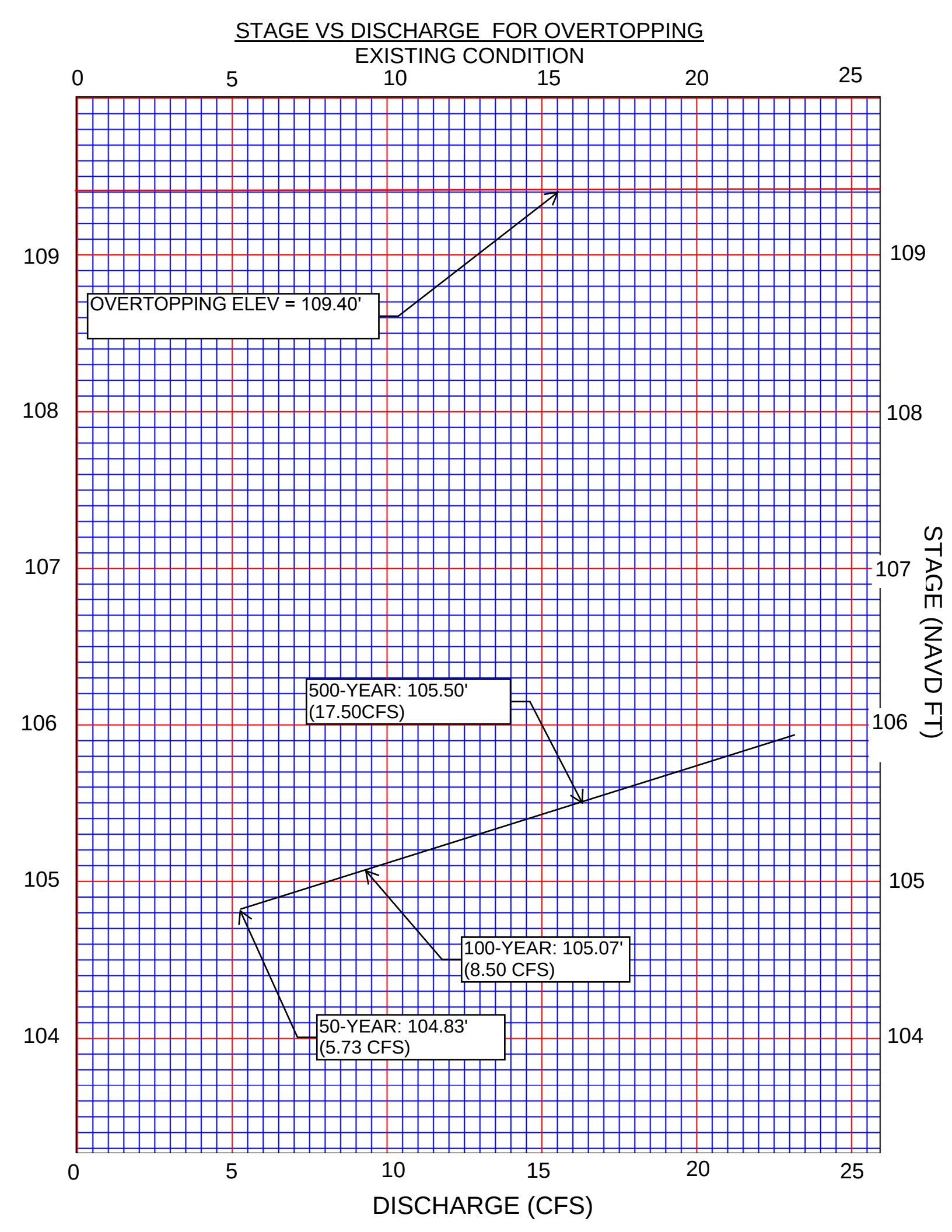
I-4 Interim Daryl Carter Parkway (DCP)
FPID No. : 441113-1-52-01
Shingle Creek/ Valencia Water Control District Outfall
(Ruby Lake, Lake Willis, Big Sand Lake, and Valencia Water Control District)
Existing Condition: CD-2 Link Min/ Max Condition Reports

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
EX_CDSW142C	EXISTING	050Y024HR	24.01	5.75	-5.052	12.18	104.83	12.21	104.86
EX_CDSW142C	EXISTING	100Y024HR	24.37	18.46	-10.491	12.15	105.07	12.18	105.11

DISCHARGE VS FREQUENCY FOR OVERTOPPING
EXISTING CONDITION

probability x 2 log cycles




STAGE VS DISCHARGE FOR OVERTOPPING
EXISTING CONDITION
0
5
10
15
20
25
109
108
107
106
105
104
OVERTOPPING ELEV = 109.40'
500-YEAR: 105.50'
(17.50CFS)
100-YEAR: 105.07'
(8.50 CFS)
50-YEAR: 104.83'
(5.73 CFS)
STAGE (NAVD FT)
DISCHARGE (CFS)

APPENDIX C.3: Storm Drain Calculations

APPENDIX C.3.1: Black Lake Outfall

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: BLK01A
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n:
																							MIN. PHYSICAL			TAILWATER EL. (ft): 101.84: Stage at peak inflow for 010Y001H storm for Node EX_4AFDOT138.
BL400			S-101E	Type E DBI	123.38	0.529	4.208	2.226	28.14	0.60	4.90	2.226	32.000	42.90	0.30	105.06	2.94	102.12	101.84	0.28	1	48	0.225%	3.44	138.35	
575+01.23	0.00	Lt.	S-100E			0.529	4.208	2.226										102.93	101.96	0.97			0.79%	11.01		Existing HW; same as S-101E1
																		98.93	97.96	0.97			0.04%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: BLK01B
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 102.69: stage at peak inflow for 010Y001H for Node EX_5FDOT138.
BL400			S-101A	Type S GI	106.43	0.950	0.177	0.169	10.00	2.51	7.41	0.169	0.000	1.25	0.01	105.41	2.39	103.02	103.00	0.02	1	18	0.284%	0.71	6.06	
570+00.00	101.95	Rt.	S-102A			0.950	0.177	0.169										102.00	101.70	0.30			0.28%	3.43		
																		100.50	100.20	0.30			0.15%			
BL400			S-102A	Type S GI	106.43	0.950	0.173	0.164	12.51	1.37	6.85	0.333	0.000	2.28	0.00	105.29	2.29	103.00	102.95	0.05	1	18	0.134%	1.29	4.75	
571+00.00	101.95	Rt.	S-103A			0.950	0.350	0.333										101.70	101.55	0.15			0.15%	2.50		
																		100.22	100.06	0.16			0.15%			
BL400			S-103A	Type S GI	106.43	0.950	0.173	0.164	13.89	0.96	6.60	0.497	0.000	3.28	0.00	105.26	2.31	102.95	102.86	0.09	1	18	0.148%	1.86	4.75	
572+00.00	101.95	Rt.	S-104A			0.950	0.523	0.497										101.55	101.40	0.15			0.15%	2.72		
																		100.06	99.90	0.16			0.15%			
BL400			S-104A	Type S GI	106.43	0.950	0.173	0.164	14.86	1.31	6.43	0.661	0.000	4.25	0.00	105.29	2.43	102.86	102.83	0.03	1	24	0.150%	1.35	9.23	
573+00.00	101.95	Rt.	S-105A			0.950	0.696	0.661										101.40	101.25	0.15			0.14%	2.94		
																		99.40	99.25	0.15			0.10%			
BL400			S-105A	Type S GI	106.77	0.950	0.173	0.164	16.18	1.09	6.22	0.825	0.000	5.14	0.00	105.50	2.67	102.83	102.78	0.05	1	24	0.146%	1.63	9.21	
574+00.00	101.95	Rt.	S-106A			0.950	0.869	0.825										101.25	101.10	0.15			0.14%	2.93		
																		99.25	99.10	0.15			0.10%			
BL400			S-106A	Type S GI	21.81	0.950	0.172	0.164	28.64	0.09	4.86	3.380	0.000	48.41	0.07	105.50	2.72	102.78	102.69	0.09	1	48	0.604%	3.85	120.48	
575+01.23	101.95	Rt.	S-102E			0.623	5.423	3.380										101.99	101.86	0.13			0.60%	9.59		
																		97.99	97.86	0.13			0.04%			
BL400			S-107A	Type S GI	111.70	0.950	0.173	0.165	10.00	2.70	7.41	0.165	0.000	1.22	0.01	105.24	2.44	102.80	102.78	0.02	1	18	0.176%	0.69	4.83	
576+08.01	101.95	Rt.	S-106A			0.950	0.173	0.165										101.70	101.50	0.20			0.18%	2.73		
																		100.20	100.00	0.20			0.15%			
BL400			S-101E1	Type E DBI	101.72	0.529	4.208	2.226	28.14	0.50	4.90	2.226	32.000	42.90	0.18	105.06	2.02	103.04	102.78	0.26	1	48	0.873%	3.41	145.95	
575+01.23	0.00	Lt.	S-106A			0.529	4.208	2.226										102.88	101.99	0.89			0.87%	11.61		
																		98.88	97.99	0.89			0.04%			Existing structure; same as S101E

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: BLK01C
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				
						CUMULATIVE												FLOWLINE ELEVATION				HYD. GRAD.		PHYSICAL VELOCITY (fps)		ZONE: Zone 7
ALIGNMENT NAME																						PHYSICAL				FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL			MANNINGS n: 0.012
																										TAILWATER EL. (ft): 102.69: stage at peak inflow for 010Y001H for Node SW138C2
BL400			S-109A	Type S GI	106.43	0.950	0.173	0.165	10.00	2.57	7.41	0.165	0.000	1.22	0.01	105.06	2.23	102.83	102.81	0.02	1	18	0.191%	0.69	4.95	
577+00.00	101.95	Rt.	S-110A			0.950	0.173	0.165										101.60	101.40	0.20			0.19%	2.80		
																		100.10	99.90	0.20			0.15%			
BL400			S-110A	Type S GI	24.16	0.950	0.173	0.165	14.00	0.16	6.58	0.658	0.000	4.32	0.09	105.23	2.42	102.81	102.69	0.12	1	18	1.034%	2.45	11.61	
578+00.00	101.95	Rt.	S-111A			0.949	0.693	0.658										101.40	101.15	0.25			1.03%	6.57		
																		99.90	99.65	0.25			0.15%			
BL400			S-112A	Type S GI	106.43	0.950	0.173	0.165	12.60	1.40	6.84	0.328	0.000	2.24	0.00	105.17	2.31	102.86	102.81	0.04	1	18	0.193%	1.27	4.95	
579+00.00	101.95	Rt.	S-110A			0.948	0.346	0.328										101.60	101.40	0.20			0.19%	2.80		
																		100.10	99.90	0.20			0.15%			
BL400			S-113A	Type S GI	106.43	0.945	0.173	0.164	10.00	2.58	7.41	0.164	0.000	1.21	0.01	105.33	2.45	102.88	102.86	0.02	1	18	0.189%	0.69	4.95	
580+00.00	101.95	Rt.	S-112A			0.945	0.173	0.164										101.80	101.60	0.20			0.19%	2.80		
																		100.30	100.10	0.20			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: BLK01D** | **Sheet: _____ of _____**
Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**
Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																										TAILWATER EL. (ft): 120.17
BL400			S-114A			0.950	0.154	0.146										120.82	120.17	0.65			0.873%	6.39		
620+00.00	91.06	Rt.	S-115A	Type S GI	30.75	0.732	2.589	1.896	13.68	0.08	6.63	1.896	0.000	20.08	0.44	121.82	1.00	118.71	118.44	0.27	1	24	0.88%	7.33	23.03	
																		116.71	116.44	0.27			0.10%			
BL400			S-116A			0.675	0.409	0.276										121.48	120.82	0.66			0.530%	6.11		
621+00.12	95.06	Rt.	S-114A	Type S GI	106.63	0.719	2.435	1.750	13.39	0.29	6.69	1.750	0.000	19.20	0.00	122.45	0.97	118.86	118.71	0.15	1	24	0.14%	2.93	9.22	
																		116.86	116.71	0.15			0.10%			
BL400			S-117A			0.695	0.408	0.284										122.29	121.48	0.81			0.602%	5.57		
622+50.09	101.05	Rt.	S-116A	Type S GI	156.52	0.727	2.026	1.474	12.92	0.47	6.77	1.474	0.000	17.48	0.02	123.41	1.12	119.80	118.86	0.94	1	24	0.60%	6.06	19.04	
																		117.80	116.86	0.94			0.10%			
BL400			S-118A			0.695	0.409	0.284										122.94	122.29	0.64			0.768%	4.99		
624+00.01	101.43	Rt.	S-117A	Type S GI	156.35	0.735	1.618	1.190	12.40	0.52	6.88	1.190	0.000	15.68	0.00	124.61	1.67	121.00	119.80	1.20	1	24	0.77%	6.85	21.53	
																		119.00	117.80	1.20			0.10%			
BL400			S-119A			0.700	0.279	0.196										123.44	122.94	0.50			0.629%	4.40		
625+50.00	101.43	Rt.	S-118A	Type S GI	156.42	0.749	1.209	0.906	11.81	0.59	7.00	0.906	0.000	13.84	0.00	125.79	2.35	122.00	121.00	1.00	1	24	0.64%	6.25	19.65	
																		120.00	119.00	1.00			0.10%			
IB_DCP			S-120A			0.703	0.126	0.088										123.73	123.44	0.30			0.913%	3.99		
497+00.00	6.42	Rt.	S-119A	Type S GI	108.91	0.764	0.930	0.710	11.35	0.45	7.10	0.710	0.000	12.54	0.01	127.02	3.29	123.00	122.00	1.00	1	24	0.92%	7.50	23.55	
																		121.00	120.00	1.00			0.10%			
IB_DCP			S-121A			0.723	0.147	0.107										123.86	123.73	0.13			0.564%	3.80		
497+46.03	6.13	Rt.	S-120A	Type S GI	52.47	0.773	0.804	0.622	11.12	0.23	7.15	0.622	0.000	11.94	0.00	127.32	3.46	123.30	123.00	0.30	1	24	0.57%	5.91	18.58	
																		121.30	121.00	0.30			0.10%			
IB_DCP			S-122A			0.745	0.137	0.102										123.99	123.86	0.13			0.181%	3.57		
498+00.00	6.13	Rt.	S-121A	Type S GI	60.40	0.785	0.656	0.515	10.84	0.28	7.21	0.515	0.000	11.21	0.00	127.56	3.57	123.80	123.70	0.10	1	24	0.17%	3.18	10.00	
																		121.80	121.70	0.10			0.10%			
IB_DCP			S-123A			0.765	0.137	0.105										124.11	123.99	0.13			0.183%	3.34		
498+50.00	6.13	Rt.	S-122A	Type S GI	56.43	0.795	0.520	0.413	10.56	0.28	7.27	0.413	0.000	10.51	0.02	127.92	3.81	123.90	123.80	0.10	1	24	0.18%	3.29	10.34	
																		121.90	121.80	0.10			0.10%			
IB_DCP			S-124A			0.786	0.137	0.107										124.53	124.11	0.42			0.636%	5.52		
499+00.00	6.13	Rt.	S-123A	Type S GI	56.43	0.806	0.383	0.309	10.39	0.17	7.32	0.309	0.000	9.76	0.00	128.21	3.68	124.00	123.90	0.10	1	18	0.18%	2.72	4.80	
																		122.50	122.40	0.10			0.15%			
IB_DCP			S-125A			0.807	0.137	0.111										124.88	124.53	0.35			0.538%	5.08		
499+50.00	6.13	Rt.	S-124A	Type S GI	56.43	0.817	0.247	0.201	10.20	0.19	7.36	0.201	0.000	8.98	0.00	128.48	3.60	124.20	124.00	0.20	1	18	0.35%	3.84	6.79	
																		122.70	122.50	0.20			0.15%			
IB_DCP			S-126A			0.828	0.110	0.091										125.18	124.88	0.29			0.446%	4.63		
500+00.00	6.13	Rt.	S-125A	Type S GI	56.39	0.828	0.110	0.091	10.00	0.20	7.41	0.091	0.000	8.17	0.00	128.90	3.72	124.70	124.60	0.10	1	18	0.18%	2.72	4.81	
																		123.20	123.10	0.10			0.15%			
IB_DCP			S-127A			0.854	0.165	0.141										125.40	125.18	0.22			0.375%	4.24		
500+40.00	6.13	Rt.	S-126A	Type S GI	46.37	0.000	0.000	0.000	0.00	0.18	0.00	0.000	0.000	7.50	0.02	129.26	3.86	124.80	124.70	0.10	1	18	0.22%	3.00	5.30	
																		123.30	123.20	0.10			0.15%			
IB_DCP			S-128A			0.746	0.043	0.032										125.63	125.40	0.23			0.348%	2.83		
501+00.00	6.13	Rt.	S-127A	Type S GI	66.34	0.000	0.000	0.000	0.00	0.39	0.00	0.000	0.000	5.00	0.10	129.90	4.27	125.50	125.40	0.10	1	18	0.15%	2.51	4.43	
																		124.00	123.90	0.10			0.15%			
IB_DCP			S-129A			0.897	0.081	0.072										125.68	125.63	0.05			0.320%	1.41		
501+00.06	-23.56	Lt.	S-128A	Type E DBI	31.61	0.000	0.000	0.000	0.00	0.37	0.00	0.000	0.000	2.50	0.03	130.29	4.61	125.60	125.50	0.10	1	18	0.32%	3.63	6.42	
																		124.10	124.00	0.10			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.3.2: Pond PND140

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B1_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 127.65: stage at peak inflow for 010Y001H is lower than provided for Node PND140B1
BL400			S-200A	BWI	15.20	0.950	0.257	0.244	10.00	0.11	7.41	0.244	0.000	1.81	0.08	133.65	4.66	128.99	128.89	0.10	1	18	0.664%	2.27	5.07	
638+60.58	-99.85	Lt.	S-202C			0.950	0.257	0.244										129.73	129.70	0.03			0.20%	2.87		
																		128.23	128.20	0.03			0.15%			
BL400			S-201A	BWI	10.02	0.950	0.330	0.314	10.00	0.06	7.41	0.314	0.000	2.32	0.13	132.76	4.91	127.85	127.69	0.17	1	24	1.673%	3.03	10.98	
640+60.61	-104.83	Lt.	S-206C			0.950	0.330	0.314										129.12	129.10	0.02			0.20%	3.50		
																		127.12	127.10	0.02			0.10%			
BL400			S-202C	Type 7 MH	200.11			0.000	10.11	0.97	7.41	0.244	0.000	1.81	0.08	133.33	4.44	128.89	128.31	0.59	1	18	0.293%	3.44	5.10	
638+60.62	-112.93	Lt.	S-206C					0.000										129.70	129.30	0.40			0.20%	2.89		
																		128.20	127.80	0.40			0.15%			Build for the Ultimate Condition
BL400			S-206C	Type 7 MH	67.29			0.000	11.34	0.89	7.10	0.557	0.000	3.96	0.02	132.75	5.06	127.69	127.65	0.04	1	24	5.016%	1.26	54.99	
640+60.63	-112.72	Lt.	S-207C					0.000										125.20	121.83	3.37			5.01%	17.50		
																		123.20	119.83	3.37			0.10%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B1_02
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 127.65: stage at peak inflow for 010Y001H is lower than provided for Node PND140B1
BL400			S-226C	Type E DBI	250.35	0.644	0.313	0.202	10.00	1.28	7.41	0.202	0.000	1.49	0.10	131.76	2.81	128.95	128.26	0.69	1	18	0.276%	3.25	5.10	
635+11.52	-127.09	Lt.	S-229C			0.644	0.313	0.202										129.80	129.30	0.50			0.20%	2.89		
																		128.30	127.80	0.50			0.15%			Build for the Ultimate Condition
BL400			S-229C	Type E DBI	171.49	0.482	0.722	0.348	11.62	1.31	7.04	0.549	0.000	3.87	0.02	131.53	3.67	127.86	127.65	0.21	1	18	0.146%	2.19	4.44	
637+60.48	-153.38	Lt.	S-232C			0.531	1.035	0.549										125.46	125.20	0.26			0.15%	2.51		
																		123.96	123.70	0.26			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B1_03
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 127.65: stage at peak inflow for 010Y001H is lower than provided for Node PND140B1
BL400			S-236C	Type 7 MH	27.67			0.000	0.00	0.08	0.00	0.000	0.000	10.00	0.00	132.25	4.39	127.86	127.65	0.21	1	18	0.667%	5.66	6.86	
639+40.06	-223.40	Lt.	S-235C					0.000										126.80	126.70	0.10			0.36%	3.88		
																		125.30	125.20	0.10			0.15%			Build for Ultimate Ramp Configuration
BL400			S-237C	Type 7 MH	15.75			0.000	0.00	0.05	0.00	0.000	10.000	10.00	0.50	133.38	4.90	128.48	127.86	0.62	1	18	0.667%	5.66	9.09	
639+37.19	-238.89	Lt.	S-236C					0.000										126.90	126.80	0.10			0.63%	5.14		
																		125.40	125.30	0.10			0.15%			Build for Ultimate Ramp Configuration

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B1_04
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 127.65: stage at peak inflow for 010Y001H is lower than provided for Node PND140B1
BL400			S-243C					0.000										127.73	127.65	0.08			0.386%	2.47		
642+52.29	-263.43	Lt.	S-242C	Type 7 MH	25.67			0.000	13.40	0.17	6.69	0.116	0.000	7.77	0.06	132.25	4.52	127.30	127.20	0.10	1	24	0.39%	4.88	15.34	
																		125.30	125.20	0.10			0.10%			Build for Ultimate Ramp Configuration
BL400			S-244C					0.000										127.79	127.73	0.06			0.635%	1.70		
642+51.02	-279.13	Lt.	S-243C	Type 7 MH	15.75			0.000	10.00	0.15	0.00	0.000	3.000	3.00	0.04	133.38	5.59	127.40	127.30	0.10	1	18	0.63%	5.14	9.09	
																		125.90	125.80	0.10			0.15%			Build for Ultimate Ramp Configuration
BL400			S-246C					0.000										127.98	127.73	0.25			0.205%	2.71		
643+53.18	-264.71	Lt.	S-243C	Type 7 MH	100.97			0.000	12.76	0.62	6.80	0.116	0.000	4.79	0.07	132.25	4.27	127.50	127.30	0.20	1	18	0.20%	2.87	5.08	
																		126.00	125.80	0.20			0.15%			Build for Ultimate Ramp Configuration
BL400			S-247C					0.000										127.98	127.98	0.00			0.640%	0.48		
643+55.12	-280.30	Lt.	S-246C	Type 7 MH	15.71			0.000	10.00	0.54	7.41	0.116	0.000	0.86	0.00	133.55	5.57	127.60	127.50	0.10	1	18	0.64%	5.15	9.10	
																		126.10	126.00	0.10			0.15%			Build for Ultimate Ramp Configuration
BL400			S-248C			0.250	0.462	0.116										127.99	127.98	0.01			0.012%	0.48		
643+62.14	-350.30	Lt.	S-247C	Type E DBI	70.48	0.250	0.462	0.116	10.00	2.42	7.41	0.116	0.000	0.86	0.01	134.28	6.29	128.50	127.60	0.90	1	18	1.28%	7.30	12.89	
																		127.00	126.10	0.90			0.15%			Build for Ultimate Ramp Configuration
BL400			S-249C					0.000										128.08	127.98	0.10			0.282%	2.26		
643+85.18	-249.41	Lt.	S-246C	Type 7 MH	35.38			0.000	10.00	0.26	0.00	0.000	0.000	4.00	0.05	132.25	4.17	127.60	127.50	0.10	1	18	0.28%	3.43	6.07	
																		126.10	126.00	0.10			0.15%			Build for Ultimate Ramp Configuration
BL400			S-250C					0.000										128.18	128.08	0.10			0.499%	2.26		
643+95.36	-265.46	Lt.	S-249C	Type 7 MH	20.01			0.000	10.00	0.15	0.00	0.000	4.000	4.00	0.08	134.50	6.32	127.70	127.60	0.10	1	18	0.50%	4.57	8.07	
																		126.20	126.10	0.10			0.15%			Build for Ultimate Ramp Configuration

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B2_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END				STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
							INCREMENTAL												CROWN				RISE				ZONE: Zone 7
							CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																								PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER				COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B2
BL400			S-203A				0.950	0.423	0.401										127.86	127.60	0.26			2.440%	3.74		
643+10.39	-104.69	Lt.	S-211C	BWI	10.55		0.950	0.423	0.401	10.00	0.05	7.41	0.401	0.000	2.97	0.22	132.71	4.85	129.04	129.00	0.04	1	24	0.38%	4.82	15.13	
																			127.04	127.00	0.04			0.10%			
BL400			S-204A				0.950	0.208	0.197										127.47	127.45	0.02			0.168%	1.01		
644+34.36	-104.62	Lt.	S-215C	BWI	10.62		0.950	0.208	0.197	10.00	0.18	7.41	0.197	0.000	1.46	0.02	132.55	5.08	127.87	127.80	0.07	1	18	0.66%	5.24	9.26	
																			126.37	126.30	0.07			0.15%			
BL400			S-205A				0.950	0.340	0.323										127.41	127.40	0.01			0.172%	0.76		
647+60.59	-104.44	Lt.	S-219C	BWI	11.35		0.950	0.340	0.323	10.00	0.25	7.41	0.323	0.000	2.39	0.01	132.01	4.60	126.32	126.30	0.02	1	24	0.18%	3.28	10.32	
																			124.32	124.30	0.02			0.10%			
BL400			S-211C						0.000										127.42	127.41	0.02			0.785%	1.31		
643+10.40	-113.12	Lt.	S-212C	Type 7 MH	6.42				0.000	12.36	0.08	6.88	0.599	0.000	4.12	0.02	132.63	5.21	123.30	123.25	0.05	1	24	0.78%	6.90	21.69	
																			121.30	121.25	0.05			0.10%			Build for the Ultimate Condition
BL400			S-212C						0.000										127.41	127.40	0.00			0.049%	0.33		
643+10.46	-119.54	Lt.	S-220C	Type 7 MH	453.67				0.000	12.45	22.86	6.87	0.599	0.000	8.31	0.00	132.50	5.09	119.47	119.22	0.25	2	48	0.05%	2.91	36.63	
																			115.47	115.25	0.22			0.04%			Build for the Ultimate Condition
BL400			S-213C				0.000	0.000	0.000										127.41	127.41	0.00			0.040%	0.17		
643+10.46	-183.02	Lt.	S-212C	MESC48RCP2D-o	63.48		0.000	0.000	0.000	10.00	6.33	0.00	0.000	4.200	4.20	0.00	115.50	-11.91	119.50	119.47	0.03	2	48	0.05%	2.70	33.92	
																			115.50	115.47	0.03			0.04%			Equlizer Pipe; build for the Ultimate Condition
BL400			S-215C						0.000										127.45	127.42	0.03			0.023%	0.89		
644+34.36	-113.12	Lt.	S-211C	Type 7 MH	124.43				0.000	10.00	2.34	7.41	0.197	0.000	1.46	0.01	132.50	5.05	127.80	127.60	0.20	1	18	0.16%	2.59	4.57	
																			126.30	126.10	0.20			0.15%			Build for the Ultimate Condition
BL400			S-219C						0.000										127.40	127.40	0.00			0.847%	0.76		
647+60.57	-113.66	Lt.	S-220C	Type 7 MH	5.88				0.000	10.00	0.13	7.41	0.323	0.000	2.39	0.00	131.45	4.05	123.30	123.25	0.05	1	24	0.85%	7.21	22.66	
																			121.30	121.25	0.05			0.10%			Build for the Ultimate Condition
BL400			S-220C						0.000										127.40	127.40	0.00			0.033%	0.42		
647+60.57	-119.54	Lt.	S-221C	Type 7 MH	56.12				0.000	12.45	2.23	6.87	0.922	0.000	10.53	0.00	131.03	3.63	119.22	119.20	0.02	2	48	0.09%	2.50	29.46	
																			115.25	115.20	0.05			0.04%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B2_02
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B2
BL400			S-206A	BWI	10.15	0.950	0.259	0.246	10.00	0.29	7.41	0.246	0.000	1.82	0.01	130.96	3.55	127.41	127.40	0.01	1	24	0.985%	0.58	24.39	
649+10.61	-108.14	Lt.	S-224C			0.950	0.259	0.246										126.50	126.40	0.10			0.98%	7.76		
																		124.50	124.40	0.10			0.10%			
BL400			S-224C	Type 7 MH	58.41			0.000	10.00	1.68	7.41	0.246	0.000	1.82	0.00	131.33	3.93	127.40	127.40	0.00	1	24	0.297%	0.58	13.26	
649+10.60	-116.17	Lt.	S-225C					0.000										122.00	121.83	0.17			0.29%	4.22		
																		120.00	119.83	0.17			0.10%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND140B2_03** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
D_DCP			S-258C	Type 7 MH	27.69			0.000	11.71	0.28	7.02	0.414	0.000	2.91	0.01	132.12	4.70	127.42	127.40	0.02	1	18	0.363%	1.65	6.86	TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B2
701+23.68	67.02	Rt.	S-257C					0.000										126.80	126.70	0.10			0.36%	3.88		
																		125.30	125.20	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-259C	BWI	24.93	0.950	0.304	0.289	11.71	0.25	7.02	0.414	0.000	2.91	0.01	154.82	27.37	127.45	127.42	0.03	1	18	0.407%	1.65	7.23	
701+08.89	49.68	Rt.	S-258C			0.950	0.436	0.414										126.90	126.80	0.10			0.40%	4.09		
																		125.40	125.30	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-259C1	Type 1 CI	22.38	0.950	0.017	0.016	10.00	1.60	7.41	0.016	0.000	0.12	0.00	153.77	5.68	148.09	148.09	0.00	1	18	0.007%	0.23	7.63	
701+01.06	0.51	Lt.	S-259C2			0.950	0.017	0.016										149.20	149.10	0.10			0.45%	4.32		
																		147.70	147.60	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-259C2	Type 1 CI	47.02	0.950	0.115	0.109	11.37	0.28	7.09	0.125	0.000	0.89	0.08	154.77	6.68	148.09	147.85	0.24	1	18	0.514%	2.84	5.26	
700+80.78	9.37	Rt.	S-259C			0.950	0.132	0.125										149.10	149.00	0.10			0.21%	2.98		
																		147.60	147.50	0.10			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND140B2_04** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			ZONE: Zone 7
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		FREQUENCY (yrs): 10.00 Year
																							MIN. PHYSICAL			MANNINGS n: 0.012
D_DCP			S-276C	BWI	43.54	0.950	0.108	0.102	10.46	0.86	7.30	0.205	0.000	1.50	0.00	143.16	15.75	127.41	127.40	0.01	1	18	0.226%	0.85	5.47	TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B2
705+00.00	30.00	Rt.	S-274C			0.950	0.216	0.205										126.80	126.70	0.10			0.23%	3.09		
																		125.30	125.20	0.10			0.15%			
D_DCP			S-277C	BWI	55.75	0.950	0.108	0.103	10.00	0.35	7.41	0.103	0.000	0.76	0.06	143.13	4.67	138.46	138.23	0.24	1	18	0.422%	2.69	4.83	
705+00.00	-30.00	Lt.	S-276C			0.950	0.108	0.103										139.50	139.40	0.10			0.18%	2.73		
																		138.00	137.90	0.10			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND140B2_05** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B2
D_DCP			S-280C	BWI	43.55	0.950	0.075	0.071	10.24	1.22	7.35	0.143	0.000	1.05	0.00	139.65	12.25	127.40	127.40	0.00	1	18	0.221%	0.60	5.47	
706+51.41	18.00	Rt.	S-278C			0.950	0.151	0.143										126.80	126.70	0.10			0.23%	3.09		
																		125.30	125.20	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-281C	BWI	31.75	0.950	0.075	0.072	10.00	0.21	7.41	0.072	0.000	0.53	0.08	139.63	4.46	135.17	134.97	0.20	1	18	0.627%	2.49	6.40	
706+51.41	-18.00	Lt.	S-280C			0.950	0.075	0.072										136.30	136.20	0.10			0.31%	3.62		
																		134.80	134.70	0.10			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B3_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																										TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B3
CLDCP			S-200E			0.901	0.153	0.138										147.13	147.11	0.02			0.027%	0.74		
107+65.41	-71.66	Lt.	S-201E	Type 1 CI	74.79	0.901	0.153	0.138	10.00	1.69	7.41	0.138	0.000	1.02	0.02	150.26	3.13	147.77	147.51	0.26	1	18	0.35%	3.81	6.73	Exist structure on Daryl Carter Parkway to remain
																		146.27	146.01	0.26			0.15%			
CLDCP			S-201E					0.000										147.11	147.05	0.06			0.064%	1.48		
107+64.26	-0.88	Lt.	S-203E	Type 7 MH	96.86			0.000	11.47	1.09	7.07	0.377	0.000	2.66	0.03	152.16	5.05	148.01	147.93	0.08	1	24	0.08%	2.25	7.06	Exist structure on Daryl Carter Parkway to remain: Top to be adjusted as necessary due to roadway improvements. Velocity shown is less than desirable, but this is an existing pipe to remain.
																		146.01	145.93	0.08			0.10%			
CLDCP			S-202E			0.786	0.304	0.239										147.19	147.11	0.08			0.132%	1.71		
107+65.13	59.38	Rt.	S-201E	Type 1 CI	64.27	0.786	0.304	0.239	10.00	0.63	7.41	0.239	0.000	1.77	0.04	150.81	3.62	147.78	147.76	0.02	1	18	0.03%	1.14	2.01	Exist structure on Daryl Carter Parkway to remain. Velocity shown is less than desirable, but this is an existing pipe to remain.
																		146.28	146.26	0.02			0.15%			
CLDCP			S-203E					0.000										147.05	146.84	0.21			0.693%	3.30		
108+61.12	-0.55	Lt.	S-256C	Type 7 MH	29.95			0.000	12.55	0.15	6.85	0.758	0.000	5.19	0.14	155.63	8.58	147.86	147.84	0.02	1	24	0.07%	2.02	6.35	Exist structure on Daryl Carter Parkway to remain: Top to be adjusted as necessary due to roadway improvements. Velocity shown is less than desirable, but this is an existing pipe to remain.
																		145.86	145.84	0.02			0.10%			
CLDCP			S-204E					0.000										149.97	149.53	0.43			0.477%	3.54		
109+51.60	-0.77	Lt.	S-203E	Type 7 MH	90.48			0.000	10.00	0.43	7.41	0.330	0.000	2.45	0.12	158.30	8.33	151.27	150.99	0.28	1	24	0.31%	4.35	13.67	Exist structure on Daryl Carter Parkway to remain: Top to be adjusted as necessary due to roadway improvements.
																		149.27	148.99	0.28			0.10%			
CLDCP			S-205E			0.950	0.347	0.330										152.62	152.15	0.46			0.772%	3.77		
109+50.59	59.37	Rt.	S-204E	Type 1 CI	60.15	0.950	0.347	0.330	10.00	0.27	7.41	0.330	0.000	2.45	0.20	157.21	4.59	153.28	153.06	0.22	1	18	0.37%	3.90	6.90	Exist structure on Daryl Carter Parkway to remain
																		151.78	151.56	0.22			0.15%			
CLDCP			S-252C			0.950	0.054	0.051										150.66	150.53	0.13			0.547%	2.16		
108+61.11	22.69	Rt.	S-203E	Type 1 CI	23.37	0.950	0.054	0.051	10.00	0.18	7.41	0.051	0.000	0.38	0.04	155.25	4.59	151.84	151.80	0.04	1	18	0.17%	2.67	4.72	
																		150.34	150.30	0.04			0.15%			Build for the Ultimate Condition
CLDCP			S-256C			0.950	0.048	0.045										146.84	146.65	0.19			0.712%	4.47		Build for the Ultimate Condition; Velocity shown
108+61.35	-30.50	Lt.	S-261C	Type 1 CI	27.34	0.887	0.905	0.803	12.71	0.10	6.82	0.803	0.000	5.47	0.01	155.15	8.31	147.84	147.82	0.02	1	24	0.07%	2.12	6.65	is less than desirable, but this is an existing pipe
																		145.84	145.82	0.02			0.10%			to remain.
CLDCP			S-261C					0.000										146.59	146.23	0.37			0.817%	4.47		
108+61.10	-57.84	Lt.	S-262C	Type 7 MH	45.16			0.000	12.71	0.17	6.82	0.803	0.000	5.47	0.15	154.72	8.13	147.50	147.40	0.10	1	24	0.22%	3.68	11.56	
																		145.50	145.40	0.10			0.10%			Build for the Ultimate Condition
D_DCP			S-262C					0.000										127.46	127.42	0.04			0.214%	1.74		
700+84.62	-57.67	Lt.	S-264C	Type 7 MH	20.03			0.000	12.71	0.19	6.82	0.803	0.000	5.47	0.03	152.13	24.67	127.50	127.40	0.10	1	24	0.50%	5.53	17.36	
																		125.50	125.40	0.10			0.10%			Build for the Ultimate Condition
D_DCP			S-264C					0.000										127.42	127.40	0.02			0.605%	1.74		
701+00.79	-69.40	Lt.	S-265C	Type 7 MH	33.59			0.000	12.71	0.32	6.82	0.803	0.000	5.47	0.00	132.50	5.08	127.40	127.20	0.20	1	24	0.60%	6.04	18.96	
																		125.40	125.20	0.20			0.10%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B3_02
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B3
D_DCP			S-266C	BWI	59.99	0.950	0.022	0.021	10.00	0.30	7.41	0.021	0.000	0.15	0.04	151.51	4.81	146.70	146.39	0.30	1	18	0.504%	3.38	6.59	
701+61.71	30.45	Rt.	S-267C			0.950	0.022	0.021										148.00	147.80	0.20			0.33%	3.73		
																		146.50	146.30	0.20			0.15%			Build for the Ultimate Condition
D_DCP			S-267C	BWI	15.86	0.947	0.208	0.196	11.99	0.31	6.96	0.217	0.000	1.51	0.00	151.28	23.87	127.41	127.41	0.01	1	18	0.630%	0.86	9.06	
701+61.62	-33.78	Lt.	S-268C			0.947	0.229	0.217										126.90	126.80	0.10			0.63%	5.13		
																		125.40	125.30	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-268C	Type 7 MH	27.92			0.000	11.99	0.54	6.96	0.217	0.000	1.51	0.00	132.25	4.85	127.41	127.40	0.01	1	18	0.363%	0.86	6.83	
701+61.53	-47.51	Lt.	S-269C					0.000										126.80	126.70	0.10			0.36%	3.86		
																		125.30	125.20	0.10			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND140B3_03
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.	PHYSICAL VELOCITY (fps)		FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL			MANNINGS n: 0.012
																										TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B3
D_DCP			S-270C	MESC48RCP2D-o	61.54	0.000	0.000	0.000	0.00	6.20	0.00	0.000	4.160	4.16	0.00	117.20	-10.20	127.40	127.40	0.00	2	48	0.163%	0.17	62.90	
703+50.00	89.25	Rt.	S-271C			0.000	0.000	0.000										121.20	121.10	0.10			0.16%	5.01		
																		117.20	117.10	0.10			0.04%			Equilizer pipe; build for the Ultimate Condition
D_DCP			S-271C	BWI	55.41	0.950	0.135	0.129	10.00	4.54	7.41	0.129	0.000	5.11	0.00	146.86	19.46	127.40	127.40	0.00	2	48	0.173%	0.20	66.28	
703+50.00	29.83	Rt.	S-272C			0.950	0.135	0.129										121.10	121.00	0.10			0.18%	5.27		
																		117.10	117.00	0.10			0.04%			Build for the Ultimate Condition
D_DCP			S-272C	BWI	62.30	0.950	0.140	0.133	14.58	4.46	6.48	0.261	0.000	5.85	0.00	146.84	19.44	127.40	127.40	0.00	2	48	2.080%	0.23	225.40	
703+50.00	-29.83	Lt.	S-273C			0.950	0.275	0.261										121.00	119.70	1.30			2.09%	17.94		
																		117.00	115.70	1.30			0.04%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND140B3_04** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																						MIN. PHYSICAL				TAILWATER EL. (ft): 127.40: stage at peak inflow for 010Y001H for Node PND140B3
D_DCP			S-282C	BWI	31.75	0.950	0.044	0.042	10.00	0.21	7.41	0.042	0.000	0.31	0.09	137.34	4.86	132.48	132.19	0.29	1	18	0.923%	2.47	9.06	
707+51.41	18.00	Rt.	S-283C			0.950	0.044	0.042										133.70	133.50	0.20			0.63%	5.12		
																		132.20	132.00	0.20			0.15%			Build for the Ultimate Condition
D_DCP			S-283C	BWI	15.25	0.950	0.044	0.042	10.22	0.72	7.36	0.084	0.000	0.62	0.00	137.16	9.74	127.42	127.42	0.00	1	18	0.652%	0.35	9.24	
707+51.41	-18.00	Lt.	S-284C			0.950	0.089	0.084										127.40	127.30	0.10			0.66%	5.23		
																		125.90	125.80	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-284C	Type 7 MH	42.65			0.000	12.54	0.82	6.85	0.225	0.000	1.54	0.01	133.73	6.31	127.42	127.40	0.02	1	18	0.239%	0.87	5.53	
707+51.41	-31.10	Lt.	S-285C					0.000										127.30	127.20	0.10			0.23%	3.13		
																		125.80	125.70	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-286C	Type S GI	15.13	0.950	0.059	0.056	10.00	0.10	7.41	0.056	0.000	0.42	0.09	135.27	5.55	129.72	129.52	0.20	1	18	1.350%	2.64	9.28	
708+34.25	-17.91	Lt.	S-287C			0.950	0.059	0.056										130.90	130.80	0.10			0.66%	5.25		
																		129.40	129.30	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-287C	Type 7 MH	83.63			0.000	11.73	0.97	7.01	0.140	0.000	0.98	0.05	134.30	6.78	127.52	127.42	0.10	1	18	0.121%	1.43	5.58	
708+35.04	-31.10	Lt.	S-284C					0.000										128.50	128.30	0.20			0.24%	3.16		
																		127.00	126.80	0.20			0.15%			Build for the Ultimate Condition
D_DCP			S-288C	Type S GI	25.10	0.950	0.088	0.084	10.00	0.28	7.41	0.084	0.000	0.62	0.07	132.46	4.76	127.70	127.63	0.07	1	18	0.296%	1.49	7.20	
709+58.84	-7.95	Lt.	S-289C			0.950	0.088	0.084										128.80	128.70	0.10			0.40%	4.08		
																		127.30	127.20	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-289C	Type 7 MH	123.91			0.000	10.00	1.81	7.41	0.084	0.000	0.62	0.03	132.70	5.07	127.63	127.52	0.11	1	18	0.088%	1.14	4.58	
709+59.95	-31.10	Lt.	S-287C					0.000										128.70	128.50	0.20			0.16%	2.59		
																		127.20	127.00	0.20			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.3.3: Pond PND141

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND141B1_01** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** Date: 07/01/2019 | **Checked by: KTD** Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 116.36: stage at peak inflow for 010Y001H is lower than provided for Node PND141B1
ISLIP1			S-367C	Type S GI	85.45	0.694	0.080	0.056	15.46	0.32	6.33	0.880	0.000	5.57	0.01	129.58	7.61	121.97	121.63	0.34	1	24	0.392%	4.50	11.89	
110+17.95	-6.14	Lt.	S-372C			0.729	1.207	0.880										123.00	122.80	0.20			0.23%	3.78		
																		121.00	120.80	0.20			0.10%			Build for the Ultimate Condition
D_DCP			S-368C	Type S GI	82.69	0.950	0.089	0.085	10.00	0.45	7.41	0.085	0.000	0.63	0.11	129.43	5.03	124.40	123.66	0.74	1	18	0.893%	3.09	9.72	
711+00.00	-6.12	Lt.	S-373C			0.950	0.089	0.085										125.50	124.90	0.60			0.73%	5.50		
																		124.00	123.40	0.60			0.15%			Build for the Ultimate Condition
IWBCD2			S-371C	Type 7 MH	21.95			0.000	0.00	549.74	0.00	0.000	0.000	0.00	0.00	127.34	5.76	121.58	121.58	0.00	1	18	0.005%	0.00	5.23	
7064+97.40	6.00	Rt.	S-415A					0.000										122.90	122.87	0.03			0.18%	2.50		
																		121.40	121.36	0.04			0.15%			Build for the Ultimate Condition
D_DCP			S-372C	Type S GI	39.21	0.858	0.078	0.067	15.46	0.24	6.33	0.971	0.000	6.15	0.09	129.25	7.75	121.50	121.39	0.11	1	30	0.283%	2.68	22.50	
711+77.69	27.40	Rt.	S-373C			0.741	1.310	0.971										122.80	122.70	0.10			0.26%	4.58		
																		120.30	120.20	0.10			0.08%			Build for the Ultimate Condition
D_DCP			S-373C	Type S GI	48.27	0.950	0.051	0.048	15.46	0.21	6.33	1.104	0.000	6.99	0.17	128.54	7.15	121.39	121.11	0.27	1	30	0.568%	3.75	20.28	
711+76.84	-6.13	Lt.	S-373C1			0.761	1.450	1.104										122.70	122.60	0.10			0.21%	4.13		
																		120.20	120.10	0.10			0.08%			Build for the Ultimate Condition
IWBCD2			S-384C	BWI	67.48	0.950	0.016	0.015	10.00	0.45	7.41	0.015	0.000	0.11	0.02	129.00	9.06	119.94	119.58	0.36	1	30	0.535%	2.52	24.26	
7066+20.54	8.00	Rt.	S-385C			0.950	0.016	0.015										122.20	122.00	0.20			0.30%	4.94		
																		119.70	119.50	0.20			0.08%			Build for the Ultimate Condition
D_DCP			S-385C	Type S GI	86.19	0.950	0.065	0.061	15.46	1.68	6.33	1.300	0.000	8.23	0.00	128.05	11.68	116.37	116.36	0.01	1	42	0.006%	0.86	52.65	
713+00.00	-6.13	Lt.	S-386C1			0.785	1.657	1.300										116.40	116.20	0.20			0.23%	5.47		
																		112.90	112.70	0.20			0.05%			Build for the Ultimate Condition
ISLIP1			S-400A	BWI	76.94	0.950	0.288	0.273	10.00	0.27	7.41	0.273	0.000	2.03	0.20	128.99	4.45	124.54	123.54	1.00	1	18	1.302%	4.69	10.88	
104+93.24	-6.00	Lt.	S-401A			0.950	0.288	0.273										125.30	124.60	0.70			0.91%	6.16		
																		123.80	123.10	0.70			0.15%			
ISLIP1			S-401A	BWI	50.11	0.950	0.129	0.123	10.38	0.29	7.32	0.396	0.000	2.90	0.02	128.35	4.40	123.95	123.84	0.11	1	18	0.216%	2.84	5.10	
105+70.00	-6.00	Lt.	S-402A			0.950	0.417	0.396										124.60	124.50	0.10			0.20%	2.88		
																		123.10	123.00	0.10			0.15%			
ISLIP1			S-402A	BWI	50.44	0.950	0.051	0.049	12.80	0.21	6.80	0.461	0.000	3.13	0.04	128.24	4.40	123.84	123.57	0.27	1	18	0.534%	4.07	5.08	
106+19.95	-6.00	Lt.	S-404A			0.950	0.485	0.461										124.50	124.40	0.10			0.20%	2.88		
																		123.00	122.90	0.10			0.15%			
ISLIP1			S-403A	BWI	22.75	0.950	0.017	0.016	10.00	3.31	7.41	0.016	0.000	0.12	0.00	128.60	4.76	123.84	123.84	0.00	1	18	0.002%	0.11	10.70	
106+19.95	21.00	Rt.	S-402A			0.950	0.017	0.016										124.70	124.50	0.20			0.88%	6.05		
																		123.20	123.00	0.20			0.15%			
ISLIP1			S-404A	BWI	21.98	0.950	0.068	0.065	13.05	0.18	6.75	0.546	0.000	3.69	0.06	128.37	5.49	122.88	122.82	0.06	1	24	0.258%	2.03	16.58	
106+70.09	-6.00	Lt.	S-415B			0.950	0.575	0.546										123.80	123.70	0.10			0.46%	5.28		
																		121.80	121.70	0.10			0.10%			
ISLIP1			S-405A	BWI	22.75	0.950	0.022	0.021	10.00	0.11	7.41	0.021	0.000	0.15	0.05	128.68	5.29	123.39	123.19	0.20	1	18	0.875%	3.34	7.56	
106+70.09	21.00	Rt.	S-404A			0.950	0.022	0.021										124.70	124.60	0.10			0.44%	4.28		
																		123.20	123.10	0.10			0.15%			
ISLIP1			S-407A	Type S GI	56.10	0.638	0.070	0.045	14.21	0.31	6.54	0.729	0.000	4.77	0.12	129.28	6.76	122.52	122.32	0.19	1	24	0.346%	3.02	10.88	
108+00.00	-6.13	Lt.	S-407A1			0.747	0.975	0.729										123.43	123.32	0.11			0.20%	3.46		
																		121.43	121.32	0.11			0.10%			
ISLIP1			S-408A	BWI	25.85	0.950	0.017	0.016	11.53	0.12	7.06	0.024	0.000	0.17	0.04	129.33	4.83	124.50	124.29	0.21	1	18	0.804%	3.68	7.10	
108+00.00	21.00	Rt.	S-407A			0.950	0.025	0.024										125.80	125.70	0.10			0.39%	4.02		
																		124.30	124.20	0.10			0.15%			

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B1_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 116.36: stage at peak inflow for 010Y001H is lower than provided for Node PND141B1
ISLIP1			S-410A			0.636	0.070	0.044										122.25	122.13	0.12			0.214%	3.38		
109+00.00	-6.13	Lt.	S-410A1	Type S GI	55.33	0.731	1.126	0.823	14.81	0.27	6.44	0.823	0.000	5.30	0.00	129.62	7.37	123.20	123.13	0.07	1	24	0.13%	2.78	8.74	
																		121.20	121.13	0.07			0.10%			
ISLIP1			S-411A			0.950	0.008	0.008										124.95	124.59	0.36			0.356%	1.26		
109+01.16	21.00	Rt.	S-408A	BWI	101.16	0.950	0.008	0.008	10.00	1.34	7.41	0.008	0.000	0.06	0.02	129.66	4.71	126.30	126.00	0.30	1	18	0.30%	3.52	6.21	
																		124.80	124.50	0.30			0.15%			
ISLIP1			S-412A			0.950	0.011	0.011										125.06	123.17	1.89			2.342%	2.46		
110+17.95	21.00	Rt.	S-415A	BWI	80.60	0.950	0.011	0.011	10.00	0.55	7.41	0.011	0.000	0.08	0.05	129.63	4.57	126.40	124.60	1.80	1	18	2.23%	9.65	17.05	
																		124.90	123.10	1.80			0.15%			
ISLIP1			S-415A			0.950	0.014	0.013										121.58	121.50	0.08			0.262%	1.28		
110+98.65	21.00	Rt.	S-372C	BWI	31.60	0.950	0.025	0.024	10.00	0.41	7.41	0.024	0.000	0.18	0.03	129.37	7.79	122.86	122.80	0.06	1	18	0.19%	2.81	4.97	
																		121.36	121.30	0.06			0.15%			
ISLIP1			S-415B			0.375	0.306	0.115										122.82	122.61	0.21			0.162%	2.48		
106+70.06	-25.85	Lt.	S-416B	Type E DBI	130.00	0.750	0.880	0.661	13.22	0.87	6.72	0.661	0.000	4.44	0.09	128.00	5.18	123.70	123.50	0.20	1	24	0.15%	3.07	9.64	
																		121.70	121.50	0.20			0.10%			Build for the Ultimate Condition
ISLIP1			S-416B					0.000										122.61	122.52	0.09			0.377%	2.54		
108+00.00	-25.85	Lt.	S-407A	Type 7 MH	24.53			0.000	13.22	0.16	6.72	0.661	0.000	4.44	0.08	128.69	6.08	123.50	123.43	0.07	1	24	0.29%	4.18	13.13	
																		121.50	121.43	0.07			0.10%			Build for the Ultimate Condition
D_DCP			S-373C1			0.950	0.059	0.056										121.11	120.94	0.17			0.383%	4.36		
712+19.62	-6.13	Lt.	S-373C2	Type S GI	45.43	0.769	1.509	1.160	15.46	0.17	6.33	1.160	0.000	7.34	0.01	128.31	7.20	122.60	122.50	0.10	1	30	0.22%	4.26	20.90	
																		120.10	120.00	0.10			0.08%			Build for the Ultimate Condition
D_DCP			S-373C2			0.950	0.067	0.064										120.94	120.22	0.72			1.572%	6.68		
712+59.01	-6.13	Lt.	S-385C	Type S GI	45.99	0.776	1.576	1.223	15.46	0.11	6.33	1.223	0.000	7.75	0.01	128.18	7.24	122.50	122.00	0.50	1	30	1.09%	9.46	46.46	
																		120.00	119.50	0.50			0.08%			Build for the Ultimate Condition
D_DCP			S-386C1					0.000										116.36	116.36	0.00			14.665%	0.86		
713+00.00	-89.00	Lt.	S-386C	Type 7 MH	51.16			0.000	15.46	1.00	6.33	1.300	0.000	8.23	0.00	121.50	5.14	114.00	106.50	7.50	1	42	14.66%	43.49	418.46	
																		110.50	103.00	7.50			0.05%			Build for the Ultimate Condition
ISLIP1			S-407A1			0.619	0.081	0.050										122.32	122.25	0.08			0.135%	3.03		
108+50.00	-6.13	Lt.	S-410A	Type S GI	55.85	0.738	1.056	0.779	14.52	0.31	6.49	0.779	0.000	5.05	0.01	129.28	6.96	123.32	123.20	0.12	1	24	0.21%	3.63	11.39	
																		121.32	121.20	0.12			0.10%			
ISLIP1			S-410A1			0.950	0.001	0.001										122.13	121.97	0.16			0.219%	3.52		
109+49.98	-6.13	Lt.	S-367C	Type S GI	73.56	0.732	1.127	0.824	14.81	0.35	6.44	0.824	0.000	5.31	0.00	129.66	7.53	123.13	123.00	0.13	1	24	0.18%	3.29	10.33	
																		121.13	121.00	0.13			0.10%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B1_02
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 117.89: stage at peak inflow for 010Y001H is lower than provided for Node PND141B1
PND141			CS-140B3A	Type E DBI	167.37	0.950	0.000	0.000	10.00	1.53	7.41	0.000	3.220	3.22	0.05	131.00	12.92	118.08	117.89	0.19	1	18	0.206%	1.82	5.14	
610+02.34	366.00	Rt.	CS-140B3B			0.950	0.000	0.000										115.84	115.50	0.34			0.20%	2.91		PND140B3 control structure; modified type E (see control structure detail sheet)
																		114.34	114.00	0.34			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B1_03
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 117.89: stage at peak inflow for 010Y001H is lower than provided for Node PND141B1
PND141			BSL201	Type E DBI	265.46	0.819	2.822	2.311	15.00	0.41	6.41	2.311	0.000	14.80	0.51	128.00	3.37	124.63	117.50	7.12	1	30	2.684%	10.91	66.98	
606+92.58	284.93	Rt.	BSL202			0.819	2.822	2.311										125.20	119.20	6.00			2.26%	13.65		Build to accommodate the O-Town West Development
																		122.70	116.70	6.00			0.08%			
PND141			BSL202	Type E DBI	194.45	0.801	4.764	3.815	15.55	0.46	6.32	6.126	0.000	38.70	0.49	122.00	2.05	119.95	118.73	1.22	1	42	0.628%	7.10	49.57	
609+05.84	118.32	Rt.	BSL203			0.808	7.586	6.126										120.70	120.30	0.40			0.21%	5.15		Build to accommodate the O-Town West Development
																		115.70	115.30	0.40			0.05%			
PND141			BSL203	Type 7 MH	69.95			0.000	15.55	0.29	6.32	6.126	0.000	38.70	0.18	123.00	4.84	118.16	117.89	0.27	1	42	10.715%	4.02	357.85	
610+51.89	-14.21	Lt.	BSL203O					0.000										114.00	106.50	7.50			10.72%	37.19		Build to accommodate the O-Town West Development
																		110.50	103.00	7.50			0.05%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B2_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 113.13: stage at peak inflow for 010Y001H is lower than provided for Node PND141B2
IB_DCP			S-300A	Type S GI	33.66	0.805	0.121	0.098	10.00	1.26	7.41	0.098	0.000	0.72	0.00	130.45	3.75	126.70	126.70	0.00	1	18	0.013%	0.45	6.22	
501+50.00	6.13	Rt.	S-301A			0.805	0.121	0.098										127.00	126.90	0.10			0.15%	3.52		
																		125.50	125.45	0.05			0.15%			
IB_DCP			S-301A	Type E DBI	156.11	0.850	0.014	0.012	11.22	5.87	7.12	0.110	0.000	0.78	0.00	130.79	4.09	126.70	126.69	0.01	1	18	0.006%	0.44	4.90	
501+50.00	-25.62	Lt.	S-302A			0.810	0.136	0.110										126.90	126.70	0.20			0.16%	2.76		
																		125.45	125.20	0.25			0.15%			
IB_DCP			S-302A	Type E DBI	138.89	0.640	1.253	0.802	16.89	0.45	6.12	0.990	0.000	6.05	0.22	130.72	4.03	126.69	125.85	0.84	1	18	0.605%	5.13	5.30	
503+04.20	-39.67	Lt.	S-304C			0.669	1.479	0.990										126.70	126.40	0.30			0.22%	3.00		
																		125.20	124.90	0.30			0.15%			
IB_DCP			S-303A	Type S GI	47.71	0.857	0.090	0.077	10.00	2.45	7.41	0.077	0.000	0.57	0.00	132.17	5.48	126.69	126.69	0.00	1	18	0.006%	0.33	5.22	
503+04.20	6.13	Rt.	S-302A			0.857	0.090	0.077										126.80	126.70	0.10			0.21%	2.96		
																		125.30	125.20	0.10			0.15%			
IB_DCP			S-303C	BWI	31.10	0.950	0.026	0.024	10.90	0.20	7.20	0.117	0.000	0.84	0.07	133.46	6.36	127.10	126.92	0.18	1	24	0.586%	2.61	13.93	
504+41.98	6.00	Rt.	S-304C			0.950	0.123	0.117										128.70	128.60	0.10			0.32%	4.44		
																		126.70	126.60	0.10			0.10%			
BL400			S-304A	Type E DBI	35.00	0.556	0.402	0.223	10.00	0.18	7.41	0.223	0.000	1.66	0.13	130.56	3.25	127.31	127.05	0.26	1	24	0.747%	3.18	13.14	
636+56.61	117.00	Rt.	S-310C			0.556	0.402	0.223										128.70	128.60	0.10			0.29%	4.18		
																		126.70	126.60	0.10			0.10%			
IB_DCP			S-304C	Type 7 MH	166.12			0.000	17.46	0.76	6.03	1.107	0.000	6.68	0.00	133.84	8.28	125.56	125.23	0.32	1	24	0.194%	3.63	10.44	
504+41.37	-27.22	Lt.	S-307C					0.000										126.40	126.10	0.30			0.18%	3.32		
																		124.40	124.10	0.30			0.10%			Build for the Ultimate Condition
BL400			S-305A	Type E DBI	35.00	0.459	1.842	0.846	10.00	0.11	7.41	0.846	0.000	6.27	0.30	130.62	2.61	128.01	127.37	0.64	1	18	1.836%	5.20	6.10	
640+60.65	122.28	Rt.	S-316C			0.459	1.842	0.846										128.00	127.90	0.10			0.29%	3.45		
																		126.50	126.40	0.10			0.15%			Build for the Ultimate Condition
IB_DCP			S-305C	BWI	50.00	0.950	0.023	0.022	10.45	0.31	7.30	0.093	0.000	0.68	0.01	134.02	4.85	129.17	129.00	0.17	1	18	0.341%	2.66	5.10	
504+91.98	6.00	Rt.	S-303C			0.950	0.098	0.093										130.30	130.20	0.10			0.20%	2.89		
																		128.80	128.70	0.10			0.15%			Build for the Ultimate Condition
BL400			S-306A	Type E DBI	48.43	0.435	1.938	0.843	10.00	0.16	7.41	0.843	0.000	6.25	0.27	129.34	3.33	126.01	125.37	0.64	1	18	1.324%	5.19	5.18	
643+59.90	122.51	Rt.	S-324C			0.435	1.938	0.843										126.00	125.90	0.10			0.21%	2.93		
																		124.50	124.40	0.10			0.15%			
IB_DCP			S-306C	BWI	44.87	0.950	0.075	0.071	10.00	0.49	7.41	0.071	0.000	0.53	0.05	134.52	5.24	129.28	129.17	0.11	1	18	0.240%	1.53	5.39	
505+36.85	6.00	Rt.	S-305C			0.950	0.075	0.071										130.40	130.30	0.10			0.22%	3.05		
																		128.90	128.80	0.10			0.15%			Build for the Ultimate Condition
BL400			S-307C	Type E DBI	96.04	0.250	0.001	0.000	17.46	0.45	6.03	1.107	0.000	6.68	0.00	133.55	8.32	125.23	125.06	0.18	1	24	0.184%	3.54	11.21	
635+60.57	152.00	Rt.	S-310C			0.690	1.604	1.107										126.10	125.90	0.20			0.21%	3.57		
																		124.10	123.90	0.20			0.10%			Build for the Ultimate Condition
BL400			S-308A	BWI	171.43	0.950	0.184	0.175	10.00	0.61	7.41	0.175	0.000	1.30	0.15	127.36	4.68	122.68	120.22	2.46	1	18	1.434%	4.67	12.93	
652+39.41	-92.16	Lt.	S-309A			0.950	0.184	0.175										123.60	121.40	2.20			1.28%	7.31		
																		122.10	119.90	2.20			0.15%			
IB_DCP			S-308C	BWI	38.81	0.950	0.040	0.038	10.00	0.29	7.41	0.038	0.000	0.28	0.05	137.76	4.89	132.87	132.69	0.18	1	18	0.475%	2.25	5.79	
507+00.13	18.00	Rt.	S-309C			0.950	0.040	0.038										134.10	134.00	0.10			0.26%	3.28		
																		132.60	132.50	0.10			0.15%			
BL400			S-309A	BWI	176.26	0.950	0.245	0.233	10.65	0.49	7.25	0.408	0.000	2.96	0.06	125.12	4.51	120.61	118.09	2.53	1	18	1.434%	5.94	13.03	
654+10.54	-92.06	Lt.	S-311A			0.950	0.429	0.408										121.40	119.10	2.30			1.30%	7.38		
																		119.90	117.60	2.30			0.15%			
IB_DCP			S-309C	Type S GI	55.61	0.950	0.097	0.093	11.66	0.22	7.03	0.470	0.000	3.30	0.14	137.56	7.87	129.69	129.29	0.40	1	18	0.711%	4.14	4.84	
507+00.13	-18.12	Lt.	S-310C			0.950	0.494	0.470										130.20	130.10	0.10			0.18%	2.74		
																		128.70	128.60	0.10			0.15%			Build for the Ultimate Condition

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B2_01
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 113.13: stage at peak inflow for 010Y001H is lower than provided for Node PND141B2
BL400			S-310A			0.950	0.159	0.151										117.86	117.86	0.01			0.123%	0.71		
655+86.02	-95.34	Lt.	S-311A	Type S GI	7.41	0.950	0.159	0.151	10.00	0.17	7.41	0.151	0.000	1.12	0.01	125.45	7.59	118.20	118.10	0.10	1	18	1.35%	7.50	13.25	
																		116.70	116.60	0.10			0.15%			
BL400			S-310C			0.250	0.001	0.000										125.06	124.85	0.21			0.134%	2.87		
636+56.61	152.00	Rt.	S-312C	Type E DBI	153.95	0.720	2.501	1.800	18.76	0.89	5.86	1.800	0.000	10.55	0.10	133.38	8.32	125.90	125.60	0.30	1	30	0.19%	4.01	19.67	
																		123.40	123.10	0.30			0.08%			Build for the Ultimate Condition
BL400			S-311A			0.950	0.251	0.239										117.86	114.28	3.57			1.651%	7.27		
655+86.02	-91.97	Lt.	J-141O3	BWI	216.41	0.950	0.840	0.798	11.15	0.50	7.14	0.798	0.000	5.70	0.33	122.81	4.95	118.10	115.10	3.00	1	18	1.39%	7.60	13.43	
																		116.60	113.60	3.00			0.15%			
IB_DCP			S-311C			0.950	0.098	0.093										133.51	133.09	0.42			0.337%	3.76		
508+20.00	-18.12	Lt.	S-309C	Type S GI	125.83	0.950	0.357	0.339	10.98	0.56	7.18	0.339	0.000	2.43	0.02	141.10	7.59	134.30	134.00	0.30	1	18	0.24%	3.15	5.57	
																		132.80	132.50	0.30			0.15%			Build for the Ultimate Condition
BL400			S-312A			0.796	0.151	0.120										114.28	114.07	0.21			2.776%	3.25		
658+01.26	-95.25	Lt.	J-141O3	Type S GI	7.45	0.796	0.151	0.120	10.00	0.04	7.41	0.120	0.000	0.89	0.13	122.58	8.30	115.30	115.25	0.05	1	18	0.67%	5.29	9.35	
																		113.80	113.75	0.05			0.15%			
BL400			S-312C			0.250	0.001	0.000										124.85	124.71	0.14			0.057%	2.50		
638+10.40	152.02	Rt.	S-316C	Type E DBI	250.31	0.720	2.502	1.801	18.76	1.67	5.86	1.801	0.000	10.55	0.00	133.10	8.25	125.60	125.20	0.40	1	30	0.16%	3.63	17.81	
																		123.10	122.70	0.40			0.08%			Build for the Ultimate Condition
BL400			S-313A			0.668	0.272	0.182										114.93	114.90	0.03			0.082%	1.08		
658+74.73	91.67	Rt.	S-314A	Type S GI	33.71	0.668	0.272	0.182	10.00	0.52	7.41	0.182	0.000	1.35	0.02	118.53	3.60	115.50	115.40	0.10	1	18	0.30%	3.52	6.22	
																		114.00	113.90	0.10			0.15%			
IB_DCP			S-313C			0.950	0.071	0.068										140.16	139.96	0.20			0.528%	2.51		
509+40.00	18.00	Rt.	S-314C	BWI	38.81	0.950	0.071	0.068	10.00	0.26	7.41	0.068	0.000	0.50	0.06	145.19	5.03	141.30	141.20	0.10	1	18	0.26%	3.28	5.79	
																		139.80	139.70	0.10			0.15%			Build for the Ultimate Condition
BL400			S-314A					0.000										114.90	114.86	0.04			0.021%	0.85		
658+74.85	120.56	Rt.	S-377C	Type 7 MH	169.75			0.000	10.00	3.34	7.41	0.182	0.000	1.35	0.01	123.52	8.62	115.40	115.10	0.30	1	18	0.18%	2.71	4.80	
																		113.90	113.60	0.30			0.15%			
IB_DCP			S-314C			0.950	0.187	0.178										136.99	136.41	0.58			0.464%	3.44		
509+40.00	-18.12	Lt.	S-311C	Type S GI	125.96	0.950	0.259	0.246	10.31	0.61	7.33	0.246	0.000	1.80	0.15	144.82	7.83	137.80	137.40	0.40	1	18	0.32%	3.64	6.43	
																		136.30	135.90	0.40			0.15%			Build for the Ultimate Condition
IB_DCP			S-315C			0.950	0.233	0.221										128.43	127.98	0.45			0.467%	3.74		
511+12.50	-30.12	Lt.	S-316C	Type S GI	95.45	0.950	0.359	0.341	11.97	0.43	6.96	0.341	0.000	2.38	0.13	149.46	21.03	129.10	128.90	0.20	1	18	0.21%	2.96	5.22	
																		127.60	127.40	0.20			0.15%			Build for the Ultimate Condition
BL400			S-316C			0.250	0.001	0.000										124.71	123.92	0.79			0.317%	4.95		
640+60.65	157.28	Rt.	S-321C	Type E DBI	250.06	0.635	4.704	2.988	21.16	0.84	5.57	2.988	0.000	16.64	0.20	132.33	7.62	125.20	124.80	0.40	1	30	0.16%	3.63	17.82	
																		122.70	122.30	0.40			0.08%			Build for the Ultimate Condition
IB_DCP			S-317C			0.950	0.063	0.060										147.76	147.54	0.21			0.336%	2.36		
512+80.10	30.00	Rt.	S-318C	BWI	62.81	0.950	0.063	0.060	10.00	0.44	7.41	0.060	0.000	0.44	0.04	152.69	4.93	148.90	148.80	0.10	1	18	0.16%	2.58	4.55	
																		147.40	147.30	0.10			0.15%			Build for the Ultimate Condition
IB_DCP			S-318C			0.950	0.063	0.060										144.68	144.15	0.53			0.305%	2.78		
512+80.10	-30.12	Lt.	S-315C	Type S GI	173.59	0.950	0.126	0.120	10.63	1.04	7.26	0.120	0.000	0.87	0.07	152.59	7.91	145.70	145.30	0.40	1	18	0.23%	3.10	5.48	
																		144.20	143.80	0.40			0.15%			Build for the Ultimate Condition
IB_DCP			S-319C			0.950	0.092	0.087										148.83	148.60	0.22			0.385%	2.54		
513+64.52	32.60	Rt.	S-320C	BWI	58.35	0.950	0.092	0.087	10.00	0.38	7.41	0.087	0.000	0.65	0.06	153.03	4.20	149.90	149.80	0.10	1	18	0.17%	2.67	4.72	
																		148.40	148.30	0.10			0.15%			Build for the Ultimate Condition
IB_DCP			S-320C			0.950	0.045	0.043										127.36	127.06	0.30			0.277%	2.91		
513+64.52	-30.00	Lt.	S-321C	BWI	107.69	0.950	0.137	0.131	10.49	0.62	7.29	0.131	0.000	0.95	0.01	153.20	25.84	128.40	128.20	0.20	1	18	0.19%	2.78	4.92	
																		126.90	126.70	0.20			0.15%			Build for the Ultimate Condition
BL400			S-321C			0.250	0.001	0.000										123.92	123.89	0.03			0.052%	3.08		
643+10.54	166.37	Rt.	S-324C	Type E DBI	49.59	0.644	4.843	3.118	22.07	0.27	5.47	3.118	0.000	17.06	0.00	131.56	7.64	124.80	124.70	0.10	1	36	0.20%	4.60	32.54	
																		121.80	121.70	0.10			0.06%			Build for the Ultimate Condition

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B2_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 113.13: stage at peak inflow for 010Y001H is lower than provided for Node PND141B2
IB_DCP			S-322C	Type 1 CI	43.29	0.950	0.116	0.111	10.00	0.26	7.41	0.111	0.000	0.82	0.08	155.16	6.09	149.07	148.84	0.23	1	18	0.532%	2.75	5.48	
514+58.05	0.21	Lt.	S-323C			0.950	0.116	0.111										150.10	150.00	0.10			0.23%	3.10		
																		148.60	148.50	0.10			0.15%			Build for the Ultimate Condition
IB_DCP			S-323C	BWI	100.14	0.950	0.395	0.375	10.34	0.39	7.33	0.486	0.000	3.56	0.05	155.07	27.34	127.73	127.32	0.41	1	18	0.411%	4.24	4.74	
514+40.23	-41.55	Lt.	S-324C			0.950	0.512	0.486										128.20	128.10	0.10			0.15%	2.81		
																		126.70	126.55	0.15			0.15%			Build for the Ultimate Condition
BL400			S-324C	Type E DBI	173.55	0.250	0.001	0.000	22.34	0.52	5.44	4.448	0.000	24.20	0.25	131.40	7.51	123.89	123.17	0.72	1	36	0.414%	5.57	30.12	
643+59.90	170.94	Rt.	S-325C			0.610	7.294	4.448										124.70	124.40	0.30			0.17%	4.26		
																		121.70	121.40	0.30			0.06%			Build for the Ultimate Condition
BL400			S-325C	Type 7 MH	70.52			0.000	22.34	0.24	5.44	4.448	0.000	24.20	0.05	131.76	8.59	123.17	122.97	0.20	1	36	0.282%	4.91	27.28	
645+33.35	166.17	Rt.	S-330C					0.000										124.10	124.00	0.10			0.14%	3.86		
																		121.10	121.00	0.10			0.06%			Build for the Ultimate Condition
IC_DCP			S-326C	BWI	42.16	0.950	0.078	0.074	10.00	0.82	7.41	0.074	0.000	0.55	0.04	154.26	4.64	149.62	149.59	0.03	1	18	0.080%	0.86	7.86	
601+03.20	27.11	Rt.	S-327C			0.950	0.078	0.074										150.70	150.50	0.20			0.47%	4.45		
																		149.20	149.00	0.20			0.15%			Build for the Ultimate Condition
IC_DCP			S-327C	Type 1 CI	51.65	0.950	0.106	0.101	10.62	0.28	7.26	0.175	0.000	1.27	0.08	155.88	6.29	149.59	149.32	0.26	1	18	0.510%	3.11	5.02	
600+77.43	-8.89	Lt.	S-328C			0.950	0.184	0.175										150.50	150.40	0.10			0.19%	2.84		
																		149.00	148.90	0.10			0.15%			Build for the Ultimate Condition
IC_DCP			S-328C	BWI	42.04	0.948	0.399	0.378	10.96	0.23	7.18	0.553	0.000	3.97	0.08	155.86	31.45	124.41	124.32	0.09	1	18	0.219%	3.09	7.87	
601+10.33	-51.42	Lt.	S-329C			0.949	0.582	0.553										125.00	124.80	0.20			0.48%	4.45		
																		123.50	123.30	0.20			0.15%			Build for the Ultimate Condition
IC_DCP			S-329C	Type E DBI	28.15	0.250	0.049	0.012	11.16	0.16	7.14	0.565	0.000	4.03	0.16	129.05	4.73	124.32	124.19	0.13	1	18	0.454%	2.92	9.62	
601+32.81	-84.40	Lt.	S-334C			0.895	0.631	0.565										124.80	124.60	0.20			0.71%	5.44		
																		123.30	123.10	0.20			0.15%			Build for the Ultimate Condition
BL400			S-330C	Type 7 MH	46.16			0.000	23.14	0.18	5.36	5.417	0.000	29.01	0.23	133.22	10.25	122.97	122.70	0.27	1	42	0.591%	4.33	50.87	
646+02.60	178.81	Rt.	S-331C					0.000										124.00	123.90	0.10			0.22%	5.29		
																		120.50	120.40	0.10			0.05%			Build for the Ultimate Condition
BL400			S-331C	Type 7 MH	150.10			0.000	23.14	0.39	5.36	5.417	0.000	29.01	0.27	131.20	8.50	122.70	121.86	0.84	1	42	0.559%	6.44	39.89	
646+10.69	133.40	Rt.	S-339C					0.000										123.90	123.70	0.20			0.13%	4.15		
																		120.40	120.20	0.20			0.05%			Build for the Ultimate Condition
IC_DCP			S-332C	BWI	44.12	0.950	0.058	0.055	10.00	0.32	7.41	0.055	0.000	0.41	0.08	155.52	5.00	150.52	150.23	0.28	1	18	0.643%	2.32	7.68	
601+50.64	12.37	Rt.	S-333C			0.950	0.058	0.055										151.70	151.50	0.20			0.45%	4.35		
																		150.20	150.00	0.20			0.15%			Build for the Ultimate Condition
IC_DCP			S-333C	BWI	42.09	0.950	0.024	0.023	10.32	1.36	7.33	0.077	0.000	0.57	0.00	156.40	32.20	124.20	124.19	0.00	1	18	0.006%	0.52	7.87	
601+50.44	-35.87	Lt.	S-334C			0.950	0.081	0.077										125.00	124.80	0.20			0.48%	4.45		
																		123.50	123.30	0.20			0.15%			Build for the Ultimate Condition
IC_DCP			S-334C	Type E DBI	60.41	0.250	0.165	0.041	11.48	0.21	7.07	0.684	0.000	4.83	0.15	129.03	4.84	124.19	123.75	0.45	1	18	0.744%	4.71	6.57	
601+59.23	-74.86	Lt.	S-337C			0.779	0.878	0.684										124.60	124.40	0.20			0.33%	3.72		
																		123.10	122.90	0.20			0.15%			Build for the Ultimate Condition
IC_DCP			S-335C	BWI	35.75	0.950	0.162	0.154	10.00	0.20	7.41	0.154	0.000	1.14	0.11	156.48	4.83	151.65	151.40	0.25	1	18	0.697%	3.02	6.03	
602+18.12	10.00	Rt.	S-336C			0.950	0.162	0.154										152.60	152.50	0.10			0.28%	3.42		
																		151.10	151.00	0.10			0.15%			Build for the Ultimate Condition
IC_DCP			S-336C	BWI	47.01	0.950	0.019	0.018	10.22	0.25	7.36	0.172	0.000	1.26	0.01	157.22	33.29	123.93	123.72	0.21	1	18	0.454%	3.14	7.44	
602+18.12	-30.00	Lt.	S-337C			0.950	0.181	0.172										125.00	124.80	0.20			0.43%	4.21		
																		123.50	123.30	0.20			0.15%			Build for the Ultimate Condition
IC_DCP			S-337C	Type E DBI	35.59	0.250	0.154	0.039	11.72	0.20	7.02	0.894	0.000	6.27	0.16	129.00	5.37	123.63	123.49	0.14	1	24	0.393%	2.92	18.42	
602+19.60	-74.86	Lt.	S-338C			0.737	1.213	0.894										124.40	124.20	0.20			0.56%	5.86		
																		122.40	122.20	0.20			0.10%			Build for the Ultimate Condition
BL400			S-338C	Type 7 MH	114.13			0.000	11.91	0.43	6.98	0.969	0.000	6.76	0.16	132.99	9.50	123.49	122.97	0.52	1	24	0.453%	4.45	10.29	
647+14.04	200.60	Rt.	S-330C					0.000										124.20	124.00	0.20			0.18%	3.27		
																		122.20	122.00	0.20			0.10%			Build for the Ultimate Condition

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B2_01
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 113.13: stage at peak inflow for 010Y001H is lower than provided for Node PND141B2
BL400			S-339C			0.493	0.796	0.392										120.72	120.01	0.70			0.340%	6.56		
647+60.54	142.00	Rt.	S-340C	Type E DBI	207.41	0.619	9.381	5.809	23.79	0.53	5.29	5.809	0.000	30.73	0.02	130.90	10.18	122.20	121.80	0.40	1	42	0.19%	4.99	47.99	
																		118.70	118.30	0.40			0.05%			Build for the Ultimate Condition
BL400			S-340C			0.440	1.048	0.461										117.30	116.30	1.00			0.341%	6.76		
649+67.54	155.00	Rt.	S-348C	Type E DBI	293.80	0.581	11.061	6.428	24.41	0.72	5.23	6.428	0.000	33.62	0.10	128.41	11.11	118.50	118.00	0.50	1	42	0.17%	4.69	45.08	
																		115.00	114.50	0.50			0.05%			Build for the Ultimate Condition
BL400			S-348C			0.451	1.393	0.628										115.82	115.08	0.74			0.492%	6.97		
652+60.66	175.00	Rt.	S-356C	Type E DBI	149.98	0.558	12.820	7.148	25.29	0.36	5.15	7.148	0.000	36.78	0.13	124.45	8.63	117.00	116.70	0.30	1	42	0.20%	5.08	48.88	
																		113.50	113.20	0.30			0.05%			Build for the Ultimate Condition
IC_DCP			S-355C			0.250	0.044	0.011										114.44	114.38	0.06			0.087%	1.84		
609+17.66	12.99	Rt.	S-356C	Type E DBI	69.82	0.675	1.597	1.078	17.61	0.63	6.01	1.078	0.000	6.48	0.04	123.00	8.56	115.30	115.20	0.10	1	30	0.14%	3.44	16.86	
																		112.80	112.70	0.10			0.08%			Build for the Ultimate Condition
BL400			S-356C			0.479	0.628	0.300										114.38	114.27	0.11			0.220%	4.07		
654+10.54	180.50	Rt.	S-357C	Type E DBI	50.41	0.567	15.045	8.526	25.71	0.21	5.11	8.526	0.000	43.55	0.08	122.48	8.10	115.20	115.10	0.10	1	48	0.20%	5.53	69.50	
																		111.20	111.10	0.10			0.04%			Build for the Ultimate Condition
BL400			S-357C			0.496	0.196	0.097										114.27	114.10	0.17			0.166%	2.99		
654+60.45	173.61	Rt.	J-141O1	Type E DBI	171.16	0.566	16.519	9.350	25.91	0.95	5.09	9.350	0.000	47.58	0.08	121.84	7.57	114.00	113.70	0.30	1	54	0.18%	5.62	89.43	
																		109.50	109.20	0.30			0.03%			Build for the Ultimate Condition
IC_DCP			S-361C			0.250	0.090	0.023										114.48	114.44	0.04			0.035%	1.88		
610+16.74	24.72	Rt.	S-355C	Type E DBI	100.42	0.687	1.553	1.067	17.61	0.89	6.01	1.067	0.000	6.42	0.01	122.04	7.56	115.45	115.30	0.15	1	30	0.15%	3.51	17.22	
																		112.95	112.80	0.15			0.08%			Build for the Ultimate Condition
IC_DCP			S-364C			0.250	0.088	0.022										114.83	114.48	0.35			0.416%	3.89		
611+01.09	31.83	Rt.	S-361C	Type E DBI	85.00	0.714	1.462	1.044	17.21	0.36	6.07	1.044	0.000	6.34	0.13	121.66	6.83	115.55	115.45	0.10	1	24	0.12%	2.68	8.43	
																		113.55	113.45	0.10			0.10%			Build for the Ultimate Condition
IC_DCP			S-365C			0.950	0.685	0.651										115.77	115.24	0.53			2.197%	4.71		
611+02.58	10.00	Rt.	S-364C	BWI	24.00	0.950	0.685	0.651	10.00	0.09	7.41	0.651	0.000	4.82	0.31	139.99	24.22	116.00	115.90	0.10	1	18	0.42%	4.17	7.37	
																		114.50	114.40	0.10			0.15%			Build for the Ultimate Condition
IC_DCP			S-370C			0.250	0.099	0.025										114.84	114.83	0.01			0.014%	1.09		
611+87.31	36.06	Rt.	S-364C	Type E DBI	86.44	0.539	0.689	0.371	15.98	1.32	6.25	0.371	0.000	2.32	0.00	121.28	6.44	115.70	115.55	0.15	1	24	0.17%	3.26	10.24	
																		113.70	113.55	0.15			0.10%			Build for the Ultimate Condition
IC_DCP			S-375C			0.250	0.134	0.033										114.87	114.84	0.02			0.064%	1.18		
612+25.99	36.95	Rt.	S-370C	Type E DBI	38.79	0.588	0.590	0.347	15.46	0.55	6.33	0.347	0.000	2.19	0.02	121.11	6.24	115.80	115.70	0.10	1	24	0.26%	3.97	12.48	
																		113.80	113.70	0.10			0.10%			Build for the Ultimate Condition
IC_DCP			S-376C			0.950	0.128	0.122										114.98	114.87	0.11			0.422%	1.91		
612+26.49	12.00	Rt.	S-375C	BWI	27.08	0.950	0.128	0.122	10.00	0.24	7.41	0.122	0.000	0.90	0.10	133.70	18.71	116.00	115.90	0.10	1	18	0.37%	3.92	6.93	
																		114.50	114.40	0.10			0.15%			Build for the Ultimate Condition
BL400			S-377C			0.542	1.007	0.545										114.86	114.27	0.59			0.239%	3.59		
657+06.54	142.50	Rt.	S-357C	Type E DBI	248.05	0.569	1.278	0.727	13.48	1.15	6.67	0.727	0.000	4.85	0.04	118.27	3.41	115.10	114.70	0.40	1	18	0.16%	2.59	4.58	
																		113.60	113.20	0.40			0.15%			Build for the Ultimate Condition
IC_DCP			S-378C			0.250	0.116	0.029										114.88	114.87	0.01			0.020%	0.74		
612+99.50	38.59	Rt.	S-375C	Type E DBI	73.52	0.583	0.328	0.191	13.88	1.66	6.60	0.191	0.000	1.26	0.01	121.66	6.78	115.90	115.80	0.10	1	24	0.14%	2.88	9.06	
																		113.90	113.80	0.10			0.10%			Build for the Ultimate Condition
IC_DCP			S-379C			0.950	0.063	0.060										114.90	114.88	0.02			0.054%	1.09		
613+00.04	12.00	Rt.	S-378C	BWI	33.72	0.950	0.079	0.075	10.88	0.52	7.20	0.075	0.000	0.54	0.01	130.17	15.27	116.00	115.90	0.10	1	18	0.30%	3.52	6.21	
																		114.50	114.40	0.10			0.15%			Build for the Ultimate Condition
IC_DCP			S-380C			0.950	0.016	0.015										125.27	125.09	0.18			0.454%	2.46		
613+00.00	-32.04	Lt.	S-379C	BWI	39.79	0.950	0.016	0.015	10.00	0.27	7.41	0.015	0.000	0.11	0.03	130.89	5.62	126.60	126.50	0.10	1	18	0.25%	3.24	5.72	
																		125.10	125.00	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-389C					0.000										113.52	113.33	0.18			0.120%	3.48		
713+14.38	-30.84	Lt.	S-393C	Type 7 MH	77.55			0.000	29.15	0.37	4.81	11.495	0.000	55.34	0.13	125.59	12.07	111.10	111.00	0.10	1	54	0.13%	4.82	76.71	
																		106.60	106.50	0.10			0.03%			Build for the Ultimate Condition

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B2_01
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 113.13: stage at peak inflow for 010Y001H is lower than provided for Node PND141B2
IC_DCP			S-391C			0.250	0.056	0.014										114.89	114.88	0.01			0.006%	0.41		
613+94.31	39.88	Rt.	S-378C	Type E DBI	94.47	0.657	0.133	0.087	10.57	3.82	7.27	0.087	0.000	0.64	0.00	122.92	8.03	116.10	115.90	0.20	1	24	0.21%	3.60	11.31	
																		114.10	113.90	0.20			0.10%			Build for the Ultimate Condition
			S-392C			0.950	0.077	0.073										115.87	115.68	0.19			0.637%	2.40		
613+94.31	12.00	Rt.	S-391C	BWI	30.01	0.950	0.077	0.073	10.00	0.21	7.41	0.073	0.000	0.54	0.08	125.67	9.80	117.00	116.90	0.10	1	18	0.33%	3.73	6.59	
																		115.50	115.40	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-393C					0.000										113.33	113.13	0.20			3.608%	3.48		
713+92.55	-30.84	Lt.	S-408C	Type 7 MH	188.01			0.000	29.15	0.90	4.81	11.495	0.000	55.34	0.08	126.82	13.49	111.00	104.20	6.80	1	54	3.62%	25.54	406.24	
																		106.50	99.70	6.80			0.03%			Build for the Ultimate Condition
BL400			J-141O1			0.522	1.308	0.682										114.10	113.80	0.30			0.114%	3.16		
654+60.34	2.48	Rt.	J-141O2	Type E DBI	340.92	0.563	17.826	10.032	26.87	1.80	5.00	10.032	0.000	50.20	0.11	123.29	9.19	113.70	113.30	0.40	1	54	0.12%	4.60	73.17	
																		109.20	108.80	0.40			0.03%			
BL400			J-141O2			0.511	0.492	0.252										113.80	113.64	0.17			0.104%	3.24		
658+01.26	2.48	Rt.	J-141O3	Type E DBI	92.20	0.561	18.318	10.284	26.87	0.47	5.00	10.284	0.000	51.46	0.11	118.88	5.08	111.40	111.30	0.10	1	54	0.11%	4.42	70.35	
																		106.90	106.80	0.10			0.03%			
BL400			J-141O3			0.950	0.308	0.293										113.64	113.52	0.12			0.160%	3.48		
658+01.26	-91.84	Lt.	S-389C	BWI	123.55	0.586	19.618	11.495	29.15	0.59	4.81	11.495	0.000	55.34	0.03	119.86	6.22	111.30	111.10	0.20	1	54	0.16%	5.40	85.94	
																		106.80	106.60	0.20			0.03%			Build for the Ultimate Condition
IC_DCP			S-340C1			0.250	0.632	0.158										124.08	123.60	0.47			0.301%	3.04		
604+65.97	25.39	Rt.	S-340C	Type E DBI	156.92	0.250	0.632	0.158	10.00	0.86	7.41	0.158	0.000	1.17	0.08	129.00	4.92	125.00	124.70	0.30	1	18	0.19%	2.82	4.99	
																		123.50	123.20	0.30			0.15%			Build for the Ultimate Condition
IC_DCP			S-348C1			0.250	0.196	0.049										119.23	118.89	0.34			0.242%	2.64		
607+54.66	58.52	Rt.	S-348C	Type E DBI	140.91	0.250	0.367	0.092	12.16	0.89	6.93	0.092	0.000	0.63	0.04	126.00	6.77	120.30	120.10	0.20	1	18	0.18%	2.82	5.16	
																		118.80	118.55	0.25			0.15%			Build for the Ultimate Condition
IC_DCP			S-348C2			0.250	0.171	0.043										119.32	119.23	0.09			0.067%	0.75		
608+81.27	83.65	Rt.	S-348C1	Type E DBI	130.14	0.250	0.171	0.043	10.00	2.89	7.41	0.043	0.000	0.32	0.03	122.00	2.68	120.50	120.30	0.20	1	18	0.15%	2.53	4.47	
																		119.00	118.80	0.20			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND141B3_01** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** Date: 07/01/2019 | **Checked by: KTD** Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 108.76: stage at peak inflow for 010Y001H for Node PND141B3
IWBCD2			S-398C			0.950	0.026	0.024										123.66	123.65	0.00			0.007%	0.31		
7067+40.69	8.00	Rt.	S-399C	BWI	61.43	0.950	0.026	0.024	10.00	3.36	7.41	0.024	0.000	0.18	0.00	128.40	4.74	124.70	124.60	0.10	1	18	0.16%	2.61	4.60	
																		123.20	123.10	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-399C			0.950	0.080	0.076										123.65	122.87	0.78			0.922%	3.74		
714+22.26	-6.13	Lt.	S-399C1	Type S GI	84.90	0.950	0.196	0.186	12.95	0.38	6.77	0.186	0.000	1.26	0.13	127.66	4.01	124.60	124.00	0.60	1	18	0.71%	5.43	9.59	
																		123.10	122.50	0.60			0.15%			Build for the Ultimate Condition
IWBCD2			S-406C			0.950	0.032	0.030										122.45	122.29	0.16			0.284%	1.78		
7068+90.94	8.00	Rt.	S-407C	BWI	57.64	0.950	0.032	0.030	10.00	0.54	7.41	0.030	0.000	0.22	0.03	127.65	5.20	123.70	123.60	0.10	1	18	0.17%	2.69	4.75	
																		122.20	122.10	0.10			0.15%			Build for the Ultimate Condition
D_DCP			S-407C			0.950	0.084	0.080										122.25	121.52	0.73			0.639%	4.02		
715+69.56	-9.71	Lt.	S-407C1	Type S GI	114.97	0.950	0.411	0.390	13.67	0.48	6.64	0.390	0.000	2.59	0.09	126.75	4.50	123.60	123.00	0.60	1	24	0.52%	5.65	17.75	
																		121.60	121.00	0.60			0.10%			Build for the Ultimate Condition
IWBCD2			S-415C			0.950	0.043	0.040										121.41	121.36	0.05			0.096%	0.92		
7070+91.44	8.00	Rt.	S-416C	BWI	56.81	0.950	0.043	0.040	10.00	1.03	7.41	0.040	0.000	0.30	0.02	126.65	5.24	122.60	122.50	0.10	1	18	0.18%	2.71	4.79	
																		121.10	121.00	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-416C			0.950	0.108	0.103										121.36	120.57	0.79			0.688%	4.63		
7070+91.36	-46.12	Lt.	S-416C1	Type S GI	115.08	0.950	0.690	0.656	14.58	0.41	6.48	0.656	0.000	4.25	0.14	125.77	4.41	122.50	121.90	0.60	1	24	0.52%	5.65	17.74	
																		120.50	119.90	0.60			0.10%			Build for the Ultimate Condition
IWBCD2			S-420C			0.950	0.043	0.040										120.40	120.38	0.02			0.033%	0.62		
7072+91.75	8.00	Rt.	S-421C	BWI	56.81	0.950	0.043	0.040	10.00	1.53	7.41	0.040	0.000	0.30	0.01	125.65	5.25	121.50	121.40	0.10	1	18	0.18%	2.71	4.79	
																		120.00	119.90	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-421C			0.950	0.109	0.103										120.38	119.73	0.65			0.566%	4.75		
7072+91.75	-46.12	Lt.	S-421C1	Type S GI	114.43	0.950	0.970	0.922	15.46	0.40	6.33	0.922	0.000	5.84	0.12	124.76	4.38	121.40	120.90	0.50	1	24	0.44%	5.17	16.24	
																		119.40	118.90	0.50			0.10%			Build for the Ultimate Condition
IWBCD2			S-428C			0.950	0.043	0.040										118.79	118.59	0.20			0.357%	2.37		
7074+92.09	8.00	Rt.	S-429C	BWI	56.81	0.950	0.043	0.040	10.00	0.40	7.41	0.040	0.000	0.30	0.04	124.64	5.85	120.00	119.90	0.10	1	18	0.18%	2.71	4.79	
																		118.50	118.40	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-429C			0.950	0.109	0.104										118.33	117.62	0.71			0.619%	5.31		
7074+92.09	-46.13	Lt.	S-429C1	Type S GI	114.67	0.950	1.251	1.188	16.18	0.36	6.22	1.188	0.000	7.39	0.02	123.76	5.43	119.90	119.30	0.60	1	30	0.52%	6.57	32.23	
																		117.40	116.80	0.60			0.08%			Build for the Ultimate Condition
IWBCD2			S-431C			0.943	0.031	0.029										119.13	118.77	0.37			0.661%	2.02		
7076+36.97	8.00	Rt.	S-437C	BWI	55.31	0.943	0.031	0.029	10.00	0.46	7.41	0.029	0.000	0.22	0.05	123.93	4.80	120.40	120.10	0.30	1	18	0.54%	4.76	8.40	
																		118.90	118.60	0.30			0.15%			Build for the Ultimate Condition
IWBCD2			S-437C			0.950	0.012	0.011										117.68	117.49	0.19			0.341%	2.32		
7076+92.31	8.00	Rt.	S-438C	BWI	56.81	0.945	0.042	0.040	10.46	0.41	7.30	0.040	0.000	0.29	0.03	123.68	6.00	118.90	118.80	0.10	1	18	0.18%	2.71	4.79	
																		117.40	117.30	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-438C			0.950	0.109	0.104										109.36	108.88	0.48			0.730%	4.79		
7076+92.32	-46.13	Lt.	S-439C1	Type S GI	66.17	0.948	1.658	1.571	16.85	0.23	6.12	1.571	0.000	9.62	0.26	122.76	13.40	111.10	110.90	0.20	1	36	0.30%	5.64	39.83	
																		108.10	107.90	0.20			0.06%			Build for the Ultimate Condition
D_DCP			S-385C1			0.950	0.091	0.086										123.73	123.65	0.08			0.113%	1.09		
713+61.17	-6.12	Lt.	S-399C	Type S GI	67.43	0.950	0.091	0.086	10.00	1.04	7.41	0.086	0.000	0.64	0.05	127.87	4.14	124.80	124.60	0.20	1	18	0.30%	3.52	6.21	
																		123.30	123.10	0.20			0.15%			Build for the Ultimate Condition
D_DCP			S-399C1			0.950	0.099	0.094										123.05	122.58	0.46			0.621%	3.80		
715+00.85	-8.10	Lt.	S-407C	Type S GI	74.76	0.950	0.294	0.280	13.34	0.33	6.70	0.280	0.000	1.87	0.03	127.21	4.16	124.00	123.60	0.40	1	18	0.54%	4.72	8.35	
																		122.50	122.10	0.40			0.15%			Build for the Ultimate Condition

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B3_01
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 108.76: stage at peak inflow for 010Y001H for Node PND141B3
D_DCP			S-407C1			0.950	0.129	0.122										121.67	121.09	0.57			0.590%	4.29		
716+78.24	-10.12	Lt.	S-416C	Type S GI	97.46	0.950	0.539	0.512	14.16	0.38	6.55	0.512	0.000	3.36	0.03	126.22	4.55	123.00	122.50	0.50	1	24	0.51%	5.60	17.60	
																		121.00	120.50	0.50			0.10%			Build for the Ultimate Condition
IWBCD2			S-416C1			0.950	0.129	0.122										120.71	120.13	0.58			0.590%	4.78		
7072+00.00	-46.12	Lt.	S-421C	Type S GI	98.13	0.950	0.819	0.778	15.00	0.34	6.41	0.778	0.000	4.98	0.03	125.22	4.51	121.90	121.40	0.50	1	24	0.51%	5.58	17.54	
																		119.90	119.40	0.50			0.10%			Build for the Ultimate Condition
IWBCD2			S-421C1			0.950	0.128	0.122										119.33	118.75	0.58			0.589%	5.14		
7074+00.00	-46.12	Lt.	S-429C	Type S GI	98.23	0.950	1.099	1.044	15.87	0.32	6.27	1.044	0.000	6.54	0.02	124.22	4.89	120.40	119.90	0.50	1	24	0.51%	5.58	17.53	
																		118.40	117.90	0.50			0.10%			Build for the Ultimate Condition
IWBCD2			S-429C1			0.950	0.128	0.122										117.76	117.16	0.60			0.613%	5.39		
7076+00.00	-46.13	Lt.	S-438C	Type S GI	98.24	0.950	1.379	1.310	16.55	0.30	6.17	1.310	0.000	8.08	0.02	123.22	5.46	119.30	118.80	0.50	1	30	0.51%	6.48	31.79	
																		116.80	116.30	0.50			0.08%			Build for the Ultimate Condition
IWBCD2			S-438C1			0.920	0.128	0.118										118.00	117.65	0.35			0.307%	2.79		
7078+00.00	-46.12	Lt.	S-438C	Type S GI	113.82	0.920	0.128	0.118	10.00	0.68	7.41	0.118	0.000	0.87	0.07	122.22	4.22	119.00	118.80	0.20	1	18	0.18%	2.71	4.78	
																		117.50	117.30	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-439C1					0.000										108.77	108.76	0.01			15.550%	1.36		
7076+92.32	-112.44	Lt.	S-439C	Type 7 MH	51.46			0.000	16.85	0.63	6.12	1.571	0.000	9.62	0.00	113.97	5.20	106.50	98.50	8.00	1	36	15.55%	40.41	285.67	
																		103.50	95.50	8.00			0.06%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B3_02
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
ISLIP2			S-428A	BWI	9.32	0.950	0.046	0.044	10.00	0.05	7.41	0.044	0.000	0.32	0.07	120.03	6.05	113.98	113.77	0.21	1	18	2.240%	2.85	11.82	TAILWATER EL. (ft): 108.76: stage at peak inflow for 010Y001H for Node PND141B3
204+46.34	6.00	Rt.	S-475C			0.950	0.046	0.044										115.20	115.10	0.10			1.07%	6.69		
																		113.70	113.60	0.10			0.15%			
ISLIP2			S-458C	Type 7 MH	50.18			0.000	0.00	0.45	0.00	0.000	2.500	2.50	0.08	121.08	5.31	115.77	115.67	0.10	1	18	0.193%	1.86	7.20	
202+06.33	3.45	Rt.	S-465C					0.000										116.30	116.10	0.20			0.40%	4.08		
																		114.80	114.60	0.20			0.15%			Build for the Ultimate Condition
ISLIP2			S-465C	Type 7 MH	44.94			0.000	0.00	0.42	0.00	0.000	0.000	2.50	0.04	121.08	5.41	115.67	115.61	0.06	1	18	0.140%	1.79	5.38	
202+56.41	2.06	Rt.	S-466C					0.000										116.10	116.00	0.10			0.22%	3.05		
																		114.60	114.50	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-466C	Type S GI	113.14	0.914	0.091	0.083	12.59	0.43	6.84	0.195	0.000	3.83	0.14	120.12	4.51	115.61	115.05	0.56	1	18	0.493%	4.35	4.80	
7082+92.67	-34.13	Lt.	S-466C1			0.917	0.212	0.195										116.00	115.80	0.20			0.18%	2.71		
																		114.50	114.30	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-475C	Type 7 MH	45.44			0.000	10.00	0.38	7.41	0.044	0.000	0.32	0.01	120.31	11.51	108.80	108.66	0.14	1	48	0.313%	2.00	73.20	
7084+82.24	6.50	Rt.	S-476C					0.000										112.60	112.50	0.10			0.22%	5.82		
																		108.60	108.50	0.10			0.04%			Build for the Ultimate Condition
IWBCD2			S-476C	Type S GI	74.32	0.919	0.094	0.087	13.54	2.79	6.66	0.427	0.000	5.34	0.00	119.17	10.52	108.65	108.65	0.00	1	48	0.001%	0.44	99.13	
7084+82.32	-34.13	Lt.	S-477C1			0.921	0.463	0.427										109.30	109.00	0.30			0.40%	7.89		
																		105.30	105.00	0.30			0.04%			Build for the Ultimate Condition
IWBCD2			S-457C1	Type S GI	100.55	0.913	0.101	0.092	11.90	0.61	6.98	0.112	0.000	0.78	0.09	120.69	4.64	116.05	115.63	0.42	1	18	0.419%	2.75	6.23	
7081+98.55	-34.13	Lt.	S-466C			0.920	0.121	0.112										117.10	116.80	0.30			0.30%	3.53		
																		115.60	115.30	0.30			0.15%			Build for the Ultimate Condition
IWBCD2			S-457C2	BWI	44.82	0.950	0.021	0.020	10.00	2.25	7.41	0.020	0.000	0.15	0.00	121.22	5.17	116.05	116.05	0.01	1	18	0.012%	0.33	5.39	
7081+98.55	8.00	Rt.	S-457C1			0.950	0.021	0.020										117.20	117.10	0.10			0.22%	3.05		
																		115.70	115.60	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-466C1	Type S GI	88.72	0.917	0.111	0.101	13.15	0.32	6.73	0.296	0.000	4.49	0.02	119.59	4.57	115.02	114.61	0.40	1	18	0.454%	4.59	5.42	
7083+99.38	-34.12	Lt.	S-476C			0.917	0.323	0.296										115.50	115.30	0.20			0.23%	3.07		
																		114.00	113.80	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-477C1	Type 7 MH	49.07			0.000	13.54	1.92	6.66	0.427	0.000	5.34	0.00	114.00	5.24	108.76	108.76	0.00	1	48	14.260%	0.42	589.32	
7084+82.32	-107.60	Lt.	S-477C					0.000										106.50	99.50	7.00			14.27%	46.90		
																		102.50	95.50	7.00			0.04%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND141B3_03
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
IWBCD2			S-447C	BWI	53.06	0.948	0.043	0.040	10.00	1.66	7.41	0.040	0.000	0.30	0.01	122.64	5.40	117.24	117.23	0.01	1	18	0.024%	0.53	4.95	TAILWATER EL. (ft): 108.76: stage at peak inflow for 010Y001H for Node PND141B3
7078+92.69	8.00	Rt.	S-448C			0.948	0.043	0.040										118.30	118.20	0.10			0.19%	2.80		
																		116.80	116.70	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-448C	Type S GI	112.47	0.920	0.109	0.101	11.46	0.64	7.07	0.141	0.000	1.00	0.07	121.79	4.56	117.23	116.87	0.36	1	18	0.320%	2.91	4.81	
7078+92.53	-45.26	Lt.	S-448C1			0.928	0.152	0.141										118.20	118.00	0.20			0.18%	2.72		
																		116.70	116.50	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-456C	BWI	45.06	0.845	0.042	0.036	10.00	0.36	7.41	0.036	0.000	0.27	0.04	121.70	5.44	116.26	116.09	0.18	1	18	0.396%	2.10	5.38	
7080+92.50	8.00	Rt.	S-457C			0.845	0.042	0.036										117.50	117.40	0.10			0.22%	3.04		
																		116.00	115.90	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-457C	Type S GI	69.17	0.916	0.095	0.087	13.02	0.30	6.76	0.373	0.000	2.52	0.20	121.04	10.94	110.10	109.60	0.51	1	18	0.731%	3.82	7.51	
7080+92.68	-37.26	Lt.	S-457O1			0.914	0.408	0.373										110.80	110.50	0.30			0.43%	4.25		
																		109.30	109.00	0.30			0.15%			Build for the Ultimate Condition
IWBCD2			S-448C1	Type S GI	100.70	0.919	0.119	0.109	12.36	0.50	6.88	0.250	0.000	1.72	0.02	121.38	4.66	116.72	116.39	0.32	1	18	0.322%	3.39	5.09	
7079+98.90	-41.01	Lt.	S-457C			0.924	0.271	0.250										117.60	117.40	0.20			0.20%	2.88		
																		116.10	115.90	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-457O1	Type 7 MH	53.94			0.000	13.02	0.63	6.76	0.373	0.000	2.52	0.00	114.00	5.21	108.79	108.76	0.03	1	18	14.839%	1.43	43.94	
7080+92.68	-101.62	Lt.	S-457O2					0.000										105.00	97.00	8.00			14.83%	24.87		
																		103.50	95.50	8.00			0.15%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND141B4_01** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
ISLIP2			S-429A	BWI	23.74	0.950	0.035	0.033	10.00	0.56	7.41	0.033	0.000	0.25	0.02	119.26	5.46	113.80	113.78	0.02	1	18	0.082%	0.71	7.41	TAILWATER EL. (ft): 105.98: stage at peak inflow for 010Y001H for Node PND141B4
206+57.29	21.00	Rt.	S-491C			0.950	0.035	0.033										115.00	114.90	0.10			0.42%	4.19		
																		113.50	113.40	0.10			0.15%			
ISLIP2			S-433A	Type E DBI	10.05	0.727	0.019	0.014	21.16	0.53	5.57	0.061	0.000	0.34	0.00	117.61	4.92	112.69	112.68	0.00	1	18	0.014%	0.32	11.38	
208+55.63	-10.18	Lt.	S-504C			0.533	0.115	0.061										113.40	113.30	0.10			0.99%	6.44		
																		111.90	111.80	0.10			0.15%			
ISLIP2			S-434A	BWI	29.15	0.950	0.033	0.032	10.00	0.26	7.41	0.032	0.000	0.24	0.05	118.18	5.24	112.94	112.79	0.16	1	18	0.532%	1.86	6.68	
208+57.87	21.00	Rt.	S-433A			0.950	0.033	0.032										114.20	114.10	0.10			0.34%	3.78		
																		112.70	112.60	0.10			0.15%			
IWBCD2			S-491C	Type 7 MH	44.94			0.000	10.00	1.45	7.41	0.033	0.000	0.25	0.00	119.27	5.49	113.78	113.77	0.00	1	18	0.009%	0.52	5.38	
7086+92.51	6.00	Rt.	S-492C					0.000										114.90	114.80	0.10			0.22%	3.05		
																		113.40	113.30	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-492C	Type S GI	106.16	0.950	0.131	0.125	11.70	0.49	7.02	0.298	0.000	2.10	0.10	118.12	4.35	113.77	113.35	0.43	1	18	0.403%	3.59	4.95	
7086+92.51	-34.13	Lt.	S-492C1			0.950	0.314	0.298										114.50	114.30	0.20			0.19%	2.80		
																		113.00	112.80	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-494C	Type 7 MH	100.07			0.000	0.00	0.72	0.00	0.000	2.500	2.50	0.11	118.67	5.77	112.90	112.68	0.22	1	18	0.219%	2.31	5.10	
7087+92.49	5.50	Rt.	S-504C					0.000										113.50	113.30	0.20			0.20%	2.89		
																		112.00	111.80	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-504C	BWI	44.81	0.950	0.006	0.005	21.66	0.21	5.51	0.067	0.000	2.87	0.13	117.64	4.96	112.68	112.40	0.29	1	18	0.644%	3.57	5.39	
7088+92.50	8.00	Rt.	S-505C			0.553	0.121	0.067										113.30	113.20	0.10			0.22%	3.05		
																		111.80	111.70	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-505C	Type S GI	105.86	0.950	0.090	0.086	21.88	0.50	5.49	0.601	0.000	5.80	0.15	117.12	4.72	112.40	112.04	0.36	1	24	0.340%	3.53	10.68	
7088+92.50	-34.13	Lt.	S-505C1			0.880	0.683	0.601										113.20	113.00	0.20			0.19%	3.40		
																		111.20	111.00	0.20			0.10%			Build for the Ultimate Condition
IWBCD2			S-508C	BWI	75.43	0.950	0.021	0.020	10.00	1.67	7.41	0.020	0.000	0.15	0.04	117.14	4.95	112.19	111.95	0.24	1	18	0.313%	0.75	7.20	
7089+92.51	8.00	Rt.	S-519C			0.950	0.021	0.020										113.50	113.20	0.30			0.40%	4.07		
																		112.00	111.70	0.30			0.15%			Build for the Ultimate Condition
IWBCD2			S-519C	BWI	44.81	0.950	0.016	0.015	10.88	0.48	7.20	0.035	0.000	0.25	0.03	116.77	4.82	111.95	111.82	0.13	1	18	0.296%	1.56	5.39	
7090+67.94	8.00	Rt.	S-520C			0.950	0.037	0.035										113.20	113.10	0.10			0.22%	3.05		
																		111.70	111.60	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-520C	Type S GI	81.79	0.950	0.068	0.065	22.75	0.29	5.40	0.787	0.000	6.75	0.07	116.24	4.42	111.82	111.42	0.40	1	24	0.490%	4.78	14.88	
7090+68.11	-34.13	Lt.	S-520C1			0.895	0.879	0.787										112.80	112.50	0.30			0.37%	4.74		
																		110.80	110.50	0.30			0.10%			Build for the Ultimate Condition
IWBCD2			S-525C	BWI	44.81	0.950	0.016	0.015	10.00	0.30	7.41	0.015	0.000	0.11	0.02	116.39	5.12	111.27	111.09	0.18	1	18	0.404%	2.50	5.39	
7091+44.05	8.00	Rt.	S-520C1			0.950	0.016	0.015										112.60	112.50	0.10			0.22%	3.05		
																		111.10	111.00	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-537C	BWI	44.81	0.950	0.032	0.030	10.00	0.42	7.41	0.030	0.000	0.22	0.04	115.64	5.40	110.24	110.09	0.16	1	18	0.349%	1.76	5.39	
7092+92.50	8.00	Rt.	S-538C			0.950	0.032	0.030										111.50	111.40	0.10			0.22%	3.05		
																		110.00	109.90	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-538C	Type S GI	105.11	0.950	0.066	0.063	23.58	0.37	5.31	1.026	0.000	7.95	0.04	115.12	5.89	109.23	108.84	0.40	1	30	0.376%	4.73	19.43	
7092+92.50	-34.13	Lt.	S-538C1			0.907	1.131	1.026										110.60	110.40	0.20			0.19%	3.96		
																		108.10	107.90	0.20			0.08%			Build for the Ultimate Condition
IWBCD2			S-547C	BWI	44.81	0.950	0.043	0.041	10.00	0.31	7.41	0.041	0.000	0.30	0.04	114.63	5.35	109.28	109.09	0.20	1	18	0.440%	2.40	5.39	
7094+95.23	8.00	Rt.	S-548C			0.950	0.043	0.041										110.50	110.40	0.10			0.22%	3.05		
																		109.00	108.90	0.10			0.15%			Build for the Ultimate Condition
IWBCD2			S-548C	Type S GI	67.20	0.943	0.094	0.089	24.44	0.21	5.23	1.241	0.000	8.99	0.07	114.11	6.04	108.07	107.64	0.43	1	30	0.638%	5.29	29.77	
7094+95.23	-34.13	Lt.	S-548C1			0.914	1.358	1.241										109.50	109.20	0.30			0.45%	6.06		
																		107.00	106.70	0.30			0.08%			Build for the Ultimate Condition

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND141B4_01** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 105.98: stage at peak inflow for 010Y001H for Node PND141B4
IC_CFP			S-550C					0.000										110.35	109.91	0.43			0.517%	3.67		
400+55.90	5.26	Rt.	S-551C	Type 7 MH	84.07			0.000	0.00	0.38	0.00	0.000	2.500	2.50	0.15	114.50	4.15	111.00	110.80	0.20	1	18	0.24%	3.15	5.57	
																		109.50	109.30	0.20			0.15%			Build for the Ultimate Condition
IC_CFP			S-551C					0.000										109.91	109.70	0.21			0.429%	3.79		
401+39.93	4.01	Rt.	S-560C	Type 7 MH	50.09			0.000	0.00	0.22	0.00	0.000	0.000	2.50	0.00	114.24	4.33	110.80	110.60	0.20	1	18	0.40%	4.08	7.21	
																		109.30	109.10	0.20			0.15%			Build for the Ultimate Condition
IA_CFP			S-552C			0.936	0.077	0.072										107.60	107.38	0.21			0.393%	4.68		
301+39.50	-8.97	Lt.	S-561C	Type S GI	53.93	0.916	1.490	1.365	25.11	0.19	5.16	1.365	0.000	9.55	0.01	113.51	5.91	108.90	108.80	0.10	1	30	0.19%	3.91	19.19	
																		106.40	106.30	0.10			0.08%			Build for the Ultimate Condition
IC_CFP			S-560C					0.000										107.39	107.38	0.01			0.023%	0.72		
401+89.93	3.84	Rt.	S-561C	Type 7 MH	43.99			0.000	0.00	1.02	0.00	0.000	0.000	2.50	0.01	114.34	6.95	109.00	108.90	0.10	1	36	0.23%	4.89	34.54	
																		106.00	105.90	0.10			0.06%			Build for the Ultimate Condition
IA_CFP			S-561C			0.946	0.093	0.088										107.38	106.93	0.45			1.392%	5.19		
301+89.41	-7.98	Lt.	S-561C1	Type S GI	32.55	0.858	1.738	1.492	25.32	0.10	5.14	1.492	0.000	12.67	0.33	113.58	6.20	108.90	108.80	0.10	1	36	0.31%	5.68	40.16	
																		105.90	105.80	0.10			0.06%			Build for the Ultimate Condition
IA_CFP			S-566C			0.250	0.155	0.039										107.85	107.59	0.26			0.488%	1.97		
302+39.25	-6.70	Lt.	S-561C	Type S GI	53.50	0.250	0.155	0.039	15.00	0.45	6.41	0.039	0.000	0.25	0.05	114.04	6.19	109.10	108.90	0.20	1	18	0.37%	3.95	6.98	
																		107.60	107.40	0.20			0.15%			Build for the Ultimate Condition
ISLIP2			S-433A1			0.250	0.062	0.016										113.02	112.84	0.17			0.309%	1.96		
208+00.00	-11.00	Lt.	S-433A	Type E DBI	55.64	0.250	0.062	0.016	20.00	0.47	5.71	0.016	0.000	0.09	0.02	118.15	5.13	114.35	114.25	0.10	1	18	0.18%	2.74	4.84	
																		112.85	112.75	0.10			0.15%			
IWBCD2			S-476C1			0.950	0.148	0.140										114.04	113.77	0.27			0.266%	2.17		
7085+98.91	-34.13	Lt.	S-492C	Type S GI	100.03	0.950	0.148	0.140	10.00	0.77	7.41	0.140	0.000	1.04	0.08	118.59	4.55	115.00	114.80	0.20	1	18	0.20%	2.89	5.10	
																		113.50	113.30	0.20			0.15%			Build for the Ultimate Condition
IWBCD2			S-492C1			0.950	0.157	0.149										112.50	112.40	0.11			0.099%	2.26		
7087+92.49	-34.13	Lt.	S-505C	Type S GI	105.86	0.950	0.471	0.448	12.34	0.78	6.89	0.448	0.000	3.09	0.01	117.62	5.12	113.70	113.50	0.20	1	24	0.19%	3.40	10.68	
																		111.70	111.50	0.20			0.10%			Build for the Ultimate Condition
IWBCD2			S-505C1			0.950	0.091	0.086										112.04	111.82	0.21			0.263%	3.86		
7089+92.51	-34.12	Lt.	S-520C	Type S GI	81.45	0.888	0.774	0.687	22.39	0.35	5.43	0.687	0.000	6.23	0.01	116.62	4.58	113.00	112.80	0.20	1	24	0.25%	3.88	12.18	
																		111.00	110.80	0.20			0.10%			Build for the Ultimate Condition
IWBCD2			S-520C1			0.950	0.069	0.066										110.69	109.94	0.75			0.916%	5.91		
7091+44.05	-34.13	Lt.	S-520C2	Type S GI	81.84	0.900	0.964	0.868	23.04	0.23	5.37	0.868	0.000	7.16	0.00	115.86	5.17	112.30	111.70	0.60	1	30	0.73%	7.77	38.15	
																		109.80	109.20	0.60			0.08%			Build for the Ultimate Condition
IWBCD2			S-520C2			0.950	0.069	0.065										109.60	109.31	0.29			0.366%	4.64		
7092+20.04	-34.13	Lt.	S-538C	Type S GI	78.64	0.903	1.033	0.934	23.27	0.28	5.34	0.934	0.000	7.49	0.01	115.48	5.88	111.10	110.90	0.20	1	30	0.25%	4.58	22.47	
																		108.60	108.40	0.20			0.08%			Build for the Ultimate Condition
IWBCD2			S-538C1			0.947	0.090	0.085										108.64	108.26	0.37			0.340%	4.80		
7093+91.76	-34.13	Lt.	S-548C	Type S GI	109.65	0.910	1.221	1.112	24.02	0.38	5.27	1.112	0.000	8.36	0.01	114.62	5.98	110.10	109.80	0.30	1	30	0.27%	4.75	23.30	
																		107.60	107.30	0.30			0.08%			Build for the Ultimate Condition
IA_CFP			S-548C1			0.940	0.055	0.052										107.74	107.60	0.14			0.163%	3.97		
300+55.76	-9.94	Lt.	S-552C	Type S GI	88.66	0.915	1.413	1.293	24.75	0.37	5.20	1.293	0.000	9.22	0.01	113.80	6.06	109.20	108.90	0.30	1	30	0.34%	5.28	25.92	
																		106.70	106.40	0.30			0.08%			Build for the Ultimate Condition
IA_CFP			S-561C1					0.000										106.03	105.98	0.05			6.467%	1.79		
301+89.41	-42.71	Lt.	S-562C	Type 7 MH	123.82			0.000	25.32	1.15	5.14	1.492	0.000	12.67	0.02	113.58	7.55	103.80	95.80	8.00	1	36	6.46%	26.05	184.16	
																		100.80	92.80	8.00			0.06%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND141B4_02** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
IA_CFP			S-573C			0.250	0.144	0.036										105.98	105.98	0.00			0.003%	0.03		TAILWATER EL. (ft): 105.98: stage at peak inflow for 010Y001H for Node PND141B4
303+90.69	-6.12	Lt.	S-574C1	Type S GI	32.41	0.250	0.144	0.036	15.00	16.84	6.41	0.036	0.000	0.23	0.00	115.32	9.34	107.80	107.70	0.10	1	48	0.31%	6.90	86.68	
																		103.80	103.70	0.10			0.04%			Build for the Ultimate Condition
IA_CFP			S-574C1					0.000										105.98	105.98	0.00			6.935%	0.02		
303+90.69	-40.71	Lt.	S-574C	Type 7 MH	101.00			0.000	15.00	91.56	6.41	0.036	0.000	0.23	0.00	114.14	8.16	103.80	96.80	7.00	1	48	6.93%	32.69	410.77	
																		99.80	92.80	7.00			0.04%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: BSL_OUTFALL
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																										TAILWATER EL. (ft): 101.50: FEMA flood elevation of Big Sand Lake
PND141			NBSL0140	Type 7 MH	140.53			0.000	21.18	0.89	5.57	0.588	0.000	32.62	0.02	106.33	4.60	101.73	101.65	0.08	1	38" x 60"	0.066%	2.62	39.75	
637+43.48	-39.41	Lt.	NBSL0150					0.000										96.76	96.66	0.10			0.07%	3.19		Exist to remain and incorporated for analysis only
																		93.59	93.49	0.10			0.04%			
PND141			NBSL0150	Type 7 MH	155.17			0.000	21.18	1.00	5.57	0.588	0.000	32.62	0.00	104.37	2.72	101.65	101.58	0.07	1	48	0.673%	2.60	127.74	
637+66.28	-178.07	Lt.	NBSL0170					0.000										97.49	96.45	1.04			0.67%	10.17		Exist to remain and incorporated for analysis only
																		93.49	92.45	1.04			0.04%			
PND141			NBSL0170	Type H DBI	321.74	0.250	0.155	0.039	23.32	2.61	5.34	0.627	0.000	32.69	0.00	102.30	0.72	101.58	101.50	0.08	1	54	0.739%	2.06	182.56	
637+92.17	-331.07	Lt.	BSL_OUTFALL1			0.250	2.508	0.627										95.98	93.63	2.35			0.73%	11.48		Exist to remain and incorporated for analysis only
																		91.48	89.13	2.35			0.03%			
PND141			BSL204	Type E DBI	144.01	0.250	0.447	0.112	10.00	0.86	7.41	0.112	0.000	0.83	0.07	119.00	3.82	115.18	114.74	0.44	1	18	0.305%	2.78	5.21	
612+55.40	4.62	Rt.	BSL205			0.250	0.447	0.112										116.20	115.90	0.30			0.21%	2.95		Build for the Ultimate Condition
																		114.70	114.40	0.30			0.15%			
PND141			BSL205	Type 7 MH	107.60			0.000	11.50	0.35	7.06	0.112	0.000	6.23	0.18	121.20	6.82	114.38	113.66	0.72	1	18	0.666%	5.19	4.92	
613+99.80	5.31	Rt.	BSL206					0.000										114.40	114.20	0.20			0.19%	2.78		Build for the Ultimate Condition
																		112.90	112.70	0.20			0.15%			
PND141			BSL206	Type E DBI	303.33	0.250	0.265	0.066	11.94	1.06	6.97	0.178	0.000	6.68	0.02	118.00	6.21	111.79	111.12	0.67	1	24	0.221%	4.76	11.73	
615+07.50	5.70	Rt.	BSL207			0.250	0.712	0.178										112.30	112.20	0.10			0.20%	3.71		Build for the Ultimate Condition
																		110.30	109.70	0.60			0.10%			
PND141			BSL207	Type E DBI	190.71	0.250	0.240	0.060	13.57	0.66	6.65	0.238	0.000	7.02	0.02	115.00	4.14	110.86	110.24	0.62	1	24	0.323%	4.84	11.25	
618+11.00	-14.39	Lt.	BSL208			0.250	0.952	0.238										111.70	111.30	0.40			0.21%	3.58		Build for the Ultimate Condition
																		109.70	109.30	0.40			0.10%			
PND141			BSL208	Type 7 MH	240.87			0.000	14.37	1.15	6.51	0.238	0.000	13.52	0.17	118.15	9.17	108.98	108.53	0.45	1	30	0.187%	3.50	20.30	
620+03.20	-22.07	Lt.	BSL209					0.000										109.70	109.20	0.50			0.21%	4.14		Build for the Ultimate Condition
																		107.20	106.70	0.50			0.08%			
PND141			BSL209	Type E DBI	214.54	0.250	0.700	0.175	15.44	1.02	6.34	0.413	0.000	14.59	0.02	112.00	3.47	108.53	108.28	0.26	1	30	0.120%	3.51	19.24	
622+46.62	-22.00	Lt.	BSL210			0.250	1.652	0.413										109.20	108.80	0.40			0.19%	3.92		Build for the Ultimate Condition
																		106.70	106.30	0.40			0.08%			
PND141			BSL210	Type 7 MH	227.04			0.000	15.44	1.22	6.34	0.413	0.000	14.59	0.00	114.00	5.72	108.28	108.08	0.19	1	30	0.085%	3.10	20.91	
624+61.62	-20.00	Lt.	BSL211					0.000										108.80	108.30	0.50			0.22%	4.26		Build for the Ultimate Condition
																		106.30	105.80	0.50			0.08%			
PND141			BSL211	Type E DBI	206.79	0.250	0.134	0.034	17.57	0.67	6.02	0.447	0.000	20.90	0.22	112.00	3.92	108.08	107.34	0.75	1	30	0.361%	5.12	19.60	
626+88.65	-18.09	Lt.	BSL212			0.250	1.786	0.447										108.30	107.90	0.40			0.19%	3.99		Build for the Ultimate Condition
																		105.80	105.40	0.40			0.08%			
PND141			BSL212	Type 7 MH	187.81			0.000	17.57	0.48	6.02	0.447	0.000	20.90	0.00	113.85	6.51	107.34	106.55	0.78	1	30	0.417%	6.52	20.56	
628+95.40	-22.00	Lt.	BSL213					0.000										107.90	107.50	0.40			0.21%	4.19		Build for the Ultimate Condition
																		105.40	105.00	0.40			0.08%			
PND141			BSL213	Type E DBI	228.96	0.250	0.082	0.020	18.85	0.58	5.85	0.467	0.000	20.94	0.00	112.00	6.85	105.15	104.25	0.90	1	30	0.392%	6.53	20.82	
630+83.92	-22.00	Lt.	BSL214			0.250	1.868	0.467										105.70	105.20	0.50			0.22%	4.24		Build for the Ultimate Condition
																		103.20	102.70	0.50			0.08%			
PND141			BSL214	Type E DBI	244.49	0.250	0.229	0.057	19.56	0.94	5.76	0.524	0.000	21.23	0.00	108.00	5.17	102.83	102.27	0.56	1	30	0.197%	4.32	20.15	
633+12.88	-22.00	Lt.	BSL215			0.250	2.097	0.524										102.70	102.20	0.50			0.20%	4.10		Build for the Ultimate Condition
																		100.20	99.70	0.50			0.08%			
PND141			BSL215	Type E DBI	135.43	0.250	0.170	0.042	20.51	0.52	5.65	0.567	0.000	21.41	0.00	105.00	2.73	102.27	101.95	0.31	1	30	0.231%	4.36	20.97	
635+57.37	-22.00	Lt.	BSL216A			0.250	2.267	0.567										102.20	101.90	0.30			0.22%	4.27		Build for the Ultimate Condition
																		99.70	99.40	0.30			0.08%			
PND141			BSL216	Type 7 MH	14.48			0.000	21.18	0.09	5.57	0.588	0.000	32.62	0.00	106.00	4.26	101.74	101.73	0.01	1	38" x 60"	0.066%	2.62	39.16	
637+37.89	-26.06	Lt.	NBSL0140					0.000										96.77	96.76	0.01			0.07%	3.15		Build for the Ultimate Condition
																		93.60	93.59	0.01			0.04%			
PND141			BSL217	Type E DBI	76.21	0.250	0.086	0.021	10.28	0.35	7.34	0.022	0.000	6.22	0.00	106.00	3.99	102.01	101.79	0.23	1	18	0.258%	3.62	5.43	
637+99.98	22.94	Rt.	FPC141B			0.251	0.086	0.022										100.20	100.10	0.10			0.20%	3.52		Build for the Ultimate Condition
																		98.70	98.55	0.15			0.15%			

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: BSL_OUTFALL
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE	HYD. GRAD.			ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					PHYSICAL			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
PND141			BSL216A					0.000										101.95	101.79	0.17			0.417%	4.36		TAILWATER EL. (ft): 101.50: FEMA flood elevation of Big Sand Lake
636+92.80	-22.00	Lt.	FPC141B	Type 7 MH	40.01			0.000	20.51	0.15	5.65	0.567	0.000	21.41	0.08	109.83	7.88	101.90	101.80	0.10	1	30	0.25%	4.54	22.27	
																		99.40	99.30	0.10			0.08%			Build for the Ultimate Condition
PND141			CS-141B1			0.950	0.000	0.000										116.68	116.25	0.43			3.230%	4.92		
613+99.45	18.75	Rt.	BSL205	Type E DBI	13.45	0.950	0.000	0.000	10.00	0.05	7.41	0.000	5.440	5.44	0.32	120.00	3.32	116.90	116.85	0.05	1	18	0.37%	3.94	6.96	Control structure for PND141B1; modified type E (see control structure detail sheet)
																		115.40	115.35	0.05			0.15%			
PND141			CS-141B2			0.950	0.000	0.000										109.72	109.13	0.59			4.003%	5.65		
620+03.13	-7.33	Lt.	BSL208	Type E DBI	14.74	0.950	0.000	0.000	10.00	0.04	7.41	0.000	6.530	6.53	0.43	116.70	6.98	109.80	109.70	0.10	1	18	0.68%	5.32	9.40	Control structure for PND141B2; modified type E (see control structure detail sheet)
																		108.30	108.20	0.10			0.15%			
PND141			CS-141B3			0.950	0.000	0.000										109.40	108.82	0.58			1.363%	5.19		
626+88.51	24.40	Rt.	BSL211	Type E DBI	42.49	0.950	0.000	0.000	10.00	0.14	7.41	0.000	6.240	6.24	0.28	112.50	3.10	109.45	109.35	0.10	1	18	0.24%	3.13	5.54	Control structure for PND141B3; modified type E (see control structure detail sheet)
																		107.95	107.85	0.10			0.15%			
PND141			CS-141B4			0.950	0.000	0.000										102.58	102.01	0.57			0.838%	4.77		
638+62.23	49.95	Rt.	BSL217	Type E DBI	67.96	0.950	0.000	0.000	10.00	0.24	7.41	0.000	6.060	6.06	0.23	112.50	9.92	102.60	102.50	0.10	1	18	0.15%	2.48	4.38	Control structure for PND141B4; modified type E (see control structure detail sheet)
																		101.10	101.00	0.10			0.15%			
PND141			FPC141A			0.000	0.000	0.000										104.46	104.13	0.33			1.763%	4.15		
637+21.18	10.00	Rt.	FPC141B	MESC30RCP4S-o	18.61	0.000	0.000	0.000	0.00	0.07	0.00	0.000	5.070	5.07	0.25	108.00	3.54	105.95	105.89	0.06	1	30	0.32%	5.15	25.30	Lake Willis 30" outfall pipe connectivity to Big Sand Lake
																		103.45	103.39	0.06			0.08%			
PND141			FPC141B					0.000										101.79	101.74	0.05			0.463%	2.62		
637+29.70	-6.53	Lt.	BSL216	Type 7 MH	21.18			0.000	21.18	0.13	5.57	0.588	0.000	32.62	0.04	109.40	7.61	96.87	96.77	0.10	1	38" x 60"	0.47%	8.23	102.39	
																		93.70	93.60	0.10			0.04%			Build for the Ultimate Condition

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.3.4: Pond PND142

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: PND142_01** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** | **Date: 07/01/2019**

Checked by: KTD | **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
ISLIP2			S-438A	Type E DBI	225.22	0.631	0.156	0.098	10.00	1.49	7.41	0.098	0.000	0.73	0.06	114.36	8.54	105.82	105.30	0.52	1	24	0.231%	2.52	10.36	TAILWATER EL. (ft): 96.81: stage at peak inflow for 010Y001H for Node PND142
210+31.23	-14.90	Lt.	S-443A			0.631	0.156	0.098										107.40	107.00	0.40			0.18%	3.30		
																		105.40	105.00	0.40			0.10%			
ISLIP2			S-443A	Type E DBI	203.33	0.522	0.279	0.146	15.00	2.23	6.41	0.244	0.000	1.56	0.02	110.20	7.61	102.59	102.42	0.17	1	24	0.081%	1.52	9.44	
212+56.45	-14.90	Lt.	S-446A			0.561	0.435	0.244										104.00	103.70	0.30			0.15%	3.00		
																		102.00	101.70	0.30			0.10%			
ISLIP2			S-446A	Type E DBI	197.54	0.661	1.225	0.810	16.86	1.40	6.12	1.054	0.000	6.45	0.03	107.83	5.41	102.42	102.27	0.16	1	30	0.079%	2.35	17.36	
214+59.78	-14.90	Lt.	S-447A			0.635	1.660	1.054										103.70	103.40	0.30			0.15%	3.54		
																		101.20	100.90	0.30			0.08%			
ISLIP2			S-447A	Type E DBI	199.45	0.615	0.742	0.456	18.14	1.07	5.94	1.511	0.000	8.98	0.03	107.99	5.72	102.27	102.02	0.24	1	30	0.122%	3.11	17.28	
216+57.32	-14.90	Lt.	S-448A			0.629	2.402	1.511										103.40	103.10	0.30			0.15%	3.52		
																		100.90	100.60	0.30			0.08%			
BL400			S-448A	Type E DBI	190.46	0.601	0.677	0.407	19.18	0.61	5.81	1.917	0.000	11.13	0.03	108.23	6.21	102.02	101.42	0.61	1	30	0.318%	5.24	17.68	
690+59.74	-112.48	Lt.	S-449A			0.623	3.079	1.917										103.10	102.80	0.30			0.16%	3.60		
																		100.60	100.30	0.30			0.08%			
BL400			S-449A	Type E DBI	29.18	0.601	0.443	0.267	31.04	0.09	4.67	3.228	0.000	15.07	0.28	108.29	8.01	100.28	99.86	0.42	1	54	1.454%	5.28	125.04	
692+50.20	-112.48	Lt.	S-607C			0.445	7.252	3.228										103.40	103.30	0.10			0.34%	7.86		
																		98.90	98.80	0.10			0.03%			
IA_CFP			S-450A	Type S GI	56.43	0.250	0.066	0.017	15.00	1.61	6.41	0.017	0.000	0.11	0.01	115.25	5.47	109.78	109.74	0.04	1	18	0.077%	0.58	4.80	
306+50.00	-6.13	Lt.	S-452A			0.250	0.066	0.017										111.10	111.00	0.10			0.18%	2.72		
																		109.60	109.50	0.10			0.15%			
IA_CFP			S-451A	Type S GI	56.43	0.250	0.043	0.011	15.00	0.62	6.41	0.011	0.000	0.07	0.01	115.43	5.67	109.76	109.59	0.16	1	18	0.291%	1.51	4.80	
306+50.00	21.21	Rt.	S-453A			0.250	0.043	0.011										111.10	111.00	0.10			0.18%	2.72		
																		109.60	109.50	0.10			0.15%			
IA_CFP			S-452A	Type S GI	33.96	0.250	0.061	0.015	17.45	0.17	6.04	0.039	0.000	0.24	0.05	115.10	5.36	109.74	108.97	0.77	1	18	2.272%	3.26	15.91	
307+00.00	-6.01	Lt.	S-453A			0.250	0.158	0.039										111.00	110.34	0.66			1.94%	9.00		
																		109.50	108.84	0.66			0.15%			
IA_CFP			S-453A	Type S GI	114.54	0.250	0.099	0.025	17.62	0.42	6.01	0.085	0.000	0.51	0.08	115.36	8.57	106.79	103.67	3.12	1	18	2.720%	4.53	18.28	
307+00.00	21.22	Rt.	S-456A			0.250	0.342	0.085										107.94	105.00	2.94			2.57%	10.34		
																		106.44	103.50	2.94			0.15%			
IA_CFP			S-454A	Type S GI	56.43	0.250	0.030	0.008	15.00	3.52	6.41	0.008	0.000	0.05	0.00	115.25	5.50	109.75	109.74	0.01	1	18	0.021%	0.27	4.80	
307+50.00	-6.01	Lt.	S-452A			0.250	0.030	0.008										111.10	111.00	0.10			0.18%	2.72		
																		109.60	109.50	0.10			0.15%			
IA_CFP			S-455A	Type S GI	56.43	0.250	0.042	0.011	15.00	0.63	6.41	0.011	0.000	0.07	0.01	115.43	5.67	109.76	109.59	0.16	1	18	0.290%	1.49	4.80	
307+50.00	21.13	Rt.	S-453A			0.250	0.042	0.011										111.10	111.00	0.10			0.18%	2.72		
																		109.60	109.50	0.10			0.15%			
BL400			S-456A	Type E DBI	123.62	0.595	0.323	0.192	30.44	0.48	4.71	1.044	0.000	4.92	0.10	108.39	6.22	102.17	101.68	0.49	1	24	0.393%	4.33	9.88	
693+73.82	-112.48	Lt.	S-449A			0.280	3.730	1.044										103.10	102.90	0.20			0.16%	3.15		
																		101.10	100.90	0.20			0.10%			
BL400			S-457A	Type E DBI	88.84	0.250	2.910	0.727	30.00	0.37	4.75	0.766	0.000	3.64	0.17	108.46	4.53	103.93	103.47	0.46	1	24	0.523%	3.96	11.66	
694+62.66	-112.48	Lt.	S-456A			0.250	3.065	0.766										105.00	104.80	0.20			0.23%	3.71		
																		103.00	102.80	0.20			0.10%			
IC_CFP			S-607C	Type 7 MH	63.72			0.000	31.04	0.22	4.67	3.228	0.000	15.07	0.01	110.11	10.60	99.51	99.27	0.25	1	60	0.388%	4.91	112.07	
405+81.27	42.15	Rt.	S-608C					0.000										103.30	103.20	0.10			0.16%	5.71		Build for the Ultimate Condition; top may need to be adjusted in the future
																		98.30	98.20	0.10			0.03%			
IC_CFP			S-608C	Type 7 MH	53.39			0.000	31.04	0.26	4.67	3.228	0.000	15.07	0.15	116.26	17.11	99.15	98.97	0.19	1	60	0.348%	3.47	122.44	
405+78.27	-21.50	Lt.	S-609C					0.000										102.70	102.60	0.10			0.19%	6.24		Build for the Ultimate Condition; top may need to be adjusted in the future
																		97.70	97.60	0.10			0.03%			

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND142_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 96.81: stage at peak inflow for 010Y001H for Node PND142
IC_CFP			S-609C					0.000										98.97	98.73	0.23			0.582%	4.01		
405+26.36	-19.23	Lt.	S-610C	Type 7 MH	40.12			0.000	31.04	0.17	4.67	3.228	0.000	15.07	0.21	116.40	17.43	102.60	102.50	0.10	1	60	0.25%	7.19	141.25	Build for the Ultimate Condition; top may need to be adjusted in the future
																		97.60	97.50	0.10			0.03%			
IA_CFP			S-610C			0.950	0.027	0.026										98.73	98.75	-0.02			-0.074%	3.55		
305+25.55	-6.12	Lt.	S-611C	Type S GI	25.90	0.443	7.353	3.254	31.04	0.12	4.67	3.254	0.000	15.20	0.01	115.66	16.93	102.50	102.40	0.10	1	60	0.39%	8.95	175.79	Build for the Ultimate Condition; top may need to be adjusted in the future
																		97.50	97.40	0.10			0.03%			
IA_CFP			S-611C					0.000										98.75	98.40	0.36			0.104%	3.39		
305+25.76	-30.10	Lt.	S-612C	Type 7 MH	342.34			0.000	31.04	1.68	4.67	3.254	0.000	15.20	0.00	115.58	16.83	102.40	102.00	0.40	1	60	0.12%	4.93	96.70	Build for the Ultimate Condition; top may need to be adjusted in the future
																		97.40	97.00	0.40			0.03%			
POND142			S-612C					0.000										98.40	98.32	0.07			0.087%	3.30		
1003+68.71	392.71	Rt.	S-613C	Type 7 MH	83.65			0.000	31.04	0.42	4.67	3.254	0.000	15.20	0.00	112.01	13.61	102.00	101.90	0.10	1	60	0.12%	4.98	97.81	Build for the Ultimate Condition; top may need to be adjusted in the future
																		97.00	96.90	0.10			0.03%			
POND142			S-613C					0.000										98.32	97.88	0.45			0.179%	3.46		
1003+71.67	309.12	Rt.	S-634C	Type 7 MH	248.58			0.000	31.04	1.20	4.67	3.254	0.000	15.20	0.17	109.25	10.93	101.90	101.50	0.40	1	60	0.16%	5.78	113.49	Build for the Ultimate Condition; top may need to be adjusted in the future
																		96.90	96.50	0.40			0.03%			
IA_CFP			S-614A			0.010	0.074	0.001										109.63	109.33	0.30			0.523%	0.57		
305+77.20	-6.13	Lt.	S-610C	Type S GI	57.26	0.010	0.074	0.001	10.00	1.67	7.41	0.001	0.000	0.01	0.00	115.53	5.90	111.00	110.80	0.20	1	18	0.35%	3.82	6.74	
																		109.50	109.30	0.20			0.15%			
POND142			S-634C					0.000										97.88	97.37	0.50			0.485%	4.92		
1006+20.00	298.07	Rt.	S-634C1	Type 7 MH	104.04			0.000	31.04	0.35	4.67	3.254	0.000	15.20	0.20	113.71	15.83	101.50	101.30	0.20	1	60	0.19%	6.32	124.04	Build for the Ultimate Condition; top may need to be adjusted in the future
																		96.50	96.30	0.20			0.03%			
IA_CFP			S-457A1			0.250	0.155	0.039										104.15	103.93	0.22			0.208%	0.59		
307+90.00	33.00	Rt.	S-457A	Type E DBI	103.57	0.250	0.155	0.039	15.00	2.93	6.41	0.039	0.000	0.25	0.05	114.85	10.70	105.40	105.00	0.40	1	18	0.39%	4.01	7.09	
																		103.90	103.50	0.40			0.15%			
POND142			S-634C1					0.000										96.81	96.81	0.00			9.062%	0.77		
1006+20.00	194.03	Rt.	S-635C	Type 7 MH	60.69			0.000	31.04	1.31	4.67	3.254	0.000	15.20	0.00	109.25	12.44	94.00	88.50	5.50	1	60	9.06%	43.37	851.62	Build for the Ultimate Condition; top may need to be adjusted in the future
																		89.00	83.50	5.50			0.03%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: PND142_02
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 101.50: FEMA flood elevatio for Big Sand Lake
POND142			CS-142B1	Type E DBI	48.35	0.950	0.000	0.000	0.00	0.57	0.00	0.000	0.000	2.51	0.03	104.00	2.29	101.71	101.65	0.06	1	18	0.136%	1.42	6.27	
1015+61.62	22.16	Rt.	CS-142B2			0.000	0.000	0.000										96.00	95.93	0.07			0.21%	3.21		Control structure for PND142; modified type E (see control structure detail sheet)
																		94.50	94.40	0.10			0.15%			
POND142			CS-142B2	Type 7 MH	270.46			0.000	0.00	3.17	0.00	0.000	0.000	2.51	0.02	102.00	0.35	101.65	101.50	0.15	1	18	0.270%	1.42	5.97	
1015+61.62	-26.19	Lt.	CS-142B3					0.000										94.93	94.19	0.74			0.26%	3.38		
																		93.40	92.69	0.71			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.3.5: Pond PNDC

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: DCP_PNDC
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
CLDCP			S-100C			0.950	0.052	0.050										149.81	149.63	0.17			0.513%	2.11		TAILWATER EL. (ft): 122.45
115+54.69	33.56	Rt.	S-101C	Type 1 CI	33.60	0.950	0.052	0.050	10.00	0.27	7.41	0.050	0.000	0.37	0.06	154.42	4.61	151.00	150.90	0.10	1	18	0.30%	3.52	6.23	
																		149.50	149.40	0.10			0.15%			
CLDCP			S-101C					0.000										141.91	140.65	1.26			1.746%	3.82		
115+54.22	0.11	Lt.	S-103C	Type 7 MH	72.28			0.000	10.35	0.32	7.32	0.084	0.000	0.61	0.09	154.91	13.00	143.56	142.45	1.11	1	24	1.54%	9.69	30.45	
																		141.56	140.45	1.11			0.10%			
CLDCP			S-102C			0.950	0.036	0.034										149.75	149.59	0.17			0.466%	1.99		
115+54.27	-35.65	Lt.	S-101C	Type 1 CI	35.77	0.950	0.036	0.034	10.00	0.30	7.41	0.034	0.000	0.25	0.04	154.42	4.67	151.00	150.90	0.10	1	18	0.28%	3.41	6.03	
																		149.50	149.40	0.10			0.15%			
CLDCP			S-103C					0.000										141.12	139.93	1.19			2.366%	5.84		
116+26.50	0.00	Lt.	S-106C	Type 7 MH	50.20			0.000	11.05	0.14	7.16	0.314	0.000	2.25	0.15	152.84	11.72	142.45	141.57	0.88	1	24	1.75%	10.36	32.54	
																		140.45	139.57	0.88			0.10%			
CLDCP			S-104C			0.928	0.248	0.230										146.67	146.18	0.49			0.709%	3.46		
116+26.50	-68.50	Lt.	S-103C	Type 1 CI	68.50	0.928	0.248	0.230	10.00	0.33	7.41	0.230	0.000	1.70	0.18	150.90	4.23	147.50	147.20	0.30	1	18	0.44%	4.27	7.55	
																		146.00	145.70	0.30			0.15%			
CLDCP			S-105C			0.840	0.354	0.297										144.28	143.73	0.55			0.923%	3.91		
116+76.70	59.49	Rt.	S-106C	Type 1 CI	59.49	0.840	0.354	0.297	10.00	0.25	7.41	0.297	0.000	2.20	0.21	148.81	4.53	145.00	144.70	0.30	1	18	0.50%	4.59	8.10	
																		143.50	143.20	0.30			0.15%			
CLDCP			S-106C					0.000										140.52	135.51	5.01			3.572%	8.87		
116+76.70	0.00	Lt.	S-108E	Type 7 MH	140.36			0.000	11.26	0.26	7.12	0.611	0.000	4.34	0.22	150.55	10.03	141.57	137.08	4.49	1	24	3.20%	13.99	43.95	
																		139.57	135.08	4.49			0.10%			
CLDCP			S-107E			0.593	0.265	0.157										131.43	126.78	4.64			1.311%	7.22		
118+16.78	59.39	Rt.	S-112E	Type 1 CI	354.21	0.803	1.317	1.057	11.86	0.82	6.99	1.057	0.000	7.38	0.29	141.90	10.47	132.17	128.06	4.11	1	24	1.16%	8.43	26.47	
																		130.17	126.06	4.11			0.10%			Existing structure to remain
CLDCP			S-108E					0.000										136.23	135.78	0.44			0.747%	4.68		
																		136.94	136.89	0.05			0.08%			Existing structure to remain; velocity shown is less than desirable, but pipe is existing and shall remain as is.; flow line is actually reversed as picked up by surveyor. Shown this way in order for Geopak to run.
118+17.06	-0.12	Lt.	S-107E	Type 7 MH	59.51			0.000	11.60	0.21	7.04	0.900	0.000	6.34	0.16	143.72	7.49	134.94	134.89	0.05	1	24	0.10%	2.27	7.12	
CLDCP			S-109C			0.798	0.362	0.289										137.27	136.85	0.42			0.609%	3.62		
118+17.02	-68.50	Lt.	S-108E	Type 1 CI	68.38	0.798	0.362	0.289	10.00	0.31	7.41	0.289	0.000	2.14	0.16	141.59	4.32	138.00	137.80	0.20	1	18	0.29%	3.49	6.17	
																		136.50	136.30	0.20			0.15%			
CLDCP			S-110C					0.000										129.98	128.46	1.52			0.906%	4.48		
120+02.57	0.00	Lt.	S-113C	Type 7 MH	167.99			0.000	10.00	0.62	7.41	0.280	0.000	2.07	0.14	136.57	6.59	130.80	129.50	1.30	1	18	0.77%	5.68	10.04	
																		129.30	128.00	1.30			0.15%			
CLDCP			S-111C			0.795	0.352	0.280										130.26	129.98	0.27			0.397%	2.64		
120+02.57	-68.50	Lt.	S-110C	Type 1 CI	68.50	0.795	0.352	0.280	10.00	0.43	7.41	0.280	0.000	2.07	0.15	134.72	4.46	131.00	130.80	0.20	1	18	0.29%	3.49	6.17	
																		129.50	129.30	0.20			0.15%			
CLDCP			S-112E			0.782	0.630	0.493										123.77	122.54	1.23			1.892%	7.88		
121+70.94	65.00	Rt.	S-113C	Type 1 CI	65.00	0.803	1.317	1.057	12.68	0.14	6.82	1.057	0.000	37.21	0.67	132.14	8.37	125.28	124.93	0.35	1	48	0.54%	9.11	114.49	
																		121.28	120.93	0.35			0.04%			Existing structure to remain
CLDCP			S-113C					0.000										122.88	122.29	0.59			1.234%	7.99		
121+70.56	0.00	Lt.	S-114E	Type 7 MH	47.47			0.000	12.83	0.10	6.79	1.336	0.000	39.08	0.10	133.87	10.99	124.91	124.64	0.27	1	48	0.57%	9.36	117.68	
																		120.91	120.64	0.27			0.04%			

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.3.6: Pond PNDFPC141

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01 | **County: Orange** | **Network: FPC141_01** | **Sheet: _____ of _____**

Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Prepared by: LP** **Date: 07/01/2019**

Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			ZONE: Zone 7
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		FREQUENCY (yrs): 10.00 Year
																							MIN. PHYSICAL			MANNINGS n: 0.012
BL400			S-416A	BWI	104.88	0.950	0.270	0.257	10.00	0.31	7.41	0.257	0.000	1.90	0.19	116.93	4.52	112.41	110.37	2.05	1	18	1.950%	5.67	14.53	TAILWATER EL. (ft): 103.79: stage at peak inflow for 010Y001H is lower than provided here for Node PNDFPC141
659+90.41	-91.74	Lt.	S-418A			0.950	0.270	0.257										113.20	111.50	1.70			1.62%	8.22		
																		111.70	110.00	1.70			0.15%			
BL400			S-417A	Type S GI	14.15	0.353	0.252	0.089	12.00	0.21	6.96	0.089	0.000	0.62	0.04	115.30	5.25	110.05	110.02	0.03	1	18	0.210%	1.13	9.59	
660+94.99	-95.04	Lt.	S-418A			0.353	0.252	0.089										111.10	111.00	0.10			0.71%	5.43		
																		109.60	109.50	0.10			0.15%			
BL400			S-418A	BWI	168.33	0.950	0.149	0.141	12.18	0.67	6.92	0.487	0.000	3.37	0.12	115.29	5.27	110.02	109.40	0.62	1	18	0.370%	4.17	4.82	
660+94.99	-91.68	Lt.	S-420A			0.726	0.672	0.487										110.50	110.20	0.30			0.18%	2.73		
																		109.00	108.70	0.30			0.15%			
BL400			S-419A	Type E DBI	199.72	0.251	0.206	0.052	15.11	2.73	6.39	0.599	0.000	3.83	0.02	112.75	5.99	106.76	106.70	0.06	1	24	0.030%	1.22	9.52	
662+63.17	-103.49	Lt.	S-421A			0.536	1.118	0.599										107.00	106.70	0.30			0.15%	3.03		
																		105.00	104.70	0.30			0.10%			
BL400			S-420A	BWI	14.04	0.250	0.241	0.060	15.00	0.11	6.41	0.548	0.000	3.51	0.06	113.28	6.46	106.82	106.76	0.06	1	24	0.410%	2.07	14.67	
662+63.17	-91.58	Lt.	S-419A			0.600	0.912	0.548										107.75	107.70	0.05			0.36%	4.67		
																		105.75	105.70	0.05			0.10%			
BL400			S-421A	Type E DBI	199.48	0.609	0.580	0.353	17.77	1.83	5.99	0.953	0.000	5.71	0.00	109.84	3.14	106.70	106.59	0.11	1	24	0.152%	1.82	9.53	
664+62.84	-104.00	Lt.	S-422A			0.561	1.698	0.953										106.70	106.40	0.30			0.15%	3.03		
																		104.70	104.40	0.30			0.10%			
BL400			S-422A	Type E DBI	199.21	0.565	0.616	0.348	19.60	1.39	5.75	1.301	0.000	7.48	0.00	108.91	2.32	106.59	106.40	0.19	1	24	0.147%	2.38	9.54	
666+62.32	-104.00	Lt.	S-423A			0.562	2.314	1.301										106.40	106.10	0.30			0.15%	3.04		
																		104.40	104.10	0.30			0.10%			
BL400			S-423A	Type E DBI	199.24	0.548	1.292	0.708	21.01	0.93	5.59	2.008	0.000	11.22	0.01	108.00	1.60	106.40	105.97	0.43	1	24	0.181%	3.57	9.54	
668+61.53	-104.00	Lt.	S-424A			0.557	3.605	2.008										106.10	105.80	0.30			0.15%	3.04		
																		104.10	103.80	0.30			0.10%			
BL400			S-424A	Type E DBI	199.81	0.544	0.664	0.361	21.94	1.26	5.48	2.370	0.000	12.99	0.00	108.30	2.33	105.97	105.80	0.17	1	30	0.153%	2.65	17.26	
670+60.77	-104.00	Lt.	S-425A			0.555	4.269	2.370										105.80	105.50	0.30			0.15%	3.52		
																		103.30	103.00	0.30			0.08%			
BL400			S-425A	Type E DBI	200.00	0.250	0.000	0.000	21.94	1.26	5.48	2.370	0.000	12.99	0.00	108.60	2.80	105.80	105.63	0.17	1	30	0.153%	2.65	17.26	
672+60.58	-104.00	Lt.	S-426A			0.555	4.269	2.370										105.50	105.20	0.30			0.15%	3.52		
																		103.00	102.70	0.30			0.08%			
BL400			S-426A	Type E DBI	199.87	0.010	0.000	0.000	21.94	1.26	5.48	2.370	0.000	12.99	0.00	108.90	3.27	105.63	105.46	0.17	1	30	0.153%	2.65	17.26	
674+60.58	-104.00	Lt.	S-427A			0.555	4.270	2.370										105.20	104.90	0.30			0.15%	3.52		
																		102.70	102.40	0.30			0.08%			
BL400			S-427A	Type E DBI	139.58	0.554	0.647	0.359	57.78	0.59	3.32	8.761	0.000	77.76	0.07	108.78	3.32	105.46	105.28	0.18	1	60	0.076%	3.96	79.42	
676+60.45	-104.00	Lt.	S-482C			0.603	14.519	8.761										102.23	102.12	0.11			0.08%	4.04		
																		97.23	97.12	0.11			0.03%			
BL400			S-430A	Type E DBI	200.15	0.578	0.602	0.348	55.10	2.70	3.42	1.771	0.000	6.06	0.00	108.67	3.17	105.50	105.46	0.04	1	30	0.195%	1.23	19.92	
678+60.60	-104.00	Lt.	S-427A			0.654	2.709	1.771										103.60	103.20	0.40			0.20%	4.06		
																		101.10	100.70	0.40			0.08%			
BL400			S-431A	Type E DBI	105.13	0.504	0.417	0.210	20.00	7.17	5.71	0.210	0.000	1.20	0.00	107.56	2.04	105.52	105.52	0.00	1	30	0.085%	0.24	13.74	
679+51.55	1.13	Rt.	S-432A			0.504	0.417	0.210										105.41	105.31	0.10			0.10%	2.80		
																		102.91	102.81	0.10			0.08%			
BL400			S-432A	Type E DBI	90.95	0.603	0.257	0.155	53.60	1.50	3.48	1.423	0.000	4.95	0.01	108.61	3.09	105.52	105.50	0.02	1	30	0.224%	1.01	20.89	
679+51.55	-104.00	Lt.	S-430A			0.675	2.107	1.423										103.80	103.60	0.20			0.22%	4.26		
																		101.30	101.10	0.20			0.08%			

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: FPC141_01
State Road: S.R. 400 (I-4)

Sheet: _____ of _____
Prepared by: LP
Checked by: KTD

Date: 07/01/2019
Date: 07/26/2019

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL	PHYSICAL VELOCITY (fps)		MANNINGS n: 0.012
																							MIN. PHYSICAL			TAILWATER EL. (ft): 103.79: stage at peak inflow for 010Y001H is lower than provided here for Node PNDFPC141
BL400			S-435A	Type E DBI	109.11	0.648	0.636	0.412	51.25	2.36	3.57	1.058	0.000	3.78	0.00	108.55	3.03	105.52	105.52	0.01	1	30	0.187%	0.77	19.08		
680+60.66	-104.00	Lt.	S-432A			0.738	1.433	1.058										104.00	103.80	0.20			0.18%	3.89		
																		101.50	101.30	0.20			0.08%			
BL400			S-436A	Type 7 MH	146.84			0.000	45.92	4.89	3.80	0.646	0.000	2.46	0.00	111.58	6.05	105.53	105.52	0.01	1	30	0.209%	0.50	20.14		
682+07.50	-104.00	Lt.	S-435A					0.000										104.30	104.00	0.30			0.20%	4.10		
																		101.80	101.50	0.30			0.08%			
BL400			S-437A	Type S GI	20.23	0.716	0.118	0.084	45.92	0.43	3.80	0.646	0.000	2.46	0.01	109.60	4.06	105.54	105.53	0.01	1	24	0.496%	0.78	17.28		
682+07.50	-88.58	Lt.	S-436A			0.810	0.797	0.646										104.40	104.30	0.10			0.49%	5.50		
																		102.40	102.30	0.10			0.10%			
BL400			S-439A	Type S GI	58.60	0.762	0.116	0.088	44.51	1.41	3.87	0.562	0.000	2.17	0.00	109.76	4.21	105.55	105.54	0.01	1	24	0.169%	0.69	10.15		
682+60.00	-88.58	Lt.	S-437A			0.826	0.680	0.562										104.50	104.40	0.10			0.17%	3.23		
																		102.50	102.40	0.10			0.10%			
BL400			S-440A	Type S GI	105.85	0.794	0.111	0.088	41.39	3.11	4.03	0.442	0.000	1.78	0.00	109.70	4.14	105.56	105.55	0.01	1	24	0.183%	0.57	10.68		
683+60.00	-88.57	Lt.	S-439A			0.833	0.531	0.442										104.70	104.50	0.20			0.19%	3.40		
																		102.70	102.50	0.20			0.10%			
BL400			S-441A	Type S GI	34.38	0.806	0.129	0.104	40.13	1.24	4.09	0.354	0.000	1.45	0.00	109.59	4.03	105.56	105.56	0.00	1	24	0.290%	0.46	13.25		
683+88.28	-88.62	Lt.	S-440A			0.843	0.420	0.354										104.80	104.70	0.10			0.29%	4.22		
																		102.80	102.70	0.10			0.10%			
BL400			S-442A	Type S GI	37.59	0.823	0.122	0.101	39.06	1.07	4.15	0.250	0.000	1.04	0.00	109.69	4.13	105.56	105.56	0.00	1	18	0.261%	0.59	5.89		
684+20.00	-89.62	Lt.	S-441A			0.860	0.290	0.250										104.90	104.80	0.10			0.27%	3.33		
																		103.40	103.30	0.10			0.15%			
BL400			S-444A	Type S GI	66.21	0.881	0.154	0.136	36.01	3.02	4.33	0.149	0.000	0.65	0.00	109.51	3.94	105.57	105.56	0.00	1	18	0.155%	0.37	4.43		
684+80.00	-91.47	Lt.	S-442A			0.887	0.168	0.149										105.00	104.90	0.10			0.15%	2.51		
																		103.50	103.40	0.10			0.15%			
BL400			S-445A	Type S GI	85.89	0.950	0.014	0.013	10.00	25.89	7.41	0.013	0.000	0.10	0.00	109.63	4.06	105.57	105.57	0.00	1	18	0.224%	0.06	5.51		
685+60.00	-93.91	Lt.	S-444A			0.950	0.014	0.013										105.20	105.00	0.20			0.23%	3.12		
																		103.70	103.50	0.20			0.15%			
BL400			S-480C	Type 7 MH	147.56			0.000	28.21	0.77	4.89	2.895	0.000	62.82	0.00	109.03	3.43	105.60	105.52	0.07	1	60	0.088%	3.20	80.68		
676+60.45	149.53	Rt.	S-494B					0.000										102.43	102.31	0.12			0.08%	4.11		
																		97.43	97.31	0.12			0.03%			Structure build for Ultimate Condition
IWBCD2			S-482C	Type 7 MH	344.47			0.000	57.78	1.45	3.32	8.761	0.000	77.76	0.17	117.38	12.10	105.28	104.85	0.43	1	60	0.107%	3.96	88.88		
7084+92.46	-57.49	Lt.	S-495C					0.000										102.12	101.78	0.34			0.10%	4.53		
																		97.12	96.78	0.34			0.03%			
BL400			S-491A	MESC18RCP4S-o	34.38	0.695	1.596	1.109	22.85	0.08	5.39	1.109	5.810	11.78	0.70	104.98	-2.16	107.14	106.01	1.13	1	18	3.287%	7.22	10.30		
676+26.07	149.53	Rt.	S-480C			0.695	1.596	1.109										106.48	106.20	0.28			0.81%	5.83		
																		104.98	104.70	0.28			0.15%			
BL400			S-494A	MESC18RCP4S-o	34.55	0.689	2.591	1.786	28.15	0.06	4.90	1.786	8.740	17.48	1.52	103.55	-4.38	107.93	105.60	2.34	1	18	2.040%	9.89	8.68		
676+95.00	149.53	Rt.	S-480C			0.689	2.591	1.786										105.05	104.85	0.20			0.58%	4.91		
																		103.55	103.35	0.20			0.15%			
			S-494B	Type E DBI	105.97	0.505	2.706	1.367	30.00	0.50	4.75	4.262	4.600	68.89	0.00	108.55	3.03	105.52	105.46	0.06	1	60	0.084%	3.51	77.73		
676+60.45	1.97	Rt.	S-427A			0.618	6.893	4.262										102.31	102.23	0.08			0.08%	3.96		
																		97.31	97.23	0.08			0.03%			
IWBCD2			S-495C	Type 7 MH	89.23			0.000	57.78	0.38	3.32	8.761	0.000	77.76	0.17	114.89	10.04	104.85	104.61	0.24	1	60	0.399%	3.96	179.70		
7088+36.93	-57.49	Lt.	S-496C					0.000										96.36	96.00	0.36			0.40%	9.15		
																		91.36	91.00	0.36			0.03%			Structure build for Ultimate Condition
ISLIP2			S-439A1	BWI	44.23	0.950	0.033	0.032	10.00	2.31	7.41	0.032	0.000	0.23	0.00	115.23	9.68	105.55	105.55	0.00	1	18	0.009%	0.32	6.65		
210+57.97	21.00	Rt.	S-439A			0.950	0.033	0.032										106.55	106.40	0.15			0.34%	3.76		
																		105.05	104.90	0.15			0.15%			

STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: FPC141_01
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL			MANNINGS n: 0.012
																							MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 103.79: stage at peak inflow for 010Y001H is lower than provided here for Node PNDFPC141
BL400			S-479C1	Type 7 MH	34.97			0.000	10.00	0.34	0.00	0.000	34.110	34.11	0.05	109.38	3.73	105.65	105.60	0.05	1	60	0.049%	1.74	67.66	
676+60.45	184.50	Rt.	S-480C					0.000										102.45	102.43	0.02			0.06%	3.45		Structure build for Ultimate Condition
																		97.45	97.43	0.02			0.03%			

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.3.7: Lake Willis Outfall

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: LKWILLIS01A
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																							PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 103.93: stage at peak inflow for 010Y001H is lower than provided for Node LkWillis
IC_DCP			S-325A	Type S GI	97.51	0.944	0.266	0.251	10.00	0.75	7.41	0.251	0.000	1.86	0.10	110.71	4.76	105.95	105.74	0.22	1	18	0.221%	2.16	5.17	
618+90.84	10.13	Rt.	S-326A			0.944	0.266	0.251										106.70	106.50	0.20			0.21%	2.92		
																		105.20	105.00	0.20			0.15%			
IC_DCP			S-326A	Type S GI	113.66	0.950	0.201	0.191	10.70	0.41	7.24	0.442	0.000	3.20	0.05	109.94	4.20	105.74	104.92	0.81	1	18	0.716%	4.63	8.95	
619+81.61	10.13	Rt.	S-327A			0.947	0.467	0.442										106.50	105.80	0.70			0.62%	5.07		
																		105.00	104.30	0.70			0.15%			
IC_DCP			S-327A	Type S GI	96.23	0.950	0.222	0.211	10.70	0.34	7.24	0.652	0.000	4.73	0.03	109.26	4.17	105.09	104.64	0.45	1	18	0.468%	4.67	5.20	
620+88.97	10.13	Rt.	S-328A			0.948	0.688	0.652										105.50	105.30	0.20			0.21%	2.94		
																		104.00	103.80	0.20			0.15%			
IC_DCP			S-328A	Type S GI	114.26	0.950	0.177	0.169	10.70	0.51	7.24	0.821	0.000	5.95	0.00	108.86	4.58	104.28	104.01	0.26	1	24	0.228%	3.71	12.59	
621+79.63	10.13	Rt.	S-329A			0.948	0.866	0.821										105.30	105.00	0.30			0.26%	4.01		
																		103.30	103.00	0.30			0.10%			
IC_DCP			S-329A	Type S GI	27.54	0.950	0.198	0.188	29.09	0.20	4.82	1.492	0.000	7.19	0.06	108.86	4.85	104.01	103.93	0.08	1	24	0.176%	2.29	10.47	
622+87.42	10.13	Rt.	S-330A			0.949	1.573	1.492										103.81	103.76	0.05			0.18%	3.33		
																		101.81	101.76	0.05			0.10%			
IC_DCP			S-331A	Type S GI	97.62	0.950	0.163	0.155	13.95	0.90	6.59	0.483	0.000	3.18	0.00	109.00	4.91	104.09	104.01	0.08	1	18	0.186%	1.80	4.90	
623+79.05	10.13	Rt.	S-329A			0.950	0.509	0.483										103.99	103.81	0.18			0.18%	2.77		
																		102.49	102.31	0.18			0.15%			
IC_DCP			S-332A	Type S GI	113.26	0.950	0.186	0.177	12.47	1.48	6.86	0.328	0.000	2.25	0.01	109.07	4.93	104.14	104.09	0.05	1	18	0.042%	1.27	4.91	
624+86.01	10.13	Rt.	S-331A			0.950	0.345	0.328										104.20	103.99	0.21			0.19%	2.78		
																		102.70	102.49	0.21			0.15%			
BL400			S-333A	Type S GI	98.65	0.950	0.159	0.151	10.00	2.56	7.41	0.151	0.000	1.12	0.01	109.00	4.84	104.16	104.14	0.02	1	18	0.016%	0.64	4.87	
670+60.93	103.31	Rt.	S-332A			0.950	0.159	0.151										104.38	104.20	0.18			0.18%	2.76		
																		102.88	102.70	0.18			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: LKWILLIS01B
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
ALIGNMENT NAME																						SPAN	PHYSICAL			MANNINGS n: 0.012
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)			MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 107.00
BL400			S-315A	Type S GI	142.06	0.703	0.115	0.080	10.62	0.68	0.00	0.000	0.000	5.00	0.14	117.99	5.39	112.60	112.14	0.46	1	18	0.323%	3.46	4.82	
659+24.54	91.64	Rt.	S-318A			0.000	0.000	0.000										112.70	112.50	0.20			0.15%	2.90		
																		111.22	111.00	0.22			0.15%			
IC_DCP			S-316A	Type S GI	54.05	0.950	0.040	0.038	10.00	0.62	0.00	0.000	0.000	2.50	0.04	124.28	11.62	112.66	112.60	0.06	1	18	0.105%	1.46	4.91	
614+42.44	-26.43	Lt.	S-315A			0.000	0.000	0.000										112.80	112.70	0.10			0.15%	2.78		
																		111.30	111.22	0.08			0.15%			
IC_DCP			S-317A	Type S GI	75.75	0.629	0.181	0.114	10.00	0.30	7.41	0.114	0.000	0.85	0.12	120.39	7.93	112.46	111.26	1.20	1	18	1.590%	4.16	13.11	
615+10.10	10.13	Rt.	S-319A			0.629	0.181	0.114										113.50	112.50	1.00			1.32%	7.42		
																		112.00	111.00	1.00			0.15%			
BL400			S-318A	Type S GI	118.19	0.754	0.318	0.239	11.30	0.24	0.00	0.000	0.000	7.50	0.08	116.23	4.09	112.14	109.76	2.38	1	18	2.016%	8.34	14.84	
660+60.17	91.59	Rt.	S-320A			0.000	0.000	0.000										112.50	110.50	2.00			1.69%	8.40		
																		111.00	109.00	2.00			0.15%			
IC_DCP			S-319A	Type S GI	117.60	0.497	0.154	0.077	10.30	0.48	7.34	0.191	0.000	1.40	0.03	117.56	7.09	110.47	109.37	1.10	1	18	0.939%	4.12	10.52	
615+79.50	10.13	Rt.	S-321A			0.569	0.335	0.191										111.50	110.50	1.00			0.85%	5.95		
																		110.00	109.00	1.00			0.15%			
BL400			S-320A	Type S GI	98.16	0.809	0.232	0.188	11.54	0.23	7.41	0.188	0.000	8.89	0.05	114.41	4.21	110.20	108.99	1.21	1	18	1.233%	7.15	11.52	
661+71.93	91.59	Rt.	S-322A			0.809	0.232	0.188										110.50	109.50	1.00			1.02%	6.52		
																		109.00	108.00	1.00			0.15%			
IC_DCP			S-321A	Type S GI	97.78	0.466	0.267	0.124	10.78	1.27	7.22	0.315	0.000	2.28	0.02	114.00	5.23	108.77	108.77	0.00	1	18	-0.005%	1.29	11.54	
616+90.80	10.13	Rt.	S-323A			0.523	0.602	0.315										109.50	108.50	1.00			1.02%	6.53		
																		108.00	107.00	1.00			0.15%			
BL400			S-322A	Type S GI	50.87	0.863	0.172	0.148	11.77	0.09	7.33	0.337	0.000	9.97	0.49	113.32	3.62	109.70	107.90	1.80	1	18	3.545%	8.99	16.00	
662+63.66	91.59	Rt.	S-323A			0.832	0.404	0.337										109.50	108.50	1.00			1.97%	9.05		
																		108.00	107.00	1.00			0.15%			
IC_DCP			S-323A	Type S GI	74.45	0.950	0.066	0.063	12.04	0.12	7.00	0.715	0.000	12.50	0.44	112.00	3.23	108.77	106.23	2.54	1	18	3.408%	10.30	17.44	
617+82.26	10.13	Rt.	S-324A			0.666	1.073	0.715										108.50	106.76	1.74			2.34%	9.87		
																		107.00	105.26	1.74			0.15%			

Remarks: Computations performed using GEOPAK Drainage.

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM SEWER TABULATION FORM

Financial Project ID: 441113-1-52-01
Description: Interim Daryl Carter

County: Orange
Organization: AECOM

Network: LKWILLIS01C
State Road: S.R. 400 (I-4)

Sheet: _____ **of** _____
Prepared by: LP **Date: 07/01/2019**
Checked by: KTD **Date: 07/26/2019**

LOCATION OF UPPER END			STRUCTURE NO.	TYPE OF STRUCTURE	LENGTH (ft)	DRAINAGE AREA (ac. or ha.)			TIME OF CONCENTRATION (min)	TIME OF FLOW IN SECTION (min)	INTENSITY (in/hr)	TOTAL (C*A)	BASE FLOW (cfs)	TOTAL FLOW (cfs)	MINOR LOSSES (ft)	INLET ELEVATION (ft)	HGL CLEARANCE (ft)	HYDRAULIC GRADIENT			NUMBER OF BARRELS	PIPE SIZE (in)	SLOPE (%)	ACTUAL VELOCITY (fps)	FULL FLOW CAPACITY (cfs)	NOTES AND REMARKS
						INCREMENTAL												CROWN				RISE				ZONE: Zone 7
ALIGNMENT NAME						CUMULATIVE												FLOWLINE ELEVATION					HYD. GRAD.			FREQUENCY (yrs): 10.00 Year
STATION	OFFSET DISTANCE (ft.)	SIDE	UPPER LOWER			COMPOSITE C VALUE	AREA	SUB-TOTAL (C*A)										UPPER END ELEVATION (ft)	LOWER END ELEVATION (ft)	FALL (ft)		SPAN	PHYSICAL			MANNINGS n: 0.012
																							MIN. PHYSICAL	PHYSICAL VELOCITY (fps)		TAILWATER EL. (ft): 103.50
BL400			S-479C	Type 7 MH	108.66			0.000	0.00	1.04	0.00	0.000	34.110	34.11	0.05	109.38	5.82	103.56	103.50	0.06	1	60	0.013%	1.74	38.38	
676+60.45	184.50	Rt.	S-478C					0.000										102.45	102.43	0.02			0.05%	3.24		
																		97.45	97.40	0.05			0.03%			

Remarks: Computations performed using GEOPAK Drainage.

APPENDIX C.4: Spread Calculations

APPENDIX C.4.1: Shoulder Gutter Inlets

Project Name	Interim Daryl Carter	

DATE	30-Jul-19
DESIGNED BY	LP
CHECKED BY	KTD

SPREAD CALCULATIONS
GUTTER INLETS - TYPE S

Structure ID	Terminal Inlet? (Y/N)	K	SL (ft/ft)	Qmax (cfs)	I (in/hr)	Area (ac)		Qactual (cfs)	Qactual < Qmax
						Impervious (C=0.95)	Pervious (C=0.20)		
BLACK LAKE SYSTEMS (WEST OF DARYL CARTER PARKWAY)									
S-101A	N	28	0.0030	1.53	7.40	0.17	0.01	1.19	Yes
S-102A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-103A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-104A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-105A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-106A	N	28	0.0030	1.53	7.40	0.16	0.01	1.16	Yes
S-107A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-109A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-110A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-112A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-113A	N	28	0.0030	1.53	7.40	0.16	0.01	1.17	Yes
S-114A	Y	15	0.0060	1.16	7.40	0.15	0.00	1.03	Yes
S-116A	N	28	0.0080	2.50	7.40	0.25	0.16	1.99	Yes
S-117A	N	28	0.0080	2.50	7.40	0.26	0.15	2.04	Yes
S-118A	N	28	0.0062	2.20	7.40	0.26	0.15	2.05	Yes
S-119A	N	28	0.0103	2.84	7.40	0.18	0.10	1.41	Yes
S-120A	N	15	0.0050	1.06	7.40	0.08	0.04	0.64	Yes
S-121A	N	15	0.0060	1.16	7.40	0.10	0.05	0.77	Yes
S-122A	N	15	0.4200	9.72	7.40	0.10	0.04	0.74	Yes
S-123A	N	15	0.0060	1.16	7.40	0.10	0.04	0.76	Yes
S-124A	N	15	0.0056	1.12	7.40	0.11	0.03	0.79	Yes
S-125A	N	15	0.5400	11.02	7.40	0.12	0.02	0.86	Yes
S-126A	N	15	0.0081	1.35	7.40	0.09	0.02	0.67	Yes
S-127A	N	15	0.0088	1.41	7.40	0.11	0.02	0.83	Yes
S-128A	N	15	0.0111	1.58	7.40	0.03	0.01	0.23	Yes
POND 140B3 SYSTEM (RAMP D_DCP)									
S-286C	N	15	0.0245	2.35	7.40	0.05	0.01	0.38	Yes
S-288C	N	15	0.0245	2.35	7.40	0.07	0.02	0.52	Yes

Project Name	Interim Daryl Carter	

DATE	30-Jul-19
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SPREAD CALCULATIONS
GUTTER INLETS - TYPE S

Structure ID	Terminal Inlet? (Y/N)	K	SL (ft/ft)	Qmax (cfs)	I (in/hr)	Area (ac) Impervious (C=0.95)	Area (ac) Pervious (C=0.20)	Qactual (cfs)	Qactual < Qmax
POND 141B1 SYSTEMS (ISLIP1 & RAMP D_DCP)									
S-367C	N	15	0.0023	0.71	7.40	0.05	0.03	0.40	Yes
S-368C	N	15	0.0155	1.87	7.40	0.09	0.00	0.63	Yes
S-372C	N	15	0.0030	0.82	7.40	0.07	0.01	0.49	Yes
S-373C	N	15	0.0077	1.31	7.40	0.05	0.00	0.36	Yes
S-373C1	N	15	0.0033	0.86	7.40	0.06	0.00	0.41	Yes
S-373C2	N	15	0.0032	0.85	7.40	0.07	0.00	0.47	Yes
S-385C	N	15	0.0032	0.85	7.40	0.07	0.00	0.46	Yes
S-407A	N	15	0.0050	1.06	7.40	0.04	0.03	0.32	Yes
S-407A1	N	15	0.0016	0.61	7.40	0.04	0.04	0.36	Yes
S-410A	N	15	0.0016	0.61	7.40	0.04	0.03	0.32	Yes
POND 141B2 SYSTEM (RAMP B_DCP)									
S-300A	N	15	0.0111	1.58	7.40	0.09	0.03	0.70	Yes
S-303A	N	15	0.0100	1.50	7.40	0.08	0.01	0.56	Yes
S-309C	Y	15	0.0269	2.46	7.40	0.10	0.00	0.68	Yes
S-310A	N	15	0.0100	1.50	7.40	0.03	0.13	0.39	Yes
S-311C	N	15	0.0310	2.64	7.40	0.10	0.00	0.69	Yes
S-312A	N	15	0.0100	1.50	7.40	0.02	0.13	0.33	Yes
S-313A	N	28	0.0100	2.80	7.40	0.16	0.11	1.31	Yes
S-314C	N	15	0.0310	2.64	7.40	0.19	0.00	1.31	Yes
S-315C	N	15	0.0230	2.27	7.40	0.23	0.00	1.64	Yes
S-318C	N	15	0.0120	1.64	7.40	0.06	0.00	0.44	Yes
POND 141B3 SYSTEM									
S-385C1	N	15	0.0034	0.87	7.40	0.09	0.00	0.64	Yes
S-399C	N	15	0.0034	0.87	7.40	0.08	0.00	0.56	Yes
S-399C1	N	15	0.0040	0.95	7.40	0.10	0.00	0.70	Yes
S-407C	N	15	0.0042	0.97	7.40	0.08	0.00	0.59	Yes
S-407C1	N	28	0.0048	1.94	7.40	0.13	0.00	0.91	Yes
S-416C	N	28	0.0050	1.98	7.40	0.11	0.00	0.76	Yes
S-416C1	N	28	0.0050	1.98	7.40	0.13	0.00	0.91	Yes
S-421C	N	28	0.0050	1.98	7.40	0.11	0.00	0.77	Yes
S-421C1	N	28	0.0050	1.98	7.40	0.13	0.00	0.90	Yes
S-429C	N	28	0.0050	1.98	7.40	0.11	0.00	0.77	Yes
S-429C1	N	28	0.0050	1.98	7.40	0.13	0.00	0.90	Yes
S-438C	N	28	0.0050	1.98	7.40	0.11	0.00	0.77	Yes

Project Name	Interim Daryl Carter	

DATE	30-Jul-19
DESIGNED BY	LP
CHECKED BY	KTD

SPREAD CALCULATIONS
GUTTER INLETS - TYPE S

Structure ID	Terminal Inlet? (Y/N)	K	SL (ft/ft)	Qmax (cfs)	I (in/hr)	Area (ac)		Qactual (cfs)	Qactual < Qmax
						Impervious (C=0.95)	Pervious (C=0.20)		
S-438C1	N	28	0.0050	1.98	7.40	0.13	0.00	0.90	Yes
S-448C	N	28	0.0050	1.98	7.40	0.11	0.00	0.77	Yes
S-448C1	N	28	0.0042	1.81	7.40	0.12	0.00	0.84	Yes
S-457C	N	28	0.0050	1.98	7.40	0.10	0.00	0.67	Yes
S-457C1	N	28	0.0050	1.98	7.40	0.10	0.00	0.71	Yes
S-466C	N	28	0.0050	1.98	7.40	0.09	0.00	0.64	Yes
S-466C1	N	28	0.0050	1.98	7.40	0.11	0.00	0.78	Yes
S-476C	N	28	0.0050	1.98	7.40	0.09	0.00	0.66	Yes
POND 141B4 (WBCD2, IA_CFP & IC_CFP)									
S-476C1	N	28	0.0042	1.81	7.40	0.15	0.00	1.04	Yes
S-492C	N	28	0.0050	1.98	7.40	0.13	0.00	0.92	Yes
S-492C1	N	28	0.0050	1.98	7.40	0.09	0.00	0.64	Yes
S-505C	N	28	0.0050	1.98	7.40	0.09	0.00	0.63	Yes
S-505C1	N	28	0.0050	1.98	7.40	0.09	0.00	0.64	Yes
S-520C	N	28	0.0050	1.98	7.40	0.07	0.00	0.48	Yes
S-520C1	N	28	0.0050	1.98	7.40	0.07	0.00	0.49	Yes
S-520C2	N	28	0.0050	1.98	7.40	0.07	0.00	0.49	Yes
S-538C	N	28	0.0050	1.98	7.40	0.07	0.00	0.46	Yes
S-538C1	N	28	0.0050	1.98	7.40	0.09	0.00	0.63	Yes
S-548C	N	28	0.0050	1.98	7.40	0.09	0.00	0.63	Yes
S-548C1	N	15	0.0050	1.06	7.40	0.05	0.00	0.37	Yes
S-552C	N	15	0.0028	0.79	7.40	0.07	0.00	0.52	Yes
S-561C	N	15	0.0030	0.82	7.40	0.05	0.00	0.32	Yes
S-566C	N	15	0.0060	1.16	7.40	0.16	0.00	1.09	Yes
S-573C	N	15	0.0060	1.16	7.40	0.14	0.00	1.01	Yes
LAKE WILLIS/ POND FPC 141									
S-315A	N	28	0.0130	3.19	7.40	0.08	0.04	0.59	Yes
S-316A	N	15	0.0480	3.29	7.40	0.04	0.00	0.28	Yes
S-317A	N	28	0.0440	5.87	7.40	0.10	0.08	0.81	Yes
S-318A	N	28	0.0144	3.36	7.40	0.23	0.09	1.74	Yes
S-319A	N	28	0.0375	5.42	7.40	0.05	0.10	0.53	Yes
S-320A	N	28	0.0140	3.31	7.40	0.19	0.05	1.37	Yes
S-321A	N	28	0.0030	1.53	7.40	0.07	0.20	0.76	Yes
S-322A	N	28	0.0140	3.31	7.40	0.15	0.02	1.09	Yes
S-323A	N	28	0.0130	3.19	7.40	0.07	0.00	0.46	Yes

Project Name	Interim Daryl Carter	

DATE	30-Jul-19
DESIGNED BY	LP
CHECKED BY	KTD

SPREAD CALCULATIONS
GUTTER INLETS - TYPE S

Structure ID	Terminal Inlet? (Y/N)	K	SL (ft/ft)	Qmax (cfs)	I (in/hr)	Area (ac)		Qactual (cfs)	Qactual < Qmax
						Impervious (C=0.95)	Pervious (C=0.20)		
S-325A	N	28	0.0078	2.47	7.40	0.26	0.00	1.86	Yes
S-326A	N	28	0.0067	2.29	7.40	0.20	0.00	1.42	Yes
S-327A	N	28	0.0067	2.29	7.40	0.22	0.00	1.56	Yes
S-328A	N	28	0.0058	2.13	7.40	0.28	0.00	1.96	Yes
S-329A	N	28	0.0030	1.53	7.40	0.18	0.00	1.27	Yes
S-331A	N	28	0.0030	1.53	7.40	0.18	0.00	1.24	Yes
S-332A	N	28	0.0030	1.53	7.40	0.17	0.00	1.22	Yes
S-333A	Y	15	0.0030	0.82	7.40	0.09	0.00	0.65	Yes
S-417A	N	15	0.0133	1.73	7.40	0.02	0.23	0.50	Yes
S-437A	N	15	0.0030	0.82	7.40	0.08	0.04	0.61	Yes
S-439A	N	28	0.0030	1.53	7.40	0.08	0.03	0.64	Yes
S-440A	N	28	0.0030	1.53	7.40	0.09	0.02	0.64	Yes
S-441A	N	28	0.0030	1.53	7.40	0.10	0.03	0.76	Yes
S-442A	N	28	0.0030	1.53	7.40	0.10	0.02	0.74	Yes
S-444A	N	28	0.0030	1.53	7.40	0.14	0.01	1.01	Yes
S-445A	N	28	0.0030	1.53	7.40	0.01	0.00	0.10	Yes
POND 142B SYSTEM (WEST OF CENTRAL FLORIDA PARKWAY)									
S-450A	N	15	0.0030	0.82	7.40	0.07	0.00	0.46	Yes
S-451A	N	15	0.0030	0.82	7.40	0.04	0.00	0.30	Yes
S-452A	N	15	0.0030	0.82	7.40	0.06	0.00	0.43	Yes
S-453A	N	15	0.0030	0.82	7.40	0.10	0.00	0.70	Yes
S-454A	N	15	0.0030	0.82	7.40	0.03	0.00	0.21	Yes
S-455A	N	15	0.0030	0.82	7.40	0.03	0.01	0.25	Yes
S-610C	N	15	0.0011	0.49	7.40	0.03	0.00	0.19	Yes
S-614C	N	15	0.0013	0.53	7.40	0.07	0.00	0.52	Yes

K=28 is for limiting the spread to 15" (1.25') to the back of the shoulder gutter - adjacent to guardrail

K=15 is for limiting the spread within the shoulder gutter section and is to be used for terminal inlets or limiting to shoulder gutter section only

Qmax = K*SL^0.5

Qactual = CIA

FLORIDA DEPARTMENT OF TRANSPORTATION
SPREAD TABULATION FORM

Financial Project Identification: 441113-1-52-01 | **County: Orange** | **Rainfall Zone: Zone 7** | **Prepared By: LP** | **Date: 07/01/2019**
Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Checked By: KTD** | **Date: 07/26/2019**

Structure No.	Station	Offset	Side	Type of Structure	Drainage Area (acres)	Composite Runoff Coefficient	Rainfall Intensity (in/hr)	Overland Runoff (cfs)	Previous Inlet Bypass (cfs)	Total Runoff (cfs)	Cross Slope (ft/ft)	Longitudinal Slope (ft/ft)	Manning's n	Calculated Spread (ft)	Allowable Spread (ft)	Sumped Spread (ft)	Intercepted Flow (cfs)	Bypass Flow to Next Inlet (cfs)	Bypass to Structure No.
S-106A	575+01.23 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.21	0.00	1.21	0.125		0.013	2.57	3.50	0.40	N/A	0.00	
S-105A	574+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.40	N/A	0.00	
S-107A	576+08.01 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.41	N/A	0.00	
S-104A	573+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.41	N/A	0.00	
S-103A	572+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.40	N/A	0.00	
S-102A	571+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.40	N/A	0.00	
S-101A	570+00.00 R 4	101.95	RT	Type S GI	0.18	0.95	7.41	1.25	0.00	1.25	0.125		0.014	2.62	3.50	0.42	N/A	0.00	
S-110A	578+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.41	N/A	0.00	
S-109A	577+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.41	N/A	0.00	
S-112A	579+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.22	0.00	1.22	0.125		0.013	2.58	3.50	0.41	N/A	0.00	
S-113A	580+00.00 R 4	101.95	RT	Type S GI	0.17	0.95	7.41	1.21	0.00	1.21	0.125		0.013	2.57	3.50	0.40	N/A	0.00	
S-114A	620+00.00 R 4	91.06	RT	Type S GI	0.15	0.95	7.41	1.08	0.01	1.08	0.125		0.014	2.85	3.50	0.33	N/A	0.00	
S-116A	621+00.12 R 4	95.06	RT	Type S GI	0.41	0.68	7.41	2.04	0.01	2.05	0.094	0.8000	0.014	3.80	3.50	N/A	2.05	0.01	S-114A
S-117A	622+50.09 R 4	101.05	RT	Type S GI	0.41	0.70	7.41	2.09	0.01	2.10	0.094	0.8000	0.014	3.87	3.50	N/A	2.11	0.01	S-116A
S-118A	624+00.01 R 4	101.43	RT	Type S GI	0.41	0.70	7.41	2.11	0.00	2.11	0.092	0.6200	0.014	4.13	3.50	N/A	2.09	0.01	S-117A
S-119A	625+50.00 R 4	101.43	RT	Type S GI	0.28	0.70	7.41	1.45	0.00	1.45	0.105	1.0300	0.014	2.88	3.50	N/A	1.45	0.00	S-118A
S-120A	497+00.00	6.42	RT	Type S GI	0.13	0.70	7.41	0.65	0.00	0.65	0.125	0.8310	0.013	1.88	4.50	N/A	0.65	0.00	S-119A
S-121A	497+46.03	6.13	RT	Type S GI	0.15	0.72	7.41	0.79	0.00	0.79	0.104	0.6000	0.013	2.58	4.50	N/A	0.79	0.00	S-120A
S-122A	498+00.00	6.13	RT	Type S GI	0.14	0.74	7.41	0.75	0.00	0.75	0.093	0.4200	0.014	3.01	4.50	N/A	0.75	0.00	S-121A
S-123A	498+50.00	6.13	RT	Type S GI	0.14	0.77	7.41	0.77	0.00	0.77	0.119	0.7600	0.013	2.14	4.50	N/A	0.77	0.00	S-122A
S-124A	499+00.00	6.13	RT	Type S GI	0.14	0.79	7.41	0.80	0.00	0.80	0.100	0.5600	0.014	2.71	4.50	N/A	0.80	0.00	S-123A
S-125A	499+50.00	6.13	RT	Type S GI	0.14	0.81	7.41	0.82	0.00	0.82	0.096	0.5400	0.014	2.87	4.50	N/A	0.82	0.00	S-124A
S-126A	500+00.00	6.13	RT	Type S GI	0.11	0.83	7.41	0.57	0.11	0.67	0.122	0.8062	0.013	2.08	4.50	N/A	0.78	0.00	S-125A
S-127A	500+40.00	6.13	RT	Type S GI	0.17	0.85	7.41	0.96	0.09	1.05	0.062	0.8800	0.014	6.03	4.50	N/A	2.48	0.11	S-126A
S-128A	501+00.00	6.13	RT	Type S GI	0.04	0.75	7.41	0.24	0.00	0.24	0.065	1.1112	0.014	5.47	4.50	N/A	2.41	0.09	S-127A
S-300A	501+50.00	6.13	RT	Type S GI	0.12	0.81	7.41	0.72	0.00	0.72	0.125	1.1112	0.013	1.85	4.50	N/A	0.72	0.00	S-128A
S-303A	503+04.20	6.13	RT	Type S GI	0.09	0.86	7.41	0.57	0.00	0.57	0.125	0.9900	0.013	1.73	4.50	N/A	0.57	0.00	S-300A
S-310A	655+86.02 R 4	95.34	LT	Type S GI	0.16	0.95	7.41	1.12	0.00	1.12	0.020	1.0000	0.016	7.54	6.00	N/A	0.99	0.13	S-312A
S-312A	658+01.26 R 4	95.25	LT	Type S GI	0.15	0.80	7.41	0.76	0.13	0.89	0.125	1.0000	0.013	2.14	2.00	N/A	1.02	0.00	S-417A
S-313A	658+74.73 R 4	91.67	RT	Type S GI	0.27	0.67	7.41	1.35	0.00	1.35	0.112	1.3300	0.013	2.52	3.50	N/A	1.35	0.00	S-315A
S-315A	659+24.54 R 4	91.64	RT	Type S GI	0.11	0.70	7.41	0.60	0.00	0.60	0.084	0.3000	0.014	5.39	3.50	N/A	2.45	0.05	S-318A
S-316A	614+42.44	26.43	LT	Type S GI	0.04	0.95	7.41	0.28	0.00	0.28	0.125		0.014	5.64	4.50	N/A	N/A	0.00	
S-317A	615+10.10	10.13	RT	Type S GI	0.18	0.63	7.41	0.85	0.00	0.85	0.125	4.4395	0.013	1.51	3.50	N/A	0.85	0.00	S-319A
S-318A	660+60.17 R 4	91.59	RT	Type S GI	0.32	0.75	7.41	1.72	0.05	1.77	0.096	1.4400	0.014	3.64	3.50	N/A	2.54	0.01	S-320A
S-319A	615+79.50	10.13	RT	Type S GI	0.15	0.50	7.41	0.57	0.00	0.57	0.125	3.7465	0.013	1.34	3.50	N/A	0.57	0.00	S-321A
S-320A	661+71.93 R 4	91.59	RT	Type S GI	0.23	0.81	7.41	1.39	0.01	1.39	0.111	1.4000	0.013	2.54	3.50	N/A	1.40	0.00	S-322A
S-321A	616+90.80	10.13	RT	Type S GI	0.27	0.47	7.41	0.92	0.00	0.92	0.101	0.3000	0.014	3.19	3.50	N/A	0.92	0.00	S-323A
S-322A	662+63.66 R 4	91.59	RT	Type S GI	0.17	0.86	7.41	1.10	0.00	1.10	0.125		0.013	3.51	3.50	0.34	N/A	0.00	
S-323A	617+82.26	10.13	RT	Type S GI	0.07	0.95	7.41	0.47	0.00	0.47	0.125	1.3000	0.013	1.52	3.50	N/A	0.47	0.00	S-325A
S-325A	618+90.84	10.13	RT	Type S GI	0.27	0.94	7.41	1.86	0.00	1.86	0.096	0.7800	0.014	3.62	3.50	N/A	1.85	0.00	
S-326A	619+81.61	10.13	RT	Type S GI	0.20	0.95	7.41	1.42	0.00	1.42	0.100	0.6700	0.014	3.24	3.50	N/A	1.42	0.00	
S-327A	620+88.97	10.13	RT	Type S GI	0.22	0.95	7.41	1.03	0.00	1.03	0.098	0.6700	0.014	3.43	3.50	N/A	1.56	0.00	
S-328A	621+79.63	10.13	RT	Type S GI	0.18	0.95	7.41	1.25	0.00	1.25	0.102	0.5800	0.014	3.14	3.50	N/A	1.25	0.00	
S-329A	622+87.42	10.13	RT	Type S GI	0.20	0.95	7.41	1.39	0.00	1.39	0.092	0.3000	0.014	4.02	3.50	N/A	1.39	0.00	
S-331A	623+79.05	10.13	RT	Type S GI	0.16	0.95	7.41	1.15	0.00	1.15	0.096	0.3000	0.014	3.62	3.50	N/A	1.15	0.00	
S-332A	624+86.01	10.13	RT	Type S GI	0.19	0.95	7.41	1.31	0.00	1.31	0.093	0.3000	0.014	3.89	3.50	N/A	1.31	0.00	
S-333A	670+60.93 R 4	103.31	RT	Type S GI	0.16	0.95	7.41	1.12	0.00	1.12	0.125		0.013	2.44	3.50	0.35	N/A	0.00	
S-407A	108+00.00	6.13	LT	Type S GI	0.07	0.64	7.41	0.33	0.00	0.33	0.125	0.4999	0.013	1.60	4.50	N/A	0.33	0.00	
S-407A1	108+50.00	6.13	LT	Type S GI	0.08	0.62	7.41	0.37	0.00	0.37	0.125	0.3332	0.013	1.80	4.50	N/A	0.37	0.00	
S-410A	109+00.00	6.13	LT	Type S GI	0.07	0.64	7.41	0.33	0.00	0.33	0.125	0.1666	0.013	1.96	4.50	N/A	0.33	0.00	
S-410A1	109+49.98	6.13	LT	Type S GI	0.00	0.95	7.41	0.01	0.00	0.01	0.125	1.3200	0.013	0.29	4.50	N/A	0.01	0.00	
S-437A	682+07.50 R 4	88.58	LT	Type S GI	0.12	0.72	7.41	0.62	0.00	0.62	0.113	0.3000	0.013	2.48	3.50	N/A	0.62	0.00	
S-439A	682+60.00 R 4	88.58	LT	Type S GI	0.12	0.76	7.41	0.65	0.00	0.65	0.125		0.013	1.81	3.50	0.11	N/A	0.00	
S-440A	683+60.00 R 4	88.57	LT	Type S GI	0.11	0.79	7.41	0.65	0.00	0.65	0.111	0.3000	0.013	2.56	3.50	N/A	0.65	0.00	S-441A
S-441A	683+88.28 R 4	88.62	LT	Type S GI	0.13	0.81	7.41	0.77	0.00	0.77	0.125		0.013	1.92	3.50	0.17	N/A	0.00	
S-442A	684+20.00 R 4	89.62	LT	Type S GI	0.12	0.82	7.41	0.75	0.00	0.75	0.107	0.3000	0.014	2.79	3.50	N/A	0.75	0.00	S-441A
S-417A	660+94.99 R 4	95.04	LT	Type S GI	0.25	0.35	7.41	0.62	0.00	0.62	0.125	1.3310	0.013	1.72	2.00	N/A	0.66	0.00	
S-444A	684+80.00 R 4	91.47	LT	Type S GI	0.15	0.88	7.41	1.01	0.00	1.01	0.099	0.3000	0.014	3.35	2.50	N/A	1.01	0.00	S-442A
S-445A	685+60.00 R 4	93.91	LT	Type S GI	0.01	0.95	7.41	0.10	0.00	0.10	0.125	0.3000	0.013	1.11	2.50	N/A	0.10	0.00	S-444A

S-450A	306+50.00	6.13	LT	Type S GI	0.07	0.25	7.41	0.11	0.00	0.11	0.125	0.2500	0.013	1.26	4.50	N/A	0.12	0.00	S-452A
S-451A	306+50.00	21.21	RT	Type S GI	0.04	0.25	7.41	0.07	0.00	0.07	0.125	0.2500	0.013	1.07	4.50	N/A	0.08	0.00	S-453A
S-452A	307+00.00	6.01	LT	Type S GI	0.06	0.25	7.41	0.10	0.00	0.10	0.125		0.013	0.94	4.50	N/A	N/A	0.00	
S-453A	307+00.00	21.22	RT	Type S GI	0.10	0.25	7.41	0.16	0.00	0.16	0.125		0.013	1.12	4.50	N/A	N/A	0.00	
S-454A	307+50.00	6.01	LT	Type S GI	0.03	0.25	7.41	0.05	0.00	0.05	0.125	0.5000	0.013	0.82	4.50	N/A	0.06	0.00	S-452A
S-455A	307+50.00	21.13	RT	Type S GI	0.04	0.25	7.41	0.07	0.00	0.07	0.125	0.0500	0.013	1.43	4.50	N/A	0.08	0.00	S-453A
S-614A	305+77.20	6.13	LT	Type S GI	0.07	0.01	7.41	0.01	0.00	0.01	0.125	0.3798	0.013	0.37	4.50	N/A	0.01	0.00	S-450A
S-286C	708+34.25	17.91	LT	Type S GI	0.06	0.95	7.41	0.42	0.00	0.42	0.125	2.4728	0.013	1.29	4.50	N/A	0.42	0.00	S-288C
S-288C	709+58.84	7.95	LT	Type S GI	0.09	0.95	7.41	0.62	0.00	0.62	0.125	2.4728	0.013	1.50	4.50	N/A	0.62	0.00	S-368C
S-309C	507+00.13	18.12	LT	Type S GI	0.10	0.95	7.41	0.69	0.00	0.69	0.125		0.013	1.50	4.50	0.12	N/A	0.00	
S-311C	508+20.00	18.12	LT	Type S GI	0.10	0.95	7.41	0.69	0.00	0.69	0.125	3.1000	0.013	1.49	4.50	N/A	0.69	0.00	
S-314C	509+40.00	18.12	LT	Type S GI	0.19	0.95	7.41	1.32	0.00	1.32	0.125	3.1000	0.013	1.91	4.50	N/A	1.32	0.00	
S-315C	511+12.50	30.12	LT	Type S GI	0.23	0.95	7.41	1.64	0.00	1.64	0.091	1.8700	0.014	3.11	4.50	N/A	1.64	0.00	
S-318C	512+80.10	30.12	LT	Type S GI	0.06	0.95	7.41	0.44	0.00	0.44	0.125	0.5000	0.013	1.79	4.50	N/A	0.44	0.00	
S-372C	711+77.69	27.40	RT	Type S GI	0.08	0.86	7.41	0.50	0.00	0.50	0.125		0.013	1.63	4.50	0.03	N/A	0.00	
S-367C	110+17.95	6.14	LT	Type S GI	0.08	0.69	7.41	0.41	0.00	0.41	0.123	0.2265	0.013	2.05	4.50	N/A	0.41	0.00	
S-373C	711+76.84	6.13	LT	Type S GI	0.05	0.95	7.41	0.36	0.00	0.36	0.125	0.7650	0.013	1.52	4.50	N/A	0.36	0.00	S-373C1
S-373C1	712+19.62	6.13	LT	Type S GI	0.06	0.95	7.41	0.41	0.00	0.41	0.125	0.3271	0.013	1.88	4.50	N/A	0.41	0.00	S-373C2
S-373C2	712+59.01	6.13	LT	Type S GI	0.07	0.95	7.41	0.47	0.00	0.47	0.125	0.3232	0.013	1.98	4.50	N/A	0.47	0.00	S-385C
S-368C	711+00.00	6.13	LT	Type S GI	0.09	0.95	7.41	0.63	0.00	0.63	0.125	1.5515	0.013	1.64	4.50	N/A	0.63	0.00	S-373C
S-385C	713+00.00	6.13	LT	Type S GI	0.06	0.95	7.41	0.45	0.00	0.45	0.125	0.3218	0.013	1.96	4.50	N/A	0.45	0.00	S-385C1
S-385C1	713+61.17	6.13	LT	Type S GI	0.09	0.95	7.41	0.64	0.00	0.64	0.098	0.3400	0.014	2.81	4.50	N/A	0.64	0.00	S-399C
S-399C	714+22.26	6.13	LT	Type S GI	0.08	0.95	7.41	0.56	0.00	0.56	0.110	0.3400	0.013	2.38	4.50	N/A	0.56	0.00	S-399C1
S-399C1	715+00.85	8.10	LT	Type S GI	0.10	0.95	7.41	0.69	0.00	0.69	0.097	0.4009	0.014	2.82	4.50	N/A	0.69	0.00	S-407C
S-407C	715+69.56	9.71	LT	Type S GI	0.08	0.95	7.41	0.59	0.00	0.59	0.121	0.4200	0.013	2.12	3.50	N/A	0.59	0.00	S-407C1
S-407C1	716+78.24	10.13	LT	Type S GI	0.13	0.95	7.41	0.91	0.00	0.91	0.108	0.4800	0.014	2.72	3.50	N/A	0.91	0.00	S-416C
S-416C	7070+91.36	46.13	LT	Type S GI	0.11	0.95	7.41	0.76	0.00	0.76	0.060	0.5000	0.015	3.65	3.50	N/A	0.76	0.00	S-416C1
S-416C1	7072+00.00	46.12	LT	Type S GI	0.13	0.95	7.41	0.91	0.00	0.91	0.108	0.5000	0.014	2.69	3.50	N/A	0.91	0.00	S-421C
S-421C	7072+91.75	46.13	LT	Type S GI	0.11	0.95	7.41	0.77	0.00	0.77	0.114	0.5000	0.013	2.39	3.50	N/A	0.77	0.00	S-421C1
S-421C1	7074+00.00	46.12	LT	Type S GI	0.13	0.95	7.41	0.90	0.00	0.90	0.109	0.5000	0.014	2.68	3.50	N/A	0.90	0.00	S-429C
S-429C	7074+92.09	46.13	LT	Type S GI	0.11	0.95	7.41	0.77	0.00	0.77	0.114	0.5000	0.013	2.40	3.50	N/A	0.77	0.00	S-429C1
S-429C1	7076+00.00	46.13	LT	Type S GI	0.13	0.95	7.41	0.90	0.00	0.90	0.109	0.5000	0.014	2.67	3.50	N/A	0.90	0.00	S-438C
S-438C	7076+92.32	46.13	LT	Type S GI	0.11	0.95	7.41	0.77	0.00	0.77	0.114	0.5000	0.013	2.40	3.50	N/A	0.77	0.00	S-438C1
S-438C1	7078+00.00	46.12	LT	Type S GI	0.13	0.92	7.41	0.87	0.00	0.87	0.110	0.5000	0.014	2.61	3.50	N/A	0.87	0.00	S-448C
S-448C	7078+92.53	45.27	LT	Type S GI	0.11	0.92	7.41	0.75	0.00	0.75	0.115	0.5000	0.013	2.35	3.50	N/A	0.75	0.00	S-448C1
S-448C1	7079+98.90	41.01	LT	Type S GI	0.12	0.92	7.41	0.81	0.00	0.81	0.112	0.5000	0.013	2.49	3.50	N/A	0.81	0.00	S-457C
S-457C	7080+92.68	37.27	LT	Type S GI	0.10	0.92	7.41	0.65	0.00	0.65	0.122	0.5000	0.013	2.11	3.50	N/A	0.65	0.00	S-457C1
S-457C1	7081+98.55	34.13	LT	Type S GI	0.10	0.91	7.41	0.68	0.00	0.68	0.119	0.5000	0.013	2.20	3.50	N/A	0.68	0.00	S-466C
S-466C	7082+92.67	34.13	LT	Type S GI	0.09	0.91	7.41	0.62	0.00	0.62	0.124	0.5000	0.013	2.04	3.50	N/A	0.62	0.00	S-466C1
S-466C1	7083+99.38	34.12	LT	Type S GI	0.11	0.92	7.41	0.75	0.00	0.75	0.115	0.5000	0.013	2.36	3.50	N/A	0.75	0.00	S-476C
S-476C	7084+82.32	34.13	LT	Type S GI	0.09	0.92	7.41	0.64	0.00	0.64	0.122	0.5000	0.013	2.10	3.50	N/A	0.64	0.00	S-476C1
S-476C1	7085+98.91	34.13	LT	Type S GI	0.15	0.95	7.41	1.04	0.00	1.04	0.020	0.5000	0.016	8.35	3.50	N/A	0.93	0.11	S-492C
S-492C	7086+92.51	34.13	LT	Type S GI	0.13	0.95	7.41	0.82	0.11	0.92	0.105	0.5000	0.014	2.92	3.50	N/A	1.03	0.00	S-492C1
S-492C1	7087+92.49	34.13	LT	Type S GI	0.16	0.95	7.41	1.11	0.00	1.11	0.103	0.5000	0.014	3.05	3.50	N/A	1.11	0.00	S-505C
S-505C	7088+92.50	34.13	LT	Type S GI	0.09	0.95	7.41	0.64	0.00	0.64	0.122	0.5000	0.013	2.09	3.50	N/A	0.64	0.00	S-505C1
S-505C1	7089+92.51	34.13	LT	Type S GI	0.09	0.95	7.41	0.64	0.00	0.64	0.122	0.5000	0.013	2.10	3.50	N/A	0.64	0.00	S-520C
S-520C	7090+68.11	34.13	LT	Type S GI	0.07	0.95	7.41	0.48	0.00	0.48	0.125	0.5000	0.013	1.84	3.50	N/A	0.48	0.00	S-520C1
S-520C1	7091+44.05	34.13	LT	Type S GI	0.07	0.95	7.41	0.49	0.00	0.49	0.125	0.5000	0.013	1.85	3.50	N/A	0.49	0.00	S-520C2
S-520C2	7092+20.04	34.13	LT	Type S GI	0.07	0.95	7.41	0.48	0.00	0.48	0.125	0.5000	0.013	1.84	3.50	N/A	0.48	0.00	S-538C
S-538C	7092+92.50	34.13	LT	Type S GI	0.07	0.95	7.41	0.46	0.00	0.46	0.125	0.5000	0.013	1.81	3.50	N/A	0.46	0.00	S-538C1
S-538C1	7093+91.76	34.13	LT	Type S GI	0.09	0.95	7.41	0.63	0.00	0.63	0.123	0.5000	0.013	2.08	3.50	N/A	0.63	0.00	S-548C
S-548C	7094+95.23	34.13	LT	Type S GI	0.09	0.94	7.41	0.66	0.00	0.66	0.121	0.5000	0.013	2.14	3.50	N/A	0.66	0.00	S-548C1
S-548C1	300+55.76	9.94	LT	Type S GI	0.06	0.94	7.41	0.38	0.00	0.38	0.125	0.5000	0.013	1.69	3.50	N/A	0.38	0.00	S-552C
S-552C	301+39.50	8.97	LT	Type S GI	0.08	0.94	7.41	0.53	0.00	0.53	0.104	0.2750	0.013	2.57	4.50	N/A	0.53	0.00	
S-561C	301+89.41	7.98	LT	Type S GI	0.09	0.95	7.41	0.65	0.00	0.65	0.125		0.013	1.75	4.50	0.11	N/A	0.00	
S-566C	302+39.25	6.70	LT	Type S GI	0.16	0.25	7.41	0.25	0.00	0.25	0.125	0.6011	0.013	1.47	4.50	N/A	0.29	0.00	S-561C
S-573C	303+90.69	6.13	LT	Type S GI	0.14	0.25	7.41	0.23	0.00	0.23	0.125	0.6034	0.013	1.42	4.50	N/A	0.27	0.00	S-566C
S-610C	305+25.55	6.12	LT	Type S GI	0.03	0.95	7.41	0.19	0.00	0.19	0.125	0.1075	0.013	1.74	4.50	N/A	0.19	0.00	S-614A

Remarks:
HEC-12 is used for spread and bypass computations.
All other computations performed using GEOPAK Drainage.

APPENDIX C.4.2: Curb and Barrier Wall Inlets

FLORIDA DEPARTMENT OF TRANSPORTATION
SPREAD TABULATION FORM

Financial Project Identification: 441113-1-52-01 | **County: Orange** | **Rainfall Zone: Zone 7** | **Prepared By: LP** | **Date: 07/01/2019**
Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Checked By: KTD** | **Date: 07/26/2019**

Structure No.	Station	Offset	Side	Type of Structure	Drainage Area (acres)	Composite Runoff Coefficient	Rainfall Intensity (in/hr)	Overland Runoff (cfs)	Previous Inlet Bypass (cfs)	Total Runoff (cfs)	Cross Slope (ft/ft)	Longitudinal Slope (ft/ft)	Manning's n	Calculated Spread (ft)	Allowable Spread (ft)	Sumped Spread (ft)	Intercepted Flow (cfs)	Bypass Flow to Next Inlet (cfs)	Bypass to Structure No.
Curb Inlets																			
S-100C	115+54.69	33.56	RT	Type 1 CI	0.05	0.95	4.00	0.20	0.00	0.20	0.020	3.8313	0.013	2.84	6.00	N/A	0.20	0.00	S-105C
S-102C	115+54.27	35.65	LT	Type 1 CI	0.04	0.95	4.00	0.14	0.00	0.14	0.020	3.8313	0.016	2.66	6.00	N/A	0.14	0.00	S-104C
S-104C	116+26.50	68.50	LT	Type 1 CI	0.25	0.93	4.00	0.92	0.00	0.92	0.020	4.9511	0.012	4.66	6.00	N/A	0.92	0.00	S-109C
S-105C	116+76.70	59.49	RT	Type 1 CI	0.35	0.84	4.00	1.19	0.00	1.19	0.008	4.0498	0.012	9.60	10.00	N/A	1.19	0.00	S-107E
S-107E	118+16.78	59.39	RT	Type 1 CI	0.26	0.59	4.00	0.63	0.00	0.63	0.020	3.4589	0.012	4.32	10.00	N/A	0.63	0.00	S-112E
S-109C	118+17.02	68.50	LT	Type 1 CI	0.36	0.80	4.00	1.16	0.00	1.16	0.020	3.4589	0.012	5.43	6.00	N/A	1.16	0.00	S-111C
S-111C	120+02.57	68.50	LT	Type 1 CI	0.35	0.79	4.00	1.12	0.00	1.12	0.020	3.3178	0.012	5.41	6.00	N/A	1.12	0.00	S-114E
S-200E	107+65.41	71.66	LT	Type 1 CI	0.15	0.90	4.00	0.55	0.00	0.55	0.020	4.7418	0.013	4.00	6.00	N/A	0.55	0.00	
S-202E	107+65.13	59.38	RT	Type 1 CI	0.30	0.79	4.00	0.96	0.00	0.96	0.020	4.7418	0.013	4.91	6.00	N/A	0.96	0.00	
S-205E	109+50.59	59.37	RT	Type 1 CI	0.35	0.95	4.00	1.32	0.00	1.32	0.020	2.7040	0.013	6.16	6.00	N/A	1.32	0.00	S-202E
S-252C	108+61.11	22.69	RT	Type 1 CI	0.05	0.95	4.00	0.20	0.00	0.20	0.020	2.6046	0.013	3.08	6.00	N/A	0.20	0.00	S-202E
S-256C	108+61.35	30.50	LT	Type 1 CI	0.05	0.95	4.00	0.18	0.00	0.18	0.020	2.6046	0.013	2.95	6.00	N/A	0.18	0.00	S-200E
S-259C2	700+80.78	9.37	RT	Type 1 CI	0.12	0.95	4.00	0.44	0.00	0.44	0.010	4.3000	0.013	5.76	6.00	N/A	0.44	0.00	S-259C1
S-259C1	701+01.06	0.51	RT	Type 1 CI	0.02	0.95	4.00	0.06	0.00	0.06	0.032	4.3000	0.013	1.35	6.00	N/A	0.06	0.00	
Barrier Wall Inlets																			
S-200A	638+60.58 R 4	99.85	LT	BWI	0.26	0.95	4.00	0.98	0.00	0.98	0.060	0.3000	0.016	4.51	10.00	N/A	0.97	0.00	S-201A
S-201A	640+60.61 R 4	104.83	LT	BWI	0.33	0.95	4.00	1.25	0.00	1.26	0.060	0.1271	0.013	5.39	10.00	N/A	1.25	0.01	S-203A
S-203A	643+10.39 R 4	104.69	LT	BWI	0.42	0.95	4.00	1.61	0.01	1.61	0.060	0.3869	0.015	5.07	10.00	N/A	1.60	0.01	S-204A
S-204A	644+34.36 R 4	104.62	LT	BWI	0.21	0.95	4.00	0.79	0.01	0.80	0.060	0.6414	0.015	3.55	10.00	N/A	0.80	0.00	S-205A
S-205A	647+60.59 R 4	104.44	LT	BWI	0.34	0.95	4.00	1.29	0.00	1.29	0.060	0.3000	0.015	4.89	6.00	N/A	1.29	0.01	S-206A
S-206A	649+10.61 R 4	108.14	LT	BWI	0.26	0.95	4.00	0.98	0.01	0.99	0.060	0.3000	0.015	4.43	6.00	N/A	0.99	0.00	S-400A
S-259C	701+08.89	49.68	RT	BWI	0.30	0.95	4.00	1.16	0.00	1.16	0.030	5.4000	0.016	4.32	11.00	N/A	1.15	0.01	S-266C
S-266C	701+61.71	30.45	RT	BWI	0.02	0.95	4.00	0.08	0.01	0.09	0.050	4.9000	0.016	1.22	6.00	N/A	0.09	0.00	S-271C
S-267C	701+61.62	33.78	LT	BWI	0.21	0.95	4.00	0.79	0.00	0.79	0.060	0.8500	0.016	3.42	6.00	N/A	0.79	0.00	S-272C
S-271C	703+50.00	29.83	RT	BWI	0.14	0.95	4.00	0.51	0.00	0.51	0.050	2.4728	0.016	2.68	6.00	N/A	0.51	0.00	S-276C
S-272C	703+50.00	29.83	LT	BWI	0.14	0.95	4.00	0.53	0.00	0.53	0.060	2.4728	0.016	2.42	6.00	N/A	0.53	0.00	S-277C
S-276C	705+00.00	30.00	RT	BWI	0.11	0.95	4.00	0.41	0.00	0.41	0.050	2.4728	0.016	2.46	6.00	N/A	0.41	0.00	S-280C
S-277C	705+00.00	30.00	LT	BWI	0.11	0.95	4.00	0.41	0.00	0.41	0.060	2.4728	0.016	2.20	6.00	N/A	0.41	0.00	S-281C
S-280C	706+51.41	18.00	RT	BWI	0.08	0.95	4.00	0.29	0.00	0.29	0.050	2.4728	0.016	2.15	6.00	N/A	0.29	0.00	S-282C
S-281C	706+51.41	18.00	LT	BWI	0.08	0.95	4.00	0.29	0.00	0.29	0.060	2.4728	0.016	1.92	6.00	N/A	0.29	0.00	S-283C
S-282C	707+51.41	18.00	RT	BWI	0.04	0.95	4.00	0.17	0.00	0.17	0.060	2.4728	0.016	1.58	6.00	N/A	0.17	0.00	
S-283C	707+51.41	18.00	LT	BWI	0.04	0.95	4.00	0.17	0.00	0.17	0.060	2.4728	0.016	1.58	6.00	N/A	0.17	0.00	S-286C
S-286C	708+34.25	20.05	LT	BWI	0.06	0.95	4.00	0.23	0.00	0.23	0.060	2.4728	0.016	1.76	6.00	N/A	0.23	0.00	S-288C
S-303C	504+41.98	6.00	RT	BWI	0.03	0.95	4.00	0.10	0.00	0.10	0.060	1.1112	0.016	1.49	6.00	N/A	0.10	0.00	S-303A
S-305C	504+91.98	6.00	RT	BWI	0.02	0.95	4.00	0.09	0.00	0.09	0.060	1.1112	0.016	1.43	6.00	N/A	0.09	0.00	S-303C
S-306C	505+36.85	6.00	RT	BWI	0.07	0.95	4.00	0.28	0.00	0.28	0.060	1.9400	0.016	2.00	6.00	N/A	0.28	0.00	S-305C
S-308A	652+39.41 R 4	92.16	LT	BWI	0.18	0.95	4.00	0.70	0.00	0.70	0.060	0.7612	0.015	3.27	10.00	N/A	0.70	0.00	S-309A
S-308C	507+00.13	18.00	RT	BWI	0.04	0.95	4.00	0.15	0.00	0.15	0.050	3.1760	0.016	1.63	6.00	N/A	0.15	0.00	S-306C
S-309A	654+10.54 R 4	92.06	LT	BWI	0.25	0.95	4.00	0.93	0.00	0.93	0.060	1.3706	0.015	3.26	10.00	N/A	0.93	0.00	S-311A
S-311A	655+86.02 R 4	91.97	LT	BWI	0.25	0.95	4.00	0.95	0.00	0.95	0.060	1.5848	0.015	3.20	10.00	N/A	0.96	0.00	J-141O3
S-313C	509+40.00	18.00	RT	BWI	0.07	0.95	4.00	0.27	0.00	0.27	0.044	3.2600	0.016	2.17	6.00	N/A	0.27	0.00	S-308C
S-317C	512+80.10	30.00	RT	BWI	0.06	0.95	4.00	0.24	0.00	0.24	0.060	0.6300	0.016	2.32	6.00	N/A	0.24	0.00	S-313C
S-319C	513+64.52	32.60	RT	BWI	0.09	0.95	4.00	0.35	0.00	0.35	0.060	0.7580	0.016	2.58	8.61	N/A	0.35	0.00	S-317C
S-320C	513+64.52	30.00	LT	BWI	0.05	0.95	4.00	0.17	0.01	0.18	0.050	0.6570	0.016	2.32	6.00	N/A	0.18	0.00	
S-323C	514+40.23	41.55	LT	BWI	0.40	0.95	4.00	1.50	0.00	1.50	0.040	3.2000	0.016	4.41	8.58	N/A	1.49	0.01	S-320C
S-326C	601+03.20	27.11	RT	BWI	0.08	0.95	4.00	0.30	0.00	0.30	0.015	2.5400	0.016	4.60	10.00	N/A	0.29	0.00	S-104C
S-328C	601+10.33	51.42	LT	BWI	0.40	0.95	4.00	1.51	0.00	1.51	0.015	1.1000	0.016	9.88	10.59	N/A	1.27	0.25	S-333C
S-332C	601+50.64	12.37	RT	BWI	0.06	0.95	4.00	0.22	0.00	0.22	0.055	1.5000	0.016	2.01	12.00	N/A	0.22	0.00	S-326C
S-333C	601+50.44	35.87	LT	BWI	0.02	0.95	4.00	0.09	0.25	0.34	0.045		0.016	2.66	6.00	N/A	N/A	0.00	
S-335C	602+18.12	10.00	RT	BWI	0.16	0.95	4.00	0.61	0.00	0.61	0.060	0.3000	0.016	3.80	10.00	N/A	0.61	0.00	S-332C
S-336C	602+18.12	30.00	LT	BWI	0.02	0.95	4.00	0.07	0.00	0.07	0.050	1.2000	0.016	1.47	6.00	N/A	0.07	0.00	S-333C
S-365C	611+02.58	10.00	RT	BWI	0.69	0.95	4.00	2.60	0.00	2.60	0.020	4.8000	0.016	7.71	12.00	N/A	2.24	0.37	S-376C
S-376C	612+26.49	12.00	RT	BWI	0.13	0.95	4.00	0.49	0.37	0.86	0.060	4.8000	0.016	2.56	12.00	N/A	0.86	0.00	S-379C
S-379C	613+00.04	12.00	RT	BWI	0.06	0.95	4.00	0.24	0.00	0.24	0.060	4.8000	0.016	1.58	11.00	N/A	0.24	0.00	S-392C
S-380C	613+00.00	32.04	LT	BWI	0.02	0.95	4.00	0.06	0.00	0.06	0.050	4.8000	0.016	1.06	6.00	N/A	0.06	0.00	S-316A
S-384C	7066+20.54	8.00	RT	BWI	0.02	0.95	4.00	0.06	0.00	0.06	0.050	0.5000	0.015	1.60	8.00	N/A	0.06	0.00	S-398C
S-392C	613+94.31	12.00	RT	BWI	0.08	0.95	4.00	0.29	0.00	0.29	0.060	4.8000	0.016	1.71	11.00	N/A	0.29	0.00	
S-398C	7067+40.69	8.00	RT	BWI	0.03	0.95	4.00	0.10	0.00	0.10	0.050	0.5000	0.015	1.89	8.00	N/A	0.10	0.00	S-406C

FLORIDA DEPARTMENT OF TRANSPORTATION
SPREAD TABULATION FORM

Financial Project Identification: 441113-1-52-01 | **County: Orange** | **Rainfall Zone: Zone 7** | **Prepared By: LP** | **Date: 07/01/2019**
Description: Interim Daryl Carter | **Organization: AECOM** | **State Road: S.R. 400 (I-4)** | **Checked By: KTD** | **Date: 07/26/2019**

S-400A	104+93.24	6.00	LT	BWI	0.29	0.95	4.00	1.09	0.00	1.10	0.060	1.1721	0.015	3.57	6.00	N/A	1.10	0.00	S-401A
S-401A	105+70.00	6.00	LT	BWI	0.13	0.95	4.00	0.49	0.00	0.49	0.060	0.4621	0.015	3.15	6.00	N/A	0.49	0.00	S-402A
S-402A	106+19.95	6.00	LT	BWI	0.05	0.95	4.00	0.19	0.00	0.19	0.060		0.016	1.97	6.00	N/A	N/A	0.00	
S-403A	106+19.95	21.00	RT	BWI	0.02	0.95	4.00	0.06	0.00	0.06	0.030		0.015	1.96	6.00	N/A	N/A	0.00	
S-404A	106+70.09	6.00	LT	BWI	0.07	0.95	4.00	0.26	0.00	0.26	0.051	0.4637	0.015	2.73	6.00	N/A	0.26	0.00	S-402A
S-405A	106+70.09	21.00	RT	BWI	0.02	0.95	4.00	0.08	0.00	0.08	0.050	0.4637	0.015	1.80	6.00	N/A	0.08	0.00	S-403A
S-406C	7068+90.94	8.00	RT	BWI	0.03	0.95	4.00	0.12	0.00	0.12	0.050	0.5000	0.015	2.05	8.00	N/A	0.12	0.00	S-415C
S-408A	108+00.00	21.00	RT	BWI	0.02	0.95	4.00	0.06	0.00	0.06	0.050	0.4999	0.015	1.62	6.00	N/A	0.06	0.00	S-405A
S-411A	109+01.16	21.00	RT	BWI	0.01	0.95	4.00	0.03	0.00	0.03	0.050	0.1627	0.015	1.52	6.00	N/A	0.03	0.00	S-408A
S-415A	110+98.65	21.00	RT	BWI	0.01	0.95	4.00	0.05	0.00	0.05	0.050	0.4955	0.016	1.53	6.00	N/A	0.05	0.00	
S-415C	7070+91.44	8.00	RT	BWI	0.04	0.95	4.00	0.16	0.00	0.16	0.050	0.5000	0.015	2.29	8.00	N/A	0.16	0.00	S-420C
S-416A	659+90.41 R 4	91.74	LT	BWI	0.27	0.95	4.00	1.03	0.00	1.03	0.060	1.2954	0.016	3.50	10.00	N/A	1.03	0.00	S-418A
S-418A	660+94.99 R 4	91.68	LT	BWI	0.15	0.95	4.00	0.57	0.00	0.57	0.060	1.4453	0.015	2.68	10.00	N/A	0.57	0.00	S-420A
S-420A	662+63.17 R 4	91.58	LT	BWI	0.24	0.25	4.00	0.24	0.00	0.24	0.060	1.4008	0.015	1.95	10.00	N/A	0.24	0.00	
S-420C	7072+91.75	8.00	RT	BWI	0.04	0.95	4.00	0.16	0.00	0.16	0.050	0.5000	0.015	2.29	8.00	N/A	0.16	0.00	S-428C
S-428A	204+46.34	6.00	RT	BWI	0.05	0.95	4.00	0.18	0.00	0.18	0.050	0.4000	0.015	2.46	6.00	N/A	0.18	0.00	S-429A
S-428C	7074+92.09	8.00	RT	BWI	0.04	0.95	4.00	0.16	0.00	0.16	0.050	0.5000	0.015	2.29	8.00	N/A	0.16	0.00	S-431C
S-429A	206+57.29	21.00	RT	BWI	0.04	0.95	4.00	0.13	0.00	0.13	0.050	0.3400	0.015	2.29	6.00	N/A	0.13	0.00	S-434A
S-431C	7076+36.97	8.00	RT	BWI	0.03	0.94	4.00	0.12	0.00	0.12	0.050	0.5000	0.015	2.03	8.00	N/A	0.12	0.00	S-437C
S-434A	208+57.87	21.00	RT	BWI	0.03	0.95	4.00	0.13	0.00	0.13	0.050	0.9728	0.015	1.84	12.00	N/A	0.13	0.00	S-439A1
S-437C	7076+92.31	8.00	RT	BWI	0.01	0.95	4.00	0.04	0.00	0.04	0.050	0.5000	0.015	1.40	8.00	N/A	0.04	0.00	S-447C
S-439A1	210+57.97	21.00	RT	BWI	0.03	0.95	4.00	0.13	0.00	0.13	0.050	1.9738	0.015	1.61	12.00	N/A	0.13	0.00	
S-447C	7078+92.69	8.00	RT	BWI	0.04	0.95	4.00	0.16	0.00	0.16	0.050	0.5000	0.015	2.29	8.00	N/A	0.16	0.00	S-456C
S-456C	7080+92.50	8.00	RT	BWI	0.04	0.84	4.00	0.14	0.00	0.14	0.050	0.5000	0.015	2.19	8.00	N/A	0.14	0.00	S-458C
S-457C2	7081+98.55	8.00	RT	BWI	0.02	0.95	4.00	0.08	0.00	0.08	0.050	0.5000	0.015	1.75	8.00	N/A	0.08	0.00	
S-504C	7088+92.50	8.00	RT	BWI	0.01	0.95	4.00	0.02	0.00	0.02	0.050	0.5000	0.015	1.08	8.00	N/A	0.02	0.00	S-519C
S-508C	7089+92.51	8.00	RT	BWI	0.02	0.95	4.00	0.08	0.00	0.08	0.060	0.5000	0.015	1.58	6.00	N/A	0.08	0.00	
S-519C	7090+67.94	8.00	RT	BWI	0.02	0.95	4.00	0.06	0.00	0.06	0.050	0.5000	0.015	1.59	8.00	N/A	0.06	0.00	S-537C
S-525C	7091+44.05	8.00	RT	BWI	0.02	0.95	4.00	0.06	0.00	0.06	0.060	0.5000	0.015	1.42	6.00	N/A	0.06	0.00	
S-537C	7092+92.50	8.00	RT	BWI	0.03	0.95	4.00	0.12	0.00	0.12	0.050	0.5000	0.015	2.04	8.00	N/A	0.12	0.00	S-547C
S-547C	7094+95.23	8.00	RT	BWI	0.04	0.95	4.00	0.16	0.00	0.16	0.050	0.5000	0.015	2.30	8.00	N/A	0.16	0.00	
J-141O3	658+01.26 R 4	91.84	LT	BWI	0.31	0.95	4.00	1.17	0.00	1.17	0.060	0.9248	0.015	3.82	10.00	N/A	1.17	0.00	S-416A

Remarks:
HEC-12 is used for spread and bypass computations.
All other computations performed using GEOPAK Drainage.

APPENDIX C.5: Ditch Calculations

APPENDIX C.5.1: S.R. 400

Interim Daryl Carter Pkwy
BL400 LT 633+80.00 to 637+61.72
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 LT 633+80.00 to 637+61.72

Date: 3/16/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
633+80.00 131.90	634+59.46 131.82	LT	0.105	0.11 0.08 0.00	0.95 0.20 0.00	0.12	0.12	10.00	7.41	0.892	6	26.65	4	0.06	0.15	0.22	NO	0.81		DBI S-220B
634+59.46 131.82	635+61.24 131.71	LT	0.105	0.14 0.13 0.00	0.95 0.20 0.00	0.16	0.28	22.71	5.40	1.742	6	37.79	4	0.06	0.18	0.25	NO	1.55		
635+61.24 131.71	636+62.80 131.60	LT	0.105	0.14 0.19 0.00	0.95 0.20 0.00	0.17	0.45	28.79	4.84	2.429	6	40.64	4	0.06	0.21	0.28	NO	2.24		
636+62.80 131.60	637+61.72 131.50	LT	0.105	0.07 0.24 0.00	0.95 0.20 0.00	0.11	0.56	34.88	4.40	2.725	6	49.55	4	0.06	0.20	0.27	NO	1.95		DBI S-223B

Interim Daryl Carter Pkwy
BL400 LT 660+92.66 to 668+61.53
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
	A = 12.49556
	B = -1.67116
	C = -0.34901
	D = 0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 LT 660+92.66 to 668+61.53

Date: 3/21/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
660+92.66 115.08	661+71.93 114.00	LT	1.368	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.02	10.00	7.41	0.159	6	5	4	0.06	0.07	0.47	NO	1.00		
661+71.93 114.00	662+63.17 112.75	LT	1.368	0.00 0.12 0.00	0.95 0.20 0.00	0.02	0.04	15.37	6.35	0.305	4	5	4	0.06	0.10	0.59	NO	1.25		S-419A
662+63.17 112.75	662+71.71 112.63	LT	1.368	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.05	15.61	6.31	0.299	4	5	4	0.06	0.10	0.59	NO	1.23		
662+71.71 112.63	663+71.42 110.65	LT	1.986	0.08 0.14 0.00	0.95 0.20 0.00	0.10	0.15	17.30	6.06	0.929	5	5	4	0.06	0.17	0.98	NO	1.85		
663+71.42 110.65	664+62.84 109.83	LT	0.897	0.13 0.14 0.00	0.95 0.20 0.00	0.15	0.30	19.26	5.80	1.821	6	10	4	0.06	0.21	0.78	NO	1.50		S-421A
664+62.84 109.83	664+71.06 109.79	LT	0.459	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.31	19.49	5.77	1.820	6	12	4	0.06	0.23	0.59	NO	1.58		
664+71.06 109.79	665+70.65 109.34	LT	0.459	0.13 0.17 0.00	0.95 0.20 0.00	0.16	0.48	21.91	5.49	2.745	6	12	4	0.06	0.29	0.68	NO	1.47		
665+70.65 109.34	666+62.32 108.91	LT	0.459	0.12 0.16 0.00	0.95 0.20 0.00	0.15	0.63	23.94	5.28	3.433	6	12	4	0.06	0.34	0.75	NO	1.27		S-422A
666+62.32 108.91	666+70.19 108.88	LT	0.459	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.64	24.12	5.26	3.369	6	12	4	0.06	0.33	0.74	NO	1.45		
666+70.19 108.88	667+69.70 108.42	LT	0.459	0.13 0.19 0.00	0.95 0.20 0.00	0.16	0.80	26.18	5.07	4.214	6	12	4	0.06	0.38	0.81	NO	1.68		
667+69.70 108.42	668+61.53 108.00	LT	0.459	0.12 0.17 0.00	0.95 0.20 0.00	0.15	0.95	27.63	4.94	9.536	6	12	4	0.06	0.60	1.05	NO	1.74		S-423A (add 4.711 cfs)

Interim Daryl Carter Pkwy
BL400 LT 668+61.53 to 674+60.58
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 LT 668+61.53 to 674+60.58

Date: 3/21/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
674+60.58 108.90	673+68.23 108.76	LT	0.150	0.13 0.18 0.00	0.95 0.20 0.00	0.16	0.16	10.00	7.41	1.151	6	12	4	0.06	0.25	0.36	NO	1.57		
673+68.23 108.76	672+68.23 108.61	LT	0.150	0.14 0.20 0.00	0.95 0.20 0.00	0.17	0.33	18.10	5.95	2.120	6	12	4	0.06	0.35	0.44	NO	1.71		
672+68.23 108.61	672+60.58 108.60	LT	0.150	0.01 0.02 0.00	0.95 0.20 0.00	0.01	0.34	18.39	5.91	2.011	6	12	4	0.06	0.34	0.43	NO	1.72		S-425A
672+60.58 108.60	671+68.23 108.46	LT	0.150	0.13 0.18 0.00	0.95 0.20 0.00	0.16	0.49	21.54	5.53	2.916	6	12	4	0.06	0.42	0.49	NO	1.95		
671+68.23 108.46	670+68.23 108.31	LT	0.150	0.13 0.20 0.00	0.95 0.20 0.00	0.17	0.66	24.69	5.20	3.646	6	12	4	0.06	0.48	0.53	NO	1.99		
670+68.23 108.31	670+60.77 108.30	LT	0.150	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.67	24.93	5.18	3.496	6	12	4	0.06	0.47	0.52	NO	2.00		S-424A
670+60.77 108.30	669+68.63 108.16	LT	0.150	0.12 0.18 0.00	0.95 0.20 0.00	0.15	0.82	27.70	4.93	4.271	6	12	4	0.06	0.52	0.55	NO	1.87		
669+68.63 108.16	668+69.17 108.01	LT	0.150	0.13 0.19 0.00	0.95 0.20 0.00	0.16	0.99	30.57	4.71	4.877	6	12	4	0.06	0.56	0.58	NO	2.02		
668+69.17 108.01	668+61.53 108.00	LT	0.150	0.01 0.01 0.00	0.95 0.20 0.00	0.01	1.00	30.71	4.69	9.536	6	12	4	0.042	0.67	0.92	NO	2.03		S-423A (add 4.825 cfs)

Interim Daryl Carter Pkwy
BL400 LT 675+60.58 to 680+60.66
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 LT 675+60.58 to 680+60.66

Date: 3/21/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
674+60.58 108.90	674+68.24 108.90	LT	0.058	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.01	10.00	7.41	0.095	6	12	4	0.06	0.07	0.10	NO	1.46		
674+68.24 108.90	675+68.24 108.84	LT	0.058	0.14 0.19 0.00	0.95 0.20 0.00	0.17	0.18	17.48	6.03	1.279	6	12	4	0.06	0.34	0.27	NO	1.58		
675+68.24 108.84	676+60.45 108.78	LT	0.058	0.12 0.17 0.00	0.95 0.20 0.00	0.15	0.33	22.33	5.44	2.004	6	12	4	0.06	0.45	0.32	NO	1.37		S-427A
676+60.45 108.78	676+68.24 108.78	LT	0.058	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.34	22.75	5.40	1.877	6	12	4	0.06	0.43	0.31	NO	1.37		
676+68.24 108.78	677+68.24 108.72	LT	0.058	0.14 0.17 0.00	0.95 0.20 0.00	0.16	0.51	27.52	4.95	2.741	6	12	4	0.06	0.53	0.35	NO	1.28		
677+68.24 108.72	678+60.60 108.67	LT	0.058	0.13 0.15 0.00	0.95 0.20 0.00	0.15	0.66	31.66	4.62	3.250	6	12	4	0.06	0.59	0.37	NO	1.35		S-430A
678+60.60 108.67	678+68.24 108.66	LT	0.058	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.67	32.01	4.60	3.094	6	12	4	0.06	0.57	0.36	NO	1.36		
678+68.24 108.66	679+51.31 108.61	LT	0.058	0.11 0.12 0.00	0.95 0.20 0.00	0.13	0.80	35.60	4.36	3.685	6	12	4	0.06	0.63	0.39	NO	1.48		S-432A
679+51.31 108.61	679+68.24 108.60	LT	0.058	0.02 0.02 0.00	0.95 0.20 0.00	0.03	0.83	36.34	4.31	3.608	6	12	4	0.06	0.62	0.38	NO	1.49		
679+68.24 108.60	680+60.66 108.55	LT	0.058	0.13 0.11 0.00	0.95 0.20 0.00	0.14	0.97	39.14	4.15	5.275	6	12	4	0.042	0.63	0.55	NO	1.56		S-435A (add 1.085 cfs)

Interim Daryl Carter Pkwy
BL400 LT 680+60.66 to 681+68.24
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 LT 680+60.66 to 681+68.24

Date: 3/21/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
681+68.24 108.90	680+68.24 108.57	LT	0.325	0.14 0.11 0.00	0.95 0.20 0.00	0.15	0.15	10.00	7.41	1.128	6	12	4	0.06	0.19	0.44	NO	1.53		
680+68.24 108.57	680+60.66 108.55	LT	0.325	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.16	13.91	6.59	5.275	6	12	4	0.06	0.47	0.77	NO	1.56		S-435A (add 4.190 cfs)

Interim Daryl Carter Pkwy
ISLIP2 LT 214+60.80 to 218+58.36 & BL400 LT 690+59.80 to 696+73.78
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: ISLIP2 LT 214+60.80 to 218+58.36 & BL400 LT 690+59.80 to 696+73.78

Date: 3/22/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
696+73.78	695+73.58	LT	0.275	1.05	0.95															
109.04	108.76			0.77	0.20	1.15	1.15	13.00	6.76	7.756	6	39.75	6	0.06	0.32	0.59	NO	1.38		
				0.00	0.00															
695+73.58	694+73.39			0.16	0.95															
108.76	108.49	LT	0.275	0.22	0.20	0.19	1.34	18.40	5.91	8.403	6	31.38	6	0.06	0.38	0.65	NO	1.62		
				0.00	0.00															
694+73.39	694+62.66			0.02	0.95															
108.49	108.46	LT	0.275	0.02	0.20	0.02	1.36	18.68	5.87	8.036	6	30	6	0.06	0.38	0.65	NO	1.65		S-457A
				0.00	0.00															
694+62.66	693+73.19			0.15	0.95															
108.46	108.39	LT	0.079	0.18	0.20	0.18	1.54	21.84	5.49	9.017	6	26.35	6	0.06	0.63	0.47	NO	1.58		
				0.00	0.00															
693+73.19	693+23.72			0.08	0.95															
108.39	108.35	LT	0.079	0.10	0.20	0.10	1.63	23.56	5.31	8.977	6	25	6	0.06	0.65	0.48	NO	1.62		S-456A
				0.00	0.00															
693+23.72	692+72.99			0.08	0.95															
108.35	108.31	LT	0.079	0.10	0.20	0.10	1.73	25.28	5.15	9.212	6	22.89	6	0.06	0.69	0.49	NO	1.68		
				0.00	0.00															
692+72.99	692+50.20			0.04	0.95															
108.31	108.29	LT	0.079	0.04	0.20	0.04	1.78	26.05	5.08	9.153	6	22	6	0.06	0.70	0.50	NO	1.69		S-449A
				0.00	0.00															
692+50.20	691+72.79			0.13	0.95															
108.29	108.23	LT	0.079	0.15	0.20	0.15	1.93	28.04	4.90	9.797	6	21.85	6	0.042	0.60	0.65	NO	1.87		
				0.00	0.00															
691+72.79	690+71.86			0.17	0.95															
108.23	108.15	LT	0.079	0.20	0.20	0.20	2.13	31.40	4.64	10.434	6	25.82	6	0.06	0.70	0.50	NO	1.81		
				0.00	0.00															
690+71.86	690+59.80			0.02	0.95															
108.15	108.14	LT	0.079	0.02	0.20	0.02	2.15	31.82	4.61	9.989	6	27	6	0.06	0.66	0.49	NO	1.82		S-448A Station Equivalent ISLIP2 = 218+58.36
				0.00	0.00															
218+58.36	217+69.33			0.15	0.95															
108.14	108.07	LT	0.079	0.18	0.20	0.18	2.33	34.88	4.40	10.740	6	29.9	6	0.06	0.65	0.48	NO	1.69		
				0.00	0.00															
217+69.33	216+68.31			0.18	0.95															
108.07	107.99	LT	0.079	0.19	0.20	0.21	2.54	38.25	4.20	11.183	6	28.37	6	0.06	0.69	0.50	NO	1.47		
				0.00	0.00															
216+68.31	216+58.40			0.02	0.95															
107.99	107.98	LT	0.092	0.02	0.20	0.02	2.56	38.57	4.18	10.750	6	28	6	0.06	0.65	0.52	NO	1.48		S-447A
				0.00	0.00															
216+58.40	215+67.35			0.18	0.95															
107.98	107.90	LT	0.092	0.15	0.20	0.20	2.77	40.57	4.07	11.559	6	16.83	6	0.042	0.72	0.76	NO	1.24		
				0.00	0.00															
215+67.35	214+65.70			0.21	0.95															
107.90	107.80	LT	0.094	0.15	0.20	0.23	3.00	42.88	3.95	12.205	6	22.88	5	0.042	0.63	0.73	NO	1.21		
				0.00	0.00															
214+65.70	214+60.80			0.01	0.95															
107.80	107.80	LT	0.094	0.01	0.20	0.01	3.01	42.99	3.94	14.446	6	22	4	0.042	0.71	0.79	NO	1.22		S-446A (add 2.560 cfs)
				0.00	0.00															

Interim Daryl Carter Pkwy
BL400 MD 564+00.00 to 571+75.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 MD 564+00.00 to 571+75.00

Date: 3/12/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
564+00.00 116.71	565+00.00 113.88	MD	2.830	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.08	10.00	7.41	0.556	6	15.23	6	0.06	0.06	0.63	NO	1.54		
565+00.00 113.88	566+00.00 111.05	MD	2.830	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.15	14.85	6.43	1.025	6	17.08	6	0.06	0.08	0.76	NO	1.62		
566+00.00 111.05	567+00.00 108.22	MD	2.830	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.23	16.64	6.15	1.449	6	13.82	6	0.06	0.11	0.93	NO	1.87		
567+00.00 108.22	568+00.00 106.79	MD	1.430	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.30	18.89	5.84	1.847	6	18.76	6	0.06	0.13	0.74	NO	1.33		
568+00.00 106.79	569+00.00 105.36	MD	1.430	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.38	20.81	5.61	2.193	6	14.19	6	0.06	0.17	0.87	NO	1.76		
569+00.00 105.36	570+00.00 105.21	MD	0.145	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.45	24.98	5.18	2.527	6	19.33	6	0.06	0.30	0.40	NO	1.23		
570+00.00 105.21	571+00.00 105.07	MD	0.145	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.53	28.98	4.83	2.720	6	18.99	6	0.06	0.32	0.42	NO	1.33		
571+00.00 105.07	571+75.00 104.96	MD	0.145	0.04 0.07 0.00	0.95 0.20 0.00	0.06	0.58	31.89	4.61	2.809	6	17.44	6	0.06	0.34	0.43	NO	1.54		Ditch block.

Interim Daryl Carter Pkwy
BL400 MD 571+81.00 to 574+91.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 MD 571+81.00 to 574+91.00

Date: 3/12/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
571+81.00 105.96	571+91.00 105.96	MD	0.000	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.01	10.00	7.41	0.056	6	24.953	6	0.06	0.23	0.01	NO	0.58		Ditch block
571+91.00 105.96	572+00.00 104.46	MD	16.667	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.01	28.89	4.84	0.069	6	11.95	6	0.06	0.01	0.47	NO	2.08		
572+00.00 104.46	573+00.00 104.38	MD	0.080	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.09	37.08	4.27	0.432	6	10.97	6	0.06	0.17	0.20	NO	2.12		
573+00.00 104.38	574+00.00 104.30	MD	0.080	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.16	43.75	3.90	0.702	6	10.13	6	0.06	0.24	0.25	NO	2.16		
574+00.00 104.30	574+91.00 104.23	MD	0.080	0.05 0.08 0.00	0.95 0.20 0.00	0.07	0.23	49.39	3.65	0.909	6	10.72	6	0.06	0.27	0.27	NO	2.02		Ditch block. S-101E

Interim Daryl Carter Pkwy
BL400 MD 575+11.00 to 582+18.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
	A = 12.49556
	B = -1.67116
	C = -0.34901
	D = 0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 MD 575+11.00 to 582+18.00

Date: 3/12/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
582+18.00 106.69	582+08.00 106.69	MD	0.000	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.01	10.00	7.41	0.056	6	25.86	6	0.06	0.45	0.00	NO	0.66		Ditch block
582+08.00 106.69	582+00.00 105.36	MD	16.663	0.00 0.01 0.00	0.95 0.20 0.00	0.01	0.01	48.83	3.67	0.050	6	10.78	6	0.06	0.01	0.47	NO	1.93		
582+00.00 105.36	581+00.00 105.19	MD	0.164	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.09	56.74	3.36	0.325	6	16.04	6	0.06	0.10	0.21	NO	1.71		
581+00.00 105.19	580+00.00 105.03	MD	0.164	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.16	63.74	3.13	0.550	6	18.86	6	0.06	0.12	0.24	NO	1.51		
580+00.00 105.03	579+00.00 104.86	MD	0.164	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.24	69.82	2.95	0.746	6	17.86	6	0.06	0.15	0.27	NO	1.53		
579+00.00 104.86	578+00.00 104.70	MD	0.164	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.31	75.44	2.80	0.925	6	17.1	6	0.06	0.17	0.30	NO	1.58		
578+00.00 104.70	577+00.00 104.54	MD	0.164	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.39	80.40	2.68	1.089	6	14.36	6	0.06	0.21	0.34	NO	1.82		
577+00.00 104.54	576+00.00 104.37	MD	0.164	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.46	85.00	2.58	1.245	6	12.51	6	0.06	0.24	0.36	NO	1.89		
576+00.00 104.37	575+11.00 104.23	MD	0.164	0.05 0.08 0.00	0.95 0.20 0.00	0.07	0.53	88.77	2.50	1.370	6	10.85	6	0.06	0.28	0.39	NO	2.01		Ditch block. S-101E

Interim Daryl Carter Pkwy
BL400 MD 582+24.00 to 584+00.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 MD 582+24.00 to 584+00.00

Date: 3/12/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
584+00.00	583+00.00			0.06	0.95															
107.11	106.30	MD	0.807	0.09	0.20	0.08	0.08	10.00	7.41	0.556	6	11.92	6	0.06	0.10	0.46	NO	1.92		
				0.00	0.00															
583+00.00	582+24.00			0.05	0.95															
106.30	105.69	MD	0.807	0.07	0.20	0.06	0.13	16.02	6.25	0.879	6	12.4	6	0.06	0.12	0.52	NO	1.78		Begin ditch block to 582+00
				0.00	0.00															

Interim Daryl Carter Pkwy
BL400 MD 629+77.02 to 632+70.81
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 MD 629+77.02 to 632+70.81

Date: 3/12/2018
Date: 4/18/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
632+70.81 132.30	632+60.81 132.30	MD	0.000	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.01	10.00	7.41	0.056	6	21.6	6	0.06	0.25	0.01	NO	1.24		Ditch block
632+60.81 132.30	632+54.81 131.30	MD	16.667	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.01	27.92	4.91	0.059	6	10.11	6	0.06	0.01	0.47	NO	2.22		
632+54.81 131.30	631+58.44 130.59	MD	0.742	0.06 0.09 0.00	0.95 0.20 0.00	0.07	0.08	32.08	4.59	0.415	6	11.94	6	0.06	0.08	0.39	NO	2.12		
631+58.44 130.59	630+56.47 129.83	MD	0.742	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.16	35.66	4.35	0.739	6	13.17	6	0.06	0.11	0.47	NO	2.01		
630+56.47 129.83	629+77.02 129.24	MD	0.742	0.05 0.07 0.00	0.95 0.20 0.00	0.06	0.22	38.30	4.20	0.960	6	14.5	6	0.06	0.12	0.50	NO	1.80		Ditch block

Interim Daryl Carter Pkwy
BL400 MD 632+75.31 to 634+75.49
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 MD 632+75.31 to 634+75.49

Date: 3/12/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
634+75.49 133.22	634+65.49 133.22	MD	0.000	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.01	10.00	7.41	0.056	6	17	6	0.06	0.29	0.01	NO	1.48		Ditch block
634+65.49 133.22	634+59.49 132.22	MD	16.667	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.01	26.54	5.03	0.061	6	7.85	6	0.06	0.01	0.47	NO	2.47		
634+59.49 132.22	633+57.18 131.85	MD	0.364	0.06 0.09 0.00	0.95 0.20 0.00	0.08	0.09	31.45	4.64	0.447	6	9.57	6	0.06	0.12	0.35	NO	2.41		
633+57.18 131.85	632+75.31 131.55	MD	0.364	0.05 0.08 0.00	0.95 0.20 0.00	0.06	0.15	34.99	4.40	0.697	6	11.67	6	0.06	0.14	0.39	NO	2.15		Ditch block

Interim Daryl Carter Pkwy
BL400 RT 566+00.00 to 574+80.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
	A = 12.92209
	B = -1.11084
	C = -0.55019
	D = 0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 566+00.00 to 574+80.00

Date: 3/26/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
566+00.00 106.00	567+00.00 104.95	RT	1.050	0.17 0.23 0.00	0.95 0.20 0.00	0.21	0.21	10.00	8.26	26.705	6	10.94	6	0.042	0.71	2.44	NO	3.91		Inflow of 25 cfs from Pond 137
567+00.00 104.95	568+00.00 104.16	RT	0.790	0.16 0.21 0.00	0.95 0.20 0.00	0.19	0.40	11.43	7.91	28.245	6	12.52	5	0.042	0.75	2.23	NO	2.41		
568+00.00 104.16	569+00.00 103.90	RT	0.260	0.17 0.17 0.00	0.95 0.20 0.00	0.20	0.60	12.47	7.69	29.720	6	10	4	0.042	1.16	1.61	NO	1.69		
569+00.00 103.90	570+00.00 103.38	RT	0.522	0.09 0.12 0.00	0.95 0.20 0.00	0.11	0.71	13.22	7.53	30.430	5	5	4	0.042	1.27	2.23	NO	2.26		
570+00.00 103.38	571+00.00 102.86	RT	0.522	0.00 0.10 0.00	0.95 0.20 0.00	0.02	0.73	13.95	7.39	30.469	4	5	4	0.042	1.30	2.28	NO	2.68		
571+00.00 102.86	572+00.00 102.33	RT	0.522	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.74	14.68	7.26	30.506	4	5	4	0.042	1.30	2.28	NO	3.16		
572+00.00 102.33	573+00.00 101.81	RT	0.522	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.76	15.40	7.13	30.543	4	5	3.5	0.042	1.32	2.31	NO	3.71		
573+00.00 101.81	574+00.00 101.29	RT	0.522	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.78	16.11	7.02	30.581	4	5	3	0.042	1.34	2.35	NO	4.44		
574+00.00 101.29	574+80.00 97.86	RT	4.288	0.00 0.08 0.00	0.95 0.20 0.00	0.02	0.80	16.22	7.00	30.840	4	5	2.5	0.012	0.40	12.15	YES	7.88		Add inflow of 0.246 cfs

Interim Daryl Carter Pkwy
BL400 RT 577+20.00 to 575+20.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 577+20.00 to 575+20.00

Date: 4/11/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
577+20.00 101.64	577+00.00 101.61	RT	0.168	0.00 0.02 0.00	0.95 0.20 0.00	0.00	0.00	10.00	8.26	0.031	4	5	4	0.06	0.05	0.13	NO	3.68		
577+00.00 101.61	576+00.00 101.44	RT	0.168	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.02	19.28	6.54	0.174	4	5	3.5	0.06	0.13	0.25	NO	4.09		Shallow ditch block at 576+08 excluded to be conservative
576+00.00 101.44	575+20.00 97.86	RT	4.475	0.00 0.08 0.00	0.95 0.20 0.00	0.02	0.04	19.39	6.53	30.840	4	5	2.5	0.012	0.40	12.41	YES	7.88		Add 30.594 cfs

Interim Daryl Carter Pkwy
BL400 RT 577+20.00 to 577+80.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 577+20.00 to 577+80.00

Date: 4/11/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
577+20.00	577+80.00			0.00	0.95															
101.64	99.90	RT	2.903	0.06	0.20	0.01	0.01	10.00	8.26	56.279	4	7.08	4	0.042	1.02	4.91	YES	6.19		
				0.00	0.00															

Interim Daryl Carter Pkwy
BL400 RT 578+20.00 to 583+00.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 578+20.00 to 583+00.00

Date: 3/26/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
583+00.00 103.80	582+00.00 102.82	RT	0.980	0.14 0.13 2.99	0.95 0.20 0.59	1.94	1.94	10.00	8.26	57.005	6	5	4	0.042	1.44	3.25	NO	3.65		Add inflow of 41 cfs from upstream of ditch block. Add area from station 583+00 to station 594+00 (imp = 1.47 ac; perv = 1.52 ac with Tc = 15 mins).
582+00.00 102.82	581+00.00 102.47	RT	0.355	0.15 0.12 0.00	0.95 0.20 0.00	0.17	2.11	15.77	7.07	56.162	6	10.29	4	0.042	1.48	2.15	NO	3.24		
581+00.00 102.47	580+00.00 102.11	RT	0.355	0.08 0.10 0.00	0.95 0.20 0.00	0.09	2.20	16.53	6.95	56.554	5	9.35	4	0.042	1.56	2.21	NO	3.46		
580+00.00 102.11	579+00.00 101.94	RT	0.168	0.00 0.09 0.00	0.95 0.20 0.00	0.02	2.22	17.50	6.80	56.416	4	10	4	0.042	1.87	1.71	NO	3.46		
579+00.00 101.94	578+20.00 99.90	RT	2.552	0.00 0.08 0.00	0.95 0.20 0.00	0.02	2.23	17.62	6.78	56.279	4	8.7	4	0.012	0.49	10.92	YES	5.57		

Interim Daryl Carter Pkwy
BL400 RT 09 619+59.74 to 619+80.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 09 619+59.74 to 619+80.00

Date: 4/11/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
619+59.74	619+70.00			0.02	0.95															
120.13	120.11	RT	0.235	0.02	0.20	0.02	0.02	10.00	8.26	0.158	6	5	4	0.06	0.11	0.26	NO	1.32		
				0.00	0.00															
619+70.00	619+80.00			0.02	0.95															
120.11	116.44	RT	36.659	0.02	0.20	0.02	0.04	10.69	8.09	16.390	5.5	5	4	0.06	0.37	6.58	YES	5.04		add 16.39 cfs from area
				0.00	0.00															

Interim Daryl Carter Pkwy
RT10 620+20.00 to 627+00.17
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: RT10 620+20.00 to 627+00.17

Date: 4/11/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
627+00.17 126.67	626+54.02 126.28	RT	0.853	0.00 0.03 0.00	0.95 0.20 0.00	0.01	0.01	10.00	8.26	0.053	6	5	4	0.06	0.04	0.26	NO	0.88		
626+54.02 126.28	626+00.58 125.82	RT	0.853	0.00 0.04 0.00	0.95 0.20 0.00	0.01	0.01	15.88	7.05	0.110	5.5	8	4	0.06	0.05	0.30	NO	0.68		
626+00.58 125.82	625+50.01 125.39	RT	0.853	0.00 0.04 0.00	0.95 0.20 0.00	0.01	0.02	17.96	6.73	0.157	5.5	5	4	0.06	0.08	0.40	NO	0.64		
625+50.01 125.39	625+00.00 124.96	RT	0.853	0.00 0.04 0.00	0.95 0.20 0.00	0.01	0.03	19.88	6.46	0.205	6	5	4	0.06	0.09	0.43	NO	0.50		
625+00.00 124.96	624+00.00 124.11	RT	0.853	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.05	23.27	6.06	0.307	6	5	4	0.06	0.11	0.49	NO	0.74		
624+00.00 124.11	623+00.00 123.18	RT	0.930	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.06	26.20	5.75	0.392	6	5	4	0.06	0.13	0.57	NO	0.78		
623+00.00 123.18	622+50.09 122.72	RT	0.930	0.00 0.04 0.00	0.95 0.20 0.00	0.01	0.07	27.66	5.61	0.418	6	5	4	0.06	0.13	0.57	NO	0.94		
622+50.09 122.72	622+00.00 122.25	RT	0.930	0.00 0.07 0.00	0.95 0.20 0.00	0.01	0.09	29.18	5.47	0.489	6	7	4	0.06	0.12	0.55	NO	1.25		
622+00.00 122.25	621+00.00 121.32	RT	0.930	0.00 0.21 0.00	0.95 0.20 0.00	0.04	0.13	31.82	5.25	0.702	6	7	5	0.06	0.15	0.63	NO	1.36		
621+00.00 121.32	620+70.00 121.04	RT	0.930	0.00 0.06 0.00	0.95 0.20 0.00	0.01	0.14	32.55	5.20	0.737	5	5	5	0.06	0.18	0.69	NO	1.64		
620+70.00 121.04	620+20.00 116.44	RT	9.202	0.00 0.10 0.00	0.95 0.20 0.00	0.02	0.16	32.61	5.19	17.222	4	5	4	0.012	0.23	12.74	YES	6.24		add 16.39 cfs (from storm sewer) S-114A

Interim Daryl Carter Pkwy
BL400 RT 631+00.00 to 632+54.81
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 631+00.00 to 632+54.81

Date: 3/26/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
631+00.00 130.80	631+58.44 130.77	RT	0.052	0.09 0.03 0.00	0.95 0.20 0.00	0.09	0.09	10.00	7.41	0.660	6	12.6	6	0.06	0.23	0.20	NO	0.73		
631+58.44 130.77	632+54.81 130.72	RT	0.052	0.14 0.08 0.00	0.95 0.20 0.00	0.15	0.24	19.38	5.78	4.584	6	17.8	6	0.06	0.60	0.36	NO	1.72		S-302A. Add 3.068 cfs

Interim Daryl Carter Pkwy
BL400 RT 632+54.81 to 635+61.24
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 632+54.81 to 635+61.24

Date: 3/26/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
635+61.24 131.60	634+59.46 131.31	RT	0.287	0.14 0.21 0.00	0.95 0.20 0.00	0.18	0.18	10.00	7.41	1.315	6	16	6	0.06	0.19	0.42	NO	2.23		
634+59.46 131.31	633+57.18 131.01	RT	0.287	0.14 0.17 0.00	0.95 0.20 0.00	0.17	0.35	17.38	6.05	2.277	6	16	6	0.06	0.26	0.51	NO	2.02		
633+57.18 131.01	632+54.81 130.72	RT	0.287	0.14 0.12 0.00	0.95 0.20 0.00	0.16	0.51	20.11	5.69	4.584	6	17.8	6	0.06	0.36	0.63	NO	1.72		S-302A. Add 1.516 cfs

Interim Daryl Carter Pkwy
BL400 RT 635+61.24 to 643+59.90
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
	A = 12.49556
	B = -1.67116
	C = -0.34901
	D = 0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 635+61.24 to 643+59.90

Date: 3/26/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
635+61.24 131.60	636+62.80 131.47	RT	0.129	0.14 0.25 0.00	0.95 0.20 0.00	0.18	0.18	10.00	7.41	1.349	6	16	6	0.06	0.24	0.32	NO	2.23		S-304A
636+62.80 131.47	637+61.72 131.34	RT	0.129	0.13 0.27 0.00	0.95 0.20 0.00	0.18	0.36	19.38	5.78	2.319	6	16	6	0.06	0.33	0.39	NO	2.41		
637+61.72 131.34	638+60.05 131.22	RT	0.129	0.13 0.31 0.00	0.95 0.20 0.00	0.19	0.55	23.14	5.36	3.190	6	16	6	0.06	0.39	0.44	NO	2.55		
638+60.05 131.22	639+57.78 131.09	RT	0.129	0.13 0.34 0.00	0.95 0.20 0.00	0.19	0.74	26.56	5.03	3.989	6	16	6	0.06	0.45	0.48	NO	2.60		
639+57.78 131.09	640+54.99 130.65	RT	0.458	0.13 0.35 0.00	0.95 0.20 0.00	0.19	0.94	28.70	4.85	4.725	6	16	6	0.06	0.34	0.76	NO	2.95		S-305A
640+54.99 130.65	641+52.54 130.20	RT	0.458	0.13 0.36 0.00	0.95 0.20 0.00	0.20	1.14	30.73	4.69	5.510	6	16	6	0.06	0.37	0.80	NO	3.25		
641+52.54 130.20	642+52.87 129.74	RT	0.458	0.14 0.39 0.00	0.95 0.20 0.00	0.21	1.34	32.73	4.55	6.298	6	16	6	0.06	0.40	0.84	NO	3.43		
642+52.87 129.74	643+53.21 129.28	RT	0.458	0.14 0.41 0.00	0.95 0.20 0.00	0.21	1.55	34.65	4.42	7.064	6	16	6	0.06	0.43	0.87	NO	3.81		
643+53.21 129.28	643+59.90 129.25	RT	0.458	0.01 0.03 0.00	0.95 0.20 0.00	0.01	1.57	34.78	4.41	6.927	6	16	6	0.06	0.43	0.87	NO	3.84		S-306A

Interim Daryl Carter Pkwy
BL400 RT 645+84.24 to 656+83.94
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT 645+84.24 to 656+83.94

Date: 4/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
645+84.24 131.25	646+60.45 131.10	RT	0.201	0.10 0.15 0.00	0.95 0.20 0.00	0.13	0.13	10.00	7.41	0.963	6	91.89	6	0.06	0.06	0.17	NO	1.53		S-311B
646+60.45 131.10	646+83.98 131.05	RT	0.201	0.03 0.06 0.00	0.95 0.20 0.00	0.04	0.17	19.57	5.76	1.038	6	74.85	6	0.06	0.07	0.19	NO	1.76		
646+83.98 131.05	647+84.10 130.85	RT	0.201	0.14 0.26 0.00	0.95 0.20 0.00	0.18	0.35	27.08	4.99	2.040	6	95.67	6	0.06	0.09	0.22	NO	1.67		S-314B
647+84.10 130.85	648+83.32 129.52	RT	1.336	0.14 0.34 0.00	0.95 0.20 0.00	0.20	0.55	31.34	4.65	2.745	6	121.73	6	0.06	0.05	0.39	NO	2.09		
648+83.32 129.52	649+82.71 128.19	RT	1.336	0.14 0.41 0.00	0.95 0.20 0.00	0.21	0.76	34.76	4.41	3.547	6	112.88	6	0.06	0.07	0.49	NO	2.46		
649+82.71 128.19	650+82.27 126.86	RT	1.336	0.14 0.43 0.00	0.95 0.20 0.00	0.22	0.98	37.65	4.23	4.317	6	90.24	6	0.06	0.09	0.57	NO	2.54		S-317B
650+82.27 126.86	651+82.03 125.53	RT	1.336	0.14 0.41 0.00	0.95 0.20 0.00	0.21	1.19	40.56	4.07	5.034	6	94.4	6	0.06	0.09	0.57	NO	2.48		
651+82.03 125.53	652+82.51 124.19	RT	1.336	0.14 0.39 0.00	0.95 0.20 0.00	0.21	1.40	43.28	3.93	5.682	6	95.59	6	0.06	0.10	0.61	NO	2.52		S-319B
652+82.51 124.19	653+83.86 122.83	RT	1.336	0.14 0.36 0.00	0.95 0.20 0.00	0.20	1.60	45.87	3.80	6.286	6	87.62	6	0.06	0.11	0.65	NO	2.35		
653+83.86 122.83	654+60.45 121.81	RT	1.336	0.11 0.22 0.00	0.95 0.20 0.00	0.14	1.74	47.71	3.72	6.631	6	80.91	6	0.06	0.12	0.69	NO	2.31		S-322B
654+60.45 121.81	654+85.17 121.45	RT	1.441	0.03 0.06 0.00	0.95 0.20 0.00	0.04	1.79	48.25	3.70	6.651	6	69.58	6	0.06	0.13	0.76	NO	2.35		
654+85.17 121.45	655+86.14 120.00	RT	1.441	0.14 0.24 0.00	0.95 0.20 0.00	0.18	1.97	50.20	3.61	7.275	6	52.81	6	0.06	0.16	0.87	NO	2.40		
655+86.14 120.00	656+83.94 118.59	RT	1.441	0.13 0.18 0.00	0.95 0.20 0.00	0.16	2.13	51.83	3.55	7.701	6	38.41	6	0.06	0.20	1.00	NO	2.60		S-323B

Interim Daryl Carter Pkwy
BL400_RT07 670+68.23 to 676+00.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
	A = 12.49556
	B = -1.67116
	C = -0.34901
	D = 0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400_RT07 670+68.23 to 676+00.00

Date: 4/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
670+68.23 106.26	671+68.23 106.03	RT	0.230	0.09 0.06 0.00	0.95 0.20 0.00	0.09	0.09	10.00	7.41	0.690	5	5	4	0.06	0.26	0.43	NO	1.13		
671+68.23 106.03	672+68.23 105.80	RT	0.230	0.17 0.08 0.00	0.95 0.20 0.00	0.17	0.27	17.69	6.00	1.768	6	16	4	0.06	0.24	0.44	NO	1.06		
672+68.23 105.80	673+68.23 105.57	RT	0.230	0.16 0.10 0.00	0.95 0.20 0.00	0.17	0.44	20.76	5.62	2.654	6	12	4	0.06	0.35	0.54	NO	1.88		
673+68.23 105.57	674+68.24 105.34	RT	0.230	0.16 0.12 0.00	0.95 0.20 0.00	0.18	0.62	24.32	5.24	3.484	6	27	4	0.06	0.26	0.47	NO	2.16		
674+68.24 105.34	675+68.24 105.11	RT	0.230	0.17 0.12 0.00	0.95 0.20 0.00	0.18	0.80	27.70	4.93	4.211	6	30	4	0.06	0.28	0.49	NO	3.98		
675+68.24 105.11	676+00.00 105.04	RT	0.230	0.05 0.03 0.00	0.95 0.20 0.00	0.06	0.86	28.77	4.84	4.255	6	30	4	0.06	0.28	0.49	NO	4.05		S-491A

Interim Daryl Carter Pkwy
BL400 RT08 677+68.24 to 685+68.24
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: BL400 RT08 677+68.24 to 685+68.24

Date: 4/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
685+68.24 107.67	684+68.24 107.61	RT	0.057	0.16 0.17 0.00	0.95 0.20 0.00	0.18	0.18	10.00	7.41	1.361	6	5	4	0.06	0.55	0.32	NO	1.64		
684+68.24 107.61	683+68.24 107.56	RT	0.057	0.16 0.17 0.00	0.95 0.20 0.00	0.19	0.37	18.63	5.88	2.364	6	5	4	0.042	0.61	0.49	NO	1.77		
683+68.24 107.56	682+68.24 107.50	RT	0.057	0.16 0.16 0.00	0.95 0.20 0.00	0.19	0.56	21.76	5.50	3.281	6	5	4	0.042	0.72	0.53	NO	1.76		
682+68.24 107.50	681+68.24 106.82	RT	0.680	0.16 0.17 0.00	0.95 0.20 0.00	0.19	0.75	23.33	5.34	4.104	6	5	4	0.06	0.51	1.07	NO	2.33		
681+68.24 106.82	680+68.24 106.14	RT	0.680	0.16 0.16 0.00	0.95 0.20 0.00	0.19	0.93	24.81	5.19	4.978	6	5	4	0.06	0.56	1.12	NO	3.07		
680+68.24 106.14	679+68.24 105.46	RT	0.680	0.16 0.18 0.00	0.95 0.20 0.00	0.19	1.12	26.23	5.06	5.827	6	5	4	0.06	0.61	1.18	NO	3.83		
679+68.24 105.46	678+68.24 104.78	RT	0.680	0.16 0.19 0.00	0.95 0.20 0.00	0.19	1.32	27.86	4.92	6.662	6	14	4	0.06	0.40	1.02	NO	2.58		
678+68.24 104.78	677+68.24 104.10	RT	0.680	0.16 0.19 0.00	0.95 0.20 0.00	0.19	1.51	29.78	4.76	7.432	6	28	4	0.06	0.29	0.87	NO	4.79		S-494A

APPENDIX C.5.2: IA_CFP (Ramp)

Interim Daryl Carter Pkwy
IA_CFP LT 301+89.42 to 303+90.66
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IA_CFP LT 301+89.42 to 303+90.66

Date: 3/29/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
301+89.42	302+00.00			0.00	0.95															
112.50	112.49	LT	0.050	0.01	0.20	0.00	0.00	10.00	7.41	0.011	4	12	4	0.06	0.02	0.04	NO	0.78		S-575B
				0.00	0.00															
302+00.00	303+00.00			0.05	0.95															
112.49	112.45	LT	0.050	0.08	0.20	0.06	0.06	23.91	5.28	0.413	5	12	4	0.06	0.19	0.17	NO	1.68		
				0.00	0.00															
303+00.00	303+90.66			0.09	0.95															
112.45	112.40	LT	0.050	0.08	0.20	0.10	0.17	28.70	4.85	2.371	6	12	4	0.06	0.51	0.32	NO	2.52		S-589B
				0.00	0.00															

Interim Daryl Carter Pkwy
IA_CFP LT 303+90.66 to 305+77.26
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IA_CFP LT 303+90.66 to 305+77.26

Date: 3/29/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
305+77.26 114.63	305+00.00 113.94	LT	0.893	0.07 0.10 0.00	0.95 0.20 0.00	0.09	0.09	10.00	7.41	0.633	6	12	4	0.06	0.10	0.49	NO	1.33		S-600B
305+00.00 113.94	304+00.00 112.53	LT	1.408	0.12 0.11 0.00	0.95 0.20 0.00	0.13	0.22	14.71	6.45	1.494	6	12	4	0.06	0.15	0.80	NO	2.45		
304+00.00 112.53	303+90.66 112.40	LT	1.408	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.23	14.88	6.43	2.371	6	12	4	0.06	0.19	0.92	NO	2.52		S-589B

Interim Daryl Carter Pkwy
IA_CFP RT 307+88.66 to 310+00.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IA_CFP RT 307+88.66 to 310+00.00

Date: 3/29/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
310+00.00 115.50	309+00.00 115.19	RT	0.308	0.05 0.06 0.00	0.95 0.20 0.00	0.06	0.06	10.00	7.41	0.424	4	11.87	4	0.06	0.11	0.31	NO	0.88		
309+00.00 115.19	308+00.00 114.88	RT	0.308	0.05 0.06 0.00	0.95 0.20 0.00	0.06	0.12	19.85	5.72	0.754	4	12.51	4	0.06	0.15	0.38	NO	0.89		
308+00.00 114.88	307+88.66 114.85	RT	0.308	0.01 0.01 0.00	0.95 0.20 0.00	0.01	0.13	20.24	5.68	0.720	4	5	4	0.06	0.25	0.49	NO	0.93		S-457A1

APPENDIX C.5.3: IB_DCP (Ramp)

Interim Daryl Carter Pkwy
IB_DCP RT 511+50.00 TO 513+64.52
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IB_DCP RT 511+50.00 TO 513+64.52

Date: 1/4/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
511+50.00 131.25	512+14.03 131.03	RT	0.350	0.00 0.24 0.00	0.95 0.20 0.00	0.05	0.05	10.00	7.41	0.357	4	5	4	0.06	0.16	0.40	NO	1.22		
512+14.03 131.03	513+14.42 130.68	RT	0.350	0.00 0.32 0.00	0.95 0.20 0.00	0.06	0.11	15.88	6.27	0.772	4	5	4	0.06	0.25	0.52	NO	1.55		
513+14.42 130.68	513+64.52 130.50	RT	0.350	0.00 0.15 0.00	0.95 0.20 0.00	0.03	0.14	17.22	6.07	1.361	4	5	4	0.06	0.34	0.62	NO	1.71		Add 0.461 cfs

Interim Daryl Carter Pkwy
IB_DCP RT 511+50.00 TO 513+64.52
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IB_DCP RT 511+50.00 TO 513+64.52

Date: 1/4/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
514+14.63	513+64.52			0.00	0.95															
130.75	130.50	RT	0.499	0.31	0.20	0.06	0.06	10.00	7.41	1.361	4	5	4	0.06	0.31	0.71	NO	1.75		Add 0.9 cfs
				0.00	0.00															

APPENDIX C.5.4: IC_DCP (Ramp)

Interim Daryl Carter Pkwy
IC_DCP LT 602+19.60 TO 603+72.26
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IC_DCP LT 602+19.60 TO 603+72.26

Date: 3/27/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
603+72.26 131.00	603+00.00 130.05	LT	1.310	0.00 0.08 0.00	0.95 0.20 0.00	0.02	0.02	10.00	7.41	0.113	4	23.99	4	0.06	0.02	0.21	NO	1.95		
603+00.00 130.05	602+19.60 129.00	LT	1.310	0.00 0.42 0.00	0.95 0.20 0.00	0.08	0.10	19.28	5.79	0.622	4	37	4	0.06	0.05	0.38	NO	3.00		S-349B

Interim Daryl Carter Pkwy
IC_DCP RT 601+76.70 TO 604+70.04
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: IC_DCP RT 601+76.70 TO 604+70.04

Date: 3/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
601+76.70 129.00	602+74.49 128.47	RT	0.545	0.44 0.27 0.00	0.95 0.20 0.00	0.47	0.47	10.00	7.41	3.480	4	5	4	0.06	0.51	0.98	NO	3.30		
602+74.49 128.47	603+72.26 127.93	RT	0.545	0.00 0.20 0.00	0.95 0.20 0.00	0.04	0.51	13.34	6.70	3.577	4	5	4	0.06	0.51	0.98	NO	3.80		
603+72.26 127.93	604+70.04 127.40	RT	0.545	0.00 0.23 0.00	0.95 0.20 0.00	0.05	0.56	14.97	6.41	3.721	4	5	4	0.06	0.53	1.00	NO	1.67		

Interim Daryl Carter Pkwy
C_DCP RT 610+07.37 TO 612+25.99
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: C_DCP RT 610+07.37 TO 612+25.99

Date: 4/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
610+07.37 122.09	611+02.62 121.66	RT	0.448	0.00 0.13 0.00	0.95 0.20 0.00	0.03	0.03	10.00	7.41	0.196	4	16.268	4	0.06	0.05	0.22	NO	2.10		S-353B
611+02.62 121.66	611+08.34 121.64	RT	0.448	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.03	17.54	6.02	0.170	4	16.41	4	0.06	0.05	0.22	NO	2.12		
611+08.34 121.64	611+87.31 121.28	RT	0.448	0.00 0.10 0.00	0.95 0.20 0.00	0.02	0.05	22.27	5.45	0.289	4	15.2	4	0.06	0.07	0.28	NO	2.57		S-356B
611+87.31 121.28	612+05.80 121.20	RT	0.448	0.00 0.02 0.00	0.95 0.20 0.00	0.00	0.05	23.38	5.33	0.287	4	14.69	4	0.06	0.07	0.28	NO	2.68		
612+05.80 121.20	612+25.99 121.11	RT	0.448	0.00 0.03 0.00	0.95 0.20 0.00	0.01	0.06	24.34	5.24	0.476	4	14.34	4	0.06	0.10	0.35	NO	2.79		S-358B

Interim Daryl Carter Pkwy
C_DCP RT 612+25.99 TO 613+04.00
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: C_DCP RT 612+25.99 TO 613+04.00

Date: 4/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	Increment CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
613+07.47 121.71	613+00.04 121.65	RT	0.741	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.00	10.00	7.41	0.015	4	20.03	4	0.06	0.01	0.10	NO	2.33		S-360B
613+00.04 121.65	612+26.53 121.11	RT	0.741	0.00 0.11 0.00	0.95 0.20 0.00	0.02	0.02	14.40	6.51	0.476	4	14.34	4	0.06	0.08	0.39	NO	2.89		S-358B

APPENDIX C.5.5: ISLIP1 (Ramp)

Interim Daryl Carter Pkwy
ISLIP1 LT 106+70.00 to 108+16.88
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: ISLIP1 LT 106+70.00 to 108+16.88

Date: 3/29/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
108+16.88 129.08	107+90.00 128.10	LT	3.646	0.01 0.03 0.00	0.95 0.20 0.00	0.01	0.01	10.00	7.41	0.096	6	5	6	0.06	0.04	0.54	NO	1.16		
107+90.00 128.10	107+15.30 128.04	LT	0.083	0.01 0.12 0.00	0.95 0.20 0.00	0.04	0.05	18.18	5.94	0.360	6	17.83	6	0.06	0.12	0.17	NO	1.96		
107+15.30 128.04	106+70.00 128.00	LT	0.083	0.01 0.09 0.00	0.95 0.20 0.00	0.03	0.08	23.92	5.28	0.447	6	40	6	0.06	0.08	0.13	NO	3.00		S-415B

APPENDIX C.5.6: ISLIP2 (Ramp)

Interim Daryl Carter Pkwy
ISLIP2 LT 208+00.00 to 214+60.80
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.49556
B =	-1.67116
C =	-0.34901
D =	0.05017

Project: Interim Daryl Carter Pkwy
Ditch Name: ISLIP2 LT 208+00.00 to 214+60.80

Date: 3/22/2018
Date: 4/28/2018

Zone: 7
Design Event: 10 Yr

Max Vel. 4.00 fps

Design By : SF
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
208+00.00 118.52	208+56.34 117.61	LT	1.615	0.02 0.02 0.00	0.95 0.20 0.00	0.03	0.03	10.00	7.41	0.197	6	5	4	0.06	0.07	0.51	NO	0.58		S-433A
208+56.34 117.61	208+63.94 117.47	LT	1.847	0.00 0.00 0.00	0.95 0.20 0.00	0.00	0.03	12.09	6.94	0.211	6	6.41	4	0.06	0.06	0.50	NO	0.68		
208+63.94 117.47	209+64.24 115.62	LT	1.847	0.04 0.04 0.00	0.95 0.20 0.00	0.05	0.08	14.27	6.53	0.554	6	5.5	4	0.06	0.12	0.77	NO	1.26		
209+64.24 115.62	210+31.23 114.38	LT	1.847	0.03 0.04 0.00	0.95 0.20 0.00	0.04	0.12	15.64	6.30	0.753	6	6.5	4	0.06	0.13	0.81	NO	0.72		S-438A
210+31.23 114.38	210+64.53 113.77	LT	1.847	0.01 0.02 0.00	0.95 0.20 0.00	0.02	0.13	16.32	6.20	0.842	6	7.35	4	0.06	0.13	0.82	NO	1.33		
210+64.53 113.77	211+64.82 111.91	LT	1.847	0.06 0.10 0.00	0.95 0.20 0.00	0.08	0.21	18.24	5.93	1.297	6	10.37	4	0.06	0.14	0.87	NO	1.20		
211+64.82 111.91	212+57.60 110.20	LT	1.847	0.04 0.09 0.00	0.95 0.20 0.00	0.06	0.26	20.09	5.70	1.570	6	13.5	4	0.06	0.13	0.84	NO	0.94		S-443A
212+57.60 110.20	212+65.12 110.10	LT	1.308	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.27	20.26	5.68	1.535	6	13.78	4	0.06	0.14	0.74	NO	1.24		
212+65.12 110.10	213+65.41 108.79	LT	1.308	0.04 0.11 0.00	0.95 0.20 0.00	0.06	0.33	22.61	5.41	1.890	6	19.73	4	0.06	0.13	0.71	NO	0.75		
213+65.41 108.79	214+60.80 107.80	LT	1.038	0.12 0.12 0.00	0.95 0.20 0.00	0.14	0.47	23.76	5.29	14.446	6	22	4	0.06	0.44	1.37	NO	1.22		S-446A (add 11.886 cfs)

APPENDIX C.5.7: IWBCD2 (CD-Road)

Interim Daryl Carter Pkwy
D_DCP LT 708+34.08 to 713+92.55
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: D_DCP LT 708+34.08 to 713+92.55

Date: 4/6/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
708+34.08 124.90	709+00.00 124.42	LT	0.724	0.00 0.18 6.00	0.95 0.20 0.25	1.54	1.54	10.00	8.26	12.690	4	10	4	0.06	0.69	1.43	NO	2.88		Offsite area = 6 acres pervious
709+00.00 124.42	709+84.16 123.81	LT	0.724	0.00 0.22 0.00	0.95 0.20 0.00	0.04	1.58	11.74	7.84	12.754	4	10	4	0.06	0.69	1.43	NO	1.88		CS-140B3
709+84.16 123.81	710+79.81 123.12	LT	0.724	0.00 0.08 0.00	0.95 0.20 0.00	0.02	1.60	12.86	7.61	12.522	4	10	4	0.06	0.69	1.43	NO	2.25		
710+79.81 123.12	711+00.00 122.89	LT	1.142	0.00 0.02 0.00	0.95 0.20 0.00	0.00	1.60	13.06	7.57	12.172	4	10	4	0.06	0.59	1.65	NO	2.92		
711+00.00 122.89	712+00.00 121.75	LT	1.142	0.00 0.24 0.00	0.95 0.20 0.00	0.05	1.65	14.06	7.37	12.465	4	10	4	0.06	0.60	1.66	NO	3.81		CS-140B4
712+00.00 121.75	713+00.00 120.61	LT	1.142	0.00 0.40 0.00	0.95 0.20 0.00	0.08	1.73	15.06	7.19	12.731	4	10	4	0.06	0.61	1.68	NO	3.42		CS-140B5
713+00.00 120.61	713+92.55 119.55	LT	1.142	0.00 0.24 0.00	0.95 0.20 0.00	0.05	1.77	15.98	7.04	12.761	4	10	4	0.06	0.61	1.68	NO	3.41		CS-140B6

Interim Daryl Carter Pkwy
D_DCP LT 714+00 to 716+69.51 & WBCD2 LT 7069+91.15 to 7089+32.05
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: D_DCP LT 714+00 to 716+69.51 & WBCD2 LT 7069+91.15 to 7089+32.05

Date: 4/9/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment: Area (ac) imp / perv	Increment: C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section: FS (1:_)	Ditch Section: BW (ft)	Ditch Section: BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
713+99.97 120.79	714+10.00 120.79	LT	0.000	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.00	10.00	8.26	0.012	4	10	4	0.06	0.16	0.01	NO	1.92		Ditch block
714+10.00 120.79	714+21.74 119.24	LT	13.188	0.00 0.01 0.00	0.95 0.20 0.00	0.00	0.00	34.38	5.06	0.017	4	10	4	0.06	0.01	0.42	NO	2.98		S-430B
714+21.74 119.24	715+00.00 118.49	LT	0.966	0.00 0.07 0.00	0.95 0.20 0.00	0.01	0.02	39.97	4.69	0.092	4	10	4	0.06	0.03	0.23	NO	2.83		
715+00.00 118.49	716+00.00 117.52	LT	0.966	0.00 0.27 0.00	0.95 0.20 0.00	0.05	0.07	43.74	4.47	0.340	4	10	4	0.06	0.08	0.44	NO	1.20		
716+00.00 117.52	716+78.24 116.47	LT	1.340	0.00 0.35 0.00	0.95 0.20 0.00	0.07	0.14	45.91	4.35	0.634	4	10	4	0.06	0.10	0.60	NO	3.57		D_DCP STA 716+78.24 = WBCD2 STA 7070+00.00
7070+00.00 116.47	7071+00.00 115.13	LT	1.340	0.00 0.29 0.00	0.95 0.20 0.00	0.06	0.20	48.38	4.23	0.872	4	10	4	0.06	0.12	0.68	NO	4.19		
7071+00.00 115.13	7072+00.01 113.79	LT	1.340	0.00 0.47 0.00	0.95 0.20 0.00	0.09	0.29	50.52	4.12	1.240	4	10	4	0.06	0.15	0.78	NO	3.48		
7072+00.01 113.79	7073+00.00 112.45	LT	1.340	0.00 0.52 0.00	0.95 0.20 0.00	0.10	0.40	52.43	4.04	1.637	4	10	4	0.06	0.18	0.87	NO	2.66		
7073+00.00 112.45	7074+00.00 111.11	LT	1.340	0.00 0.17 0.00	0.95 0.20 0.00	0.03	0.43	54.33	3.95	1.741	4	10	4	0.06	0.18	0.87	NO	1.83		
7074+00.00 111.11	7075+00.00 109.77	LT	1.340	0.00 0.09 0.00	0.95 0.20 0.00	0.02	0.45	56.18	3.88	1.773	4	10	4	0.06	0.19	0.90	NO	1.50		
7075+00.00 109.77	7076+00.00 108.13	LT	1.639	0.00 0.22 0.00	0.95 0.20 0.00	0.04	0.49	57.91	3.81	1.910	4	10	4	0.06	0.18	0.97	NO	1.69		Lateral ditch
7076+00.00 108.13	7077+00.00 107.86	LT	0.267	0.00 0.43 0.00	0.95 0.20 0.00	0.09	0.58	60.80	3.70	2.203	4	10	4	0.06	0.34	0.58	NO	2.08		
7077+00.00 107.86	7078+00.01 107.60	LT	0.267	0.00 0.66 0.00	0.95 0.20 0.00	0.13	0.71	63.56	3.60	2.625	4	10	4	0.06	0.37	0.61	NO	3.14		
7078+00.01 107.60	7079+00.00 107.33	LT	0.267	0.00 0.77 0.00	0.95 0.20 0.00	0.15	0.86	65.59	3.53	3.108	4	10	4	0.042	0.34	0.82	NO	3.09		
7079+00.00 107.33	7080+00.00 107.06	LT	0.267	0.00 0.73 0.00	0.95 0.20 0.00	0.15	1.01	67.55	3.46	3.560	4	10	4	0.042	0.36	0.85	NO	3.21		
7080+00.00 107.06	7081+00.00 106.80	LT	0.267	0.00 0.73 0.00	0.95 0.20 0.00	0.15	1.16	69.41	3.40	4.001	4	10	4	0.042	0.39	0.89	NO	2.71		

Interim Daryl Carter Pkwy
D_DCP LT 714+00 to 716+69.51 & WBCD2 LT 7069+91.15 to 7089+32.05
DRAINAGE DITCH DESIGN

AECOM

Polynomial Coefficients :	
A =	12.92209
B =	-1.11084
C =	-0.55019
D =	0.06666

Project: Interim Daryl Carter Pkwy
Ditch Name: D_DCP LT 714+00 to 716+69.51 & WBCD2 LT 7069+91.15 to 7089+32.05

Date: 4/9/2018
Date: 4/28/2018

Zone: 7
Design Event: 25 Yr

Max Vel. 4.00 fps

Design By : CJH
Check By : KTD

Begin Station / Elevation	End Station / Elevation	Side	Longitudinal Slope (%)	Increment Area (ac) imp / perv	Increment C_{10} imp / perv	CA	Total CA	T_c (min)	i (in/hr)	Q (cfs)	Ditch Section FS (1:_)	Ditch Section BW (ft)	Ditch Section BS (1:_)	n	d_n (ft)	Vel (fps)	Ditch Lining	Allow. Depth (ft)	Sidedrain Pipe DIA	Remarks
7081+00.00 106.80	7082+00.00 106.53	LT	0.267	0.00 0.74 0.00	0.95 0.20 0.00	0.15	1.30	71.23	3.35	4.436	4	10	4	0.042	0.41	0.92	NO	2.13		
7082+00.00 106.53	7083+00.00 105.12	LT	1.410	0.00 0.74 0.00	0.95 0.20 0.00	0.15	1.45	72.51	3.31	4.860	4	10	4	0.06	0.33	1.30	NO	2.99		
7083+00.00 105.12	7084+00.00 103.71	LT	1.410	0.00 0.68 0.00	0.95 0.20 0.00	0.14	1.59	73.75	3.27	5.256	4	10	4	0.06	0.35	1.35	NO	2.50		
7084+00.00 103.71	7085+00.00 102.30	LT	1.410	0.00 0.50 0.00	0.95 0.20 0.00	0.10	1.69	74.29	3.26	31.198	4	10	4	0.042	0.78	3.06	NO	5.09		Add 25.67cfs from Lake Willis cross drain (existing condition)
7085+00.00 102.30	7086+00.00 102.25	LT	0.051	0.00 0.51 0.00	0.95 0.20 0.00	0.10	1.79	76.05	3.21	31.505	4	10	4	0.042	1.89	0.95	NO	4.88		
7086+00.00 102.25	7087+00.00 102.20	LT	0.051	0.00 0.65 0.00	0.95 0.20 0.00	0.13	1.92	77.80	3.16	31.835	4	10	4	0.042	1.90	0.95	NO	4.15		
7087+00.00 102.20	7088+00.00 102.15	LT	0.051	0.00 0.64 0.00	0.95 0.20 0.00	0.13	2.05	79.54	3.11	32.149	4	10	4	0.042	1.91	0.96	NO	3.58		
7088+00.00 102.15	7089+00.00 102.10	LT	0.051	0.00 0.37 0.00	0.95 0.20 0.00	0.07	2.13	81.29	3.07	32.281	4	10	4	0.042	1.91	0.96	NO	3.44		
7089+00.00 102.10	7089+32.05 102.08	LT	0.051	0.00 0.03 0.00	0.95 0.20 0.00	0.01	2.13	81.85	3.05	32.206	4	10	4	0.042	1.91	0.96	NO	3.34		To Willis lateral ditch

APPENDIX C.6: Flood Plain Compensation

(There are no flood plain impacts within the project limits)

APPENDIX C.7: Culvert Service Life Calculations

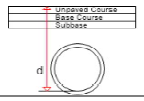
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL201
Structure Station:	POND141 606+92.58
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	58.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

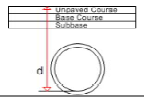
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL202
Structure Station:	POND141 609+05.84
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	74.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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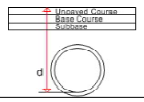
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL203
Structure Station:	POND141 610+51.89
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	74.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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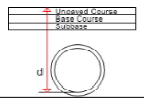
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL204
Structure Station:	POND141 612+55.40
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	82.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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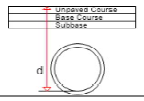
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL205
Structure Station:	POND141 613+99.80
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	100.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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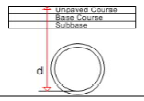
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL206
Structure Station:	POND141 615+07.50
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	92.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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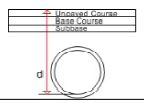
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL207
Structure Station:	POND141 618+11.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	106.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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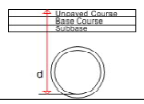
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL208
Structure Station:	POND141 620+03.20
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	30.00	Chlorides	15
Depth to invert 'd' (Inches)	131.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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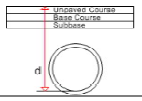
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL209
Structure Station:	POND141 622+46.62
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	30.00		Chlorides	15
Depth to invert 'd' (Inches)	97.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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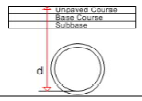
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL210
Structure Station:	POND141 624+61.62
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	30.00		Chlorides	15
Depth to invert 'd' (Inches)	97.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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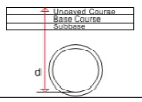
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL211
Structure Station:	POND141 626+88.65
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	30.00		Chlorides	15
Depth to invert 'd' (Inches)	101.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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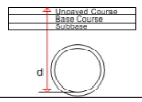
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL212
Structure Station:	POND141 628+95.40
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	101.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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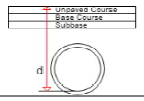
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL213
Structure Station:	POND141 630+83.92
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	106.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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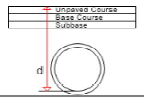
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL214
Structure Station:	POND141 633+12.88
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	94.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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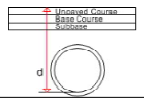
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL215
Structure Station:	POND141 635+57.37
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	125.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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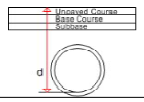
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	BSL216
Structure Station:	POND141 637+37.89
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	48.00	Chlorides	5
Depth to invert 'd' (Inches)	155.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

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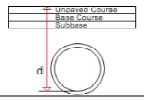
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: BSL216A
Structure Station: POND141 636+92.80
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	125.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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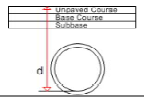
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: BSL217
Structure Station: POND141 637+99.98
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	129.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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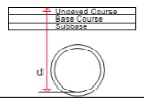
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: CS-141B1
Structure Station: POND141 613+99.45
Boring Number/Location: TH-6620L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	137.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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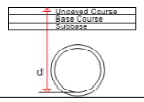
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: CS-140B3A
Structure Station: PND141 610+02.34
Boring Number/Location: TH-6620L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	200.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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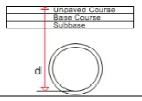
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	CS-141B1
Structure Station:	POND141 613+99.45
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	55.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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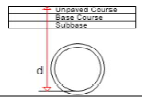
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	CS-141B2
Structure Station:	POND141 620+03.13
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	119.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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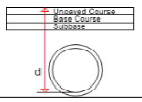
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	CS-141B3
Structure Station:	POND141 626+88.51
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	55.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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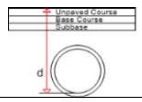
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	CS-141B4
Structure Station:	POND141 638+62.23
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	137.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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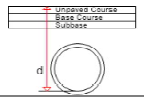
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	CS-142B1
Structure Station:	POND142 1015+61.62
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	115.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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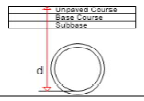
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	CS-142B2
Structure Station:	POND142 1015+61.62
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	136.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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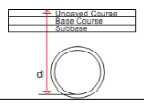
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	FPC141A
Structure Station:	POND141 637+21.18
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	72.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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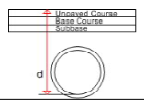
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	FPC141B
Structure Station:	POND141 637+29.70
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	48.00	Chlorides	5
Depth to invert 'd' (Inches)	188.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

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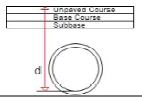
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	J-141O1
Structure Station:	BL400 654+60.34
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	54.00		Chlorides		5
Depth to invert 'd' (Inches)	169.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	139	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

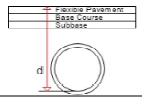
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	J-141O2
Structure Station:	BL400 658+01.26
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	54.00		Chlorides		5
Depth to invert 'd' (Inches)	312.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	139	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	J-141O2
Structure Station:	BL400 658+01.26
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	97
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	97
Service Life minus 10 years (years)	87

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	87
Pitting Rate (inches/year)	0.001931

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.001931
Steel Casing Service Life (years)	323.7

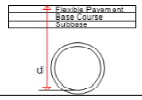
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	J-141O3
Structure Station:	BL400 658+01.27
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	54.00		Chlorides		5
Depth to invert 'd' (Inches)	247.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	139	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	J-141O3
Structure Station:	BL400 658+01.27
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	97
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	97
Service Life minus 10 years (years)	87

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	87
Pitting Rate (inches/year)	0.001931

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Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.001931
Steel Casing Service Life (years)	323.7

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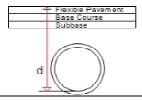
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-100C
Structure Station:	CLDCP 115+54.69
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	66.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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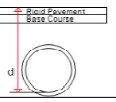
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-101A
Structure Station:	BL400 570+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.8
Max Allowable Manning's n	< 0.017	Resistivity	1960
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	61.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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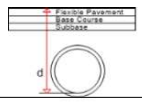
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-101C
Structure Station:	CLDCP 115+54.22
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	160.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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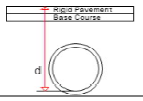
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-102A
Structure Station:	BL400 571+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	63.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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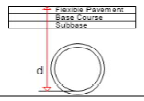
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-102C
Structure Station:	CLDCP 115+54.27
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	66.00		Sulfates		1

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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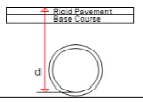
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-103A
Structure Station:	BL400 572+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	65.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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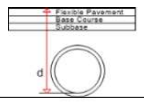
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-103C
Structure Station:	CLDCP 116+26.50
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	149.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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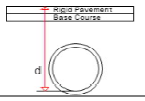
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-104A
Structure Station:	BL400 573+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	75.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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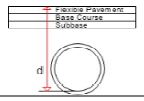
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-104C
Structure Station:	CLDCP 116+26.50
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	86.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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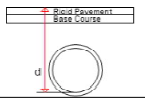
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-105A
Structure Station:	BL400 574+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	77.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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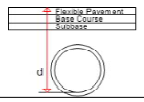
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-105C
Structure Station:	CLDCP 116+76.70
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	88.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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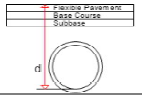
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-106C
Structure Station:	CLDCP 116+76.70
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	132.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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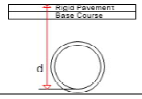
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-107A
Structure Station:	BL400 576+08.01
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.8
Max Allowable Manning's n	< 0.017		Resistivity	1960
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	66.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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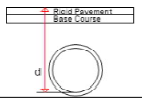
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-109A
Structure Station:	BL400 577+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.8
Max Allowable Manning's n	< 0.017		Resistivity	1960
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	64.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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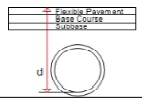
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-109C
Structure Station:	CLDCP 118+17.02
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	89.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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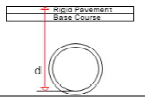
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-110A
Structure Station:	BL400 578+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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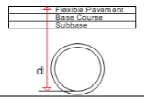
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-110C
Structure Station:	CLDCP 120+02.57
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	87.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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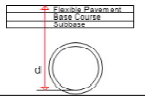
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-111C
Structure Station:	CLDCP 120+02.57
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	87.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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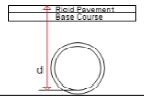
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-112A
Structure Station:	BL400 579+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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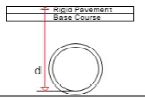
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-113A
Structure Station:	BL400 580+00.00
Boring Number/Location:	AB-1202R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.8
Max Allowable Manning's n	< 0.017		Resistivity		1960
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	61.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	171	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	100	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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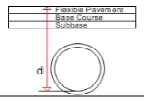
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-113C
Structure Station:	CLDCP 121+70.56
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	48.00		Chlorides		15
Depth to invert 'd' (Inches)	155.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

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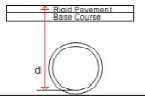
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-114A
Structure Station:	BL400 620+00.00
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.4
Max Allowable Manning's n	< 0.017		Resistivity		4300
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	61.00		Sulfates		90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 10 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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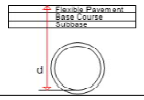
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-116A
Structure Station:	BL400 621+00.12
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.4
Max Allowable Manning's n	< 0.017		Resistivity		4300
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	67.00		Sulfates		90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 10 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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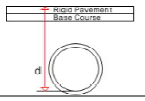
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-117A
Structure Station:	BL400 622+50.09
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.4
Max Allowable Manning's n	< 0.017		Resistivity	4300
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	67.00		Sulfates	90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 10 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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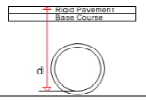
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-118A
Structure Station:	BL400 624+00.01
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.4
Max Allowable Manning's n	< 0.017		Resistivity	4300
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	67.00		Sulfates	90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 10 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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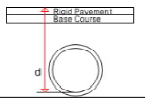
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-119A
Structure Station:	BL400 625+50.00
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.4
Max Allowable Manning's n	< 0.017		Resistivity	4300
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	69.00		Sulfates	90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 10 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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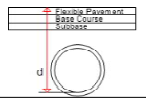
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-120A
Structure Station:	IB_DCP 497+00.00
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.4
Max Allowable Manning's n	< 0.017		Resistivity	4300
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	66.00		Sulfates	90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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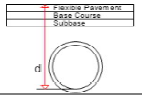
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-121A
Structure Station:	IB_DCP 497+46.03
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.4
Max Allowable Manning's n	< 0.017		Resistivity		4300
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	66.00		Sulfates		90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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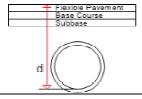
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-122A
Structure Station:	IB_DCP 498+00.00
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.4
Max Allowable Manning's n	< 0.017		Resistivity		4300
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	63.00		Sulfates		90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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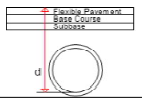
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-123A
Structure Station:	IB_DCP 498+50.00
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.4
Max Allowable Manning's n	< 0.017		Resistivity		4300
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	66.00		Sulfates		90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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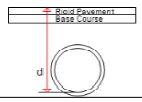
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-124A
Structure Station:	IB_DCP 499+00.00
Boring Number/Location:	AB-1252R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.4
Max Allowable Manning's n	< 0.017		Resistivity		4300
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	69.00		Sulfates		90

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	199	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	122	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

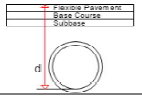
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-125A
Structure Station:	IB_DCP 499+50.00
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	69.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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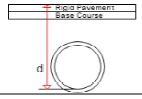
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-126A
Structure Station:	IB_DCP 500+00.00
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	68.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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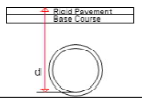
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-127A
Structure Station:	IB_DCP 500+40.00
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	72.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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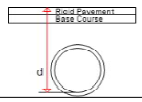
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-128A
Structure Station:	IB_DCP 501+00.26
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	71.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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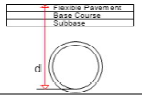
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-129A
Structure Station: IB_DCP 501+00.00
Boring Number/Location: IB-5030
County: Orange
Designer: CJH

Design Life (Years)	100		pH	5.8
Max Allowable Manning's n	< 0.017		Resistivity	21925
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	74.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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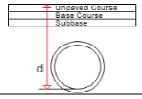
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-200A
Structure Station: BL400 638+60.58
Boring Number/Location: TH-6415L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	65.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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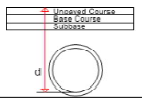
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-201A
Structure Station: BL400 640+60.61
Boring Number/Location: TH-6415L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	68.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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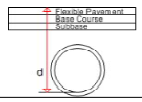
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-201E
Structure Station: CLDCP 107+64.26
Boring Number/Location: TH-6415L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	73.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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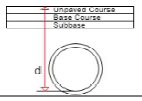
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-202C
Structure Station:	BL400 638+60.62
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	62.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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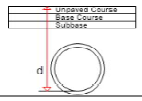
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-203A
Structure Station:	BL400 643+10.39
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	68.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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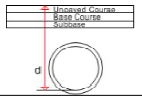
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-204A
Structure Station:	BL400 644+34.36
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	74.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

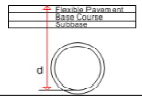
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-204E
Structure Station:	CLDCP 109+51.49
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	108.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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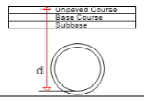
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-205A
Structure Station:	BL400 647+60.59
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	92.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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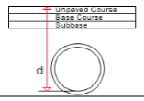
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-206A
Structure Station:	BL400 649+10.61
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	83.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-206A
Structure Station:	BL400 649+10.61
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.312
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	313.9

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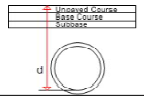
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-206C
Structure Station:	BL400 640+60.63
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	148.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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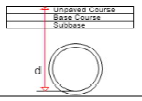
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-211C
Structure Station:	BL400 643+10.40
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	159.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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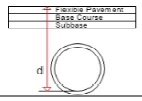
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-212C
Structure Station:	BL400 643+10.46
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	48.00	Chlorides	15
Depth to invert 'd' (Inches)	225.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

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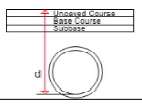
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-213C
Structure Station:	BL400 643+10.46
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	48.00	Chlorides	15
Depth to invert 'd' (Inches)	225.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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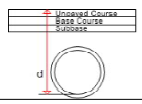
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-215C
Structure Station:	BL400 644+34.36
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	101.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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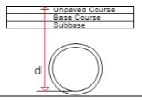
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-219C
Structure Station:	BL400 647+60.57
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	139.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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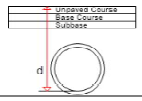
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-220C
Structure Station:	BL400 647+60.57
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	48.00		Chlorides		15
Depth to invert 'd' (Inches)	211.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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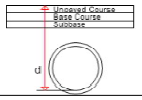
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-224C
Structure Station:	BL400 649+10.60
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	150.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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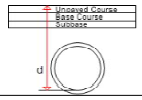
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-226C
Structure Station:	BL400 635+11.52
Boring Number/Location:	IB-6415
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	82.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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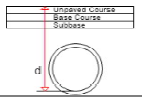
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-229C
Structure Station:	BL400 637+60.48
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	113.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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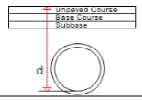
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-236C
Structure Station:	BL400 639+40.06
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	83.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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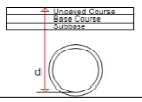
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-237C
Structure Station:	BL400 639+37.19
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	250.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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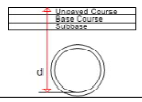
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-243C
Structure Station:	BL400 642+52.29
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	83.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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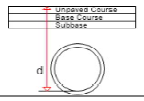
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-244C
Structure Station:	BL400 642+51.02
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	299.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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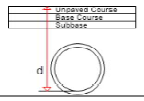
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-246C
Structure Station:	BL400 643+53.18
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	77.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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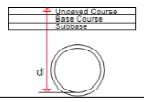
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-247C
Structure Station:	BL400 643+55.12
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	320.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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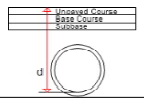
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-248C
Structure Station:	BL400 643+62.14
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	320.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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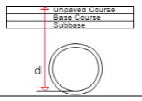
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-249C
Structure Station:	BL400 643+85.18
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	75.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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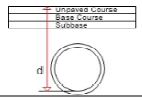
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-250C
Structure Station:	BL400 643+95.36
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	100.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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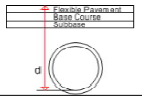
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-252C
Structure Station:	CLDCP 108+61.11
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	64.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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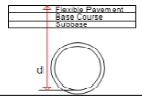
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-256C
Structure Station:	CLDCP 108+61.11
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	119.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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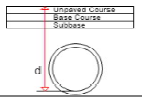
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-258C
Structure Station:	D_DCP 701+23.68
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	82.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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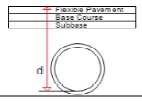
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-259C1
Structure Station:	D_DCP 701+01.06
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	86.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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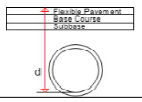
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-259C2
Structure Station:	D_DCP 700+83.78
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	88.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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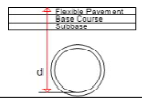
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-259C
Structure Station:	D_DCP 701+08.89
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	353.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-259C
Structure Station:	D_DCP 701+08.89
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

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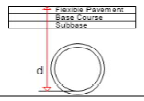
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-261C
Structure Station:	CLDCP 108+61.10
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	118.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	[1]
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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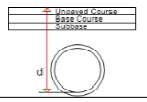
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-262C
Structure Station:	D_DCP 700+84.62
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	336.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	[1]
(PP)	100	Pass	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-262C
Structure Station:	D_DCP 700+84.62
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.312
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	313.9

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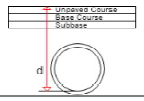
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-264C
Structure Station:	D_DCP 701+00.79
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	88.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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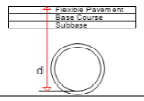
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-266C
Structure Station:	D_DCP 701+61.71
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	73.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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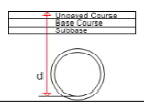
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-267C
Structure Station:	D_DCP 701+61.62
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	311.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-267C
Structure Station:	D_DCP 701+61.62
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

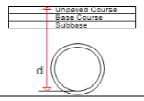
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-268C
Structure Station:	D_DCP 701+61.53
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	83.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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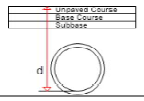
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-270C
Structure Station:	D_DCP 703+50.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	48.00	Chlorides	15
Depth to invert 'd' (Inches)	358.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-270C
Structure Station:	D_DCP 703+50.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	628.7

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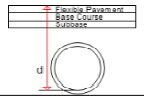
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-271C
Structure Station:	D_DCP 703+50.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	48.00	Chlorides	15
Depth to invert 'd' (Inches)	369.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-271C
Structure Station:	D_DCP 703+50.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.000994
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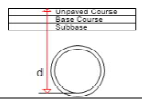
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-272C
Structure Station:	D_DCP 703+50.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	48.00	Chlorides	15
Depth to invert 'd' (Inches)	359.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	135	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-272C
Structure Station:	D_DCP 703+50.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	628.7

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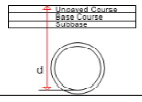
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-276A
Structure Station:	D_DCP 705+00.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	215.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-276A
Structure Station:	D_DCP 705+00.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

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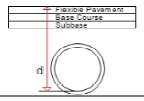
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-277C
Structure Station:	D_DCP 705+00.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	74.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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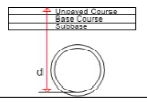
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-280C
Structure Station:	D_DCP 706+51.41
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	173.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-280C
Structure Station:	D_DCP 706+51.41
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

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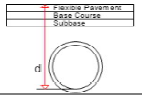
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-281C
Structure Station:	D_DCP 706+51.41
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	67.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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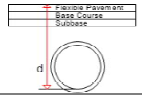
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-282C
Structure Station:	D_DCP 707+51.41
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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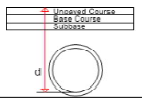
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-283C
Structure Station:	D_DCP 707+51.41
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	135.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-283C
Structure Station:	D_DCP 707+51.41
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	97
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	97
Service Life minus 10 years (years)	87

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	87
Pitting Rate (inches/year)	0.001931

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.001931
Steel Casing Service Life (years)	129.5

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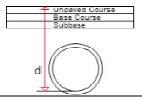
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-284C
Structure Station:	D_DCP 707+51.41
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	95.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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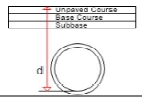
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-286C
Structure Station:	D_DCP 708+34.25
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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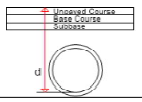
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-287C
Structure Station:	D_DCP 708+35.04
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	88.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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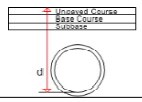
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-288C
Structure Station:	D_DCP 709+58.84
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	66.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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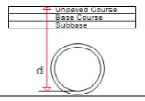
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-289C
Structure Station:	D_DCP 709+59.95
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	88.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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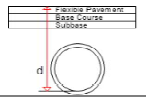
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-300A
Structure Station:	IB_DCP 501+50.00
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	5.8
Max Allowable Manning's n	< 0.017	Resistivity	21925
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	68.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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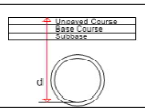
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-301A
Structure Station:	IB_DCP 501+50.00
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	5.8
Max Allowable Manning's n	< 0.017	Resistivity	21925
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	66.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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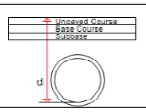
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-302A
Structure Station:	IB_DCP 503+04.20
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	5.8
Max Allowable Manning's n	< 0.017	Resistivity	21925
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	107.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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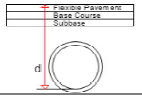
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-303A
Structure Station:	IB_DCP 503+04.20
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	91.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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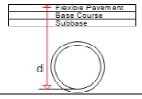
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-303C
Structure Station:	IB_DCP 504+41.98
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	94.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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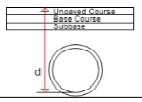
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-304A
Structure Station:	BL400 636+56.61
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	81.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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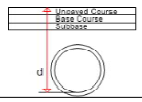
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-304C
Structure Station:	IB_DCP 504+41.37
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	117.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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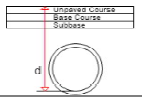
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-305A
Structure Station:	BL400 640+60.65
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	71.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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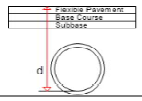
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-305C
Structure Station:	IB_DCP 504+91.98
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	5.8
Max Allowable Manning's n	< 0.017		Resistivity	21925
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	65.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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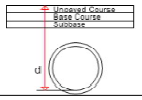
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-306A
Structure Station:	BL400 643+59.90
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	84.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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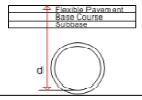
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-306C
Structure Station:	IB_DCP 505+36.85
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	5.8
Max Allowable Manning's n	< 0.017		Resistivity	21925
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	67.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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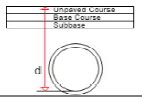
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-307C
Structure Station:	BL400 635+60.57
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	117.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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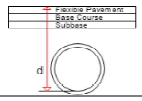
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-308A
Structure Station:	BL400 652+39.41
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	73.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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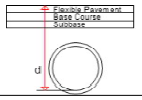
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-308C
Structure Station:	IB_DCP 507+00.13
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		5.8
Max Allowable Manning's n	< 0.017		Resistivity		21925
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	68.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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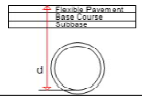
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-309A
Structure Station:	BL400 654+10.54
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	75.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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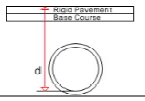
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-309C
Structure Station:	IB_DCP 507+00.13
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	5,8
Max Allowable Manning's n	< 0.017		Resistivity	21925
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	106.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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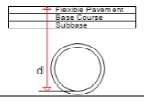
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-310A
Structure Station:	BL400 655+86.02
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8,2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	105.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-310A
Structure Station:	BL400 655+86.02
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	285.7

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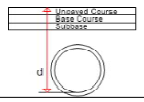
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-310C
Structure Station:	BL400 636+56.61
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	5.8
Max Allowable Manning's n	< 0.017		Resistivity	21925
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	122.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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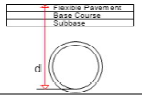
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-311A
Structure Station:	BL400 655+86.02
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	75.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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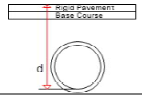
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-311C
Structure Station:	IB_DCP 508+20.00
Boring Number/Location:	IB-5030
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	5.8
Max Allowable Manning's n	< 0.017		Resistivity	21925
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	101.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	163	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	125	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	87	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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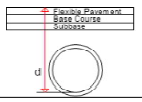
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-312A
Structure Station:	BL400 658+01.26
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	188.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-312A
Structure Station:	BL400 658+01.26
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	285.7

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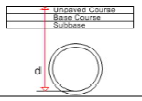
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-312C
Structure Station:	BL400 638+10.40
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	30.00		Chlorides	15
Depth to invert 'd' (Inches)	120.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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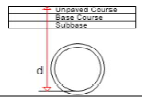
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-313A
Structure Station:	BL400 658+74.73
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	115.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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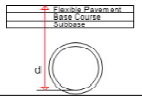
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-313C
Structure Station:	IB_DCP 509+40.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	71.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

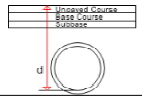
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-314A
Structure Station:	BL400 658+74.85
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	127.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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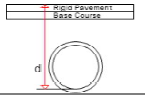
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-314C
Structure Station:	IB_DCP 509+40.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	103.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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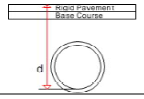
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-315A
Structure Station:	BL400 659+24.54
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	81.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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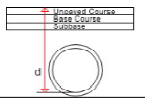
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-315C
Structure Station:	IB_DCP 511+12.50
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	263.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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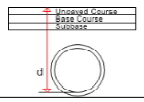
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-316A
Structure Station:	IC_DCP 614+42.44
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	159.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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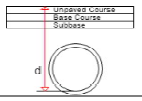
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-316C
Structure Station:	BL400 640+60.65
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	116.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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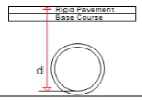
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-317A
Structure Station:	BL400 615+10.10
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	101.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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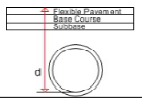
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-317C
Structure Station:	IB_DCP 512+80.10
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	63.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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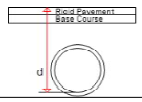
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-318A
Structure Station:	BL400 660+60.17
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	65.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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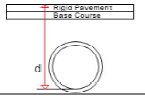
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-318C
Structure Station:	IB_DCP 512+80.10
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	101.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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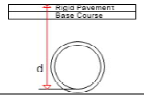
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-319A
Structure Station:	BL400 615+79.50
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	91.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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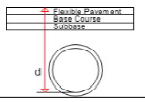
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-319C
Structure Station:	IB_DCP 513+64.52
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	92.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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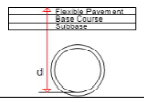
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-320A
Structure Station:	BL400 661+71.93
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	65.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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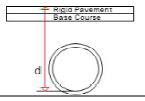
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-320A
Structure Station:	BL400 661+71.93
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8,2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	316.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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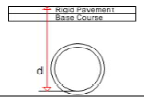
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-321A
Structure Station:	BL400 616+90.80
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8,2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	72.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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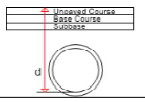
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-321C
Structure Station:	BL400 643+10.54
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	36.00		Chlorides	15
Depth to invert 'd' (Inches)	117.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required. Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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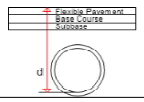
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-322A
Structure Station:	BL400 662+63.66
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8,2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	64.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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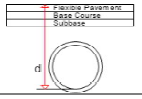
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-322C
Structure Station:	IB_DCP 514+58.70
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	84.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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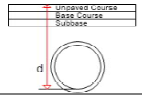
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-323A
Structure Station:	BL400 617+82.26
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	87.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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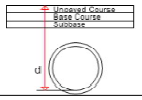
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-323C
Structure Station:	IB_DCP 514+40.23
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	340.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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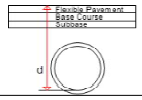
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-324C
Structure Station:	BL400 643+59.90
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	36.00		Chlorides	15
Depth to invert 'd' (Inches)	142.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
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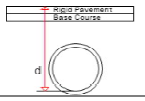
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-325A
Structure Station:	IC_DCP 618+90.84
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	66.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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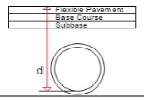
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-325C
Structure Station:	BL400 645+33.35
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	36.00		Chlorides		15
Depth to invert 'd' (Inches)	147.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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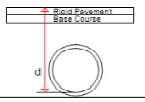
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-326A
Structure Station:	IC_DCP 619+81.61
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	60.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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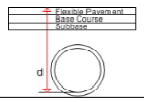
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-326C
Structure Station:	IC_DCP 601+03.20
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	58.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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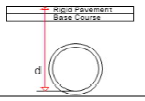
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-327A
Structure Station:	IC_DCP 620+88.97
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	63.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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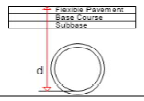
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-327C
Structure Station:	IC_DCP 600+77.43
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	96.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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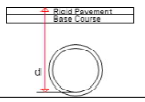
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-328A
Structure Station:	IC_DCP 621+79.63
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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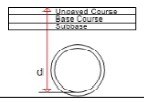
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-328C
Structure Station:	IC_DCP 601+10.33
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	400.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-328C
Structure Station:	IC_DCP 601+10.33
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

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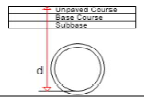
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-329A
Structure Station:	IC_DCP 622+87.42
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	88.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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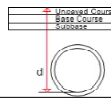
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-329C
Structure Station:	IC_DCP 601+32.81
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	71.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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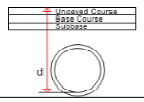
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-330C
Structure Station:	BL400 646+02.60
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	42.00	Chlorides	15
Depth to invert 'd' (Inches)	154.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	270	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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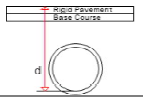
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-331A
Structure Station: IC_DCP 623+79.05
Boring Number/Location: IC-6170
County: Orange
Designer: CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	79.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

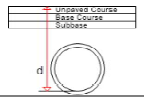
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-331C
Structure Station: BL400 646+10.69
Boring Number/Location: TH-6415L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	42.00		Chlorides	15
Depth to invert 'd' (Inches)	133.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	270	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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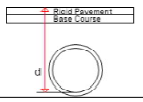
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-332A
Structure Station: IC_DCP 624+86.01
Boring Number/Location: IC-6170
County: Orange
Designer: CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	78.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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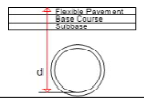
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-332C
Structure Station: IC_DCP 601+50.64
Boring Number/Location: TH-6415L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	83.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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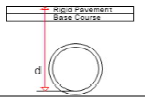
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-333A
Structure Station:	IC_DCP 670+60.93
Boring Number/Location:	AB-679R
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.4
Max Allowable Manning's n	< 0.017		Resistivity	7348
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	76.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	106	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRAP)NOT SUITABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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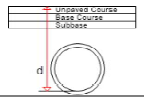
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-333C
Structure Station:	IC_DCP 601+50.44
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	395.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-333C
Structure Station:	IC_DCP 601+50.44
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

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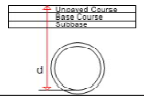
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-334C
Structure Station:	IC_DCP 601+59+23
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	395.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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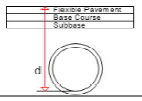
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-335C
Structure Station:	IC_DCP 602+18.12
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	79.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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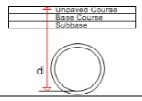
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-336C
Structure Station:	IC_DCP 602+18.12
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	405.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-336C
Structure Station:	IC_DCP 602+18.12
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	179
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	179
Service Life minus 10 years (years)	169

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	169
Pitting Rate (inches/year)	0.000994

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000994
Steel Casing Service Life (years)	251.5

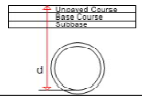
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-337C
Structure Station:	IC_DCP 602+19.60
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	6720
Diameter (Inches)	24.00		Chlorides	15
Depth to invert 'd' (Inches)	415.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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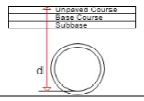
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-338C
Structure Station:	BL400 647+14.04
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	24.00	Chlorides	15
Depth to invert 'd' (Inches)	135.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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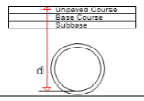
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-339C
Structure Station:	BL400 647+60.54
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	42.00	Chlorides	15
Depth to invert 'd' (Inches)	151.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	270	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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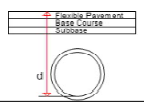
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-340C1
Structure Station:	IC_DCP 604+65.97
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	66.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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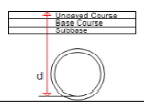
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-340C
Structure Station:	BL400 649+67.54
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	6720
Diameter (Inches)	42.00	Chlorides	15
Depth to invert 'd' (Inches)	166.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	270	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	116	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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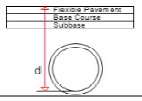
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-348C1
Structure Station:	IC_DCP 607+54.66
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8,2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	117.00		Sulfates		2,4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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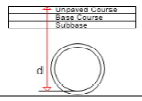
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-348C2
Structure Station:	IC_DCP 608+81.27
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8,2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	86.00		Sulfates		2,4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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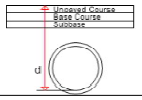
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-348C
Structure Station:	BL400 652+60.66
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8,2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	42.00		Chlorides		5
Depth to invert 'd' (Inches)	142.00		Sulfates		2,4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	135	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required. Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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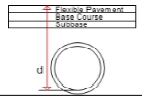
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-355C
Structure Station:	IC_DC 609+17.66
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8,2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	154.00		Sulfates		2,4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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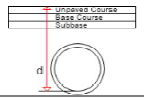
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-356C
Structure Station:	BL400 654+10.54
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	48.00	Chlorides	5
Depth to invert 'd' (Inches)	174.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	188	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	143	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

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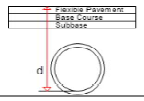
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-357C
Structure Station:	BL400 654+60.45
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	54.00	Chlorides	5
Depth to invert 'd' (Inches)	225.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	188	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	143	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-357C
Structure Station:	BL400 654+60.45
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	714.3

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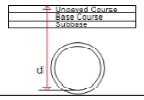
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-361C
Structure Station:	IC_DCP 610+14.74
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	139.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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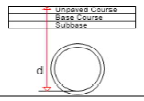
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-364C
Structure Station:	IC_DCP 611+01.09
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	103.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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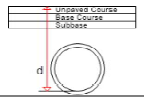
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-365C
Structure Station:	IC_DCP 611+02.58
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	308.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(PP)	100	Pass	Fail	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-365C
Structure Station:	IC_DCP 611+02.58
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	285.7

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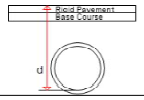
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-367C
Structure Station:	ISLIP1 110+17.95
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	103.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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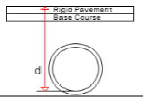
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-368C
Structure Station: D_DCP 711+00.00
Boring Number/Location: TH-6620L
County: Orange
Designer: CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	65.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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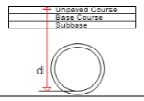
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-370C
Structure Station: IC_DCP 611+87.31
Boring Number/Location: IC-6170
County: Orange
Designer: CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	97.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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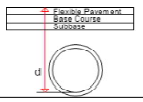
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-371C
Structure Station: IWBCD2 7064+97.13
Boring Number/Location: TH-6620L
County: Orange
Designer: CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	96.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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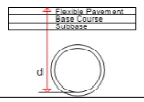
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-372C
Structure Station: D_DCP 711+77.69
Boring Number/Location: TH-6620L
County: Orange
Designer: CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	107.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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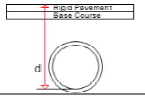
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-373C1
Structure Station:	D_DCP 712+19.62
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	100.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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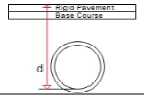
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-373C2
Structure Station:	D_DCP 712+59.01
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	103.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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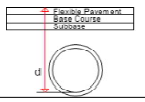
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-373C
Structure Station:	D_DCP 711+76.84
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	111.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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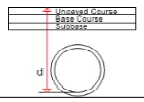
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-375C
Structure Station:	IC_DCP 612+25.99
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		8.2
Max Allowable Manning's n	< 0.017		Resistivity		9107
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	91.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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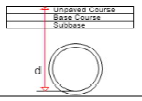
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-376C
Structure Station:	IC_DCP 612+26.49
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	230.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-376C
Structure Station:	IC_DCP 612+26.49
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	285.7

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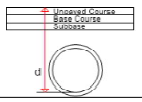
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-377C
Structure Station:	BL400 657+06.54
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	151.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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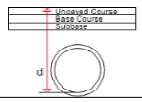
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-378C
Structure Station:	IC_DCP 612+99.50
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	8.2
Max Allowable Manning's n	< 0.017		Resistivity	9107
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	213.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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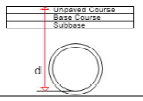
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-379C
Structure Station:	IC_DCP 613+00.94
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	196.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-379C
Structure Station:	IC_DCP 613+00.94
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	285.7

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

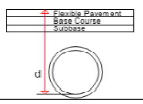
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-380C
Structure Station:	IC_DCP 613+00.00
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	77.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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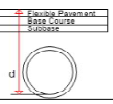
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-384C
Structure Station:	IWBCD2 7066+20.54
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	120.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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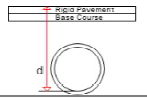
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-385C1
Structure Station:	D_DCP 713+61.17
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	55.00	Sulfates	2



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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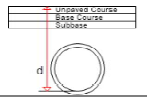
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-385C
Structure Station:	D_DCP 713+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	42.00	Chlorides	5
Depth to invert 'd' (Inches)	187.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	328	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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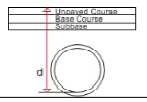
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-386C1
Structure Station:	D_DCP 713+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	42.00	Chlorides	5
Depth to invert 'd' (Inches)	222.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 14 GA.	328	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	2
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
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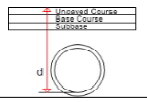
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-389C
Structure Station:	D_DCP 713+14.38
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	54.00	Chlorides	5
Depth to invert 'd' (Inches)	244.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	139	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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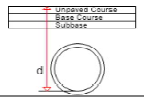
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-391C
Structure Station:	IC_DCP 613+94.31
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	106.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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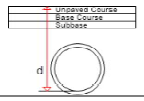
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-392C
Structure Station:	IC_DCP 613+94.33
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	168.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-392C
Structure Station:	IC_DCP 613+94.33
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	202
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	202
Service Life minus 10 years (years)	192

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	192
Pitting Rate (inches/year)	0.000875

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.25
Pitting Rate (inches/year)	0.000875
Steel Casing Service Life (years)	285.7

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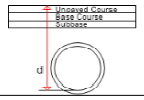
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-393C
Structure Station:	D_DCP 713+92.55
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	54.00	Chlorides	5
Depth to invert 'd' (Inches)	265.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	139	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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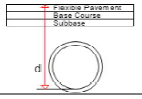
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-398C
Structure Station:	IWBCD2 7067+40.69
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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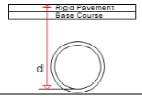
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-399C1
Structure Station:	D_DCP 715+00.85
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	68.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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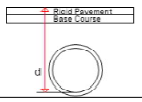
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-399C
Structure Station:	D_DCP 717+22.06
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	56.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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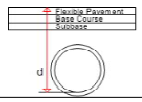
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-400A
Structure Station:	ISLIP1 104+93.24
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	73.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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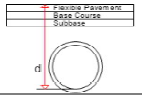
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-401A
Structure Station:	ISLIP1 105+70.00
Boring Number/Location:	TH-6415L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		6720
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	74.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	216	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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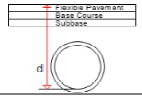
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-402A
Structure Station:	ISLIP1 106+19.95
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	76.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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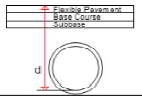
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-403A
Structure Station:	ISLIP1 106+19.95
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	67.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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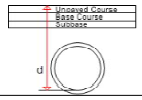
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-404A
Structure Station:	ISLIP1 106+70.09
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	79.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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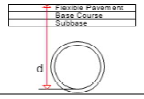
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-405A
Structure Station:	ISLIP1 106+70.09
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	75.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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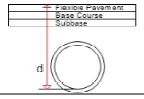
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-406C
Structure Station:	IWBCD2 7068+90.94
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	73.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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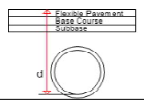
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-407A1
Structure Station:	ISLIP1 108+50.00
Boring Number/Location:	IC-6170
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.2
Max Allowable Manning's n	< 0.017	Resistivity	9107
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	101.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	131	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	110	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	108	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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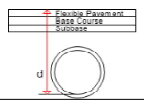
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-407A
Structure Station:	ISLIP1 108+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	96.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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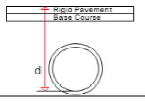
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-407C1
Structure Station:	D_DCP 716+78.24
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	63.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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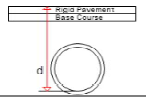
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-407C
Structure Station:	D_DCP 715+69.56
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	74.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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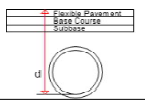
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-408A
Structure Station:	ISLIP1 108+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	66.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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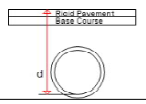
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-410A1
Structure Station:	ISLIP1 109+49.98
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	103.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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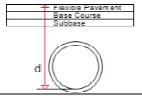
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-410A
Structure Station:	ISLIP1 109+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	102.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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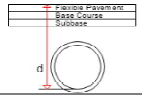
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-411A
Structure Station:	ISLIP1 109+01.16
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	58.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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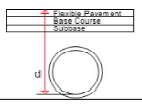
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-412A
Structure Station:	ISLIP1 110+17.95
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	75.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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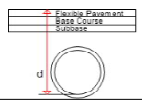
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-415A
Structure Station:	ISLIP1 110+98.65
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	6.4
Max Allowable Manning's n	< 0.017	Resistivity	21598
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	101.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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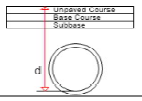
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-415B
Structure Station:	ISLIP1 106+70.06
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	86.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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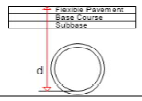
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-415C
Structure Station:	IWBCD2 7070+91.44
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	68.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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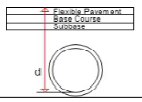
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-416A
Structure Station:	BL400 659+90.41
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	93.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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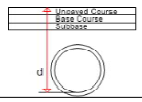
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-416B
Structure Station:	ISLIP1 108+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	97.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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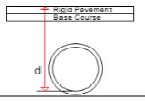
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-416C1
Structure Station:	IWBCD2 7072+00.00
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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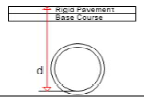
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-416C
Structure Station:	IWBCD2 7070+91.36
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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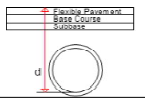
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-417A
Structure Station:	BL400 660+94.99
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	69.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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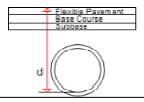
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-418A
Structure Station:	BL400 660+94.99
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	104.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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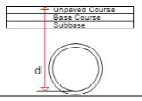
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-419A
Structure Station:	BL400 662+63.17
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	93.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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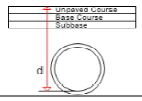
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-420A
Structure Station:	BL400 662+63.17
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	91.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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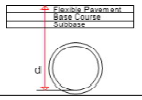
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-420C
Structure Station:	IWBCD2 7072+91.75
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	75.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

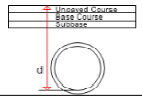
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-421A
Structure Station:	BL400 664+62.84
Boring Number/Location:	TH-6620L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		6.4
Max Allowable Manning's n	< 0.017		Resistivity		21598
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	62.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	263	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	107	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(CSP/SRSP)SRSP CANNOT be used	97	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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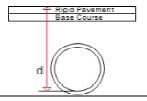
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-421C1
Structure Station:	IWBCD2 7074+00.00
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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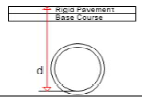
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-421C
Structure Station:	IWBCD2 7072+91.75
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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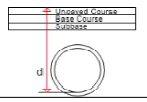
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-422A
Structure Station:	BL400 666+62.32
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	54.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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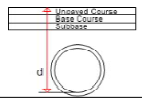
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-423A
Structure Station:	BL400 668+61.53
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	24.00		Chlorides		15
Depth to invert 'd' (Inches)	54.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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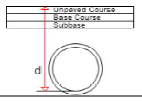
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-424A
Structure Station:	BL400 670+60.77
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	30.00		Chlorides	15
Depth to invert 'd' (Inches)	67.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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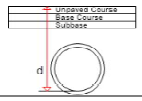
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-425A
Structure Station:	BL400 672+60.58
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	30.00		Chlorides	15
Depth to invert 'd' (Inches)	74.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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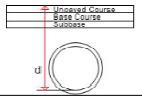
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-426A
Structure Station:	BL400 674+60.58
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	77.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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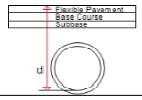
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-427A
Structure Station:	BL400 676+60.45
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	60.00		Chlorides	5
Depth to invert 'd' (Inches)	279.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required. Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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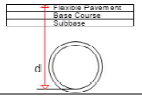
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-428A
Structure Station: ISLIP2 204+46.34
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	82.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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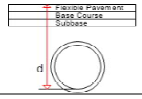
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-428C
Structure Station: IWBCD2 7074+92.09
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	81.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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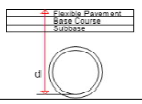
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-429A
Structure Station: ISLIP2 206+57.29
Boring Number/Location: AB-679R
County: Orange
Designer: CJH

Design Life (Years)	100	pH	8.4
Max Allowable Manning's n	< 0.017	Resistivity	7348
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	74.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	106	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRAP)NOT SUITABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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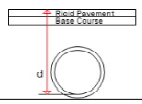
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-429C1
Structure Station: IWBCD2 7076+00.00
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	30.00	Chlorides	15
Depth to invert 'd' (Inches)	84.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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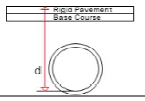
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-429C
Structure Station:	IWBCD2 7074+92.09
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	30.00		Chlorides		15
Depth to invert 'd' (Inches)	85.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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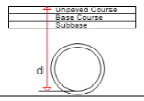
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date Jun 04, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-430A
Structure Station:	BL400 678+60.60
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	97.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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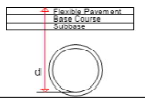
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-431A
Structure Station:	BL400 679+51.55
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	102.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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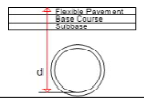
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-431C
Structure Station:	IWBCD2 7076+36.97
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	62.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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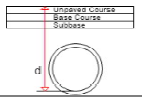
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-432A
Structure Station:	BL400 679+51.55
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	91.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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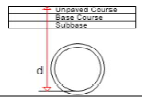
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-433A1
Structure Station:	ISLIP2 208+00.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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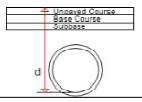
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-433A
Structure Station:	ISLIP2 208+55.63
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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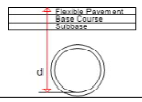
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-434A
Structure Station:	ISLIP2 208+57.87
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	72.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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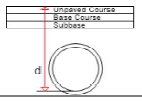
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-435A
Structure Station: BL400 680+60.66
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	88.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

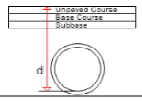
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-436A
Structure Station: BL400 682+07.50
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	30.00	Chlorides	5
Depth to invert 'd' (Inches)	117.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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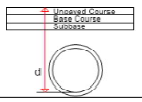
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-437A
Structure Station: BL400 682+07.50
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	111.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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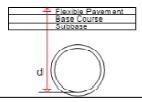
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-437C
Structure Station: WBCD2 7076+92.31
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	82.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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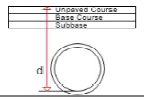
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-438A
Structure Station: ISLIP2 210+31.23
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	108.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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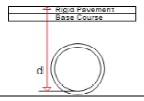
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-438C1
Structure Station: IWBCD2 7078+00.00
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	80.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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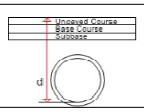
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-438C
Structure Station: IWBCD2 7076+92.32
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	36.00	Chlorides	15
Depth to invert 'd' (Inches)	189.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required. Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-98 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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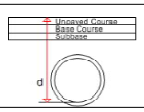
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-439A1
Structure Station: ISLIP2 210+57.97
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	122.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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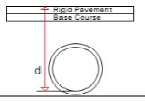
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-439A
Structure Station:	BL400 682+60.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	87.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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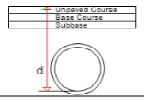
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-439C1
Structure Station:	IWBCD2 7076+92.32
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	36.00		Chlorides	15
Depth to invert 'd' (Inches)	126.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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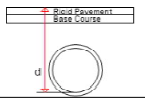
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-440A
Structure Station:	BL400 683+60.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	87.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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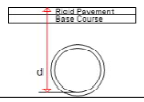
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-441A
Structure Station:	BL400 683+88.28
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	84.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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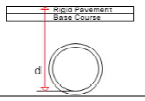
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-442A
Structure Station:	BL400 684+20.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	75.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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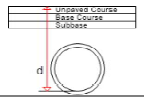
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-443A
Structure Station:	ISLIP2 212+56.45
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	98.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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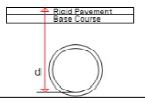
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-444A
Structure Station:	BL400 684+80.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	75.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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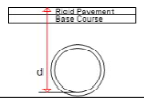
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-445A
Structure Station:	BL400 685+60.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	72.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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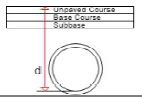
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-446A
Structure Station: ISLIP2 214+59.78
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	85.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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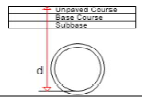
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-447A
Structure Station: ISLIP2 216+57.32
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16576
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	92.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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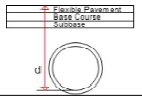
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-447C
Structure Station: IWBCD2 7078+92.69
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	77.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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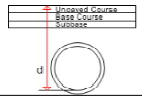
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-448A
Structure Station: ISLIP2 690+59.74
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16576
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	96.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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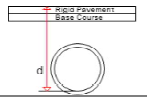
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-448C1
Structure Station:	IWBCD2 7079+98.81
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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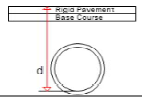
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-448C
Structure Station:	IWBCD2 7078+92.69
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	64.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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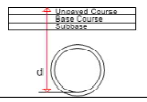
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-449A
Structure Station:	BL400 692+50.20
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	54.00		Chlorides		5
Depth to invert 'd' (Inches)	141.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)UNAVAILABLE in this size		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	
(HDPE)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	

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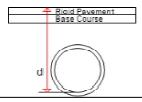
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-450A
Structure Station:	IA_CFP 306+50.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5.0
Depth to invert 'd' (Inches)	68.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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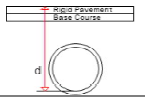
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-451A
Structure Station:	IA_CFP 306+50.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	70.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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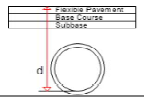
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-452A
Structure Station:	IA_CFP 307+00.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	81.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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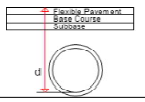
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-453A
Structure Station:	IA_CFP 307+00.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	157.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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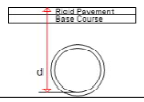
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-454A
Structure Station:	IA_CFP 307+50.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5.0
Depth to invert 'd' (Inches)	68.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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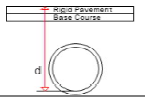
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-455A
Structure Station: IA_CFP 307+50.00
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	70.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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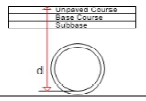
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-456A
Structure Station: BL400 693+73.82
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	89.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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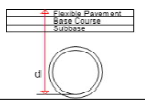
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-456C
Structure Station: IWBCD2 7080+92.50
Boring Number/Location: AB-1297L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.7
Max Allowable Manning's n	< 0.017	Resistivity	11500
Diameter (Inches)	18.00	Chlorides	15
Depth to invert 'd' (Inches)	75.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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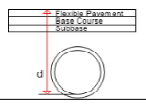
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-457A1
Structure Station: IA_CFP 307+90.00
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	158.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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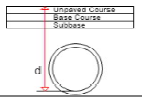
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-457A
Structure Station:	BL400 694+62.66
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	24.00		Chlorides		5
Depth to invert 'd' (Inches)	67.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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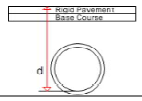
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-457C1
Structure Station:	IWBCD2 7081+98.55
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	61.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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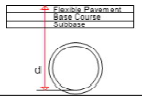
Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-457C2
Structure Station:	IWBCD2 7081+98.55
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	72.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

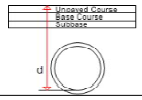
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-457C
Structure Station:	IWBCD2 7080+92.68
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.7
Max Allowable Manning's n	< 0.017		Resistivity		11500
Diameter (Inches)	18.00		Chlorides		15
Depth to invert 'd' (Inches)	152.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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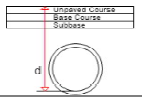
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-45701
Structure Station:	IWBCD2 7080+92.68
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	222.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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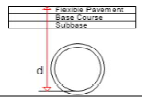
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-458C
Structure Station:	ISLIP2 202+06.33
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	78.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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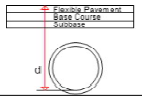
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-465C
Structure Station:	ISLIP2 202+56.35
Boring Number/Location:	AB-1297L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.7
Max Allowable Manning's n	< 0.017		Resistivity	11500
Diameter (Inches)	18.00		Chlorides	15
Depth to invert 'd' (Inches)	78.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	237	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	115	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	104	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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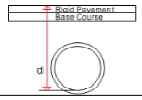
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-466C1
Structure Station:	IWBCD2 7083+99.38
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	67.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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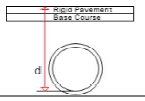
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-466C
Structure Station: IWBCD2 7082+92.67
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	67.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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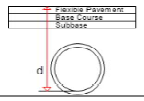
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-475C
Structure Station: IWBCD2 7084+82.32
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	48.00	Chlorides	5
Depth to invert 'd' (Inches)	142.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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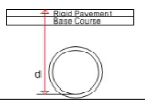
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-476C1
Structure Station: IWBCD2 7085+98.91
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	61.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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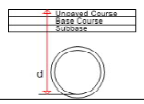
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-476C
Structure Station: IWBCD2 7084+82.32
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	48.00	Chlorides	5
Depth to invert 'd' (Inches)	166.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

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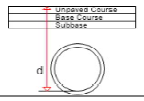
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-477C1
Structure Station: IWBCD2 7084+82.32
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	48.00	Chlorides	5
Depth to invert 'd' (Inches)	222.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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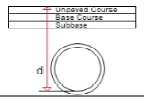
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-479C1
Structure Station: BL400 676+60.45
Boring Number/Location: AB-679R
County: Orange
Designer: CJH

Design Life (Years)	100	pH	8.4
Max Allowable Manning's n	< 0.017	Resistivity	7348
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	266.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	137	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	128	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	120	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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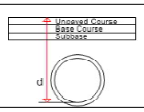
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-479C
Structure Station: BL400 678+60.45
Boring Number/Location: AB-679R
County: Orange
Designer: CJH

Design Life (Years)	100	pH	8.4
Max Allowable Manning's n	< 0.017	Resistivity	7348
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	272.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	137	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	128	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	120	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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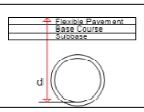
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-480C
Structure Station: BL400 676+60.45
Boring Number/Location: AB-679R
County: Orange
Designer: CJH

Design Life (Years)	100	pH	8.4
Max Allowable Manning's n	< 0.017	Resistivity	7348
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	266.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	137	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	128	Pass	Pass	1
(SRSP) Galvanized Steel - Spiral Rib, 12 GA.	120	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-480C
Structure Station:	BL400 676+60.45
Boring Number/Location:	AB-679R
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	185
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	185
Service Life minus 10 years (years)	175

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	175
Pitting Rate (inches/year)	0.000960

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.000960
Steel Casing Service Life (years)	651.0

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

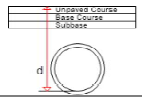
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-482C
Structure Station:	BL400 7084+92.46
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	254.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

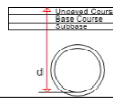
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-491A
Structure Station:	BL400 676+26.07
Boring Number/Location:	AB-679R
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	8.4
Max Allowable Manning's n	< 0.017	Resistivity	7348
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	52.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	106	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(SRSP)UNAVAILABLE in this size		Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(SRAP)NOT SUITABLE in this size		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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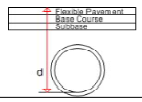
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-491C
Structure Station:	IWBCD2 7086+92.51
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	70.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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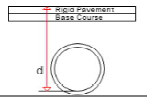
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-492C1
Structure Station:	IWBCD2 7087+92.49
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	71.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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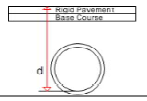
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-492C
Structure Station:	IWBCD2 7086+92.51
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	61.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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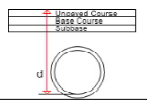
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-494A
Structure Station:	BL400 676+95.00
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	68.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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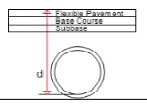
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-494B
Structure Station:	BL400 678+60.45
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	498.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'V'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(SRAP)	360	Pass	Fail	1
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(SRPE)	100	Pass	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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Florida Department of Transportation

Service Life of Jack & Bore Steel Casing
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-494B
Structure Station:	BL400 678+60.45
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

1) DATA FROM SERVICE LIFE ESTIMATOR

Galvanized Steel Service Life (years)	259
Gage	8

2) DEDUCT 10 YEARS FROM GALVANIZED STEEL OPTION

Service Life (years)	259
Service Life minus 10 years (years)	249

3) PITTING RATE ANALYSIS

Pitting Rate (inches/year) = Gage Thickness/Service Life

Gage Thickness (inches)	0.168
Service Life (years)	249
Pitting Rate (inches/year)	0.000675

3) DETERMINE CASING PIPE SERVICE LIFE

Casing Thickness (inches)	0.625
Pitting Rate (inches/year)	0.000675
Steel Casing Service Life (years)	926.3

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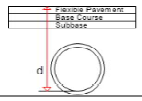
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-494C
Structure Station:	IWBCD2 7087+92.49
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	24.00	Chlorides	5
Depth to invert 'd' (Inches)	77.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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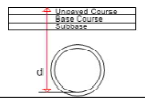
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-495C
Structure Station:	IWBCD2 7088+36.93
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	284.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required. Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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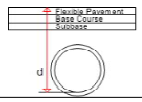
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-504C
Structure Station:	IWBCD2 7088+92.50
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16578
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	77.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

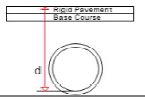
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-505C1
Structure Station:	IWBCD2 7089+92.51
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	67.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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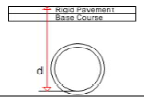
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-505C
Structure Station:	IWBCD2 7088+92.50
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	71.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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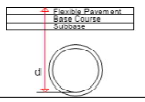
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-508C
Structure Station:	IWBCD2 7089+92.51
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	62.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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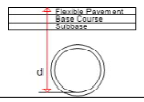
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-519C
Structure Station:	IWBCD2 7090+67.94
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	68.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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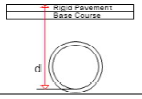
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-520C1
Structure Station: IWBCD2 7091+44.05
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	75.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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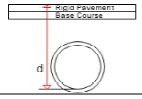
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-520C2
Structure Station: IWBCD2 7092+20.04
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	83.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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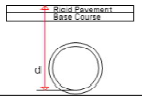
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-520C
Structure Station: IWBCD2 7090+67.94
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	24.00		Chlorides	5
Depth to invert 'd' (Inches)	65.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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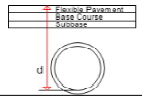
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-525C
Structure Station: IWBCD2 7091+44.05
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	71.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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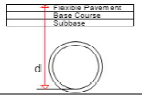
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-537C
Structure Station:	IWBCD2 7092+92.50
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	81.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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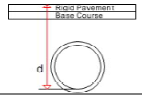
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-538C1
Structure Station:	IWBCD2 7092+92.50
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	84.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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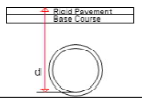
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-538C
Structure Station:	IWBCD2 7092+92.50
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	84.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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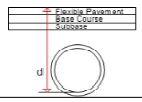
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-547C
Structure Station:	IWBCD2 7094+95.23
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16578
Diameter (Inches)	18.00		Chlorides	5
Depth to invert 'd' (Inches)	75.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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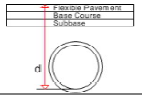
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-548C1
Structure Station:	RAMP IA_CFP 300+55.74
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	85.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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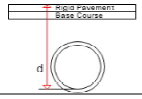
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-548C
Structure Station:	IWBCD2 7094+95.23
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	30.00		Chlorides		5
Depth to invert 'd' (Inches)	85.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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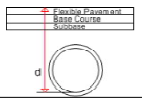
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-550C
Structure Station:	IC_CFP 400+55.90
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16578
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	60.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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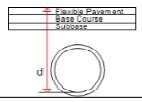
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-551C
Structure Station:	IC_CFP 401+39.93
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5
Depth to invert 'd' (Inches)	63.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

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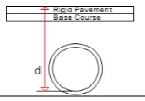
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-552C
Structure Station: IA_CFP 301+39.50
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16576
Diameter (Inches)	30.00		Chlorides	5
Depth to invert 'd' (Inches)	87.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

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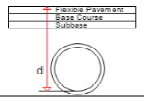
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-560C
Structure Station: IC_CFP 401+89.93
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16576
Diameter (Inches)	36.00		Chlorides	5
Depth to invert 'd' (Inches)	104.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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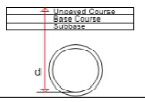
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-561C1
Structure Station: IA_CFP 301+89.41
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16576
Diameter (Inches)	36.00		Chlorides	5
Depth to invert 'd' (Inches)	249.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
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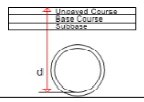
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name: I-4 BTU Daryl Carter Pkwy
FM #: 441113-1-52-01
Structure Number: S-561C
Structure Station: IA_CFP 301+89.41
Boring Number/Location: TH-6800L
County: Orange
Designer: CJH

Design Life (Years)	100		pH	7.6
Max Allowable Manning's n	< 0.017		Resistivity	16576
Diameter (Inches)	36.00		Chlorides	5
Depth to invert 'd' (Inches)	96.00		Sulfates	2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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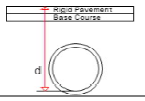
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-566C
Structure Station:	IA_CFP 302+39.25
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	18.00		Chlorides		5.0
Depth to invert 'd' (Inches)	77.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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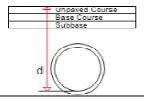
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-573C
Structure Station:	IA_CFP 303+90.66
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	48.00		Chlorides		5
Depth to invert 'd' (Inches)	142.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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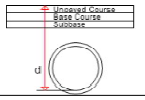
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-574C1
Structure Station:	IA_CFP 303+90.66
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	48.00		Chlorides		5
Depth to invert 'd' (Inches)	206.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	1
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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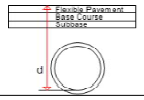
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-607C
Structure Station:	IC_CFP 405+81.27
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	60.00		Chlorides		5
Depth to invert 'd' (Inches)	256.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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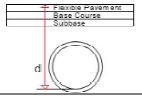
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-608C
Structure Station:	IC_CFP 405+78.27
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	246.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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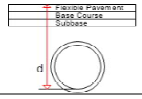
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-609C
Structure Station:	IC_CFP 405+26.36
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	246.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'III'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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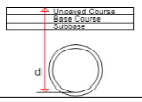
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-610C
Structure Station:	IA_CFP 305+25.55
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	419.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(SRAP)	360	Pass	Fail	1
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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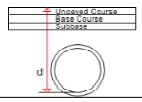
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-611C
Structure Station:	IA_CFP 305+25.76
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	479.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'V'	360	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(SRAP)	360	Pass	Fail	1
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(SRPE)	100	Pass	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life, No restrictions for 50 year service life.

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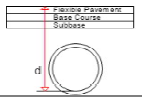
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-612C
Structure Station:	PND141 1003+47.77
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	199.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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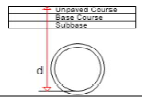
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-613C
Structure Station:	PND141 1003+46.57
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	207.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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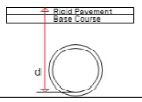
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-614A
Structure Station:	IA_CFP 305+77.26
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	18.00	Chlorides	5
Depth to invert 'd' (Inches)	76.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(NRCP) Non-Reinforced Concrete, CL 'I'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 16 GA.	252	Pass	Pass	
(SRASP) Aluminized Steel - Spiral Rib, 16 GA.	123	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PVC) Polyvinyl Chloride, ASTM F-949	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	1
(PP) Polypropylene	100+	Pass	Pass	
(HDPE)CANNOT be used		Fail	Fail	
(SRPE)UNAVAILABLE in this size		Fail	Fail	

1) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

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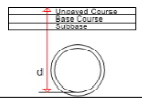
Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-634C1
Structure Station:	POND142 1006+87.78
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100	pH	7.6
Max Allowable Manning's n	< 0.017	Resistivity	16576
Diameter (Inches)	60.00	Chlorides	5
Depth to invert 'd' (Inches)	309.00	Sulfates	2.4



Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'IV'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(PP)	100	Pass	Fail	
(HDPE)	100	Pass	Fail	2
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-88 and manufacturer's recommendations,
2) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

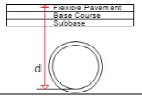
This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

Florida Department of Transportation

Culvert Service Life Estimator
Version 5.5.1.0

Date May 17, 2019

Project Name:	I-4 BTU Daryl Carter Pkwy
FM #:	441113-1-52-01
Structure Number:	S-634C
Structure Station:	POND142 1006+87.78
Boring Number/Location:	TH-6800L
County:	Orange
Designer:	CJH

Design Life (Years)	100		pH		7.6
Max Allowable Manning's n	< 0.017		Resistivity		16576
Diameter (Inches)	60.00		Chlorides		5
Depth to invert 'd' (Inches)	209.00		Sulfates		2.4

Type of Culvert	Service Life	Environment	Structural	
(RCP) Steel-Reinforced Concrete, CL 'II'	360	Pass	Pass	
(SRAP) Aluminum - Spiral Rib, 12 GA.	360	Pass	Pass	1
(SRASP) Aluminized Steel - Spiral Rib, 14 GA.	160	Pass	Pass	
(SRSP) Galvanized Steel - Spiral Rib, 14 GA.	121	Pass	Pass	
(PP) Polypropylene	100+	Pass	Pass	
(HDPE) High Density Polyethylene, CL II	100+	Pass	Pass	2
(SRPE) Steel Reinforced Polyethylene Pipe	100	Pass	Pass	
(NRCP)UNAVAILABLE in this size	364	Fail	Fail	
(HDPE)CANNOT be used		Fail	Fail	
(PVC)UNAVAILABLE in this size		Fail	Fail	

1) Special Installation required, Refer to AASHTO Standard Specifications for Highway Bridges or ASTM B788-98 and manufacturer's recommendations.
2) HDPE not allowed in the Florida Keys for 100 year service life. No restrictions for 50 year service life.

This Program is developed by the Florida Department of Transportation Corrosion Research Laboratory to calculate the approximate service life of culverts corresponding to environmental parameters. Given these parameters, the program will list the performance of the most commonly used culverts in descending order. It is the designer's responsibility to choose the proper culvert to meet all structural and hydraulic requirements. If you have any questions or suggestions regarding the use of this program, please contact Rick Jenkins, P.E. at the Roadway Design Office - Drainage, Email: rick.jenkins@dot.state.fl.us

APPENDIX C.8: Ponds Drawdown Analysis

APPENDIX C.8.1: SW138B1B1

PONDS Version 3.3.0276
Retention Pond Recovery - Refined Method
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Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	I-4 Interim Daryl Carter
Simulation Description:	SW138B1B1 Drawdown Analysis
Project Number:	441113-1-52-01
Engineer :	LP
Supervising Engineer:	Kim Duong
Date:	07-28-2019

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	96.96
Water Table Elevation, [WT] (ft datum):	102.96
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	0.60
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	0.3
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	3479.9

Geometry Data

Equivalent Pond Length, [L] (ft):	337.2
Equivalent Pond Width, [W] (ft):	17.4

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
104.96	0.0
105.21	3479.9
105.36	5009.1
105.96	6914.3

Scenario Input Data

Scenario 1 :: 50% of wet treatment volume BSN138B1B1

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 1860.38

Initial ground water level (ft datum) 102.96 (default)

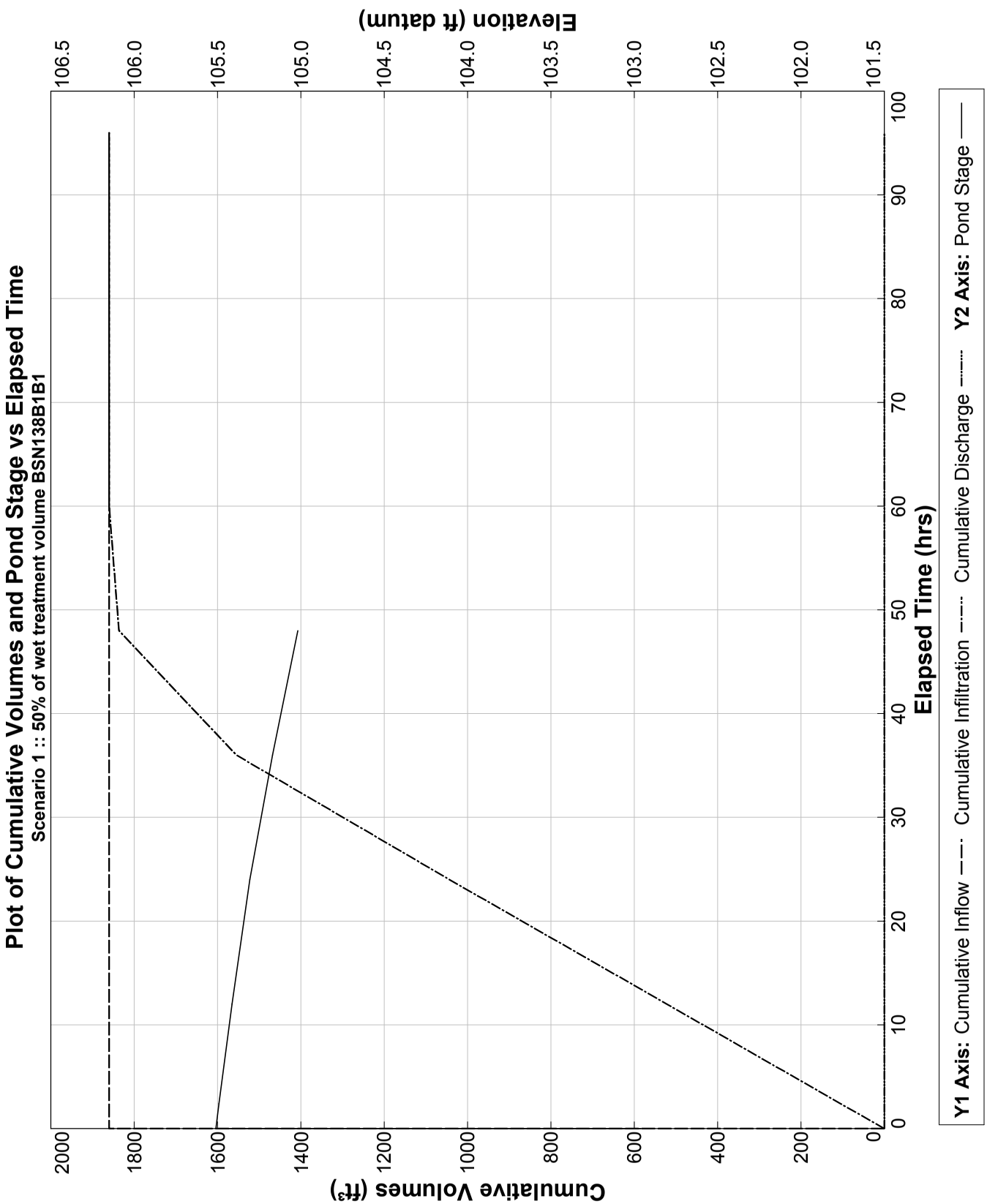
Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

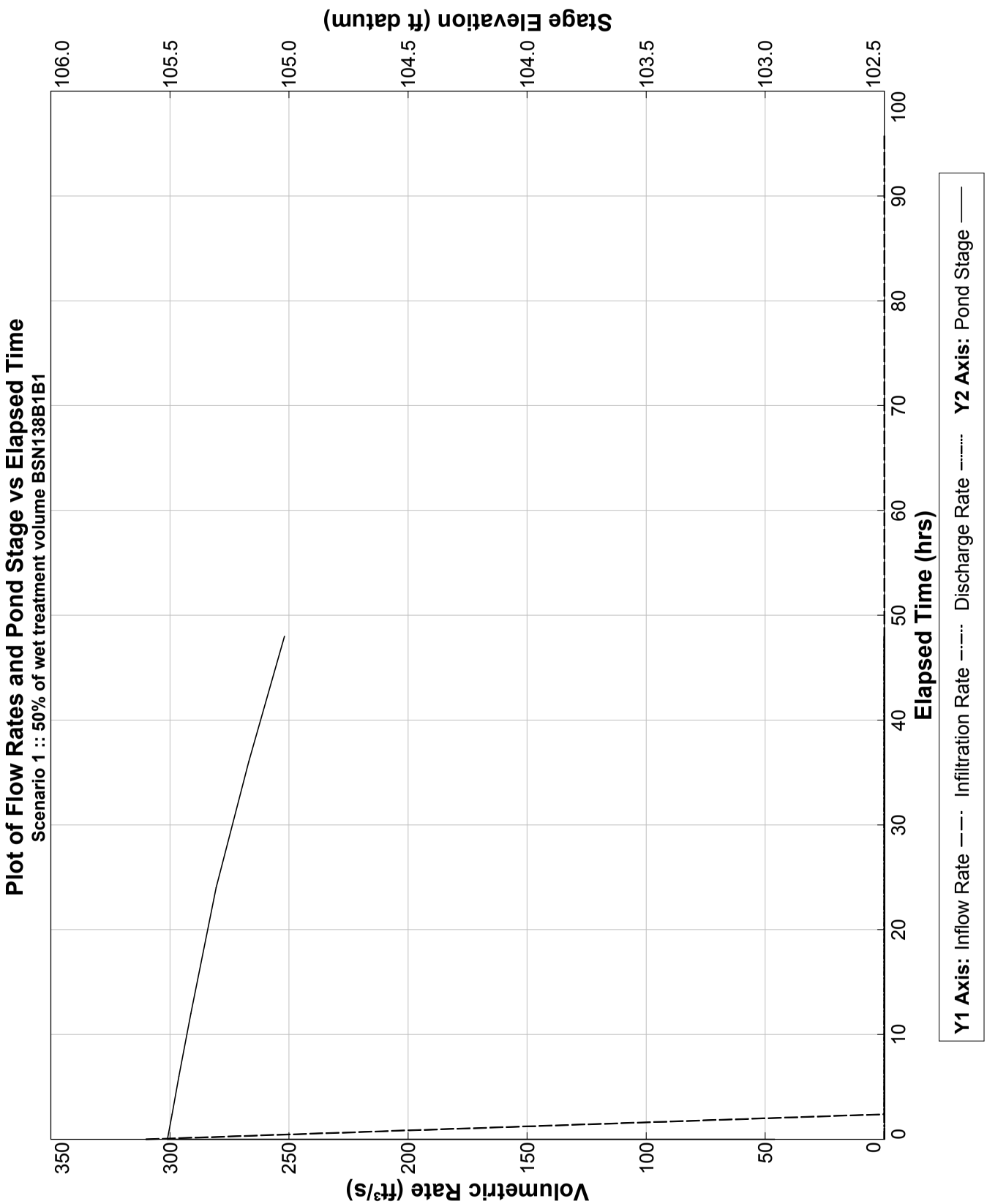
Detailed Results *:: Scenario 1 :: 50% of wet treatment volume BSN138B1B1*

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.000	310.0633	0.00000	102.96000	0.00000	0	0.000	0.00000	0	N.A.
0.002	310.0633	0.00000	105.51030	0.01208	0	1860.380	0.07250	0	U/P
2.400	0.0000	0.00000	105.49120	0.01208	0	1860.380	104.39640	0	U/P
6.000	0.0000	0.00000	105.46210	0.01208	0	1860.380	260.99100	0	U/P
12.000	0.0000	0.00000	105.41240	0.01208	0	1860.380	521.98200	0	U/P
24.000	0.0000	0.00000	105.30610	0.01196	0	1860.380	1043.96400	0	U/P
36.000	0.0000	0.00000	105.16950	0.00917	0	1860.380	1554.91300	0	U/P
48.000	0.0000	0.00000	105.01870	0.00326	0	1860.380	1836.39400	0	U/P
60.000	0.0000	0.00000	----	----	----	1860.380	1860.38000	0	dry
72.000	0.0000	0.00000	----	----	----	1860.380	1860.38000	0	dry
84.000	0.0000	0.00000	----	----	----	1860.380	1860.38000	0	dry
96.000	0.0000	0.00000	----	----	----	1860.380	1860.38000	0	dry

Summary of Results *:: Scenario 1 :: 50% of wet treatment volume BSN138B1B1*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	102.96		
Maximum	0.002	105.51		
Inflow				
Rate - Maximum - Positive	0.002		310.0633	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			1860.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			1860.4
Infiltration				
Rate - Maximum - Positive	0.002		0.0121	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	48.000			1836.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			1860.4
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	105.17		1554.9
72 Hour Stage and Infiltration Volume	72.000	Dry		1860.4


Plot of Cumulative Volumes and Pond Stage vs Elapsed Time
Scenario 1 :: 50% of wet treatment volume BSN138B1B1
Cumulative Volumes (ft³)
Elevation (ft datum)
Elapsed Time (hrs)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
101.5
102.0
102.5
103.0
103.5
104.0
104.5
105.0
105.5
106.0
106.5
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Cumulative Inflow
Cumulative Infiltration
Cumulative Discharge
Y2 Axis: Pond Stage


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 1 :: 50% of wet treatment volume BSN138B1B1
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0
50
100
150
200
250
300
350
102.5
103.0
103.5
104.0
104.5
105.0
105.5
106.0
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate
Y2 Axis: Pond Stage

APPENDIX C.8.2: SW138B1B2

PONDS Version 3.3.0276
Retention Pond Recovery - Refined Method
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Project Data

Project Name:	I-4 Interim Daryl Carter
Simulation Description:	SW138B1B2 Drawdown Analysis
Project Number:	441113-1-52-01
Engineer :	LP
Supervising Engineer:	Kim Duong
Date:	07-28-2019

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	96.23
Water Table Elevation, [WT] (ft datum):	102.23
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	0.60
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	0.3
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	5543.0

Geometry Data

Equivalent Pond Length, [L] (ft):	755.9
Equivalent Pond Width, [W] (ft):	12.7

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
104.23	0.0
104.30	1506.6
104.46	5543.0
104.98	13363.3

Scenario Input Data

Scenario 1 :: 50% of wet treatment volume BSN138B1B12

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 3103.65

Initial ground water level (ft datum) 102.23 (default)

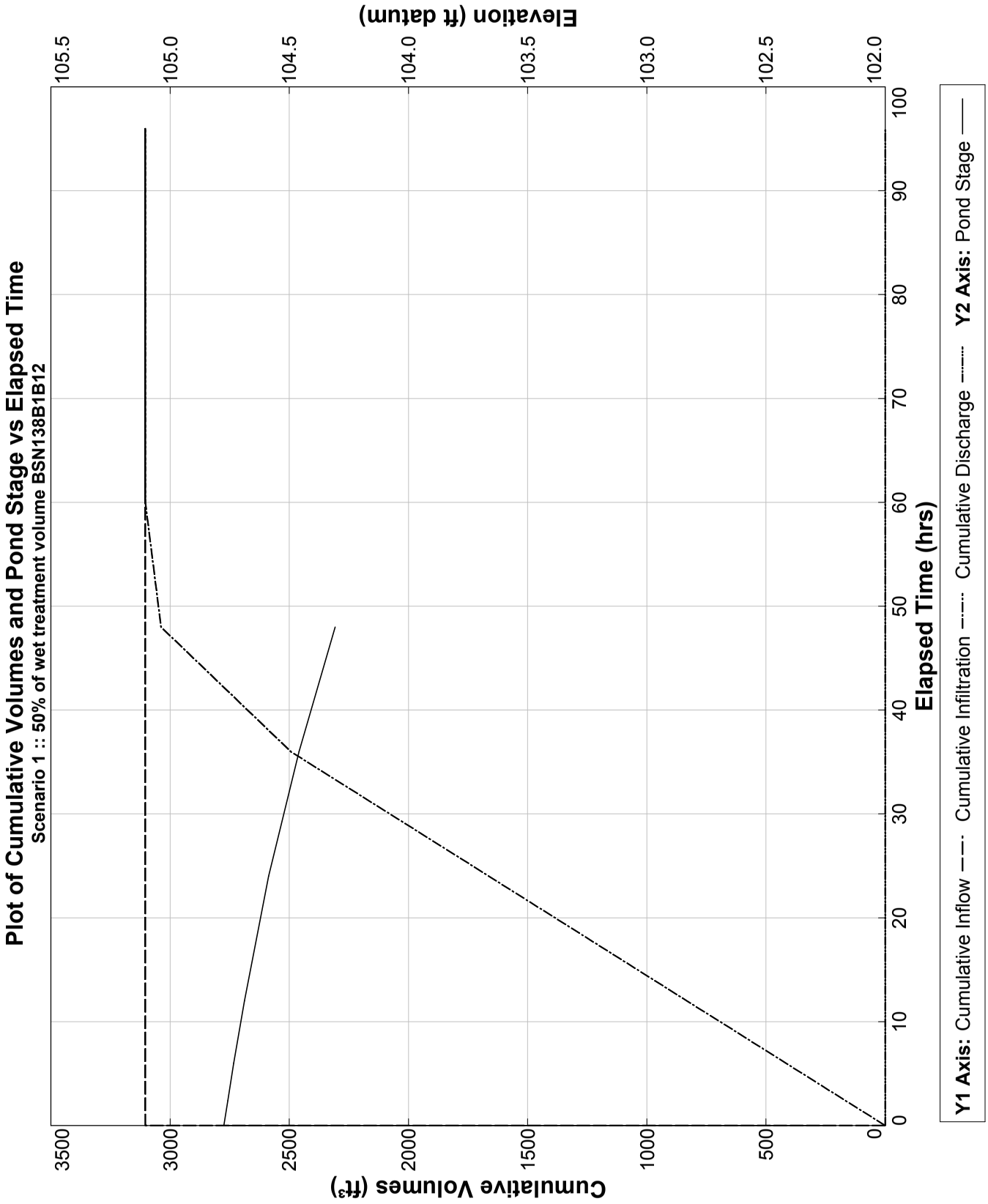
Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

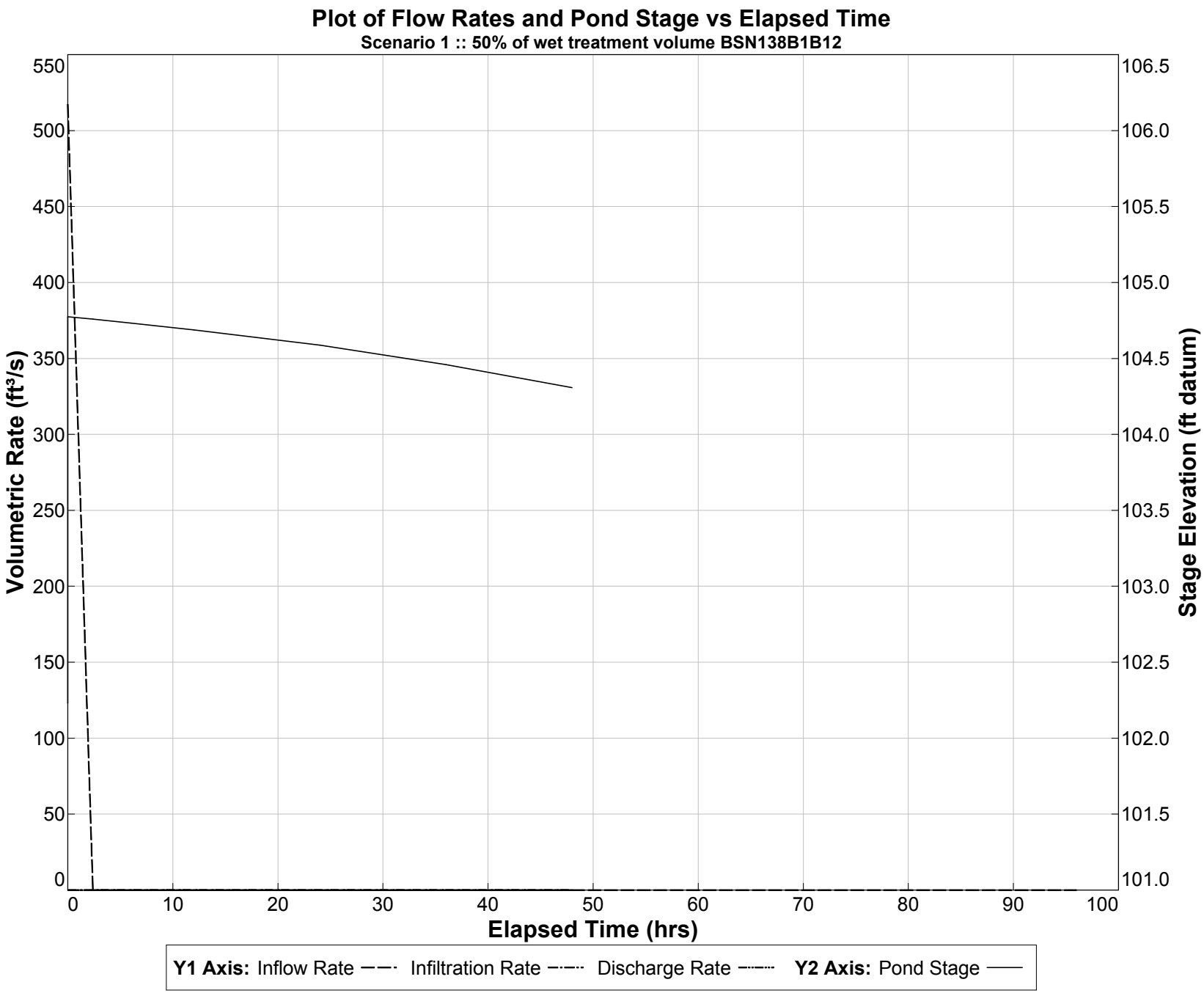
Detailed Results *:: Scenario 1 :: 50% of wet treatment volume BSN138B1B12*

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.000	517.2750	0.00000	102.23000	0.00000	0	0.000	0.00000	0	N.A.
0.002	517.2750	0.00000	104.77450	0.01925	0	3103.650	0.11548	0	U/P
2.400	0.0000	0.00000	104.75810	0.01925	0	3103.650	166.28910	0	U/P
6.000	0.0000	0.00000	104.73270	0.01925	0	3103.650	415.72270	0	U/P
12.000	0.0000	0.00000	104.68810	0.01925	0	3103.650	831.44550	0	U/P
24.000	0.0000	0.00000	104.58680	0.01925	0	3103.650	1662.89100	0	U/P
36.000	0.0000	0.00000	104.45870	0.01592	0	3103.650	2494.33400	0	U/P
48.000	0.0000	0.00000	104.30790	0.00629	0	3103.650	3038.17500	0	U/P
60.000	0.0000	0.00000	----	----	----	3103.650	3103.65000	0	dry
72.000	0.0000	0.00000	----	----	----	3103.650	3103.65000	0	dry
84.000	0.0000	0.00000	----	----	----	3103.650	3103.65000	0	dry
96.000	0.0000	0.00000	----	----	----	3103.650	3103.65000	0	dry

Summary of Results *:: Scenario 1 :: 50% of wet treatment volume BSN138B1B12*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	102.23		
Maximum	0.002	104.77		
Inflow				
Rate - Maximum - Positive	0.002		517.2750	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			3103.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			3103.7
Infiltration				
Rate - Maximum - Positive	0.002		0.0192	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	48.000			3038.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			3103.7
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	104.46		2494.3
72 Hour Stage and Infiltration Volume	72.000	Dry		3103.7


Plot of Cumulative Volumes and Pond Stage vs Elapsed Time
Scenario 1 :: 50% of wet treatment volume BSN138B1B12
Cumulative Volumes (ft³)
Elevation (ft datum)
Elapsed Time (hrs)
0
500
1000
1500
2000
2500
3000
3500
102.0
102.5
103.0
103.5
104.0
104.5
105.0
105.5
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Cumulative Inflow
Cumulative Infiltration
Cumulative Discharge
Y2 Axis: Pond Stage



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APPENDIX C.8.3: SW138B1B3

PONDS Version 3.3.0276
Retention Pond Recovery - Refined Method
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Project Data

Project Name:	I-4 Interim Daryl Carter
Simulation Description:	SW138B1B3 Drawdown Analysis
Project Number:	441113-1-52-01
Engineer :	LP
Supervising Engineer:	Kim Duong
Date:	07-28-2019

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	97.69
Water Table Elevation, [WT] (ft datum):	103.69
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	0.90
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	0.45
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	1452.1

Geometry Data

Equivalent Pond Length, [L] (ft):	93.0
Equivalent Pond Width, [W] (ft):	15.6

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
105.69	0.0
106.00	496.2
106.30	1118.3
106.44	1452.1

Scenario Input Data

Scenario 1 :: BSN138B1B13

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 2686.2

Initial ground water level (ft datum) 103.69 (default)

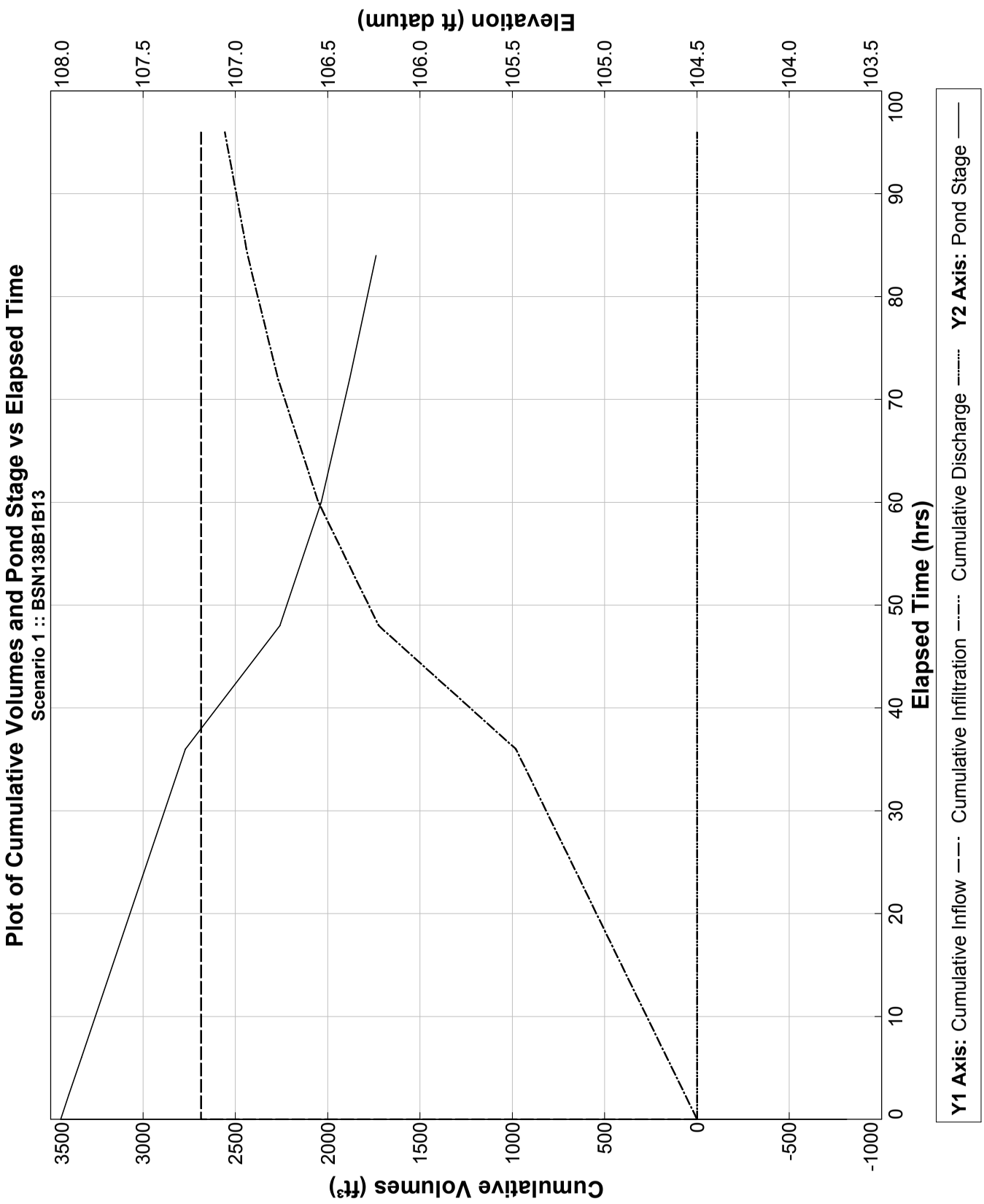
Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

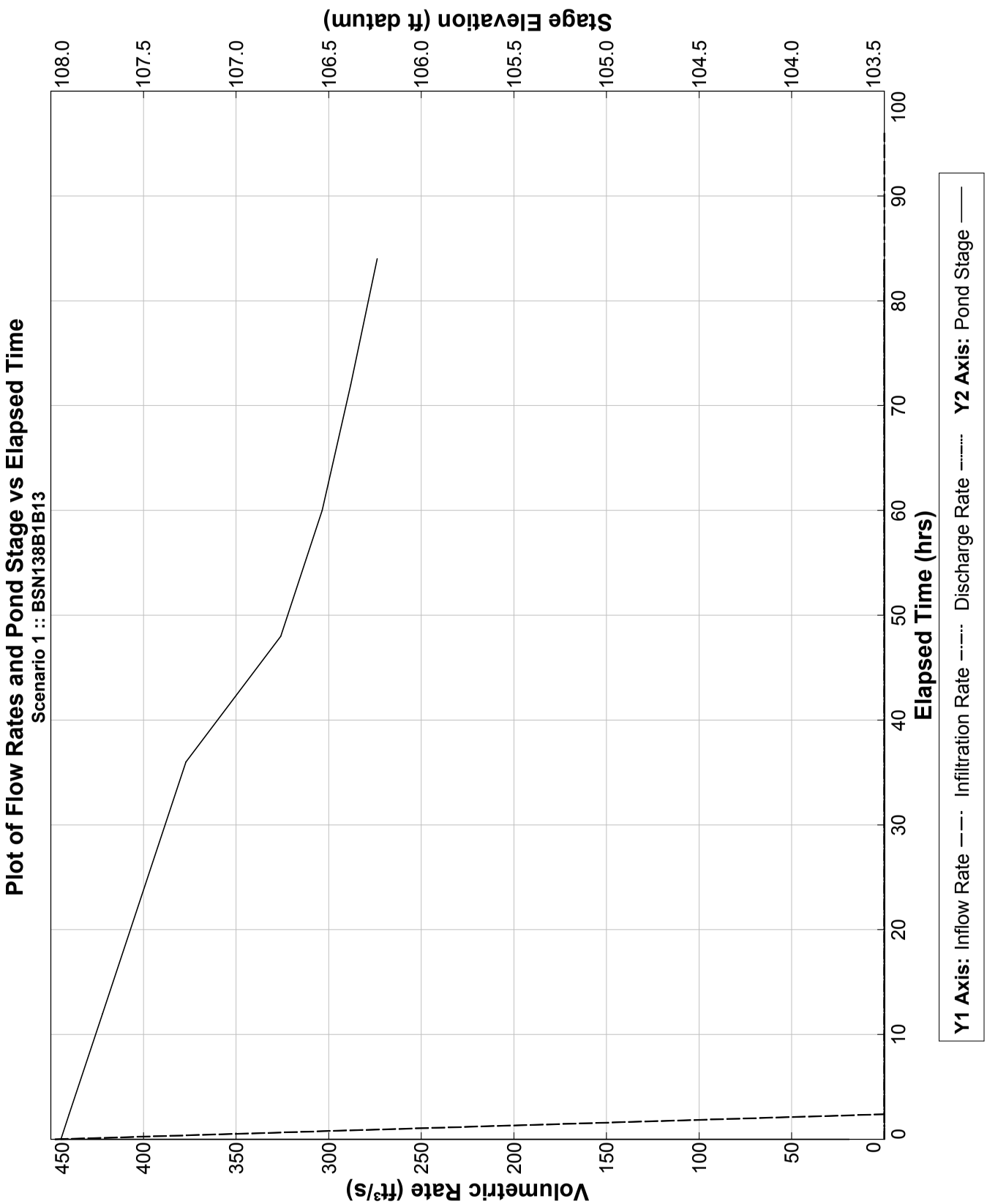
Detailed Results *:: Scenario 1 :: BSN138B1B13*

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.000	447.7000	0.00000	103.69000	0.00000	0	0.000	0.00000	0	N.A.
0.002	447.7000	0.00000	107.94620	0.00756	0	2686.200	0.04538	0	U/P
2.400	0.0000	0.00000	107.90130	0.00756	0	2686.200	65.34270	0	U/P
6.000	0.0000	0.00000	107.83380	0.00756	0	2686.200	163.35680	0	U/P
12.000	0.0000	0.00000	107.72130	0.00756	0	2686.200	326.71350	0	U/P
24.000	0.0000	0.00000	107.49630	0.00756	0	2686.200	653.42700	0	U/P
36.000	0.0000	0.00000	107.27130	0.01239	0	2686.200	980.14050	0	U/P
48.000	0.0000	0.00000	106.75890	0.01238	0	2686.200	1724.12000	0	U/S
60.000	0.0000	0.00000	106.53460	0.00630	0	2686.200	2049.75400	0	S
72.000	0.0000	0.00000	106.38090	0.00443	0	2686.200	2268.86200	0	S
84.000	0.0000	0.00000	106.23790	0.00334	0	2686.200	2432.59400	0	S
96.000	0.0000	0.00000	106.08860	----	----	2686.200	2557.18800	0	N.A.

Summary of Results *:: Scenario 1 :: BSN138B1B13*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	103.69		
Maximum	0.002	107.95		
Inflow				
Rate - Maximum - Positive	0.002		447.7000	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			2686.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			2686.2
Infiltration				
Rate - Maximum - Positive	36.000		0.0124	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	96.000			2557.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			2557.2
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	107.27		980.1
72 Hour Stage and Infiltration Volume	72.000	106.38		2268.9


Plot of Cumulative Volumes and Pond Stage vs Elapsed Time
Scenario 1 :: BSN138B1B13
Cumulative Volumes (ft³)
Elevation (ft datum)
Elapsed Time (hrs)
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
108.0
107.5
107.0
106.5
106.0
105.5
105.0
104.5
104.0
103.5
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Cumulative Inflow
Cumulative Infiltration
Cumulative Discharge
Y2 Axis: Pond Stage


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 1 :: BSN138B1B13
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0
50
100
150
200
250
300
350
400
450
103.5
104.0
104.5
105.0
105.5
106.0
106.5
107.0
107.5
108.0
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate
Y2 Axis: Pond Stage

APPENDIX C.8.4: SW138C3B1

PONDS Version 3.3.0276
Retention Pond Recovery - Refined Method
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Project Data

Project Name:	I-4 Interim Daryl Carter
Simulation Description:	SW138C3B1 Drawdown Analysis
Project Number:	441113-1-52-01
Engineer :	LP
Supervising Engineer:	Kim Duong
Date:	07-28-2019

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	121.24
Water Table Elevation, [WT] (ft datum):	127.24
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	0.60
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	0.3
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	1258.1

Geometry Data

Equivalent Pond Length, [L] (ft):	71.0
Equivalent Pond Width, [W] (ft):	17.7

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
129.24	0.0
129.50	539.0
129.83	1380.4
129.99	1258.1

Scenario Input Data

Scenario 1 :: BSN138C3B1

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 798.6

Initial ground water level (ft datum) 127.24 (default)

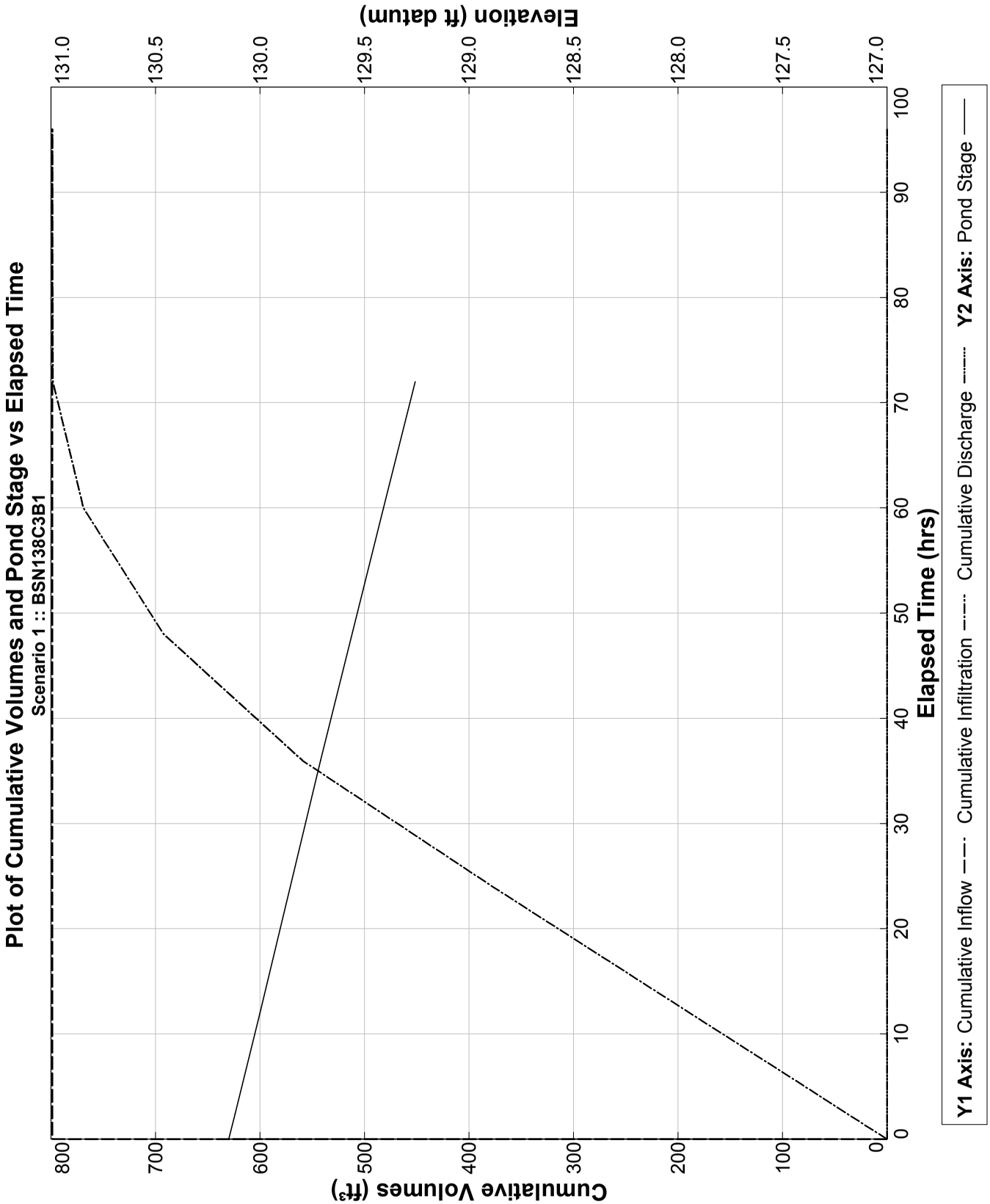
Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

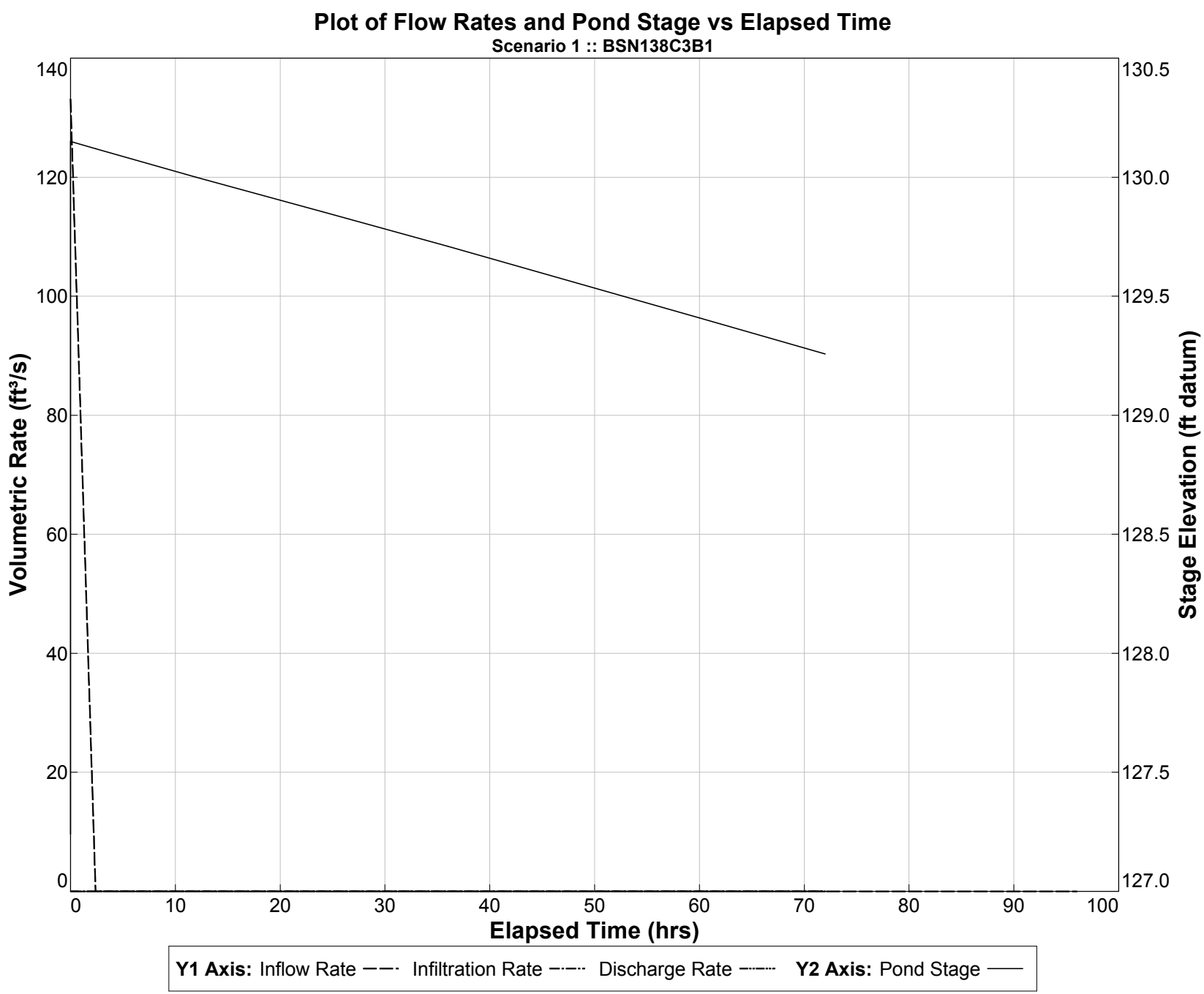
Detailed Results *:: Scenario 1 :: BSN138C3B1*

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.000	133.1000	0.00000	127.24000	0.00000	0	0.000	0.00000	0	N.A.
0.002	133.1000	0.00000	130.14950	0.00437	0	798.600	0.02621	0	U/P
2.400	0.0000	0.00000	130.11960	0.00437	0	798.600	37.74360	0	U/P
6.000	0.0000	0.00000	130.07460	0.00437	0	798.600	94.35900	0	U/P
12.000	0.0000	0.00000	129.99960	0.00437	0	798.600	188.71800	0	U/P
24.000	0.0000	0.00000	129.85510	0.00429	0	798.600	377.43600	0	U/P
36.000	0.0000	0.00000	129.70960	0.00364	0	798.600	559.58470	0	U/P
48.000	0.0000	0.00000	129.55930	0.00242	0	798.600	692.09250	0	U/P
60.000	0.0000	0.00000	129.40890	0.00123	0	798.600	769.04250	0	U/P
72.000	0.0000	0.00000	129.25740	0.00034	0	798.600	798.28440	0	U/P
84.000	0.0000	0.00000	----	----	----	798.600	798.60000	0	dry
96.000	0.0000	0.00000	----	----	----	798.600	798.60000	0	dry

Summary of Results *:: Scenario 1 :: BSN138C3B1*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	127.24		
Maximum	0.002	130.15		
Inflow				
Rate - Maximum - Positive	0.002		133.1000	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			798.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			798.6
Infiltration				
Rate - Maximum - Positive	0.002		0.0044	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.000			798.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			798.6
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	129.71		559.6
72 Hour Stage and Infiltration Volume	72.000	129.26		798.3


Plot of Cumulative Volumes and Pond Stage vs Elapsed Time
Scenario 1 :: BSN138C3B1
Cumulative Volumes (ft³)
Elevation (ft datum)
Elapsed Time (hrs)
0
100
200
300
400
500
600
700
800
127.0
127.5
128.0
128.5
129.0
129.5
130.0
130.5
131.0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Cumulative Inflow
Cumulative Infiltration
Cumulative Discharge
Y2 Axis: Pond Stage



PONDS Version 3.3.0276
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

APPENDIX C.8.5: SW138C3B2

PONDS Version 3.3.0276
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	I-4 Interim Daryl Carter
Simulation Description:	SW138C3B2 Drawdown Analysis
Project Number:	441113-1-52-01
Engineer :	LP
Supervising Engineer:	Kim Duong
Date:	07-28-2019

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	121.24
Water Table Elevation, [WT] (ft datum):	127.24
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	0.60
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	0.3
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	2538.0

Geometry Data

Equivalent Pond Length, [L] (ft):	184.2
Equivalent Pond Width, [W] (ft):	13.8

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
131.55	0.0
131.65	268.8
131.85	946.4
132.22	2538.0

Scenario Input Data

Scenario 1 :: BSN138C3B2

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 1197.9

Initial ground water level (ft datum) 127.24 (default)

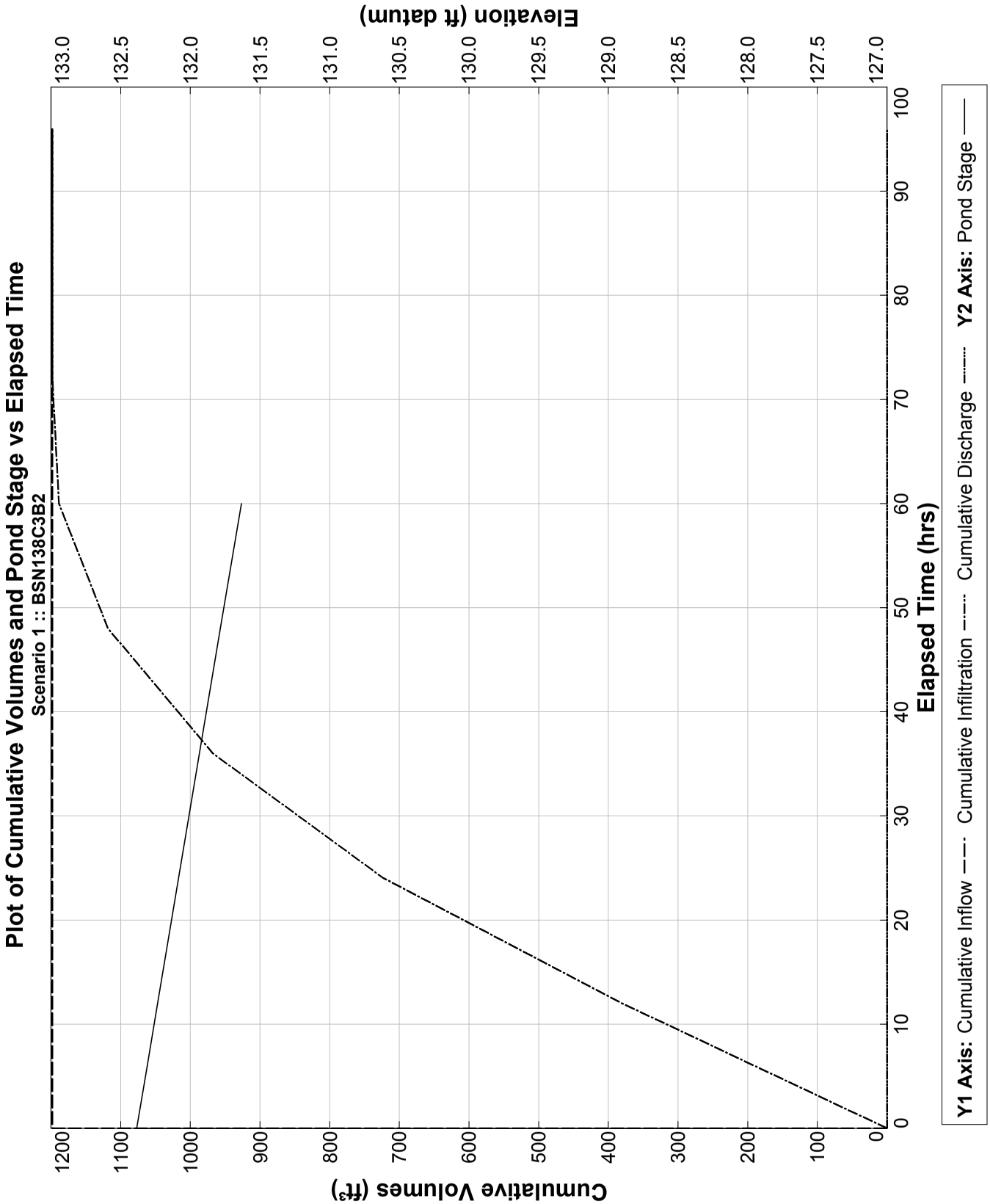
Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

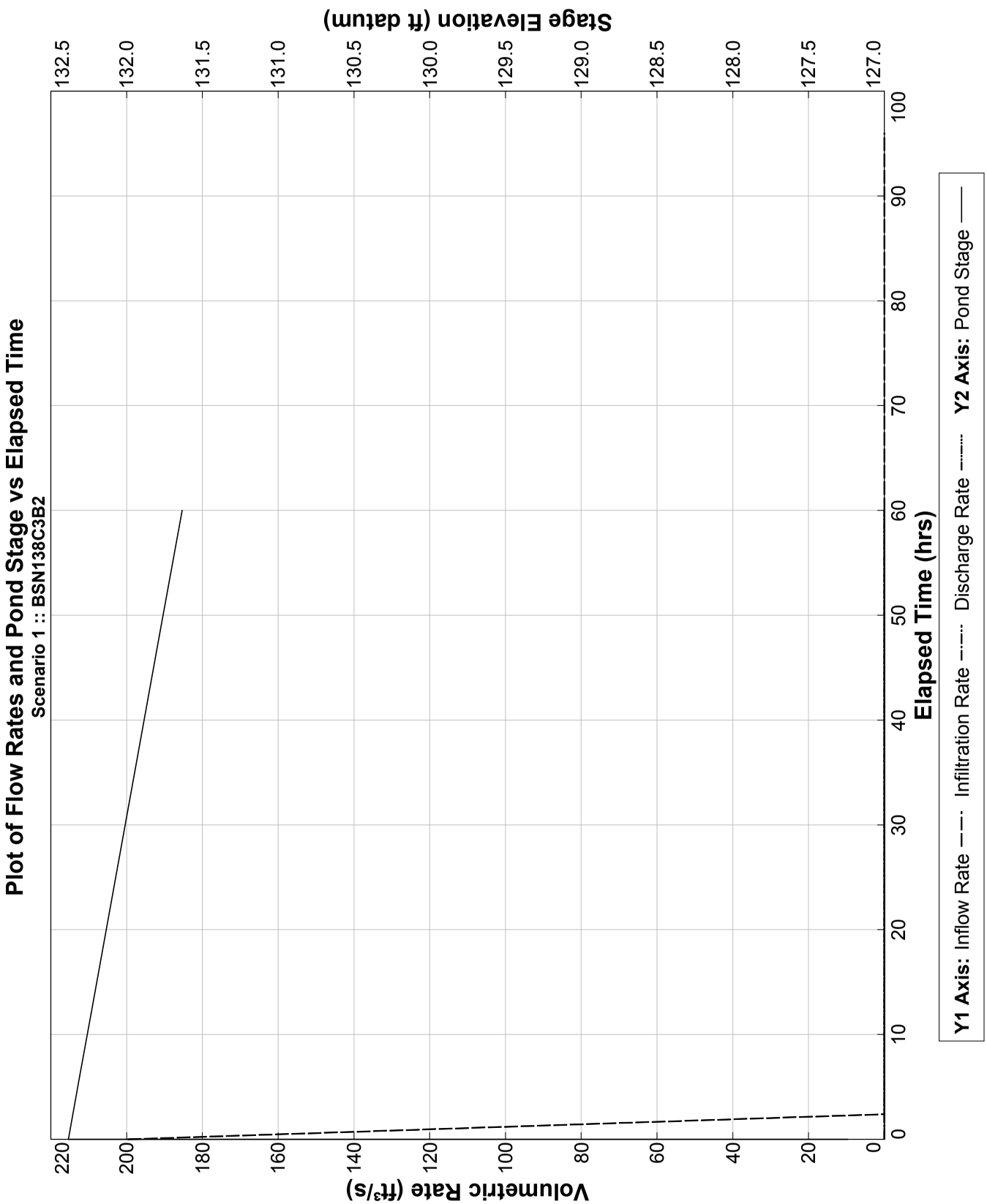
Detailed Results *:: Scenario 1 :: BSN138C3B2*

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.000	199.6500	0.00000	127.24000	0.00000	0	0.000	0.00000	0	N.A.
0.002	199.6500	0.00000	132.38480	0.00881	0	1197.900	0.05288	0	U/P
2.400	0.0000	0.00000	132.35480	0.00881	0	1197.900	76.14000	0	U/P
6.000	0.0000	0.00000	132.30980	0.00881	0	1197.900	190.35000	0	U/P
12.000	0.0000	0.00000	132.23480	0.00851	0	1197.900	380.70000	0	U/P
24.000	0.0000	0.00000	132.08470	0.00679	0	1197.900	722.41380	0	U/P
36.000	0.0000	0.00000	131.93440	0.00458	0	1197.900	967.72330	0	U/P
48.000	0.0000	0.00000	131.78400	0.00256	0	1197.900	1117.99100	0	U/P
60.000	0.0000	0.00000	131.63330	0.00082	0	1197.900	1188.57200	0	U/P
72.000	0.0000	0.00000	----	----	----	1197.900	1197.90000	0	dry
84.000	0.0000	0.00000	----	----	----	1197.900	1197.90000	0	dry
96.000	0.0000	0.00000	----	----	----	1197.900	1197.90000	0	dry

Summary of Results *:: Scenario 1 :: BSN138C3B2*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	127.24		
Maximum	0.002	132.38		
Inflow				
Rate - Maximum - Positive	0.002		199.6500	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			1197.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			1197.9
Infiltration				
Rate - Maximum - Positive	0.002		0.0088	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	60.000			1188.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			1197.9
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	131.93		967.7
72 Hour Stage and Infiltration Volume	72.000	Dry		1197.9


Plot of Cumulative Volumes and Pond Stage vs Elapsed Time
Scenario 1 :: BSN138C3B2
Cumulative Volumes (ft³)
Elevation (ft datum)
Elapsed Time (hrs)
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
127.0
127.5
128.0
128.5
129.0
129.5
130.0
130.5
131.0
131.5
132.0
132.5
133.0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Cumulative Inflow
Cumulative Infiltration
Cumulative Discharge
Y2 Axis: Pond Stage


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 1 :: BSN138C3B2
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0
20
40
60
80
100
120
140
160
180
200
220
127.0
127.5
128.0
128.5
129.0
129.5
130.0
130.5
131.0
131.5
132.0
132.5
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Inflow Rate
Infiltration Rate
Discharge Rate
Y2 Axis: Pond Stage

APPENDIX D: Existing Permit Documentation

APPENDIX D.1: Interstate 4/ SR 535 Interchange (04118-1)

PERMIT FILE - WPB

South Florida Water Management District

John R. Wodraska, Executive Director
Tilford C. Creel, Deputy Executive Director

Post Office Box 24680 3301 Gun Club Road
West Palm Beach, Florida 33416-4680
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

80 S. Airport Rd.
Kissimmee, FL 32741

IN REPLY REFER TO:

April 15, 1988

CERTIFIED MAIL NO.: P 772 739 413
Resource Control Department
Application No.: 04118-1

Mr. Robert B. Gleason
Florida Dept. of Transportation
719 South Boulevard
DeLand, FL 32720

Dear Mr. Gleason:

Subject: Notice of Intent to Construct Works
General Highway Permit No. 88-34
Permittee: Florida Department of Transportation
Project: I-4/SR 535 Interchange
Location: Orange County, S22,27,28/T24S/R28E

This letter is to notify you of the District's agency action concerning your Notice of Intent to Construct Works. This action is taken pursuant to Rule 40E.1.606 and Chapter 40E-40, Florida Administrative Code.

Based on information provided, District rules have been adhered to and a General Highway Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes administrative hearing, and
2. the attached Special Conditions.

Should you object to these Conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review to the proposed agency action. Please contact the Kissimmee office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee not later than 5:00 P.M., the Fifteenth day of April, 1988, in accordance with Section 120.60(3), F.S.

Sincerely,

for Allan Leavens
James T. Show, P.E.
Director, Water Management Division
Resource Control Department

JTS/pgk
Attachments

Nancy H. Roen
Chairman - Plantation

J.D. York
Vice Chairman - Palm City

Nathaniel P. Reed, Hobe Sound
Oscar M. Corbin, Jr., Ft. Myers
Arsenio Milian, Miami
Fritz Stein, Belle Glade
James F. Garner, Ft. Myers
Mike Stout, Windermere
Doran A. Jason, Key Biscayne

SPECIAL CONDITIONS

OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBLITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OR GROUNDWATERS OF THE STATE SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 17-3. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA AS REQUIRED ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OR GROUNDWATERS OF THE STATE.

SPECIAL CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATER.

THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE

RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

PRIOR TO DEWATERING, PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. INFORMATION SHALL INCLUDE AS A MINIMUM: PUMP SIZES, LOCATIONS AND HOURS OF OPERATION FOR EACH PUMP. IF OFF-SITE DISCHARGE IS PROPOSED, OR OFF-SITE ADVERSE IMPACTS ARE EVIDENT, AN INDIVIDUAL WATER USE PERMIT MAY BE REQUIRED. THE PERMITTEE IS CAUTIONED THAT SEVERAL MONTHS MAY BE REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION.

THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-40, FAC.

THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

DISTRIBUTION LIST

PROJECT: General Highway Permit #88-34
(I-4/SR535 Interchange)

INTERNAL DISTRIBUTION

A. Castro
J. Urquhart
K. Seader
Permit File ✓

EXTERNAL DISTRIBUTION

DEPT. OF ENVIRONMENTAL REGULATION:

Orlando

RP-63 (01-88)
Rev 7-84

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX "V"
WEST PALM BEACH, FL. 33402

App# 04118-1
GHP# 88-34

*****NOTICE OF INTENT TO CONSTRUCT WORKS PURSUANT TO GENERAL PERMIT*****
(CHAPTER 40E-40, FLORIDA ADMINISTRATIVE CODE)

OWNER'S NAME: FLORIDA DEPARTMENT OF TRANSPORTATION

MAILING ADDRESS: 719 SOUTH BOULEVARD

DELAND, FLORIDA 32720
(CITY) (STATE) (ZIP) (PHONE)

DESCRIPTION OF THE PROPOSED PROJECT:

LOCATION: SEC(S) 28, 27 & 22 TWP(S) 24S RGE(S) 28E

TOTAL ACREAGE: 82.121 ACRES

NUMBER OF DWELLING UNITS OR SQUARE FEET OF COMMERCIAL AREA: _____

EVIDENCE VERIFYING ZONING COMPATIBILITY: (ATTACH DOCUMENT)

PROPOSED MINIMUM ROAD ELEVATION 111.0 NGVD

PROPOSED MINIMUM FLOOR ELEVATION: _____ NGVD

BRIEF DESCRIPTION OF THE WORKS TO BE CONSTRUCTED OR ALTERED: _____

ACREAGE OF IMPERVIOUS COVER: 13.67 ACRES

ACREAGE OF WATER MANAGEMENT AREA: 44.65 (INCLUDING WATER BODY) ACRES

INCLUDE PAVING, GRADING & DRAINAGE PLANS, CALCULATIONS, AND, IF USING AN EXFILTRATION SYSTEM, PERCOLATION TESTS.

BRIEF STATEMENT OF FACTS WHICH SHOW WHY THE PROPOSED WORKS QUALIFY FOR A GENERAL PERMIT: FOR QUALITY CONTROL: (1) THERE IS MORE THAN ENOUGH RETENTION VOLUME. (2) TOTAL PERCOLATION TIME FOR REQUIRED RETENTION VOLUME IS 41 hrs. <72 hrs. FOR QUQNTITY CONTROL: PROP. OUTFALL DISCHARGE IS MUCH LESS THAN EXIST. CONDITION, NO ADVERSE EFFECT TO D/STREAM. (SEE INDEX 1, SUMMARY)

(ADD EXTRA SHEET IF NECESSARY)

DATE CONSTRUCTION OR ALTERATION IS EXPECTED TO COMMENCE: _____

I HEREBY CERTIFY THAT ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS HAVE BEEN RECEIVED.

OWNER'S SIGNATURE: Robert R. Gleason
(IF NOT THE OWNER, CERTIFY BELOW)

I HEREBY CERTIFY THAT I AM AN AUTHORIZED AGENT OF THE OWNER

SIGNATURE: Robert R. Gleason TITLE: Environmental Administrator

DATE: April 7, 1988

Figure A-3

I-4 / SR535

STORMWATER MANAGEMENT AND DRAINAGE CALCULATION

Contents:

INEX NO.

SUMMARY 1

STORMWATER MANAGEMENT CALCULATION AND DRAINAGE CALCULATION 2

TR-20 COMPUTATION RESULTS STORMWATER RUNOFF HYDROGRAPH AND FLOOD ROUTING FOR CONDITION 1 3

TR-20 COMPUTATION RESULTS STORMWATER RUNOFF HYDROGRAPH AND FLOOD ROUTING FOR CONDITION 2 4

REFERENCES 5

6

7

8

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners

SHEET NO. ___ OF ___

PROJECT I-4 / SR 535 JOB NO. 360

SUBJECT SUMMARY OF STORMWATER MANAGEMENT CALCULATION

DESIGNED BY KF DATE 1/22/88 CHECKED BY ___ DATE ___

INFORMATION FOR EX_PND137

I-4 / SR535 INTERCHANGE IMPROVEMENT

SUMMARY OF STORMWATER MANAGEMENT CALCULATION

STORMWATER QUALITY CONTROL (See INDEX NO. 2 Calculation Sheet No. 7 & 8)

TOTAL DRAINAGE AREA = 44.65

IMPERVIOUSNESS = 43 %

REQUIRED RETENTION VOLUME = 2.89 AC-FT (Without considering pre-treatment)

TOTAL RETENTION VOLUME AVAILABLE = 7.0 AC-FT.

SOIL PERMEABILITY COEFFICIENT = 2.6×10^{-2} cm/sec OR 5.1×10^{-4} ft/min.

TOTAL PERCOLATION TIME = 41 HOURS < 72 HOURS.

STORMWATER QUANTITY CONTROL

EXISTING CONDITION

DRAINAGE AREA = 11.67 AC, IMPERVIOUSNESS = 31 %

WEIGHTED RCN = 57, Tc = 0.95 HRS.

DRAINED TO RAMP "C" SIDE DITCH

PROPOSED CONDITION

DRAINAGE AREA = 44.65 Ac, WEIGHTED RCN = 60, Tc = 0.57 HR, INTER CONNECTED DETENTION/RETENTION PONDS, BOTTOM ELEVATION: POND #1 = 106.0; POND #2 = 107.0, PROPOSED MIN. RD EL. = 111.0 ±, IMPERVIOUSNESS = 43 %

TR-20 FLOOD ROUTING RESULTS (See INDEX NO. 3~4)

(See INDEX No. 2 Calculations Sheet No. 1~6)

** See sheet No. 3 for "conditions"

FREQUENCY	EXISTING PEAK (cfs)	PROP. INFLOW PEAK (cfs)	PROP. OUTFALL (WEIR CREST: 107.66 L = 7)	
			PEAK (cfs)	MAX. W.L. (MSL)
			** CONDITION 2	
2-YR	4.09	29.19	0	107.36
5-YR	5.67	39.02	0	107.46
10-YR	11.39	72.59	1.10	107.75
25-YR	18.02	110.86	3.17	107.92
100-YR	30.31	179.66	9.31	108.21

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners

SHEET NO. 1 OF ____

PROJECT I-4 / SR 535 JOB NO. 360

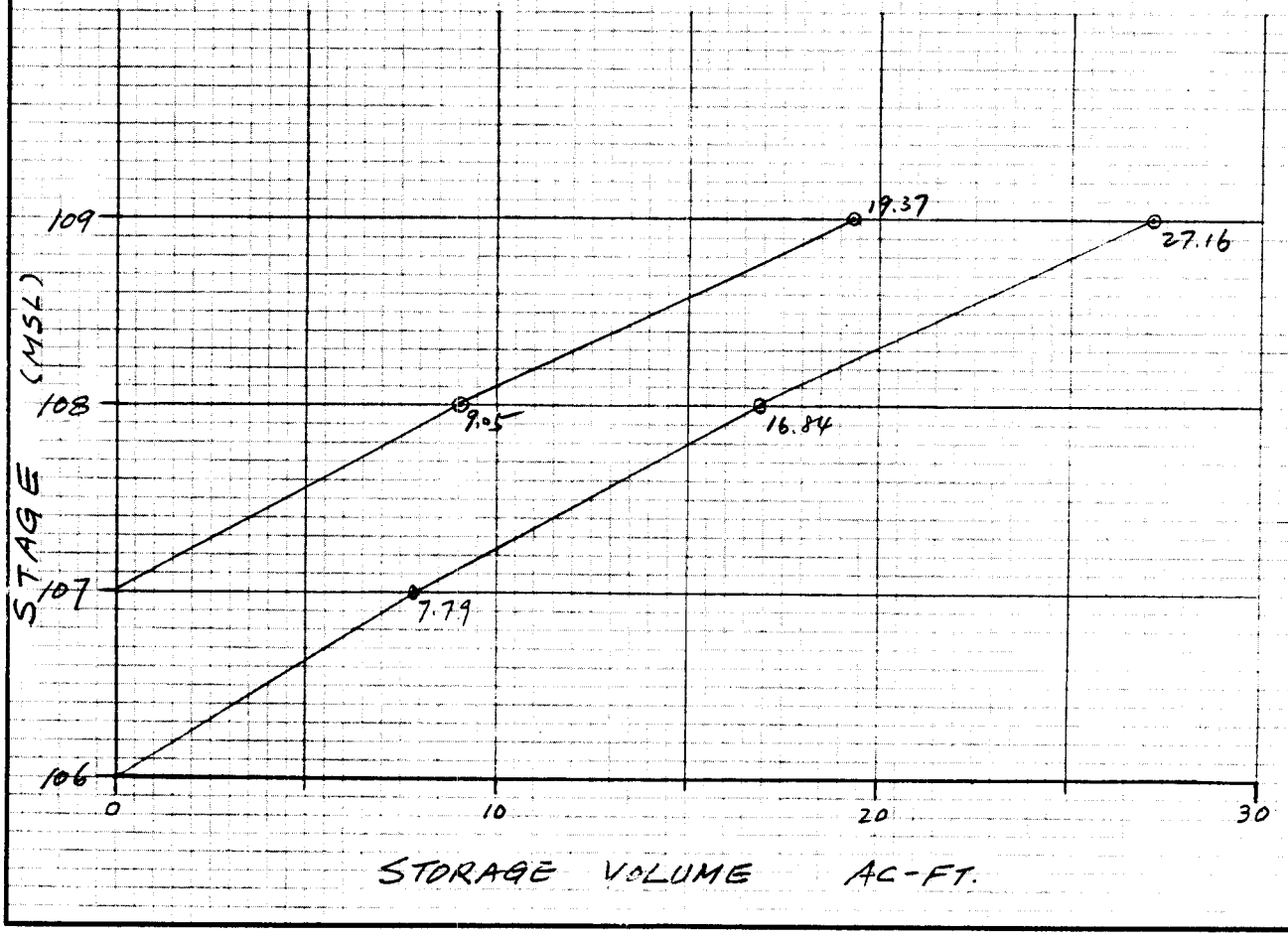
SUBJECT DETENTION / RETENTION PONDS

DESIGNED BY KF DATE 01/07/88 CHECKED BY ____ DATE ____

I. DETENTION / RETENTION VOLUME :

1) POND NO. 1

STAGE (MSL)	HORIZ. AREA (Ac)	AVERAGE AREA (Ac)	STORAGE VOLUME ΔV. Ac-ft	Accumulated TOTAL VOLUME ΣΔV Ac-ft
106.0	7.16			0
		7.79	7.79	
107.0	8.42			7.79
		9.05	9.05	
108.0	9.68			16.84
		10.32	10.32	
109.0	10.96			27.16



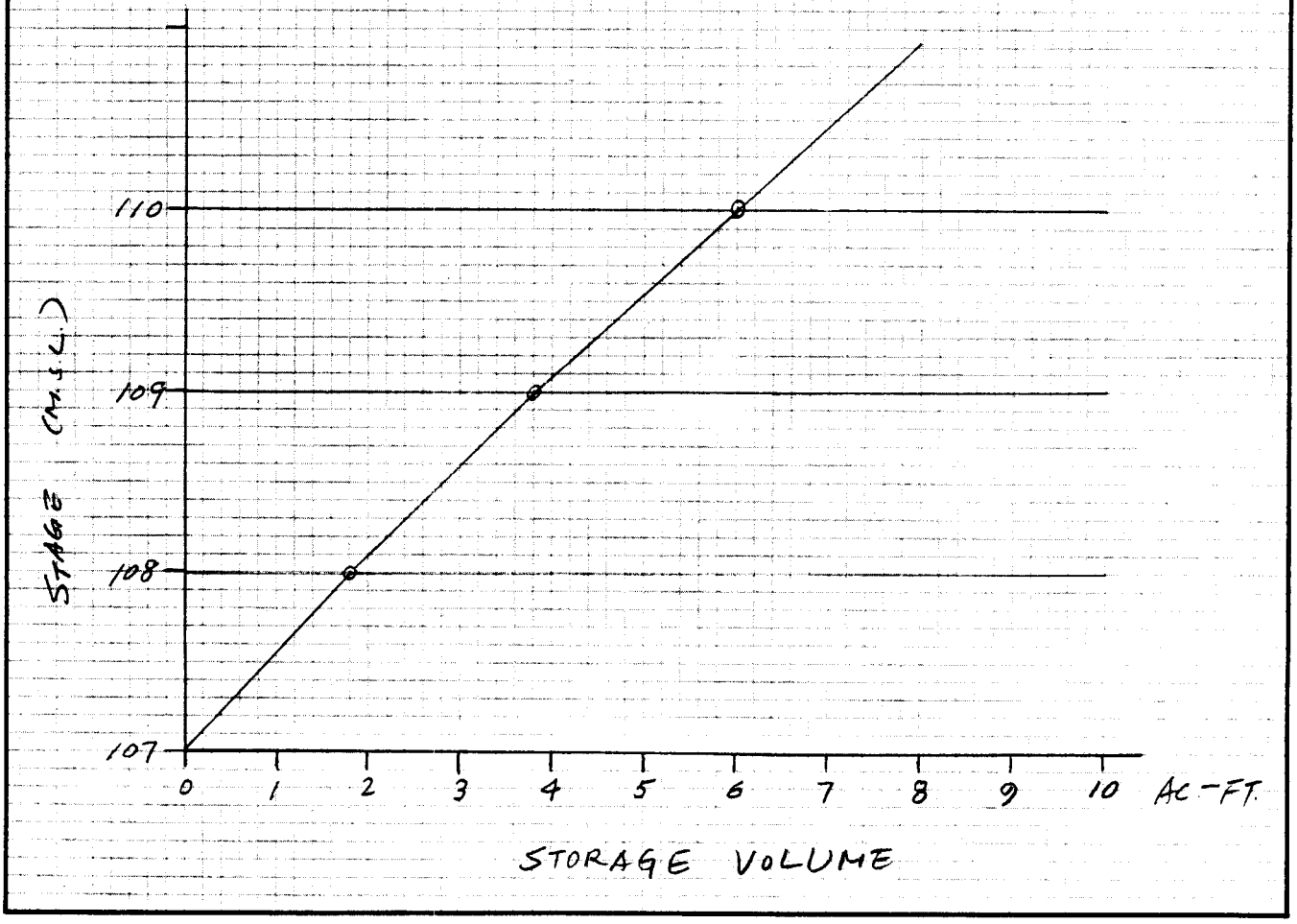
PROJECT I-4 / SR 535 JOB NO. 360

SUBJECT DETENTION / RETENTION PONDS

DESIGNED BY KF DATE 01/07/88 CHECKED BY ____ DATE ____

2) POND NO. 2.

STAGE (MSL)	HORIZ. AREA (AC.)	AVERAGE AREA (AC.)	STORAGE VOLUME ΔV (AC.-FT.)	Accumulated TOTAL VOLUME Σ(ΔV) AC.-FT
107.0	1.71			0
		1.81	1.81	
108.0	1.90			1.81
		2.00	2.00	
109.0	2.09			3.81
		2.19	2.19	
110.0	2.28			6.00



PROJECT I-4/SR535 JOB NO. 360

SUBJECT DETENTION/RETENTION PONDS

DESIGNED BY KF DATE 01/07/88 CHECKED BY ____ DATE ____

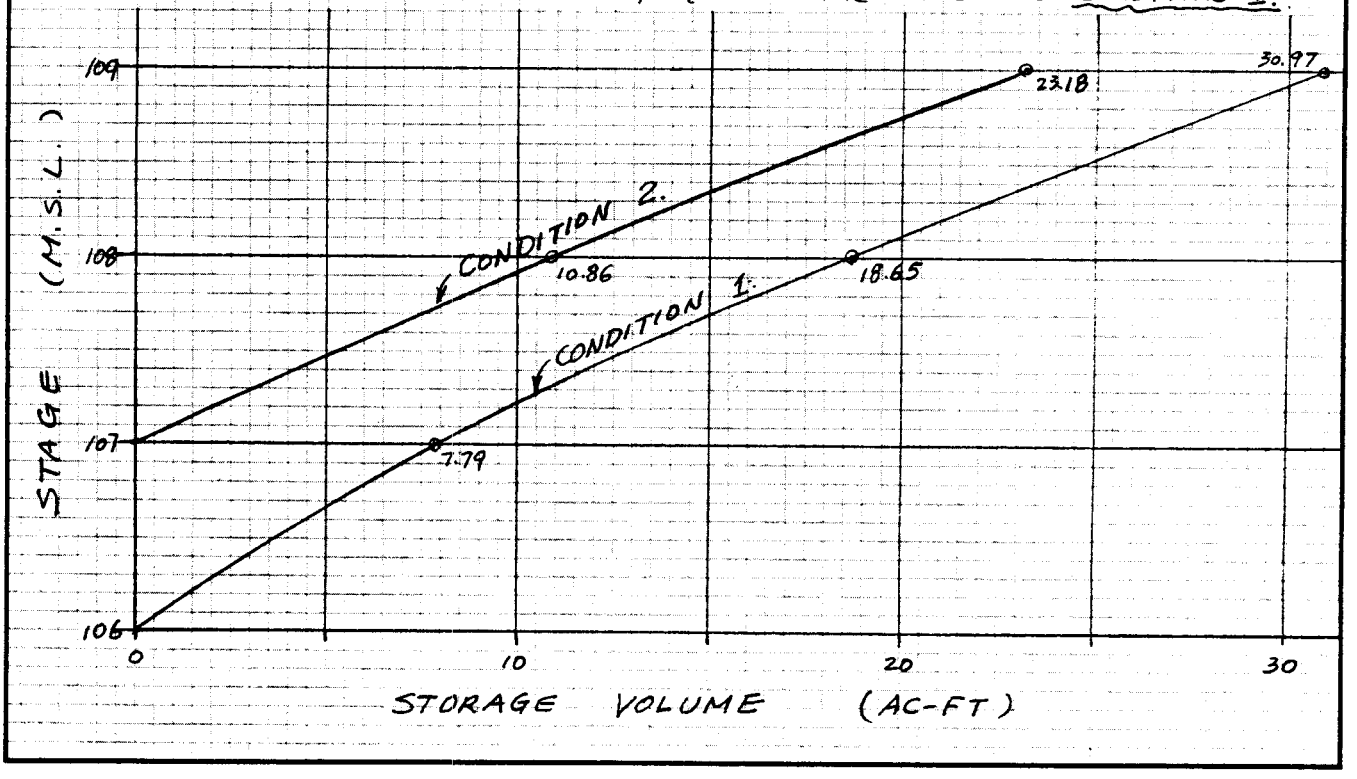
3) COMBINED STORAGE VOLUME:

EX_PND137 TO BE USED IN EXISTING CALC.

STAGE (MSL)	POND #1 VOL. (AC-FT.)	POND #2 VOL. (AC-FT)	TOTAL VOL. (AC-FT) *CONDITION 1	*CONDITION 2
106.0	0	0	0	0
107.0	7.79	0	7.79	0
108.0	16.84	1.81	18.65	10.86
109.0	27.16	3.81	30.97	23.18

* NOTE: CONDITION 1 – POND #1 and POND #2 both are dry before the storm comes. The bottom elevation of Pond #1 and Pond #2 are 106.0 and 107.0 respectively.

CONDITION 2 – Pond #2 is dry and the water level in pond #1 is at EL. 107.00 before the storm comes. Bottom elevations for both ponds are the same as CONDITION 1.



PROJECT I-4/SR535 JOB NO. 360

SUBJECT STORMWATER QUANTITY CONTROL

DESIGNED BY KF DATE 01/08/88 CHECKED BY ____ DATE ____

III STORMWATER RUNOFF THROUGH RAMP "C" SIDE DITCH @ STA. 25+35 (Equiv. to I-4 STA. 566+00) – CONCRETE RECTANGULAR WEIR CONTROL (see Sheet No. 5)

1) EXISTING (PRE-) CONDITION

Impervious Area (CN=98): 0.57+0.36+0.1+0.52+0.4+0.35+0.49+0.77 = 3.56 AC

Pervious Area (CN=39): 0.08+2.55+1.38+0.28+0.05+0.10+1.67+1.93+0.07 = 8.11 AC

Total Area = 3.56 + 8.11 = 11.67 AC.

$$\text{Weighted } CN = \frac{3.56\times98 + 8.11\times39}{11.67} = 57$$

$T_C = 0.95$ See Sheet No. 4a TR55 PRINTOUT

2) PROPOSED (POST-) CONDITION – Including Pond #1, #2 Drainage Areas. See Sheet No. 12 & 13.

Impervious Area (CN=98): 11.50 + 2.17 = 13.67 AC

Pervious Area (CN=39): 21.336 + 9.65 − 13.24 = 17.78 AC

PONDS Area (CN=49): 10.96 + 2.28 = 13.24 AC.

TOTAL AREA = 44.65 AC

$$\text{Weighted } CN = \frac{98\times13.67 + 39\times17.78 + 49\times13.24}{44.65} = 60$$

$T_C = 0.57$ hr. (See Sheet No. 32 S23~S22)

TIME OF CONCENTRATION COMPUTATION VERSION 1.11

I-4/SR535(360KF.55) ORANGE,FL KF 01-08-88
Subtitle RUNOFF IN RAMP "C" SIDE DITCH @I-4 STA.566+00 (EXIST. CONDITION)
Subarea # 1 -

Tc Flow Type	2 Year Rain	Length (ft)	Slope (ft/ft)	Surface Code	n	Area (Sq Ft)	Wp (Ft)	Velocity (ft/sec)	Time (hr)
Sheet	4.5	50	.02	A					0.010
Sheet		250	.0043	E					0.502
Shallow Concentrated		750	.0050	U					0.183
Shallow Concentrated									
Open Channel		150						5	0.008
Open Channel		1200	.0011		.03	150	200		0.245
								TOTAL	0.95

--- Sheet Flow Surface Codes ---

A Smooth Surface
B Fallow (No Res.)
C Cultivated (20 % Res.
D Cultivated) 20 % Res.
E Grass-Range, Short
F Grass, Dense
G Grass, Burmuda
H Woods, Light
I Woods, Dense

--- Shallow Concentrated ---
--- Surface Codes ---
P Paved
U Unpaved

CAPS NUM

F1Help F2Print F3Load F4Save F5DOS F6Zero F8Select

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT DETENTION / RETENTION PONDS

DESIGNED BY KF DATE 01/20/88 CHECKED BY ____ DATE ____

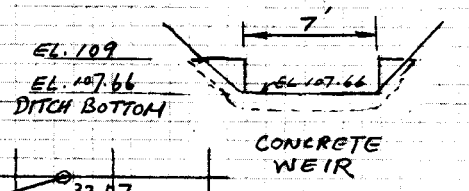
3) FLOW CONTROL:

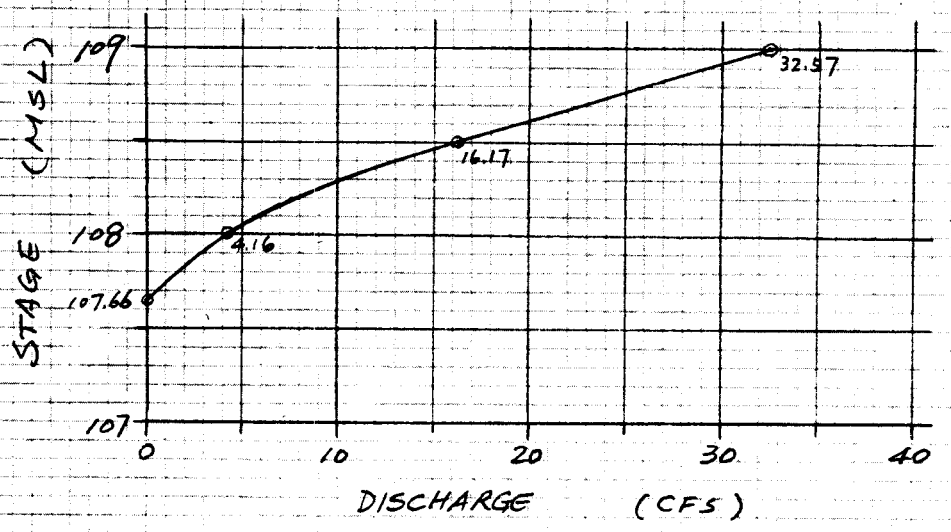
Use Broad Crest Weir, from "HANDBOOK OF HYDRAULICS" by Brater & King,

$Q = 3.08 \times L H^{3/2}$ where $L = 7'$

H = Head Water Depth

STAGE (MSL)	H (FT.)	Q (CFS)	STORAGE (AC-FT) COND. 1 / COND. 2
106.00	0	0	0 / 0
107.00	0	0	0 / 7.79
107.66	0	0	7.00 / 14.50
108.00	0.34	4.16	10.86 / 18.65
108.50	0.84	16.17	16.80 / 24.70
109.00	1.34	32.57	23.18 / 30.97





PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER QUANTITY CONTROL

DESIGNED BY KF DATE 01/09/88 CHECKED BY ____ DATE ____

4) STORMWATER RUNOFF AND FLOOD ROUTING CALCULATION

Storm water Runoff Hydrographs and Combined Ponds Flood Routings have been computed by using SCS TR-20 Program. (See attatched Computer Printout - INDEX 3 & 4)

The Summary of Computation Results are shown below:

* See Sheet No. 3 for detail of conditions.

* CONDITION			1	2
POND BOTTOM ELEVATION OR STARTINGE WATER LEVEL			POND #1: 106.00, POND #2: 107.00	POND # 1 & POND # 2 107.00
WEIR CREST ELEVATION			107.66	107.66
WEIR LENGTH (FT.)			7'	7'
STORM FREQUENCY		EX. PEAK (CFS)	4.09	4.09
	2-YR	PROP. PEAK	29.19	29.19
		OUTFALL PEAK MAX. W.L.	0	0 @ EL. 107.36
		EX. PEAK	5.67	5.67
	5-YR	PROP. PEAK	39.02	39.02
		OUTFALL PEAK MAX. W.L.	0 @ EL. 106.62	0 @ EL. 107.46
		EX. PEAK	11.39	11.39
	10-YR	PROP. PEAK	72.59	72.59
		OUTFALL PEAK MAX. W.L.	0 @ EL. 107.06	1.10 @ EL. 107.75
		EX. PEAK	18.02	18.02
	25-YR	PROP. PEAK	110.86	110.86
		OUTFALL PEAK MAX. W.L.	0 @ EL. 107.45	3.17 @ EL. 107.92
		EX. PEAK	30.31	30.31
	100-YR	PROP. PEAK	179.66	179.66
		OUTFALL PEAK MAX. W.L.	3.34 @ EL. 107.93	9.31 @ EL. 108.21

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER QUALITY CONTROL

DESIGNED BY KF DATE 1/21/87 CHECKED BY ____ DATE ____

IV. STORM WATER QUALITY CONTROL

Total Drainage Area = 44.65 AC.

Water Management Area = 44.67 − 11 (Pond #1) − 2 (#2) = 31.65 AC.
(Excluding Water Bodies)

Total Impervious Area = 13.67 AC.

Percentage of Imperviousness = 13.67 / 31.65 × 100 = 43%

(a) 1" Runoff Volume ($V_{1"RUNOFF}$)

$V_{(1" RUNOFF)} = 1 \div 12 \times 31.65 = 2.64$ AC-FT

(b) 2.5" Runoff × % Imperviousness

$V_{(2.5" Runoff \times 43\%)} = 2.5 \div 12 \times 31.65 \times 0.43$

$= 2.84$ AC-FT.

(b) > (a) ∴ Required Retention Volume = 2.84 AC-FT.

The retention volume for combined Pond #1 & Pond #2 at outfall elevation 107.66 is:

Pond #1 $V_{1(EL\ 107 \sim EL\ 107.66)} = 5.8$ AC-FT.

Pond #2 $V_{2(EL.\ 107 \sim EL.\ 107.66)} = 1.2$ AC-FT.

TOTAL = 7.0 AC-FT. > 2.84 OK

※ It is considered that the required Retention Volume (2.84 AC-FT.) will be only accalated in Pond #2 (see Discussion in Sheet No. 9.)

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SHEET NO. 8 OF ____

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER QUALITY CONTROL

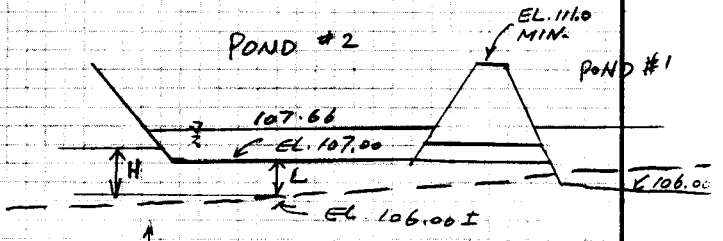
DESIGNED BY KF DATE 1/21/88 CHECKED BY ____ DATE ____

Soil Permeability Rate (K) at I-4 STA. 541+00 (the approximate location of pond #2) has been tested and listed in the attached "Soil Survey Report, State Road 400, Project No: 75250-1465" which is: (See Index 5)

$K = 2.60 \times 10^{-4}$ cm/sec

$= 6.1 \times 10^{-3}$ in./min or 5.1×10^{-4} ft/min

to be used for cal.



See sheet No. 9 Discussion 1) and attached plan of G.W.T Platted from Boring Records (Sheet #11)

Q = Percolation Rate

$= KA(\frac{H}{L})$

$= 5.1 \times 10^{-4} \times 74,488 \times (\frac{1.33}{1.00})$

$= 50.5$ cu ft/min

Where A = POND #2 Bottom Area
= 1.71 AC-FT
= 74,488 Sq. ft.
L = 107 - 106
= 1 ft.
H = (107.66 - 107.00)/2 + L
= 1.33 ft
K = 5.1×10^{-4} ft/min.

Percolation Time

$= 2.84 \times 43560 / 50.5 / 60$

$= 40.83$ hrs. < 72 hrs.

O.K.

percolated by pond #2 only, thus actual condition will be less due to some percolation in pond #1

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER MANAGEMENT

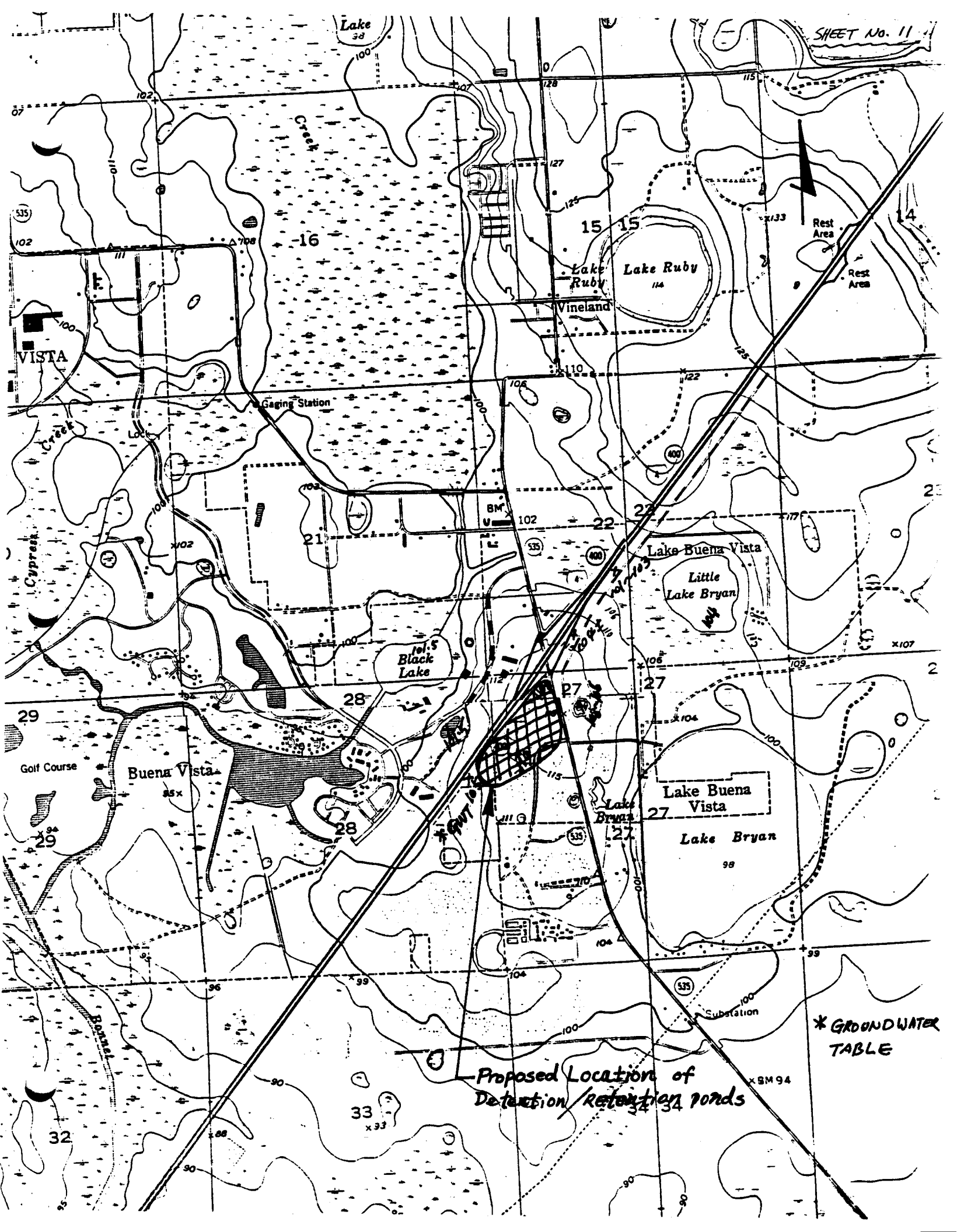
DESIGNED BY KF DATE 1/21/88 CHECKED BY ____ DATE ____

V Discussions

1) Since the Pond #1 and Pond #2 are located at the top of the hill, the excavation of Ponds #1 & #2 will definitely lower the groundwater table. (see attached sheet No.11 a copy of USGS Map showing the groundwater Level from boring record.)
The ground will be excavated from EL. 119.0± to EL. 106.0 and the stormwater from the major area of the hill will be directly drained into Ponds #1 & #2. The existing groundwater levels adjacent to these ponds are around 105.0 or less, therefore, the future groundwater level under Pond #2 is considered as 106.0±.
Based on above mentioned groundwater level, the total percolation time for required retention volume has been calculated which is 41 hours. It is less than the maximum allowable 72 hours percolation time which complies with the requirement.

2) The flood routing results shown in the summary of TR-20 Computation Results on sheet No.6 has shown that the outfall peaks of the ineter-connected Detention/Retention Ponds #1 & #2 for

2-Yr, 5-Yr, 10-Yr, 25-Yr and 100-Yr frequency stormwater runoff are all much lower than the existing runoff peaks, therefore, there will not have any adverse effect to the downstream area.


SHEET No. 11
Lake
Creek
VISTA
Gaging Station
Lock
Cypress
Lake Ruby
Vineland
Rest Area
Lake Buena Vista
Little Lake Bryan
Black Lake
Golf Course
Buena Vista
Lake Buena Vista
Lake Bryan
Substation
Bonnet
* GROUNDWATER TABLE
Proposed Location of Detention/Retention ponds

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SHEET NO. 12 OF ____

PROJECT I-4 / SR 535 JOB NO. 360

SUBJECT DRAINAGE CALCS.

DESIGNED BY RPS DATE ____ CHECKED BY ____ DATE ____

ACREAGES DRAINING TO RETENTION POND NO. 1

* AREA NO.	IMPERVIOUS C=0.9	PERVIOUS C=0.3	TOTAL
11	0.19	0.48	0.67
12	3.0	10.43	13.43
13	0.573	0.028	0.601
14	0.222	0.64	0.86
15	0.12	0.14	0.26
16	0.08	0.24	0.32
17	0.21	0.065	0.28
18	0.09	0.24	0.33
19	0.23	0.53	0.76
20	0.28	0.087	0.37
21	0.15	0.14	0.29
22	0.14	0.77	0.911
24	0.54	0.02	0.56
25	0.27	0.74	1.01
27	0.386	0.024	0.41
30	0.457	0.023	0.48
31	0.354	0.026	0.38
33	0.256	0.014	0.27
37	0.32	0.015	0.33
38	0.75	2.11	2.86
39	0.009	0.441	0.45
40	0.532	0.028	0.56
41	0.28	0.63	0.91
42	0.355	0.025	0.38
50	0.364	0.026	0.39
51	0.434	0.026	0.46
52	0.014	0.376	0.39
61	0.15	0.08	0.23
64	0.32	1.62	1.95
65	0.25	0.77	1.02
66	0.17	0.54	0.71
TOTALS	11.496	21.336	32.832

* For Location of Areas see Drainage Plan

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SHEET NO. 13 OF

PROJECT I4 / SR 535 JOB NO. 360

SUBJECT DRAINAGE CALCS.

DESIGNED BY RFS DATE CHECKED BY DATE

ACREAGES DRAINING TO RETENTION POND No. 2

*AREA NO.	IMPERVIOUS C=0.9 (AC)	PERVIOUS C=0.3 (AC)	TOTAL (AC.)
1	0.222	1.108	1.33
2	0.12	0.08	0.2
3	0.11	0.09	0.2
4	0.27	0.61	0.88
5	0.253	2.45	2.70
6	0.49	3.36	3.85
8	0.10	0.61	0.71
9	0.24	0.31	0.55
10	0.045	0.145	0.19
67	0.32	0.892	1.212
TOTALS	2.17	9.65	11.82

PROJECT I-4 / S.R. 555 JOB NO. 360

SUBJECT DRAINAGE CALCS.

DESIGNED BY RFS DATE ____ CHECKED BY ____ DATE ____

AREAS DRAINING TO FDOT DRAINAGE CANAL

*AREA NO.	IMPERVIOUS C=0.9	PERVIOUS C=0.5	TOTAL
23	0.12	0.04	0.16
26	0.008	0.042	0.05
28	0.01	0.18	0.19
29	0.096	0.334	0.43
32	0.09	0.39	0.48
34	0.015	0.665	0.68
35	0.096	0.434	0.53
36	0.128	0.022	0.15
43	0.26	0.22	0.48
44	0.08	0.07	0.15
45	0.08	0.10	0.18
46	0.06	0.02	0.08
47	0.25	0.08	0.33
48	1.10	0.87	1.97
49	0.44	0.42	0.86
53	0.012	0.268	0.28
54	0.326	0.024	0.35
55	0.75	1.96	2.71
56	0.27	0.29	0.65
57	0.35	0.28	0.63
58	0.16	0.12	0.28
59	0.53	1.16	1.69
60	0.88	0.83	1.71
62	0.20	0.08	0.28
63	0.29	0.16	0.45
TOTALS	6.601	9.149	15.75

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SHEET NO. 15 OF ____

PROJECT I-4 / SR 535 JOB NO. 36

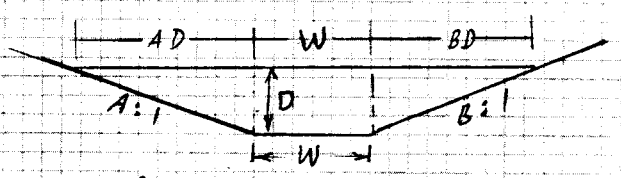
SUBJECT SIDE DITCH FLOW CALCULATION

DESIGNED BY KF DATE 1-28-88 CHECKED BY ____ DATE ____

Using Manning's Formula:

$$V = \frac{1.49}{n} \cdot R^{2/3} \cdot S^{1/2}$$

$$Q = AV = A \frac{1.49}{n} \cdot R^{2/3} \cdot S^{1/2}$$



$$= \left(WD + (A+B)D^2/2\right) \times \frac{1.49}{n} \times S^{1/2} \times \left[\frac{(WD+(A+B)D^2/2)}{W + D\sqrt{A^2+1} + D\sqrt{B^2+1}}\right]^{2/3}$$

where:

$$A = \frac{W + W + AD + BD}{2} \times D = \frac{2W + (A+B)D}{2} \times D$$

$$P = W + D\sqrt{A^2+1} + D\sqrt{B^2+1}$$

$$R = \frac{A}{P}$$

Use programmable Calculator,

Known: A, B, W, Q, S

Solve D by Trial and Error

Let $f[A\ B\ W\ Q\ S\ D] = \left(WD + (A+B)D^2/2\right) \times \frac{1.49}{n} \times S^{1/2} \times \left[\frac{(WD+(A+B)D^2/2)}{W + D\sqrt{A^2+1} + D\sqrt{B^2+1}}\right]^{2/3} - Q = 0$

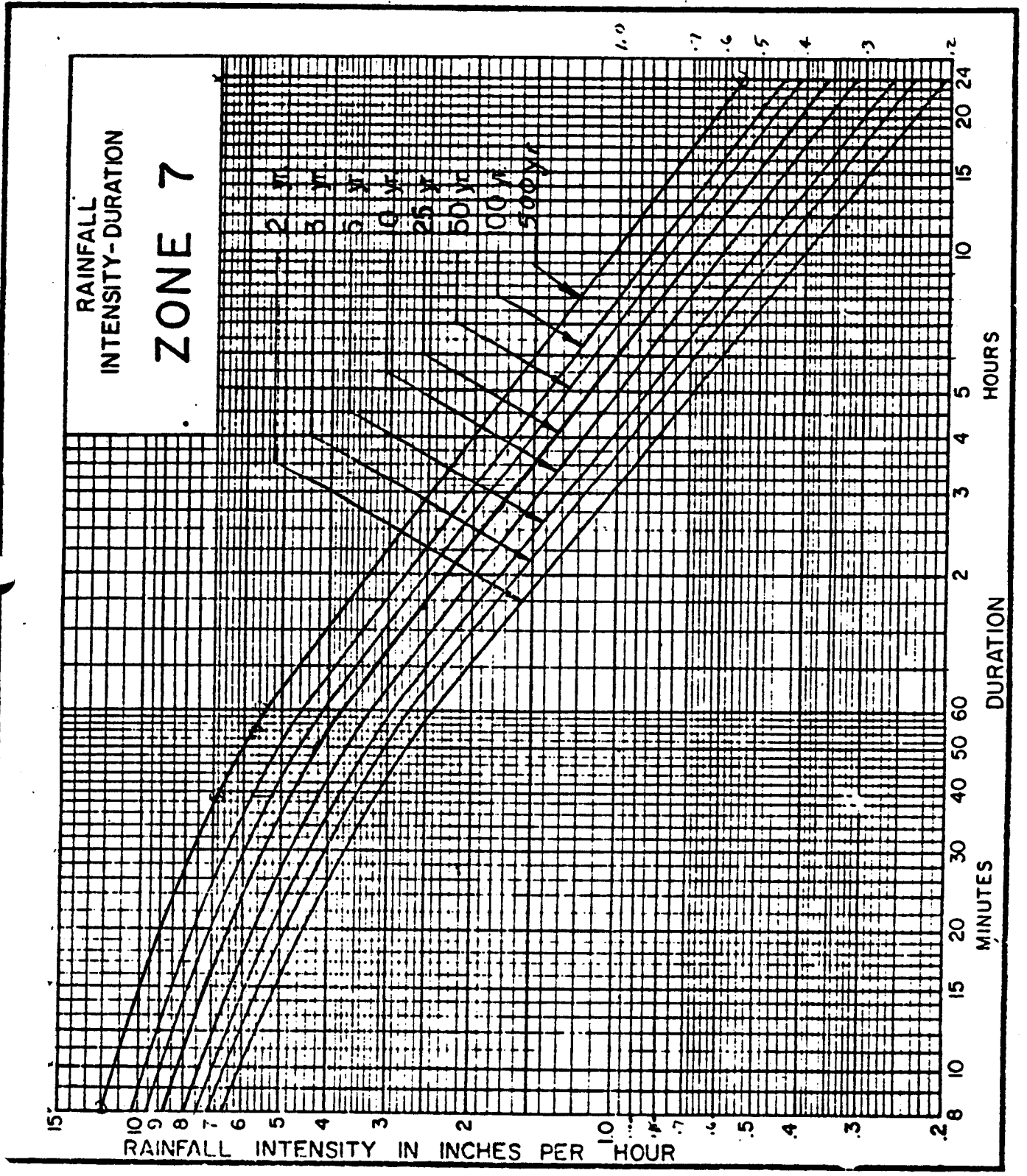
↑ INPUT D to satisfy the right side

↑ use 0.08

after D is known, A and V will be known.

$$A = WD + (A+B)D^2/2$$

$$V = Q/A$$


RAINFALL INTENSITY-DURATION
ZONE 7
2 YR
3 YR
5 YR
10 YR
25 YR
50 YR
100 YR
500 YR
RAINFALL INTENSITY IN INCHES PER HOUR
DURATION
MINUTES
HOURS

JOB NAME: I-4 / SR 535 (50-YR DRAINAGE CALCULATION)
JOB NO.: 360
COMPUTED BY: KENNETH FAN DATE: 1-28-88
CIRCULAR CHANNEL COMPUTATION

FROM S-16 TO S-17
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .01 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7 cfs.
DESIGN FLOW Q= 3.03 cfs.
FLOW DEPTH y = .58 ft.
FLOW VELOCITY v = 5.5 ft./sec.
Smin = 1.866573E-03 ft./ft.
Q/A = 2.470318 ft./sec.

FROM S-17 TO S-18
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .01 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7 cfs.
DESIGN FLOW Q= 6.86 cfs.
FLOW DEPTH y = 1 ft.
FLOW VELOCITY v = 6.5 ft./sec.
Smin = 9.567709E-03 ft./ft.
Q/A = 5.592867 ft./sec.

FROM S-18 TO S-19
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .06 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 17.14 cfs.
DESIGN FLOW Q= 10.27 cfs.
FLOW DEPTH y = .7 ft.
FLOW VELOCITY v = 14.6 ft./sec.
Smin = 2.144375E-02 ft./ft.
Q/A = 8.372934 ft./sec.

NOTE: For the concept of Programming See Sheet No. 1 ~ 5 of Index 5

FROM S-13 TO S-14
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0098 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 6.93 cfs.
DESIGN FLOW Q= 2.34 cfs.
FLOW DEPTH y = .57 ft.
FLOW VELOCITY v = 5.42 ft./sec.
Smin = 1.757335E-03 ft./ft.
Q/A = 2.396943 ft./sec.

FROM S-14 TO S-15
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .41 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 44.81 cfs.
DESIGN FLOW Q= 7.13 cfs.
FLOW DEPTH y = .34 ft.
FLOW VELOCITY v = 26.71 ft./sec.
Smin = 1.033567E-02 ft./ft.
Q/A = 5.812994 ft./sec.

FROM S-12 TO S-10
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .01 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7 cfs.
DESIGN FLOW Q= 2.08 cfs.
FLOW DEPTH y = .47 ft.
FLOW VELOCITY v = 4.97 ft./sec.
Smin = 8.796024E-04 ft./ft.
Q/A = 1.695736 ft./sec.

FROM S-10 TO S-39
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .242 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 34.43 cfs.
DESIGN FLOW Q= 4.56 cfs.

```
FLOW  DEPTH    y =   .31   ft.
FLOW VELOCITY v =   13.47   ft./sec.
Smin =   4.227557E-03   ft./ft.
Q/A =   3.717707   ft./sec.
```

```
FROM S-39 TO S-40
PIPE     DIAMETER=   18   IN.
PIPE       SLOPE =   .006   ft./ft.
MANNING'S  'n'   =   .012   FOR RCP
Q-(Almost full) =   8.809999   cfs.
DESIGN  FLOW  Q=   16.28
SURCHARGED !
```

```
ALTERNATE  1
FROM S-39 TO S-40
PIPE     DIAMETER=   24   IN.          ——— O.K.
PIPE       SLOPE =   .006   ft./ft.
MANNING'S  'n'   =   .012   FOR RCP
Q-(Almost full) =   18.98   cfs.
DESIGN  FLOW  Q=   16.28   cfs.
FLOW  DEPTH    y =   1.43   ft.
FLOW VELOCITY v =   6.79   ft./sec.
Smin =   4.393683E-03   ft./ft.
Q/A =   5.184714   ft./sec.
```

```
ALTERNATE  2
FROM S-39 TO S-40
PIPE     DIAMETER=   21   IN.
PIPE       SLOPE =   .006   ft./ft.
MANNING'S  'n'   =   .012   FOR RCP
Q-(Almost full) =   13.3   cfs.
DESIGN  FLOW  Q=   16.28
SURCHARGED !
```

```
FROM S-23 TO S-22
PIPE     DIAMETER=   42   IN.          ——— O.K.
PIPE       SLOPE =   .0025   ft./ft.
MANNING'S  'n'   =   .012   FOR RCP
Q-(Almost full) =   54.5   cfs.
DESIGN  FLOW   Q=   41.1   cfs.
FLOW  DEPTH    y =   2.27   ft.
FLOW VELOCITY v =   6.22   ft./sec.
```

```
Smin =  1.415795E-03  ft./ft.
Q/A =  4.274015  ft./sec.


ALTERNATE  1
FROM S-23 TO S-22
PIPE     DIAMETER=  36  IN.
PIPE       SLOPE =  .0025  ft./ft.
MANNING'S  'n'  =  .012  FOR RCP
Q-(Almost full) =  36.13  cfs.
DESIGN  FLOW  Q=  41.1
SURCHARGED !


-------------------------------------------------------------


FROM S-34 TO S-33
PIPE     DIAMETER=  15  IN.
PIPE       SLOPE =  .0036  ft./ft.
MANNING'S  'n'  =  .012  FOR RCP
Q-(Almost full) =  4.2  cfs.
DESIGN  FLOW  Q=  7.21
SURCHARGED !


ALTERNATE  1
FROM S-34 TO S-33
PIPE     DIAMETER=  18  IN.
PIPE       SLOPE =  .0036  ft./ft.
MANNING'S  'n'  =  .012  FOR RCP
Q-(Almost full) =  6.83  cfs.
DESIGN  FLOW  Q=  7.21
SURCHARGED !


ALTERNATE  2
FROM S-34 TO S-33
PIPE     DIAMETER=  24  IN.
PIPE       SLOPE =  .0036  ft./ft.
MANNING'S  'n'  =  .012  FOR RCP
Q-(Almost full) =  14.7  cfs.
DESIGN  FLOW   Q=  7.21  cfs.
FLOW  DEPTH    y =  .99  ft.
FLOW VELOCITY v =  4.66  ft./sec.
Smin =  8.617681E-04  ft./ft.
Q/A =  2.296178  ft./sec.


ALTERNATE  3
FROM S-34 TO S-33
PIPE     DIAMETER=  21  IN.        ——— O.K.
PIPE       SLOPE =  .0036  ft./ft.
```

MANNING'S 'n'. = .012 FOR RCP
Q-(Almost full) = 10.3 cfs.
DESIGN FLOW Q= 7.21 cfs.
FLOW DEPTH y = 1.08 ft.
FLOW VELOCITY v = 4.63 ft./sec.
Smin = 1.756631E-03 ft./ft.
Q/A = 2.99909 ft./sec.

FROM S-38 TO S-37
PIPE DIAMETER= 18 IN.
PIPE SLOPE = .0045 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7.63 cfs.
DESIGN FLOW Q= 13.44
SURCHARGED !

ALTERNATE 1
FROM S-38 TO S-37
PIPE DIAMETER= 21 IN.
PIPE SLOPE = .0045 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 11.51 cfs.
DESIGN FLOW Q= 13.44
SURCHARGED !

ALTERNATE 2
FROM S-38 TO S-37
PIPE DIAMETER= 24 IN. —— — O.K.
PIPE SLOPE = .0045 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 16.44 cfs.
DESIGN FLOW Q= 13.44 cfs.
FLOW DEPTH y = 1.38 ft.
FLOW VELOCITY v = 5.84 ft./sec.
Smin = 2.994459E-03 ft./ft.
Q/A = 4.280255 ft./sec.

FROM S-48 TO S-47
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0063 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 5.55 cfs.

DESIGN FLOW Q= 7.65
SURCHARGED !

ALTERNATE 1
FROM S-48 TO S-47
PIPE DIAMETER= 21 IN. — ——— O.K.
PIPE SLOPE = .0063 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 13.62 cfs.
DESIGN FLOW Q= 7.65 cfs.
FLOW DEPTH y = .94 ft.
FLOW VELOCITY v = 5.83 ft./sec.
Smin = 1.377575E-03 ft./ft.
Q/A = 3.182114 ft./sec.

JOB NAME: I-4 / SR 535 50-YR DRAINAGE CALCULATION
JOB NO.: 360
COMPUTED BY: KENNETH FAN DATE: 1-28-88
CIRCULAR CHANNEL COMPUTATION

FROM S-38 TO S-37
PIPE DIAMETER= 24 IN.
PIPE SLOPE = .0045 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 16.44 cfs.
DESIGN FLOW Q= 18.25
SURCHARGED !

ALTERNATE 1
FROM S-38 TO S-37
PIPE DIAMETER= 27 IN.
PIPE SLOPE = .0045 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 22.51 cfs.
DESIGN FLOW Q= 18.25 cfs.
FLOW DEPTH y = 1.54 ft.
FLOW VELOCITY v = 6.3 ft./sec.
Smin = 2.945396E-03 ft./ft.
Q/A = 4.592278 ft./sec.

FROM S-3 TO S-4
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0073 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 5.98 cfs.
DESIGN FLOW Q= 3.2 cfs.
FLOW DEPTH y = .65 ft.
FLOW VELOCITY v = 4.96 ft./sec.
Smin = 2.081899E-03 ft./ft.
Q/A = 2.608917 ft./sec.

FROM S-4 TO S-5
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0097 ft./ft.
MANNING'S 'n' = .012 FOR RCP

```
Q-(Almost full) =   6.89   cfs.
DESIGN   FLOW   Q=   9.42
SURCHARGED !


ALTERNATE   1
FROM S-4 TO S-5
PIPE     DIAMETER=   18   IN.
PIPE        SLOPE =   .0097   ft./ft.
MANNING'S   'n'   =   .012   FOR RCP
Q-(Almost full) =   11.21   cfs.
DESIGN   FLOW    Q=   9.42   cfs.
FLOW   DEPTH     y =   1.05   ft.
FLOW VELOCITY v =   7.11   ft./sec.
Smin =   6.822785E-03   ft./ft.
Q/A =   5.333334   ft./sec.


-------------------------------------------------------------


FROM S-5 TO S-6
PIPE     DIAMETER=   15   IN.
PIPE        SLOPE =   .262   ft./ft.
MANNING'S   'n'   =   .012   FOR CSP
Q-(Almost full) =   35.82   cfs.
DESIGN   FLOW    Q=   13.66   cfs.
FLOW   DEPTH     y =   .54   ft.
FLOW VELOCITY v =   27.22   ft./sec.
Smin =   3.793684E-02   ft./ft.
Q/A =   11.13682   ft./sec.


ALTERNATE   1
FROM S-5 TO S-6
PIPE     DIAMETER=   15   IN.
PIPE        SLOPE =   .262   ft./ft.
MANNING'S   'n'   =   .024   FOR CSP
Q-(Almost full) =   17.91   cfs.
DESIGN   FLOW    Q=   13.66   cfs.
FLOW   DEPTH     y =   .82   ft.
FLOW VELOCITY v =   16.07   ft./sec.
Smin =   .1517474   ft./ft.
Q/A =   11.13682   ft./sec.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FROM S-7 TO S-8
PIPE     DIAMETER=   15   IN.
PIPE        SLOPE =   .0098   ft./ft.
```

MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 6.93 cfs.
DESIGN FLOW Q= 2.94 cfs.
FLOW DEPTH y = .57 ft.
FLOW VELOCITY v = 5.42 ft./sec.
Smin = 1.757335E-03 ft./ft.
Q/A = 2.396943 ft./sec.

FROM S-8 TO S-9
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .353 ft./ft.
MANNING'S 'n' = .024 FOR CSP
Q-(Almost full) = 20.79 cfs.
DESIGN FLOW Q= 6.6 cfs.
FLOW DEPTH y = .48 ft.
FLOW VELOCITY v = 15.04 ft./sec.
Smin = 3.542481E-02 ft./ft.
Q/A = 5.380892 ft./sec.

JOB NAME: I-4/SR535 100-YR DRAINAGE CALCULATION
JOB NO.: 360
COMPUTED BY: KENNETH FAN DATE: 1-28-88
CIRCULAR CHANNEL COMPUTATION

FROM S-16 TO S-17
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .01 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7 cfs.
DESIGN FLOW Q= 3.3 cfs.
FLOW DEPTH y = .6 ft.
FLOW VELOCITY v = 5.62 ft./sec.
Smin = 2.214051E-03 ft./ft.
Q/A = 2.690446 ft./sec.

FROM S-17 TO S-18
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .01 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7 cfs.
DESIGN FLOW Q= 7.49
SURCHARGED !

FROM S-18 TO S-19
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .06 ft./ft.
MANNING'S 'n' = .024 FOR RCP
Q-(Almost full) = 8.57 cfs.
DESIGN FLOW Q= 11.21
SURCHARGED !

ALTERNATE 1
FROM S-18 TO S-19
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .06 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 17.14 cfs.
DESIGN FLOW Q= 11.21 cfs.
FLOW DEPTH y = .74 ft.

FLOW VELOCITY v = 14.89 ft./sec.
Smin = 2.554883E-02 ft./ft.
Q/A = 9.139363 ft./sec.

FROM S-13 TO S-14
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0098 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 6.93 cfs.
DESIGN FLOW Q= 3.2 cfs.
FLOW DEPTH y = .6 ft.
FLOW VELOCITY v = 5.53 ft./sec.
Smin = 2.081899E-03 ft./ft.
Q/A = 2.608917 ft./sec.

FROM S-14 TO S-15
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .41 ft./ft.
MANNING'S 'n' = .024 FOR CSP
Q-(Almost full) = 22.4 cfs.
DESIGN FLOW Q= 7.79 cfs.
FLOW DEPTH y = .51 ft.
FLOW VELOCITY v = 16.61 ft./sec.
Smin = 4.935086E-02 ft./ft.
Q/A = 6.351083 ft./sec.

FROM S-12 TO S-10
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .01 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 7 cfs.
DESIGN FLOW Q= 2.27 cfs.
FLOW DEPTH y = .49 ft.
FLOW VELOCITY v = 5.09 ft./sec.
Smin = 1.047639E-03 ft./ft.
Q/A = 1.850701 ft./sec.

FROM S-10 TO S-39
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .242 ft./ft.
MANNING'S 'n' = .024 FOR CSP
Q-(Almost full) = 17.21 cfs.
DESIGN FLOW Q= 5.04 cfs.
FLOW DEPTH y = .46 ft.
FLOW VELOCITY v = 12.18 ft./sec.
Smin = 2.065764E-02 ft./ft.
Q/A = 4.109045 ft./sec.

FROM S-39 TO S-40
PIPE DIAMETER= 24 IN.
PIPE SLOPE = .006 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 18.98 cfs.
DESIGN FLOW Q= 17.79 cfs.
FLOW DEPTH y = 1.54 ft.
FLOW VELOCITY v = 6.87 ft./sec.
Smin = 5.246526E-03 ft./ft.
Q/A = 5.665605 ft./sec.

FROM S-23 TO S-22
PIPE DIAMETER= 42 IN.
PIPE SLOPE = .0025 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 54.5 cfs.
DESIGN FLOW Q= 45.5 cfs.
FLOW DEPTH y = 2.44 ft.
FLOW VELOCITY v = 6.34 ft./sec.
Smin = 1.735161E-03 ft./ft.
Q/A = 4.731574 ft./sec.

FROM S-34 TO S-33
PIPE DIAMETER= 21 IN.
PIPE SLOPE = .0036 ft./ft.

MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 10.3 cfs.
DESIGN FLOW Q= 7.86 cfs.
FLOW DEPTH y = 1.14 ft.
FLOW VELOCITY v = 4.72 ft./sec.
Smin = 2.087639E-03 ft./ft.
Q/A = 3.269466 ft./sec.

FROM S-38 TO S-37
PIPE DIAMETER= 27 IN.
PIPE SLOPE = .0045 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 22.51 cfs.
DESIGN FLOW Q= 19.89 cfs.
FLOW DEPTH y = 1.64 ft.
FLOW VELOCITY v = 6.39 ft./sec.
Smin = 3.499257E-03 ft./ft.
Q/A = 5.004954 ft./sec.

FROM S-48 TO S-47
PIPE DIAMETER= 21 IN.
PIPE SLOPE = .0063 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 13.62 cfs.
DESIGN FLOW Q= 8.34 cfs.
FLOW DEPTH y = .99 ft.
FLOW VELOCITY v = 5.95 ft./sec.
Smin = 2.350403E-03 ft./ft.
Q/A = 3.469128 ft./sec.

FROM S-3 TO S-4
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0073 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 5.98 cfs.
DESIGN FLOW Q= 3.49 cfs.
FLOW DEPTH y = .69 ft.
FLOW VELOCITY v = 5.06 ft./sec.
Smin = 2.476342E-03 ft./ft.

Q/A = 2.84535 ft./sec.

FROM S-4 TO S-5
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0097 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 6.89 cfs.
DESIGN FLOW Q= 10.27
SURCHARGED !

FROM S-5 TO S-6
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .262 ft./ft.
MANNING'S 'n' = .024 FOR CSP
Q-(Almost full) = 17.91 cfs.
DESIGN FLOW Q= 14.92 cfs.
FLOW DEPTH y = .87 ft.
FLOW VELOCITY v = 16.33 ft./sec.
Smin = .1810329 ft./ft.
Q/A = 12.16408 ft./sec.

FROM S-7 TO S-8
PIPE DIAMETER= 15 IN.
PIPE SLOPE = .0098 ft./ft.
MANNING'S 'n' = .012 FOR RCP
Q-(Almost full) = 6.93 cfs.
DESIGN FLOW Q= 3.2 cfs.
FLOW DEPTH y = .6 ft.
FLOW VELOCITY v = 5.53 ft./sec.
Smin = 2.081899E-03 ft./ft.
Q/A = 2.608317 ft./sec.

FROM S-8 TO S-9
PIPE DIAMETER= 15 IN.

PIPE SLOPE = .353 ft./ft.
MANNING'S 'n' = .024 FOR CSP
Q-(Almost full) = 20.79 cfs.
DESIGN FLOW Q= 7.13 cfs.
FLOW DEPTH y = .5 ft.
FLOW VELOCITY v = 15.36 ft./sec.
Smin = .0413427 ft./ft.
Q/A = 5.812994 ft./sec.

50 -YR DRAINAGE CALCULATION

PROJECT NO. 360 (I-4/SR535)
DATE: 1-27-8

SHEET NO. 32a OF ___

STATION TO STATION /STRCT. TO STRUCT.	LENGTH ft.	% SLOPE	INCR. AREA PER.	INCR. AREA IMP.	C PER.	C IMP.	CA PER.	CA IMP.	CA SUM	TOTAL CA	TC min.	I in/hr	Q (cfs)	DITCH SECTION F.S.	DITCH SECTION B.W. ft.	DITCH SECTION B.S. ft.	PIPE DIA. in.	n	NORML DEPTH ft.	VEL fps	TRAVEL TIME min.	REMARKS
S16 ~ S17	74.5	1.0	0.026	0.364	0.30	0.90	0.01	0.33	0.34	0.34	10	8.9	3.03	-	-	-	15	0.012	0.58	5.5	0.23	(50)
S17 ~ S18	91	1.0	0.63	0.28	0.30	0.90	0.19	0.25	0.44	0.78	10.23	8.8	6.86	-	-	-	15	0.012	1.00	6.5	0.23	(41)
S18 ~ S19	77	6.0	0.03	0.43	0.30	0.90	0.01	0.39	0.40	1.18	10.46	8.7	10.27	-	-	-	15	0.012	0.70	14.6	0.09	(51)
Ramp "C" DITCH S19 ~ S40	580	0.1	0.79	0.55	0.30	0.90	0.24	0.50	0.74	1.92	10.55 +15.10	8.7	16.70	6:1	6.0	7:1	-	0.08	1.60	0.64	15.10	(38)a
										*	25.65											
S13 ~ S14	177	0.98	0.025	0.355	0.30	0.90	0.01	0.32	0.33	0.33	10	8.9	2.94	-	-	-	15	0.012	0.57	5.42	0.54	(42)
S14 ~ S15	27	41.0	0.028	0.532	0.30	0.90	0.01	0.48	0.49	0.82	10.54	8.7	7.13	-	-	-	15	0.024	2.40	16.00	0.02	(40)
DITCH S15 ~ S39	300	0.15	0.46	0.164	0.30	0.90	0.14	0.15	0.29	1.11	10.56 +6.33	8.7	9.66	2.5:1	0	6:1	-	0.08	1.70	0.79	6.33	(61) + (52)
										**	16.89											
S12 ~ S10	184	1.0	0.014	0.256	0.30	0.90	0.004	0.23	0.234	0.234	10	8.9	2.08	-	-	-	15	0.012	0.47	4.97	0.62	(33)
S10 ~ S39	75	24.2	0.015	0.32	0.30	0.90	0.005	0.29	0.295	0.53	10.62	8.6	4.56	-	-	-	15	0.024	0.31	16.00	0.08	(37)
S39 ~ S40	45	0.6	0.91	0.29	0.30	0.90	0.27	0.26	0.53	2.17	** 16.89	7.5	16.28	-	-	-	24	0.012	1.43	6.79	0.11	(21) + (22)
DITCH S40 ~ S23	400	0.1	1.07	0.16	0.30	0.90	0.32	0.144	0.464	4.55	* 25.65	6.3	28.67	6:1	4.0	4:1	-	0.08	2.3	0.80	8.33	(38)b
Pond #1 S23 ~ S22	196	0.25	5.26	1.34	0.30	0.90	1.58	1.21	2.79	7.34	33.98 +0.47 34.45 min	5.6	41.10	-	-	-	use 2-30" 42	0.012	2.27	6.22	0.53	(38)c + (19) + (18) + (16) + (66) + (65) + (64)
											← FOR TRIBO Tc (PROPOSED)											(20) + (28) + (29) + (62) + (63)
S34 ~ S33	65	0.36	1.13	0.52	0.3	0.90	0.34	0.47	0.81	0.81	10	8.9	7.21	-	-	-	21	0.012	1.08	4.63	0.24	
POND #2 S38 ~ S37	72	0.45	4.45	0.79	0.3	0.9	1.34	0.71	2.05	2.05	10	8.9	18.25	-	-	-	27	0.012	1.54	6.30	0.19	(5) + (67) + (1)

NOTE: 1) Manning's Formula was used to calculate all the pipe flows with known Q(cfs) to solve Depth by trial and error See attached computer printout (sheet No. 17 ~ 31) and the concept of Programming in sheet No. 2 ~ 5 of Index 5
2) For Side Ditch Flow calculation, see sheet No. 15

50 -YR DRAINAGE CALCULATION

PROJECT NO.
DATE:

SHEET NO. 32b OF ___

STATION TO STATION /STRCT. TO STRUCT.	LENGTH ft.	% SLOPE	INCR. AREA PER.	INCR. AREA IMP.	C PER.	C IMP.	CA PER.	CA IMP.	CA SUM	TOTAL CA	TC min.	I in/hr	Q (cfs)	DITCH SECTION F.S. ft.	DITCH SECTION B.W. ft.	DITCH SECTION B.S. ft.	PIPE DIA. in.	n	NORML DEPTH ft.	VEL fps	TRAVEL TIME min.	REMARKS
S48 ~ S47 POND #1	135	0.63	1.26	0.53	0.3	0.9	0.38	0.48	0.86	0.86	10	8.9	7.65	-	-	-	21	0.012	0.94	5.83	0.39	(11)+(14)+(15)
S3 ~ S4	78	0.73	0.024	0.386	0.3	0.9	0.01	0.35	0.36	0.36	10	8.9	3.20	-	-	-	15	0.012	0.65	4.96	0.26	(27)
S4 ~ S5	102	0.97	0.74	0.27	0.3	0.9	0.22	0.49	0.71	1.07	10.26	8.8	9.42	-	-	-	15	0.012	-	7.68	0.22	(25)
S5 ~ S6 POND #1	64	26.2	0.02	0.54	0.3	0.9	0.01	0.49	0.50	1.57	10.48	8.7	13.66	-	-	-	15	0.024	0.82	16.07	0.07	(24)
S7 ~ S8	180	0.98	0.026	0.354	0.3	0.9	0.01	0.32	0.33	0.33	10	8.9	2.94	-	-	-	15	0.012	0.57	5.42	0.55	(31)
S8 ~ S9 POND #1	58	35.3	0.023	0.457	0.3	0.9	0.01	0.41	0.42	0.75	10.55	8.8	6.60	-	-	-	15	0.024	0.48	15.04	0.06	(30)

100-YR DRAINAGE CALCULATION

PROJECT NO. 360 (I-4 / SR535)
DATE: 1-28-88

STATION TO STATION /STRCT. TO STRUCT.		% SLOPE	INCR. AREA PER.	INCR. AREA IMP.	C PER.	C IMP.	CA PER.	CA IMP.	CA SUM	TOTAL CA	TC min.	I in/hr	Q (cfs)	DITCH SECTION F.S.	DITCH SECTION B.W. ft.	DITCH SECTION B.S.	PIPE DIA. in.	n	NORML DEPTH ft.	VEL fps	TRAVEL TIME min.	REMARKS
S16 ~ S17	74.5	1.0	0.026	0.364	0.3	0.9	0.01	0.33	0.34	0.34	10	9.7	3.30	—	—	—	15	0.012	0.60	5.62	0.22	
S17 ~ S18	91	1.0	0.63	0.28			0.19	0.25	0.44	0.78	10.22	9.6	7.49	—	—	—	15	0.012	—	6.10	0.25	1920
S18 ~ S19	77	6.0	0.03	0.43			0.01	0.39	0.40	1.18	10.47	9.5	11.21	—	—	—	15	0.012	0.74	14.89	0.09	
S19 DITCH ~ S40	580	0.1	0.79	0.55			0.24	0.50	0.74	1.92	10.56	9.5	18.24	6:1	6.0	7:1	—	0.08	1.65	0.66	14.65	
										*	14.65 / 125.21											
S13 ~ S14	177	0.98	0.025	0.355			0.01	0.32	0.33	0.33	10	9.7	3.20	—	—	—	15	0.012	0.60	5.53	0.53	
S14 ~ S15	27	41.0	0.028	0.532			0.01	0.48	0.49	0.82	10.53	9.5	7.79	—	—	—	15	0.024	0.51	16.61	0.02	
S15 DITCH ~ S39	300	0.15	0.46	0.164			0.14	0.15	0.29	1.11	10.55	9.5	10.55	25:1	0	6:1	—	0.08	1.75	0.81	6.17	
										**	+ 6.17 / 16.72											
S12 ~ S10	184	1.0	0.014	0.256			0.004	0.23	0.234	0.234	10	9.7	2.27	—	—	—	15	0.012	0.49	5.09	0.60	
S10 ~ S39	75	24.2	0.015	0.32			0.005	0.29	0.295	0.53	10.6	9.5	5.04	—	—	—	15	0.024	0.46	12.18	0.10	
S39 ~ S40	45	0.6	0.91	0.29			0.27	0.26	0.53	2.17	** 16.72	8.2	17.79	—	—	—	24	0.012	1.54	6.87	0.11	
S40 DITCH ~ S23	400	0.1	1.07	0.16			0.32	0.44	0.44	4.55	* 25.21	7.0	31.85	6:1	4.0	4:1	—	0.08	2.4	0.83	8.03	
S23 POND #1 ~ S22	175	0.25	5.26	1.34			1.58	1.21	2.79	7.34	33.34	6.2	45.50	—	—	—	42	0.012	2.44	6.34	0.46	
S34 ~ S33	65	0.36	1.13	0.52			0.34	0.47	0.81	0.81	10	9.7	7.86	—	—	—	21	0.012	1.14	4.72	0.23	
S38 POND #2 ~ S37	72	0.45	4.45	0.79			1.34	0.71	2.05	2.05	10	9.7	19.89	—	—	—	27	0.012	1.64	6.39	0.19	

100-YR DRAINAGE CALCULATION

PROJECT NO. 360 (I-4 / SR 535)
DATE: 1-28-88

STATION TO STATION /STRCT. TO STRUCT.	SIDE	% SLOPE	INCR. AREA PER.	INCR. AREA IMP.	C PER.	C IMP.	CA PER.	CA IMP.	CA SUM	TOTAL CA	TC min.	I in/hr	Q (cfs)	DITCH SECTION F.S. ft.	DITCH SECTION B.W. ft.	DITCH SECTION B.S. ft.	PIPE DIA. in.	n	NORML DEPTH ft.	VEL fps	TRAVEL TIME min.	REMARKS
S48 ~ POND #1 S47	135	0.63	1.26	0.53	0.3	0.9	0.38	0.48	0.86	0.86	10	9.7	8.34	–	–	–	21	0.012	0.99	5.95	0.38	
S3 ~ S4	78	0.73	0.024	0.386	0.3	0.9	0.01	0.35	0.36	0.36	10	9.7	3.49	–	–	–	15	0.012	0.69	5.06	0.26	
S4 ~ S5	102	0.97	0.74	0.127	0.3	0.9	0.22	0.49	0.71	1.07	10.26	9.6	10.27	–	–	–	15	0.012	–	8.37	0.20	
S5 ~ POND #1 S6	64	26.2	0.02	0.54	0.3	0.9	0.01	0.49	0.50	1.57	10.46	9.5	14.92	–	–	–	15	0.024	0.87	16.33	0.07	
S7 ~ S8	180	0.98	0.026	0.354	0.3	0.9	0.01	0.32	0.33	0.33	10	9.7	3.20	–	–	–	15	0.012	0.60	5.53	0.54	
S8 ~ POND #1 S9	58	35.3	0.023	0.457	0.3	0.9	0.01	0.41	0.42	0.75	10.54	9.5	7.13	–	–	–	15	0.024	0.50	15.36	0.06	

500-YR DRAINAGE CALCULATION

PROJECT NO. 360 (I-4/SR535)
DATE: 2-2-88

SHEET NO. 34a OF ___

STATION TO STATION /STRCT. TO STRUCT.	L (ft.)	X SLOPE	INCR. AREA PER.	INCR. AREA IMP.	C PER.	C IMP.	CA PER.	CA IMP.	CA SUM	TOTAL CA	TC min.	I in/hr	Q (cfs)	DITCH SECTION F.S. ft.	DITCH SECTION B.W. ft.	DITCH SECTION B.S. ft.	PIPE DIA. in.	n	NORML DEPTH ft.	VEL fps	TRAVEL TIME min.	REMARKS
S16 ~ S17	74.5	1.0	0.026	0.364	0.3	0.9	0.01	0.33	0.34	0.34	10	11.3	3.84	~	–	–	15	0.012	0.66	5.84	0.21	(50)
S17 ~ S18	91	1.0	0.63	0.28			0.19	0.25	0.44	0.78	10.21	11.25	8.78	–	–	–	15	0.012	Full	7.15	0.21	(41)
S18 ~ S19	77	6.0	0.03	0.43			0.01	0.39	0.40	1.18	10.42	11.20	13.22	–	–	–	15	0.012	0.82	15.41	0.08	(51)
S19 DITCH ~ S40	580	0.1	0.79	0.55			0.24	0.50	0.74	1.92	10.50 + 13.62 = 24.12 *	11.20	21.50	6:1	6.0	7:1	–	0.08	1.75	0.71	13.62	(38)a
S13 ~ S14	177	0.98	0.025	0.355			0.01	0.32	0.33	0.33	10	11.3	3.73	–	–	–	15	0.012	0.65	5.75	0.51	(42)
S14 ~ S15	27	41.0	0.028	0.532			0.01	0.48	0.49	0.82	10.51	11.20	9.18	–	–	–	15	0.024	0.56	17.35	0.03	(40)
S15 DITCH ~ S39	300	0.15	0.46	0.164			0.14	0.15	0.29	1.11	10.53 + 5.81 = 16.34 **	11.20	12.43	25:1	0	6:1	–	0.08	1.84	0.86	5.81	(61) + (52)
S12 ~ S10	184	1.0	0.014	0.256			0.0041	0.23	0.234	0.234	10	11.3	2.64	–	–	–	15	0.012	0.53	5.3	0.58	(33)
S10 ~ S39	75	24.2	0.015	0.32			0.005	0.29	0.295	0.53	10.58	11.15	5.91	–	–	–	15	0.024	0.51	12.72	0.10	(37)
S39 ~ S40	45	0.6	0.91	0.29			0.27	0.26	0.53	2.17	** 16.34	9.90	21.48	–	–	–	24	0.012	FULL	6.84	0.11	(21) + (22)
S40 DITCH ~ S23	400	0.1	1.07	0.16			0.32	0.144	0.464	4.55	* 24.12	8.45	38.45	6:1	4.0	4:1	–	0.08	2.58	0.88	7.58	(38)b
S23 POND #1 ~ S22	175	0.25	5.26	1.34			1.58	1.21	2.79	7.34	31.70	7.55	55.42	–	–	–	use 2-30" 42	0.012	FULL	5.65	0.52	(38)c + (19) + (18) + (16) + (66) + (65) + (64)
S34 ~ S33	65	0.36	1.13	0.52			0.34	0.47	0.81	0.81	10	11.3	9.15	–	–	–	21	0.012	1.28	4.84	0.22	(26) + (28) + (34) + (62) + (63)
S38 POND #2 ~ S37	72	0.45	4.45	0.79			1.34	0.71	2.05	2.05	10	11.3	23.17	–	–	–	27	0.012	FULL	5.83	0.21	(5) + (67) + (1)

500 -YR DRAINAGE CALCULATION

PROJECT NO. 360(I-4/SR535)
DATE: 2-3-88

SHEET NO. 346 OF ___

STATION TO STATION /STRCT. TO STRUCT.	LENGTH ft.	X SLOPE	INCR. AREA PER.	INCR. AREA IMP.	C PER.	C IMP.	CA PER.	CA IMP.	CA SUM	TOTAL CA	TC min.	I in/hr	Q (cfs)	DITCH SECTION F.S. ft.	DITCH SECTION B.W. ft.	DITCH SECTION B.S. ft.	PIPE DIA. in.	n	NORML DEPTH ft.	VEL fps	TRAVEL TIME min.	REMARKS
S48 ~ S47 (POND #1)	135	0.63	1.26	0.53	0.3	0.9	0.38	0.48	0.86	0.86	10	11.3	9.72	-	-	-	21	0.012	1.09	6.15	0.37	(11)+(14)+(15)
S3 ~ S4	78	0.73	0.024	0.386	0.3	0.9	0.01	0.35	0.36	0.36	10	11.3	4.07	-	-	-	15	0.012	0.76	5.24	0.25	(27)
S4 ~ S5	102	0.97	0.74	0.127	0.3	0.9	0.22	0.49	0.71	1.07	10.25	11.25	12.04	-	-	-	15	0.012	FULL	9.81	0.17	(25)
S5 ~ S6 (POND #1)	64	26.2	0.02	0.54	0.3	0.9	0.01	0.49	0.50	1.57	10.42	11.20	17.58	-	-	-	15	0.024	0.62	29.05	0.04	(24)
S7 ~ S8	180	0.98	0.026	0.354	0.3	0.9	0.01	0.32	0.33	0.33	10	11.3	3.73	-	-	-	15	0.012	0.65	5.75	0.52	(31)
S8 ~ S9 (POND #1)	58	35.3	0.023	0.457	0.3	0.9	0.01	0.41	0.42	0.75	10.52	11.2	8.40	-	-	-	15	0.024	0.55	16.04	0.06	(30)

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT Sizing of POND #1 to POND #2 Connection Pipe

DESIGNED BY KF DATE 2/1/87 CHECKED BY ____ DATE ____

POND #2 to POND #1 CONNECTION PIPE

From Pond #1 routing results shown on page 13 of Index 4, at the peak time of pond #2 (12.02 hr., see sheet No. 37), the water surface elevation in pond #1 is only at 107.00 or 107.25 as shown on sheet No. 43. Therefore, the flow in the pipe is likely controled by inlet. The pipe size was assumed as 24" dia RCP. The STAGE Vs DISCHARGE is obtained from Nomograph, and the STAGE Vs STORAGE is obtained from Sheet No. 2. With these information pond #2 flood routing for 100-yr was performed using TR-20 RESVOR Commend. The maximum outfall Q is 6.71 cfs and the maximum water level is 108.40 (See Sheet No. 40). The critical elevation for pond #2 is approximately 111.00.

For better efficiency, instead of using 24" circular pipe, 19"x30" Oval RCP having the equivalent cross-section area of 24" circular pipe is selected.

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*******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*******************

JOB TR-20                    FULLPRINT          SUMMARY
TITLE 360 I-4/SR535 INTERCHANGE STORMWATER QUANTITY CONTROL
TITLE     INTERCONNECTED POND #1 & #2 INDIVIDUAL INFLOW HYDROGRAPH
 3 STRUCT      01          stage        Q cfs      Storage Ac-ft
 8                         107.0        0.0        0.0
 8                         108.0        4.0        1.81
 8                         108.2        5.6        2.12
 8                         108.4        6.7        2.63
 8                         108.6        9.0        3.03
 8                         108.8        11.0       3.44
 8                         109.0        12.5       3.81
 8                         109.2        14.0       4.26
 8                         109.4        16.0       4.70
 8                         109.6        17.5       5.14
 8                         109.8        19.0       5.56
 8                         110.0        20.0       6.00
 9 ENDTBL
 6 RUNOFF 1 001       5 .051        60.0        0.57      1 1 0 1 0 1 ← Runoff to pond #1 (100-YR)
 6 RUNOFF 1 001       6 .018        60.0        0.20      1 1 0 1 0 1 ← Runoff to pond #2 (100-YR)
 6 RESVOR 2    01 6   7 107.0                             1 1 1 1 0 1 ← Pond #1 to pond #2 Routing.
   ENDATA
 7 INCREM 6             0.1
 7 COMPUT 7 001      01            10.5        1.0       2 2  03  05
   ENDCMP 1
   ENDJOB 2

*********************************END OF 80-80 LIST*********************************
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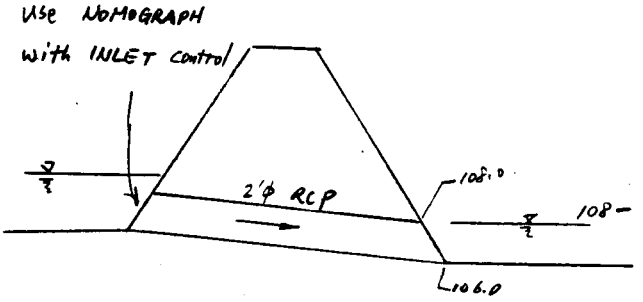


TR20 XEQ 02-01-88 15:22 I-4/SR535 INTERCHANGE STORMWATER QUANTITY CONTROL JOB 1 PASS 1
REV PC 09/83(.2) INTERCONNECTED POND #1 & #2 INDIVIDUAL INFLOW HYDROGRAPH PAGE 1

EXECUTIVE CONTROL OPERATION INCREM MAIN TIME INCREMENT = .10 HOURS RECORD ID

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID
STARTING TIME = .00 RAIN DEPTH = 10.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 3 STORM NO.= 5 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .05 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	131.27	(RUNOFF)
13.67	4.47	(RUNOFF)
23.56	3.40	(RUNOFF)

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .05 SQ.MI.

8.00	DISCHG	.00	.00	.00	.00	.00	.01	.03	.06	.11	.17
9.00	DISCHG	.24	.32	.40	.50	.60	.70	.81	.92	1.05	1.13
10.00	DISCHG	1.32	1.45	1.60	1.76	1.96	2.13	2.48	2.83	3.24	3.73
11.00	DISCHG	4.27	4.88	5.55	6.30	7.13	8.26	10.61	15.71	26.55	45.84
12.00	DISCHG	76.25	109.93	123.53	127.33	108.90	85.78	66.38	52.96	43.50	36.48
13.00	DISCHG	31.22	27.26	24.11	21.53	19.55	17.89	16.48	15.26	14.20	13.33
14.00	DISCHG	12.60	11.97	11.42	10.91	10.45	10.00	9.56	9.14	8.72	8.36
15.00	DISCHG	8.09	7.90	7.78	7.69	7.58	7.42	7.20	6.99	6.83	6.72
16.00	DISCHG	6.66	6.62	6.59	6.58	6.57	6.57	6.54	6.44	6.26	6.05
17.00	DISCHG	5.87	5.73	5.65	5.60	5.57	5.55	5.54	5.53	5.52	5.45
18.00	DISCHG	5.31	5.10	4.90	4.74	4.63	4.57	4.52	4.43	4.48	4.47
19.00	DISCHG	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.45	4.40
20.00	DISCHG	4.25	4.04	3.83	3.67	3.56	3.49	3.45	3.42	3.40	3.39
21.00	DISCHG	3.38	3.38	3.38	3.37	3.37	3.37	3.38	3.38	3.38	3.38
22.00	DISCHG	3.38	3.38	3.38	3.38	3.39	3.39	3.39	3.39	3.39	3.39
23.00	DISCHG	3.39	3.39	3.40	3.40	3.40	3.40	3.40	3.40	3.39	3.32
24.00	DISCHG	3.17	2.89	2.46	1.92	1.37	.92	.59	.38	.25	.16
25.00	DISCHG	.10	.07	.04	.03	.01	.01	.00			

RUNOFF VOLUME ABOVE BASEFLOW = 5.30 WATERSHED INCHES, 174.50 CFS-HRS, 14.42 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .02 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .20 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0267 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.02	75.19	(RUNOFF)
23.65	1.20	(RUNOFF)

TR20 XEQ 02-01-88 15:22 I-4/SR535 INTERCHANGE STORMWATER QUANTITY CONTROL JOB 1 PASS 1
REV PC 09/83(.2) INTERCONNECTED POND #1 & #2 INDIVIDUAL INFLOW HYDROGRAPH PAGE 2

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .02 SQ.MI.		
8.00	DISCHG	.00	.00	.00	.00	.00	.02	.05	.08	.10	.13
9.00	DISCHG	.16	.20	.24	.28	.32	.35	.40	.46	.51	.56
10.00	DISCHG	.60	.66	.74	.81	.94	1.06	1.22	1.45	1.62	1.90
11.00	DISCHG	2.14	2.41	2.75	3.03	3.53	4.10	8.20	16.43	24.31	30.45
12.00	DISCHG	74.25	66.02	33.08	20.25	14.01	11.14	3.84	8.82	8.33	7.44
13.00	DISCHG	6.84	6.39	5.83	5.59	5.13	4.34	4.68	4.31	4.15	3.34
14.00	DISCHG	3.81	3.68	3.43	3.40	3.21	3.08	2.95	2.76	2.63	2.67
15.00	DISCHG	2.67	2.67	2.67	2.65	2.47	2.35	2.32	2.31	2.31	2.31
16.00	DISCHG	2.31	2.31	2.31	2.32	2.32	2.32	2.22	2.04	1.37	1.95
17.00	DISCHG	1.34	1.34	1.34	1.95	1.95	1.95	1.95	1.95	1.33	1.74
18.00	DISCHG	1.62	1.58	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57
19.00	DISCHG	1.57	1.57	1.57	1.58	1.58	1.58	1.58	1.58	1.55	1.37
20.00	DISCHG	1.24	1.20	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19
21.00	DISCHG	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19
22.00	DISCHG	1.19	1.19	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
23.00	DISCHG	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.18	.99
24.00	DISCHG	.86	.60	.21	.06	.02	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 5.32 WATERSHED INCHES, 61.82 CFS-HRS, 5.11 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 107.00

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.03	6.71	108.40

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .02 SQ.MI.		
8.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
8.00	ELEV	107.00	107.00	107.00	107.00	107.00	107.00	107.00	107.00	107.00	107.00
9.00	DISCHG	.01	.01	.02	.02	.02	.03	.04	.04	.05	.06
9.00	ELEV	107.00	107.00	107.00	107.00	107.01	107.01	107.01	107.01	107.01	107.02
10.00	DISCHG	.07	.08	.09	.10	.12	.13	.15	.17	.20	.23
10.00	ELEV	107.02	107.02	107.02	107.03	107.03	107.03	107.04	107.04	107.05	107.06
11.00	DISCHG	.26	.29	.34	.38	.44	.50	.60	.81	1.17	1.82
11.00	ELEV	107.06	107.07	107.08	107.10	107.11	107.12	107.15	107.20	107.29	107.46
12.00	DISCHG	2.32	4.31	5.85	6.22	6.41	6.52	6.59	6.64	6.68	6.70
12.00	ELEV	107.73	108.04	108.25	108.31	108.35	108.37	108.38	108.39	108.40	108.40
13.00	DISCHG	6.71	6.71	6.69	6.68	6.65	6.62	6.59	6.56	6.51	6.47
13.00	ELEV	108.40	108.40	108.40	108.40	108.39	108.39	108.38	108.37	108.37	108.36
14.00	DISCHG	6.42	6.38	6.33	6.28	6.22	6.17	6.11	6.06	6.00	5.94
14.00	ELEV	108.35	108.34	108.33	108.32	108.31	108.30	108.29	108.28	108.27	108.26
15.00	DISCHG	5.88	5.82	5.77	5.71	5.66	5.60	5.47	5.34	5.21	5.09
15.00	ELEV	108.25	108.24	108.23	108.22	108.21	108.20	108.18	108.17	108.15	108.14
16.00	DISCHG	4.97	4.86	4.75	4.65	4.55	4.46	4.37	4.28	4.18	4.09
16.00	ELEV	108.12	108.11	108.09	108.08	108.07	108.06	108.05	108.03	108.02	108.01
17.00	DISCHG	4.00	3.96	3.93	3.89	3.85	3.82	3.79	3.75	3.72	3.69

17.00	ELEV	108.00	107.99	107.98	107.97	107.96	107.96	107.95	107.94	107.93	107.92
18.00	DISCHG	3.65	3.61	3.58	3.54	3.50	3.47	3.43	3.40	3.37	3.34
18.00	ELEV	107.91	107.90	107.89	107.88	107.88	107.87	107.86	107.85	107.84	107.83
19.00	DISCHG	3.30	3.27	3.24	3.21	3.18	3.15	3.12	3.10	3.07	3.04
19.00	ELEV	107.83	107.82	107.81	107.80	107.80	107.79	107.78	107.77	107.77	107.76
20.00	DISCHG	3.01	2.98	2.94	2.91	2.88	2.85	2.82	2.79	2.76	2.73
20.00	ELEV	107.75	107.74	107.74	107.73	107.72	107.71	107.70	107.70	107.69	107.68
21.00	DISCHG	2.70	2.68	2.65	2.62	2.60	2.57	2.55	2.52	2.50	2.48
21.00	ELEV	107.68	107.67	107.66	107.66	107.65	107.64	107.64	107.63	107.62	107.62
22.00	DISCHG	2.45	2.43	2.41	2.39	2.36	2.34	2.32	2.30	2.28	2.26
22.00	ELEV	107.61	107.61	107.60	107.60	107.59	107.59	107.58	107.58	107.57	107.57
23.00	DISCHG	2.24	2.22	2.21	2.19	2.17	2.15	2.13	2.12	2.10	2.08
23.00	ELEV	107.56	107.56	107.55	107.55	107.54	107.54	107.53	107.53	107.53	107.52
24.00	DISCHG	2.06	2.04	2.01	1.97	1.94	1.90	1.87	1.84	1.80	1.77
24.00	ELEV	107.52	107.51	107.50	107.49	107.48	107.48	107.47	107.46	107.45	107.44
25.00	DISCHG	1.74	1.71	1.68	1.64	1.62	1.59	1.56	1.53	1.50	1.47
25.00	ELEV	107.43	107.43	107.42	107.41	107.40	107.40	107.39	107.38	107.38	107.37
26.00	DISCHG	1.45	1.42	1.40	1.37	1.35	1.32	1.30	1.27	1.25	1.23
26.00	ELEV	107.36	107.36	107.35	107.34	107.34	107.33	107.32	107.32	107.31	107.31
27.00	DISCHG	1.21	1.18	1.16	1.14	1.12	1.10	1.08	1.06	1.04	1.02
27.00	ELEV	107.30	107.30	107.29	107.29	107.28	107.28	107.27	107.27	107.26	107.26
28.00	DISCHG	1.00	.99	.97	.95	.93	.92	.90	.88	.87	.85
28.00	ELEV	107.25	107.25	107.24	107.24	107.23	107.23	107.23	107.22	107.22	107.21
29.00	DISCHG	.84	.82	.81	.79	.78	.76	.75	.74	.72	.71
29.00	ELEV	107.21	107.21	107.20	107.20	107.19	107.19	107.19	107.18	107.18	107.18

RUNOFF VOLUME ABOVE BASEFLOW = 4.37 WATERSHED INCHES, 57.68 CFS-HRS, 4.77 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 1 RECORD ID

EXECUTIVE CONTROL OPERATION ENDJOB RECORD ID

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 3 STORM 5													
XSECTION 1	RUNOFF	.05	2	2	.10	.0	10.50	24.00	5.30	—	12.24	131.27	2573.3
XSECTION 1	RUNOFF	.02	2	2	.10	.0	10.50	24.00	5.32	—	12.02	75.19	4177.3
STRUCTURE 1	RESVOR	.02	2	2	.10	.0	10.50	24.00	4.97	108.40	13.03	6.71	373.0

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners
WASHINGTON, D.C. ATLANTA CHICAGO

SHEET NO. 41 OF ____

PROJECT I-4/SR535 JOB NO. 360

SUBJECT POND #1 Accumulated Inflow Volume

DESIGNED BY KF DATE 1-29-88 CHECKED BY ____ DATE ____

(1) Time (Hr.)	(2) Q cfs	(3) Av. Q CFS	(4) ΔV ft³	(5) ΣV ft³	(6) V Ac.FT.	(7) SURFACE EL.	(8)	(9)	(10)	(11)	(12)
8.4	0	0	0	0	0	107.0					
9	0.24	0.12	259	259	0.01	107.0					
10	1.32	0.78	2808	3,067	0.07	107.0					
11	4.27	2.80	10,080	13,147	0.30	107.04					
11.5	8.26	6.27	11,280	24,427	0.56	107.08					
12.0	76.25	42.26	76,068	100,495	2.31	107.25					
12.24	131.27	103.76	186,768	287,263	6.59	107.73					
12.5	85.78	108.53	104,584	388,847	8.93	107.99					
13.0	31.22	58.50	105,300	494,147	11.34	108.03					
13.5	17.89	24.56	44,208	538,355	12.36	108.32					
14.0	12.60	15.25	27,450	565,805	12.99	108.38					
14.5	10.0	11.30	20,340	586,145	13.46	108.43					
15.0	8.09	9.05	16,290	602,435	13.83	108.50					
↓											
from Sheet No. 37											

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners
WASHINGTON, D.C. ATLANTA CHICAGO

SHEET NO. 42 OF ____

PROJECT I-4/SR535 JOB NO. 360

SUBJECT POND #2 Accumulated Inflow Volume
without considering outflow

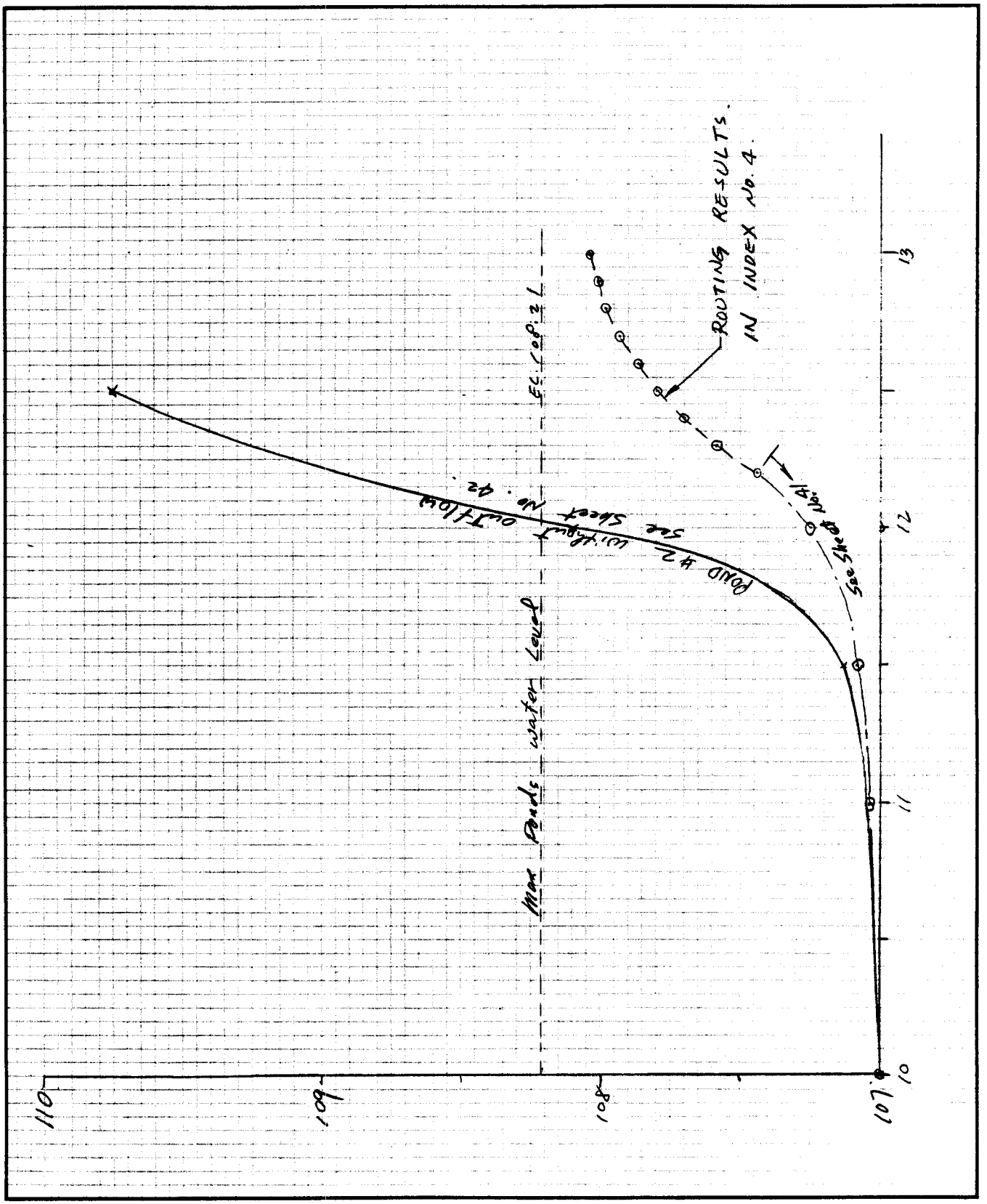
DESIGNED BY KF DATE 1-29-88 CHECKED BY ____ DATE ____

(1) Time (Hr.)	(2) Q cfs	(3) $\Delta t \cdot Q$ cfs	(4) ΔV ft^3	(5) ΣV ft^3	(6) V Ac-Ft.	(7) SURFACE EL. ft	(8)	(9)	(10)	(11)	(12)
10.0	0.6		0	0	0	0					
11.0	2.14	1.37	4,932	4,932	0.11	101.05					
11.5	4.10	3.12	5,616	10,548	0.24	101.13					
12.0	75.19	39.65	74,370	84,918	1.88	105.10					
12.5	11.14	93.17	155,394	237,312	5.45	109.75					
13.0	6.84	8.99	16,182	253,494	5.82						
13.5	4.94	5.89	10,602	264,096	6.06						
14.0	3.81	4.38	7,884	271,980	6.24						
14.5	3.08	3.45	6,210	278,190	6.39						
15.0	2.67	2.88	5,184	283,374	6.51						
	from	Sheet	No. 38								

PROJECT _____ JOB NO. _____

SUBJECT _____

DESIGNED BY _____ DATE _____ CHECKED BY _____ DATE _____



Sheet No. 25.

JOELSON

PRICE LIST

JOELSON OVAL CONCRETE PIPE is made in accordance with ASTM C 507 standards and meets DOT requirements.

Effective Date 7-15-83
(Supersedes 1-1-81 Price Lists)

SIZE	ROUND EQUIVALENT	WALL THICKNESS	OUTSIDE DIMENSION	STANDARD LENGTH	APPROX. WEIGHT PER FOOT	APPROX. WATER-WAY AREA SQUARE FT.	PRICE PER FOOT CLASS III	PRICE PER FOOT CLASS IV
*12 x 18	15"	2½"	17 x 23	4'	125	1.3	6.50	8.05
12 x 18	15"	2½"	17 x 23	8'	165	1.3	7.00	8.55
14 x 23	18"	2¾"	19½ x 28½	8'	180	1.8	9.50	11.85
19 x 30	24"	3¼"	25½ x 36½	8'	288	3.3	14.75	16.30
24 x 38	30"	3¾"	31½ x 45½	8'	413	5.1	21.25	24.50
29 x 45	36"	4½"	38 x 54	8'	625	7.4	27.25	31.50
34 x 53	42"	5"	44 x 63	8'	815	10.2	38.00	43.30
38 x 60	48"	5½"	49 x 71	8'	1000	12.9	48.50	55.40
43 x 68	54"	6"	55 x 80	8'	1250	16.6	60.00	71.25
48 x 76	60"	6½"	61 x 89	8'	1475	20.5	73.00	87.25
58 x 91	72"	7½"	74 x 106	8'	2040	29.5	102.00	121.90

30 Cents per Ft. additional for stamped pipe
*12 x 18 stamped pipe quoted on request only

Miter end sections available — Add $2.00 per foot per piece
Perforated pipe available — Add $1.00 per foot

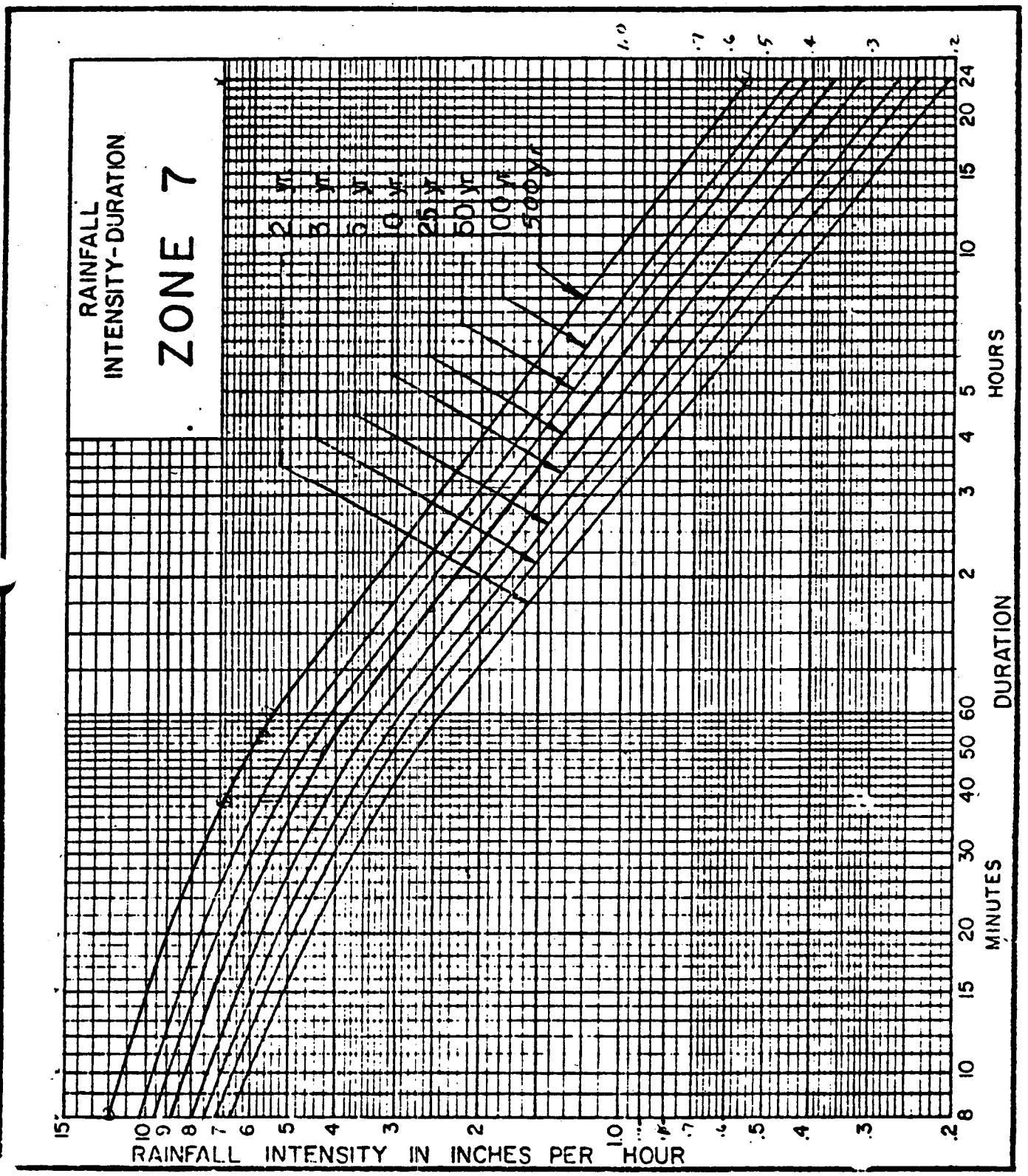
— We stock approved Ram-Nek Preformed Flexible Plastic Joint Sealant —
1 inch Ram-Nek $30.00 per ctn.
1½ inch Ram-Nek $35.00 per ctn.
1¾ inch Ram-Nek $33.00 per ctn.
2 inch Ram-Nek $33.00 per ctn.

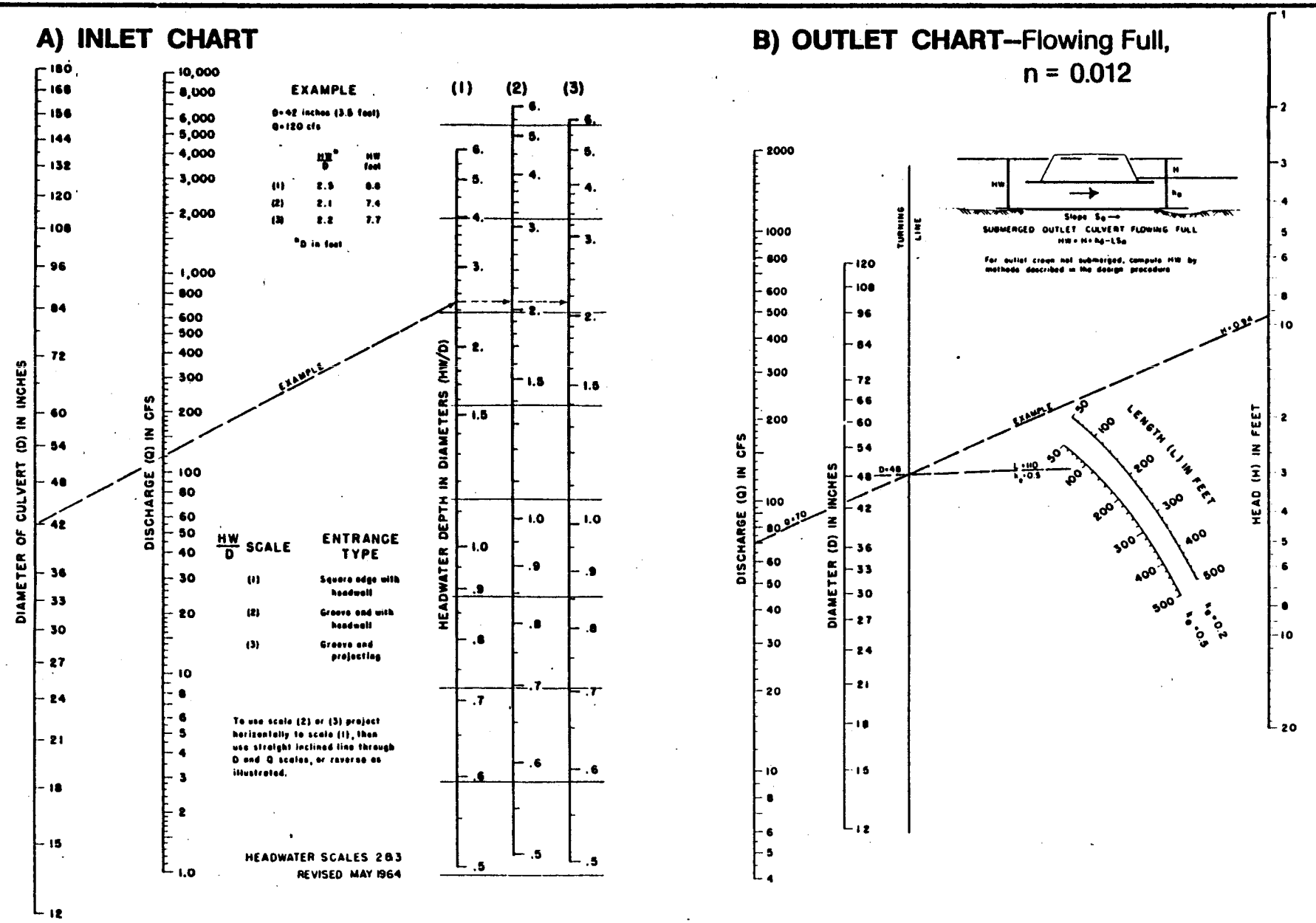
Ram-Nek Primer $6.50 gal.

Above prices include delivery in our area, to job site in truck load lots, as near point of use as trucks can proceed under their own power. Delivery outside our area and partial loads subject to delivery charges. Prices are subject to change without notice.

KISSIMMEE, FLORIDA **VENICE, FLORIDA**

(813) 493-9709


RAINFALL
INTENSITY-DURATION
ZONE 7
2 yr
3 yr
6 yr
10 yr
25 yr
50 yr
100 yr
500 yr
DURATION
MINUTES
HOURS
RAINFALL INTENSITY IN INCHES PER HOUR



Reference: USDOT, FHWA, HEC-5 (1965).

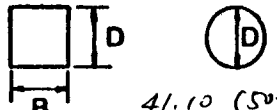
FIGURE 8-4
Inlet and Outlet Nomographs for Circular Concrete Pipe Culverts

SHEET NO. 47

PROJECT: I-4/SR535 DESIGNER: KF

DATE: 2/1/87

HYDROLOGIC AND CHANNEL INFORMATION



D = Diameter or Height
B = Span

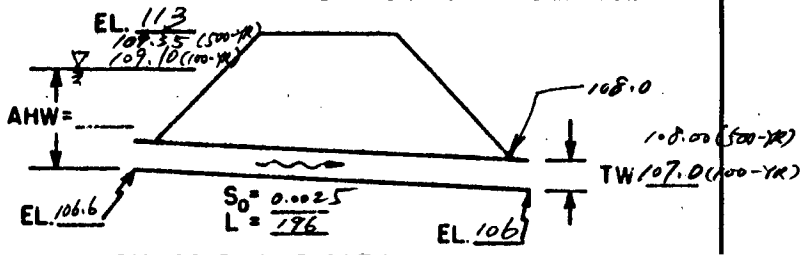
Q_1 = 41.10 (50-YR) / 45.50 (100-YR.) TW_1 = 107.0 / 107.0

Q_2 = 55.42 (500-YR.) TW_2 = 108.0

(Q_1 = DESIGN DISCHARGE, SAY Q_{25}; Q_2 = CHECK DISCHARGE, SAY Q_{50} OR Q_{100})

SKETCH

S-23 → S-22 SR535 STATION: 671+00



MEAN STREAM VELOCITY = _____

MAX. STREAM VELOCITY = _____ LS_0 0.60

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE D	SIZE B	HEADWATER COMPUTATION: INLET CONTROL Q/B	INLET CONTROL HW/D	INLET CONTROL HW	OUTLET CONTROL K_e	OUTLET CONTROL H	OUTLET CONTROL d_c	OUTLET CONTROL $\frac{d_c+D}{2}$	OUTLET CONTROL TW	OUTLET CONTROL DTW	OUTLET CONTROL LS_0	OUTLET CONTROL HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
2-24"x38" OVAL RCP (100-YR)	45.50/2 = 22.8	Equiv. 30"ϕ			1.0'	2.5'									109.1	6.34		
" (500-YR)	55.42/2 = 27.71	4			1.1	2.75'									109.35	5.65		
" (50-YR)	41.1/2 = 20.6	4			0.91	2.28									108.88	6.22		

SUMMARY & RECOMMENDATIONS:

500-YR FLOOD might not overtop the roadway, the calculated "AHW" above should be lower due to the outfall DITH Control DPI 107.66 @ Ramp "C" STA. 25+35(±)

Design by K F. Checked by _____ Approved by _____

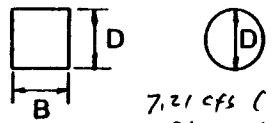
FIGURE 8-2
Worksheet for Culvert Capacity Calculations

SHEET No. 45

PROJECT: I-4/SR535 DESIGNER: KF

DATE: 1-29-88

HYDROLOGIC AND CHANNEL INFORMATION



D = Diameter or Height
B = Span

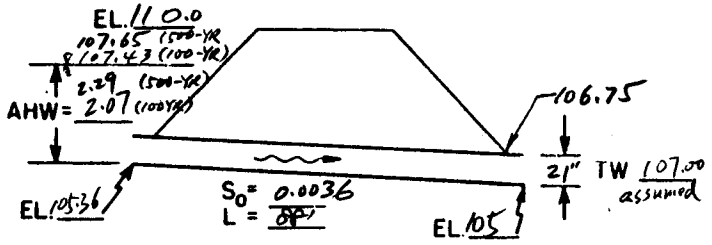
Q_1 = 7.21 cfs (50-Yr.) 7.86 cfs (100-Yr.) TW_1 = 107.00

Q_2 = 9.15 cfs (500-Yr.) TW_2 = 107.00

(Q_1 = DESIGN DISCHARGE, SAY Q_{25}
Q_2 = CHECK DISCHARGE, SAY Q_{50} OR Q_{100})

(S-34) → (S-33) SKETCH Ramp "A"

STATION: 26+00



MEAN STREAM VELOCITY = _____

MAX. STREAM VELOCITY = _____

LS_o 0.36

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE		HEADWATER COMPUTATION											CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
				INLET CONTROL			OUTLET CONTROL HW=H+DTW-LS_o											
		D	B	$\frac{Q}{B}$	$\frac{HW}{D}$	HW	K_e	H	d_c	$\frac{d_c+D}{2}$	TW	DTW	LS_o	HW				
21"φ RCP (100-YR)	7.86	21"					0.5	0.43			107.00			2.07	107.43	3.3		
" (500-YR)	9.15	21"					0.5	0.65			107.00			2.29	107.65	3.80		
" (50-YR)	7.21	21"					0.5	0.38			107.0			2.02	107.38	3.0		

SUMMARY & RECOMMENDATIONS:

Design by KF. Checked by _____ Approved by _____

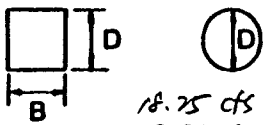
FIGURE 8-2
Worksheet for Culvert Capacity Calculations

SHEET IVa 49

PROJECT: I-4/SR535 DESIGNER: KF

DATE: 2/1/88

HYDROLOGIC AND CHANNEL INFORMATION



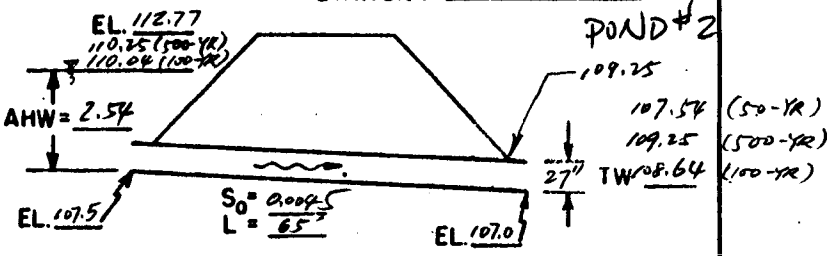
Q_1 = 18.25 cfs (50-YR) / 19.89 cfs (100-YR) TW = 107.54 / 108.64

Q_2 = 23.17 cfs (500-YR) TW = 109.25

(Q_1 = DESIGN DISCHARGE, SAY Q_{25}
Q_2 = CHECK DISCHARGE, SAY Q_{50} OR Q_{100})

S-38 → S-37 SKETCH Ramp "B"

STATION: 20+00



MEAN STREAM VELOCITY = _____

MAX. STREAM VELOCITY = _____ LS_0 0.5

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE		HEADWATER COMPUTATION											CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
				INLET CONTROL			OUTLET CONTROL HW=H+DTW-LS_0											
		D	B	$\frac{Q}{B}$	$\frac{HW}{D}$	HW	K_e	H	d_c	$\frac{d_c+D}{2}$	TW	DTW	LS_0	AHW				
27"ϕ RCP.	100-YR 19.89	27"			1.13	2.54									110.04	6.39		
"	500-YR 23.17	27"			1.22	2.75									110.25	5.83		
"	50-YR 18.25	27"			1.01	2.27									109.77	6.30		

SUMMARY & RECOMMENDATIONS:

At the time of peak pond #2 surface water level is still lower than the crown El. 109.25

Design by KF Checked by _____ Approved by _____

FIGURE 8-2
Worksheet for Culvert Capacity Calculations

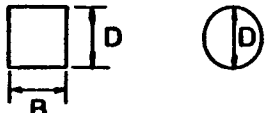
SHEET NO. 50

PROJECT: I-4/SR535 (Job #360)

DESIGNER: KF

DATE: 2/1/88

HYDROLOGIC AND CHANNEL INFORMATION



D = Diameter or Height
B = Span

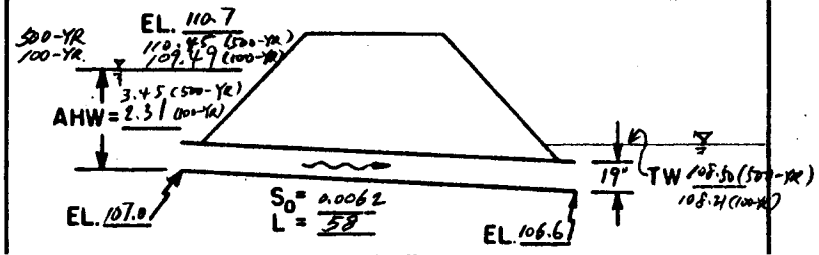
Q_1 = 17.79 cfs (100-YR) TW_1 = 108.21

Q_2 = 21.48 cfs (500-YR) TW_2 = 108.50

(Q_1 = DESIGN DISCHARGE, SAY Q_{25}
Q_2 = CHECK DISCHARGE, SAY Q_{50} OR Q_{100})

S-39 → S-40 SKETCH Ramp "C"

STATION: 17+31



MEAN STREAM VELOCITY = ____

MAX. STREAM VELOCITY = ____

LS_0 0.40

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE		HEADWATER COMPUTATION											CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
				INLET CONTROL			OUTLET CONTROL HW = H + DTW − LS_0											
		D	B	$\frac{Q}{B}$	$\frac{HW}{D}$	HW	K_e	H	d_c	$\frac{d_c+D}{2}$	TW	DTW	LS_0	AHW				
19"x30" OVAL RCP EQUIV. 24" RCP WITH INDEX #270 FLARED INLET	50-YR 16.28	24"					0.5	1.03			107.92				108.95	5.2		
"	100-YR 17.79	24"					0.5	1.28			108.21			2.31	109.49	5.7		
"	500-YR 21.48	24"					0.5	1.95			108.50			3.45	110.45	6.8		

SUMMARY & RECOMMENDATIONS:

Design by K.F. Checked by _____ Approved by _____

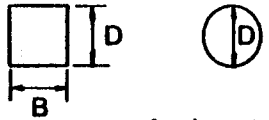
FIGURE 8-2
Worksheet for Culvert Capacity Calculations

SHEET No. 51

PROJECT: I-4/SR535 DESIGNER: KF

DATE: 2/1/87

HYDROLOGIC AND CHANNEL INFORMATION



D = Diameter or Height
B = Span

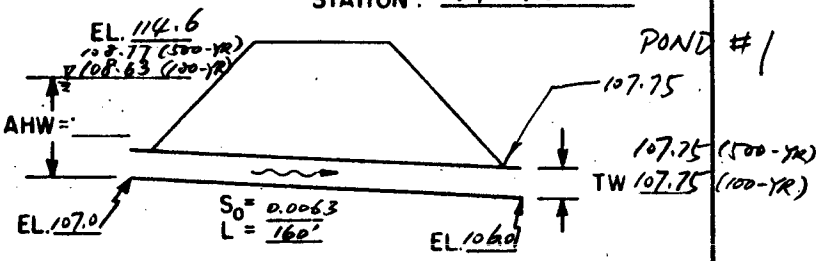
Q_1 = 8.34 cfs (100-YR) TW_1 = 107.75

Q_2 = 9.72 TW_2 = 107.75

(Q_1 = DESIGN DISCHARGE, SAY Q_{25}
Q_2 = CHECK DISCHARGE, SAY Q_{50} OR Q_{100})

S-48 → S-47 SKETCH RAMP "G"

STATION: 14+90



MEAN STREAM VELOCITY = ____

MAX. STREAM VELOCITY = ____ LS_0 1.0

CULVERT DESCRIPTION (ENTRANCE TYPE)	Q	SIZE		HEADWATER COMPUTATION											CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
				INLET CONTROL			OUTLET CONTROL HW=H+DTW-LS_0											
		D	B	$\frac{Q}{B}$	$\frac{HW}{D}$	HW	K_e	H	d_c	$\frac{d_c+D}{2}$	TW	DTW	LS_0	HW				
21" RCP	8.34	21"			0.93	1.63	~~0.5~~	~~0.65~~			~~107.75~~			~~1.40~~	108.63	6.15		
"	9.72	"			1.01	1.77	0.5	~~0.80~~			~~107.75~~			~~1.65~~	108.77	5.95		
"	7.65	"			0.86	1.51	0.5	~~0.53~~			~~107.75~~				108.51	5.83		

SUMMARY & RECOMMENDATIONS:

At the time of peak, Pond #1 surface water level is still lower than 107.75

Design by KF Checked by _____ Approved by _____

FIGURE 8-2
Worksheet for Culvert Capacity Calculations

STATE PROJECT NO.:
F.A. PROJECT NO.
W.P. NO.
DATE:

STRUCTURE NO.	DESIGN FLOOD 2% PROB. 50 YR. FREQ.		BASE FLOOD 1% PROB. 100 YR. FREQ.		OVERTOPPING FLOOD				GREATEST FLOOD			
	DISCHARGE	STAGE	DISCHARGE	STAGE	DISCHARGE	STAGE	PROB. %	FREQ. YR.	DISCHARGE	STAGE	PROB. %	FREQ. YR.
S-23	41.1	108.9	45.5	109.1	-	-	-	-	55.4	109.4	0.2	500
S-34	7.2	107.4	7.9	107.4	-	-	-	-	9.2	107.7	0.2	500
S-38	18.3	109.8	19.9	110.0	-	-	-	-	23.2	110.3	0.2	500
S-39	16.3	109.0	17.8	109.5	-	-	-	-	21.5	110.5	0.2	500
S-48	7.7	108.5	8.3	108.6	-	-	-	-	9.7	108.8	0.2	500

NOTE: THE HYDRAULIC DATA IS SHOWN FOR INFORMATIONAL PURPOSES ONLY. TO INDICATE THE FLOOD DISCHARGES AND WATER SURFACE ELEVATIONS WHICH MAY BE ANTICIPATED IN ANY GIVEN YEAR. THIS DATA WAS GENERATED USING HIGHLY VARIABLE FACTORS DETERMINED BY A STUDY OF THE WATERSHED. MANY JUDGEMENTS AND ASSUMPTIONS ARE REQUIRED TO ESTABLISH THESE FACTORS. THE RESULTANT HYDRAULIC DATA IS SENSITIVE TO CHANGES, PARTICULARLY OF ANTECEDENT CONDITIONS, URBANIZATION, CHANNELIZATION AND LAND USE. USERS OF THIS DATA ARE CAUTIONED AGAINST THE ASSUMPTION OF PRECISION WHICH CAN NOT BE ATTAINED. DISCHARGES ARE CUBIC FEET PER SECOND AND STAGES ARE IN REFERENCE TO NGVD.

DEFINITIONS

DESIGN FLOOD: THE FLOOD SELECTED BY THE F.D.O.T. TO BE UTILIZED TO ASSURE STANDARD LEVEL OF HYDRAULIC PERFORMANCE.

BASE FLOOD: THE FLOOD HAVING A 1% CHANCE OF BEING EXCEEDED IN ANY YEAR. (100 YEAR FREQUENCY)

OVERTOPPING FLOOD: THE FLOOD WHERE FLOW OCCURS (A) OVER THE HIGHWAY (B) OVER A WATERSHED DIVIDE OR (C) THRU EMERGENCY RELIEF STRUCTURES.

GREATEST FLOOD: THE MOST SEVERE FLOOD WHICH CAN BE PREDICTED WHERE OVERTOPPING IS NOT PRACTICABLE. NORMALLY ONE WITH A 0.2% CHANCE OF BEING EXCEEDED IN ANY YEAR. (500 YEAR FREQUENCY)

DESIGNED BY: KF DATE: 2-11-88

CHECKED BY: _____ DATE: _____

SUPERVISED BY: _____ DATE: _____

*APPROVED BY: _____ DATE: _____

SCS-ENG.-264 DRAFT
REV. May 1982

TR-20
JOB & TITLE

DHA FILE ID: 360KF1.T20

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist: KF Date 1-8-88 SHEET 1 OF 5

1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0
JOB TR-20		FULLPRINT		SUMMARY			
TITLE 360	I-4/SR535 INTERCHANGE STORMWATER QUANTY CONTROL						
TITLE	FOR INTERCONNECTED PONDS ROUTING CONDITION 1.						

JOB Record (required)

Columns 1-3	JOB
Columns 5-9	TR-20
Columns 11-17	HOLDOUT (not operational) Use only if a holdout hydrograph is desired.
Columns 21-24	ECON Use only if peak discharge output for ECON2/URB1 is desired. Locations for this output must be selected for inclusion in Summary Tables 1 and 3 also. Such designation can be made using summary option explained below (columns 51-57) or on Standard Control (column 71).
Columns 31-39	FULLPRINT Use only if FULLPRINT option is desired.
Columns 41-48	PASS=XXX Use only if PASS number, XXX, is greater than 1. XXX is an integer, right justified.
Columns 51-57	SUMMARY Use only if Summary Tables 1 and 3 are to include all Standard Control operations (except SAVHOV).
Columns 61-67	NOPLOTS Use if no cross section rating plots are desired. ENDPLOT Use if only cross section rating plots are desired with no routings.
Columns 73-80	Optional user information, printed at top of input listing.

TITLE Records (one required, second is optional)

Columns 1-5	TITLE
Columns 7-9	XXX (first TITLE record only). An optional user file number, XXX, is an integer, right justified.
Columns 11-80	Both titles may be any characters desired.

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SCS-ENG.-269 DRAFT
REV. May 1982

TR-20
STRUCTURE DATA
STRUCTURE NO. 01

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

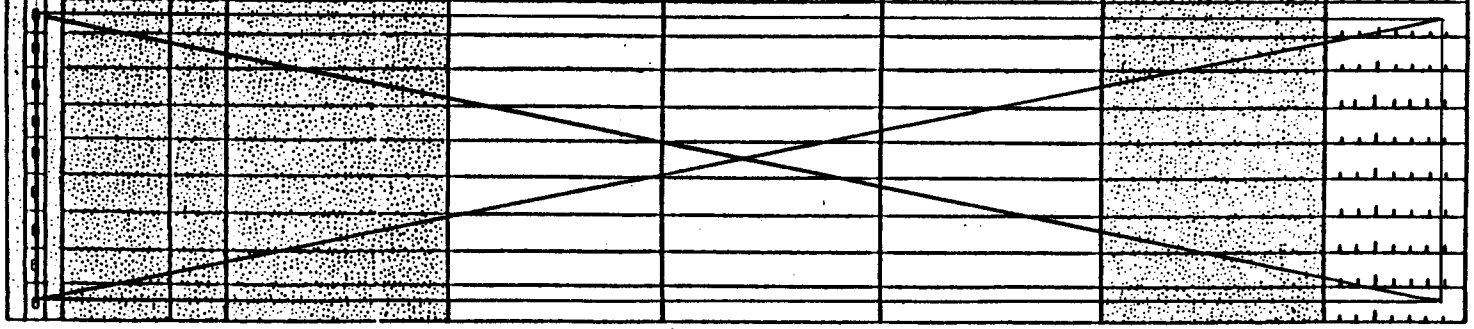
T-5

Watershed 1-4/SR535 Hydrologist KF Date 1-8-88 SHEET 2 OF 5

1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
DATA CODE / TABLE NAME		DATA FIELD NO. 1	DATA FIELD NO. 2	DATA FIELD NO. 3			RECORD IDENT.
3 STRUCT	STRUCTURE ID. (01-99) 01	IMPORTANT: Line out unused lines. Data fields require decimal points.					40

NOTE: Maximum of 20 data records allowed.

	Elevation, Ft.	Discharge, CFS	Storage, Acre, Ft.		
8	106.0	0.0	0.0		50
8	107.0	0.01	7.79		60
8	107.66	0.02	14.50		70
8	108.0	4.16	18.65		80
8	108.5	16.17	24.70		85
8	109.0	32.57	30.97		90



9	ENDTBL	NOTE: This record must be the last record of this table.	100

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SCS-ENG.-273 DRAFT
REV. May 1982

TR-20
STANDARD CONTROL FOR WATERSHED

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-80 SHEET 3 OF 5

DATA CODE	OPERATION NAME	OPERATION NO.	X SECT./STRUCT. XSECT ID.	X SECT./STRUCT. STRUCT ID.	HYDRO. NUMBER INPUT #1	HYDRO. NUMBER INPUT #2	HYDRO. NUMBER OUTPUT	DATA FIELD #1	DATA FIELD #2	DATA FIELD #3	OUTPUT OPTIONS PRINT PEAK	PRINT HYD	PRINT ELEV	PRINT VOL	FILE	SUM	RECORD IDENT.
6	RUNOFF	1					6	AREA, SQ. MI.	RUNOFF CURVE NO.	T_c, HRS.							EXAMPLES DO NOT ENTER
6	RESVOR	2			6		7	SURF. EL. AT T=0, FT.									
6	REACH	3			7		5	LENGTH, FT.	(OPTIONAL) END AREA COEFF. (X)	(OPTIONAL) EXPONENT (M)							
6	ADDHYD	4			5	6	7										
6	SAVMOV	5															
6	DIVERT	6						OUT1 DISCHARGE, CFS	OUT 1, Decimal % D.A	OUT2, I.D.							
	ENDATA							This record is to be used only at end of all standard control records.									
			Right justify these fields					IMPORTANT: Data Fields No. 1, 2, and 3 require decimal points.									
6	RUNOFF	1	001				5	0.0182	57.0	0.95	1	1	0	1	0	1	110
6	RUNOFF	1	001				6	0.0698	60.0	0.57	1	1	0	1	0	1	120
6	RESVOR	2		01	6		7	106.0			1	1	1	1	0	1	130
	ENDATA																140

NOTE: This form was suggested by members of Massachusetts Planning Staff.

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SCS-ENG.-274 DRAFT
REV. May 1982

TR-20
EXECUTIVE CONTROL FOR WATERSHED

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 4 OF 5

DATA CODE	OPERATION		DATA FIELD #1	DATA FIELD #2	DATA FIELD #3		RECORD IDENT.
7	LIST	This record is used for printout of tabular data and standard control list that are currently effective.					
7	BASFLO	5	NEW BASE FLOW, CFS OR VOLUME IN INCHES	IF VOLUME IS IN DATA FIELD No. 1 PEAK TIME, HOURS	BASE TIME, HOURS		
7	INCREM	6	MAIN TIME INCREMENT, HRS.	This increment is required for initial computations. Remains in force until new increment is entered.			
7	COMPUT	7	STARTING TIME HOURS	RAINFALL DEPTH INCHES (Set depth and duration to 10 for actual rainfall)	RAINFALL DURATION HOURS	RAIN TABLE NO. / AMC / ALTERNATE NO. / STORM NO.	EXAMPLES DO NOT ENTER
	ENDCMP	1	This record is required at "end" of a watershed, it may follow a series of COMPUT records.				
	ENDJOB	2	This record terminates routing computation and precedes the PEAKS record, if any.				

EXAMPLES DO NOT ENTER

FROM (OR XSECT / STRUCT) THRU (OR XSECT / STRUCT)

Right justify these fields

IMPORTANT: Data Fields No. 1, 2, and 3 require decimal points.

7	INCREM	6				0.1							160
7	COMPUT	7	00.1		0.1		4.5	1.0	2	2	0.1	0.1	170
	ENDCMP	1											180
7	COMPUT	7	00.1		0.1		5.0	1.0	2	2	0.1	0.2	190
	ENDCMP	1											200
7	COMPUT	7	0.0.1		0.1		6.5	1.0	2	2	0.1	0.3	210
	ENDCMP	1											220
7	COMPUT	7	00.1		0.1		8.0	1.0	2	2	0.1	0.4	230
	ENDCMP	1											240

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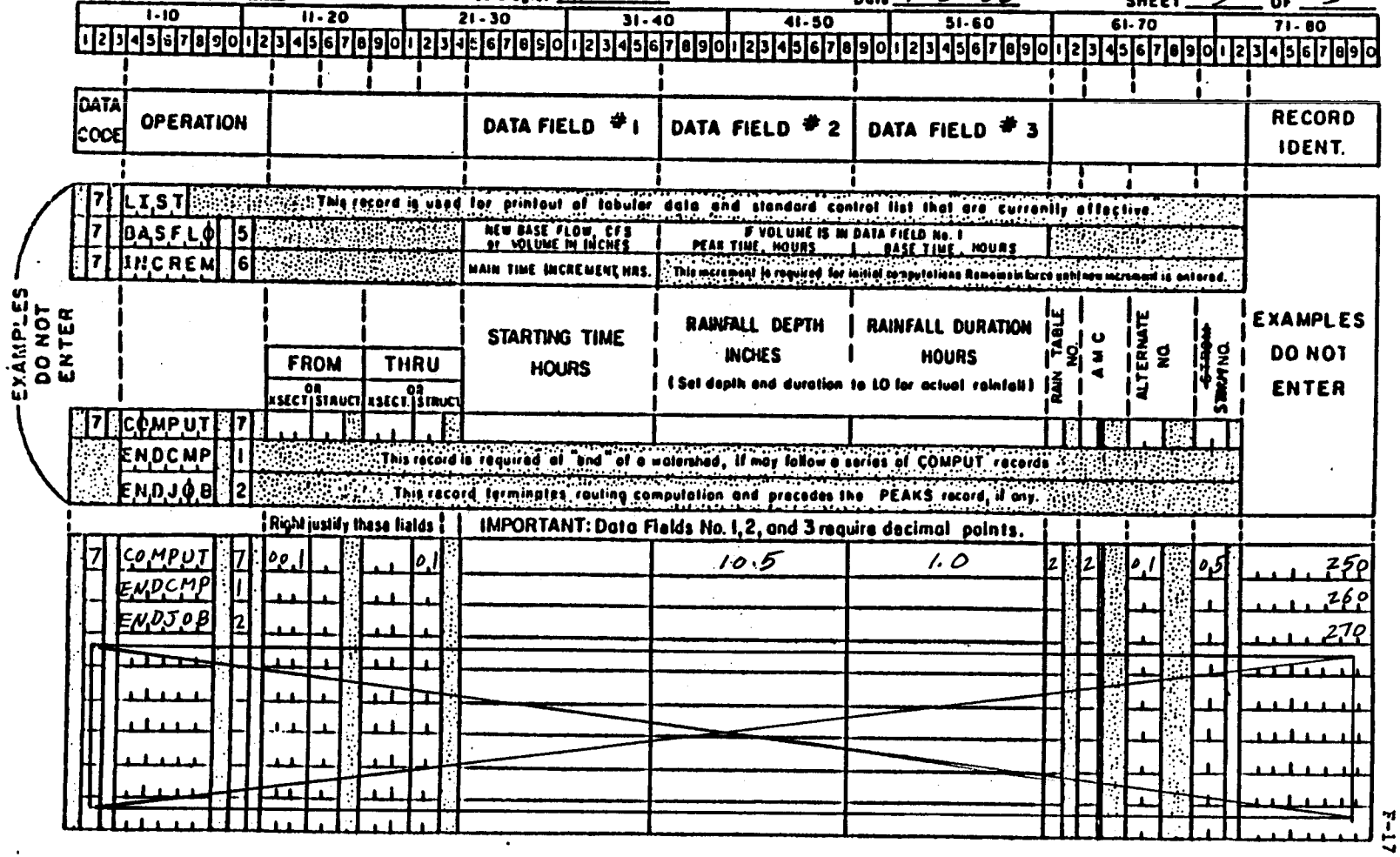
SCS-ENG.-274 DRAFT
REV. May 1982

TR-20
EXECUTIVE CONTROL FOR WATERSHED

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 5 OF 5



F-17

DHA FILE ID: 360KF1.T20

CONDITION 1.

```
**********80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY**********

JOB TR-20                    FULLPRINT          SUMMARY                    10
TITLE 360 I-4/SR536 INTERCHANGE STORMWATER QUANTITY CONTROL                 20
TITLE     FOR INTERCONNECTED PONDS FLOOD ROUTING                            30
 3 STRUCT      01                                                           40
 8                      106.0      0.0        0.0                          50
 8                      107.0      0.01       7.79                         60
 8                      107.66     0.02       14.50                        70
 8                      108.00     4.16       18.65                        80
 8                      108.5      16.17      24.70                        85
 8                      109.00     32.57      30.97                        90
 9 ENDTBL                                                                   100
 6 RUNOFF 1 001       5 0.0182     57.0       0.95      1 1 0 1 0 1        110 <-- EXIST.
 6 RUNOFF 1 001       6 0.0698     60.0       0.57      1 1 0 1 0 1        120 <-- PROP.
 6 RESVOR 2    01 6   7 106.0                           1 1 1 1 0 1        130 <-- OUTFLOW ROUTING
   ENDATA                                                                   140
 7 INCREM 6             0.1                                                160
 7 COMPUT 7 001       01            4.5        1.0       2 2  01  01       170 <-- 2-YR
   ENDCMP 1                                                                 180
 7 COMPUT 7 001       01            5.0        1.0       2 2  01  02       190 <-- 5-YR
   ENDCMP 1                                                                 200
 7 COMPUT 7 001       01            6.5        1.0       2 2  01  03       210 <-- 10-YR
   ENDCMP 1                                                                 220
 7 COMPUT 7 001       01            8.0        1.0       2 2  01  04       230 <-- 25-YR
   ENDCMP 1                                                                 240
 7 COMPUT 7 001       01            10.5       1.0       2 2  01  05       250 <-- 100-YR
   ENDCMP 1                        11.5       1.0       2 2  01  05       260 <-- 500-YR
   ENDJOB 2                                                                 270

**********END OF 80-80 LIST**********
```

EXECUTIVE CONTROL OPERATION INCREM MAIN TIME INCREMENT = .10 HOURS RECORD ID 16

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 17
STARTING TIME = .00 RAIN DEPTH = 4.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 1 STORM NO.= 1 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .95 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.60	4.09	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .02 SQ.MI.		
11.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.04	.20
12.00	DISCHG	.58	1.21	2.04	2.91	3.59	3.98	4.09	3.97	3.68	3.31
13.00	DISCHG	2.94	2.65	2.40	2.18	1.99	1.83	1.68	1.55	1.44	1.34
14.00	DISCHG	1.26	1.18	1.11	1.05	1.00	.95	.90	.86	.82	.78
15.00	DISCHG	.75	.72	.70	.68	.66	.65	.63	.62	.61	.59
16.00	DISCHG	.58	.57	.57	.56	.56	.55	.55	.55	.54	.54
17.00	DISCHG	.53	.52	.51	.50	.49	.49	.48	.48	.48	.47
18.00	DISCHG	.47	.46	.45	.44	.43	.42	.41	.41	.40	.40
19.00	DISCHG	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
20.00	DISCHG	.38	.38	.37	.36	.35	.34	.33	.32	.31	.31
21.00	DISCHG	.31	.31	.30	.30	.30	.30	.30	.30	.30	.30
22.00	DISCHG	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
23.00	DISCHG	.30	.30	.30	.30	.30	.30	.31	.31	.31	.30
24.00	DISCHG	.30	.29	.28	.25	.22	.19	.16	.13	.10	.08
25.00	DISCHG	.06	.05	.04	.03	.02	.02	.01	.01	.01	.01
26.00	DISCHG	.00									

RUNOFF VOLUME ABOVE BASEFLOW = .85 WATERSHED INCHES, 3.96 CFS-HRS, .82 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.29	29.19	(RUNOFF)
23.67	1.31	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .07 SQ.MI.		
11.00	DISCHG	.00	.00	.00	.00	.00	.00	.03	.22	1.23	4.36
12.00	DISCHG	11.00	20.24	27.33	29.16	26.45	21.78	17.52	14.51	12.34	10.68

13.00	DISCHG	9.41	8.40	7.58	6.89	6.34	5.88	5.48	5.12	4.79	4.52
14.00	DISCHG	4.29	4.09	3.92	3.76	3.61	3.47	3.32	3.18	3.05	2.93
15.00	DISCHG	2.84	2.78	2.74	2.72	2.68	2.63	2.56	2.49	2.43	2.40
16.00	DISCHG	2.38	2.37	2.37	2.36	2.37	2.37	2.36	2.33	2.27	2.19
17.00	DISCHG	2.13	2.08	2.06	2.04	2.03	2.03	2.03	2.03	2.02	2.00
18.00	DISCHG	1.95	1.88	1.81	1.75	1.71	1.69	1.67	1.66	1.66	1.66
19.00	DISCHG	1.66	1.66	1.66	1.66	1.66	1.66	1.67	1.67	1.67	1.65
20.00	DISCHG	1.59	1.51	1.44	1.38	1.34	1.31	1.30	1.29	1.28	1.28
21.00	DISCHG	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
22.00	DISCHG	1.28	1.28	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.30
23.00	DISCHG	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.31	1.30	1.28
24.00	DISCHG	1.22	1.11	.95	.74	.53	.35	.23	.15	.10	.06
25.00	DISCHG	.04	.03	.02	.01	.01	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 1.02 WATERSHED INCHES, 45.89 CFS-HRS, 3.79 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 106.00

----- HYDROGRAPH CONTAINS NO FLOW -----

RUNOFF VOLUME ABOVE BASEFLOW = .00 WATERSHED INCHES, .00 CFS-HRS, .00 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 1 RECORD ID 18

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 19
STARTING TIME = .00 RAIN DEPTH = 5.00 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 1 STORM NO.= 2 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.58	5.67	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .02 SQ.MI.		
11.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.02	.11	.38
12.00	DISCHG	.37	1.89	3.06	4.23	5.12	5.59	5.66	5.43	4.98	4.44
13.00	DISCHG	3.91	3.50	3.14	2.85	2.58	2.36	2.16	1.99	1.84	1.71
14.00	DISCHG	1.59	1.49	1.40	1.32	1.25	1.19	1.13	1.08	1.03	.98
15.00	DISCHG	.93	.89	.86	.84	.82	.80	.79	.77	.75	.73
16.00	DISCHG	.72	.71	.70	.69	.69	.68	.68	.68	.67	.66
17.00	DISCHG	.65	.64	.62	.61	.60	.60	.59	.59	.59	.58
18.00	DISCHG	.58	.57	.56	.54	.53	.52	.51	.50	.49	.49
19.00	DISCHG	.48	.48	.48	.48	.48	.48	.48	.48	.48	.47
20.00	DISCHG	.47	.46	.45	.44	.42	.41	.40	.39	.38	.38
21.00	DISCHG	.38	.37	.37	.37	.37	.37	.37	.37	.37	.37
22.00	DISCHG	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
23.00	DISCHG	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
24.00	DISCHG	.36	.35	.34	.31	.27	.23	.19	.15	.12	.09
25.00	DISCHG	.07	.06	.04	.03	.03	.02	.01	.01	.01	.01
26.00	DISCHG	.01	.00								

RUNOFF VOLUME ABOVE BASEFLOW = 1.10 WATERSHED INCHES, 12.96 CFS-HRS, 1.07 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.28	39.02	(RUNOFF)
23.67	1.57	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .07 SQ.MI.		
11.00	DISCHG	.00	.00	.00	.00	.00	.03	.20	.79	2.72	7.44
12.00	DISCHG	16.55	28.48	37.18	38.30	34.80	28.37	22.63	18.60	15.70	13.51
13.00	DISCHG	11.82	10.51	9.45	8.56	7.86	7.27	6.75	6.30	5.89	5.56
14.00	DISCHG	5.27	5.02	4.81	4.61	4.42	4.24	4.07	3.89	3.72	3.58
15.00	DISCHG	3.47	3.39	3.34	3.31	3.27	3.20	3.11	3.03	2.96	2.92

16.00	DISCHG	2.90	2.88	2.88	2.87	2.88	2.88	2.87	2.83	2.75	2.66
17.00	DISCHG	2.58	2.53	2.50	2.48	2.46	2.46	2.46	2.46	2.45	2.42
18.00	DISCHG	2.38	2.27	2.18	2.11	2.07	2.04	2.02	2.01	2.01	2.00
19.00	DISCHG	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.01	1.99
20.00	DISCHG	1.92	1.83	1.73	1.66	1.61	1.58	1.56	1.55	1.54	1.54
21.00	DISCHG	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
22.00	DISCHG	1.54	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.56	1.56
23.00	DISCHG	1.56	1.56	1.56	1.56	1.56	1.56	1.57	1.57	1.56	1.53
24.00	DISCHG	1.46	1.34	1.14	.89	.63	.42	.27	.17	.11	.07
25.00	DISCHG	.05	.03	.02	.01	.01	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 1.30 WATERSHED INCHES, 58.55 CFS-HRS, 4.84 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 106.00

**** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .01 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
25.40	.01	106.62

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

17.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
17.00	ELEV	106.00	106.00	106.00	106.00	106.00	106.00	106.00	106.00	106.00	106.50
18.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
18.00	ELEV	106.50	106.51	106.51	106.51	106.51	106.52	106.52	106.52	106.52	106.52
19.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
19.00	ELEV	106.53	106.53	106.53	106.53	106.54	106.54	106.54	106.54	106.54	106.55
20.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
20.00	ELEV	106.55	106.55	106.55	106.55	106.56	106.56	106.56	106.56	106.56	106.56
21.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
21.00	ELEV	106.57	106.57	106.57	106.57	106.57	106.57	106.57	106.58	106.58	106.58
22.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
22.00	ELEV	106.58	106.58	106.58	106.59	106.59	106.59	106.59	106.59	106.59	106.60
23.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
23.00	ELEV	106.60	106.60	106.60	106.60	106.60	106.61	106.61	106.61	106.61	106.61
24.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
24.00	ELEV	106.61	106.62	106.62	106.62	106.62	106.62	106.62	106.62	106.62	106.62
25.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	
25.00	ELEV	106.62	106.62	106.62	106.62	106.62	106.62	106.62	106.62	106.62	

RUNOFF VOLUME ABOVE BASEFLOW = .00 WATERSHED INCHES, .05 CFS-HRS, .00 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 2 RECORD ID 20

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 21

STARTING TIME = .00 RAIN DEPTH = 6.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2

ALTERNATE NO.= 1 STORM NO.= 3 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1

OUTPUT HYDROGRAPH= 5

AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS

INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.53	11.39	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS			TIME INCREMENT = .10 HOURS				DRAINAGE AREA = .02 SQ.MI.		
11.00	DISCHG	.00	.00	.00	.01	.03	.06	.13	.28	.64	1.43
12.00	DISCHG	2.81	4.77	7.07	9.21	10.70	11.34	11.22	10.54	9.49	8.32
13.00	DISCHG	7.24	6.38	5.67	5.08	4.56	4.12	3.74	3.42	3.14	2.90
14.00	DISCHG	2.68	2.50	2.34	2.20	2.07	1.96	1.86	1.77	1.68	1.59
15.00	DISCHG	1.52	1.45	1.40	1.36	1.33	1.30	1.27	1.24	1.21	1.18
16.00	DISCHG	1.16	1.14	1.12	1.11	1.10	1.10	1.09	1.08	1.07	1.06
17.00	DISCHG	1.04	1.02	1.00	.98	.96	.95	.94	.94	.93	.93
18.00	DISCHG	.92	.90	.88	.86	.84	.82	.80	.79	.78	.77
19.00	DISCHG	.76	.76	.76	.75	.75	.75	.75	.75	.75	.75
20.00	DISCHG	.74	.73	.71	.69	.67	.65	.63	.62	.60	.60
21.00	DISCHG	.59	.59	.58	.58	.58	.58	.58	.57	.57	.57
22.00	DISCHG	.57	.57	.57	.57	.57	.57	.58	.58	.58	.58
23.00	DISCHG	.58	.58	.58	.58	.58	.58	.58	.58	.58	.58
24.00	DISCHG	.57	.55	.52	.48	.43	.36	.30	.24	.19	.14
25.00	DISCHG	.11	.09	.07	.05	.04	.03	.02	.02	.01	.01
26.00	DISCHG	.01	.01	.00							

RUNOFF VOLUME ABOVE BASEFLOW = 1.98 WATERSHED INCHES, 23.31 CFS-HRS, 1.33 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1

OUTPUT HYDROGRAPH= 6

AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS

INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.26	72.59	(RUNOFF)
16.45	4.48	(RUNOFF)
23.66	2.39	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS			TIME INCREMENT = .10 HOURS				DRAINAGE AREA = .07 SQ.MI.		
10.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.01	.04	.12
11.00	DISCHG	.24	.42	.66	.95	1.31	1.79	2.77	4.89	9.84	19.72
12.00	DISCHG	36.75	57.28	70.82	71.77	62.78	50.32	39.55	32.04	26.70	22.70
13.00	DISCHG	19.66	17.34	15.47	13.92	12.72	11.71	10.84	10.07	9.40	8.85

14.00	DISCHG	8.38	7.97	7.62	7.29	6.99	6.70	6.42	6.14	5.87	5.63
15.00	DISCHG	5.45	5.33	5.25	5.20	5.13	5.02	4.88	4.74	4.63	4.57
16.00	DISCHG	4.53	4.50	4.49	4.48	4.48	4.48	4.46	4.40	4.28	4.14
17.00	DISCHG	4.01	3.92	3.87	3.84	3.82	3.81	3.80	3.80	3.79	3.75
18.00	DISCHG	3.65	3.51	3.38	3.27	3.19	3.15	3.12	3.10	3.09	3.09
19.00	DISCHG	3.08	3.08	3.08	3.09	3.09	3.09	3.09	3.10	3.09	3.05
20.00	DISCHG	2.95	2.80	2.66	2.55	2.47	2.43	2.40	2.38	2.37	2.36
21.00	DISCHG	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.36	2.36	2.36
22.00	DISCHG	2.36	2.36	2.36	2.37	2.37	2.37	2.37	2.37	2.37	2.37
23.00	DISCHG	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.39	2.38	2.33
24.00	DISCHG	2.22	2.03	1.73	1.35	.96	.64	.41	.27	.17	.11
25.00	DISCHG	.07	.05	.03	.02	.01	.01	.00			

RUNOFF VOLUME ABOVE BASEFLOW = 2.25 WATERSHED INCHES, 101.52 CFS-HRS, 8.39 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 106.00

*** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .01 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
25.40	.01	107.06

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

12.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
12.00	ELEV	106.00	106.00	106.00	106.00	106.00	106.00	106.00	106.00	106.51	106.53
13.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
13.00	ELEV	106.56	106.57	106.59	106.61	106.62	106.63	106.65	106.66	106.67	106.68
14.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
14.00	ELEV	106.69	106.70	106.70	106.71	106.72	106.73	106.73	106.74	106.75	106.75
15.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
15.00	ELEV	106.76	106.76	106.77	106.78	106.78	106.79	106.79	106.80	106.80	106.81
16.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
16.00	ELEV	106.81	106.82	106.82	106.83	106.83	106.84	106.84	106.84	106.85	106.85
17.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
17.00	ELEV	106.86	106.86	106.87	106.87	106.87	106.88	106.88	106.89	106.89	106.89
18.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
18.00	ELEV	106.90	106.90	106.91	106.91	106.91	106.92	106.92	106.92	106.93	106.93
19.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
19.00	ELEV	106.93	106.94	106.94	106.94	106.95	106.95	106.95	106.96	106.96	106.96
20.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
20.00	ELEV	106.96	106.97	106.97	106.97	106.98	106.98	106.98	106.98	106.99	106.99
21.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
21.00	ELEV	106.99	106.99	107.00	107.00	107.00	107.00	107.00	107.01	107.01	107.01
22.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
22.00	ELEV	107.01	107.01	107.02	107.02	107.02	107.02	107.02	107.03	107.03	107.03
23.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
23.00	ELEV	107.03	107.03	107.04	107.04	107.04	107.04	107.04	107.05	107.05	107.05

24.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
24.00	ELEV	107.05	107.05	107.05	107.06	107.06	107.06	107.06	107.06	107.06	107.06
25.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
25.00	ELEV	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06
26.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
26.00	ELEV	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06
27.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
27.00	ELEV	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06
28.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
28.00	ELEV	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06
29.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
29.00	ELEV	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06	107.06

RUNOFF VOLUME ABOVE BASEFLOW = .00 WATERSHED INCHES, .16 CFS-HRS, .01 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 3 RECORD ID 22

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 23
STARTING TIME = .00 RAIN DEPTH = 8.00 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 1 STORM NO.= 4 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.52	18.02	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .02 SQ.MI.		
10.00	DISCHG	.00	.00	.00	.00	.00	.00	.01	.02	.04	.07
11.00	DISCHG	.11	.16	.22	.29	.38	.49	.68	1.00	1.63	3.06
12.00	DISCHG	5.33	8.44	11.96	15.14	17.25	18.01	17.61	16.37	14.60	12.69
13.00	DISCHG	10.37	9.61	8.48	7.54	6.74	6.06	5.48	4.98	4.55	4.18
14.00	DISCHG	3.86	3.59	3.35	3.14	2.95	2.79	2.64	2.50	2.37	2.25
15.00	DISCHG	2.14	2.05	1.98	1.92	1.87	1.82	1.78	1.74	1.70	1.66
16.00	DISCHG	1.62	1.60	1.57	1.56	1.54	1.53	1.52	1.51	1.50	1.47
17.00	DISCHG	1.45	1.42	1.39	1.36	1.34	1.32	1.31	1.30	1.30	1.29
18.00	DISCHG	1.27	1.25	1.23	1.20	1.17	1.14	1.11	1.09	1.08	1.07
19.00	DISCHG	1.06	1.05	1.05	1.05	1.04	1.04	1.04	1.04	1.04	1.03
20.00	DISCHG	1.02	1.01	.98	.95	.92	.89	.87	.85	.83	.82
21.00	DISCHG	.81	.81	.80	.80	.80	.79	.79	.79	.79	.79
22.00	DISCHG	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79
23.00	DISCHG	.79	.79	.79	.79	.80	.80	.80	.80	.80	.79
24.00	DISCHG	.78	.76	.72	.66	.58	.50	.41	.33	.26	.20
25.00	DISCHG	.15	.12	.09	.07	.05	.04	.03	.02	.02	.01
26.00	DISCHG	.01	.01	.01	.00						

RUNOFF VOLUME ABOVE BASEFLOW = 3.00 WATERSHED INCHES, 35.21 CFS-HRS, 2.31 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.25	110.86	(RUNOFF)
19.67	4.21	(RUNOFF)
23.66	3.23	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA = .07 SQ.MI.		
9.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.01	.03
10.00	DISCHG	.07	.14	.22	.33	.45	.60	.78	1.00	1.27	1.59
11.00	DISCHG	1.96	2.38	2.87	3.42	4.05	4.91	6.65	10.44	18.81	34.51

12.00	DISCHG	60.32	30.13	108.65	108.38	33.71	74.44	58.05	46.67	38.61	32.60
13.00	DISCHG	28.07	24.63	21.88	19.62	17.87	16.40	15.14	14.05	13.09	12.31
14.00	DISCHG	11.64	11.07	10.57	10.11	9.69	9.28	8.88	8.49	8.11	7.78
15.00	DISCHG	7.53	7.35	7.24	7.17	7.07	6.92	6.72	6.53	6.37	6.28
16.00	DISCHG	6.22	6.19	6.17	6.16	6.15	6.15	6.12	6.03	5.86	5.67
17.00	DISCHG	5.50	5.38	5.31	5.26	5.23	5.21	5.20	5.20	5.19	5.12
18.00	DISCHG	4.99	4.80	4.61	4.46	4.36	4.30	4.26	4.23	4.22	4.21
19.00	DISCHG	4.21	4.20	4.20	4.21	4.21	4.21	4.21	4.21	4.21	4.15
20.00	DISCHG	4.01	3.81	3.62	3.46	3.36	3.30	3.26	3.23	3.22	3.21
21.00	DISCHG	3.20	3.20	3.19	3.19	3.19	3.19	3.20	3.20	3.20	3.20
22.00	DISCHG	3.20	3.20	3.21	3.21	3.21	3.21	3.21	3.21	3.22	3.22
23.00	DISCHG	3.22	3.22	3.22	3.22	3.23	3.23	3.23	3.23	3.22	3.15
24.00	DISCHG	3.01	2.75	2.34	1.82	1.30	.87	.56	.36	.24	.15
25.00	DISCHG	.10	.06	.04	.02	.01	.01	.00			

RUNOFF VOLUME ABOVE BASEFLOW = 3.33 WATERSHED INCHES, 150.01 CFS-HRS, 12.40 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 106.00

<<<< WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .02 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
25.40	.02	107.45

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

12.00	DISCHG	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01
12.00	ELEV	106.00	106.00	106.00	106.00	106.54	106.63	106.70	106.76	106.80	106.84
13.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
13.00	ELEV	106.87	106.90	106.92	106.95	106.97	106.98	107.00	107.01	107.02	107.03
14.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
14.00	ELEV	107.04	107.05	107.06	107.07	107.08	107.09	107.09	107.10	107.11	107.11
15.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
15.00	ELEV	107.12	107.13	107.13	107.14	107.14	107.15	107.15	107.16	107.17	107.17
16.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
16.00	ELEV	107.18	107.18	107.19	107.19	107.20	107.20	107.21	107.21	107.22	107.22
17.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
17.00	ELEV	107.22	107.23	107.23	107.24	107.24	107.25	107.25	107.25	107.26	107.26
18.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
18.00	ELEV	107.27	107.27	107.27	107.28	107.28	107.29	107.29	107.29	107.30	107.30
19.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.02
19.00	ELEV	107.30	107.31	107.31	107.31	107.32	107.32	107.32	107.33	107.33	107.33
20.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
20.00	ELEV	107.34	107.34	107.34	107.35	107.35	107.35	107.35	107.36	107.36	107.36
21.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
21.00	ELEV	107.36	107.37	107.37	107.37	107.37	107.38	107.38	107.38	107.38	107.39
22.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
22.00	ELEV	107.39	107.39	107.40	107.40	107.40	107.40	107.41	107.41	107.41	107.41

23.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
23.00	ELEV	107.42	107.42	107.42	107.42	107.43	107.43	107.43	107.43	107.44	107.44
24.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
24.00	ELEV	107.44	107.44	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45
25.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
25.00	ELEV	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45
26.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
26.00	ELEV	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45
27.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
27.00	ELEV	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45
28.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
28.00	ELEV	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45
29.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
29.00	ELEV	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45	107.45

RUNOFF VOLUME ABOVE BASEFLOW = .01 WATERSHED INCHES, .26 CFS-HRS, .02 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 4 RECORD ID 24

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 25
STARTING TIME = .00 RAIN DEPTH = 10.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 1 STORM NO.= 5 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.50	30.31	(RUNOFF)
23.68	1.17	(RUNOFF)

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .02 SQ.MI.

9.00	DISCHG	.00	.00	.00	.01	.02	.03	.04	.06	.09	.12
10.00	DISCHG	.15	.18	.22	.26	.30	.35	.41	.48	.56	.66
11.00	DISCHG	.77	.90	1.04	1.21	1.40	1.63	2.00	2.64	3.93	6.38
12.00	DISCHG	10.30	15.50	21.24	26.26	29.41	30.31	29.33	27.01	23.90	20.61
13.00	DISCHG	17.70	15.41	13.52	11.95	10.62	9.50	8.54	7.72	7.03	6.44
14.00	DISCHG	5.93	5.49	5.11	4.77	4.48	4.22	3.99	3.77	3.57	3.38
15.00	DISCHG	3.21	3.07	2.96	2.87	2.80	2.73	2.66	2.60	2.54	2.48
16.00	DISCHG	2.42	2.38	2.35	2.32	2.30	2.28	2.27	2.25	2.23	2.19
17.00	DISCHG	2.15	2.11	2.06	2.02	1.99	1.97	1.95	1.93	1.92	1.91
18.00	DISCHG	1.89	1.86	1.82	1.77	1.73	1.68	1.65	1.62	1.60	1.58
19.00	DISCHG	1.57	1.56	1.55	1.54	1.54	1.54	1.53	1.53	1.53	1.52
20.00	DISCHG	1.51	1.48	1.45	1.40	1.36	1.32	1.28	1.25	1.23	1.21
21.00	DISCHG	1.20	1.19	1.18	1.18	1.17	1.17	1.17	1.16	1.16	1.16
22.00	DISCHG	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
23.00	DISCHG	1.16	1.16	1.16	1.16	1.16	1.17	1.17	1.17	1.16	1.16
24.00	DISCHG	1.14	1.11	1.05	.96	.85	.73	.60	.48	.38	.29
25.00	DISCHG	.22	.17	.13	.10	.08	.06	.05	.04	.03	.02
26.00	DISCHG	.02	.01	.01	.01	.00					

RUNOFF VOLUME ABOVE BASEFLOW = 4.88 WATERSHED INCHES, 57.34 CFS-HRS, 4.74 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	179.66	(RUNOFF)
19.67	6.11	(RUNOFF)
23.66	4.66	(RUNOFF)

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

8.00	DISCHG	.00	.00	.00	.00	.00	.01	.04	.09	.16	.24

9.00	DISCHG	.33	.44	.55	.68	.82	.96	1.11	1.26	1.44	1.62
10.00	DISCHG	1.81	1.99	2.19	2.41	2.68	3.00	3.39	3.87	4.44	5.10
11.00	DISCHG	5.85	6.68	7.60	8.62	9.76	11.31	14.52	21.50	36.34	62.73
12.00	DISCHG	104.36	150.46	177.28	174.27	149.04	117.40	90.85	72.49	59.54	49.93
13.00	DISCHG	42.73	37.30	33.00	29.47	26.75	24.49	22.55	20.88	19.43	18.25
14.00	DISCHG	17.24	16.38	15.63	14.94	14.30	13.69	13.09	12.51	11.94	11.45
15.00	DISCHG	11.07	10.81	10.64	10.53	10.38	10.15	9.85	9.57	9.34	9.20
16.00	DISCHG	9.11	9.06	9.02	9.01	9.00	8.99	8.95	8.81	8.56	8.28
17.00	DISCHG	8.03	7.85	7.74	7.67	7.62	7.60	7.58	7.57	7.55	7.46
18.00	DISCHG	7.26	6.98	6.71	6.49	6.34	6.25	6.19	6.15	6.13	6.12
19.00	DISCHG	6.11	6.10	6.10	6.10	6.10	6.11	6.11	6.11	6.10	6.02
20.00	DISCHG	5.81	5.53	5.24	5.02	4.87	4.78	4.72	4.68	4.65	4.64
21.00	DISCHG	4.63	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62
22.00	DISCHG	4.63	4.63	4.63	4.63	4.63	4.63	4.64	4.64	4.64	4.64
23.00	DISCHG	4.64	4.64	4.65	4.65	4.65	4.65	4.65	4.65	4.64	4.54
24.00	DISCHG	4.33	3.96	3.37	2.63	1.87	1.26	.81	.52	.34	.22
25.00	DISCHG	.14	.09	.06	.03	.02	.01	.01	.00		

RUNOFF VOLUME ABOVE BASEFLOW = 5.30 WATERSHED INCHES, 238.83 CFS-HRS, 19.74 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 106.00

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
24.20	3.34	107.93

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

12.00	DISCHG	.00	.00	.01	.01	.01	.01	.01	.01	.01	.01
12.00	ELEV	106.00	106.00	106.60	106.79	106.96	107.08	107.16	107.23	107.28	107.33
13.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
13.00	ELEV	107.37	107.40	107.43	107.45	107.47	107.50	107.51	107.53	107.55	107.56
14.00	DISCHG	.02	.02	.02	.02	.02	.02	.02	.04	.14	.24
14.00	ELEV	107.58	107.59	107.61	107.62	107.63	107.64	107.65	107.66	107.67	107.68
15.00	DISCHG	.33	.41	.50	.58	.66	.74	.82	.89	.96	1.03
15.00	ELEV	107.69	107.69	107.70	107.71	107.71	107.72	107.73	107.73	107.74	107.74
16.00	DISCHG	1.10	1.16	1.23	1.29	1.35	1.42	1.48	1.54	1.60	1.65
16.00	ELEV	107.75	107.75	107.76	107.76	107.77	107.77	107.78	107.78	107.79	107.79
17.00	DISCHG	1.71	1.76	1.81	1.86	1.90	1.95	2.00	2.04	2.09	2.13
17.00	ELEV	107.80	107.80	107.81	107.81	107.81	107.82	107.82	107.83	107.83	107.83
18.00	DISCHG	2.18	2.22	2.25	2.29	2.32	2.36	2.39	2.42	2.45	2.48
18.00	ELEV	107.84	107.84	107.84	107.85	107.85	107.85	107.85	107.86	107.86	107.86
19.00	DISCHG	2.51	2.54	2.57	2.60	2.63	2.65	2.68	2.71	2.74	2.77
19.00	ELEV	107.86	107.87	107.87	107.87	107.87	107.88	107.88	107.88	107.88	107.89
20.00	DISCHG	2.79	2.82	2.84	2.86	2.87	2.89	2.90	2.92	2.93	2.95
20.00	ELEV	107.89	107.89	107.89	107.89	107.89	107.90	107.90	107.90	107.90	107.90
21.00	DISCHG	2.96	2.97	2.99	3.00	3.01	3.03	3.04	3.05	3.07	3.08
21.00	ELEV	107.90	107.90	107.90	107.90	107.91	107.91	107.91	107.91	107.91	107.91
22.00	DISCHG	3.09	3.10	3.12	3.13	3.14	3.15	3.17	3.18	3.19	3.20

22.00	ELEV	107.91	107.91	107.91	107.92	107.92	107.92	107.92	107.92	107.92	107.92
23.00	DISCHG	3.21	3.23	3.24	3.25	3.26	3.27	3.28	3.29	3.31	3.32
23.00	ELEV	107.92	107.92	107.92	107.93	107.93	107.93	107.93	107.93	107.93	107.93
24.00	DISCHG	3.33	3.33	3.34	3.33	3.32	3.31	3.29	3.27	3.25	3.22
24.00	ELEV	107.93	107.93	107.93	107.93	107.93	107.93	107.93	107.93	107.92	107.92
25.00	DISCHG	3.20	3.17	3.15	3.12	3.09	3.07	3.04	3.02	2.99	2.97
25.00	ELEV	107.92	107.92	107.92	107.91	107.91	107.91	107.91	107.91	107.90	107.90
26.00	DISCHG	2.95	2.92	2.90	2.87	2.85	2.83	2.80	2.78	2.76	2.73
26.00	ELEV	107.90	107.90	107.90	107.89	107.89	107.89	107.89	107.89	107.88	107.88
27.00	DISCHG	2.71	2.69	2.67	2.65	2.62	2.60	2.58	2.56	2.54	2.52
27.00	ELEV	107.88	107.88	107.88	107.88	107.87	107.87	107.87	107.87	107.87	107.87
28.00	DISCHG	2.50	2.48	2.46	2.44	2.42	2.40	2.38	2.36	2.34	2.32
28.00	ELEV	107.86	107.86	107.86	107.86	107.86	107.86	107.85	107.85	107.85	107.85
29.00	DISCHG	2.30	2.28	2.26	2.24	2.23	2.21	2.19	2.17	2.15	2.14
29.00	ELEV	107.85	107.85	107.84	107.84	107.84	107.84	107.84	107.84	107.84	107.83

RUNOFF VOLUME ABOVE BASEFLOW = .84 WATERSHED INCHES, 37.71 CFS-HRS, 3.12 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 5 RECORD ID 26

EXECUTIVE CONTROL OPERATION ENDJOB RECORD ID 27

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	RAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 1 STORM 1													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	4.50	24.00	.85	—	12.60	4.09	224.6
XSECTION 1	RUNOFF	.07	2	2	.10	.0	4.50	24.00	1.02	—	12.23	23.13	418.1
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	4.50	24.00	.00	—	.00	.00	.0
ALTERNATE 1 STORM 2													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	5.00	24.00	1.10	—	12.58	5.67	311.7
XSECTION 1	RUNOFF	.07	2	2	.10	.0	5.00	24.00	1.30	—	12.28	33.02	559.0
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	5.00	24.00	.00	106.62	25.40?	.01?	.1
ALTERNATE 1 STORM 3													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	6.50	24.00	1.38	—	12.53	11.39	625.6
XSECTION 1	RUNOFF	.07	2	2	.10	.0	6.50	24.00	2.25	—	12.26	72.59	1039.9
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	6.50	24.00	.00	107.06	25.40?	.01?	.2
ALTERNATE 1 STORM 4													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	8.00	24.00	3.00	—	12.52	18.02	990.1
XSECTION 1	RUNOFF	.07	2	2	.10	.0	8.00	24.00	3.33	—	12.25	110.86	1588.3
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	8.00	24.00	.01	107.45	25.40?	.02?	.2
ALTERNATE 1 STORM 5													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	10.50	24.00	4.88	—	12.50	30.31	1665.5
XSECTION 1	RUNOFF	.07	2	2	.10	.0	10.50	24.00	5.30	—	12.24	179.66	2573.9
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	10.50	24.00	.84	107.33	24.20	3.34	47.8

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1	2	3	4	5
STRUCTURE	1	.07					
ALTERNATE	1		.00	.01	.01	.02	3.34
XSECTION	1	.07					
ALTERNATE	1		29.19	39.02	72.59	110.86	173.66

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TR-20
JOB & TITLE

DHA FILE ID; 360KF2.T20

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 1 OF 5

1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0
JOB TR-20			FULLPRINT		SUMMARY		
TITLE 360	I-4/SR535 INTERCHANGE STORMWATER QUANTITY CONTROL						
TITLE	FOR INTER CONNECTED PONDS ROUTING CONDITION 2						

JOB Record (required)

Columns 1-3	JOB
Columns 5-9	TR-20
Columns 11-17	HOLDOUT (not operational) Use only if a holdout hydrograph is desired.
Columns 21-24	ECON Use only if peak discharge output for ECON2/URB1 is desired. Locations for this output must be selected for inclusion in Summary Tables 1 and 3 also. Such designation can be made using summary option explained below (columns 51-57) or on Standard Control (column 71).
Columns 31-39	FULLPRINT Use only if FULLPRINT option is desired.
Columns 41-48	PASS=XXX Use only if PASS number, XXX, is greater than 1. XXX is an integer, right justified.
Columns 51-57	SUMMARY Use only if Summary Tables 1 and 3 are to include all Standard Control operations (except SAVMOV).
Columns 61-67	NOPLOTS Use if no cross section rating plots are desired. ENDPLOT Use if only cross section rating plots are desired with no routings.
Columns 73-80	Optional user information, printed at top of input listing.

TITLE Records (one required, second is optional)

Columns 1-5	TITLE
Columns 7-9	XXX (first TITLE record only). An optional user file number, XXX, is an integer, right justified.
Columns 11-80	Both titles may be any characters desired.

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TR-20
STRUCTURE DATA

STRUCTURE NO._____

U.S. DEPARTMENT OF AGRICULTURE
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Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 2 OF 5

1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
DATA CODE / TABLE NAME		DATA FIELD NO. 1	DATA FIELD NO. 2	DATA FIELD NO. 3			RECORD IDENT.
	STRUCTURE ID. (01-99)	IMPORTANT: Line out unused lines. Data fields require decimal points.					
3 STRUCT	01						40
	NOTE: Maximum of 20 data records allowed.						
		Elevation, Ft.	Discharge, CFS	Storage, Acre, Ft.			
8		107.0	0.0	0.0			60
8		107.66	0.01	7.0			70
8		108.0	4.16	10.86			80
8		108.5	16.17	16.8			85
8		109.0	32.57	23.18			90
9 ENDTBL		NOTE: This record must be the last record of this table.					100

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TR-20
STANDARD CONTROL FOR WATERSHED

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 3 OF 5

DATA CODE	OPERATION NAME	NO.	X SECT./STRUCT. XSECT ID.	STRUCT ID.	HYDRO. NUMBER INPUT #1	INPUT #2	OUTPUT	DATA FIELD #1	DATA FIELD #2	DATA FIELD #3	OUTPUT OPTIONS PRINT PEAK	HYD.	ELEV.	VOL.	FILE	SUM.	RECORD IDENT.
6	RUNOFF	1					6	AREA, SQ. MI.	RUNOFF CURVE NO.	T_c, HRS.							EXAMPLES DO NOT ENTER
5	RESVOR	2			6		7	SURF. EL. AT T=0, FT.									
6	REACH	3			7		5	LENGTH, FT.	(OPTIONAL) END AREA COEFF. (X)	(OPTIONAL) EXPONENT (M)							
6	ADDHYD	4			5	6	7										
6	SAVMOV	5			PRINT CONTROL		OUT TO										
5	DIVERT	6			IN	OUT1	OUT2	OUT1 DISCHARGE, CFS	OUT 1, Decimal % D.A	OUT2, I.D.							
	ENDATA							This record is to be used only at end of all standard control records.									

(Might justify these fields)

IMPORTANT: Data Fields No. 1, 2, and 3 require decimal points.

6	RUNOFF	1	00.1				5	0.0182	57.0	0.95	1	1	0	1	0	1		1,1,0
6	RUNOFF	1	00.1				6	0.0698	60.0	0.57	1	1	0	1	0	1		1,2,0
6	RESVOR	2		0.1	6		7	107.0			1	1	1	1	0	1		1,3,0
	ENDATA																	1,4,0

NOTE: This form was suggested by members of Massachusetts Planning Staff.

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REV. May 1982

TR-20
EXECUTIVE CONTROL FOR WATERSHED

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 4 OF 5

DATA CODE	OPERATION		DATA FIELD #1	DATA FIELD #2	DATA FIELD #3		RECORD IDENT.
7	LIST	This record is used for printout of tabular data and standard control list that are currently effective					
7	BASFLØ	5	NEW BASE FLOW, CFS or VOLUME IN INCHES	IF VOLUME IS IN DATA FIELD No. 1: PEAK TIME, HOURS / BASE TIME, HOURS			
7	INCREM	6	MAIN TIME INCREMENT, HRS.	This increment is required for initial computations. Remains in force until new increment is entered.			
EXAMPLES DO NOT ENTER							
		FROM OR XSECT / STRUCT	THRU OR XSECT / STRUCT	STARTING TIME HOURS	RAINFALL DEPTH INCHES (Set depth and duration to 1.0 for actual rainfall)	RAINFALL DURATION HOURS	RAIN TABLE NO.	AMC	ALTERNATE NO.	STORM NO.	EXAMPLES DO NOT ENTER
7	COMPUT	7									
	ENDCMP	1	This record is required at "end" of a watershed, it may follow a series of COMPUT records								
	ENDJOB	2	This record terminates routing computation and precedes the PEAKS record, if any.								
		Right justify these fields		IMPORTANT: Data Fields No. 1, 2, and 3 require decimal points.							
7	INCREM	6		0.1							160
7	COMPUT	7	001		4.5	1.0	2	2	0.2	0.1	170
	ENDCMP	1									180
7	COMPUT	7	0.01		5.0	1.0	2	2	0.2	0.2	190
	ENDCMP	1									200
7	COMPUT	7	0.01		6.5	1.0	2	2	0.2	0.3	210
	ENDCMP	1									220
7	COMPUT	7	0.01		8.0	1.0	2	2	0.2	0.4	230
	ENDCMP	1									240

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TR-20
EXECUTIVE CONTROL FOR WATERSHED

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Watershed I-4/SR535 Hydrologist KF Date 1-8-88 SHEET 5 OF 5

DATA CODE	OPERATION		DATA FIELD #1	DATA FIELD #2	DATA FIELD #3		RECORD IDENT.
7	LIST	This record is used for printout of tabular data and standard control list that are currently effective.					
7	BASFLO	5	NEW BASE FLOW, CFS or VOLUME IN INCHES	IF VOLUME IS IN DATA FIELD No. 1 PEAK TIME, HOURS	BASE TIME, HOURS		
7	INCREM	6	MAIN TIME INCREMENT, HRS.	This increment is required for initial computations. Remains in force until new increment is entered.			

EXAMPLES DO NOT ENTER

			FROM XSECT. OR STRUCT.	THRU XSECT. OR STRUCT.	STARTING TIME HOURS	RAINFALL DEPTH INCHES (Set depth and duration to 10 for actual rainfall)	RAINFALL DURATION HOURS	RAIN TABLE NO.	AMC	ALTERNATE NO.	STORM NO.	EXAMPLES DO NOT ENTER
7	COMPUT	7										
	ENDCMP	1	This record is required at "end" of a watershed, it may follow a series of COMPUT records.									
	ENDJOB	2	This record terminates routing computation and precedes the PEAKS record, if any.									

Right justify these fields

IMPORTANT: Data Fields No. 1, 2, and 3 require decimal points.

7	COMPUT	7	001		01		10.5	1.0	2	2	02	05	250
	ENDCMP	1											260
	ENDJOB	2											270

DHA FILE ID: 360KF2.T20

CONDITION 2.

```
**********80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY**********

JOB TR-20                    FULLPRINT          SUMMARY                    10
TITLE 360 I-4/SR536 INTERCHANGE STORMWATER QUANTITY CONTROL                 20
TITLE     FOR INTERCONNECTED PONDS FLOOD ROUTING                            30
 3 STRUCT      01                                                           40
 8                      107.0       0.0         0.0                       60
 8                      107.66      0.01        7.00                      70
 8                      108.00      4.16        10.86                     80
 8                      108.5       16.17       16.8                      85
 8                      109.00      32.57       23.18                     90
 9 ENDTBL                                                                  100
 6 RUNOFF 1 001       5 0.0182      57.0        0.35      1 1 0 1 0 1     110 <-- EXIST.
 6 RUNOFF 1 001       6 0.0638      60.0        0.57      1 1 0 1 0 1     120 <-- PROP.
 6 RESVOR 2    01 6   7 107.0                             1 1 1 1 0 1     130 <-- OUTFLOW ROUTING
   ENDATA                                                                  140
 7 INCREM 6             0.1                                               160
 7 COMPUT 7 001       01            4.5         1.0       2 2 02 01       170 <-- 2-YR
   ENDCMP 1                                                                180
 7 COMPUT 7 001       01            5.0         1.0       2 2 02 02       190 <-- 5-YR
   ENDCMP 1                                                                200
 7 COMPUT 7 001       01            6.5         1.0       2 2 02 03       210 <-- 10-YR
   ENDCMP 1                                                                220
 7 COMPUT 7 001       01            8.0         1.0       2 2 02 04       230 <-- 25-YR
   ENDCMP 1                                                                240
 7 COMPUT 7 001       01            10.5        1.0       2 2 02 05       250 <-- 100-YR
   ENDCMP 1                                                                260
   ENDJOB 2                                                                270

**********END OF 80-80 LIST**********
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EXECUTIVE CONTROL OPERATION INCREM MAIN TIME INCREMENT = .10 HOURS RECORD ID 16

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 17
STARTING TIME = .00 RAIN DEPTH = 4.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 2 STORM NO.= 1 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.60	4.09	(RUNOFF)

TIME(HRS)	FIRST HYDROGRAPH POINT = .00 HOURS	TIME INCREMENT = .10 HOURS	DRAINAGE AREA = .02 SQ.MI.							
11.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.04	.20
12.00	DISCHG	.58	1.21	2.04	2.91	3.53	3.98	4.09	3.97	3.68	3.31
13.00	DISCHG	2.94	2.65	2.40	2.18	1.99	1.83	1.68	1.55	1.44	1.34
14.00	DISCHG	1.26	1.18	1.11	1.05	1.00	.95	.90	.86	.82	.78
15.00	DISCHG	.75	.72	.70	.68	.66	.65	.63	.62	.61	.59
16.00	DISCHG	.58	.57	.57	.56	.56	.55	.55	.55	.54	.54
17.00	DISCHG	.53	.52	.51	.50	.49	.49	.48	.48	.48	.47
18.00	DISCHG	.47	.46	.45	.44	.43	.42	.41	.41	.40	.40
19.00	DISCHG	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
20.00	DISCHG	.38	.38	.37	.36	.35	.34	.33	.32	.31	.31
21.00	DISCHG	.31	.31	.30	.30	.30	.30	.30	.30	.30	.30
22.00	DISCHG	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
23.00	DISCHG	.30	.30	.30	.30	.30	.30	.31	.31	.31	.30
24.00	DISCHG	.30	.29	.28	.25	.22	.19	.16	.13	.10	.08
25.00	DISCHG	.06	.05	.04	.03	.02	.02	.01	.01	.01	.01
26.00	DISCHG	.00									

RUNOFF VOLUME ABOVE BASEFLOW = .85 WATERSHED INCHES, 3.36 CFS-HRS, .82 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.29	23.13	(RUNOFF)
23.67	1.31	(RUNOFF)

TIME(HRS)	FIRST HYDROGRAPH POINT = .00 HOURS	TIME INCREMENT = .10 HOURS	DRAINAGE AREA = .07 SQ.MI.							
11.00	DISCHG	.00	.00	.00	.00	.00	.00	.03	.22	1.23	4.36
12.00	DISCHG	11.00	20.24	27.33	29.16	26.45	21.78	17.52	14.51	12.34	10.68

13.00	DISCHG	3.41	8.40	7.58	6.89	6.34	5.88	5.48	5.12	4.79	4.52
14.00	DISCHG	4.29	4.09	3.92	3.76	3.61	3.47	3.32	3.18	3.05	2.93
15.00	DISCHG	2.84	2.78	2.74	2.72	2.68	2.63	2.56	2.49	2.43	2.40
16.00	DISCHG	2.38	2.37	2.37	2.36	2.37	2.37	2.36	2.33	2.27	2.19
17.00	DISCHG	2.13	2.08	2.06	2.04	2.03	2.03	2.03	2.03	2.02	2.00
18.00	DISCHG	1.95	1.88	1.81	1.75	1.71	1.69	1.67	1.66	1.66	1.66
19.00	DISCHG	1.66	1.66	1.66	1.66	1.66	1.66	1.67	1.67	1.67	1.65
20.00	DISCHG	1.59	1.51	1.44	1.38	1.34	1.31	1.30	1.29	1.28	1.28
21.00	DISCHG	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
22.00	DISCHG	1.28	1.28	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.30
23.00	DISCHG	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.31	1.30	1.28
24.00	DISCHG	1.22	1.11	.95	.74	.53	.35	.23	.15	.10	.06
25.00	DISCHG	.04	.03	.02	.01	.01	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 1.02 WATERSHED INCHES, 45.89 CFS-HRS, 3.79 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 107.00

*** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .01 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
25.40	.01	107.36

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

21.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01
21.00	ELEV	107.00	107.00	107.00	107.00	107.00	107.00	107.00	107.33	107.33	107.33
22.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
22.00	ELEV	107.33	107.33	107.34	107.34	107.34	107.34	107.34	107.34	107.34	107.34
23.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
23.00	ELEV	107.34	107.34	107.35	107.35	107.35	107.35	107.35	107.35	107.35	107.35
24.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
24.00	ELEV	107.35	107.35	107.36	107.36	107.36	107.36	107.36	107.36	107.36	107.36
25.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	
25.00	ELEV	107.36	107.36	107.36	107.36	107.36	107.36	107.36	107.36	107.36	

RUNOFF VOLUME ABOVE BASEFLOW = .00 WATERSHED INCHES, .02 CFS-HRS, .00 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 1 RECORD ID 18

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 19
STARTING TIME = .00 RAIN DEPTH = 5.00 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 2 STORM NO.= 2 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.58	5.67	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA =		.02 SQ.MI.
11.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.02	.11	.38
12.00	DISCHG	.37	1.89	3.06	4.23	5.12	5.59	5.66	5.43	4.98	4.44
13.00	DISCHG	3.91	3.50	3.14	2.85	2.58	2.36	2.16	1.99	1.84	1.71
14.00	DISCHG	1.59	1.49	1.40	1.32	1.25	1.19	1.13	1.08	1.03	.98
15.00	DISCHG	.93	.89	.86	.84	.82	.80	.79	.77	.75	.73
16.00	DISCHG	.72	.71	.70	.69	.69	.68	.68	.68	.67	.66
17.00	DISCHG	.65	.64	.62	.61	.60	.60	.59	.59	.59	.58
18.00	DISCHG	.58	.57	.56	.54	.53	.52	.51	.50	.49	.49
19.00	DISCHG	.48	.48	.48	.48	.48	.48	.48	.48	.48	.47
20.00	DISCHG	.47	.46	.45	.44	.42	.41	.40	.39	.38	.38
21.00	DISCHG	.38	.37	.37	.37	.37	.37	.37	.37	.37	.37
22.00	DISCHG	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
23.00	DISCHG	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
24.00	DISCHG	.36	.35	.34	.31	.27	.23	.19	.15	.12	.09
25.00	DISCHG	.07	.06	.04	.03	.03	.02	.01	.01	.01	.01
26.00	DISCHG	.01	.00								

RUNOFF VOLUME ABOVE BASEFLOW = 1.10 WATERSHED INCHES, 12.36 CFS-HRS, 1.07 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.28	39.02	(RUNOFF)
23.67	1.57	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA =		.07 SQ.MI.
11.00	DISCHG	.00	.00	.00	.00	.00	.03	.20	.73	2.72	7.44
12.00	DISCHG	16.55	28.48	37.18	38.90	34.80	28.37	22.63	18.60	15.70	13.51
13.00	DISCHG	11.82	10.51	9.45	8.56	7.86	7.27	6.75	6.30	5.89	5.56
14.00	DISCHG	5.27	5.02	4.81	4.61	4.42	4.24	4.07	3.89	3.72	3.58
15.00	DISCHG	3.47	3.39	3.34	3.31	3.27	3.20	3.11	3.03	2.96	2.92

16.00	DISCHG	2.90	2.88	2.88	2.87	2.88	2.88	2.87	2.83	2.75	2.66
17.00	DISCHG	2.58	2.53	2.50	2.48	2.46	2.46	2.46	2.46	2.45	2.42
18.00	DISCHG	2.36	2.27	2.18	2.11	2.07	2.04	2.02	2.01	2.01	2.00
19.00	DISCHG	2.00	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.01	1.99
20.00	DISCHG	1.92	1.83	1.73	1.66	1.61	1.58	1.56	1.55	1.54	1.54
21.00	DISCHG	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
22.00	DISCHG	1.54	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.56	1.56
23.00	DISCHG	1.56	1.56	1.56	1.56	1.56	1.56	1.57	1.57	1.56	1.53
24.00	DISCHG	1.46	1.34	1.14	.89	.63	.42	.27	.17	.11	.07
25.00	DISCHG	.05	.03	.02	.01	.01	.00				

RUNOFF VOLUME ABOVE BASEFLOW = 1.30 WATERSHED INCHES, 58.55 CFS-HRS, 4.84 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 107.00

*** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .01 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
25.40	.01	107.46

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

16.00	DISCHG	.00	.01	.01	.01	.01	.01	.01	.01	.01	.01
16.00	ELEV	107.00	107.33	107.33	107.34	107.34	107.34	107.34	107.35	107.35	107.35
17.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
17.00	ELEV	107.35	107.35	107.36	107.36	107.36	107.36	107.36	107.36	107.37	107.37
18.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
18.00	ELEV	107.37	107.37	107.37	107.38	107.38	107.38	107.38	107.38	107.38	107.39
19.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
19.00	ELEV	107.39	107.39	107.39	107.39	107.39	107.39	107.40	107.40	107.40	107.40
20.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
20.00	ELEV	107.40	107.40	107.41	107.41	107.41	107.41	107.41	107.41	107.41	107.41
21.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
21.00	ELEV	107.42	107.42	107.42	107.42	107.42	107.42	107.42	107.42	107.42	107.43
22.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
22.00	ELEV	107.43	107.43	107.43	107.43	107.43	107.43	107.43	107.44	107.44	107.44
23.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
23.00	ELEV	107.44	107.44	107.44	107.44	107.44	107.45	107.45	107.45	107.45	107.45
24.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
24.00	ELEV	107.45	107.45	107.45	107.45	107.45	107.45	107.46	107.46	107.46	107.46
25.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	
25.00	ELEV	107.46	107.46	107.46	107.46	107.46	107.46	107.46	107.46	107.46	

RUNOFF VOLUME ABOVE BASEFLOW = .00 WATERSHED INCHES, .06 CFS-HRS, .00 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 2 RECORD ID 20

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 21
STARTING TIME = .00 RAIN DEPTH = 6.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 2 STORM NO.= 3 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.53	11.39	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS			TIME INCREMENT = .10 HOURS				DRAINAGE AREA =		.02 SQ.MI.
11.00	DISCHG	.00	.00	.00	.01	.03	.06	.13	.28	.64	1.43
12.00	DISCHG	2.81	4.77	7.07	9.21	10.70	11.34	11.22	10.54	9.49	8.32
13.00	DISCHG	7.24	6.38	5.67	5.08	4.56	4.12	3.74	3.42	3.14	2.90
14.00	DISCHG	2.68	2.50	2.34	2.20	2.07	1.96	1.86	1.77	1.68	1.59
15.00	DISCHG	1.52	1.45	1.40	1.36	1.33	1.30	1.27	1.24	1.21	1.18
16.00	DISCHG	1.16	1.14	1.12	1.11	1.10	1.10	1.09	1.08	1.07	1.06
17.00	DISCHG	1.04	1.02	1.00	.98	.96	.95	.94	.94	.93	.93
18.00	DISCHG	.92	.90	.88	.86	.84	.82	.80	.79	.78	.77
19.00	DISCHG	.76	.76	.76	.75	.75	.75	.75	.75	.75	.75
20.00	DISCHG	.74	.73	.71	.69	.67	.65	.63	.62	.60	.60
21.00	DISCHG	.59	.59	.58	.58	.58	.58	.58	.57	.57	.57
22.00	DISCHG	.57	.57	.57	.57	.57	.57	.58	.58	.58	.58
23.00	DISCHG	.58	.58	.58	.58	.58	.58	.58	.58	.58	.58
24.00	DISCHG	.57	.55	.52	.48	.43	.36	.30	.24	.19	.14
25.00	DISCHG	.11	.09	.07	.05	.04	.03	.02	.02	.01	.01
26.00	DISCHG	.01	.01	.00							

RUNOFF VOLUME ABOVE BASEFLOW = 1.98 WATERSHED INCHES, 23.31 CFS-HRS, 1.93 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.26	72.53	(RUNOFF)
16.45	4.48	(RUNOFF)
23.66	2.39	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS			TIME INCREMENT = .10 HOURS				DRAINAGE AREA =		.07 SQ.MI.
10.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.01	.04	.12
11.00	DISCHG	.24	.42	.66	.95	1.31	1.79	2.77	4.83	9.84	13.72
12.00	DISCHG	36.75	57.28	70.82	71.77	62.78	50.32	39.55	32.04	26.70	22.70
13.00	DISCHG	19.66	17.34	15.47	13.92	12.72	11.71	10.84	10.07	9.40	8.85

14.00	DISCHG	8.38	7.97	7.62	7.29	6.99	6.70	6.42	6.14	5.87	5.63
15.00	DISCHG	5.45	5.33	5.25	5.20	5.13	5.02	4.88	4.74	4.63	4.57
16.00	DISCHG	4.53	4.50	4.49	4.48	4.48	4.48	4.46	4.40	4.28	4.14
17.00	DISCHG	4.01	3.92	3.87	3.84	3.82	3.81	3.80	3.80	3.79	3.75
18.00	DISCHG	3.65	3.51	3.38	3.27	3.19	3.15	3.12	3.10	3.09	3.09
19.00	DISCHG	3.08	3.08	3.08	3.09	3.09	3.09	3.09	3.10	3.09	3.05
20.00	DISCHG	2.95	2.80	2.66	2.55	2.47	2.43	2.40	2.38	2.37	2.36
21.00	DISCHG	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.36	2.36	2.36
22.00	DISCHG	2.36	2.36	2.36	2.37	2.37	2.37	2.37	2.37	2.37	2.37
23.00	DISCHG	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.33	2.38	2.33
24.00	DISCHG	2.22	2.03	1.73	1.35	.96	.64	.41	.27	.17	.11
25.00	DISCHG	.07	.05	.03	.02	.01	.01	.00			

RUNOFF VOLUME ABOVE BASEFLOW = 2.25 WATERSHED INCHES, 101.52 CFS-HRS, 8.39 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 107.00

*** WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = 1.10 CFS.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
24.40	1.10	107.75

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

12.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01
12.00	ELEV	107.00	107.00	107.00	107.00	107.00	107.00	107.00	107.35	107.37	107.39
13.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
13.00	ELEV	107.41	107.42	107.43	107.45	107.46	107.47	107.48	107.48	107.49	107.50
14.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
14.00	ELEV	107.50	107.51	107.52	107.52	107.53	107.53	107.54	107.54	107.55	107.55
15.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
15.00	ELEV	107.56	107.56	107.57	107.57	107.57	107.58	107.58	107.59	107.59	107.59
16.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
16.00	ELEV	107.60	107.60	107.60	107.61	107.61	107.61	107.62	107.62	107.62	107.63
17.00	DISCHG	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
17.00	ELEV	107.63	107.63	107.64	107.64	107.64	107.65	107.65	107.65	107.65	107.66
18.00	DISCHG	.01	.04	.07	.10	.13	.15	.18	.20	.23	.26
18.00	ELEV	107.66	107.66	107.66	107.67	107.67	107.67	107.67	107.68	107.68	107.68
19.00	DISCHG	.28	.31	.33	.35	.38	.40	.43	.45	.47	.50
19.00	ELEV	107.68	107.68	107.69	107.69	107.69	107.69	107.69	107.70	107.70	107.70
20.00	DISCHG	.52	.54	.56	.58	.59	.61	.63	.64	.66	.67
20.00	ELEV	107.70	107.70	107.70	107.71	107.71	107.71	107.71	107.71	107.71	107.71
21.00	DISCHG	.69	.70	.72	.73	.75	.76	.77	.79	.80	.82
21.00	ELEV	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.73
22.00	DISCHG	.83	.84	.86	.87	.88	.90	.91	.92	.93	.95
22.00	ELEV	107.73	107.73	107.73	107.73	107.73	107.73	107.73	107.73	107.74	107.74
23.00	DISCHG	.96	.97	.98	1.00	1.01	1.02	1.03	1.05	1.06	1.07
23.00	ELEV	107.74	107.74	107.74	107.74	107.74	107.74	107.74	107.74	107.75	107.75

24.00	DISCHG	1.08	1.09	1.10	1.10	1.10	1.10	1.09	1.09	1.08	1.07
24.00	ELEV	107.75	107.75	107.75	107.75	107.75	107.75	107.75	107.75	107.75	107.75
25.00	DISCHG	1.06	1.05	1.04	1.03	1.03	1.02	1.01	1.00	.99	.98
25.00	ELEV	107.75	107.75	107.74	107.74	107.74	107.74	107.74	107.74	107.74	107.74
26.00	DISCHG	.97	.96	.96	.95	.94	.93	.92	.91	.91	.90
26.00	ELEV	107.74	107.74	107.74	107.74	107.74	107.74	107.73	107.73	107.73	107.73
27.00	DISCHG	.89	.88	.87	.87	.86	.85	.84	.84	.83	.82
27.00	ELEV	107.73	107.73	107.73	107.73	107.73	107.73	107.73	107.73	107.73	107.73
28.00	DISCHG	.81	.81	.80	.79	.79	.78	.77	.76	.76	.75
28.00	ELEV	107.73	107.73	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.72
29.00	DISCHG	.74	.74	.73	.73	.72	.71	.71	.70	.69	.69
29.00	ELEV	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.72	107.72

RUNOFF VOLUME ABOVE BASEFLOW = .20 WATERSHED INCHES, 3.13 CFS-HRS, .76 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 3 RECORD ID 22

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 23
STARTING TIME = .00 RAIN DEPTH = 8.00 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2
ALTERNATE NO.= 2 STORM NO.= 4 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 5
AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.52	18.02	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA =		.02 SQ.MI.
10.00	DISCHG	.00	.00	.00	.00	.00	.00	.01	.02	.04	.07
11.00	DISCHG	.11	.16	.22	.29	.38	.49	.68	1.00	1.63	3.06
12.00	DISCHG	5.33	8.44	11.96	15.14	17.25	18.01	17.61	16.37	14.60	12.63
13.00	DISCHG	10.37	9.61	8.48	7.54	6.74	6.06	5.48	4.98	4.53	4.18
14.00	DISCHG	3.86	3.59	3.35	3.14	2.95	2.79	2.64	2.50	2.37	2.25
15.00	DISCHG	2.14	2.05	1.98	1.92	1.87	1.82	1.78	1.74	1.70	1.66
16.00	DISCHG	1.62	1.60	1.57	1.56	1.54	1.53	1.52	1.51	1.50	1.47
17.00	DISCHG	1.45	1.42	1.39	1.36	1.34	1.32	1.31	1.30	1.30	1.29
18.00	DISCHG	1.27	1.25	1.23	1.20	1.17	1.14	1.11	1.09	1.08	1.07
19.00	DISCHG	1.06	1.05	1.05	1.05	1.04	1.04	1.04	1.04	1.04	1.03
20.00	DISCHG	1.02	1.01	.98	.95	.92	.89	.87	.85	.83	.82
21.00	DISCHG	.81	.81	.80	.80	.80	.79	.79	.79	.79	.79
22.00	DISCHG	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79
23.00	DISCHG	.79	.79	.79	.79	.80	.80	.80	.80	.80	.79
24.00	DISCHG	.78	.76	.72	.66	.58	.50	.41	.33	.26	.20
25.00	DISCHG	.15	.12	.09	.07	.05	.04	.03	.02	.02	.01
26.00	DISCHG	.01	.01	.01	.00						

RUNOFF VOLUME ABOVE BASEFLOW = 3.00 WATERSHED INCHES, 35.21 CFS-HRS, 2.31 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1
OUTPUT HYDROGRAPH= 6
AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS
INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.25	110.86	(RUNOFF)
19.67	4.21	(RUNOFF)
23.66	3.23	(RUNOFF)

TIME(HRS)		FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT = .10 HOURS			DRAINAGE AREA =		.07 SQ.MI.
9.00	DISCHG	.00	.00	.00	.00	.00	.00	.00	.00	.01	.03
10.00	DISCHG	.07	.14	.22	.33	.45	.60	.78	1.00	1.27	1.59
11.00	DISCHG	1.96	2.38	2.87	3.42	4.05	4.31	5.65	10.44	18.81	34.51

12.00	DISCHG	60.32	90.13	108.65	108.38	93.71	74.44	58.05	46.67	38.61	32.60
13.00	DISCHG	28.07	24.63	21.88	19.62	17.87	16.40	15.14	14.05	13.09	12.31
14.00	DISCHG	11.64	11.07	10.57	10.11	9.69	9.28	8.88	8.49	8.11	7.78
15.00	DISCHG	7.53	7.35	7.24	7.17	7.07	6.92	6.72	6.53	6.37	6.28
16.00	DISCHG	6.22	6.19	6.17	6.16	6.15	6.15	6.12	6.03	5.86	5.67
17.00	DISCHG	5.50	5.38	5.31	5.26	5.23	5.21	5.20	5.20	5.19	5.12
18.00	DISCHG	4.99	4.80	4.61	4.46	4.36	4.30	4.26	4.23	4.22	4.21
19.00	DISCHG	4.21	4.20	4.20	4.21	4.21	4.21	4.21	4.21	4.21	4.15
20.00	DISCHG	4.01	3.81	3.62	3.46	3.36	3.30	3.26	3.23	3.22	3.21
21.00	DISCHG	3.20	3.20	3.19	3.19	3.19	3.19	3.20	3.20	3.20	3.20
22.00	DISCHG	3.20	3.20	3.21	3.21	3.21	3.21	3.21	3.21	3.22	3.22
23.00	DISCHG	3.22	3.22	3.22	3.22	3.23	3.23	3.23	3.23	3.22	3.15
24.00	DISCHG	3.01	2.75	2.34	1.82	1.30	.87	.56	.36	.24	.15
25.00	DISCHG	.10	.06	.04	.02	.01	.01	.00			

RUNOFF VOLUME ABOVE BASEFLOW = 3.33 WATERSHED INCHES, 150.01 CFS-HRS, 12.40 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 107.00

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)	
23.30	3.17*	107.32	* FIRST POINT OF FLAT PEAK

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

12.00	DISCHG	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01
12.00	ELEV	107.00	107.00	107.00	107.00	107.40	107.46	107.52	107.56	107.59	107.62
13.00	DISCHG	.01	.02	.23	.41	.57	.72	.85	.97	1.08	1.19
13.00	ELEV	107.64	107.66	107.68	107.69	107.71	107.72	107.73	107.74	107.75	107.76
14.00	DISCHG	1.28	1.37	1.45	1.53	1.61	1.68	1.74	1.80	1.86	1.92
14.00	ELEV	107.76	107.77	107.78	107.78	107.79	107.80	107.80	107.81	107.81	107.82
15.00	DISCHG	1.97	2.01	2.06	2.11	2.15	2.19	2.23	2.27	2.31	2.35
15.00	ELEV	107.82	107.82	107.83	107.83	107.84	107.84	107.84	107.85	107.85	107.85
16.00	DISCHG	2.38	2.41	2.45	2.48	2.51	2.55	2.58	2.61	2.64	2.67
16.00	ELEV	107.85	107.86	107.86	107.86	107.87	107.87	107.87	107.87	107.88	107.88
17.00	DISCHG	2.69	2.72	2.74	2.76	2.78	2.80	2.83	2.85	2.87	2.89
17.00	ELEV	107.88	107.88	107.88	107.89	107.89	107.89	107.89	107.89	107.89	107.90
18.00	DISCHG	2.91	2.92	2.94	2.95	2.97	2.98	2.99	3.00	3.01	3.02
18.00	ELEV	107.90	107.90	107.90	107.90	107.90	107.90	107.90	107.91	107.91	107.91
19.00	DISCHG	3.03	3.04	3.05	3.06	3.07	3.08	3.09	3.10	3.11	3.12
19.00	ELEV	107.91	107.91	107.91	107.91	107.91	107.91	107.91	107.91	107.91	107.92
20.00	DISCHG	3.13	3.14	3.14	3.15	3.15	3.15	3.15	3.15	3.15	3.15
20.00	ELEV	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92
21.00	DISCHG	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16
21.00	ELEV	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92
22.00	DISCHG	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16
22.00	ELEV	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92
23.00	DISCHG	3.16	3.16	3.16	3.16	3.17	3.17	3.17	3.17	3.17	3.17
23.00	ELEV	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92	107.92

24.00	DISCHG	3.17	3.16	3.16	3.15	3.14	3.12	3.10	3.07	3.05	3.02
24.00	ELEV	107.92	107.92	107.92	107.92	107.92	107.91	107.91	107.91	107.91	107.91
25.00	DISCHG	3.00	2.97	2.95	2.92	2.89	2.87	2.84	2.82	2.79	2.77
25.00	ELEV	107.90	107.90	107.90	107.90	107.90	107.89	107.89	107.89	107.89	107.89
26.00	DISCHG	2.74	2.72	2.70	2.67	2.65	2.62	2.60	2.58	2.56	2.53
26.00	ELEV	107.88	107.88	107.88	107.88	107.88	107.87	107.87	107.87	107.87	107.87
27.00	DISCHG	2.51	2.49	2.47	2.44	2.42	2.40	2.38	2.36	2.34	2.32
27.00	ELEV	107.86	107.86	107.86	107.86	107.86	107.86	107.85	107.85	107.85	107.85
28.00	DISCHG	2.30	2.28	2.26	2.24	2.22	2.20	2.18	2.16	2.14	2.12
28.00	ELEV	107.85	107.85	107.84	107.84	107.84	107.84	107.84	107.84	107.83	107.83
29.00	DISCHG	2.10	2.08	2.06	2.05	2.03	2.01	1.99	1.98	1.96	1.94
29.00	ELEV	107.83	107.83	107.83	107.83	107.83	107.82	107.82	107.82	107.82	107.82

RUNOFF VOLUME ABOVE BASEFLOW = .37 WATERSHED INCHES, 43.58 CFS-HRS, 3.60 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 4 RECORD ID 24

EXECUTIVE CONTROL OPERATION COMPUT FROM XSECTION 1 TO STRUCTURE 1 RECORD ID 25

STARTING TIME = .00 RAIN DEPTH = 10.50 RAIN DURATION= 1.00 RAIN TABLE NO.= 2 ANT. MOIST. COND= 2

ALTERNATE NO.= 2 STORM NO.= 5 MAIN TIME INCREMENT = .10 HOURS

OPERATION RUNOFF CROSS SECTION 1

OUTPUT HYDROGRAPH= 5

AREA= .02 SQ MI INPUT RUNOFF CURVE= 57. TIME OF CONCENTRATION= .35 HOURS

INTERNAL HYDROGRAPH TIME INCREMENT= .1056 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.50	30.31	(RUNOFF)
23.68	1.17	(RUNOFF)

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .02 SQ.MI.

9.00	DISCHG	.00	.00	.00	.01	.02	.03	.04	.06	.09	.12
10.00	DISCHG	.15	.18	.22	.26	.30	.35	.41	.48	.56	.66
11.00	DISCHG	.77	.90	1.04	1.21	1.40	1.63	2.00	2.64	3.33	6.38
12.00	DISCHG	10.30	15.50	21.24	26.26	29.41	30.31	29.33	27.01	23.90	20.61
13.00	DISCHG	17.70	15.41	13.52	11.95	10.62	9.50	8.54	7.72	7.03	6.44
14.00	DISCHG	5.93	5.49	5.11	4.77	4.48	4.22	3.99	3.77	3.57	3.38
15.00	DISCHG	3.21	3.07	2.96	2.87	2.80	2.73	2.66	2.60	2.54	2.48
16.00	DISCHG	2.42	2.38	2.35	2.32	2.30	2.28	2.27	2.25	2.23	2.19
17.00	DISCHG	2.15	2.11	2.06	2.02	1.99	1.97	1.95	1.93	1.92	1.91
18.00	DISCHG	1.89	1.86	1.82	1.77	1.73	1.68	1.65	1.62	1.60	1.58
19.00	DISCHG	1.57	1.56	1.55	1.54	1.54	1.54	1.53	1.53	1.53	1.52
20.00	DISCHG	1.51	1.48	1.45	1.40	1.36	1.32	1.28	1.25	1.23	1.21
21.00	DISCHG	1.20	1.19	1.18	1.18	1.17	1.17	1.17	1.16	1.16	1.16
22.00	DISCHG	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
23.00	DISCHG	1.16	1.16	1.16	1.16	1.16	1.17	1.17	1.17	1.16	1.16
24.00	DISCHG	1.14	1.11	1.05	.96	.85	.73	.60	.48	.38	.29
25.00	DISCHG	.22	.17	.13	.10	.08	.06	.05	.04	.03	.02
26.00	DISCHG	.02	.01	.01	.01	.00					

RUNOFF VOLUME ABOVE BASEFLOW = 4.88 WATERSHED INCHES, 57.34 CFS-HRS, 4.74 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RUNOFF CROSS SECTION 1

OUTPUT HYDROGRAPH= 6

AREA= .07 SQ MI INPUT RUNOFF CURVE= 60. TIME OF CONCENTRATION= .57 HOURS

INTERNAL HYDROGRAPH TIME INCREMENT= .0760 HOURS

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	173.66	(RUNOFF)
19.67	6.11	(RUNOFF)
23.66	4.66	(RUNOFF)

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

8.00	DISCHG	.00	.00	.00	.00	.00	.01	.04	.09	.16	.24

9.00	DISCHG	.33	.44	.55	.68	.82	.96	1.11	1.26	1.44	1.62
10.00	DISCHG	1.81	1.99	2.19	2.41	2.68	3.00	3.39	3.87	4.44	5.10
11.00	DISCHG	5.85	6.68	7.60	8.62	9.76	11.31	14.52	21.50	36.34	62.73
12.00	DISCHG	104.36	150.46	177.28	174.27	143.04	117.40	90.85	72.49	59.54	49.33
13.00	DISCHG	42.73	37.30	33.00	29.47	26.75	24.49	22.55	20.88	19.43	18.25
14.00	DISCHG	17.24	16.38	15.63	14.94	14.30	13.69	13.09	12.51	11.94	11.45
15.00	DISCHG	11.07	10.81	10.64	10.53	10.38	10.15	9.85	9.57	9.34	9.20
16.00	DISCHG	9.11	9.06	9.02	9.01	9.00	8.99	8.95	8.81	8.56	8.28
17.00	DISCHG	8.03	7.85	7.74	7.67	7.62	7.60	7.58	7.57	7.55	7.46
18.00	DISCHG	7.26	6.98	6.71	6.49	6.34	6.25	6.19	6.15	6.13	6.12
19.00	DISCHG	6.11	6.10	6.10	6.10	6.10	6.11	6.11	6.11	6.10	6.02
20.00	DISCHG	5.81	5.53	5.24	5.02	4.87	4.78	4.72	4.68	4.65	4.64
21.00	DISCHG	4.63	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62
22.00	DISCHG	4.63	4.63	4.63	4.63	4.63	4.63	4.64	4.64	4.64	4.64
23.00	DISCHG	4.64	4.64	4.65	4.65	4.65	4.65	4.65	4.65	4.64	4.54
24.00	DISCHG	4.33	3.96	3.37	2.63	1.87	1.26	.81	.52	.34	.22
25.00	DISCHG	.14	.09	.06	.03	.02	.01	.01	.00		

RUNOFF VOLUME ABOVE BASEFLOW = 5.30 WATERSHED INCHES, 238.83 CFS-HRS, 13.74 ACRE-FEET; BASEFLOW = .00 CFS

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH= 6 OUTPUT HYDROGRAPH= 7
SURFACE ELEVATION= 107.00

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)	
15.80	3.31*	108.21	* FIRST POINT OF FLAT PEAK

TIME(HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT = .10 HOURS DRAINAGE AREA = .07 SQ.MI.

12.00	DISCHG	.00	.00	.01	.01	.54	1.71	2.61	3.31	3.87	4.46
12.00	ELEV	107.00	107.00	107.44	107.58	107.70	107.80	107.87	107.93	107.98	108.01
13.00	DISCHG	5.15	5.73	6.22	6.63	6.99	7.30	7.57	7.80	8.00	8.18
13.00	ELEV	108.04	108.07	108.09	108.10	108.12	108.13	108.14	108.15	108.16	108.17
14.00	DISCHG	8.34	8.48	8.61	8.72	8.82	8.90	8.98	9.04	9.09	9.14
14.00	ELEV	108.17	108.18	108.19	108.19	108.19	108.20	108.20	108.20	108.21	108.21
15.00	DISCHG	9.17	9.20	9.22	9.25	9.27	9.28	9.30	9.30	9.31	9.30
15.00	ELEV	108.21	108.21	108.21	108.21	108.21	108.21	108.21	108.21	108.21	108.21
16.00	DISCHG	9.30	9.30	9.29	9.29	9.29	9.28	9.28	9.27	9.26	9.24
16.00	ELEV	108.21	108.21	108.21	108.21	108.21	108.21	108.21	108.21	108.21	108.21
17.00	DISCHG	9.23	9.21	9.18	9.16	9.13	9.11	9.08	9.06	9.03	9.01
17.00	ELEV	108.21	108.21	108.21	108.21	108.21	108.21	108.20	108.20	108.20	108.20
18.00	DISCHG	8.98	8.95	8.91	8.88	8.84	8.79	8.75	8.71	8.66	8.62
18.00	ELEV	108.20	108.20	108.20	108.20	108.19	108.19	108.19	108.19	108.19	108.19
19.00	DISCHG	8.58	8.54	8.50	8.46	8.42	8.38	8.34	8.31	8.27	8.23
19.00	ELEV	108.18	108.18	108.18	108.18	108.18	108.18	108.17	108.17	108.17	108.17
20.00	DISCHG	8.20	8.15	8.11	8.06	8.01	7.95	7.90	7.85	7.80	7.74
20.00	ELEV	108.17	108.17	108.16	108.16	108.16	108.16	108.16	108.15	108.15	108.15
21.00	DISCHG	7.69	7.64	7.59	7.54	7.49	7.45	7.40	7.35	7.31	7.26
21.00	ELEV	108.15	108.14	108.14	108.14	108.14	108.14	108.13	108.13	108.13	108.13
22.00	DISCHG	7.22	7.18	7.13	7.09	7.05	7.01	6.97	6.93	6.90	6.86

22.00	ELEV	108.13	108.13	108.12	108.12	108.12	108.12	108.12	108.12	108.11	108.11
23.00	DISCHG	6.82	6.79	6.75	6.72	6.68	6.65	6.61	6.58	6.55	6.52
23.00	ELEV	108.11	108.11	108.11	108.11	108.10	108.10	108.10	108.10	108.10	108.10
24.00	DISCHG	6.48	6.44	6.40	6.34	6.27	6.20	6.11	6.02	5.93	5.83
24.00	ELEV	108.10	108.10	108.09	108.09	108.09	108.08	108.08	108.08	108.07	108.07
25.00	DISCHG	5.74	5.65	5.55	5.46	5.37	5.28	5.20	5.11	5.03	4.94
25.00	ELEV	108.07	108.06	108.06	108.05	108.05	108.05	108.04	108.04	108.04	108.03
26.00	DISCHG	4.86	4.78	4.70	4.62	4.55	4.47	4.40	4.32	4.25	4.18
26.00	ELEV	108.03	108.03	108.02	108.02	108.02	108.01	108.01	108.01	108.00	108.00
27.00	DISCHG	4.13	4.10	4.06	4.03	3.99	3.96	3.92	3.89	3.85	3.82
27.00	ELEV	108.00	107.99	107.99	107.99	107.99	107.98	107.98	107.98	107.97	107.97
28.00	DISCHG	3.78	3.75	3.72	3.68	3.65	3.62	3.59	3.56	3.52	3.49
28.00	ELEV	107.97	107.97	107.96	107.96	107.96	107.96	107.95	107.95	107.95	107.95
29.00	DISCHG	3.46	3.43	3.40	3.37	3.34	3.31	3.28	3.25	3.22	3.20
29.00	ELEV	107.94	107.94	107.94	107.94	107.93	107.93	107.93	107.93	107.92	107.92

RUNOFF VOLUME ABOVE BASEFLOW = 2.63 WATERSHED INCHES, 118.27 CFS-HRS, 3.77 ACRE-FEET; BASEFLOW = .00 CFS

EXECUTIVE CONTROL OPERATION ENDCMP COMPUTATIONS COMPLETED FOR PASS 5 RECORD ID 26

EXECUTIVE CONTROL OPERATION ENDJOB RECORD ID 27

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 2 STORM 1													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	4.50	24.00	.85	—	12.60	4.03	224.6
XSECTION 1	RUNOFF	.07	2	2	.10	.0	4.50	24.00	1.02	—	12.23	23.13	418.1
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	4.50	24.00	.00	107.36	25.40?	.01?	.1
ALTERNATE 2 STORM 2													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	5.00	24.00	1.10	—	12.58	5.67	311.7
XSECTION 1	RUNOFF	.07	2	2	.10	.0	5.00	24.00	1.30	—	12.28	39.02	563.0
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	5.00	24.00	.00	107.46	25.40?	.01?	.1
ALTERNATE 2 STORM 3													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	6.50	24.00	1.38	—	12.53	11.39	625.6
XSECTION 1	RUNOFF	.07	2	2	.10	.0	6.50	24.00	2.25	—	12.26	72.59	1033.9
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	6.50	24.00	.20	107.73	24.40?	1.10?	15.8
ALTERNATE 2 STORM 4													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	8.00	24.00	3.00	—	12.52	18.02	990.1
XSECTION 1	RUNOFF	.07	2	2	.10	.0	8.00	24.00	3.33	—	12.25	110.86	1588.3
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	8.00	24.00	.37	107.32	23.30*	3.17*	45.4
ALTERNATE 2 STORM 5													
XSECTION 1	RUNOFF	.02	2	2	.10	.0	10.50	24.00	4.88	—	12.50	30.31	1665.5
XSECTION 1	RUNOFF	.07	2	2	.10	.0	10.50	24.00	5.30	—	12.24	179.66	2573.3
STRUCTURE 1	RESVOR	.07	2	2	.10	.0	10.50	24.00	2.63	108.21	15.80*	9.31*	133.3

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1	2	3	4	5
STRUCTURE	1	.07					
ALTERNATE	2		.01	.01	1.10	3.17	9.31
XSECTION	1	.07					
ALTERNATE	2		29.13	39.02	72.59	110.86	173.66

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SHEET NO. 3 OF 4

PROJECT SR 400 (I-4) JOB NO.

SUBJECT MEDIAN RUNOFF (FROM STA. 526+00 THRU. STA. 539+00

DESIGNED BY MK DATE 3/28/88 CHECKED BY DATE

BASIN 3000

MEDIAN RUNOFF BETWEEN STA. 526+00 THRU. STA. 539+00

LENGTH = 1,300'

(ONE SIDE) $W_{(PAVED)} = 10'$, $A_{(PAVED)} = 0.30$ AC @ CN=98

(ONE SIDE) $W_{(SOD)} = 22'$, $A_{(SOD)} = 0.66$ AC @ CN=39

$$CN_{(AVG)} = \frac{(0.30)(98) + (0.66)(39)}{0.96} = 57.44$$

T_c COMPUTATION

1300' OF DITCH FLOW @ SLOPE = 0.6% $\Rightarrow V = 1.2$ FPS

$$T_c = \frac{1300'}{(1.2)(60)} = 18.06 \text{ MIN} \approx 18 \text{ MIN.}$$

SUMMARY BASIN 3000

A = 1.92 AC

CN = 57.44

T_c = 18.00 MIN.

SCS UNIT HYDROGRAPH PACKAGE SC87145 VER 1.01
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MEDIAN RUNOFF FROM STA 526+00 THRU STA 539+00 - SR 400 (I-4)
BASIN 3000

BASIN INPUT DATA

BASIN AREA	1.92	ACRES
SCS CURVE NUMBER	57.44	
INITIAL ABSTRACTION	1.48	INCHES
TIME OF CONCENTRATION	18.00	MINUTES
SCS SHAPE FACTOR	484	

OUTPUT SUMMARY

STORM RAINFALL	8.60	INCHES
STORM DURATION	24.00	HOURS
TOTAL RUNOFF	3.49	INCHES
PEAK RUNOFF RATE	6.68	CFS
TIME OF PEAK	12.08	HOURS
UNIT GRAPH VOLUME	1.00	INCHES

REFERENCE FILES

INPUT DATA	C:LASTFI.DAT
OUTPUT TO DISK	
RAINFALL DISTRIBUTION	RAIN2.RAI
UNIT HYDROGRAPH	UNIT2.UHG

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 526+00 THRU STA 539+00

DISCHARGE	6.68 CFS	BASE WIDTH	0.00 FEET
VELOCITY	1.98 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.75 FEET	AREA	3.38 SQ.FT.
BOTTOM SLOPE	0.00600	TOP WIDTH	9.00 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.60 FEET	VELOCITY HEAD	0.06 FEET
FROUDE NUMBER	0.57	P + M	78 POUNDS
CRITICAL SLOPE	0.01336		

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DELON HAMPTON & ASSOCIATES, Chartered
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SHEET NO. 2 OF ?

PROJECT SR 400 (I-4) JOB NO.

SUBJECT MEDIAN RUNOFF (FROM STA. 539+00 THRU STA. 549+40

DESIGNED BY MK DATE 3/28/22 CHECKED BY DATE

BASIN 2000 (EXISTING 18" RCP) @ STA. 539+00

FROM STA. 539+00 THRU. 549+40

LENGTH = 1040'

(ONE SIDE) $W_{SOD} = 22'$, $A_{SOD} = 0.53$ AC @ CN = 39

(ONE SIDE) $W_{PAVED} = 10'$, $A_{PAVED} = 0.24$ AC @ CN = 98

$$(CN)_{AVG} = \frac{(0.53)(39) + (0.24)(98)}{0.77} = 57.39$$

T_C COMPUTATIONS

240' DITCH FLOW @ SLOPE = 2.2%, V = 2.2 FPS

300' " " " = 2.4%, V = 2.4 FPS

200' " " " = 0.68%, V = 1.3 FPS

300' " " " = 0.25%, V = 0.75 FPS

$$T_C = \frac{240'}{(2.2)(60)} + \frac{300'}{(2.4)(60)} + \frac{200'}{(1.3)(60)} + \frac{300'}{(0.75)(60)}$$

$= 1.82 + 2.08 + 2.56 + 6.67 = 13.13$ MIN.

SUMMARY BASIN 2000

A = 1.54 AC

CN = 57.39

T_C = 13.13 MIN.

SCS UNIT HYDROGRAPH PACKAGE SCS7145 VER 1.01
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MEDIAN RUNOFF FROM STA 533+00 THRU STA 543+40 - SR 400 (I-4)
BASIN 2000

BASIN INPUT DATA

BASIN AREA	1.54	ACRES
SCS CURVE NUMBER	57.39	
INITIAL ABSTRACTION	1.48	INCHES
TIME OF CONCENTRATION	13.13	MINUTES
SCS SHAPE FACTOR	484	

OUTPUT SUMMARY

STORM RAINFALL	8.50	INCHES
STORM DURATION	24.00	HOURS
TOTAL RUNOFF	3.45	INCHES
PEAK RUNOFF RATE	6.02	CFS
TIME OF PEAK	12.00	HOURS
UNIT GRAPH VOLUME	0.99	INCHES

REFERENCE FILES

INPUT DATA	C:LASTFI.DAT
OUTPUT TO DISK	
RAINFALL DISTRIBUTION	RAIN2.RAI
UNIT HYDROGRAPH	UNIT2.UHG

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 539+00 AND STA 543+00

DISCHARGE	6.02 CFS	BASE WIDTH	0.00 FEET
VELOCITY	3.14 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.57 FEET	AREA	1.92 SQ.FT.
BOTTOM SLOPE	0.02200	TOP WIDTH	6.79 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.57 FEET	VELOCITY HEAD	0.15 FEET
FROUDE NUMBER	1.04	P + M	59 POUNDS
CRITICAL SLOPE	0.02024		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 533+00 AND STA 543+00

DISCHARGE	6.02 CFS	BASE WIDTH	0.00 FEET
VELOCITY	3.24 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.56 FEET	AREA	1.86 SQ.FT.
BOTTOM SLOPE	0.02400	TOP WIDTH	6.68 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.57 FEET	VELOCITY HEAD	0.16 FEET
FROUDE NUMBER	1.08	P + M	59 POUNDS
CRITICAL SLOPE	0.02024		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 539+00 AND STA 543+40

DISCHARGE	6.02 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.02 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.70 FEET	AREA	2.98 SQ.FT.
BOTTOM SLOPE	0.00680	TOP WIDTH	8.46 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.57 FEET	VELOCITY HEAD	0.06 FEET
FROUDE NUMBER	0.60	P + M	67 POUNDS
CRITICAL SLOPE	0.02024		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 533+00 AND STA 543+40

DISCHARGE	6.02 CFS	BASE WIDTH	0.00 FEET
VELOCITY	1.39 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.85 FEET	AREA	4.34 SQ.FT.
BOTTOM SLOPE	0.00250	TOP WIDTH	10.20 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.57 FEET	VELOCITY HEAD	0.03 FEET
FROUDE NUMBER	0.38	P + M	93 POUNDS
CRITICAL SLOPE	0.02024		

PROJECT SR. 400 (I-4) JOB NO.

SUBJECT MEDIAN RUNOFF (FROM STA. 549+40 THRU. STA 554+00)

DESIGNED BY MK DATE 3/25/88 CHECKED BY DATE

$W_{(PAVED)} = 10'$ (ONE SIDE)

$W_{(SOD)} = 22'$ (ONE SIDE)

(S-4) IS LOCATED AT STA. 549+40

TOTAL DRAINAGE AREA FROM STA. 549+40 THRU. STA. 554+00 (MEDIAN)

BASIN 1000

LENGTH = 460'

TOTAL AREA = 0.34 ACRES

$A_{(PAVED)} = 0.11$ ACRES @ CN = 98

$A_{(SOD)} = 0.23$ ACRES @ CN = 39

$$(CN)_{AVG.} = \frac{(0.11)(98) + (0.23)(39)}{0.34} = 58.1$$

PROPOSED T_c

(SEE FIG. 7 SCS, 1972)

200' OF DITCH FLOW WITH SLOPE = 0.9% → V = 1.5 FPS

260' OF DITCH FLOW WITH SLOPE = 2.2% → V = 2.3 FPS

$$T_c = \frac{200'}{(1.5)(60)} + \frac{260'}{(2.3)(60)} = 4.11 \text{ MIN.}$$

SUMMARY BASIN 1000

A = 0.68 ACRES

CN = 58.1

T_c = 4.11 MIN.

SCS UNIT HYDROGRAPH PACKAGE SCS7145 VER 1.01
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MEDIAN RUNOFF FROM STA 543+40 THRU STA 554+00 - SR 400 (I-4)
BASIN 1000

BASIN INPUT DATA

BASIN AREA	0.68	ACRES
SCS CURVE NUMBER	58.10	
INITIAL ABSTRACTION	1.44	INCHES
TIME OF CONCENTRATION	10.00	MINUTES
SCS SHAPE FACTOR	484	

OUTPUT SUMMARY

STORM RAINFALL	8.60	INCHES
STORM DURATION	24.00	HOURS
TOTAL RUNOFF	3.53	INCHES
PEAK RUNOFF RATE	2.86	CFS
TIME OF PEAK	12.00	HOURS
UNIT GRAPH VOLUME	0.99	INCHES

REFERENCE FILES

INPUT DATA	C:LASTFI.DAT
OUTPUT TO DISK	
RAINFALL DISTRIBUTION	RAIN2.RAI
UNIT HYDROGRAPH	UNIT2.UHG

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 543+40 AND STA 554+00

DISCHARGE	2.86 CFS	BASE WIDTH	0.00 FEET
VELOCITY	1.86 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.51 FEET	AREA	1.54 SQ.FT.
[illegible] SLOPE	0.00900	TOP WIDTH	6.07 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.43 FEET	VELOCITY HEAD	0.05 FEET
FROUDE NUMBER	0.65	P + M	26 POUNDS
CRITICAL SLOPE	0.02235		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 543+40 AND STA 554+00

DISCHARGE	2.86 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.60 FPS	SIDE SLOPE	6.00 TO 1
MAX DEPTH	0.43 FEET	AREA	1.10 SQ.FT.
BOTTOM SLOPE	0.02200	TOP WIDTH	5.13 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.43 FEET	VELOCITY HEAD	0.11 FEET
FROUDE NUMBER	0.99	P + M	24 POUNDS
CRITICAL SLOPE	0.02235		

PROJECT SR 400 (I-4) JOB NO.

SUBJECT MEDIAN RUNOFF (FROM STA. 558+00 THRU. STA. 563+75)

DESIGNED BY MK DATE 3/28/88 CHECKED BY DATE

BASIN 4000

MEDIAN RUNOFF BETWEEN STA. 558+00 THRU. STA. 563+75

LENGTH = 575'

(ONE SIDE) $W_{(PAVED)} = 10'$, $A_{(PAVED)} = 0.132$ AC @ $CN = 98$

(ONE SIDE) $W_{(SOD)} = 22'$, $A_{(SOD)} = 0.29$ AC @ $CN = 39$

$$CN_{(AVG)} = \frac{(0.132)(98)+(0.29)(39)}{0.422} = 57.46$$

T_c COMPUTATIONS

100' OF DITCH FLOW @ SLOPE = 0.9%, V = 1.45 FPS

300' " " " " " = 2.13%, V = 2.20 FPS

175' " " " " " = 2.52%, V = 2.45 FPS

$$T_c = \frac{100'}{(1.45)(60)} + \frac{300'}{(2.2)(60)} + \frac{175'}{(2.45)(60)} = 1.15 + 2.27 + 1.19 = 4.61 \text{ MIN.}$$

SUMMARY BASIN 4000

A = 0.844 ACRES

CN = 57.46

T_c = 4.61 MIN.

SCS UNIT HYDROGRAPH PACKAGE SCS7145 VER 1.01
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MEDIAN RUNOFF FROM STA 558+00 THRU STA 563+75 - SR 400 (I-4)
BASIN 4000

BASIN INPUT DATA

BASIN AREA	0.84	ACRES
SCS CURVE NUMBER	57.46	
INITIAL ABSTRACTION	1.48	INCHES
TIME OF CONCENTRATION	10.00	MINUTES
SCS SHAPE FACTOR	484	

OUTPUT SUMMARY

STORM RAINFALL	8.50	INCHES
STORM DURATION	24.00	HOURS
TOTAL RUNOFF	3.46	INCHES
PEAK RUNOFF RATE	3.47	CFS
TIME OF PEAK	12.00	HOURS
UNIT GRAPH VOLUME	0.99	INCHES

REFERENCE FILES

INPUT DATA	C:LASTFI.DAT
OUTPUT TO DISK	
RAINFALL DISTRIBUTION	RAIN2.R01
UNIT HYDROGRAPH	UNIT2.UHG

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 558+00 AND STA 563+75

DISCHARGE	3.47 CFS	BASE WIDTH	0.00 FEET
VELOCITY	1.95 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.54 FEET	AREA	1.78 SQ.FT.
BOTTOM SLOPE	0.00300	TOP WIDTH	6.53 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.46 FEET	VELOCITY HEAD	0.06 FEET
FROUDE NUMBER	0.66	P + M	33 POUNDS
CRITICAL SLOPE	0.02178		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 528+00 AND STA 563+75

DISCHARGE	3.47 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.70 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.46 FEET	AREA	1.29 SQ.FT.
BOTTOM SLOPE	0.02130	TOP WIDTH	5.55 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.46 FEET	VELOCITY HEAD	0.11 FEET
FROUDE NUMBER	0.93	P + M	31 POUNDS
CRITICAL SLOPE	0.02178		

...SION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 553+00 AND STA 563+75

DISCHARGE	3.47 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.88 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.45 FEET	AREA	1.21 SQ.FT.
BOTTOM SLOPE	0.02520	TOP WIDTH	5.38 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.46 FEET	VELOCITY HEAD	0.13 FEET
FROUDE NUMBER	1.07	P + M	31 POUNDS
CRITICAL SLOPE	0.02178		

PROJECT SR 400 (I-4) JOB NO.

SUBJECT MEDIAN RUNOFF (FROM STA. 563+75 THRU STA. 575+00)

DESIGNED BY MK DATE 3/28/88 CHECKED BY DATE

BASIN 5000 (EXIST. D.I. @ STA. 575+00)

MEDIAN RUNOFF BETWEEN STA 563+75 THRU STA. 575+00

LENGTH = 1,125'

(ONE SIDE) $W_{PAVED} = 10'$, $A_{(PAVED)} = 0.26$ AC @ CN=98

(ONE SIDE) $W_{SOD} = 22'$, $A_{(SOD)} = 0.57$ AC @ CN=39

$$CN_{AVG} = \frac{(0.26)(98) + (0.57)(39)}{0.83} = 57.48$$

T_c COMPUTATIONS

225' OF DITCH FLOW @ $S = 2.52\%$, $V = 2.45$ FPS

200' " " " $S = 1.85\%$, $V = 2.10$ FPS

200' " " " $S = 0.93\%$, $V = 1.50$ FPS

500' " " " $S = 0.07\%$, $V = 0.40$ FPS

$$T_c = \frac{225'}{(2.45)(60)} + \frac{200'}{(2.10)(60)} + \frac{200'}{(1.5)(60)} + \frac{500'}{(0.4)(60)} =$$

$$= 1.53 + 1.59 + 2.22 + 20.83 = 26.17 \text{ MIN.}$$

SUMMARY BASIN 5000

A = 1.66 AC

CN = 57.48

T_c = 26.17 MIN.

SCS UNIT HYDROGRAPH PACKAGE SCS7145 VER 1.01
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MEDIAN RUNOFF FROM STA 563+75 THRU STA 575+00 - SR 400 (1-4)
BASIN 5000

BASIN INPUT DATA

BASIN AREA	1.66	ACRES
SCS CURVE NUMBER	57.48	
INITIAL ABSTRACTION	1.48	INCHES
TIME OF CONCENTRATION	26.17	MINUTES
SCS SHAPE FACTOR	484	

OUTPUT SUMMARY

STORM RAINFALL	8.60	INCHES
STORM DURATION	24.00	HOURS
TOTAL RUNOFF	3.50	INCHES
PEAK RUNOFF RATE	4.91	CFS
TIME OF PEAK	12.17	HOURS
UNIT GRAPH VOLUME	1.00	INCHES

REFERENCE FILES

INPUT DATA	C:LASTFI.DAT
OUTPUT TO DISK	
RAINFALL DISTRIBUTION	RAIN2.RAI
UNIT HYDROGRAPH	UNIT2.UHG

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 AND STA 575+00

DISCHARGE	4.91 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.79 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.54 FEET	AREA	1.76 SQ.FT.
BOTTOM SLOPE	0.01850	TOP WIDTH	6.50 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.53 FEET	VELOCITY HEAD	0.12 FEET
FROUDE NUMBER	0.95	P + M	46 POUNDS
CRITICAL SLOPE	0.02080		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 AND STA 575+00

DISCHARGE	4.31 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.16 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.62 FEET	AREA	2.28 SQ.FT.
BOTTOM SLOPE	0.00930	TOP WIDTH	7.39 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.53 FEET	VELOCITY HEAD	0.07 FEET
FROUDE NUMBER	0.69	P + M	50 POUNDS
CRITICAL SLOPE	0.02080		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 AND STA 575+00

DISCHARGE	4.31 CFS	BASE WIDTH	0.00 FEET
VELOCITY	0.82 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	1.00 FEET	AREA	6.00 SQ.FT.
BOTTOM SLOPE	0.00070	TOP WIDTH	12.00 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.53 FEET	VELOCITY HEAD	0.01 FEET
FROUDE NUMBER	0.20	P + M	133 POUNDS
CRITICAL SLOPE	0.02080		

DHA

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SHEET NO. 6 OF 6

PROJECT SR 400 (I-4) JOB NO.

SUBJECT MEDIAN RUNOFF (FROM STA. 563+75 THRU. STA. 585+00

DESIGNED BY MK DATE 3/28/88 CHECKED BY DATE

BASIN 6000

MEDIAN RUNOFF BETWEEN STA. 563+75 THRU. STA. 585+00

LENGTH = 2,125'

(ONE SIDE) $W_{(PAVED)} = 10'$, $A_{(PAVED)} = 0.49$ AC @ CN = 98

(ONE SIDE) $W_{(SOD)} = 22'$, $A_{(SOD)} = 1.07$ AC @ CN = 39

$$CN_{(AVG)} = \frac{(0.49)(98) + (1.07)(39)}{1.56} = 57.53$$

T_c COMPUTATIONS

225' OF DITCH FLOW @ $S = 2.52\%$, $V = 2.45$ FPS

200' " " " " $S = 1.85\%$, $V = 2.0$ "

200' " " " " $S = 0.93\%$, $V = 1.45$ "

500' " " " " $S = 0.07\%$, $V = 0.4$ "

300' " " " $S = 0.12\%$, $V = 0.6$ "

400' " " " $S = 0.09\%$, $V = 0.45$ "

100' " " " $S = 0.5\%$, $V = 1.1$ "

100' " " " $S = 0.9\%$, $V = 1.45$ "

100' " " " $S = 1.0\%$, $V = 1.50$ "

$$T_{c_1} = \frac{225'}{(2.45)(60)} + \frac{200'}{(2.0)(60)} + \frac{200'}{(1.45)(60)} + \frac{500'}{(0.4)(60)} = 1.53 + 1.67 + 2.30 + 20.83 =$$

$$= 26.33 \text{ MIN}$$

$$T_{c_2} = \frac{300'}{(0.6)(60)} + \frac{400'}{(0.45)(60)} + \frac{100'}{(1.1)(60)} + \frac{100'}{(1.45)(60)} + \frac{100'}{(1.50)(60)} =$$

$$= 8.33 + 14.81 + 1.52 + 1.15 + 1.11 = 26.92 \text{ MIN.}$$

$T_{c_2} > T_{c_1}$

SUMMARY BASIN 6000

A = 3.12 AC
CN = 57.53

SCS UNIT HYDROGRAPH PACKAGE SCS7145 VER 1.01
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MEDIAN RUNOFF FROM STA 563+75 THRU STA 585+00 - SR 400 (I-4)
BASIN 6000

BASIN INPUT DATA

BASIN AREA	3.12	ACRES
SCS CURVE NUMBER	57.53	
INITIAL ABSTRACTION	1.48	INCHES
TIME OF CONCENTRATION	26.32	MINUTES
SCS SHAPE FACTOR	484	

OUTPUT SUMMARY

STORM RAINFALL	8.60	INCHES
STORM DURATION	24.00	HOURS
TOTAL RUNOFF	3.50	INCHES
PEAK RUNOFF RATE	9.15	CFS
TIME OF PEAK	12.17	HOURS
UNIT GRAPH VOLUME	1.00	INCHES

REFERENCE FILES

INPUT DATA	C:LASTFI.DAT
OUTPUT TO DISK	
RAINFALL DISTRIBUTION	RAIN2.RHI
UNIT HYDROGRAPH	UNIT2.UHG

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 THRU STA 585+00

DISCHARGE	9.15 CFS	BASE WIDTH	0.00 FEET
VELOCITY	0.96 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	1.26 FEET	AREA	9.57 SQ.FT.
BOTTOM SLOPE	0.00070	TOP WIDTH	15.16 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.68 FEET	VELOCITY HEAD	0.01 FEET
FROUDE NUMBER	0.21	P + M	268 POUNDS
CRITICAL SLOPE	0.01314		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 AND STA 585+00

DISCHARGE	9.15 CFS	BASE WIDTH	0.00 FEET
VELOCITY	3.26 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.68 FEET	AREA	2.81 SQ.FT.
BOTTOM SLOPE	0.01850	TOP WIDTH	8.20 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.68 FEET	VELOCITY HEAD	0.17 FEET
FROUDE NUMBER	0.38	P + M	98 POUNDS
CRITICAL SLOPE	0.01914		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 AND STA 585+00

DISCHARGE	9.15 CFS	BASE WIDTH	0.00 FEET
VELOCITY	2.52 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.78 FEET	AREA	3.63 SQ.FT.
BOTTOM SLOPE	0.00930	TOP WIDTH	9.33 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.68 FEET	VELOCITY HEAD	0.10 FEET
FROUDE NUMBER	0.71	P + M	103 POUNDS
CRITICAL SLOPE	0.01914		

SOLUTION FOR A TRIANGULAR CHANNEL

DITCH BETWEEN STA 563+75 AND STA 585+00

DISCHARGE	9.15 CFS	BASE WIDTH	0.00 FEET
VELOCITY	3.66 FPS	SIDE SLOPE	6.00 TO 1
NORMAL DEPTH	0.65 FEET	AREA	2.50 SQ.FT.
BOTTOM SLOPE	0.02520	TOP WIDTH	7.74 FEET
MANNING'S N	0.0300		
CRITICAL DEPTH	0.68 FEET	VELOCITY HEAD	0.21 FEET
FROUDE NUMBER	1.14	P + M	93 POUNDS
CRITICAL SLOPE	0.01314		

DHA

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SHEET NO. 1 OF ____

PROJECT PROGRAMMING IN "BASIC" JOB NO. ____

SUBJECT OPEN CHANNEL FLOW IN CIRCULAR PIPE

DESIGNED BY KF DATE 1-30-88 CHECKED BY ____ DATE ____

Open Channel Flow in Circular Pipe is programmed in "Basic" language using Manning's Formula.

Approach: ① Discharge Q, Manning's "n" and Pipe Slope S are known.
② Depth of Flow Y (Normal Depth) is determined by trial and error.

Basic Formula:

$$Q = AV$$

$$V = \frac{1.486}{n} \cdot R^{2/3} \cdot S^{1/2}$$

where Q = Flow Discharge
A = Cross-section Area of flow
V = Velocity
n = Manning's "n"
S = Slope
R = Hydraulic Radius
= A/P
P = Wet Perimeter
Y = Normal Depth

Wet Perimeter P has two different solution based on ⓐ $Y \le r$ or ⓑ $Y > r$ (r = radius of Pipe)

ⓐ When $Y \le r$

$$r = D/2 \quad \text{where} \quad D = \text{Dia. of Pipe}$$

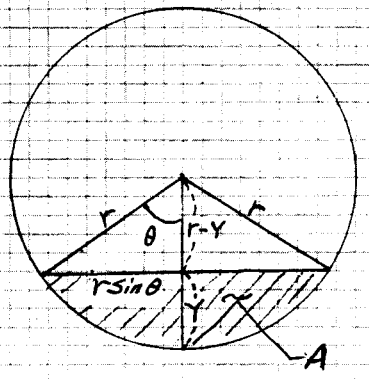
Let $K = Y/D$.

or $Y = K \times D$

$$\theta = \cos^{-1}\left(\frac{r-Y}{r}\right)$$

$$A = \pi r^2 \frac{2\theta}{2\pi} - \frac{(r-Y) \cdot r \sin\theta}{2} \cdot 2$$

$$= r^2\theta - r(r-Y)\sin\theta$$



PROJECT PROGRAMMING IN "BASIC" JOB NO.

SUBJECT OPEN CHANNEL FLOW IN CIRCULAR PIPE

DESIGNED BY K F DATE CHECKED BY DATE

$P = 2r\theta$

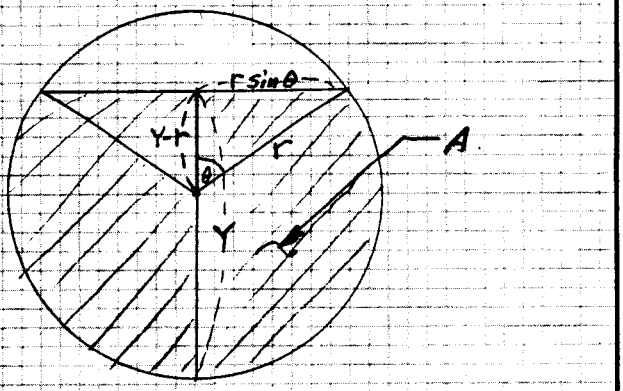
$\therefore$ Hydraulic Radius $R = A/P$

$$= \frac{r^2\theta - r(r-Y)(\sin\theta)}{2r\theta}$$

$$= \frac{\theta - (r-Y)(\sin\theta)}{2\theta}$$

(b) When $Y \geq r$

$$\theta = \cos^{-1}\left(\frac{Y-r}{r}\right)$$



$$A = \pi r^2 - \pi r^2 \frac{2\theta}{2\pi} + r(Y-r)\sin\theta$$

$$= r^2(\pi - \theta) + r(Y-r)\sin\theta$$

$$P = 2\pi r - 2r\theta$$

$$= 2r(\pi - \theta)$$

$\therefore R = A/P$

$$= \frac{r^2(\pi-\theta) + r(Y-r)\sin\theta}{2r(\pi-\theta)}$$

$$= \frac{r(\pi-\theta) + (Y-r)\sin\theta}{2(\pi-\theta)}$$

Then Let Q_0 = Design Q (known)

It is programmed to start $K = 0.1$, $Y = K * D$

Let Q = discharg @ $K = 0.1$

$F = Q_0 - Q$

if $F > 0$ then increase K value

if $F < 0$ then decrease K value

if $|F| \geq 0.004$ then print out the results Y & V.

```
700 DEF FNR(X)=INT(X*100+.5)/100
701 PRINT "PLEASE ADJUST PRINTER PAPER TO THE STARTING OF PAGE !!!"
702 PRINT "THEN TYPE 'CONT' AND PRESS ENTER KEY":STOP
710 LIN=1:PAG=1
720 LPRINT "
  PAGE ";PAG:GOSUB 3000
740 PRINT "INPUT JOB NAME":INPUT J$:LPRINT "JOB NAME: ";J$
760 PRINT "INPUT JOB NO.":INPUT J:LPRINT "JOB NO.: ";J:GOSUB 3000
780 PRINT "INPUT YOUR NAME":INPUT Y$
800 PRINT "INPUT DATE":INPUT D$:LPRINT "COMPUTED BY: ";Y$," DATE: ";D$:GOSUB 30
00
820 PRINT "CIRCULAR CHANNEL COMPUTATION":LPRINT "CIRCULAR CHANNEL COMPUTATION":G
OSUB 3000
840 PRINT "FROM STRUCTURE NO.(MH-? OR CB-?)";:INPUT F$:LPRINT "  ":GOSUB 3000
848 LPRINT "-----------------------------------------------------------------":GOSUB
3000
850 IF LIN=1 THEN GOTO 860
852 LPRINT " ":GOSUB 3000
854 IF LIN=1 THEN GOTO 860
856 LPRINT " ":GOSUB 3000
860 PRINT "TO STRUCTURE NO.(MH-? OR CB- ?)";:INPUT T$
870 NUM=0
880 PRINT "FROM ";F$;" TO ";T$:LPRINT "FROM ";F$;" TO ";T$:GOSUB 3000
900 PRINT "DESIGN Q (CFS)=?";:INPUT QO
920 PRINT "PIPE DIA.(IN.)=?";:INPUT I:D=I/12:R=D/2
940 PRINT "SLOPE(ft./ft.)=?";:INPUT S
960 PRINT "MANNING'S    n=?";:INPUT N :PRINT "PIPE MATERIAL?":INPUT P$
980 Q1=1.486/N*(D/4)^(2/3)*S^.5*3.1416*R^2
1000 LPRINT "PIPE    DIAMETER= ";I;" IN.":GOSUB 3000
1020 LPRINT "PIPE       SLOPE = ";S;" ft./ft. ":GOSUB 3000
1030 LPRINT "MANNING'S  'n'  = ";N;" FOR ";P$:GOSUB 3000
1040 LPRINT "Q-(Almost full) = ";FNR(Q1);" cfs.":GOSUB 3000
1060 PRINT I;" IN. DIA.  S= ";S;" ft./ft.  n= ";N;" FOR ";P$
1080 PRINT "Q-(Almost full)=";FNR(Q1);" cfs."
1100 IF QO>Q1 THEN 1330
1130 K=.1
1140 GOSUB 1490
1150 IF F>.004 THEN 1300
1160 IF F<-.004 THEN 1350
1170 LPRINT "DESIGN  FLOW   Q= ";FNR(Q);" cfs.":GOSUB 3000
1180 PRINT "DESIGN FLOW  Q= ";FNR(Q);" cfs."
1190 LPRINT "FLOW  DEPTH   y = ";FNR(Y);" ft.":GOSUB 3000
1200 LPRINT "FLOW VELOCITY v = ";FNR(V);" ft./sec.":GOSUB 3000
1210 PRINT "DEPTH Y= ";FNR(Y);" ft.":PRINT "FLOW VELOCITY V= ";FNR(V);" ft./sec.
"
1220 IF V<2.5 THEN PRINT "V<2.5 ft./sec. Too low":LPRINT "V<2.5 ft/sec. too low"
:GOSUB 3000
1230 SMIN=(1.6912*QO*N/(3.14*R^2*D^(2/3)))^2
1240 VMIN=QO/(3.14*R^2)
1250 LPRINT "Smin = ";SMIN;" ft./ft.":GOSUB 3000
1260 PRINT "Smin = ";SMIN;" ft./ft."
1270 LPRINT "Q/A = ";VMIN;" ft./sec.":GOSUB 3000
1280 PRINT "Q/A = ";VMIN;" ft./sec."
1290 PRINT "  ":PRINT "  ":GOTO 1890
1300 IF K>=.9 THEN 1600
1310 K=K+.1
1320 GOTO 1140
1330 PRINT  "DESIGN FLOW  Q= ";QO:LPRINT "DESIGN  FLOW  Q= ";QO:GOSUB 3000
LIST 1000-1100
1340 LPRINT "SURCHARGED !":GOSUB 3000:PRINT "SURCHARGED ! V= ";QO/(3.14*D^2/4):P
RINT "  ":PRINT "  ":GOTO 1890
```

```
1350 K=K-.01:GOSUB 1490
1360 IF F).004 THEN 1390
1370 IF ABS(F)(=.004 THEN 1170
1380 GOTO 1350
1390 IF K)=.939 THEN 1450
1400 K=K+.001
1410 GOSUB 1490
1420 IF ABS(F)(=.004 THEN 1170
1430 IF F(-.004 THEN 1450
1440 GOTO 1390
1450 K=K-.0001:GOSUB 1490
1460 IF ABS(F)(=.004 THEN 1170
1470 IF F).004 THEN 1680
1480 GOTO 1450
1490 Y=K*D
1500 IF K=.5 THEN 2060
1510 IF K).5 THEN 1570
1520 X=(R-Y)/R:Z=ATN((1-X^2)^.5/X):A=R^2*Z-(R-Y)*SIN(Z)*R
1530 P=R*2*Z:R1=A/P
1540 V=1.486/N*R1^(2/3)*S^.5
1550 Q=A*V:F=QO-Q
1560 RETURN
1570 X=(Y-R)/R:Z=ATN((1-X^2)^.5/X):A=R^2*3.1416-(Z*R^2-R*SIN(Z)*(Y-R))
1580 P=2*3.1416*R-2*R*Z:R1=A/P
1590 GOTO 1540
1600 IF K)=.93 THEN 1390
1610 K=K+.01
1620 GOSUB 1490
1630 IF ABS(F)(=.004 THEN 1170
1640 IF F(.004 THEN 1660
1650 GOTO 1600
1660 K=K-.01
1670 GOTO 1390
1680 K=K+.00001:GOSUB 1490
1690 IF ABS(F)(=.004 THEN 1170
1700 IF F(-.004 THEN 1720
1710 GOTO 1680
1720 K=K-.000001:GOSUB 1490
1730 IF ABS(F)(=.004 THEN 1170
1740 IF F).004 THEN 1760
1750 GOTO 1720
1760 K=K+.0000001:GOSUB 1490
1770 IF ABS(F)(=.004 THEN 1170
1780 IF F(-.004 THEN 1800
1790 GOTO 1760
1800 K=K-1E-08:GOSUB 1490
1810 IF ABS(F)(=.004 THEN 1170
1820 IF F).004 THEN 1840
1830 GOTO 1800
1840 K=K+1E-09:GOSUB 1490
1850 IF ABS(F)(=.004 THEN 1170
1860 IF F(-.004 THEN 1880
1870 GOTO 1840
1880 PRINT "Q-QO= ";F:GOTO 1170
1890 PRINT "SATISFIED(USE CAPS Y/N)?"
1920 INPUT M$
1930 IF M$="N" THEN 2000
1940 PRINT "CALCULATE NEW LINE(USE CAPS Y/N)?"
1970 INPUT H$
1980 IF H$="N" THEN END
1990 LPRINT " ":GOSUB 3000
1991 IF LIN=1 THEN GOTO 1999
1992 LPRINT " ":GOSUB 3000
1999 GOTO 840
2000 LPRINT " ":GOSUB 3000
2001 IF LIN=1 THEN 2020
```

```
2010 LPRINT " ":GOSUB 3000
2015 NUM=NUM+1
2020 LPRINT "ALTERNATE ";NUM:GOSUB 3000
2040 PRINT "MODIFICATION ";NUM
2050 GOTO 880
2060 PIE=3.1416
2070 A=.5*PIE*R^2:P=.5*D*PIE:R1=A/P:GOTO 1540
3000 LIN=LIN+1
3010 IF LIN>54 THEN 3100
3020 RETURN
3100 LPRINT " ":LPRINT " ":LPRINT " ":LPRINT " "
3110 LPRINT " ":LPRINT " ":LPRINT " ":LPRINT " "
3120 LPRINT " ":LPRINT " ":LPRINT " "
3125 PAG=PAG+1
3126 LPRINT "
   PAGE ";PAG
3130 LIN=1
3140 RETURN
```

SOIL SURVEY REPORT
STATE ROAD 400
PROJECT NO: 75280-1465

INTRODUCTION:
This department conducted a roadway soil survey on the subject project between April 30, 1987 and July 23, 1987. The roadway soil survey consisted of identification and classification of the soil strata, determination of the permeability at the proposed water retention area, establishing the water table elevations, recommending a design LBR value and pavement coring and evaluation. Details of soils stratification and highest water table elevations at each station are presented on the roadway cross sections in the construction plans. The results of the roadway soil survey are described in detail below.

IDENTIFICATION AND CLASSIFICATION OF SOIL CONDITIONS:
During the field investigation, six soil strata were identified and classified as follows:

STRATUM NO.	MATERIAL IDENTIFICATION DESCRIPTION	CLASSIFICATION
1	Light to dark gray SAND loose and moist.	A-3
2	Pale brown to dark brown SAND, loose and moist.	A-3
3	Mixture of brown and gray SANDS, traces of limerock and clay, loose to compact and moist. (Fill).	A-3 A-2-4
4	Light to dark brown SAND, trace of silt, dense to very dense and moist.	A-3 A-2-4
5	Dark brown to black MUCK, soft and wet.	A-8
6	Pale brown to brown SAND, trace of silt, compact and moist.	A-3

Removal of muck and plastic materials occurring within the roadway shall be accomplished in accordance with Index 500 and the material utilized in the embankment construction shall be in accordance with Index 505. Note that Stratum No. 5 is muck.

DRAINAGE
Two permeability tests were conducted in the proposed water retention areas. This information including water table

{ 2 copies
2 week for permit

elevations is presented in Table I. Preliminary water table elevations in the proposed WRA's were reported in previous memo to Leroy Moslow on May 14, 1987. A copy of this memo is attached.

WATER TABLE ELEVATIONS:
The highest water table elevation encountered at each station is presented on the roadway cross sections except in certain areas (noted on the cross sections) where the ground line was omitted or appeared incorrect. Due to these omissions/errors an evaluation of the water table as it influences subgrade construction could not be made at this time.

DESIGN LBR:
Based on the results of twenty-nine (29) LBR tests that were run on Strata Nos. 1, 2, 3 and 4, a predominant LBR value of 17 is being recommended for design procedures on S.R. 400, S.R.535 and the ramps. Approximately 90% of the LBR values are expected to be equal to or greater than the recommended value. This recommended value was previously reported on August 18, 1987.

PAVEMENT:
The pavement on S.R. 535 was cored at four locations and the pavement on the frontage road was cored at three locations. This information and appropriate remarks are presented in Table 2.

CORROSION TESTING:
Alternate culvert materials are not being considered for this project. Therefore, corrosion testing was not conducted by this Department.

FOUNDATION REPORT: This department conducted a foundation investigation and analysis for the proposed replacement structure. The Report of Foundation Investigation was previously sent to the appropriate department heads on August 3, 1987.

TOM:cj:bar
Attachment
CC: Central File

SOIL SURVEY REPORT
STATE ROAD 400
PROJECT NO: 75280-1465

TABLE I
PERMEABILITY RESULTS

STATION:	541+00	549+00 (on S.R. 400)
OFFSET (Ft. from C.L.):	(C.L. SR400)	(C.L. SR400)
G.S.E. (Ft.):	116.8	118.2
WATER TABLE ELEV.:		
0HR. (Ft.)	107.8	109.2
24HR.(Ft.)	108.3	109.2
DATE:	07-22-87	07-23-87
MATERIAL TESTED:	Stratum No. 2	Stratum No. 6
PERM. RATE K_{20}(cm/sec):	2.60×10^{-4}	1.72×10^{-4}
	$= 6.1 \times 10^{-3}$ in/min.	$= 4.1 \times 10^{-3}$ in/min.
	$= 5.1 \times 10^{-4}$ ft/min.	$= 3.4 \times 10^{-4}$ ft/min.

Form 281-10

MEMORANDUM

State of Florida Department of Transportation

DATE May 14, 1987

TO Mr. Leroy Moslow

FROM Mr. C.H. Jones

COPIES TO Mr. Tony Bryan Mr. Alan Ledgerwood

SUBJECT Preliminary Water Table Elevations
S.R. 400 over S.R. 535
B.I. No.: 5147191
State Project No.: 75280-1465
Fed. Aid No.: IR-4-2 (117)
County: Orange

Preliminary water table elevations were obtained in the quadrant where the proposed loop and outside ramp are to be located. These are reported in the following Table 1.

TABLE 1

LOOP RAMP:

STA.	LOC. (ft.fm.B.L.)	G.S.E. (Ft.)	0 HR. ELEV. (Ft.)	24 HR. ELEV. (Ft.)
15+00	100 Rt.	118.3	110.1	110.7
20+00	100 Rt.	118.1	110.0	110.8

OUTSIDE RAMP:

15+00	B.L.	108.79	105.29	104.79
30+00	B.L.	118.00	113.0	---

CHJ:s
CC: Central File

TABLE 2

PAVEMENT INFORMATION

WPI NO.: 5147191	FAP NO.: IR-4-2(17)
PROJECT NO.: 75280-1465	PROJECT LIMITS:
STATE ROAD NO.: SR-535	Mile Post- To Mile Post-
COUNTY: Orange	DATE CORED: Sept 10, 1987
	CORED BY: A.J. Heath

STA	CORE NO.	TYPE PAVEMENT: TYPE I	Sand Asphalt	Surface Treatment	TYPE II			BASE	CRACK DEPTH	CORE LENGTH	WHEEL PATH	LOCATION FROM ℄
645+00	5	4.05	.85	—				Limerock	4.90	4.90		8.0' RT
650+00	6	3.95	1.55	.15					—	5.65		7.0' LT
655+00	7	4.05	1.10	.20				8.0	5.35	5.35		5.0' RT
660+00	8	4.00	1.05	.20					—	5.25		5.5' LT
Frontage Road												
41+10 ±	9	1.30			1.20			*	2.50	2.50		4.0' RT ℄ of Pav
43+12 ±	10	1.15			1.25			*	2.40	2.40		4.0' LT "
44+20 ±	11	1.25			.95			*	2.20	2.20		4.5' RT "

REMARKS & CONDITIONS

* - Sand Clay Base

STA 645+00 To STA 660+00 pavement condition is poor with mainly Class III cracking. Rutting is very severe Ranging from 1" To 2.5".

Note: cores for SR-535 plotted on Cross sections.
Cores for Frontage Road not plotted, no cross sections.

SOILS-VOIDS RATIO & PERMEABILITY

DETERMINATION OF VOIDS RATIO = e

EXAMPLE: Weight of Soil = 120 pounds per cubic foot.
Specific Gravity of grains = 2.70
2.70 x 62.4 = 169 lb./cu. ft. - Theoretical weight of solid material.
120/169 = 0.71 cu.ft. - Volume of Solid material.
1.00 - 0.71 = 0.29 cu.ft. - Volume of voids.
$\frac{0.29}{0.71}$ = 0.41 = VOIDS RATIO.

PERMEABILITY

WHERE: Darcy's Law : $Q = k A \frac{H}{L}$ for flow of water through soil.

Q = Volume of Flow in cu.ft. per min.
k = Coefficient of permeability - for values see Table A.
A = Area in sq. ft. of cross-section under consideration
$\frac{H}{L}$ = Hydraulic Gradient.

TABLE A-COEFFICIENTS OF PERMEABILITY (k) in ft./min. for 60°F.

EFFECTIVE SIZE	Porosity = $\frac{e}{1+e}$ 30 percent	32 percent	34 percent	36 percent	38 percent	40 percent
0.01	0.00003	0.00004	0.00005	0.000060	0.000072	0.000085
0.02	.00013	.00016	.00020	.000239	.000286	.000339
0.03	.00030	.00036	.00045	.000538	.000645	.000763
0.04	.00053	.00065	.00079	.000968	.001145	.001355
0.05	.00082	.00101	.00124	.001495	.001790	.002120
0.06	.00118	.00146	.00178	.002150	.002580	.003050
0.07	.00161	.00198	.00243	.002930	.003510	.004155
0.08	.00211	.00259	.00218	.003825	.004585	.005425
0.09	.00266	.00328	.00402	.004845	.005800	.006860
0.10	.00328	.00405	.00496	.005980	.007170	.008480
0.12	.00473	.00583	.00713	.008620	.01032	.01220
0.14	.00643	.00794	.00972	.01172	.01404	.01662
0.15	.00739	.00912	.01115	.01345	.01611	.01910
0.16	.00841	.01036	.01268	.01531	.01835	.02170
0.18	.01064	.01311	.01605	.01940	.02320	.02745
0.20	.01315	.0162	.01983	.02390	.02865	.03390
0.25	.020	.0253	.03100	.03740	.04480	.05300
0.30	.0296	.0364	.04460	.05380	.06450	.07630
0.35	.0403	.0496	.0608	.07330	.08790	.1039
0.40	.0527	.0648	.07940	.09575	.1145	.1355
0.45	.0665	.0820	.1005	.1211	.1450	.1718
0.50	.0822	.1012	.1240	.1496	.1780	.2120
0.55	.0994	.1225	.1500	.1810	.2165	.2565
0.60	.1182	.1458	.1784	.2150	.2580	.3050
0.65	.1390	.1710	.2095	.2530	.3030	.3580
0.70	.1610	.1983	.2430	.2930	.3510	.4155
0.75	.1850	.2278	.2785	.3365	.4030	.4770
0.80	.2105	.2590	.3175	.3825	.4585	.5425
0.85	.2375	.2925	.3580	.4325	.5175	.6125
0.90	.2660	.3280	.4018	.4845	.5800	.6860
0.95	.2965	.3650	.4470	.5400	.6460	.7650
1.00	.3282	.4050	.4960	.5880	.7170	.8480
2.00	1.315	1.620	1.983	2.390	2.865	3.390
3.00	2.960	3.640	4.460	5.380	6.450	7.630
4.00	5.270	6.480	7.940	9.575	11.45	13.55
5.00	8.220	10.12	12.40	14.95	17.90	21.20

EFFECTIVE SIZE	Porosity = $\frac{e}{1+e}$ 42 percent	44 percent	46 percent	48 percent	50 percent
0.01	0.000101	0.000123	0.000149	0.000181	0.000215
0.02	.000405	.000492	.000597	.000724	.000861
0.03	.000911	.00111	.00134	.00163	.00194
0.04	.00162	.00197	.00239	.00290	.00344
0.05	.00253	.00307	.00373	.00452	.00538
0.06	.00364	.00442	.00537	.00652	.00775
0.07	.00498	.00602	.00732	.00887	.0105
0.08	.00647	.00787	.00956	.0116	.0138
0.09	.00820	.00996	.0121	.0147	.0174
0.10	.0101	.0123	.0149	.0181	.0215
0.12	.0146	.0177	.0215	.0261	.0310
0.14	.0198	.0241	.0293	.0355	.0422
0.15	.0228	.0277	.0336	.0407	.0484
0.16	.0259	.0315	.0382	.0463	.0551
0.18	.0328	.0398	.0484	.0586	.0697
0.20	.0405	.0492	.0597	.0724	.0861
0.25	.0632	.0768	.0933	.113	.134
0.30	.0911	.111	.134	.163	.194
0.35	.124	.151	.183	.222	.264
0.40	.162	.197	.239	.290	.344
0.45	.205	.249	.302	.366	.436
0.50	.253	.307	.373	.452	.538
0.55	.306	.372	.452	.547	.651
0.60	.364	.442	.537	.652	.775
0.65	.428	.519	.631	.765	.909
0.70	.496	.602	.732	.887	1.05
0.75	.569	.691	.840	1.02	1.21
0.80	.648	.787	.956	1.16	1.38
0.85	.731	.888	1.08	1.31	1.55
0.90	.820	.995	1.21	1.47	1.74
0.95	.913	1.11	1.35	1.63	1.94
1.00	1.01	1.23	1.49	1.81	2.15
2.00	4.05	4.92	5.97	7.24	8.61
3.00	9.11	11.1	13.4	16.3	19.4
4.00	16.2	19.7	23.9	29.0	34.4
5.00	25.3	30.7	37.3	45.2	53.8

TABLE B-TEMPERATURE CORRECTIONS TO TABLE A

See below for use of table.

TEMP. IN °F.	t_c
32	0.64
35	.67
40	.73
45	.80
50	.86
55	0.93
60	1.00
65	1.08
70	1.15
75	1.23
80	1.30
85	1.39
90	1.47
95	1.55
100	1.64

Use of Table B:-
If temperature is other than 60°F., multiply k value in Table A by value of t_c opposite applicable temperature in Table B.

* Adopted from Low Dams by National Resources Committee.

South Florida Water Management District

John R. Wodraska, Executive Director
Tilford C. Creel, Deputy Executive Director

Post Office Box 24680 3301 Gun Club Road
West Palm Beach, Florida 33416-4680
Telephone (305) 686-8800
Florida WATS Line 1-800-432-2045

80 S. Airport Rd.
Kissimmee, FL 32741

QUAD 2 & 21
ITEM 12 & 34
POSTED

IN REPLY REFER TO:

April 15, 1988

CERTIFIED MAIL NO.: P 772 739 413
Resource Control Department
Application No.: 04118-1

Mr. Robert B. Gleason
Florida Dept. of Transportation
719 South Boulevard
DeLand, FL 32720

Dear Mr. Gleason:

Subject: Notice of Intent to Construct Works
General Highway Permit No. 88-34
Permittee: Florida Department of Transportation
Project: I-4/SR 535 Interchange
Location: Orange County, S22,27,28/T24S/R28E

This letter is to notify you of the District's agency action concerning your Notice of Intent to Construct Works. This action is taken pursuant to Rule 40E.1.606 and Chapter 40E-40, Florida Administrative Code.

Based on information provided, District rules have been adhered to and a General Highway Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes administrative hearing, and
2. the attached Special Conditions.

Should you object to these Conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review to the proposed agency action. Please contact the Kissimmee office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee not later than 5:00 P.M., the Fifteenth day of April, 1988, in accordance with Section 120.60(3), F.S.

Sincerely,

for Alan Leavens
James T. Show, P.E.
Director, Water Management Division
Resource Control Department

JTS/pgk
Attachments

Nancy H. Roen, Chairman - Plantation
J.D. York, Vice Chairman - Palm City

Nathaniel P. Reed, Hobe Sound
Oscar M. Corbin, Jr., Ft. Myers
Arsenio Milian, Miami
Fritz Stein, Belle Glade
James F. Garner, Ft. Myers
Mike Stout, Windermere
Doran A. Jason, Key Biscayne

SPECIAL CONDITIONS

OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBLITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OR GROUNDWATERS OF THE STATE SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 17-3. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA AS REQUIRED ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OR GROUNDWATERS OF THE STATE.

SPECIAL CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATER.

THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE

RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

PRIOR TO DEWATERING, PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. INFORMATION SHALL INCLUDE AS A MINIMUM: PUMP SIZES, LOCATIONS AND HOURS OF OPERATION FOR EACH PUMP. IF OFF-SITE DISCHARGE IS PROPOSED, OR OFF-SITE ADVERSE IMPACTS ARE EVIDENT, AN INDIVIDUAL WATER USE PERMIT MAY BE REQUIRED. THE PERMITTEE IS CAUTIONED THAT SEVERAL MONTHS MAY BE REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION.

THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-40, FAC.

THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

DISTRIBUTION LIST

PROJECT: General Highway Permit #88-34
(I-4/SR535 Interchange)

INTERNAL DISTRIBUTION

A. Castro
J. Urquhart
K. Seader
Permit File

EXTERNAL DISTRIBUTION

DEPT. OF ENVIRONMENTAL REGULATION:

Orlando

RP-63 (0148)
Rev 7-84

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX "V"
WEST PALM BEACH, FL. 33402

APR 1 1 1988

*****NOTICE OF INTENT TO CONSTRUCT WORKS PURSUANT TO GENERAL PERMIT*****
(CHAPTER 40E-40, FLORIDA ADMINISTRATIVE CODE)

App # 04118-1
GHP # 88-34

OWNER'S NAME: FLORIDA DEPARTMENT OF TRANSPORTATION

MAILING ADDRESS: 719 SOUTH BOULEVARD

DELAND, FLORIDA 32720
(CITY) (STATE) (ZIP) (PHONE)

DESCRIPTION OF THE PROPOSED PROJECT:

LOCATION: SEC(S) 28, 27 & 22 TWP(S) 245 RGE(S) 28E

TOTAL ACREAGE: 82.121 ACRES

NUMBER OF DWELLING UNITS OR SQUARE FEET OF COMMERCIAL AREA: _____

EVIDENCE VERIFYING ZONING COMPATIBILITY: (ATTACH DOCUMENT)

PROPOSED MINIMUM ROAD ELEVATION 111.0 NGVD

PROPOSED MINIMUM FLOOR ELEVATION: _____ NGVD

BRIEF DESCRIPTION OF THE WORKS TO BE CONSTRUCTED OR ALTERED: _____

ACREAGE OF IMPERVIOUS COVER: 13.67 ACRES

ACREAGE OF WATER MANAGEMENT AREA: 44.65 (INCLUDING WATER BODY) ACRES

INCLUDE PAVING, GRADING & DRAINAGE PLANS, CALCULATIONS, AND, IF USING AN EXFILTRATION SYSTEM, PERCOLATION TESTS.

BRIEF STATEMENT OF FACTS WHICH SHOW WHY THE PROPOSED WORKS QUALIFY FOR A GENERAL PERMIT: FOR QUALITY CONTROL: (1) THERE IS MORE THAN ENOUGH RETENTION VOLUME. (2) TOTAL PERCOLATION TIME FOR REQUIRED RETENTION VOLUME IS 41 hrs. <72 hrs. FOR QUQNTITY CONTROL: PROP. OUTFALL DISCHARGE IS MUCH LESS THAN EXIST. CONDITION, NO ADVERSE EFFECT TO D/STREAM. (SEE INDEX 1, SUMMARY)

(ADD EXTRA SHEET IF NECESSARY)

DATE CONSTRUCTION OR ALTERATION IS EXPECTED TO COMMENCE: _____

I HEREBY CERTIFY THAT ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS HAVE BEEN RECEIVED.

OWNER'S SIGNATURE: Robert R. Gleason
(IF NOT THE OWNER, CERTIFY BELOW)

I HEREBY CERTIFY THAT I AM AN AUTHORIZED AGENT OF THE OWNER

SIGNATURE: Robert R. Gleason TITLE: Environmental Administrator

DATE: April 7, 1988

Figure A-3

DHA

Delon Hampton & Associates, Chartered Engineers Architects Planners

APR 1 1 1988

Delon Hampton, Ph.D., P.E.
R. Varadarajan, Ph.D., P.E.
John M. Zimmer, P.E.
Efren P. Halili, P.E.

April 8, 1988

Mr. Allen Levans
South Florida Water
Management District
80 S. Airport Road
Kissimmee, Florida 32741

RE: I-4/SR 535 Interchange
State Project No. 75280-3465
DHA Job No. 360

Dear Mr. Levans:

Enclosed are 3 sets of permit application package which includes:

(1) Permit Application Form
(2) Drainage Map
(3) Retention Pond Map
(4) Drainage Calculations

Your review and permit for this project would be appreciated.

Please advise if you have any questions or require any additional information.

Very truly yours,

DELON HAMPTON & ASSOCIATES, CHARTERED

M. Mahmoud Keshani

Massoud M. Keshani
Civil Engineer

MMK/pt

Enclosures

cc: Mr. Bob Gleason, FDOT
Project Files (RV, LF, PI, LM, MK)

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners

SHEET NO. ___ OF ___

PROJECT I-4 / SR 535 JOB NO. 360

SUBJECT SUMMARY OF STORMWATER MANAGEMENT CALCULATION

DESIGNED BY KF DATE 1/22/88 CHECKED BY ___ DATE ___

I-4 / SR535 INTERCHANGE IMPROVEMENT

SUMMARY OF STORMWATER MANAGEMENT CALCULATION

STORMWATER QUALITY CONTROL (See INDEX NO. 2 Calculation Sheet No. 7&8)		TOTAL DRAINAGE AREA = 44.65 IMPERVIOUSNESS = 43 % REQUIRED RETENTION VOLUME = 2.89 AC-FT (Without considering pre-treatment) TOTAL RETENTION VOLUME AVAILABLE = 7.0 AC-FT. SOIL PERMEABILITY COEFFICIENT = 2.6×10^{-2} cm/sec OR 5.1×10^{-4} ft/min. TOTAL PERCOLATION TIME = 41 HOURS < 72 HOURS.
STORMWATER QUANTITY CONTROL	EXISTING CONDITION	DRAINAGE AREA = 11.67 Ac, IMPERVIOUSNESS = 31 % WEIGHTED RCN = 57, T_c = 0.95 HRS. DRAINED TO RAMP "C" SIDE DITCH
	PROPOSED CONDITION	DRAINAGE AREA = 44.65 Ac, WEIGHTED RCN = 60, T_c = 0.57 HR, INTER CONNECTED DETENTION/RETENTION PONDS, BOTTOM ELEVATION: POND #1 = 106.0; POND #2 = 107.0, PROPOSED MIN. RD EL. = 111.0 I, IMPERVIOUSNESS = 43 %

TR-20 FLOOD ROUTING RESULTS (See INDEX NO. 3~4)

(See INDEX No. 2 Calculation Sheet No. 1~6)

** See sheet No. 3 for "conditions"

FREQUENCY	EXISTING PEAK (cfs)	PROP. INFLOW PEAK (cfs)	PROP OUTFALL (WEIR CREST: 107.66 L = 7')	
			PEAK (cfs)	MAX. W.L. (MSL)
			** CONDITION 2	
2-YR	4.09	29.19	0	107.36
5-YR	5.67	39.02	0	107.46
10-YR	11.39	72.59	1.10	107.75
25-YR	18.02	110.86	3.17	107.92
100-YR	30.31	179.66	9.31	108.21

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners

SHEET NO. 1 OF ____

PROJECT I-4 / SR 535 JOB NO. 360

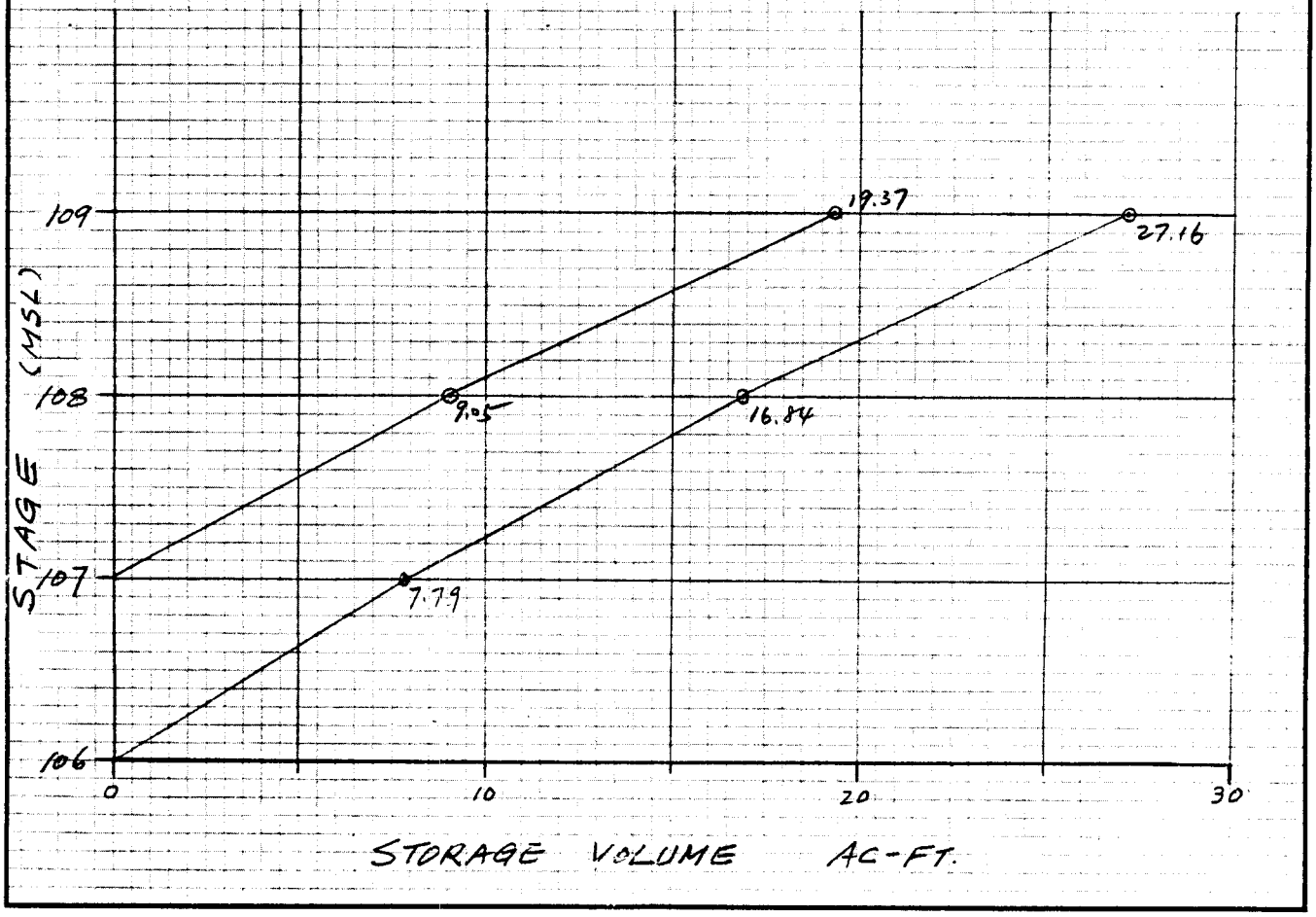
SUBJECT DETENTION / RETENTION PONDS

DESIGNED BY KF DATE 01/07/88 CHECKED BY ____ DATE ____

I. DETENTION / RETENTION VOLUME :

1) POND NO. 1

STAGE (MSL)	HORIZ. AREA (AC)	AVERAGE AREA (AC)	STORAGE VOLUME ΔV. Ac-ft	Accumulated TOTAL VOLUME ΣΔV Ac-ft
106.0	7.16			0
		7.79	7.79	
107.0	8.42			7.79
		9.05	9.05	
108.0	9.68			16.84
		10.32	10.32	
109.0	10.96			27.16



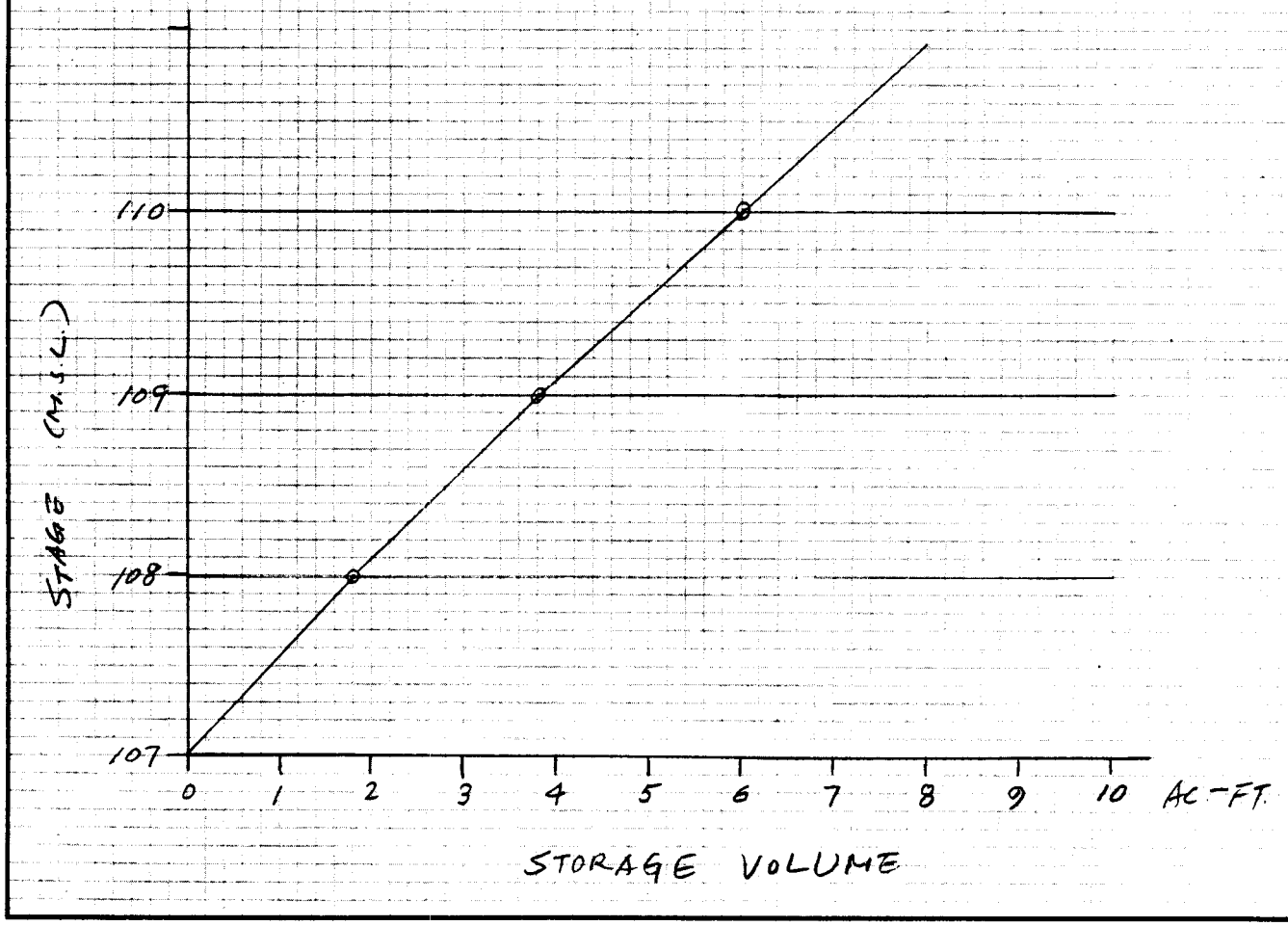
PROJECT I-4 / SR 535 JOB NO. 360

SUBJECT DETENTION / RETENTION PONDS

DESIGNED BY KF DATE 01/07/88 CHECKED BY ____ DATE ____

2) POND NO. 2.

STAGE (MSL)	HORIZ. AREA (AC.)	AVERAGE AREA (AC.)	STORAGE VOLUME ΔV (AC-FT)	Accumulated TOTAL VOLUME Σ(ΔV) AC-FT
107.0	1.71			0
		1.81	1.81	
108.0	1.90			1.81
		2.00	2.00	
109.0	2.09			3.81
		2.19	2.19	
110.0	2.28			6.00



PROJECT I-41/SR535 JOB NO. 360

SUBJECT DETENTION/RETENTION PONDS

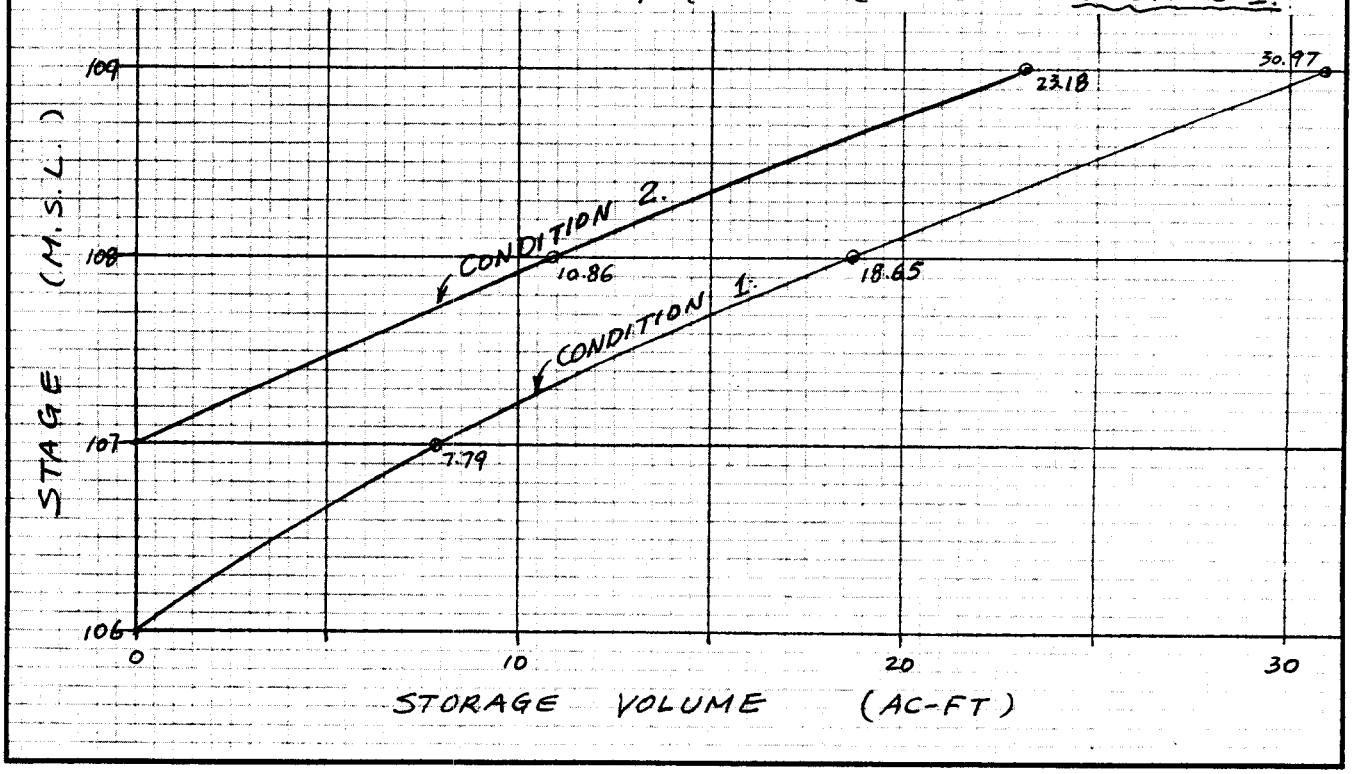
DESIGNED BY KF DATE 01/07/88 CHECKED BY ____ DATE ____

3) COMBINED STORAGE VOLUME:

STAGE (MSL)	POND #1 VOL. (AC.-FT.)	POND #2 VOL. (AC-FT)	TOTAL VOL. (AC-FT) *CONDITION 1	TOTAL VOL. (AC-FT) *CONDITION 2
106.0	0	0	0	0
107.0	7.79	0	7.79	0
108.0	16.84	1.81	18.65	10.86
109.0	27.16	3.81	30.97	23.18

* NOTE: CONDITION 1 – POND #1 and POND #2 both are dry before the storm comes. The bottom elevation of Pond #1 and Pond #2 are 106.0 and 107.0 respectively.

CONDITION 2 – Pond #2 is dry and the water level in pond #1 is at EL. 107.00 before the storm comes. Bottom elevations for both ponds are the same as CONDITION 1.



PROJECT I-4/SR535 JOB NO. 360

SUBJECT STORMWATER QUANTITY CONTROL

DESIGNED BY KF DATE 01/08/88 CHECKED BY ____ DATE ____

III STORMWATER RUNOFF THROUGH RAMP "C" SIDE DITCH @ STA. 25+35 (Equiv. to I-4 STA. 566+00) – CONCRETE RECTANGULAR WEIR CONTROL (see Sheet No. 5)

1) EXISTING (PRE-) CONDITION

Impervious Area (CN=98): 0.57+0.36+0.1+0.52+0.4+0.35+0.49+0.77 = 3.56 AC

Pervious Area (CN=39): 0.08+2.55+1.38+0.28+0.05+0.10+1.67+1.93+0.07 = 8.11 AC

Total Area = 3.56 + 8.11 = 11.67 AC.

Weighted CN = $\frac{3.56\times98 + 8.11\times39}{11.67}$ = 57

Tc = 0.95 See Sheet No. 4a TR55 PRINTOUT

2) PROPOSED (POST-) CONDITION – Including Pond #1, #2 Drainage Areas. See Sheet No. 12 & 13.

Impervious Area (CN=98): 11.50 + 2.17 = 13.67 AC

Pervious Area (CN=39): 21.336 + 9.65 – 13.24 = 17.78 Ac

PONDS Area (CN=49): 10.96 + 2.28 = 13.24 AC.

TOTAL AREA = 44.65AC

Weighted CN = $\frac{98\times13.67 + 39\times17.78 + 49\times13.24}{44.65}$ = 60

Tc = 0.57 hr. (See Sheet No. 32 S23~S22)

TIME OF CONCENTRATION COMPUTATION VERSION 1.11

I-4/SR535(360KF.55) ORANGE,FL KF 01-08-88
Subtitle RUNOFF IN RAMP "C" SIDE DITCH @I-4 STA.566+00 (EXIST. CONDITION)
Subarea # 1 -

Tc Flow Type	2 Year Rain	Length (ft)	Slope (ft/ft)	Surface Code	n	Area (Sq Ft)	Wp (Ft)	Velocity (ft/sec)	Time (hr)
Sheet	4.5	50	.02	A					0.010
Sheet		250	.0043	E					0.502
Shallow Concentrated		750	.0050	U					0.183
Shallow Concentrated									
Open Channel		150						5	0.008
Open Channel		1200	.0011		.03	150	200		0.245
								TOTAL	0.95

--- Sheet Flow Surface Codes ---

A Smooth Surface
B Fallow (No Res.)
C Cultivated (20 % Res.
D Cultivated) 20 % Res.
E Grass-Range, Short
F Grass, Dense
G Grass, Burmuda
H Woods, Light
I Woods, Dense

--- Shallow Concentrated --- Surface Codes ---

P Paved
U Unpaved

CAPS NUM

F1Help F2Print F3Load F4Save F5DOS F6Zero F8Select

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT DETENTION / RETENTION PONDS

DESIGNED BY KF DATE 01/20/88 CHECKED BY ____ DATE ____

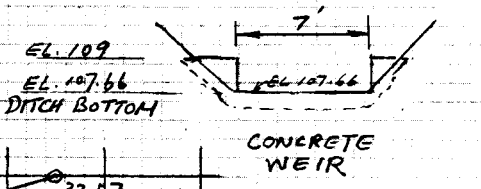
3) FLOW CONTROL:

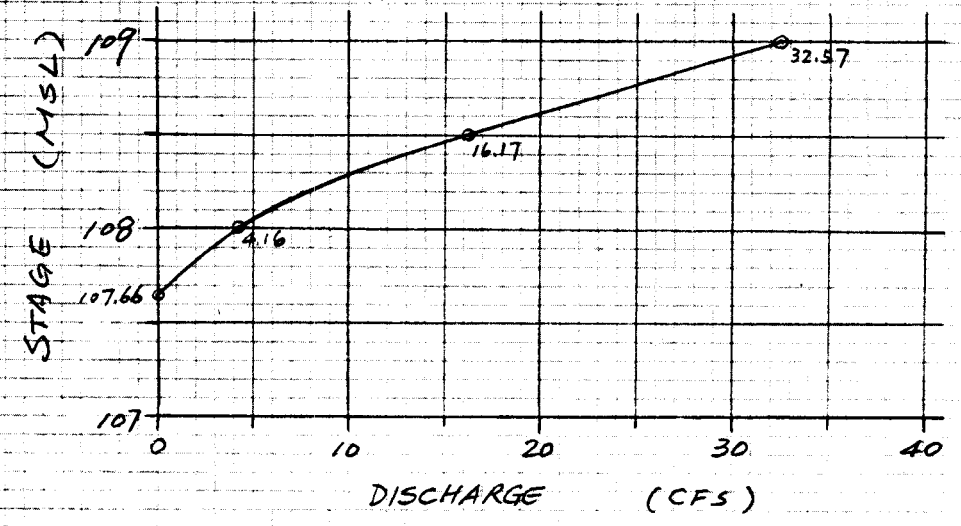
Use Broad Crest Weir, from "HANDBOOK OF HYDRAULICS" by Brater & King,

$Q = 3.08 \times L H^{3/2}$ where $L = 7'$

H = Head Water Depth

STAGE (MSL)	H (FT.)	Q (CFS)	STORAGE (AC-FT) COND. 1 / COND. 2
106.00	0	0	0 / 0
107.00	0	0	0 / 7.79
107.66	0	0	7.00 / 14.50
108.00	0.34	4.16	10.86 / 18.65
108.50	0.84	16.17	16.80 / 24.70
109.00	1.34	32.57	23.18 / 30.97





PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER QUANTITY CONTROL

DESIGNED BY KF DATE 01/09/88 CHECKED BY ____ DATE ____

4) STORMWATER RUNOFF AND FLOOD ROUTING CALCULATION

Storm water Runoff Hydrographs and Combined Ponds Flood Routings have been computed by using SCS TR-20 Program. (See attatched Computer Printout - INDEX. 3 & 4)

The Summary of Computation Results are shown below:

* See Sheet No. 3 for detail of conditions.

* CONDITION			1	2
POND BOTTOM ELEVATION OR STARTINGE WATER LEVEL			POND #1: 106.00, POND #2: 107.00	POND # 1 & POND # 2 107.00
WEIR CREST ELEVATION			107.66	107.66
WEIR LENGTH (FT.)			7'	7'
STORM FREQUENCY		EX. PEAK (CFS)	4.09	4.09
	2-YR	PROP. PEAK	29.19	29.19
		OUTFALL PEAK MAX. W.L.	0	0 @ EL. 107.36
		EX. PEAK	5.67	5.67
	5-YR	PROP. PEAK	39.02	39.02
		OUTFALL PEAK MAX. W.L.	0 @ EL. 106.62	0 @ EL. 107.46
		EX. PEAK	11.39	11.39
	10-YR	PROP. PEAK	72.59	72.59
		OUTFALL PEAK MAX. W.L.	0 @ EL. 107.06	1.10 @ EL. 107.75
		EX. PEAK	18.02	18.02
	25-YR	PROP. PEAK	110.86	110.86
		OUTFALL PEAK MAX. W.L.	0 @ EL. 107.45	3.17 @ EL. 107.92
		EX. PEAK	30.31	30.31
	100-YR	PROP. PEAK	179.66	179.66
		OUTFALL PEAK MAX. W.L.	3.34 @ EL. 107.93	9.31 @ EL. 108.21

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER QUALITY CONTROL

DESIGNED BY KF DATE 1/21/87 CHECKED BY ____ DATE ____

IV. STORM WATER QUALITY CONTROL

Total Drainage Area = 44.65 AC.

Water Management Area = 44.67 − Pond #1: 11 − #2: 2 = 31.65 AC.
(Excluding Water Bodies)

Total Impervious Area = 13.67 AC.

Percentage of Imperviousness = 13.67 / 31.65 × 100 = 43%

(a) 1" Runoff Volume ($V_{1"RUNOFF}$)

$V_{(1" RUNOFF)} = 1 \div 12 \times 31.65 = 2.64$ AC-FT

(b) 2.5" Runoff × % Imperviousness

$V_{(2.5" Runoff \times 43\%)} = 2.5 \div 12 \times 31.65 \times 0.43$

$= 2.84$ AC-FT.

(b) > (a) ∴ Required Retention Volume = 2.84 AC-FT.

The retention volume for combined Pond #1 & Pond #2 at outfall elevation 107.66 is:

Pond #1 $V_{1(EL\ 107 \sim EL\ 107.66)} = 5.8$ AC-FT.

Pond #2 $V_{2(EL.\ 107 \sim EL.\ 107.66)} = 1.2$ AC-FT.

TOTAL = 7.0 AC-FT. > 2.84 OK

* It is considered that the required Retention Volume (2.84 AC-FT.) will be only cocalated in Pond #2 (see Discussion in Sheet No. 9.)

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER QUALITY CONTROL

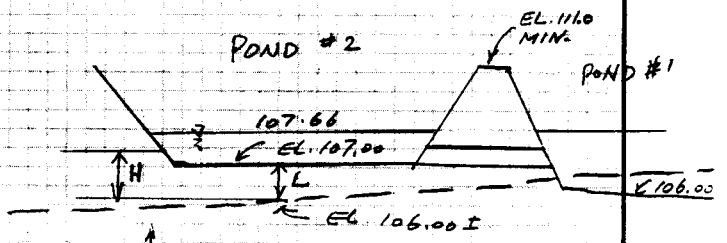
DESIGNED BY KF DATE 1/21/88 CHECKED BY DATE

Soil Permeability Rate (K) at I-4 STA. 541+00 (the approximate location of pond #2) has been tested and listed in the attached "Soil Survey Report, State Road 400, Project No: 75250-1465" which is: (See Index 5)

$K = 2.60 \times 10^{-4}$ cm/sec

$= 6.1 \times 10^{-3}$ in./min or 5.1×10^{-4} ft/min

to be used for Cal.



See sheet No. 9 Discussion 1 and attached plan of G.W.T. Platted from Boring Records (Sheet #11)

Q = Percolation Rate

$= KA\left(\frac{H}{L}\right)$

$= 5.1 \times 10^{-4} \times 74,488 \times \left(\frac{1.33}{1.00}\right)$

$= 50.5$ cu. ft/min

Where A = POND #2 Bottom Area
= 1.71 AC-FT
= 74,488 Sq. ft.
L = 107 − 106
= 1 ft.
H = (107.66 − 107.00)/2 + L
= 1.33 ft
K = 5.1×10^{-4} ft/min.

Percolation Time

$= 2.84 \times 43560 / 50.5 / 60$

$= 40.83$ hrs. < 72 hrs.

O.K.

Percolated by pond #2 only, thus actual condition will be less due to some percolation in pond #1

PROJECT I-4 / SR535 JOB NO. 360

SUBJECT STORMWATER MANAGEMENT

DESIGNED BY KF DATE 1/21/98 CHECKED BY ____ DATE ____

V Discussions

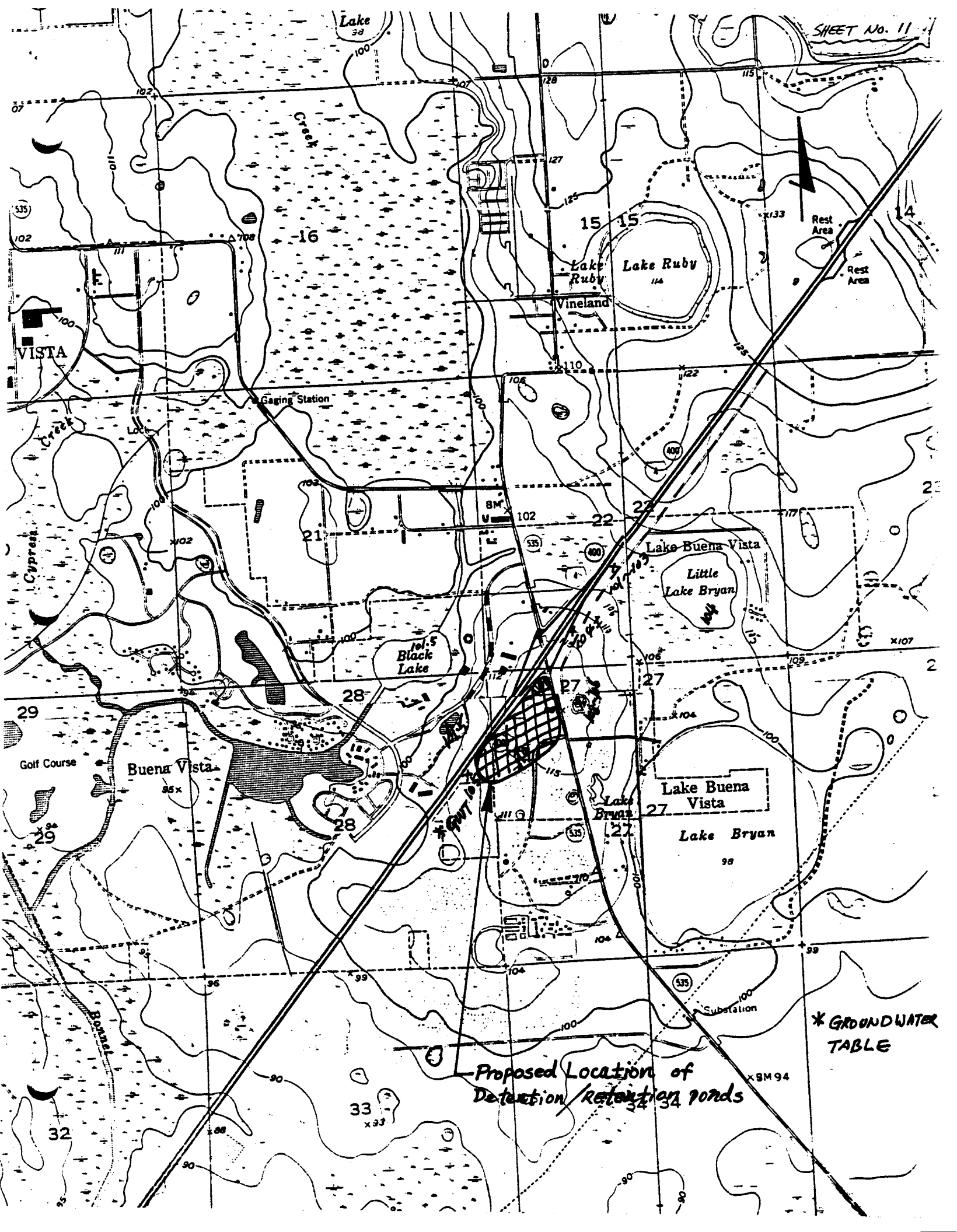
1) Since the Pond #1 and Pond #2 are located at the top of the hill, the excavation of Ponds #1 & #2 will definitely lower the groundwater table. (see attached Sheet No.11 a copy of USGS Map showing the groundwater Level from boring record.)

The ground will be excavated from EL. 119.0± to EL. 106.0 and the stormwater from the major area of the hill will be directly drained into Ponds #1 & #2. The existing groundwater levels adjacent to these ponds are around 105.0 or less, therefore, the future groundwater level under Pond #2 is considered as 106.0±.

Based on above mentioned groundwater level, the total percolation time for required retention volume has been calculated which is 41 hours. It is less than the maximum allowable 72 hours percolation time which complies with the regairement.

2) The flood routing results shown in the summary of TR-20 Computation Results on sheet No.6 has shown that the outfall peaks of the inter-connected Detention/Retention Ponds #1 & #2 for

2-Yr, 5-Yr, 10-Yr, 25-Yr and 100-Yr frequency stormwater runoff are all much lower than the existing runoff peaks, therefore, there will not have any adverse effect to the downstream area.


SHEET No. 11
Lake
Creek
Lake Ruby
Lake Ruby
Vineland
Rest Area
Rest Area
VISTA
Gaging Station
Cypress Creek
Lake
Lake Buena Vista
Little Lake Bryan
Black Lake
Golf Course
Buena Vista
Lake Buena Vista
Lake Bryan
Lake Bryan
Substation
Bonnet
* GROUNDWATER TABLE
Proposed Location of Detention/retention ponds

SOILS-EMBANKMENT SHRINKAGE & PERMEABILITY

EMBANKMENT SHRINKAGE

CASE I - *Yield of borrow in finished embankment.*

$Volume = \frac{Weight}{Density}$: *Volume varies inversely as density.*

Assume { *borrow pit dry density = 110 lbs. per cu. ft.*
embankment dry density = 125 lbs. per cu. ft.

Then 1 cu.yd. of borrow will yield 110/125 cu.yd. embankment.

CASE II - *Shrinkage after embankment compaction.*
This will be zero if embankment is compacted to maximum density. In ordinary practice, i.e. power equipment wheel compaction - no rollers, no moisture control - it may be taken as:
Sand and gravel - 1 to 2 % — Clay or loam - 2 to 3 %**
Certain deposits such as expansive clays swell in embankments.

CASE III - *Loss by waste, of improper material such as top soil or muck, should be allowed for.*

TABLE A - VOLUME OF BORROW REQUIRED FOR 1 CU.YD. OF EMBANKMENT.
(Empirical rules for use where densities are not obtainable. Power equipment wheel compaction, not rolled.)

Gravel	1.09 *	1.12 **	Light sandy earth	1.14*	1.20 **
Gravel and sand	1.10 *	1.13 **	Vegetable surface soil	1.18*	1.24 **
Clay and clayey earth	1.11 *	1.15 **	Ledge rock		0.70 **

PERMEABILITY See also Pg. 9-34.

TABLE B - PERMEABILITY DATA.†

Turbulent flow — COEFFICIENT OF PERMEABILITY (K) in cm. per sec. (Log scale) — Perfect validity of Darcy's law

$k = 10^{2}\ 10^{1}\ 1.0\ 10^{-1}\ 10^{-2}\ 10^{-3}\ 10^{-4}\ 10^{-5}\ 10^{-6}\ 10^{-7}\ 10^{-8}\ 10^{-9}$

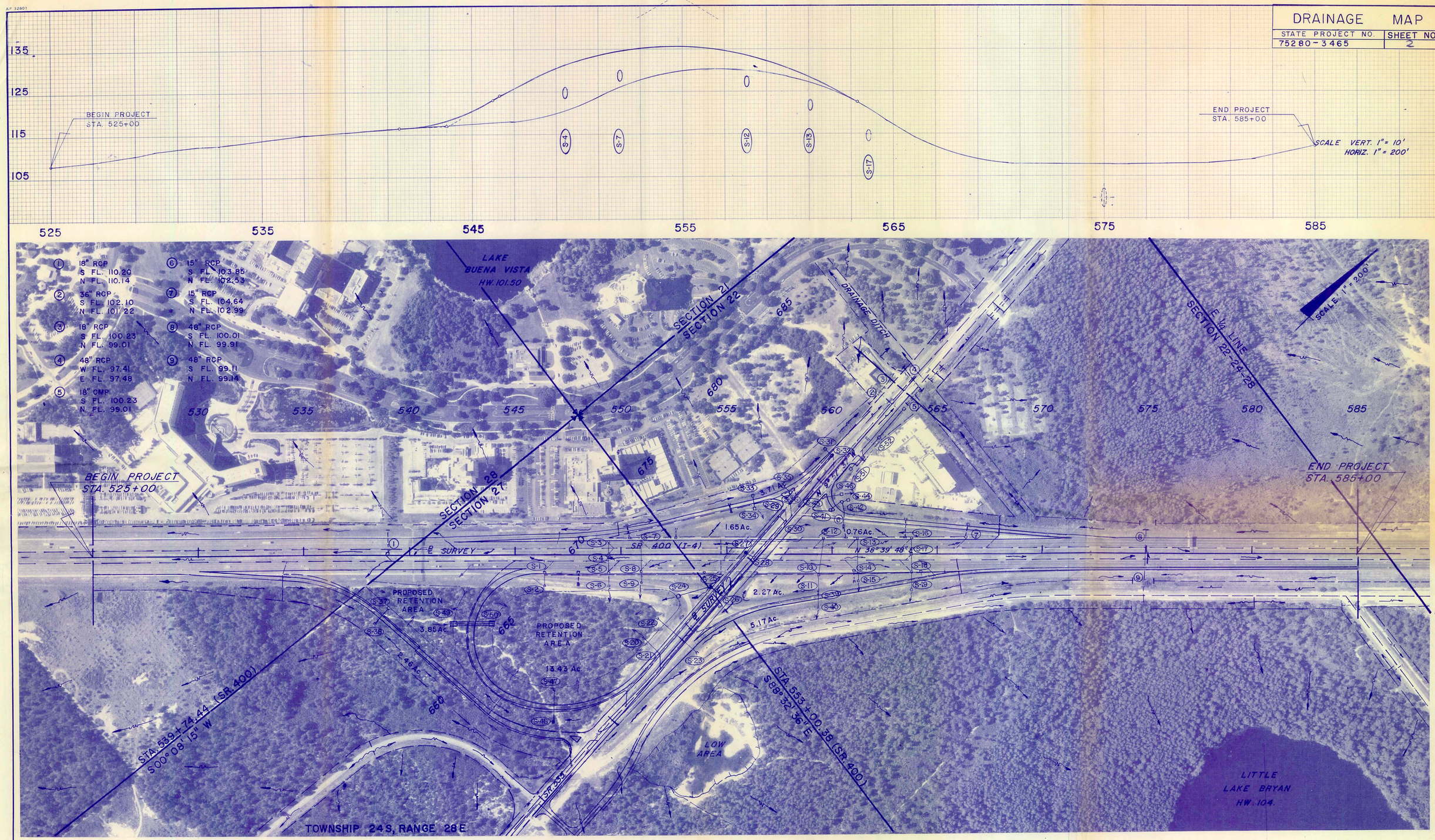
DRAINAGE PROPERTY			Good drainage				Poor drainage			Practically impervious	
APPLICATION IN EARTH DAMS AND DIKES			Pervious sections of dams and dikes				Impervious sections of earth dams and dikes				
TYPES OF SOIL		Clean Gravel		Clean sands; clean sand & gravel Mixtures			Very fine sands; organic & inorganic silts; mixtures of sand, silt & clay; glacial till; stratified clay deposits; etc.			"Impervious" soils e.g. homogeneous clays below zone of weathering	
					"Impervious soils" which are modified by the effects of vegetation and weathering						
DIRECT DETERMINATION of coefficient of permeability		Direct testing of soil in its original position (e.g. well points) if properly conducted - reliable - considerable experience required									
		CONSTANT HEAD PERMEAMETER Little experience required									
				Reliable little experience required			FALLING HEAD PERMEAMETER Unreliable Much experience necessary for correct interpretation			Fairly reliable Considerable experience necessary	
INDIRECT DETERMINATION of coefficient of permeability		COMPUTATION from the grain size distribution (e.g. Hazen's formula) only applicable to clean cohesionless sands & gravels									
					HORIZONTAL CAPILLARITY TEST Very little experience necessary. Especially useful for rapid testing of a large number of samples in the field without Lab. facilities					COMPUTATIONS from consolidation tests; expensive Lab. equip. & considerable experience required	

* From Am. C.E. Handbook by Merriman & Niggin. ** In accordance with modern highway practice.
† Adapted from Publication No. 268. Harvard grad. School of Eng.

AP 32801

DRAINAGE MAP

STATE PROJECT NO.	SHEET NO.
75280-3465	2



REVISIONS											
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	NAME	DATE		NAME	DATE
DESIGNED BY	RC	2-86	DRAWN BY	RR	2-86
CHECKED BY			CHECKED BY		
SUPERVISED BY					

APPROVED BY

DATE

DRAINAGE MAP

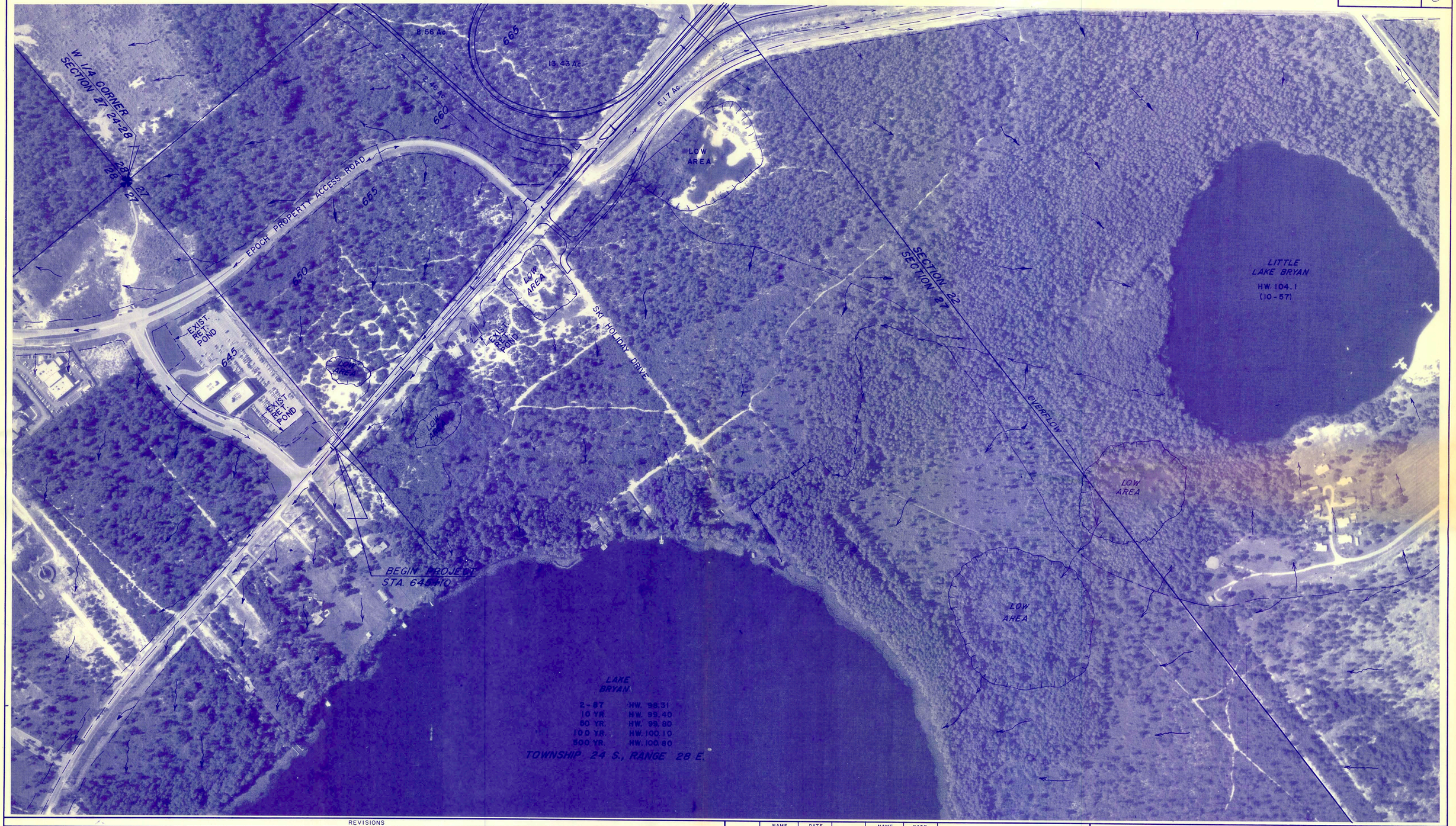
SR 400 (I-4) & SR 535

APR 6 1988

60% 5/15/87

AF 32801

STATE PROJ. NO.	SHEET NO.
75280-3465	13



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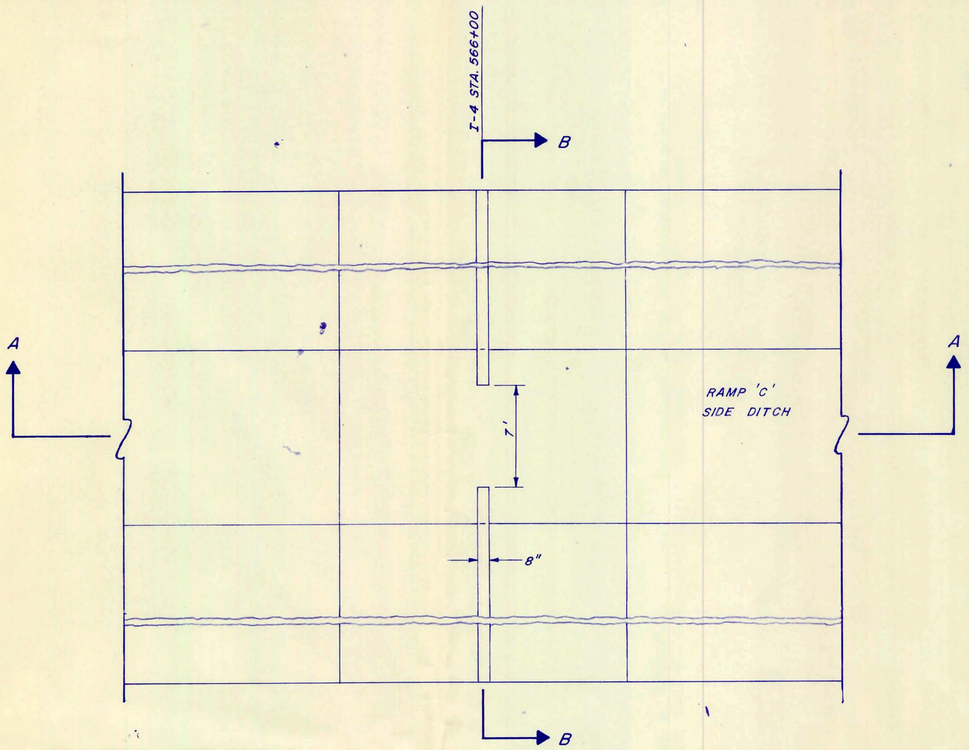
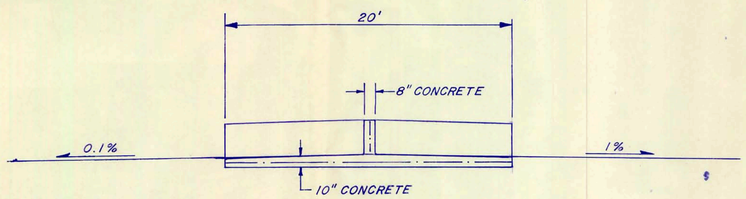
DRAINAGE MAP
SR 400 (I-4) & SR 535

APR 6 1988 60% 5/15/87

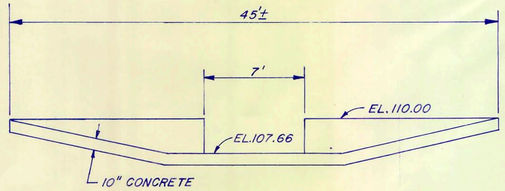
STATE PROJ. NO.	SHEET NO.



PLAN
SCALE: 1" = 5'



SECTION A-A
SCALE: 1" = 5'



SECTION B-B
SCALE: 1" = 5'

ARC. 4P

BORDEN-LANE JACKSONVILLE, FLORIDA

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FLORIDA DEPARTMENT OF TRANSPORTATION
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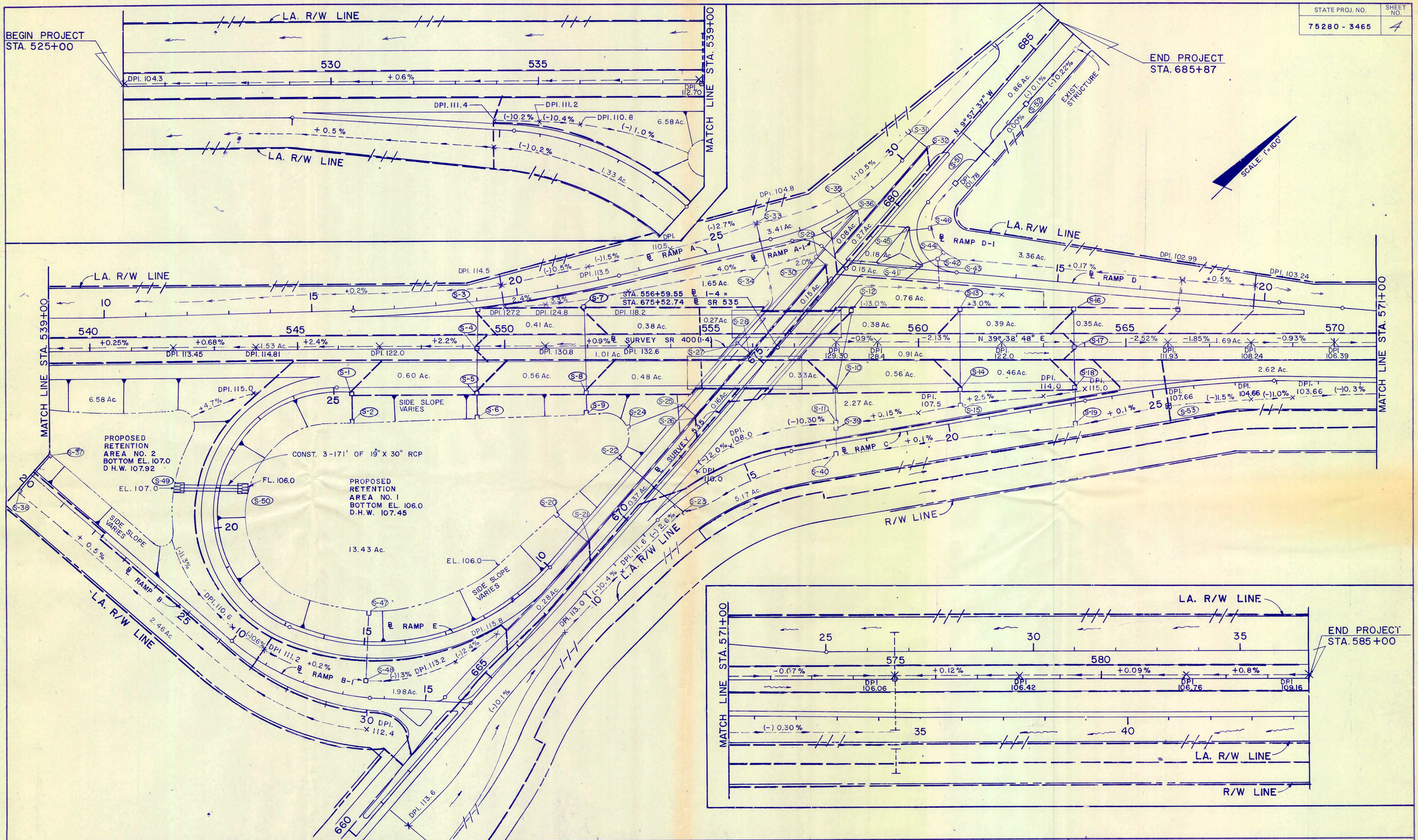
DATE

SR. 400 (I-4)
DRAINAGE STRUCTURE
S-53

APR 6 1988

STATE PROJ. NO.	SHEET NO.
75280 - 3465	4



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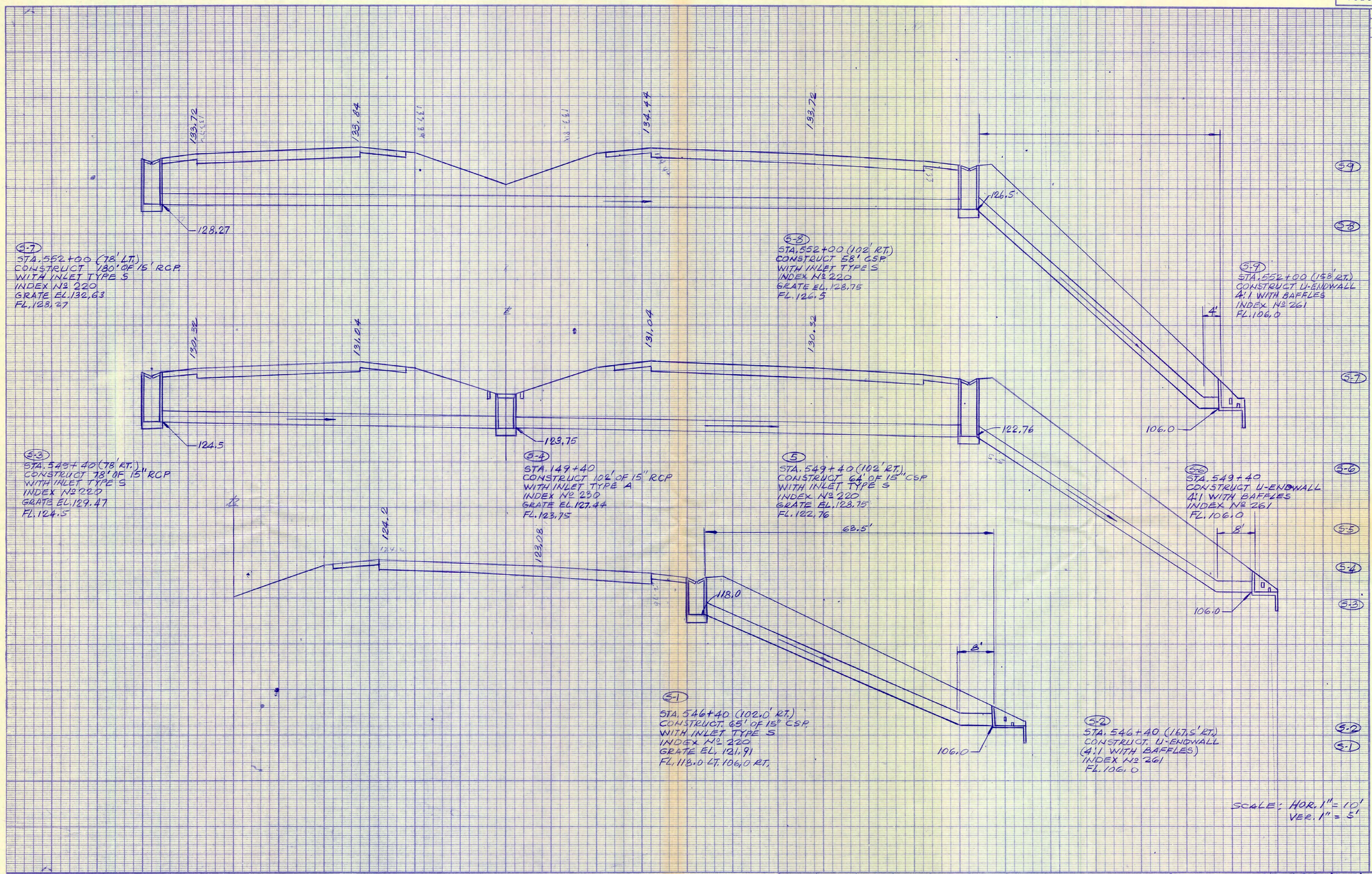
SUPPLEMENTARY DRAINAGE MAP
SR 400 (I-4) SR 535

APR 6 1988

60% 5/15/87

STATE PROJ. NO.	SHEET NO.
75280-3465	

Rdwy. Exc.		Fill	
A	V	A	V



SCALE: HOR. 1" = 10'
VER. 1" = 5'

REVISIONS											
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SUPERVISED BY					

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DATE

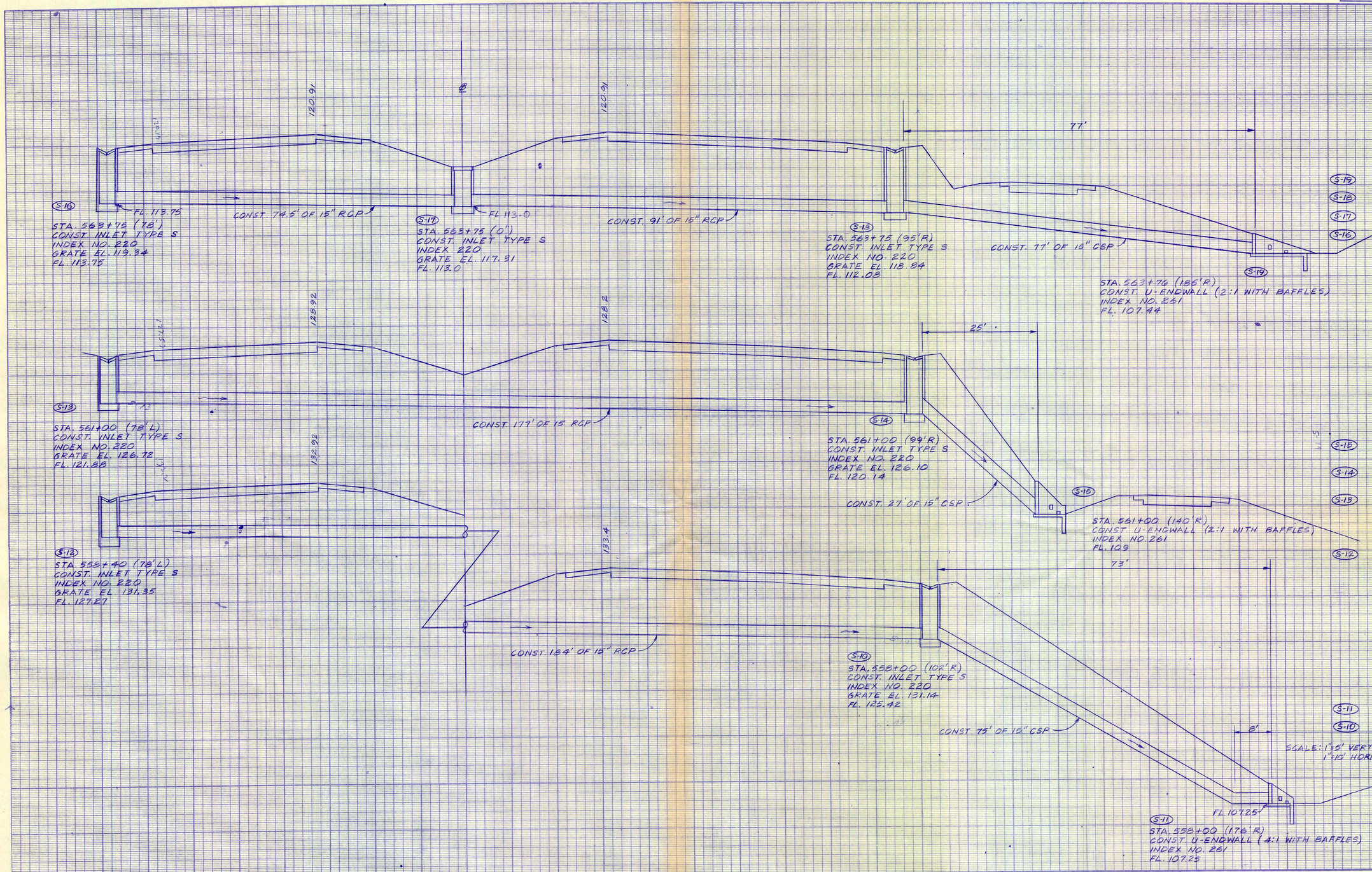
SR. 400 (I-4)
DRAINAGE STRUCTURE
S-1 TO S-9

APR 6 1988

BOBERLINE JACKSONVILLE, FLORIDA ANC-2PR

STATE PROJ. NO.	SHEET NO.
75280-3465	

Rdwy. Exc.		Fill	
A	V	A	V



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FLORIDA DEPARTMENT OF TRANSPORTATION

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DATE

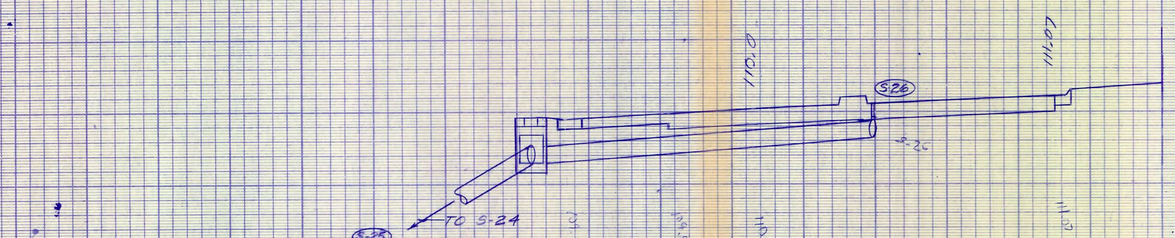
SR. 400 (I-4)
DRAINAGE STRUCTURE
S-10 TO S-19

APR 6 1988

BORDERLINE JACKSONVILLE, FLORIDA ARC-2PR

STATE PROJ. NO.	SHEET NO.
75280-3465	

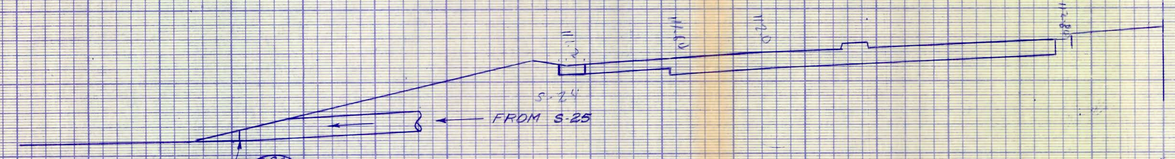
Rdwy. Exc.		Fill	
A	V	A	V



STA. 673+00 (88' LT)
CONST. 47' OF 15"
WITH M.H. TYPE P-7T
INDEX NOS. 200 & 201
FL. 106.5

S-20

S-22

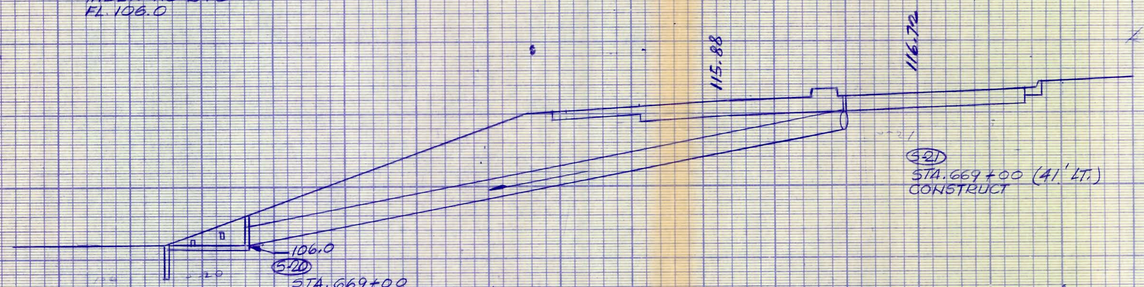


S-24
STA. 671+60 (135' LT.)
CONST. 128' OF 15"
WITH FLARED END SECTION
INDEX NO. 270
FL. 106.0

S-28

S-22
STA. 671+00 (115' LT)
CONSTRUCT
WITH FLARED END SECTION
INDEX NO. 270
FL. 106.0

S-23
STA. 671+00 (80' RT.)
CONSTRUCT 196' OF 2-24"x38" OVAL RCP
WITH FLARED END SECTIONS
INDEX NO. 270
FL. 106.6



S-21

S-21
STA. 669+00 (41' LT.)
CONSTRUCT

S-20
STA. 669+00
CONSTRUCT U-ENDWALL
4:1 WITH BAFFLES INDEX NO 261
FL. 106.0

SCALE: HOR. 1" = 10'
VER. 1" = 5'

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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FLORIDA DEPARTMENT OF TRANSPORTATION

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DATE

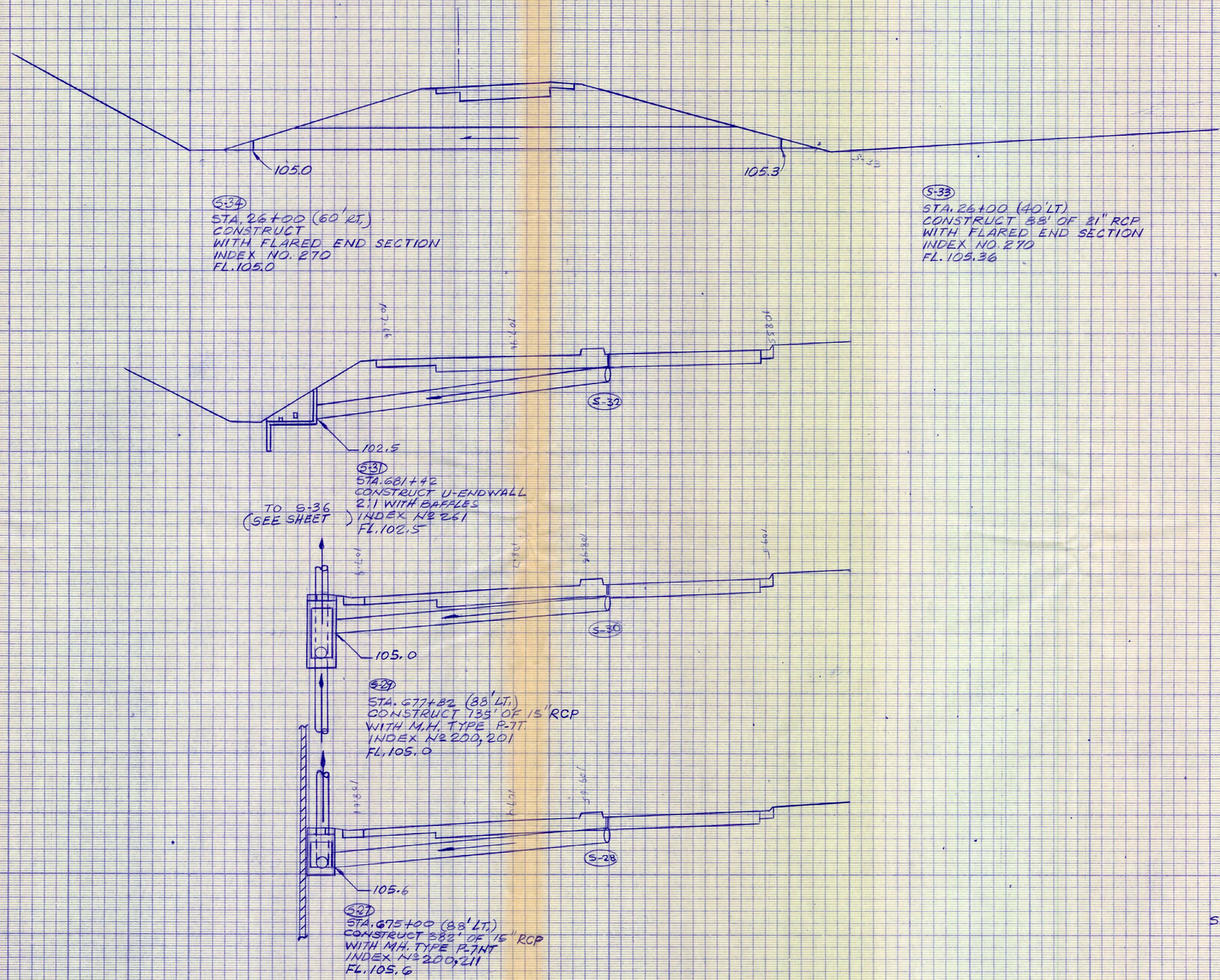
SR. 400 (I-4)
DRAINAGE STRUCTURE
S-20 TO S-26

APR 6 1988

BORDERLINE JACKSONVILLE, FLORIDA ARC-2PR

STATE PROJ. NO.	SHEET NO.
75280-3465	

Rdwy. Exc.		Fill	
A	V	A	V



SCALE: HOR. 1" = 10'
VER. 1" = 5'

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

DATE

SR. 400 (I-4)
DRAINAGE STRUCTURE
S-27 TO S-34

APR 6 1988

BORDERLINE JACKSONVILLE, FLORIDA ARC-2FR

STATE PROJ. NO.	SHEET NO.
75280-3465	

Rdwy. Exc.		Fill	
A	V	A	V

S-40
RAMP D-1
STA. 11+95 (13'LT @ D-1)
CONST. 7' OF 15" RCP
WITH M.H. TYPE P-7T
INDEX NO. 200 & 201
FL. 102.45

FL. 102.0

S-44
RAMP D
STA. 11+67 (35'LT)
CONST. 25' OF 15" RCP
WITH FLARED END
SECTION
INDEX NO. 270
FL. 102.0

FL. 102.45

FL. 102.45

FL. 102.53

S-41
RAMP D
STA 11+65 (10'LT)
CONST.
WITH CURB INLET TYPE P-7
INDEX NOS. 200 & 212
FL. 102.65

S-39
RAMP C
CONSTRUCT 58' OF 19"x30" OVAL RCP
WITH FLARED END SECTION.
INDEX NO. 270
FL. 107.0

FL. 107.0

FL. 106.6

S-40
RAMP C
STA. 17+31 (25' RT)
CONSTRUCT
WITH FLARED END SECTION
INDEX. NO. 270
FL. 106.6

FL. 107.0

S-37
RAMP B
STA. 20+00 (65' LT.)
CONSTRUCT
WITH FLARED END SECTION
INDEX NO. 270
FL. 107.0

FL. 107.50

S-38
RAMP B
STA. 20+00 (45' RT.)
CONSTRUCT 65' OF 24" RCP
WITH FLARED END SECTION
INDEX NO. 270
FL. 107.50

103.65

104.0

S-35
RAMP A
STA. 28+16 (27' LT)
CONST. FLARED END SECTION
INDEX NO. 270
FL. 103.65

S-36
RAMP A
STA. 28+16 (23' RT.)
CONSTRUCT 50' OF 15" RCP
WITH INLET TYPE P-7
INDEX NOS. 200 & 212
FL. 104.0

FROM S-29

S-45

S-41

S-39

S-37

S-36

SCALE: HOR. 1" = 10'
VER. 1" = 5'

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

DATE

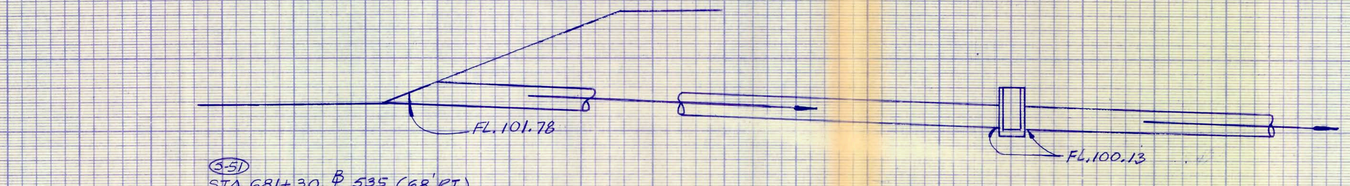
SR. 400 (I-4)
DRAINAGE STRUCTURE
S-35 TO S-44

APR 6 1988

BORDERLINE JACKSONVILLE, FLORIDA ARC-2PR

STATE PROJ. NO.	SHEET NO.
75280-3465	

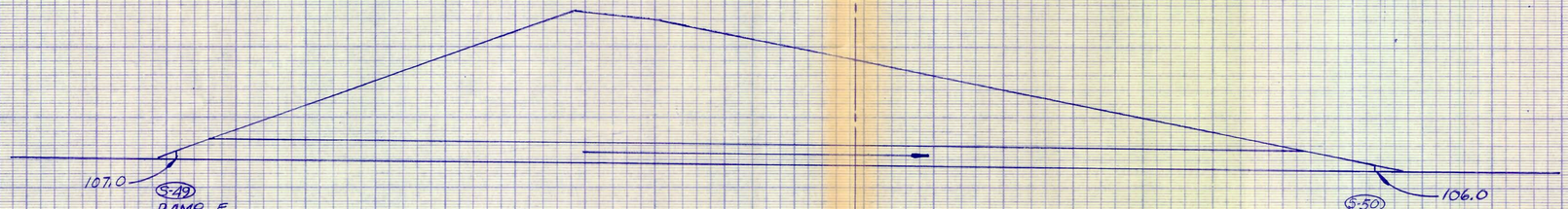
Rdwy. Exc.		Fill	
A	V	A	V



S-51
STA. 681+30 ℄ 535 (68' RT.)
CONST. 250' OF 18" RCP WITH
FLARED END SECTION
INDEX NO. 270
FL. 101.78

S-52
STA. 683+80 ℄ 535 (68' RT)
CONST. 180' OF 18" RCP AND " "
DITCH BOTTOM INLET TYPE C
INDEX NO. 232, FL. 100.13
GRATE EL. 103.0

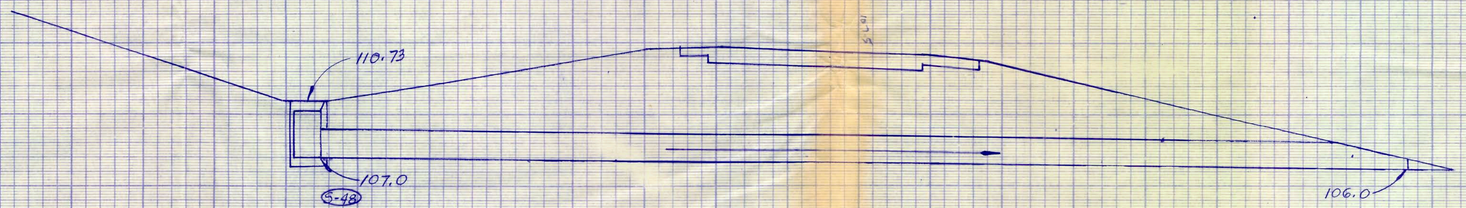
STA. 685+63 ℄ 535 (62' RT)
EXIST. DITCH BOTTOM INLET
FL. 99.0
GRATE EL. 102.6



S-49
RAMP E
STA 21+00 (100' LT)
CONSTRUCT 171' OF 19x30 OVAL RCP
WITH FLARED END SECTION
INDEX NO. 270
FL. 107.0

S-50
RAMP E
STA. 27+00 (80 RT)
3-19x30 OVAL RCP
WITH FLARED END SECTION
INDEX NO. 270
FL. 106.0

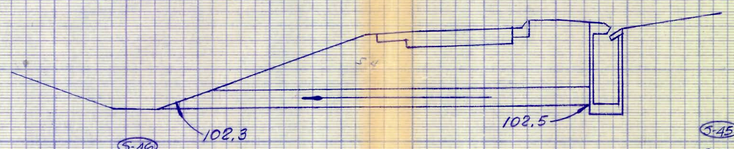
S-50



S-48
RAMP E
STA. 14+90 (35' LT)
CONSTRUCT 160' OF 21" RCP
WITH INLET TYPE B
INDEX NO. 231
GRATE EL. 110.73
FL. 107.0

S-47

S-47
RAMP E
STA. 14+90 (75' RT.)
CONSTRUCT
WITH FLARED END SECTION
INDEX NO. 270
FL. 106.0



S-46
RAMP D
STA. 10+70 (35' LT.)
CONSTRUCT
WITH FLARE END SECTION
INDEX NO. 270
FL. 102.3

S-45
RAMP D
STA. 10+70 (28' RT.)
CONSTRUCT 63' OF 15" RCP
WITH INLET TYPE
INDEX Nº 200, 211
FL. 102.5

S-45

SCALE: HOR. 1" = 10'
VER. 1" = 5'

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

SR. 400 (I-4)
DRAINAGE STRUCTURE
S-45 TO S-52

APR 6 1988

BORDERLINE JACKSONVILLE, FLORIDA ARC-2PR

APPENDIX D.2: I-4/ SR 535 Interchange (920616-1)

South Florida Water Management District

Kissimmee Area Office • 701 East Oak Street • Kissimmee, FL 34744 • (407) 846-5270

CON 24-06-02

Regulation Department
Application No.: 920616-1

July 27, 1992

Florida Department of Transportation
719 S. Woodland Blvd.
Deland, FL 32720

Dear Sir or Madam:

Subject: Notice of Intent to Construct Works
Modification to General Highway Permit and
Stormwater Discharge Certification No: 48-00592-S
Permittee: Florida Department of Transportation
Project : I-4/SR 535 Interchange
Location : Orange County, S22,27,28/T24S/R28E

This letter is to notify you of the District's action concerning your request of June 16, 1992, to modify the above referenced permit and Stormwater Discharge Certification. This action is taken pursuant to Rule 40E-1.606 and Chapter 40E-40, Florida Administrative Code.

Based on the information provided, District rules have been adhered to and a modification to the above referenced General Highway Permit and Stormwater Discharge Certification is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing, and

2. the attached 12 Special Conditions.

Should you object to these Conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review to the proposed action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

Governing Board:
Allan Milledge, Chairman - Miami
Valerie Boyd, Vice Chairman - Naples
Ken Adams - West Palm Beach
James E. Nall - Fort Lauderdale
Annie Betancourt - Miami
Franklin B. Mann - Fort Myers
Leah G. Schad - West Palm Beach
Frank Williamson, Jr. - Okeechobee
Timer E. Powers, Interim Executive Director
Tilford C. Creel, Deputy Executive Director
Thomas K. MacVicar, Deputy Executive Director

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee (and the persons listed in the attached distribution list) no later than 5:00 P.M., this 27 day of July, 1992, in accordance with Section 120.60(3), F.S.

Sincerely,

James T. Show

James T. Show, P.E.
Kissimmee Area Office
South Florida Water Management District

JTS/al

CERTIFIED MAIL NO. P **749 008 572**
Attachments

FORM 0537
10/87

South Florida Water Management District
GENERAL PERMIT
NOTICE OF RIGHTS

This Notice of Rights is intended to inform the recipient of the administrative and judicial review which may be available as mandated by section 120.60(3), Florida Statutes. Be advised that although this notice is intended to be comprehensive, the review procedures set forth herein have been the subject of judicial construction and interpretation which may affect the administrative of judicial review available. Recipients are therefore advised to become familiar with Chapters 120 and 373, Florida Statutes, and the judicial interpretation of the provisions of these chapters.

1. If a substantially affected person objects to the staff's recommendation, that person has the right to request an administrative hearing on the proposed agency action. The substantially affected person may request either a formal or an informal hearing, as set forth below. Failure to comply with the prescribed time periods shall constitute a waiver of the right to a hearing.

2. If a substantially affected person believes a genuine issue of material fact is in dispute, that person may request a formal hearing pursuant to section 120.57(1), Florida Statutes, by filing a petition not later than:
   a. IF NOTICE OF THE APPLICATION WAS PUBLISHED BY THE APPLICANT, within fourteen (14) days after mailing of the proposed agency action or
   b. IF NOTICE OF THE APPLICATION WAS NOT PUBLISHED, within fourteen days after receipt of actual notice.

   The request for a section 120.57(1), F.S., formal hearing must comply with the requirements of Rule 40E-1.521, Florida Administrative Code, a copy of which is attached. Petitions are deemed filed upon receipt by the District. Failure to substantially comply with the provisions of Rule 40E-1.521, Florida Administrative Code, shall constitute a waiver of the right to a 120.57(1) hearing. If a petition for administrative hearing is not timely filed, the staff's proposed agency will automatically mature into final agency action.

3. If a substantially affected person believes that no issues of material fact are in dispute, that person may request an informal hearing pursuant to section 120.57(2), F.S., by filing a petition for hearing not later than:
   a. IF NOTICE OF THE APPLICATION WAS PUBLISHED BY THE APPLICANT, within fourteen (14) days after mailing of the proposed agency action or
   b. IF NOTICE OF THE APPLICATION WAS NOT PUBLISHED, within fourteen days after receipt of actual notice.

   A request for informal hearing shall be considered as a waiver of the right to request a formal section 120.57(1), F.S., hearing. A request for a section 120.57(1), F.S., formal hearing not in substantial compliance with the provisions of rule 40E-1.521, F.A.C., may be considered by the District as a request for informal hearing. If a petition for administrative hearing is not timely filed, the staff's proposed agency action will automatically mature into final agency action.

4. Pursuant to section 373.114, Florida Statutes, a party to the proceeding below may seek review of a Final Order rendered on the permit application before the Land and Water Adjudicatory Commission, as provided therein. Review under this section is initiated by filing a request for review with the Land and Water Adjudicatory Commission and serving a copy on the Department of Environmental Regulation and any person named in the Order within 20 days after rendering of the District's Order. However, when the order to be reviewed has statewide or regional significance, as determined by the Land and Water Adjudicatory Commission within 60 days after receipt of a request for review, the commission may accept a request for review from any affected person within 30 days after the rendering of the order. Review under section 373.114, Florida Statutes, is limited solely to a determination of consistency with the provisions and purposes of Chapter 373, Florida Statutes. This review is appellate in nature and limited to the record below.

5. A party who is adversely affected by final agency action on the permit application is entitled to judicial review in the District Court of Appeal pursuant to section 120.68, Florida Statutes, as provided therein. Review under section 120.68, Florida Statutes in the District Court of Appeal is initiated by filing a petition in the appropriate District Court of Appeal in accordance with Florida rule of appellate Procedure 9.110. The Notice of Appeal must be filed within 30 days of the final agency action.

6. Section 373.617(2), Florida Statutes, provides:

   > Any person substantially affected by a final action of any agency with respect to a permit may seek review within 90 days of the rendering of such decision and request monetary damages and other relief in the circuit court in the judicial circuit in which the affected property is located; however, circuit court review shall be confined solely to determining whether final agency action is an unreasonable exercise of the state's police power constituting a taking without just compensation. Review of final agency action for the purpose of determining whether the action is in accordance with existing statutes or rules and based on component substantial evidence shall proceed in accordance with Chapter 120.

7. Please be advised that exhaustion of administrative remedies is generally a prerequisite to appeal to the District Court of Appeal or the seeking of Circuit Court review of final agency action by the District on the permit application. There are, however, exceptions to the exhaustion requirement. The applicant is advised to consult the case law as to the requirements of exhaustion exceptions.

SPECIAL CONDITIONS

1. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OR GROUNDWATER OF THE STATE SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 17-3. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA AS REQUIRED ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OR GROUND WATERS OF THE STATE.

3. LIMITING CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

4. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

5. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

6. THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATER.

7. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

8. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

9. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

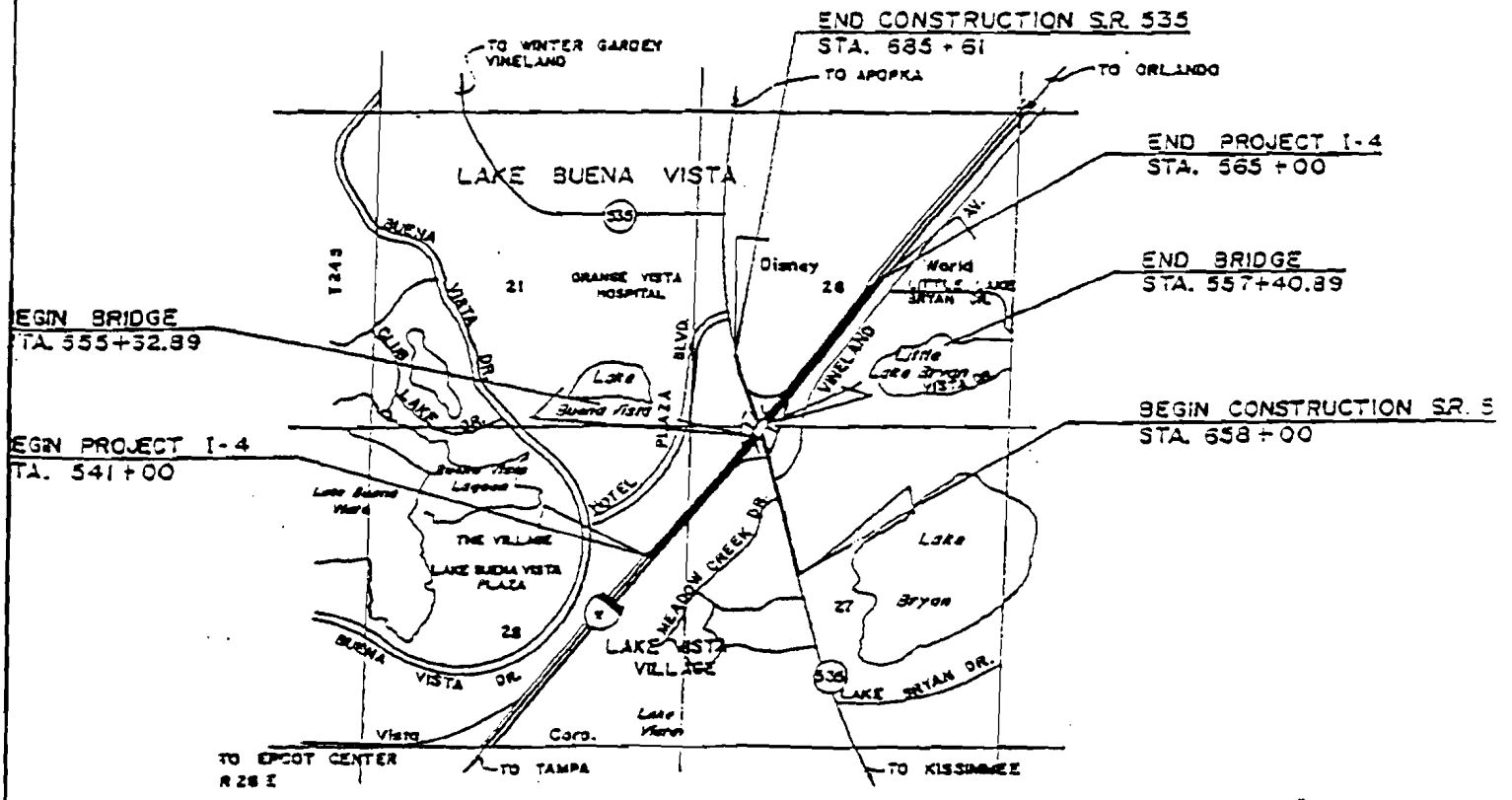
10. PRIOR TO DEWATERING, PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. INFORMATION SHALL INCLUDE AS A MINIMUM: PUMP SIZES, LOCATIONS AND HOURS OF OPERATION FOR EACH PUMP. IF OFF-SITE DISCHARGE IS PROPOSED, OR OFF-SITE ADVERSE IMPACTS ARE EVIDENT, AN INDIVIDUAL WATER USE PERMIT MAY BE REQUIRED. THE PERMITTEE IS CAUTIONED THAT SEVERAL MONTHS MAY BE REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION.

11. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

12. THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

ITEM I-1

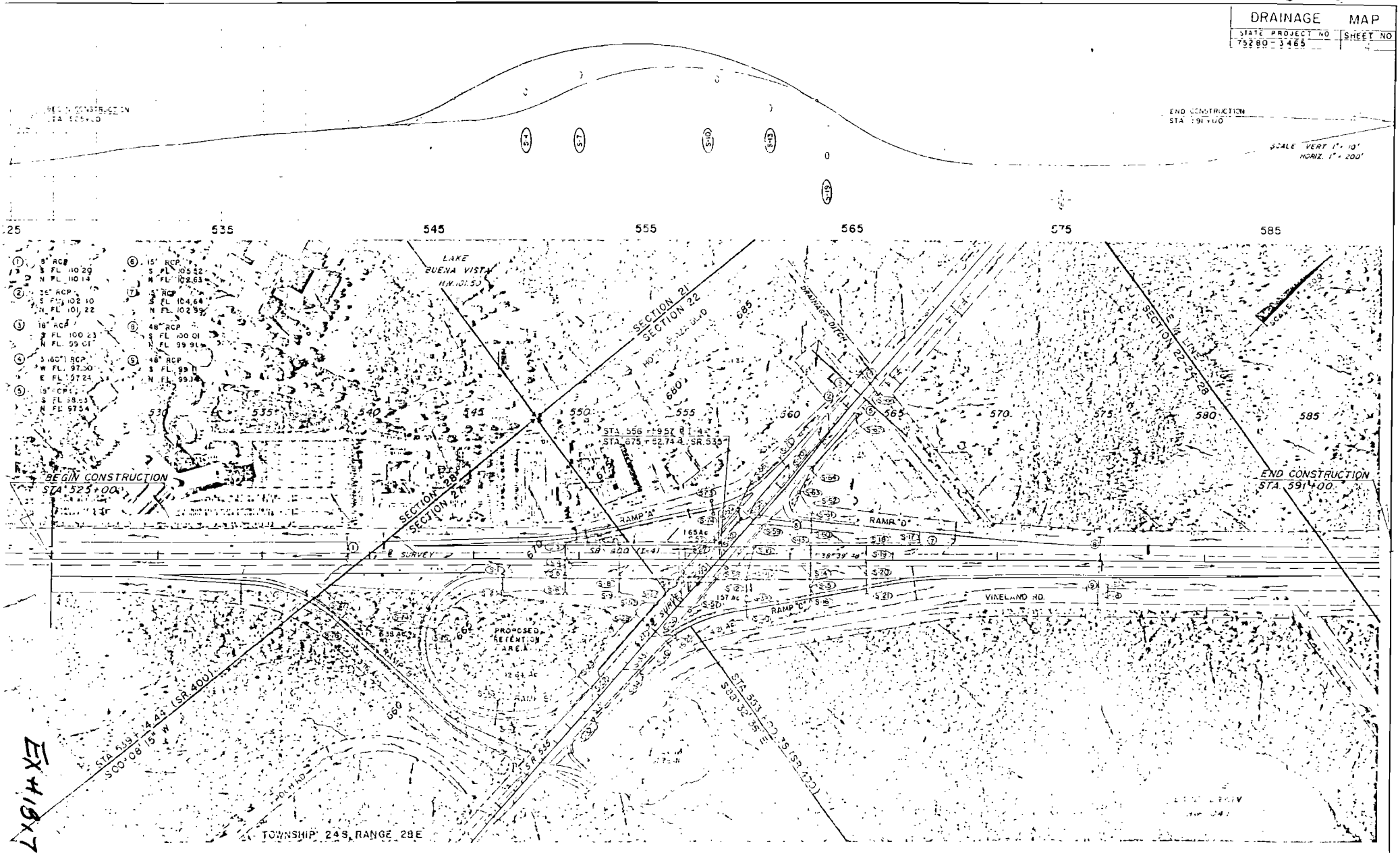
STATE ROAD NOS. 400(I-4) & 535



LOCATION SKETCH

EXHIBIT 1

ITEM II-3 1 OF 2



EX 418 x 7 2

ITEM II-B 2 of 2

STATE PROJ NO	SHEET NO
75280-3465	

EXHIBIT 3

ITEM II-2

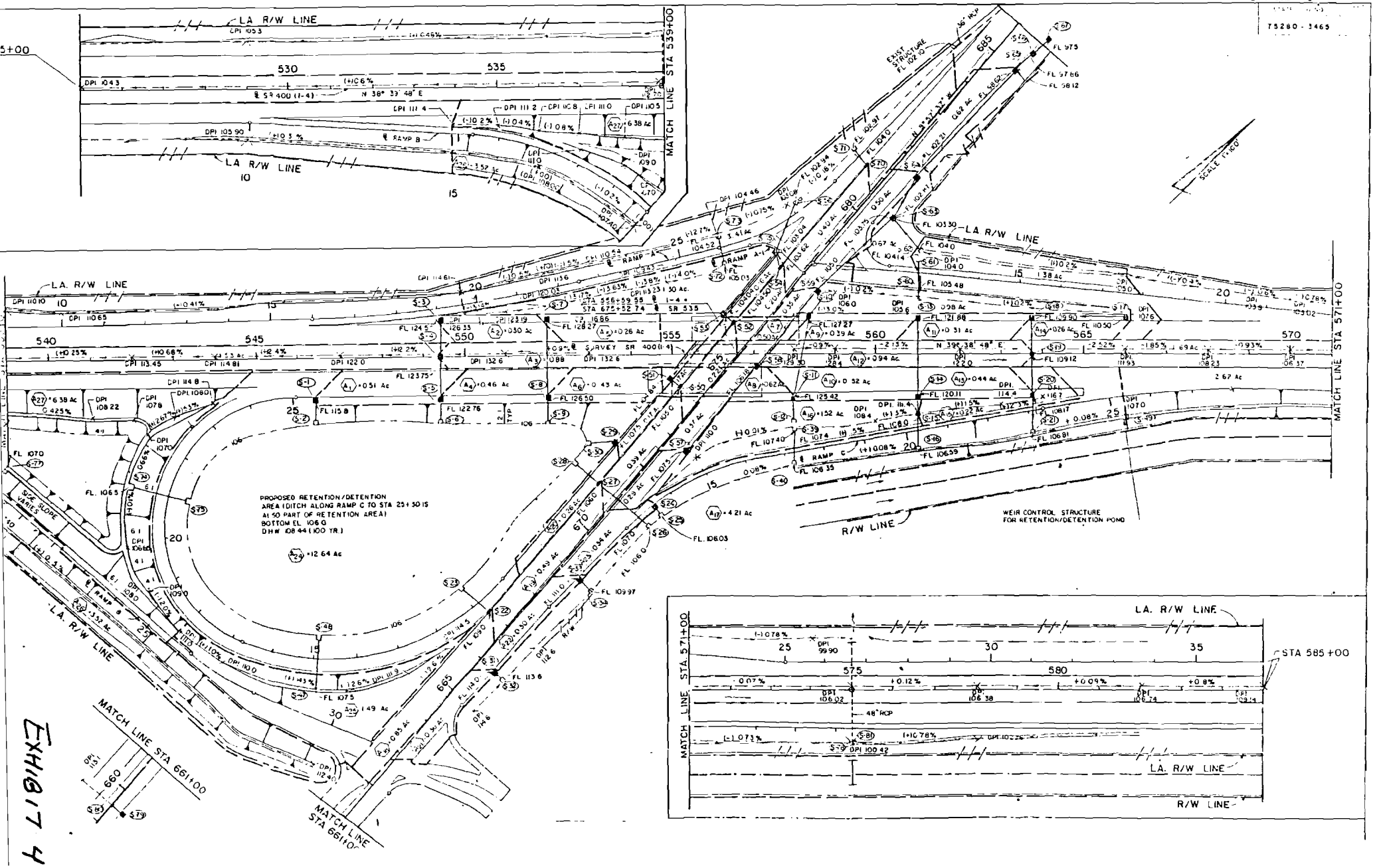
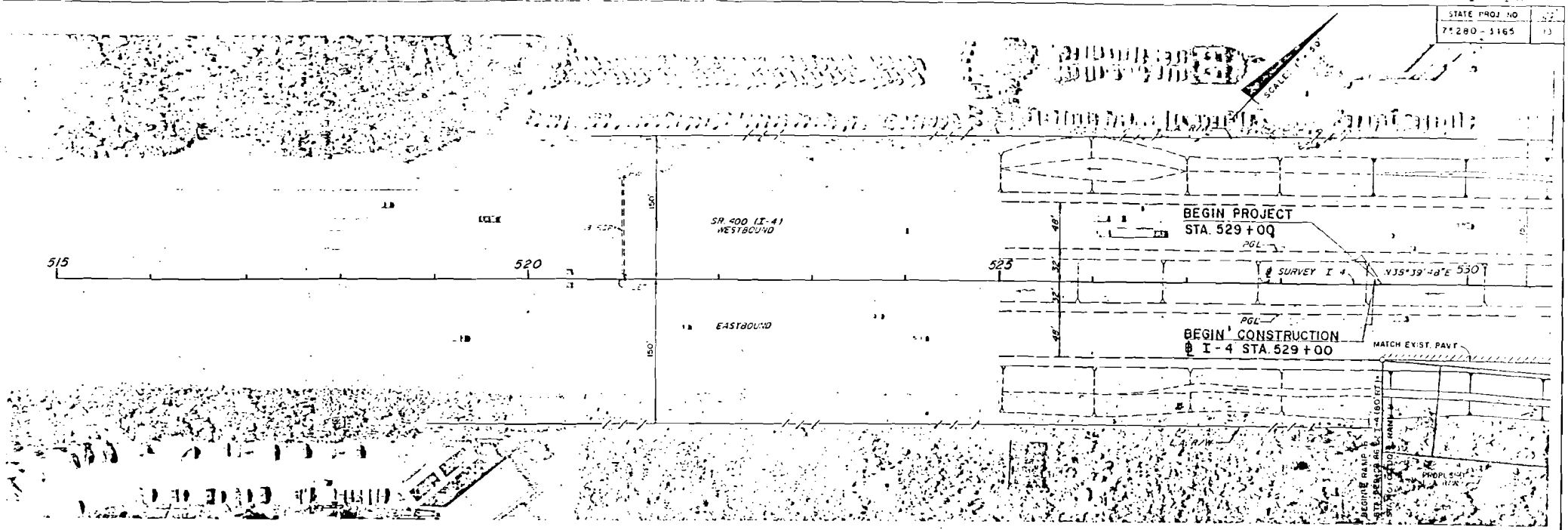


EXHIBIT 4

STATE PROJ NO	
75280-3165	13



GENERAL NOTES

1. UTILITIES ARE TO BE ADJUSTED BY OTHERS AS DIRECTED BY ENGINEER IN ACCORDANCE WITH THE UTILITY ADJUSTMENT GUIDE
2. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
3. AERIAL PHOTOS SHOW EXISTING CONDITIONS AS OF NOVEMBER 1965 CONTRACTOR TO VERIFY EXIST. CONDITIONS AT TIME OF CONSTRUCTION.

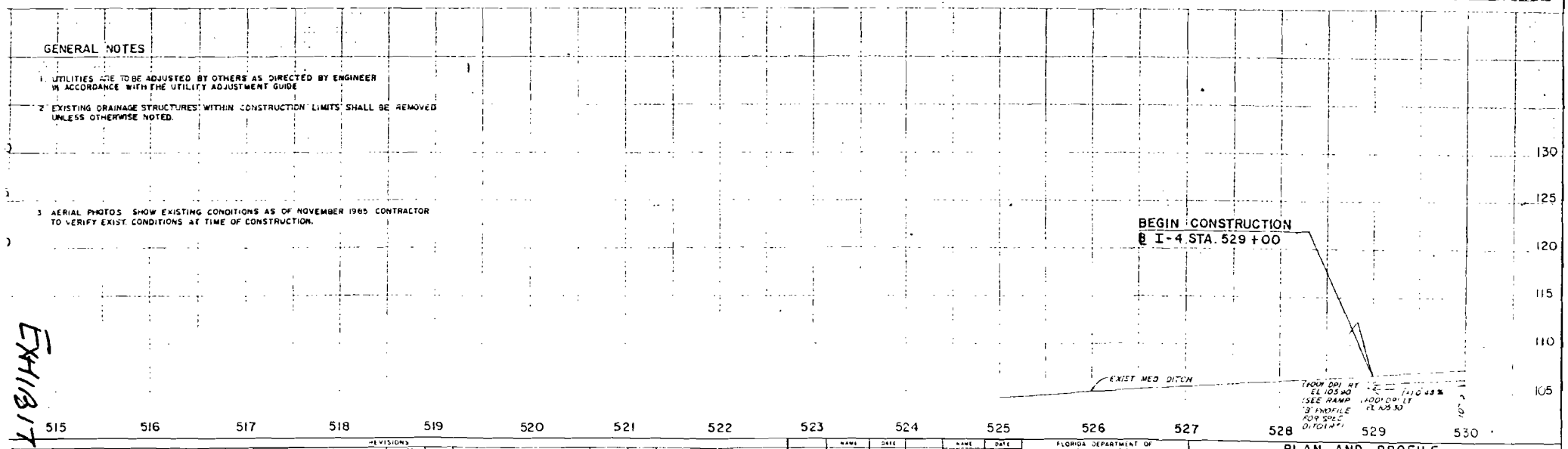


EXHIBIT 5

REVISIONS											
BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

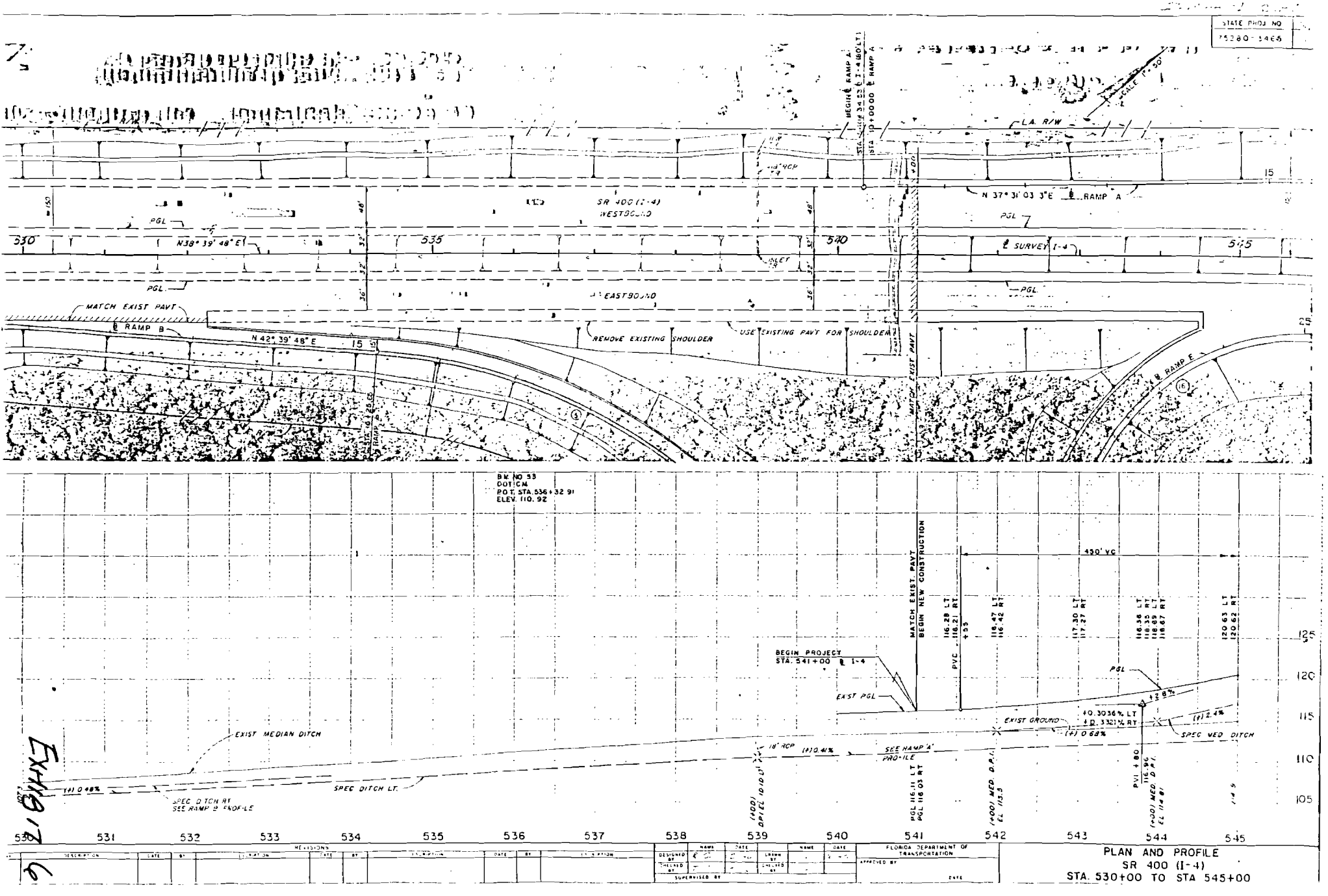
	NAME	DATE		NAME	DATE
DESIGNED BY			DRAWN BY		
CHECKED BY			CHECKED BY		
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

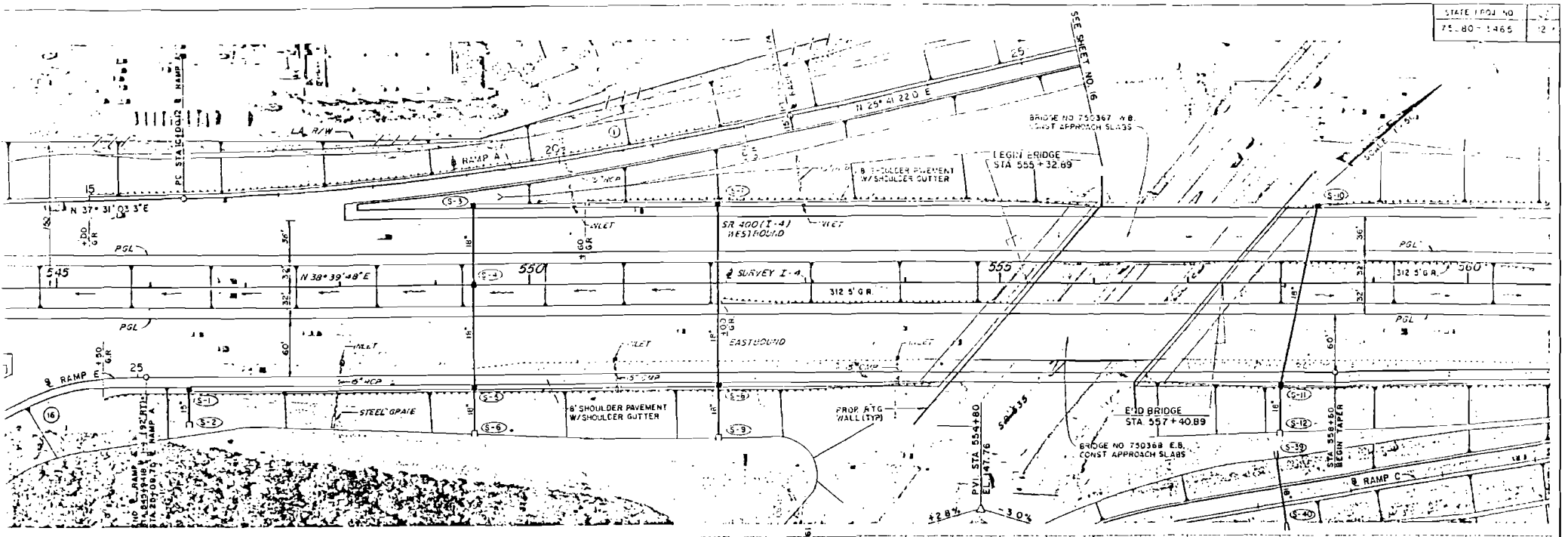
DATE

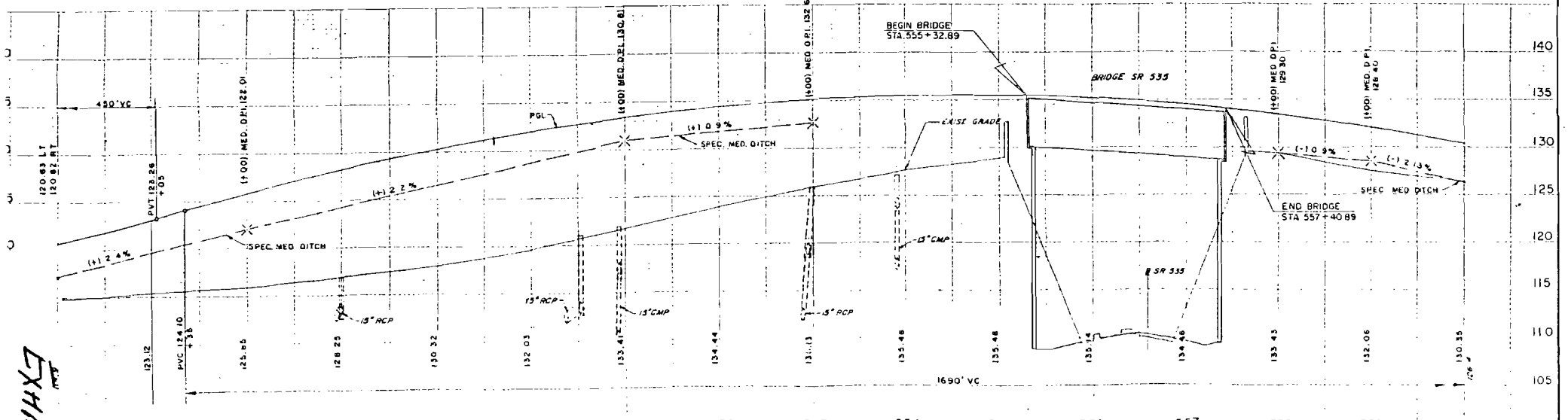
PLAN AND PROFILE
SR. 400 (I-4)
STA. 525+00 TO STA 530+00



PLAN AND PROFILE
SR 400 (I-4)
STA. 530+00 TO STA 545+00

Exhibit 9


STATE PROJ NO
75080-1465
SEE SHEET NO. 16
BRIDGE NO 750367 W.B.
CONST APPROACH SLABS
BEGIN BRIDGE
STA 555+32.89
8' SHOULDER PAVEMENT
W/SHOULDER GUTTER
SR 400 (I-4)
WESTBOUND
EASTBOUND
PGL
N 37° 31' 03" E
N 38° 39' 48" E
N 25° 41' 22" E
312.5' G.R.
STEEL GRATE
PROP. RTG
WALL (TYP)
PVI STA 554+80
EL 147.76
END BRIDGE
STA 557+40.89
BRIDGE NO 750368 E.B.
CONST APPROACH SLABS
RAMP A
RAMP C
RAMP E
L.A. R/W
545
550
555
560


BEGIN BRIDGE
STA 555+32.89
BRIDGE SR 535
END BRIDGE
STA 557+40.89
EXIST GRADE
PGL
SPEC. MED. DITCH
SPEC MED DITCH
13" CMP
13" RCP
15" RCP
SR 535
1690' VC
450' VC
(+) 2.2%
(+) 0.9%
(-) 1.0%
(-) 2.3%
PVT 128.26 +05
PVC 124.10 +35
545
546
547
548
549
550
551
552
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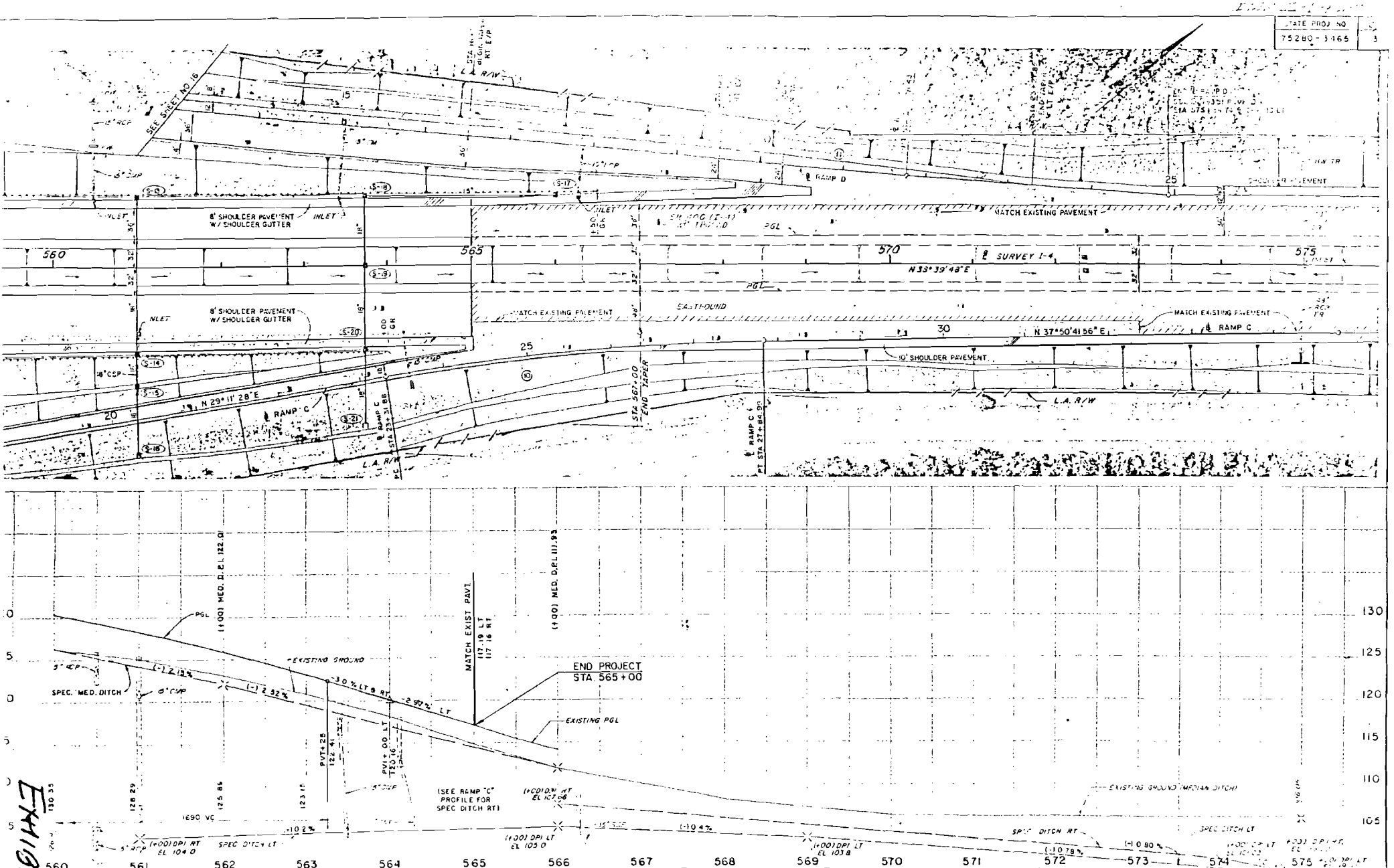
559
560
140
135
130
125
120
115
110
105

| REVISIONS | | |



REVISIONS

DESIGNED BY	NAME	DATE	CHECKED BY	NAME	DATE
RC		2/86	RC		2/86
TH		1-92	TH		3-92

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

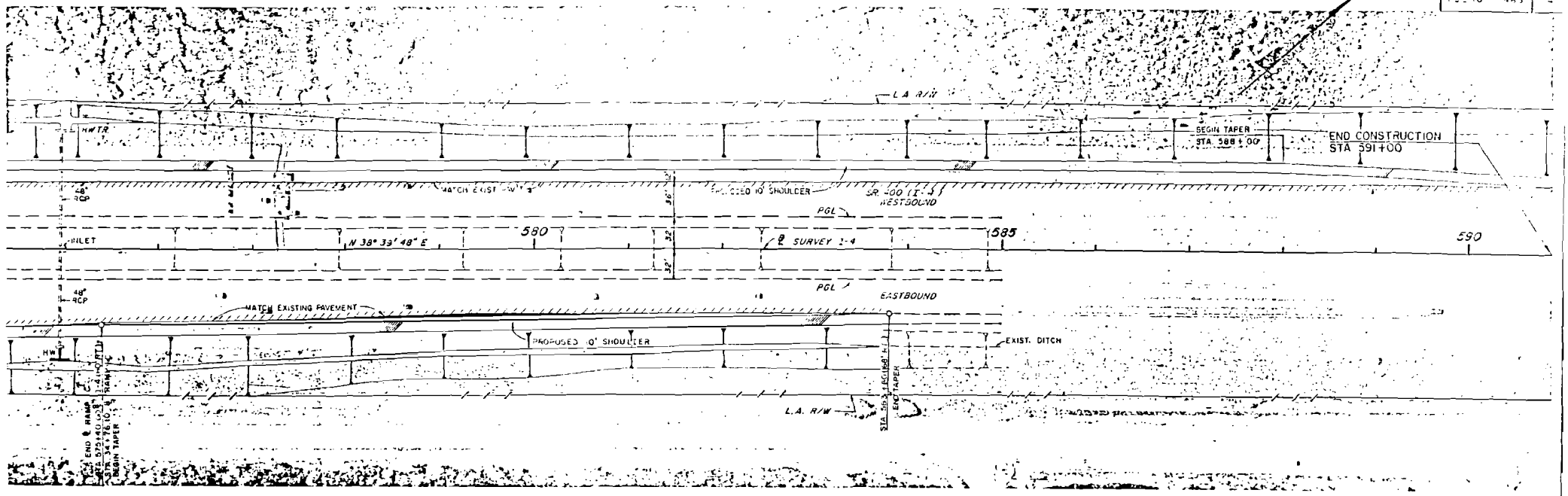
DATE

PLAN AND PROFILE
SR. 400 (I-4)
STA. 560+00 TO STA 575+00

EXHIBIT 8

ITEM II-1 SHEET

STATE PROJ NO
75190-3465



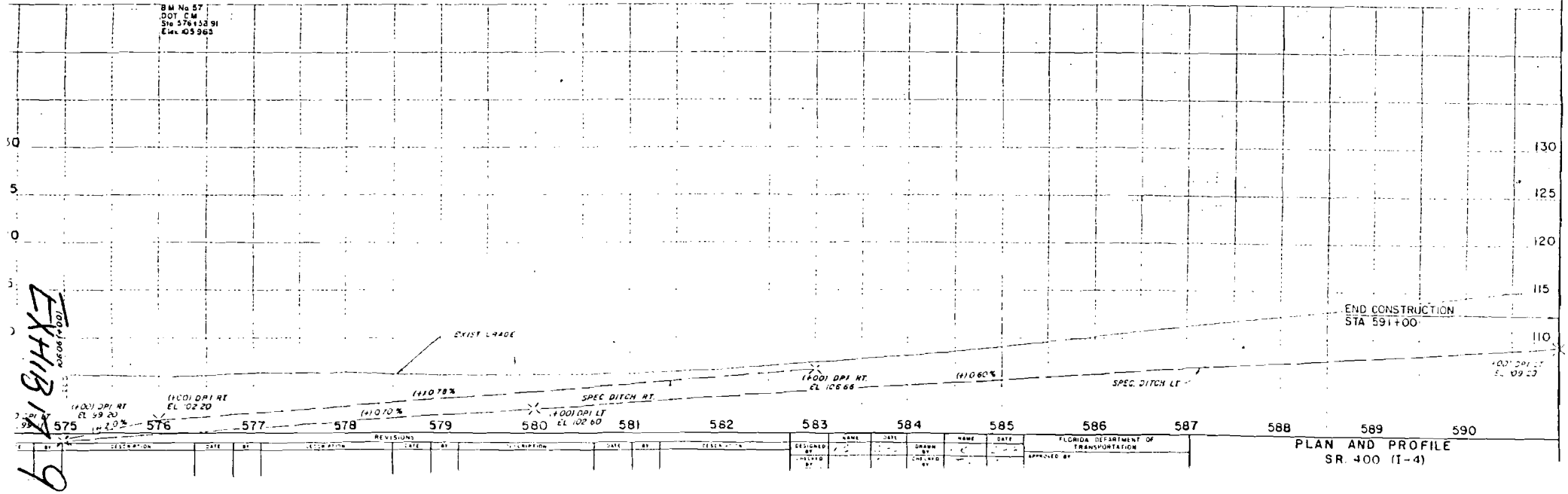
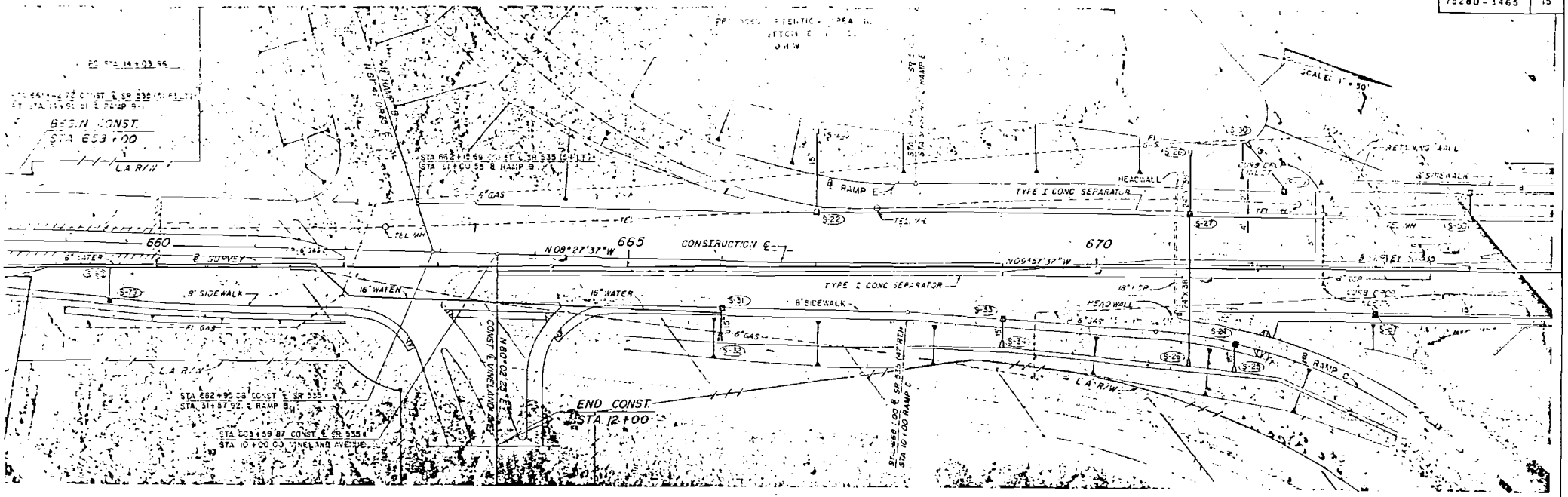
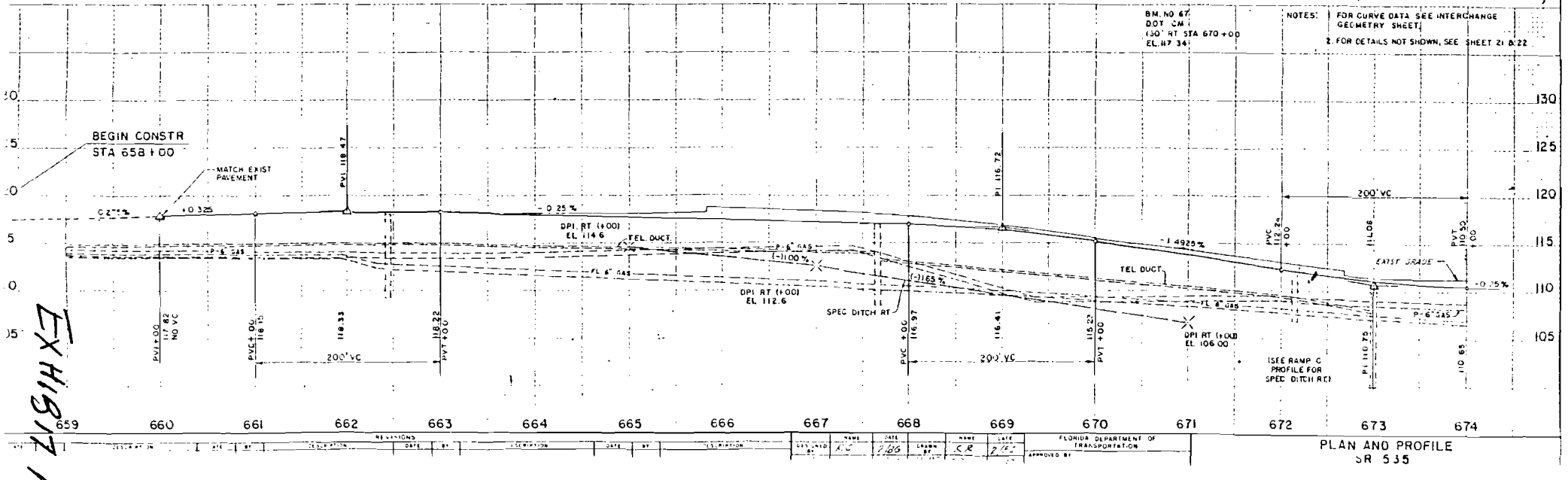


EXHIBIT 9

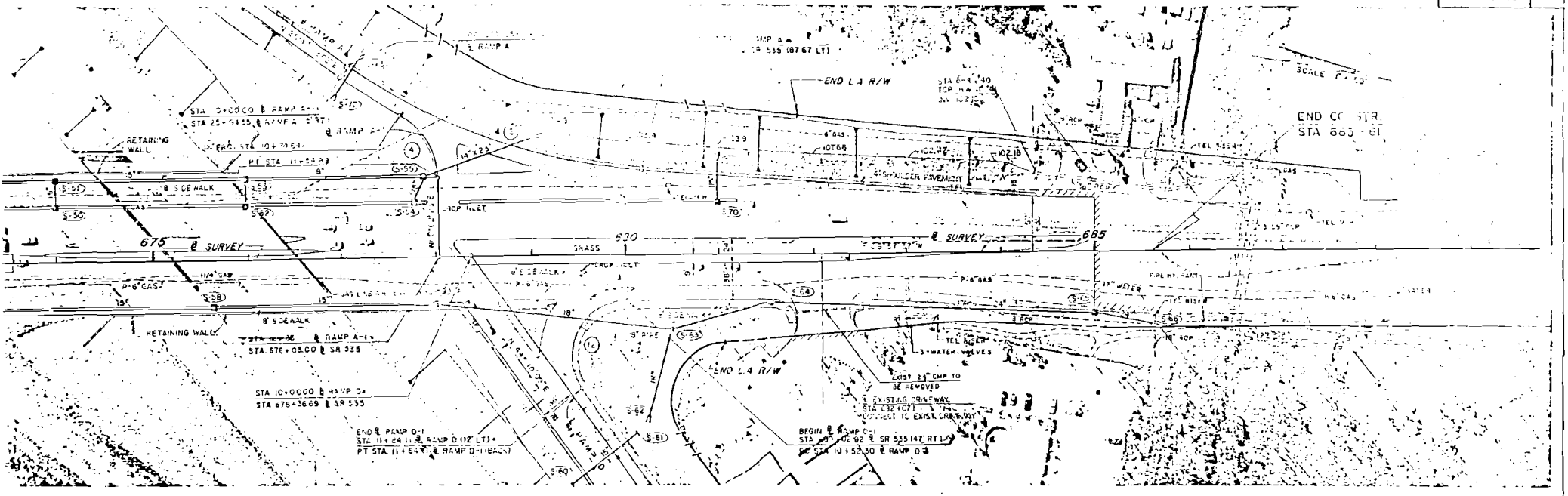
| REVISIONS | | |

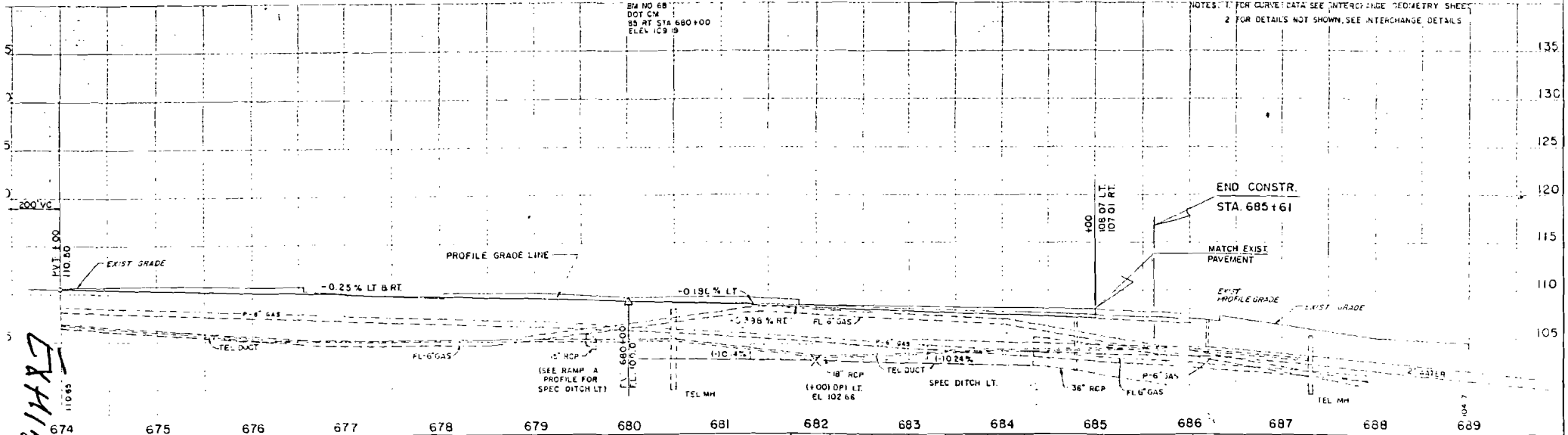
STATE PROJ NO	SHEET NO
75280-3465	15





| REVISIONS | | |


675 ℄ SURVEY
630
685 ℄ SURVEY
GRASS
8' S.DEWALK
RETAINING WALL
END L.A R/W
END CONSTR.
STA. 685+61
EXIST. 24" CMP TO BE REMOVED
3-WATER VALVES
EXIST. DRIVEWAY
BEGIN ℄ RAMP D-1
STA 10+52.92 ℄ SR 535 (47' RT L.T.)
END ℄ RAMP D-1
STA 11+24.11 ℄ RAMP D (12' LT.)
PT STA 11+64.11 ℄ RAMP D-1 (BACK)
STA 10+00.00 ℄ RAMP D-1
STA 678+36.69 ℄ SR 535
STA 676+03.00 ℄ SR 535
RAMP A-1
STA 25+94.55 ℄ RAMP A
STA 0+00.00 ℄ RAMP A-1
END STA 10+79.64
PT STA 11+54.83
SCALE 1" = 10'


NOTES: 1. FOR CURVE DATA SEE INTERCHANGE GEOMETRY SHEET
2. FOR DETAILS NOT SHOWN, SEE INTERCHANGE DETAILS
BM NO 68
DOT CM
85 RT STA 680+00
ELEV. 109.19
PROFILE GRADE LINE
EXIST GRADE
-0.25% LT & RT
-0.19% LT
-0.96% RT
END CONSTR.
STA. 685+61
MATCH EXIST PAVEMENT
EXIST PROFILE GRADE
EXIST GRADE
200' VC
PVT 110.60
(-)0.4%
(-)0.24%
18" RCP
(+00) DPI LT.
EL 102.66
SPEC DITCH LT.
36" RCP
TEL MH
TEL DUCT
FL 6" GAS
(SEE RAMP A PROFILE FOR SPEC DITCH LT)
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
135
130
125
120
115
110
105

| REVISIONS | | |

SURFACE WATER MANAGEMENT GENERAL PERMIT SUMMARY SHEET

APPLICATION NUMBER: 920616-1 **PROJECT NAME:** I-4/SR 535 Interchange

PERMIT NUMBER: 48-00592-S **PERMITTEE:** Florida DOT

ENGINEER: Delon Hampton & Assoc. Chartered **SFWMD BASIN:** Shingle Creek

LOCATION: CITY: N/A COUNTY: Orange

APPLICABLE LAND USE (ACRES): **LAND USE TYPE:** Highway

	TOTAL PROJECT	PRESENT PHASE
TOTAL	39.17	39.17
WATER MANAGEMENT	8.3	8.3
IMPERVIOUS	12.09	12.09

WATER QUALITY: VOLUME REQUIRED: 3.2 AF VOLUME PROVIDED: 4.2 AF

MIN. ROAD ELEV.: 110.5 FT. NGVD. **MIN. FLOOR ELEV.:** N/A FT. NGVD.

BRIEF DESCRIPTION OF WATER MANAGEMENT SYSTEM:

A wet detention pond which overflows to the existing I-4 drainage system.

DESCRIPTION OF CONTROL STRUCTURE(S):

1-7' wide weir with crest at elevation 107.0' NGVD, discharging to the existing I-4 drainage system.

ENVIRONMENTAL COMMENTS:

No significant impact, no wetlands.

PRIMARY ISSUES:

None

EXHIBIT 12

GENERAL PERMIT DISTRIBUTION LIST

Kissimmee Area Office

PROJECT: I-4/SR 535 Interchange

APPLICATION NUMBER: 920616-1

INTERNAL DISTRIBUTION

X Reviewer:
Alan Leavens
M. Ady
X T. Bates
X B. Colavecchio
X M. Cruz
E. Edmundson
X R. Mireau
P. Rhoads
X J. Show
M. Slayton-Big Cypress
W. Stimmel
D. Thatcher
X P. Walker
X K. Wallace
A. Waterhouse
W. Van Voorhees
X Area Engineer
X Day File
X Enforcement
X Field Representative
Office of Counsel
X Permit File

GOVERNING BOARD MEMBERS

Mr. Ken Adams
Ms. Annie Betancourt
Ms. Valerie Boyd
Mr. Franklin Mann
Mr. Allan Milledge
Mr. James E. Nall
Mr. Eugene K. Pettis
Ms. Leah Schad
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL REGULATION:

X Orlando

EXTERNAL DISTRIBUTION

X Applicant:
Florida Department of Transportation

X Applicant's Consultant:
Delon Hampton & Associates, Chartered

X Engineer, County of:
Orange

Engineer, City of:
____

X Local Drainage District:
Reedy Creek Improvement District

COUNTY

X Orange -Environmental Protection Dept.
X -Public Utilities
Polk -Water Resources Dept.

OTHER

Sierra Club
Central Florida Group
Audubon Society
S.W.F.R.P.C. - Glenn Heath
X Duncan Powell, U.S. EPA

EXHIBIT 13

APPENDIX D.3: I-4/ SR 535 Interchange (900113-1)

FORM 0499
5 87

South Florida Water Management District

BEG. PERMIT NUMBER 48-00592-S

27,34/24/28

Protecting South Florida's Water Resources for 40 Years
1949-1989

South Florida Water Management District

Kissimmee Area Office • 701 East Oak Street • Kissimmee, FL 32743 • (407) 846-1113

LON 24-06-02

Regulation Department
Application No.: 9001113-1
November 30, 1990

Florida Department of Transportation
719 South Woodland Boulevard
DeLand, FL 32720

Dear Sir or Madam:

Subject: Notice of Intent to Construct Works
General Highway Permit and
Stormwater Discharge Certification No: 48-00592-S
Permittee: Florida Department of Transportation
Project : SR 535 from SR 536 to I-4
Location : Orange County, S27,34/T24S/R28E

This letter is to notify you of the District's agency action concerning your Notice of Intent to Construct Works. This action is taken pursuant to Rule 40E-1.606 and Chapter 40E-40, Florida Administrative Code.

Based on the information provided, District rules have been adhered to and a General Highway Permit and Stormwater Discharge Certification is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing, and

2. the attached 12 Special Conditions.

Should you object to these Conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review to the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

Governing Board
James F. Garner, Chairman · Fort Myers
Doran A. Jason, Vice Chairman · Key Biscayne
J.D. York · Palm City
Arsenio Milian · Miami
Fritz Stein · Belle Glade
Mike Stout · Windermere
Ken Adams · West Palm Beach
Valerie Boyd · Naples
James E. Nall · Fort Lauderdale
John R. Wodraska, Executive Director
Tilford C. Creel, Deputy Executive Director

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee (and the persons listed in the attached distribution list) no later than 5:00 P.M., this 30th day of November, 1990, in accordance with Section 120.60(3), F.S.

Sincerely,

James T. Show, P.E.
Kissimmee Area Office
South Florida Water Management District

JTS/pgk

CERTIFIED MAIL NO. P 855 822 891
Attachments

SPECIAL CONDITIONS

1. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OR GROUNDWATERS OF THE STATE SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 17-3. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA AS REQUIRED ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OR GROUNDWATERS OF THE STATE.

3. SPECIAL CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

4. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

5. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

6. THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATER.

7. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

8. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

9. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

10. PRIOR TO DEWATERING, PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. INFORMATION SHALL INCLUDE AS A MINIMUM: PUMP SIZES, LOCATIONS AND HOURS OF OPERATION FOR EACH PUMP. IF OFF-SITE DISCHARGE IS PROPOSED, OR OFF-SITE ADVERSE IMPACTS ARE EVIDENT, AN INDIVIDUAL WATER USE PERMIT MAY BE REQUIRED. THE PERMITTEE IS CAUTIONED THAT SEVERAL MONTHS MAY BE REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION.

11. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

12. THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY

F.A. PROJ. NO. RS-5905(4)
STATE PROJ. NO. 75560-3610
ORANGE COUNTY
S.R. NO. 535

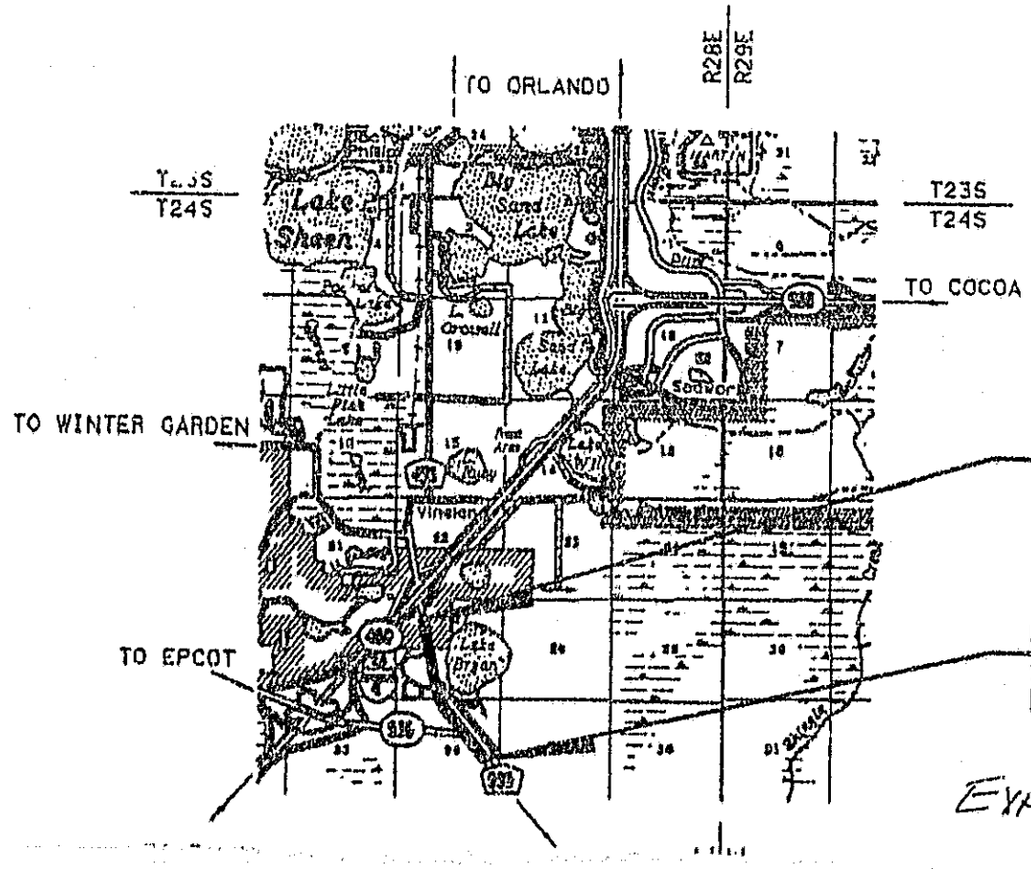
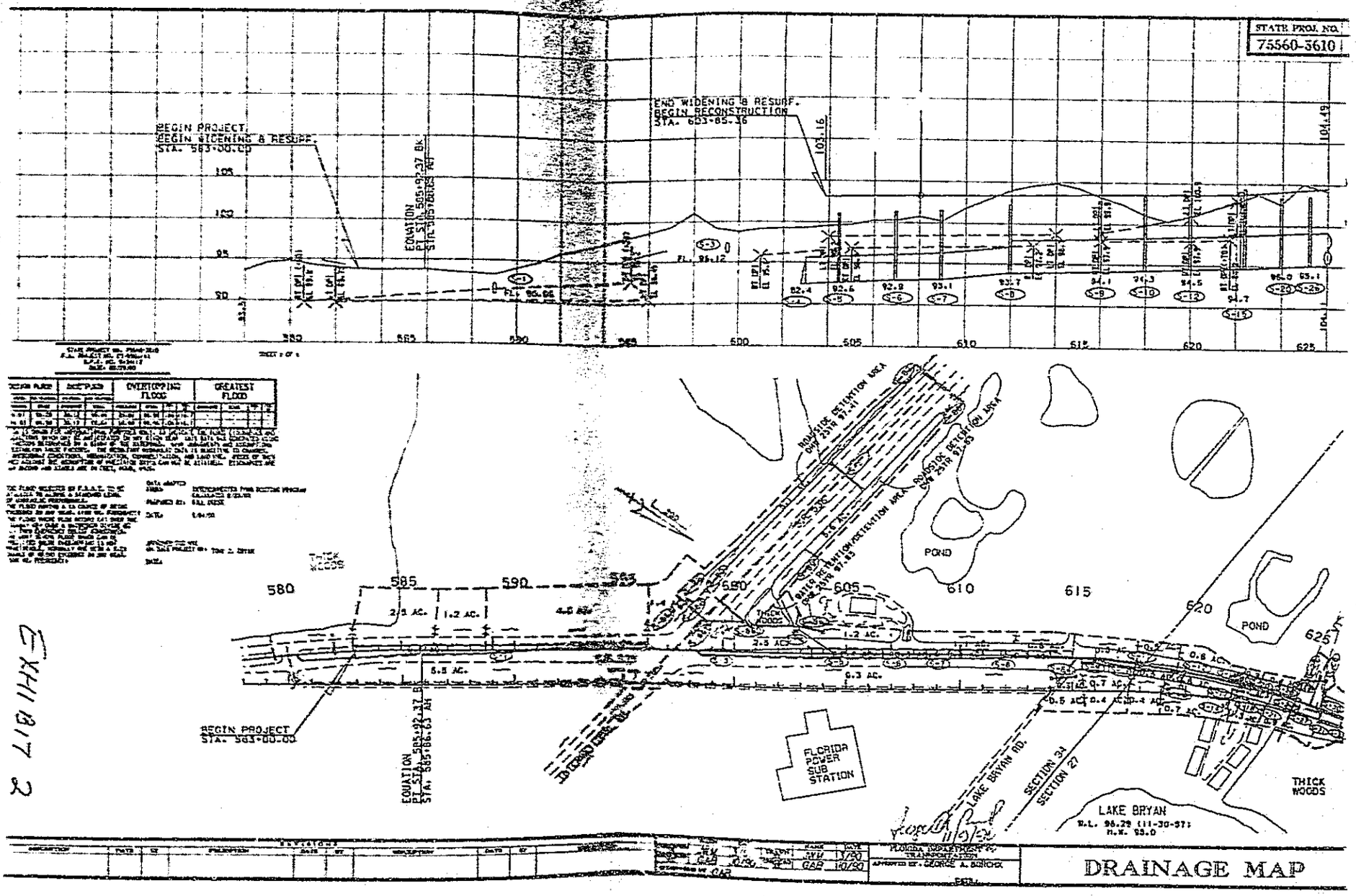
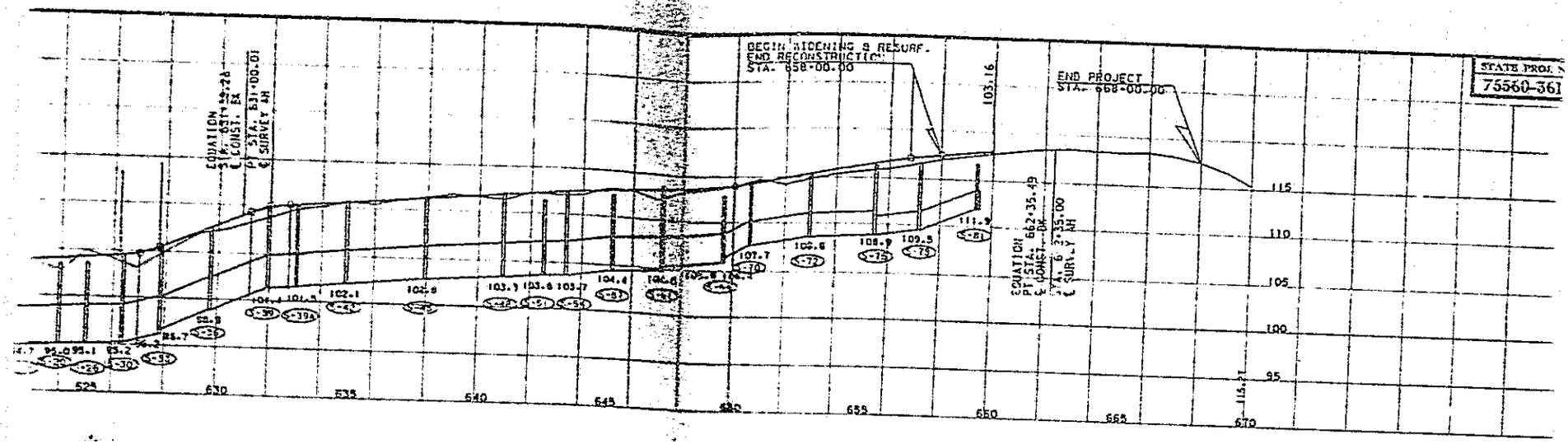


EXHIBIT 1


STATE PROJ. NO.
75560-3610
BEGIN PROJECT
BEGIN WIDENING & RESURF.
STA. 563+00.00
END WIDENING & RESURF.
BEGIN RECONSTRUCTION
STA. 603+85.36
EQUATION
PT. STA. 585+92.37 BK
STA. 585+86.63 AH
POND
THICK WOODS
FLORIDA POWER SUB STATION
LAKE BRYAN RD.
SECTION 24
SECTION 27
LAKE BRYAN
DRAINAGE MAP



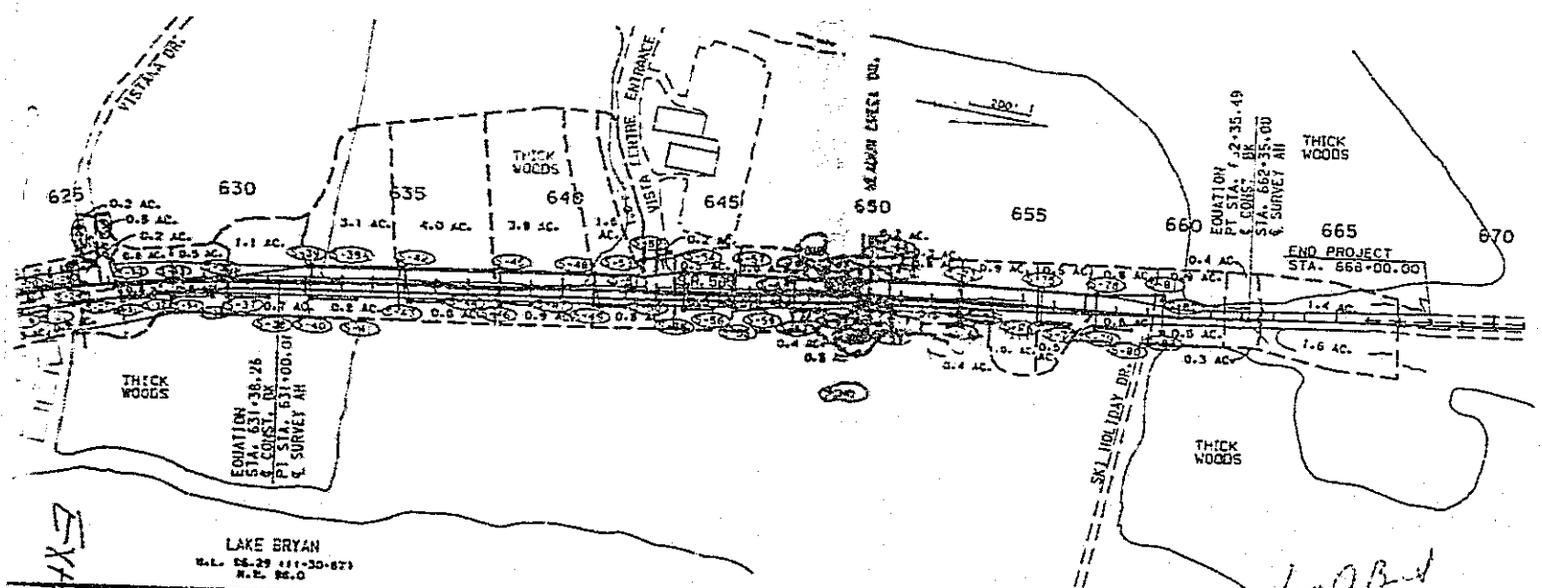


EXHIBIT E

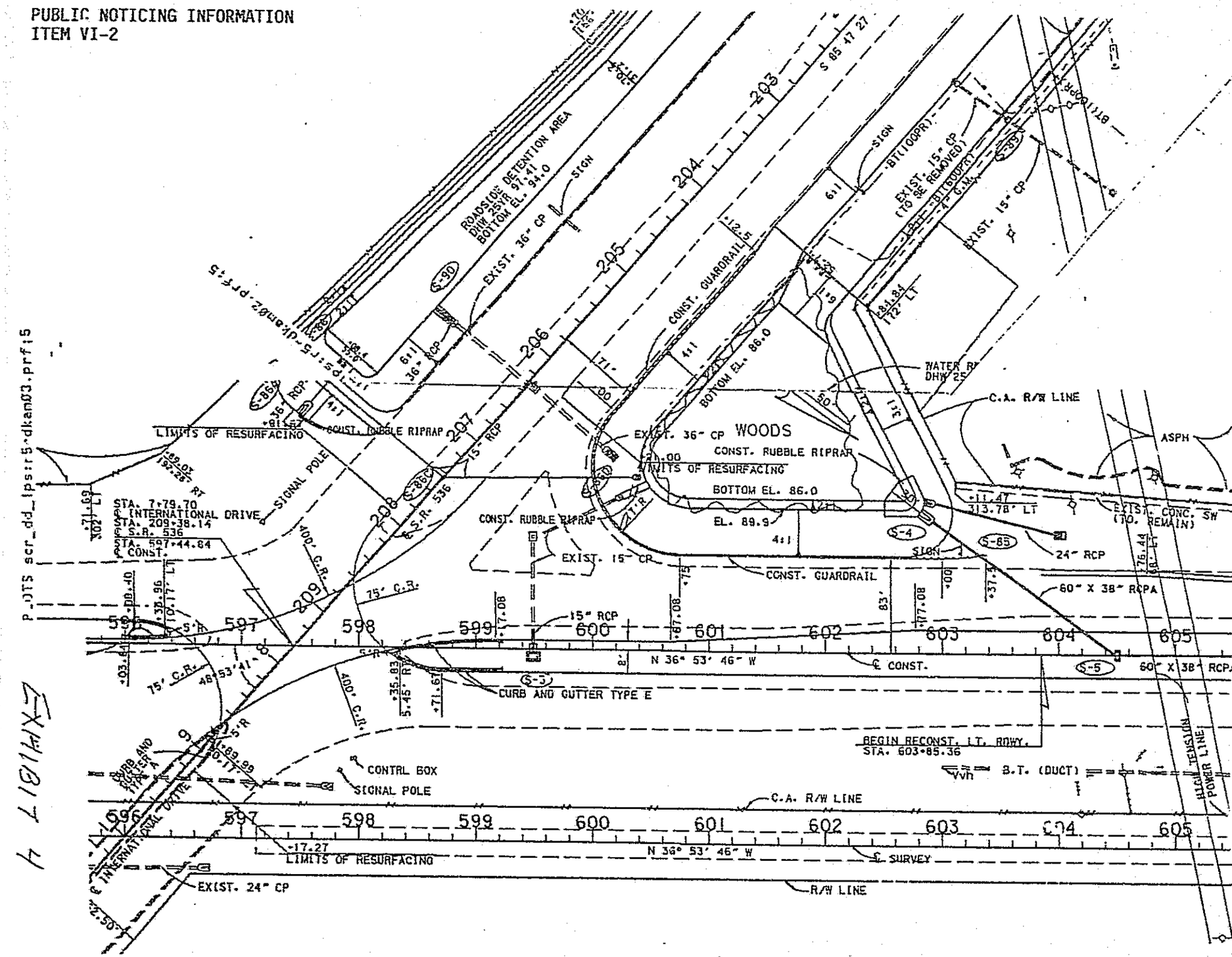
Joyce A. Bond
11/9/90

DESIGNED	JWM	3/90	DRAWN	JWM	3/90
CHECKED	GAB	10/90	REVIEWED	GAB	10/90
REVISED BY	GAB				

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY: GEORGE A. BORCHK
DATE:

DRAINAGE MAP

PUBLIC NOTICING INFORMATION
ITEM VI-2



PUBLIC NOTICING INFORMATION
ITEM VI-2

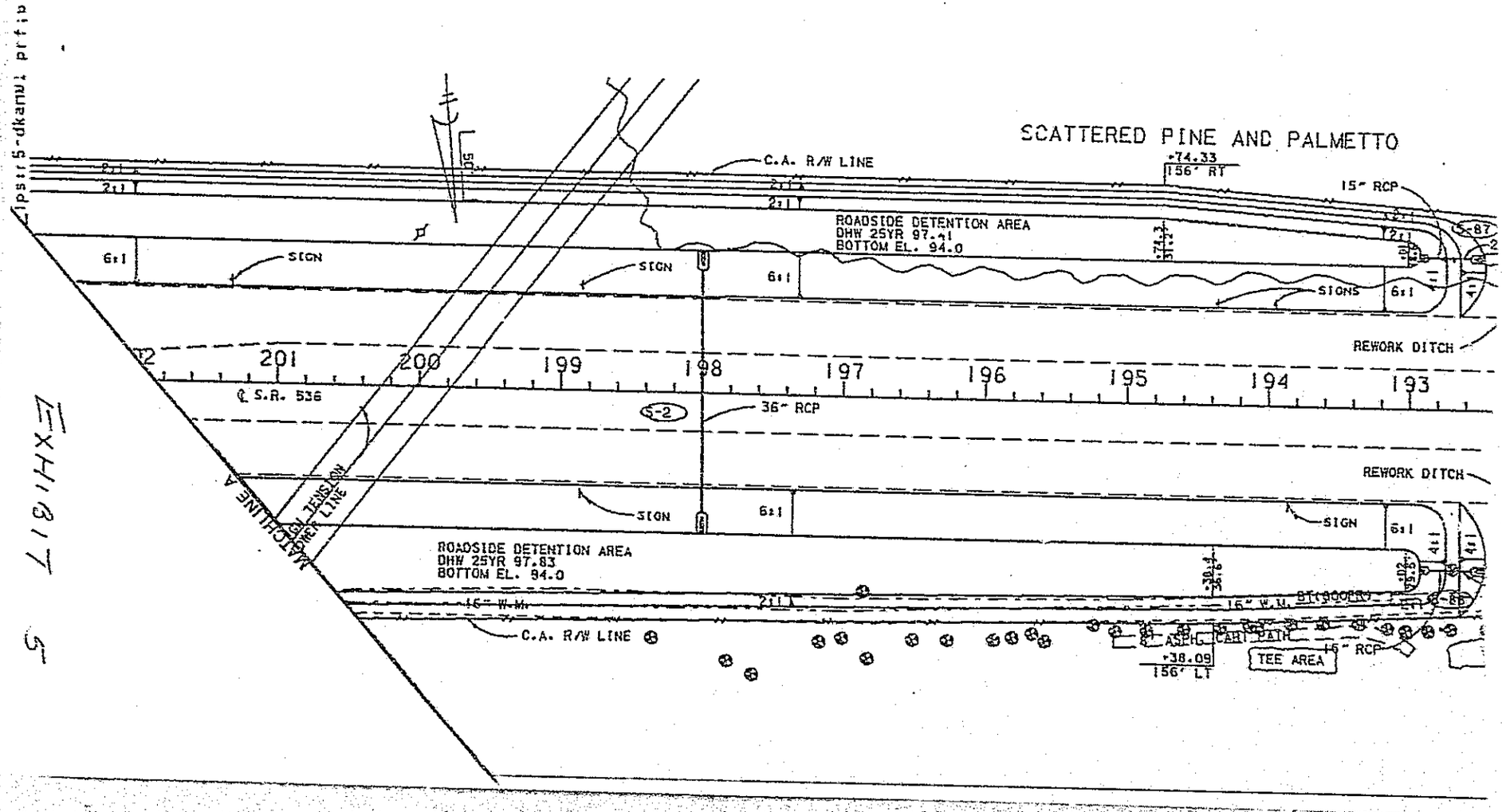


EXHIBIT 5

SR 535 WIDENING

PERMIT SUMMARY SHEET

APPLICATION NO. 901113-1

LOCATION Orange County S27,34/T24S/R28E

PROJECT AREA 24.9 ACRES

BASIN AREA 24.9 ACRES

PROJECT USE Public Highway

FACILITIES:

1. EXISTING: Two lane roadway with minimum drainage facilities.

2. PROPOSED: Widening the roadway to six lanes, installation of improved drainage facilities for water quality treatment and storm attenuation. Eventual discharge will continue to be to Shingle Creek.

ENVIRONMENTAL: No wetland impacts associated with this project.

APPLICABLE LAND USE

TOTAL	24.9 ACRES	
WATER MANAGEMENT	0.80 ACRES	and 616 LF of exfiltration trench
IMPERVIOUS	14.2 ACRES	

DRAINAGE BASIN Upper Kissimmee

RECEIVING BODY Shingle Creek

EXHIBIT 6

GENERAL PERMIT DISTRIBUTION LIST

PROJECT: SR 535 from SR 536 to I-4 APPLICATION NUMBER: 901113-1

INTERNAL DISTRIBUTION

X Reviewer: A. Leavens
X S. Anderson
X S. Bradow
J. Fanjul-Miami Office
J. Carnes
X M. Cruz
K. Dickson
E. Edmundson
JM Hiscock
J. Jackson
K. Johnson
F. Lund
P. Millar
J. Morgan
B. Pratt
P. Rhoads
X J. Show
M. Slayton-Big Cypress
X R. Mierau
W. Stimmel
D. Thatcher
W. Van Voorhees
X P. Walker
X K. Wallace
E. Yaun
X Area Engineer
X Day File
X Enforcement
X Field Representative
X Permit File

GOVERNING BOARD MEMBERS

C. Causey

DEPT. OF ENVIRONMENTAL REGULATION:

Ft. Myers
X Orlando
Port St. Lucie
Tallahassee
West Palm Beach

EXTERNAL DISTRIBUTION

X Applicant: Fla. Dept. of Transportation
X Applicant's Consultant: (Applicant)
X Engineer, County of: Orange
Engineer, City of: _____
Local Drainage District: _____

BUILDING AND ZONING

Boca Raton
Boynton Beach
Royal Palm Beach
Tequesta
West Palm Beach

COUNTY

Broward -BCEQCB
-Director, Water Mgmt. Div.
Collier -Dept of Natural Res. (K.Alvarez)
Dade -DERM
Hendry -Bd of County Comm. (C.Atkin)
Lee -Dept of Natural Res. (K.Alvarez)
-D.O.T.
-Long Range Planning
-Mosquito Control
Martin -Community Development Director
Orange -Environmental Protection Dept.
-Public Utilities
Palm Beach-Building Division
-Environmental Resources Mgmt.
-Land Development Division
-LWDD
-School Brd., Growth Mgt. Ctr.
-Zoning Division, J. MacGillis
Polk -Water Resources Dept.
St. Lucie -Planning Division

OTHER

Sierra Club
Central Florida Group
Port St. Lucie Planning Division
S.W.F.R.P.C. - Glenn Heath
X Haynes Johnson, U.S. EPA
Jim Couch, U.S. EPA

EXHIBIT 7

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
RC-1A ADMINISTRATIVE INFORMATION FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS AND/OR WATER USE PERMIT APPLICATIONS

Form 0645-A01
01/90

RECEIVED
NOV 13 1990
REGULATION DEPT. - 402
OFFICE

I. GENERAL INFORMATION

THIS IS AN APPLICATION FOR (PLEASE CHECK APPROPRIATE BOXES):
[X] A SURFACE WATER MANAGEMENT PERMIT [ ] A WATER USE PERMIT

OWNER	APPLICANT (IF DIFFERENT FROM OWNER)
NAME: Florida Department of Transportation	NAME: SAME
ADDRESS: 719 South Woodland Boulevard	ADDRESS:
CITY, STATE, ZIP: DeLand, Florida 32720	CITY, STATE, ZIP:
TELEPHONE ( ): 904 734-2171	TELEPHONE ( ):
PROJECT ENGINEER, CONSULTANT OR AGENT	**PRE-APPLICATION MEETING**
NAME OF FIRM: SAME	HAVE ANY PRE-APPLICATION MEETINGS BEEN HELD WITH DISTRICT STAFF? [ ] YES [X] NO
NAME OF CONTACT PERSON:	DATE(S):
ADDRESS:	LOCATION(S):
CITY, STATE, ZIP:	NAME(S) OF KEY DISTRICT STAFF:
TELEPHONE ( ):	NAME(S) OF PROJECT REPRESENTATIVE(S):

PROJECT INFORMATION

NAME (INCLUDING THE PHASES COVERED BY THIS APPLICATION): SR 535 from SR 536 to I-4

TOTAL PROJECT ACREAGE, INCLUDING ALL PHASES: 24.9 PHASE AREAS (IF APPLICABLE):

CITY, TOWN, OR VILLAGE (IF APPLICABLE): Lake Buena Vista COUNTY: Orange

SECTION(S) OR GOVERNMENT LOT(S): 27, 34 TOWNSHIP 24 S RANGE 28 E

SECTION(S) OR GOVERNMENT LOT(S): TOWNSHIP S RANGE E

SECTION(S) OR GOVERNMENT LOT(S): TOWNSHIP S RANGE E

II. SURFACE WATER MANAGEMENT

FORM OF PERMIT (PLEASE CHECK ONLY ONE BOX)

[ ] A NEW INDIVIDUAL PERMIT, PURSUANT TO RULE 40E-4, FLORIDA ADMINISTRATIVE CODE (F.A.C.)

[X] A NEW GENERAL PERMIT, PURSUANT TO RULE 40E-40, F.A.C.

[ ] A MODIFICATION OF EXISTING INDIVIDUAL PERMIT NO.

[ ] A MODIFICATION OF EXISTING GENERAL PERMIT NO.

DESCRIBE IN GENERAL TERMS THE REQUESTED CHANGE(S) OR NEW WORK(S)

Six laning of SR 535
Installation of closed drainage system, French drains, and wet detention pond.

SURFACE WATER MANAGEMENT (CONTINUED)

Form 0645-A02

TYPE OF PERMIT (PLEASE CHECK AT LEAST ONE BOX)

☐ CONCEPTUAL APPROVAL OF A SURFACE WATER MANAGEMENT SYSTEM WHICH WILL SERVE THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☒ CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM WHICH WILL SERVE THE ENTIRE 24.9 - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☐ *PHASES OF THE SITE: CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM WHICH WILL SERVE _____ ACRES (PLEASE FILL IN THE ACREAGE OF THE PART OF YOUR PROJECT FOR WHICH A CONSTRUCTION AND OPERATION PERMIT IS SOUGHT.) OF THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☐ OPERATION OF AN EXISTING SURFACE WATER MANAGEMENT SYSTEM WHICH SERVES THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☐ *PHASES OF THE SITE: OPERATION OF AN EXISTING SURFACE WATER MANAGEMENT SYSTEM WHICH SERVES _____ ACRES (PLEASE FILL IN THE ACREAGE OF THE PART OF YOUR PROJECT FOR WHICH AN OPERATION PERMIT IS SOUGHT.) OF THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

*IF THIS IS THE CASE, YOU MUST ALSO USE THIS FORM TO APPLY FOR OTHER TYPES OF PERMITS FOR THE REST OF THE SITE, TO ASSURE THAT THE ENTIRE SITE IS COVERED BY THIS APPLICATION.

III. WATER USE

FORM OF PERMIT (PLEASE CHECK ONLY ONE BOX):

☐ A NEW INDIVIDUAL PERMIT PURSUANT TO RULE 40E-2.101, FLORIDA ADMINISTRATIVE CODE (F.A.C.)

☐ A NEW GENERAL PERMIT, PURSUANT TO RULE 40E-20, F.A.C.

☐ A MODIFICATION OF EXISTING PERMIT NO. _____

☐ RENEWAL OF EXISTING PERMIT NO. _____

THE PURPOSE OF THIS REQUEST:

TYPE OF PERMIT (PLEASE CHECK AT LEAST ONE BOX):

☐ AGRICULTURAL IRRIGATION ☐ LANDSCAPING IRRIGATION ☐ GOLF COURSE IRRIGATION

☐ PUBLIC WATER SUPPLY ☐ MINING/DEWATERING ☐ INDUSTRIAL/COMMERCIAL

☐ RECREATIONAL ☐ AQUACULTURE ☐ OTHER (PLEASE DESCRIBE) _____

SOURCE OF WATER (PLEASE CHECK AT LEAST ONE BOX):

SURFACE WATER FROM THE FOLLOWING WATER BODY(IES):

☐ ON-SITE RETENTION POND(S) OR LAKE(S) ☐ ADJACENT LAKE, CANAL, RIVER, OR CREEK: _____ (NAME)

GROUND WATER FROM THE FOLLOWING NAMED AQUIFER(S) (PLEASE INDICATE, FOR EACH AQUIFER, WHETHER IT IS SHALLOW OR DEEP):

IV. CERTIFICATION

I hereby certify that, to the best of my knowledge, the total project acreage listed above is owned or controlled by me and encompasses the project referenced in this permit application. In addition, I agree to provide entry to the project site for South Florida Water Management District inspectors with proper identification or documents as required by law for the purpose of making preliminary analyses of the site. Further, I agree to provide entry to the project site for such inspectors to monitor permitted work if a permit is granted.

Robert R. Gleason 11/7/90

Signature (if not the owner, certify below) Date

I hereby certify that I am an authorized agent of the owner:

(Title) Date

FOR DISTRICT USE ONLY

APPLICATION NUMBER 901113-1

FEE REQUIRED NO

FEE PAID —

RECEIPT NUMBER —

FLORIDA
BOB MARTINEZ
GOVERNOR

DEPARTMENT OF TRANSPORTATION
BEN G. WATTS
SECRETARY

719 South Woodland Boulevard
DeLand, Florida 32720

November 9, 1990

RECEIVED
NOV 13 1990
REGULATORY DEPT. - 402
KISSIMMEE OFFICE

Mr. Alan Leavens
South Florida Water Management District
701 East Oak Street
Kissimmee, Florida 34744

Re: State Project No.: 75560-3610
Work Program No.: 5124117
Federal Aid Project No.: RS-5905 (4)
S.R. 535 from S.R. 536 to I-4
Orange County

Dear Mr. Leavens:

I have enclosed Forms RC-1A and RC-1S and documentation supporting an application for a General Highway Surface Water Management Permit. The project consists of the six-laning of the existing four lanes of S.R. 535 between S.R. 536 and I-4. Project right of way totals 24.9 acres, of which 12.9 acres (51.8%) will be impervious. Surface water will be carried by pipes to exfiltration pipes and a wet detention facility. You have agreed previously to the use of a 25 year, 24 hour design storm distributed by the SCS Type III method, and to the use of a 3-inch orifice to bleed down the detention pond. ITEM II-1.

No land fills, wells, lakes or Outstanding Florida Waters will be effected by the project ITEMS II-5 and III-6. As shown on the accompanying floodplain maps (120179-0375, 0500, 0525), the project is outside the floodplains of Lake Bryan and Shingle Creek. ITEM II-6. Other than isolated pockets in the roadway ditches there are no wetlands on site. ITEMS I-3, 4, and 5.

The existing water management system consists of swales which convey water south to an existing permitted system, which discharges via a 4700 foot outfall canal into Shingle Creek wetlands. ITEM IV-1. This system was permitted in October 1985 (Permit No. unknown). ITEM IV-2. The proposed system will convey water by pipes to treatment and attenuation facilities located within the existing right of way. Runoff from S.R. 535 will be treated in an exfiltration system and in a wet detention pond in the northwest quadrant of the S.R. 535/S.R. 536 intersection. This pond will discharge by three structures. Structures 87 and 88 are at Station 192 + 60 of S.R. 536; both discharge to S.R. 536 ditches. This water runs northwesterly to an existing permitted system (48-00099-S, 7-9-81) at the I-4/Epcot interchange. The eventual discharge is to wetlands associated with Bonnet Creek.

The majority of the discharge from the wet pond is by Structure 86B at the Station 207 + 45 (S.R. 535/536 intersection); it discharges into the existing S.R. 535 swales. As discussed previously, this water runs south and eventually reaches Shingle Creek wetlands. Portions of the northbound lanes of S.R. 535 will discharge into swales which will function as retention/detention facilities. Flow will be controlled by the existing 24-inch pipe at Station 580 + 70. This water will also run south along S.R. 535. ITEM III-3. Flow out of the exfiltration pipes will be controlled by weirs placed in the various junction boxes. Groundwater flow out of the wet pond will be controlled by an orifice (S-86B) and the three weirs, discussed above ITEM IV-3. Design details for the proposed system are in the enclosed drainage calculation package and plans.

Erosion will be controlled during construction by the methods described in Standard Specifications for Road and Bridge Construction, Section 104. These will most likely consist of staked hay bales and/or silt fence, seed and mulch, and sodding. ITEM III-4.

All right of way for S.R. 535 in Sections 27 and 34, Township 24S, Range 28E to be utilized for the proposed construction are, or will be, owned by FDOT by virtue of fee title, record easement, temporary construction easement, and Chapter 95 and 337 Florida Statutes. ITEMS II-5 and V-1. FDOT agrees to operate and maintain the proposed facility in a manner consistent with Chapter 40E-40, F.A.C. ITEM V-2.

Should further information be required, please contact me at SUNCOM 383-5444. Thank you for your attention.

Sincerely,

Bryon J. Russell
Environmental Specialist

BJR/ksh
Enclosure

Form 0645 - 501
01/90

RC-1S APPLICATION FOR A SURFACE WATER MANAGEMENT PERMIT

FOR SFWMD USE ONLY

Application No. _____

SECTION I - SITE INFORMATION

			SFWMD ONLY N A I M
✓	A	LOCATION SKETCH IS SUBMITTED AS ITEM I-1.	☐☐☐☐
✓	B	AERIAL PHOTOGRAPH IS SUBMITTED AS ITEM I-2.	☐☐☐☐
	C	WETLANDS	
		EXISTING COVER IS SUBMITTED AS ITEM I-3.	☐☐☐☐
		PROPOSED PRESERVATION TECHNIQUES ARE SUBMITTED AS ITEM I-4.	☐☐☐☐
		WETLANDS CONTROL ELEVATION TABLE IS SUBMITTED AS ITEM I-5.	☐☐☐☐

SECTION II - PROJECT INFORMATION

✓	A	PROJECT DESCRIPTION IS SUBMITTED AS ITEM II-1A.	☐☐☐☐
✓		STAFF GUIDANCE DOCUMENTS ARE SUBMITTED AS ITEM II-1B.	☐☐☐☐
	B	TOPOGRAPHIC MAP IS SUBMITTED AS ITEM II-2.	☐☐☐☐
✓	C	DRAINAGE MAP IS SUB...TED AS ITEM II-3.	☐☐☐☐
	D	WATER ELEVATION	
✓		BASIN WATER TABLE ELEVATION TABLE IS SUBMITTED AS ITEM II-4A.	☐☐☐☐
✓		SUPPORTING INFORMATION IS SUBM...TED AS ITEM II-4B.	☐☐☐☐
✓		DESCRIPTION OF AFFECTED SYSTEMS IS SUBMITTED AS ITEM II-5.	☐☐☐☐
✓		FLOODPLAIN INFORMATION IS SUBMITTED AS ITEM II-6.	☐☐☐☐
✓	E	PERCOLATION DATA ARE SUBMITTED AS ITEM II-7.	☐☐☐☐
	F	WATER WITHDRAWAL IS SUBMITTED AS ITEM II-8.	☐☐☐☐

SECTION III - MASTER PLAN

	A	MASTER PAVING, GRADING, AND DRAINAGE PLANS	
		CONCEPTUAL APPROVAL, PLANS NOT SUBMITTED. ☐ YES ☒ NO	☐☐☐☐
✓		MASTER PAVING, GRADING, AND DRAINAGE PLANS ARE SUBMITTED AS ITEM III-1.	☐☐☐☐
✓	B	DRAINAGE PLAN DETAILS ARE SUBMITTED AS ITEM III-2.	☐☐☐☐
✓	C	RECEIVING BODY LIST IS SUBMITTED AS ITEM III-3.	☐☐☐☐
	D	CONSTRUCTION TECHNIQUES DESCRIPTION	
		CONCEPTUAL APPROVAL, STATEMENT NOT REQUIRED. ☐ YES ☒ NO	☐☐☐☐
✓		CONSTRUCTION TECHNIQUES DESCRIPTION IS SUBMITTED AS ITEM III-4.	☐☐☐☐

Form 0645 - 502

SECTION III - MASTER PLAN (CONTINUED)

SFWMD ONLY

N A - M

	E	LEGAL RESERVATIONS
		CONCEPTUAL APPROVAL. RESERVATIONS NOT REQUIRED. ☐ YES ☒ NO
✓		LEGAL RESERVATIONS ARE SUBMITTED AS ITEM III-5.
✓	F	AFFECTED FACILITIES ANALYSIS IS SUBMITTED AS ITEM III-6

SECTION IV - SURFACE WATER MANAGEMENT ANALYSIS

	A	FACILITIES
✓		DESCRIPTION OF EXISTING FACILITIES IS SUBMITTED AS ITEM IV-1.
✓		DESCRIPTION OF PREVIOUSLY APPROVED/PERMITTED FACILITIES IS SUBMITTED AS ITEM IV-2.
✓		DESCRIPTION OF PROPOSED FACILITIES FOR THE ENTIRE PROJECT IS SUBMITTED AS ITEM IV-3.
		DESCRIPTION OF PROPOSED FACILITIES FOR THIS PHASE IS SUBMITTED AS ITEM IV-4.
✓		FACILITY DETAILS FOR EXFILTRATION TRENCH ARE SUBMITTED AS ITEM IV-5.
✓		PERCOLATION TESTS AND CALCULATIONS ARE SUBMITTED AS ITEM IV-6.
✓		EXFILTRATION TRENCH COMPUTATIONS ARE SUBMITTED AS ITEM IV-7.
✓		FACILITY DETAILS FOR GRAVITY DISCHARGE STRUCTURE(S) ARE SUBMITTED AS ITEM IV-8.
✓		STAGE-DISCHARGE CALCULATION IS SUBMITTED AS ITEM IV-9.
		SPREADER SWALE VELOCITY CALCULATION IS SUBMITTED AS ITEM IV-10.
✓	B	A STAGE-DISCHARGE, A STAGE-STORAGE, AND A LAND COVERAGE FOR EACH BASIN ARE SUBMITTED AS ITEM IV-11
✓	C	DRAINAGE BASIN(S) AND/OR PHASE(S) TABLES ARE SUBMITTED AS ITEM IV-12.
✓	D	WATER QUALITY BEST MANAGEMENT PRACTICES DESCRIPTION IS SUBMITTED AS ITEM IV-13A.
✓		RETENTION/DETENTION VOLUME CALCULATIONS FOR EACH BASIN OR PHASE ARE SUBMITTED AS ITEM IV-13B.
✓	E	WET SEASON WATER TABLE AND SOIL STORAGE CALCULATIONS ARE SUBMITTED AS ITEM IV-13C.
✓	F	ALLOWABLE DISCHARGE SUPPORTING CALCULATIONS ARE SUBMITTED AS ITEM IV-14.
✓	G	FLOOD ROUTINGS ARE SUBMITTED AS ITEM IV-15.
	H	FLOODPLAIN ENCROACHMENT
		CONVEYANCE PREDEVELOPMENT CONDITIONS ARE SUBMITTED AS ITEM IV-16.
		CONVEYANCE POST-DEVELOPMENT CONDITIONS ARE SUBMITTED AS ITEM IV-17
		STORAGE PREDEVELOPMENT SITE RUNOFF CONDITIONS ARE SUBMITTED AS ITEM IV-18.
		STORAGE PREDEVELOPMENT BASIN STORAGE CONDITIONS ARE SUBMITTED AS ITEM IV-19.
		FLOODPLAIN ☐ IMPORTER ☐ EXPORTER SUPPORTING INFORMATION IS SUBMITTED AS ITEM IV-20

Form 0645 - 503

SECTION V - LEGAL AND INSTITUTIONAL

SFWMD ONLY
N A I M

✓	A	PROOF OF OWNERSHIP SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-1	☐☐☐☐
✓	B	RESPONSIBLE ENTITY(IES) SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-2.	☐☐☐☐
	C	UTILITIES	
		WATER UTILITIES SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-3.	☐☐☐☐
		SEWERAGE SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-4.	☐☐☐☐
	D	RECEIVING BODY(IES)	
		LEGAL AVAILABILITY DOCUMENTATION IS SUBMITTED AS ITEM V-5.	☐☐☐☐
		PHYSICAL CAPACITY DOCUMENTATION IS SUBMITTED AS ITEM V-6.	☐☐☐☐
		RIGHT OF WAY PERMIT APPLICATION IS SUBMITTED NOW. ☐	☐☐☐☐
		RIGHT OF WAY PERMIT IS APPLIED FOR, APPLICATION NO. _____	☐☐☐☐
		PROJECT IS PERMITTED FOR RIGHT OF WAY, PERMIT NO. _____	☐☐☐☐
✓	E	LAND USE TABLE IS SUBMITTED AS ITEM V-7	☐☐☐☐
	F	DEVELOPMENT OF REGIONAL IMPACT STATUS INFORMATION IS SUBMITTED AS ITEM V-8.	☐☐☐☐
	G	BOUNDARY SURVEY IS SUBMITTED AS ITEM V-9.	☐☐☐☐

SECTION VI - PUBLIC NOTICING INFORMATION

✓	A	DEPICTION OF WORKS AND FACILITIES IS SUBMITTED AS ITEM VI-1.	☐☐☐☐
✓	B	PROJECT MAP IS SUBMITTED AS ITEM VI-2	☐☐☐☐
✓	C	WETLANDS STATEMENT IS SUBMITTED AS ITEM VI-3.	☐☐☐☐
✓	D	MITIGATION STATEMENT IS SUBMITTED AS ITEM VI-4.	☐☐☐☐

SECTION VII - WORKS OF THE DISTRICT SURFACE WATER IMPROVEMENT AND MANAGEMENT (SWIM)

	A	PROJECT IS PERMITTED FOR WORKS OF THE DISTRICT (SWIM). PERMIT NO. _____	☐☐☐☐
	B	WORKS OF THE DISTRICT (SWIM) PERMIT IS APPLIED FOR, APPLICATION NUMBER: _____	☐☐☐☐
	C	WORKS OF THE DISTRICT (SWIM) PERMIT IS NOT REQUIRED ☐	☐☐☐☐

ROUTE

Regulation Department

For #0047
Rev 11/89

Application Routing Slip

Number: 901113-1

Applicant: Florida Dept of transportation

Project: SR535 from SR536 to I-4

Response Requested By:

Terrie Bates _____

Reinhardt

R/W Permits _____

30 Day AI Deadline _____

Specific Board Deadlines:

NLT _____ for _____ Board

NLT _____ for _____ Board

*NLT _____ for _____ Board

*This is the absolute statutory deadline

Note:

☐ Fee Received $ _____

☒ No Fee Required _____

Permit File Requested?

☐ Yes ☐ No Date _____

	Route To	Date Received	Date Out
1.	Pat	11/13/90	11/13/90
2.	Jim	11/13	11/13
3.	Alan		
4.	Pat	11/30	11/30
5.			
6.			
7.			
8.			

COMMENTS: NO Wetland IMPACTS - NSI

Application Review: Date: Supervisor/Checker: Date:

Technical: Alan Leavens

Water Quality: Alan Leavens

Environmental: [signature] 11/26/90

South Florida Water Management District

BEG. PERMIT NUMBER 48-00592-S

2-Mods.

NOTE: BLUE FOLDER MICRO-FILM DATE / /

MOD 48-00592-S App No. 920616-1
I-4/SR 535 INTERCHANGE
22 27 28/24/28

FLORIDA
LAWTON CHILES
GOVERNOR

DEPARTMENT OF TRANSPORTATION

BEN G. WATTS
SECRETARY

RECEIVED
NOV 23 1993
REGULATION DEPT. 4030

Orlando Construction Office
5151 Adanson Street, 2nd Floor
Orlando, Florida 32804

November 19, 1993

Ms. Heidi M. Schloss, Senior Engineering Technician
South Florida Water Management District
3301 Gun Club Road
P.O. Box 24680
West Palm Beech, Florida 33416-4680

RE: Construction Commencement Notice, I-4/S.R.535

State Project Nos.	: 75280-3465
W.P.I. No.	: 5147191
Contract No.	: 18395
S.W.M. Permit No.	: 48-00592-S
Application No.	: 920616-1

Dear Ms. Schloss:

I am responding to your letter dated November 4, 1993 regarding the Construction Commencement Notice. I apologize for not having sent one earlier, as the permit I received did not state a notice was necessary.

Attached is the completed notice. The annual status report for surface water management system construction will be sent in a timely manner after one year from the start date.

Should you require any further information, please contact Mr. Allan Strickland, Project Engineer at (407) 827-8090 or myself at (407) 623-1242.

Sincerely,

R. K. Trewick

R.K. Trewick, P.E.
Project Manager

RKT/rkt
Attachment

cc: W.O. Downs, District Construction Engineer
Jim Hamelin, P.E. Resident Engineer, Orlando Construction
Allan Strickland, Project Engineer, I.C.F. Kaiser Engineers
Karen Snyder, District Permit Coordinator

RECYCLED PAPER

CONSTRUCTION COMMENCEMENT NOTICE

PROJECT: I-4/SR 535 Interchange **PHASE:** _____

I hereby notify the South Florida Water Management District's Field Engineering Division that construction of the surface water management system, authorized by Surface Water Management Permit No. 48-00592-S under Application No. 920616-1 has commenced/~~is expected to commence~~ on 7 09, 1993. It is anticipated that construction of the permitted system will be completed by 01-29-, 1995, ~~will require duration of approximately months/weeks/days to complete~~

R. K. Trewick

Permittee's or Authorized Agent's Signature

PROJECT MANAGER (FDOT)
Title and Company

11-17-93
Date

(407)623-1242
Phone

RECEIVED
NOV 23 1993
REGULATION DEPT. 4030

FLORIDA DEPARTMENT OF TRANSPORTATION

LAWTON CHILES
GOVERNOR

BEN G. WATTS
SECRETARY

RECEIVED
JUL 14 1994
REGULATION DEPT. 4030

Orlando Construction Office
5151 Adanson Street, 2nd Floor
Orlando, Florida 32804

July 12, 1994

Ms. Heidi M. Schloss, Senior Engineering Technician
South Florida Water Management District
3301 Gun Club Road
P.O. Box 24680
West Palm Beech, Florida 33416-4680

RE: Construction Annual Status Report, I-4/S.R.535

State Project Nos.	: 75280-3465
W.P.I. No.	: 5147191
Contract No.	: 18395
S.W.M. Permit No.	: 48-00592-S
Application No.	: 920616-1

Dear Ms. Schloss:

Attached is the annual status report as required by our permit. Completion of the project is now estimated to be in April, 1995.

Should you require any further information, please contact Mr. Allan Strickland, Project Engineer at (407) 827-8090 or myself at (407) 623-1242.

Sincerely,

R. K. Trewick

R.K. Trewick, P.E.
Project Manager

RKT/rkt
Attachment

cc: W.O. Downs, District Construction Engineer
Ken Morgan, Acting Resident Engineer, Orlando Construction
Allan Strickland, Project Engineer, I.C.F. Kaiser Engineers
Karen Snyder, District Permit Coordinator

RECYCLED PAPER

RECEIVED
JUL 14 1994
REGULATION DEPT. 4030

ANNUAL STATUS REPORT FOR SURFACE WATER MANAGEMENT SYSTEM CONSTRUCTION

(Required whenever construction duration exceeds one (1) year)

PERMIT NO. 48-00592-S APPLICATION NO. 920616

PROJECT NAME: I-4 / SR. 535 PHASE:

Control Structure(s)	% of completion	Date of anticipated completion	Date of completion
WEIR S-48	0	11/94	
STRUCTURES S-26 & S28 EQUALIZATION PIPES	80	9/94	

Benchmark Description (one per major control structure):

SWM Facilities	% of completion	Date of anticipated completion	Date of completion
Lake(s)			
Ditche(s)/swale(s)	20	4/95	
Exfiltr. trench			
Dry area(s)			
Berm(s)			
RETENTION POND	60	9/94	

R. K. TREWICK
Print Name

(407) 623-1242
Phone

R. K. Trewick
Permittee's or Authorized Agent's Signature

Project MANAGER F.D.O.T.
Title and Company

7-8-94
Date

2-

South Florida Water Management District

3301 Gun Club Road • P.O. Box 24680 • West Palm Beach, FL 33416-4680 • (407) 686-8800 • FL WATS 1-800-432-2045

CON 24-06

CERTIFIED MAIL NO. P 252 275 009

November 04, 1993

FLORIDA DEPT OF TRANSPORTATION
719 S WOODLAND BOULEVARD
DELAND, FL 32720

Dear Permittee:

Subject: Notice of Noncompliance
Post Permit Compliance/Construction Commencement Notice
SWM Permit No. 48-00592-S, Application No. 920616-1
I-4/SR 5335 INTERCHANGE, Orange County

The District is continually seeking to improve its Post Permit Compliance responsibilities in the most effective manner possible to achieve our resource objectives. Your project has been incorporated into the District's Post Permit Compliance system which tracks construction status and compliance with your permit conditions.

Our records indicate that District staff have yet not received the construction commencement notice as required per special conditions of your surface water management permit. Enclosed is another form for you to complete and return to this office.

Please submit the required notice, as mandated by the conditions of your permit, or a written response, within thirty (30) days of receipt of this notice. This action does not address compliance of any other special conditions of your permit. It pertains only to your requirement for construction commencement notification.

If you have any questions or need assistance, please contact the undersigned at (407) 687-6957 at this office.

Sincerely,

Heidi M. Schloss

Heidi M. Schloss
Senior Engineering Technician
Field Engineering Division

HMS/a
Enclosure(s)

c:
Orange County Engineer
E.P.A.
Delon Hampton & Associates

Governing Board:
Valerie Boyd, Chairman
Frank Williamson, Jr., Vice Chairman
Annie Betancourt
William Hammond
Betsy Krant
Allan Milledge
Eugene K. Pettis
Nathaniel P. Reed
Leah G. Schad
Tilford C. Creel, Executive Director
Thomas K. MacVicar, Deputy Executive Director

South Florida Water Management District

Kissimmee Area Office • 701 East Oak Street • Kissimmee, FL 34744 • (407) 846-5270

CON 24-06-02

Regulation Department
Application No : 920616-1

July 27, 1992

Florida Department of Transportation
719 S. Woodland Blvd.
Deland, FL 32720

Dear Sir or Madam:

Subject: Notice of Intent to Construct Works
Modification to General Highway Permit and
Stormwater Discharge Certification No: 48-00592-S
Permittee: Florida Department of Transportation
Project : I-4/SR 535 Interchange
Location : Orange County, S22,27,28/T24S/R28E

This letter is to notify you of the District's action concerning your request of June 16, 1992, to modify the above referenced permit and Stormwater Discharge Certification. This action is taken pursuant to Rule 40E-1.606 and Chapter 40E-40, Florida Administrative Code.

Based on the information provided, District rules have been adhered to and a modification to the above referenced General Highway Permit and Stormwater Discharge Certification is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing, and

2. the attached 12 Special Conditions.

Should you object to these Conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review to the proposed action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

Governing Board:
Allan Milledge, Chairman - Miami
Valerie Boyd, Vice Chairman - Naples
Ken Adams - West Palm Beach
James E. Nall - Fort Lauderdale
Annie Betancourt - Miami
Franklin B. Mann - Fort Myers
Leah G. Schad - West Palm Beach
Frank Williamson, Jr. - Okeechobee
Timer E. Powers, Interim Executive Director
Tilford C. Creel, Deputy Executive Director
Thomas K. MacVicar, Deputy Executive Director

District Headquarters, P.O. Box 24680 • 3301 Gun Club Road • West Palm Beach, FL 33416-4680 • (407) 686-8800 • Florida WATS 1-800-432-2045

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee (and the persons listed in the attached distribution list) no later than 5:00 P.M., this 27 day of July, 1992, in accordance with Section 120.60(3), F.S.

Sincerely,

James T. Show

James T. Show, P.E.
Kissimmee Area Office
South Florida Water Management District

JTS/al

CERTIFIED MAIL NO. P 749 008 572
Attachments

FORM 0537
10/87

South Florida Water Management District
GENERAL PERMIT
NOTICE OF RIGHTS

This Notice of Rights is intended to inform the recipient of the administrative and judicial review which may be available as mandated by section 120.60(3), Florida Statutes. Be advised that although this notice is intended to be comprehensive, the review procedures set forth herein have been the subject of judicial construction and interpretation which may affect the administrative of judicial review available. Recipients are therefore advised to become familiar with Chapters 120 and 373, Florida Statutes, and the judicial interpretation of the provisions of these chapters.

1. If a substantially affected person objects to the staff's recommendation, that person has the right to request an administrative hearing on the proposed agency action. The substantially affected person may request either a formal or an informal hearing, as set forth below. Failure to comply with the prescribed time periods shall constitute a waiver of the right to a hearing.

2. If a substantially affected person believes a genuine issue of material fact is in dispute, that person may request a formal hearing pursuant to section 120.57(1), Florida Statutes, by filing a petition not later than:
   a. IF NOTICE OF THE APPLICATION WAS PUBLISHED BY THE APPLICANT, within fourteen (14) days after mailing of the proposed agency action or
   b. IF NOTICE OF THE APPLICATION WAS NOT PUBLISHED, within fourteen days after receipt of actual notice.

   The request for a section 120.57(1), F.S., formal hearing must comply with the requirements of Rule 40E-1.521, Florida Administrative Code, a copy of which is attached. Petitions are deemed filed upon receipt by the District. Failure to substantially comply with the provisions of Rule 40E-1.521, Florida Administrative Code, shall constitute a waiver of the right to a 120.57(1) hearing. If a petition for administrative hearing is not timely filed, the staff's proposed agency will automatically mature into final agency action.

3. If a substantially affected person believes that no issues of material fact are in dispute, that person may request an informal hearing pursuant to section 120.57(2), F.S., by filing a petition for hearing not later than:
   a. IF NOTICE OF THE APPLICATION WAS PUBLISHED BY THE APPLICANT, within fourteen (14) days after mailing of the proposed agency action or
   b. IF NOTICE OF THE APPLICATION WAS NOT PUBLISHED, within fourteen days after receipt of actual notice.

   A request for informal hearing shall be considered as a waiver of the right to request a formal section 120.57(1), F.S., hearing. A request for a section 120.57(1), F.S., formal hearing not in substantial compliance with the provisions of rule 40E-1.521, F.A.C., may be considered by the District as a request for informal hearing. If a petition for administrative hearing is not timely filed, the staff's proposed agency action will automatically mature into final agency action.

4. Pursuant to section 373.114, Florida Statutes, a party to the proceeding below may seek review of a Final Order rendered on the permit application before the Land and Water Adjudicatory Commission, as provided therein. Review under this section is initiated by filing a request for review with the Land and Water Adjudicatory Commission and serving a copy on the Department of Environmental Regulation and any person named in the Order within 20 days after rendering of the District's Order. However, when the order to be reviewed has statewide or regional significance, as determined by the Land and Water Adjudicatory Commission within 60 days after receipt of a request for review, the commission may accept a request for review from any affected person within 30 days after the rendering of the order. Review under section 373.114, Florida Statutes, is limited solely to a determination of consistency with the provisions and purposes of Chapter 373, Florida Statutes. This review is appellate in nature and limited to the record below.

5. A party who is adversely affected by final agency action on the permit application is entitled to judicial review in the District Court of Appeal pursuant to section 120.68, Florida Statutes, as provided therein. Review under section 120.68, Florida Statutes in the District Court of Appeal is initiated by filing a petition in the appropriate District Court of Appeal in accordance with Florida rule of appellate Procedure 9.110. The Notice of Appeal must be filed within 30 days of the final agency action.

6. Section 373.617(2), Florida Statutes, provides;

   > Any person substantially affected by a final action of any agency with respect to a permit may seek review within 90 days of the rendering of such decision and request monetary damages and other relief in the circuit court in the judicial circuit in which the affected property is located; however, circuit court review shall be confined solely to determining whether final agency action is an unreasonable exercise of the state's police power constituting a taking without just compensation. Review of final agency action for the purpose of determining whether the action is in accordance with existing statutes or rules and based on component substantial evidence shall proceed in accordance with Chapter 120.

7. Please be advised that exhaustion of administrative remedies is generally a prerequisite to appeal to the District Court of Appeal or the seeking of Circuit Court review of final agency action by the District on the permit application. There are, however, exceptions to the exhaustion requirement. The applicant is advised to consult the case law as to the requirements of exhaustion exceptions.

SPECIAL CONDITIONS

1. OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF FLORIDA DEPARTMENT OF TRANSPORTATION.

2. WATER QUALITY DATA FOR THE WATER DISCHARGED FROM THE PERMITTEE'S PROPERTY OR INTO SURFACE WATERS OR GROUNDWATER OF THE STATE SHALL BE SUBMITTED TO THE DISTRICT AS REQUIRED. PARAMETERS TO BE MONITORED MAY INCLUDE THOSE LISTED IN CHAPTER 17-3. IF WATER QUALITY DATA IS REQUIRED, THE PERMITTEE SHALL PROVIDE DATA AS REQUIRED ON VOLUMES OF WATER DISCHARGED, INCLUDING TOTAL VOLUME DISCHARGED DURING THE DAYS OF SAMPLING AND TOTAL MONTHLY DISCHARGES FROM THE PROPERTY OR INTO SURFACE WATERS OR GROUND WATERS OF THE STATE.

3. LIMITING CONDITIONS OF RULE 40E-4.381 (SURFACE WATER MANAGEMENT) ARE WAIVED UNLESS OTHERWISE PROVIDED HEREIN.

4. FACILITIES OTHER THAN THOSE STATED HEREIN SHALL NOT BE CONSTRUCTED WITHOUT AN APPROVED MODIFICATION OF THIS PERMIT.

5. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

6. THE PERMITTEE SHALL PROSECUTE THE WORK AUTHORIZED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACT OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES, AND WATER QUALITY. THE PERMITTEE SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES, TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATER.

7. THE PERMITTEE SHALL HOLD AND SAVE THE DISTRICT HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, OR LIABILITIES WHICH MAY ARISE BY REASON OF THE CONSTRUCTION, OPERATION, MAINTENANCE OR USE OF ANY FACILITY AUTHORIZED BY THE PERMIT.

8. THIS PERMIT IS ISSUED BASED ON THE APPLICANT'S SUBMITTED INFORMATION WHICH REASONABLY DEMONSTRATES THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS WILL NOT BE CAUSED BY THE COMPLETED PERMIT ACTIVITY. IT IS ALSO THE RESPONSIBILITY OF THE PERMITTEE TO INSURE THAT ADVERSE OFF-SITE WATER RESOURCE RELATED IMPACTS DO NOT OCCUR DURING CONSTRUCTION.

9. OFF-SITE DISCHARGES DURING CONSTRUCTION AND DEVELOPMENT SHALL BE MADE ONLY THROUGH THE FACILITIES AUTHORIZED BY THIS PERMIT. WATER DISCHARGED FROM THE PROJECT SHALL BE THROUGH STRUCTURES HAVING A MECHANISM SUITABLE FOR REGULATING UPSTREAM WATER STAGES. STAGES MAY BE SUBJECT TO OPERATING SCHEDULES SATISFACTORY TO THE DISTRICT.

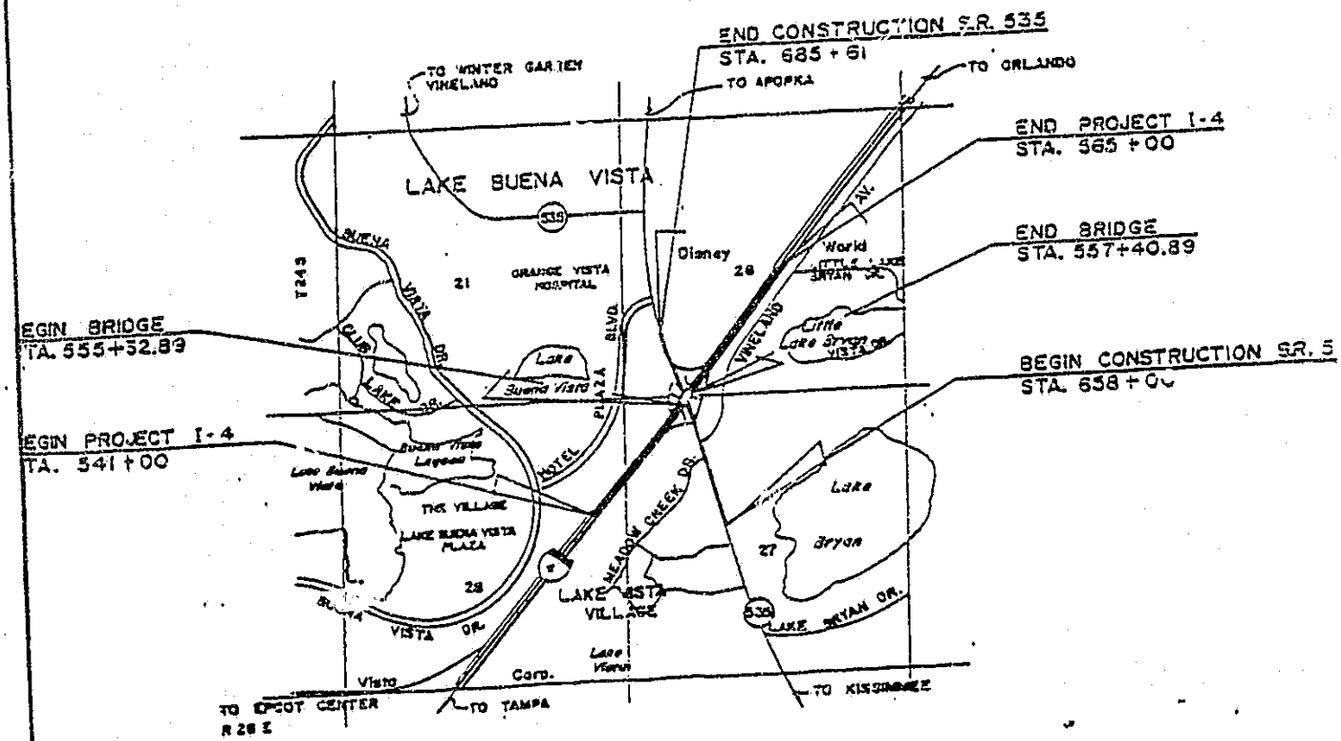
10. PRIOR TO DEWATERING, PLANS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. INFORMATION SHALL INCLUDE AS A MINIMUM: PUMP SIZES, LOCATIONS AND HOURS OF OPERATION FOR EACH PUMP. IF OFF-SITE DISCHARGE IS PROPOSED, OR OFF-SITE ADVERSE IMPACTS ARE EVIDENT, AN INDIVIDUAL WATER USE PERMIT MAY BE REQUIRED. THE PERMITTEE IS CAUTIONED THAT SEVERAL MONTHS MAY BE REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION.

11. THE PERMIT DOES NOT CONVEY TO THE PERMITTEE ANY PROPERTY RIGHT NOR ANY RIGHTS OR PRIVILEGES OTHER THAN THOSE SPECIFIED IN THE PERMIT AND CHAPTER 40E-4, FAC.

12. THE PERMITTEE SHALL COMPLY WITH ALL APPLICABLE LOCAL SUBDIVISION REGULATIONS AND OTHER LOCAL REQUIREMENTS. IN ADDITION THE PERMITTEE SHALL OBTAIN ALL NECESSARY FEDERAL, STATE, LOCAL AND SPECIAL DISTRICT AUTHORIZATIONS PRIOR TO THE START OF ANY CONSTRUCTION OR ALTERATION OF WORKS AUTHORIZED BY THIS PERMIT.

ITEM I-1

STATE ROAD NOS. 400(I-4) & 535



LOCATION SKETCH

EXHIBIT 1

ITEM II-3 1 OF 2

DRAINAGE MAP

STATE PROJECT NO	SHEET NO
752 80-3465	

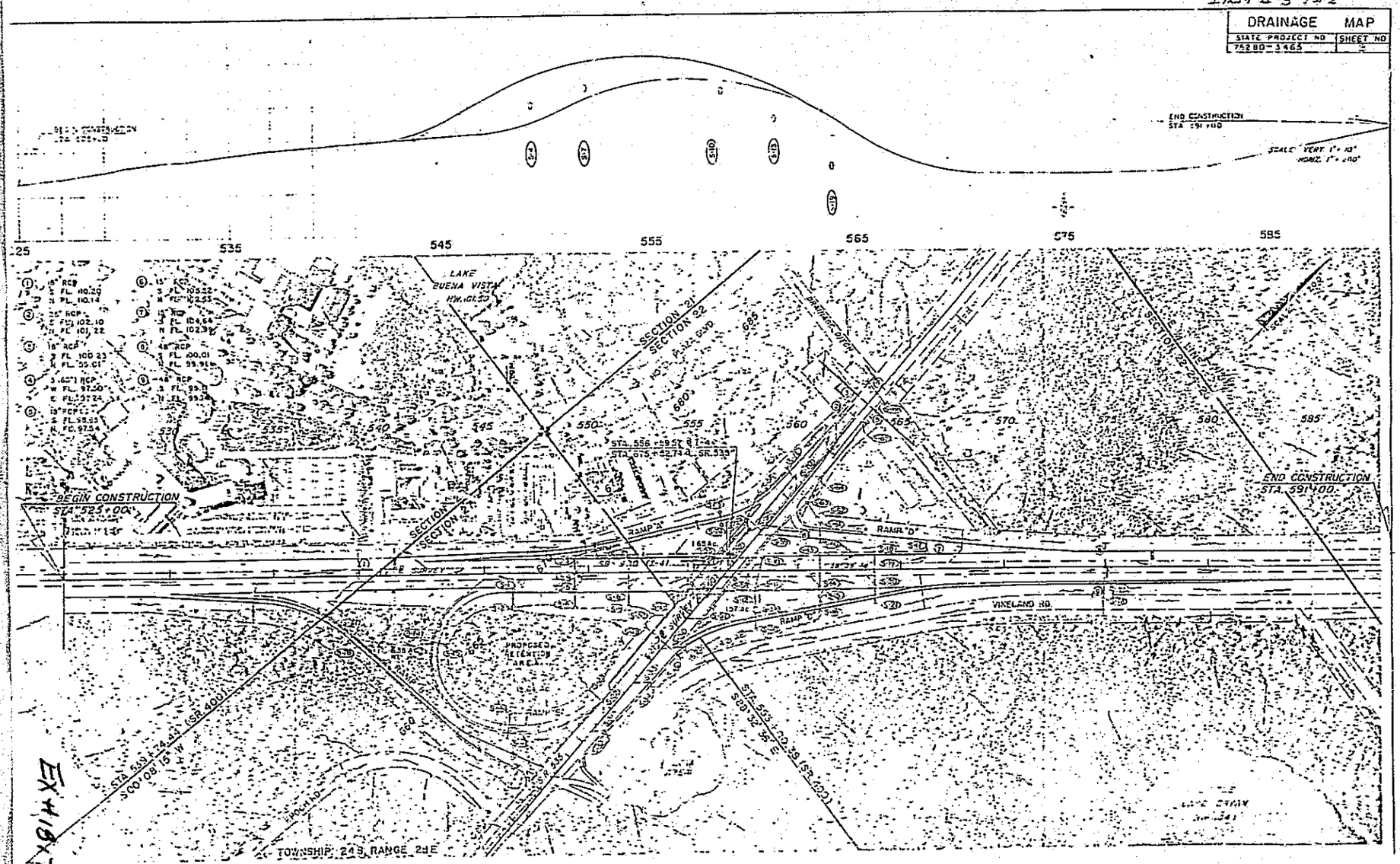


EXHIBIT 2



EXHIBIT 3

ITEM II-3 2 of 2

STATE PROJ. NO.	75280-3465

ITEM I-2

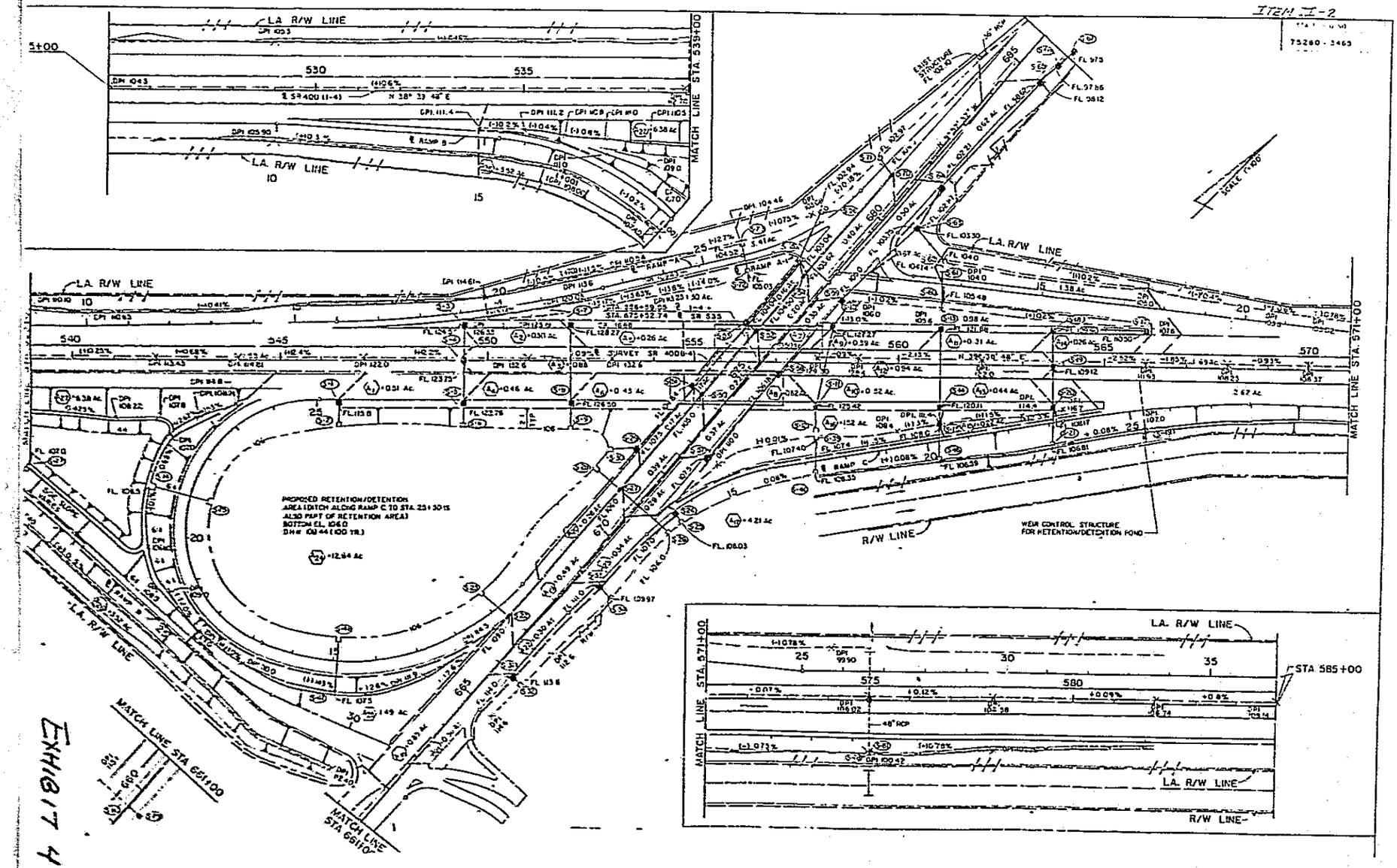
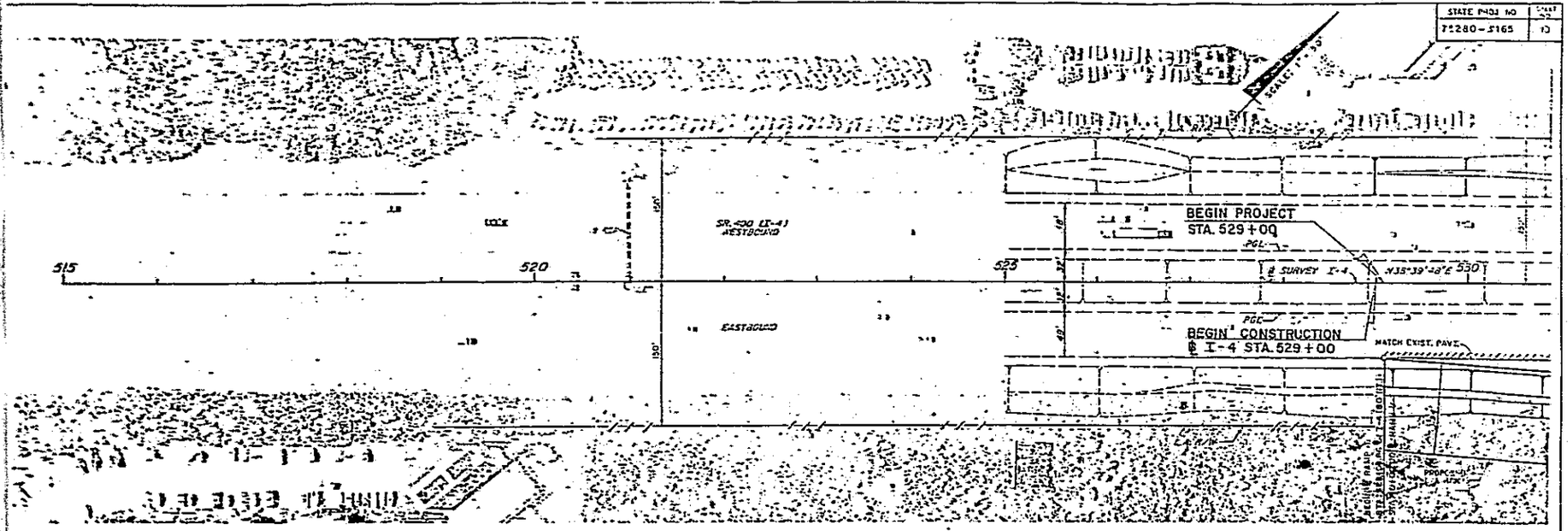


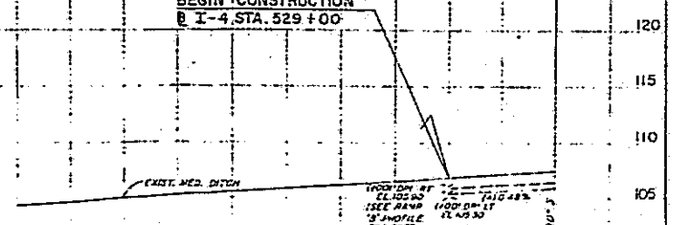
EXHIBIT 4

STATE PROJ NO	SHEET NO.
72280-2165	10



GENERAL NOTES

1. UTILITIES ARE TO BE ADJUSTED BY OTHERS AS DIRECTED BY ENGINEER IN ACCORDANCE WITH THE UTILITY ADJUSTMENT GUIDE.
2. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
3. AERIAL PHOTOS SHOW EXISTING CONDITIONS AS OF NOVEMBER 1985. CONTRACTOR TO VERIFY EXIST CONDITIONS AT TIME OF CONSTRUCTION.



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| REVISIONS | | |

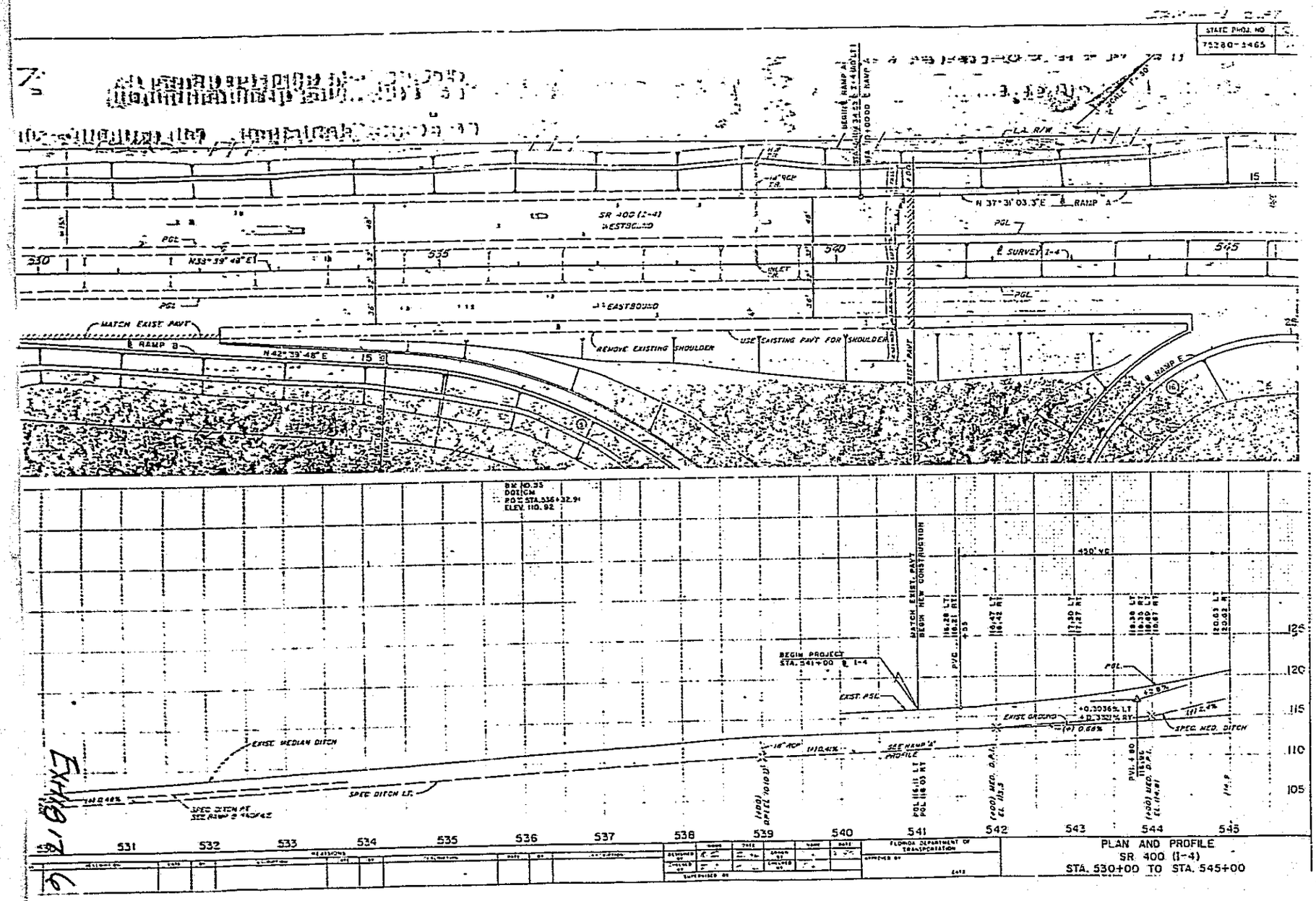
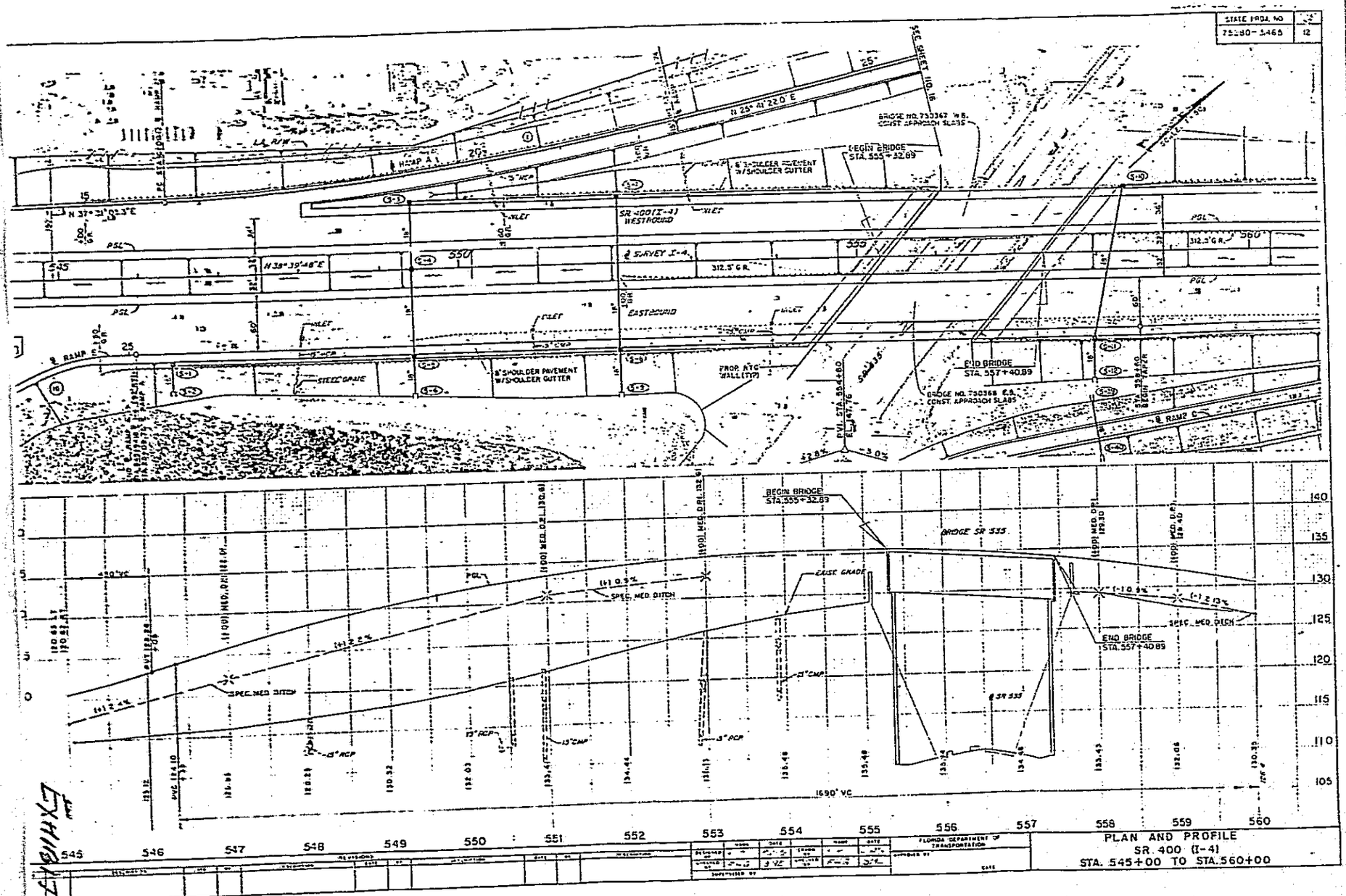

STATE PROJ. NO
75280-3465
SR 400 (I-4)
WESTBOUND
EASTBOUND
N 37°31'03.3"E ℄ RAMP A
℄ SURVEY I-4
N 33°39'48"E
N 42°39'48"E
MATCH EXIST. PAVT
℄ RAMP B
REMOVE EXISTING SHOULDER
USE EXISTING PAVT FOR SHOULDER
℄ RAMP E
BEGIN PROJECT
STA. 541+00 ℄ I-4
EXIST. PGL
EXIST. GROUND
SPEC. MED. DITCH
EXIST. MEDIAN DITCH
SPEC. DITCH LT.
SEE RAMP "A" PROFILE
MATCH EXIST. PAVT
BEGIN NEW CONSTRUCTION
450' VC
530
535
540
545
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
125
120
115
110
105
FLORIDA DEPARTMENT OF TRANSPORTATION
PLAN AND PROFILE
SR 400 (I-4)
STA. 530+00 TO STA. 545+00

EXHIBIT 6


STATE PROJ. NO.
75280-3465
12
SEE SHEET NO. 16
N 25° 41' 22.0" E
BRIDGE NO. 750367 W.B. CONST. APPROACH SLABS
BEGIN BRIDGE STA. 555+32.89
8' SHOULDER PAVEMENT W/SHOULDER GUTTER
SR 400 (I-4) WESTBOUND
SURVEY I-4
312.5' G.R.
EASTBOUND
PGL
RAMP A
RAMP C
STEEL GRATE
8' SHOULDER PAVEMENT W/SHOULDER GUTTER
PROP. RTG WALL (TYP)
END BRIDGE STA. 557+40.89
BRIDGE NO. 750368 E.B. CONST. APPROACH SLABS
BEGIN BRIDGE STA. 555+32.89
BRIDGE SR 535
EXIST. GRADE
SPEC. MED. DITCH
END BRIDGE STA. 557+40.89
SR 535
1690' VC
545
546
547
548
549
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560
140
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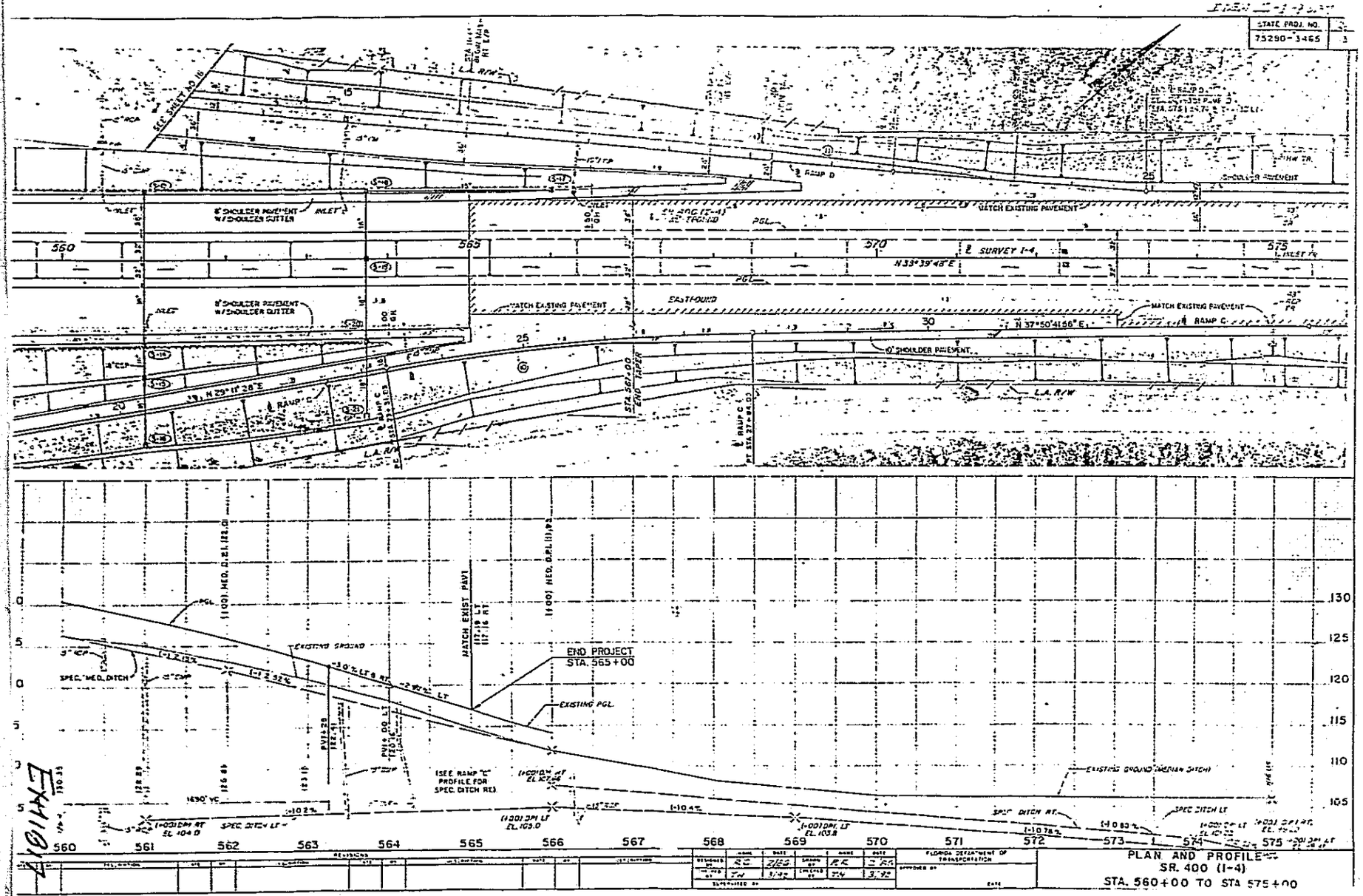
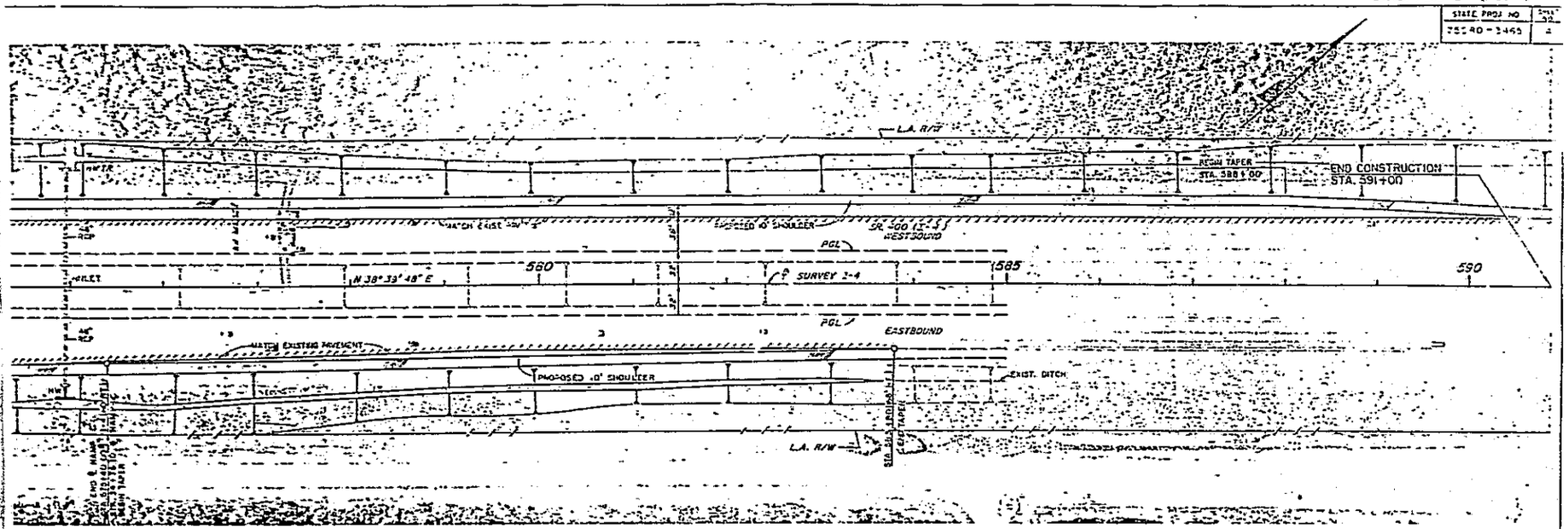
130
125
120
115
110
105
FLORIDA DEPARTMENT OF TRANSPORTATION
PLAN AND PROFILE
SR. 400 (I-4)
STA. 545+00 TO STA. 560+00

EXHIBIT 7


STATE PROJ. NO.
75290-3465
SEE SHEET NO. 11
8" SHOULDER PAVEMENT W/SHOULDER GUTTER
INLET
MATCH EXISTING PAVEMENT
EASTBOUND
PGL
℄ SURVEY I-4
N 39°39'48" E
N 37°50'41.56" E
℄ RAMP C
℄ RAMP D
L.A. R/W
560
563
570
575
END PROJECT STA. 565+00
EXISTING PGL
EXISTING GROUND/MEDIAN DITCH
SPEC. MED. DITCH
SPEC. DITCH RT.
SPEC. DITCH LT.
(SEE RAMP "C" PROFILE FOR SPEC. DITCH REQ.)
1690' VC
PLAN AND PROFILE
SR. 400 (I-4)
STA. 560+00 TO STA 575+00
FLORIDA DEPARTMENT OF TRANSPORTATION

ITEM NO. 5 OF 7

STATE PROJ NO	SHEET NO.
75540-3465	2



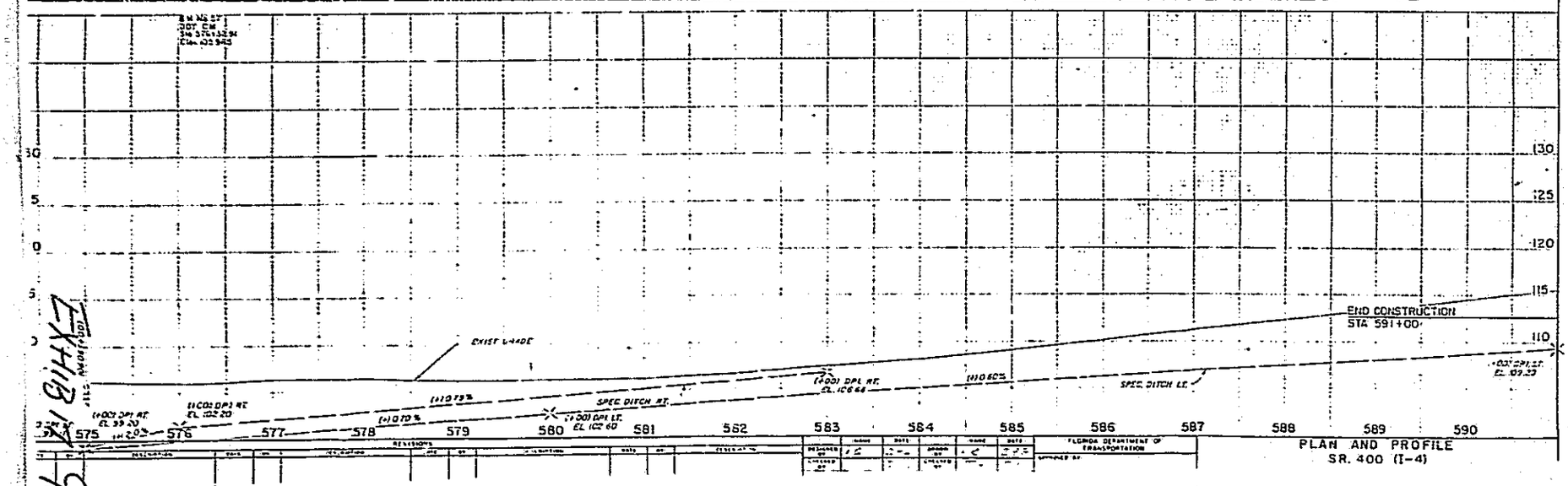
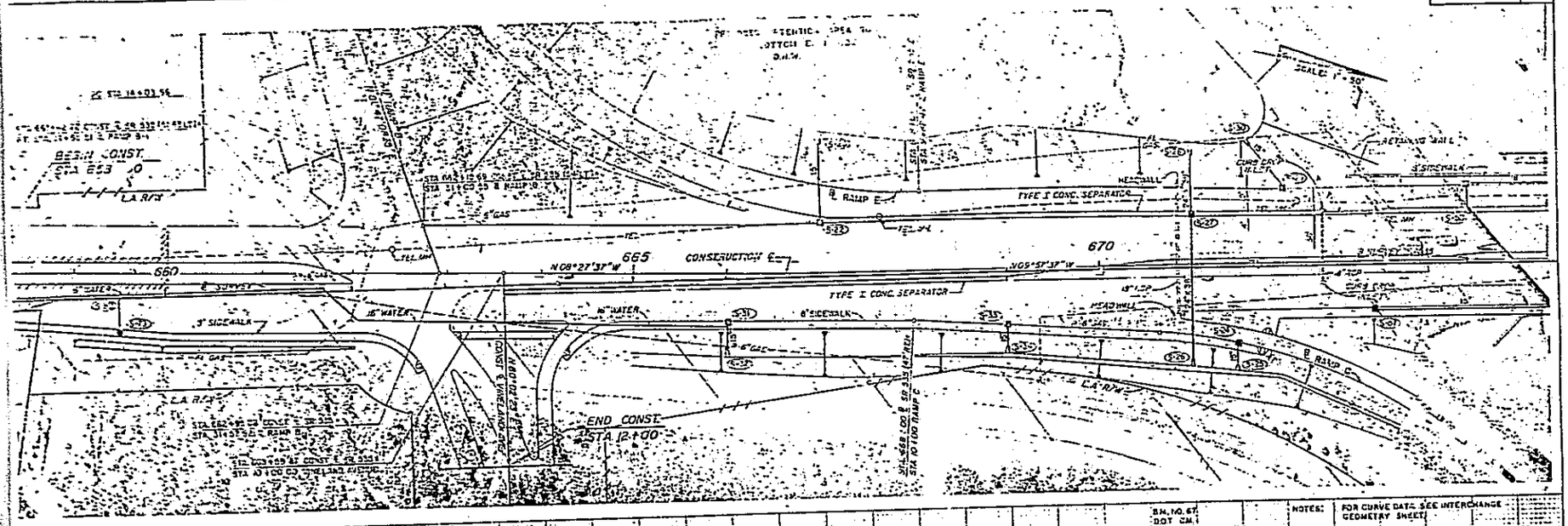


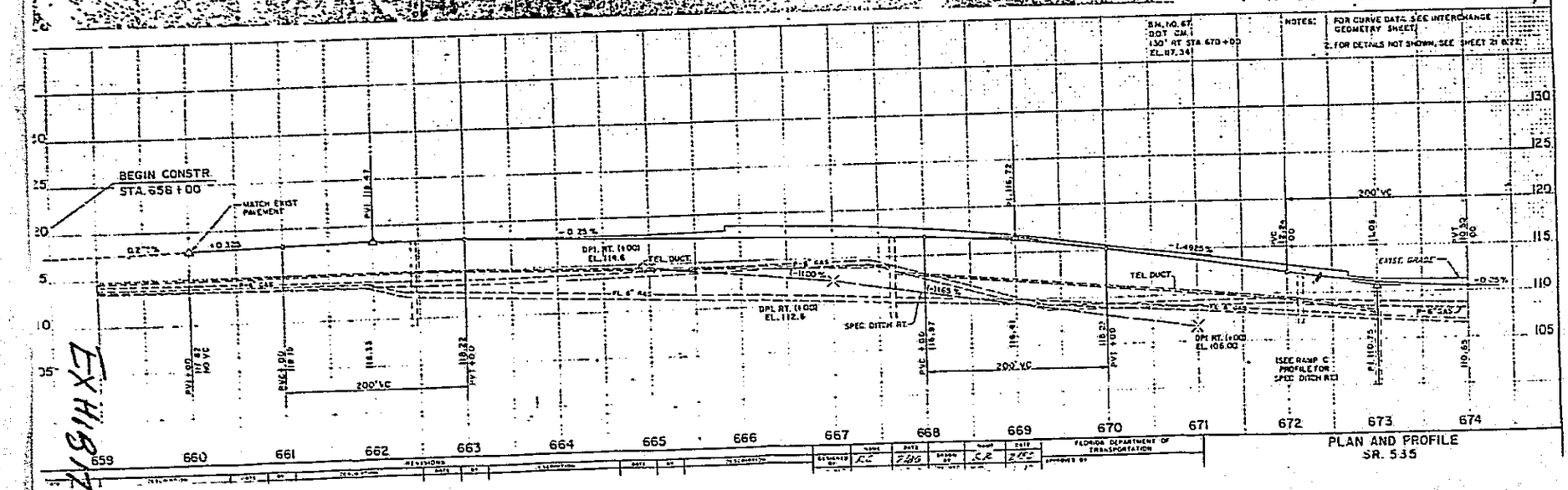
EXHIBIT 9

PLAN AND PROFILE
SR. 400 (I-4)

EXHIBIT III-1 & 2 of 7

STATE PROJ. NO.	SHEET NO.
75280-3465	15





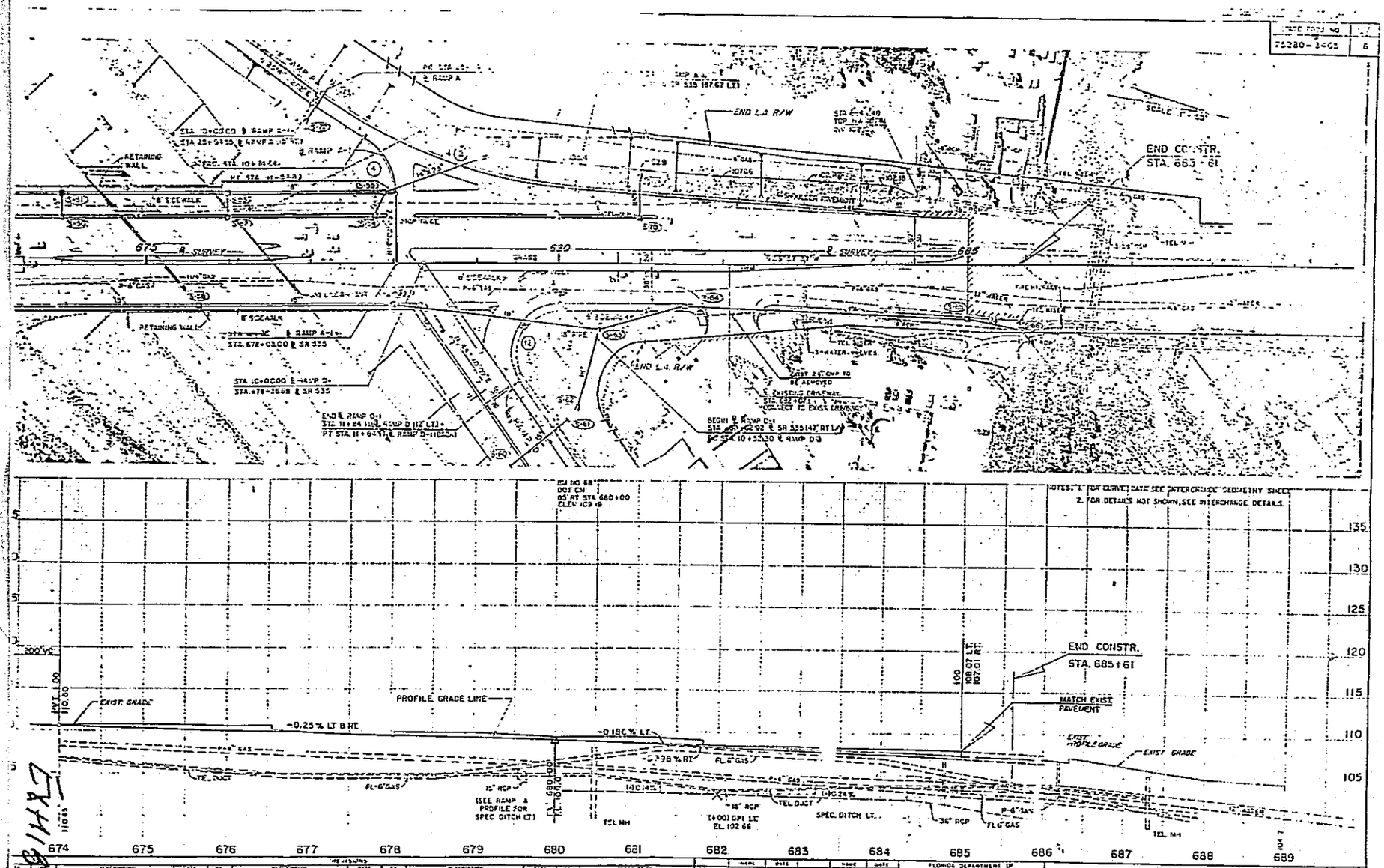
BM. NO. 67
DOT CM.
130' RT STA 670+00
EL. 87.34

NOTES:
1. FOR CURVE DATA, SEE INTERCHANGE GEOMETRY SHEET.
2. FOR DETAILS NOT SHOWN, SEE SHEET 21 OF 72.

FLORIDA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
SR. 535

EXHIBIT 10



FLORIDA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
SR. 535
STA. 674+00 TO STA. 686+00

EXHIBIT 11

SURFACE WATER MANAGEMENT GENERAL PERMIT SUMMARY SHEET

APPLICATION NUMBER: 920616-1 **PROJECT NAME:** I-4/SR 535 Interchange

PERMIT NUMBER: 48-00592-S **PERMITTEE:** Florida DOT

ENGINEER: Delon Hampton & Assoc. Chartered **SFWMD BASIN:** Shingle Creek

LOCATION: CITY: N/A COUNTY: Orange

APPLICABLE LAND USE (ACRES): **LAND USE TYPE:** Highway

	TOTAL PROJECT	PRESENT PHASE
TOTAL	39.17	39.17
WATER MANAGEMENT	8.3	8.3
IMPERVIOUS	12.09	12.09

WATER QUALITY: VOLUME REQUIRED: 3.2 AF VOLUME PROVIDED: 4.2 AF

MIN. ROAD ELEV.: 110.5 FT. NGVD. **MIN. FLOOR ELEV.:** N/A FT. NGVD.

BRIEF DESCRIPTION OF WATER MANAGEMENT SYSTEM:

A wet detention pond which overflows to the existing I-4 drainage system.

DESCRIPTION OF CONTROL STRUCTURE(S):

1-7' wide weir with crest at elevation 107.0' NGVD, discharging to the existing I-4 drainage system.

ENVIRONMENTAL COMMENTS:

No significant impact, no wetlands.

PRIMARY ISSUES:

None

EXHIBIT 12

GENERAL PERMIT DISTRIBUTION LIST

Kissimmee Area Office

PROJECT: I-4/SR 535 Interchange

APPLICATION NUMBER: 920616-1

INTERNAL DISTRIBUTION

X Reviewer:
Alan Leavens
M. Ady
X T. Bates
X B. Colavecchio
X M. Cruz
E. Edmundson
X R. Mireau
P. Rhoads
X J. Show
M. Slayton-Big Cypress
W. Stimmel
D. Thatcher
X P. Walker
X K. Wallace
A. Waterhouse
W. Van Voorhees
X Area Engineer
X Day File
X Enforcement
X Field Representative
Office of Counsel
X Permit File

GOVERNING BOARD MEMBERS

Mr. Ken Adams
Ms. Annie Betancourt
Ms. Valerie Boyd
Mr. Franklin Mann
Mr. Allan Milledge
Mr. James E. Nall
Mr. Eugene K. Pettis
Ms. Leah Schad
Mr. Frank Williamson, Jr.

DEPT. OF ENVIRONMENTAL REGULATION:

X Orlando

EXTERNAL DISTRIBUTION

X Applicant:
Florida Department of Transportation

X Applicant's Consultant:
Delon Hampton & Associates, Chartered

X Engineer, County of:
Orange

Engineer, City of:
____

X Local Drainage District:
Reedy Creek Improvement District

COUNTY

X Orange -Environmental Protection Dept.
X -Public Utilities
Polk -Water Resources Dept.

OTHER

Sierra Club
Central Florida Group
Audubon Society
S.W.F.R.P.C. - Glenn Heath
X Duncan Powell, U.S. EPA

EXHIBIT 13

South Florida Water Management District

Kissimmee Area Office • 701 East Oak Street • Kissimmee, FL 34744 • (407) 846-5270

CON 24-06
District Application No. 920616-1
Regulation Department

June 23, 1992

Ms Pat Strickland
Florida Department of Transportation
719 South Woodland Boulevard
DeLand, FL 32720

Dear Ms Strickland:

Subject: Permit Application Processing Fee
I-4/SR 535 Interchange Modifications, Orange County
Sections 22,27,28/Township 24S/Range 28E

On June 16, 1992 an application for a Surface Water Management Permit was received by the Kissimmee Area Office of the South Florida Water Management District with Purchase Order No. M52317 cited for payment of the permit application processing fee. This is to advise you that the permit application fee is due in the amount of $700.00.

Please make payment to the South Florida Water Management District at the above address, attention to Administrative Assistant, Regulation Department (referencing the Application Number at the top of this letter on the check). It should be noted that this letter does not constitute a request for additional information.

Your immediate attention to this matter is appreciated. Rule 40E-1.607 specifically states "Failure of any person to pay the fees established herein is grounds for denial of an application." If you have any questions regarding the procedure, please contact Pat Kirkland at 407/846-5270.

Sincerely,

James T. Show

James T. Show, P.E.
Supervising Professional
Kissimmee Area Office

JTS/pgk

bc: Beth Colavecchio
Alan Leavens
Project Files

Governing Board:
Allan Milledge, Chairman - Miami
Valerie Boyd, Vice Chairman - Naples
Ken Adams - West Palm Beach
James E. Nall - Fort Lauderdale
Annie Betancourt - Miami
Franklin B. Mann - Fort Myers
Leah G. Schad - West Palm Beach
Frank Williamson, Jr. - Okeechobee
Eugene K. Pettis - Fort Lauderdale
Tilford C. Creel, Executive Director
Thomas K. MacVicar, Deputy Executive Director

ROUTE

Do Not Process until Fee Received

Regulation Department

Application Routing Slip

1 #0047
1/91

.mber: 920616-1
Mod 48-00592-S

Applicant: Florida Dept of Transportation
Project: I-4/SR 535 Interchange

sponse Requested By:

rrie Bates _____

Lythgoe
R/W Permits _____

Day AI Deadline _____

ecific Board Deadlines:

LT _____ for _____ Board
LT _____ for _____ Board
ILT _____ for _____ Board
his is the absolute statutory deadline

Note:

☒ Fee Received $ 0
☐ No Fee Required _____
Permit File Requested?
☐ Yes ☐ No Date _____

Route To	Date Received	Date Out
Althea	6/16	6/16
Jim	6/16	6/18
Alan		

)MMENTS: NSI No Wetlands

pplication Review:		Date:	Supervisor/Checker:	Date:
:hnical:	[signature]	6/25/92		
ater Quality:	[signature]	6/25/92		
vironmental:	[signature]	6/24/92		

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
RC-1A ADMINISTRATIVE INFORMATION FOR SURFACE WATER MANAGEMENT PERMIT APPLICATIONS AND/OR WATER USE PERMIT APPLICATIONS

Form 0645-A01
01/90

RECEIVED
JUN 16 1992
REGULATION DEPT. - 402
KISSIMMEE OFFICE

I. GENERAL INFORMATION

THIS IS AN APPLICATION FOR (PLEASE CHECK APPROPRIATE BOXES):

[XX] A SURFACE WATER MANAGEMENT PERMIT [ ] A WATER USE PERMIT

OWNER	APPLICANT (IF DIFFERENT FROM OWNER)
NAME: Florida Dept. of Transportation	NAME:
ADDRESS: 719 S. Woodland Blvd.	ADDRESS:
CITY, STATE, ZIP: Deland, FL 32720	CITY, STATE, ZIP:
TELEPHONE: (904) 736-5444	TELEPHONE: ( )

PROJECT ENGINEER, CONSULTANT OR AGENT	PRE-APPLICATION MEETING
NAME OF FIRM: DELON HAMPTON & ASSOCIATES, CHARTERED	HAVE ANY PRE-APPLICATION MEETINGS BEEN HELD WITH DISTRICT STAFF? [X] YES [ ] NO
NAME OF CONTACT PERSON: Frank H. Gudger, P.E.	DATE(S): 4/14/87
ADDRESS: 600 West Peachtree St., NW; Suite 1470	LOCATION(S): SFWMD-Kissimmee
CITY, STATE, ZIP: Atlanta, GA 30308	NAME(S) OF KEY DISTRICT STAFF: Allen Leavens
TELEPHONE: (404) 872-5514	NAME(S) OF PROJECT REPRESENTATIVE(S): R. Schmidt

PROJECT INFORMATION

NAME (INCLUDING THE PHASES COVERED BY THIS APPLICATION): I-4/SR 535 Interchange Modifications

TOTAL PROJECT ACREAGE, INCLUDING ALL PHASES: 39.17 (Stormwater Mgmnt. Area) PHASE AREAS (IF APPLICABLE): _____

CITY, TOWN, OR VILLAGE (IF APPLICABLE): Orlando, Florida COUNTY: Orange

SECTION(S) OR GOVERNMENT LOT(S): 22, 27 & 28	TOWNSHIP: 24S	S	RANGE: 28E	E
SECTION(S) OR GOVERNMENT LOT(S): _____	TOWNSHIP: _____	S	RANGE: _____	E
SECTION(S) OR GOVERNMENT LOT(S): _____	TOWNSHIP: _____	S	RANGE: _____	E

II. SURFACE WATER MANAGEMENT

FORM OF PERMIT (PLEASE CHECK ONLY ONE BOX)

[ ] A NEW INDIVIDUAL PERMIT, PURSUANT TO RULE 40E-4, FLORIDA ADMINISTRATIVE CODE (F.A.C.)	[X] A NEW GENERAL PERMIT, PURSUANT TO RULE 40E-40, F.A.C
[ ] A MODIFICATION OF EXISTING INDIVIDUAL PERMIT NO. _____	[XX] A MODIFICATION OF EXISTING GENERAL PERMIT NO. 48-00592-S

DESCRIBE IN GENERAL TERMS THE REQUESTED CHANGE(S) OR NEW WORK(S)

SURFACE WATER MANAGEMENT (CONTINUED)

Form 0645-A02

TYPE OF PERMIT (PLEASE CHECK AT LEAST ONE BOX)

☐ CONCEPTUAL APPROVAL OF A SURFACE WATER MANAGEMENT SYSTEM WHICH WILL SERVE THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT)

☐ CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM WHICH WILL SERVE THE ENTIRE _____ - ACRE SITE (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☐ *PHASES OF THE SITE: CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM WHICH WILL SERVE _____ ACRES (PLEASE FILL IN THE ACREAGE OF THE PART OF YOUR PROJECT FOR WHICH A CONSTRUCTION AND OPERATION PERMIT IS SOUGHT) OF THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☐ OPERATION OF AN EXISTING SURFACE WATER MANAGEMENT SYSTEM WHICH SERVES THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT.)

☐ *PHASES OF THE SITE; OPERATION OF AN EXISTING SURFACE WATER MANAGEMENT SYSTEM WHICH SERVES _____ ACRES (PLEASE FILL IN THE ACREAGE OF THE PART OF YOUR PROJECT FOR WHICH AN OPERATION PERMIT IS SOUGHT) OF THE ENTIRE _____ - ACRE SITE. (PLEASE FILL IN THE ACREAGE OF YOUR ENTIRE PROJECT)

*IF THIS IS THE CASE, YOU MUST ALSO USE THIS FORM TO APPLY FOR OTHER TYPES OF PERMITS FOR THE REST OF THE SITE, TO ASSURE THAT THE ENTIRE SITE IS COVERED BY THIS APPLICATION.

III. WATER USE

FORM OF PERMIT (PLEASE CHECK ONLY ONE BOX):

☐ A NEW INDIVIDUAL PERMIT PURSUANT TO RULE 40E-2.101, FLORIDA ADMINISTRATIVE CODE (F.A.C.)

☐ A NEW GENERAL PERMIT, PURSUANT TO RULE 40E-20, F.A.C.

☐ A MODIFICATION OF EXISTING PERMIT NO. _____

☐ RENEWAL OF EXISTING PERMIT NO. _____

THE PURPOSE OF THIS REQUEST:

TYPE OF PERMIT (PLEASE CHECK AT LEAST ONE BOX):

☐ AGRICULTURAL IRRIGATION ☐ LANDSCAPING IRRIGATION ☐ GOLF COURSE IRRIGATION

☐ PUBLIC WATER SUPPLY ☐ MINING/DEWATERING ☐ INDUSTRIAL/COMMERCIAL

☐ RECREATIONAL ☐ AQUACULTURE ☐ OTHER (PLEASE DESCRIBE) _____

SOURCE OF WATER (PLEASE CHECK AT LEAST ONE BOX):

SURFACE WATER FROM THE FOLLOWING WATER BODY(IES):

☐ ON-SITE RETENTION POND(S) OR LAKE(S) ☐ ADJACENT LAKE, CANAL, RIVER, OR CREEK: _____ (NAME)

GROUND WATER FROM THE FOLLOWING NAMED AQUIFER(S) (PLEASE INDICATE, FOR EACH AQUIFER, WHETHER IT IS SHALLOW OR DEEP):

IV. CERTIFICATION

I hereby certify that, to the best of my knowledge, the total project acreage listed above is owned or controlled by me and encompasses the project referenced in this permit application. In addition, I agree to provide entry to the project site for South Florida Water Management District inspectors with proper identification or documents as required by law for the purpose of making preliminary analyses of the site. Further, I agree to provide entry to the project site for such inspectors to monitor permitted work if a permit is granted.

Bryan Russell — June 5, 1992

Signature (if not the owner, certify below) — Date

I hereby certify that I am an authorized agent of the owner:

_____ _____

(Title) — Date

FOR DISTRICT USE ONLY

APPLICATION NUMBER	926616-1
FEE REQUIRED	$700.00
FEE PAID	NO
RECEIPT NUMBER	

RECEIVED
JUN 1 0 1992
REGU... KISS... ...PT. - 402 OFFICE

SURFACE WATER MANAGEMENT PERMIT
APPLICATION DATA

Prepared by:

Delon I

48-00592-S

Form 0645 - 501
01/90

RC-1S APPLICATION FOR A SURFACE WATER MANAGEMENT PERMIT

FOR SFWMD USE ONLY

Application No. _____

SECTION I - SITE INFORMATION

			SFWMD ONLY N A I M
✓			
✓	A	LOCATION SKETCH IS SUBMITTED AS ITEM I-1. RECEIVED	☐☐☐☐
	B	AERIAL PHOTOGRAPH IS SUBMITTED AS ITEM I-2. (See Item II-3)	☐☐☐☐
	C	WETLANDS N/A None located on Project Site	
		EXISTING COVER IS SUBMITTED AS ITEM I-3.	☐☐☐☐
		PROPOSED PRESERVATION TECHNIQUES ARE SUBMITTED AS ITEM I-4.	☐☐☐☐
		WETLANDS CONTROL ELEVATION TABLE IS SUBMITTED AS ITEM I-5.	☐☐☐☐

REGULA... KISSIMMEE OFF...

SECTION II - PROJECT INFORMATION

✓	A	PROJECT DESCRIPTION IS SUBMITTED AS ITEM II-1A.	☐☐☐☐
✓		STAFF GUIDANCE DOCUMENTS ARE SUBMITTED AS ITEM II-1B.	☐☐☐☐
✓	B	TOPOGRAPHIC MAP IS SUBMITTED AS ITEM II-2.	☐☐☐☐
✓	C	DRAINAGE MAP IS SUBMITTED AS ITEM II-3.	☐☐☐☐
	D	WATER ELEVATION (See Item II-4)	
		BASIN WATER TABLE ELEVATION TABLE IS SUBMITTED AS ITEM II-4A.	☐☐☐☐
		SUPPORTING INFORMATION IS SUBMITTED AS ITEM II-4B.	☐☐☐☐
		DESCRIPTION OF AFFECTED SYSTEMS IS SUBMITTED AS ITEM II-5.	☐☐☐☐
		FLOODPLAIN INFORMATION IS SUBMITTED AS ITEM II-6.	☐☐☐☐
	E	PERCOLATION DATA ARE SUBMITTED AS ITEM II-7.	☐☐☐☐
	F	WATER WITHDRAWAL IS SUBMITTED AS ITEM II-8. N/A	☐☐☐☐

SECTION III - MASTER PLAN

	A	MASTER PAVING, GRADING, AND DRAINAGE PLANS	
		CONCEPTUAL APPROVAL, PLANS NOT SUBMITTED. ☐YES ☐NO	☐☐☐☐
✓		MASTER PAVING, GRADING, AND DRAINAGE PLANS ARE SUBMITTED AS ITEM III-1.	☐☐☐☐
✓	B	DRAINAGE PLAN DETAILS ARE SUBMITTED AS ITEM III-2.	☐☐☐☐
	C	RECEIVING BODY LIST IS SUBMITTED AS ITEM III-3. (See Item II-3)	☐☐☐☐
	D	CONSTRUCTION TECHNIQUES DESCRIPTION	
		CONCEPTUAL APPROVAL, STATEMENT NOT REQUIRED ☐YES ☐NO	☐☐☐☐
✓		CONSTRUCTION TECHNIQUES DESCRIPTION IS SUBMITTED AS ITEM III-4	☐☐☐☐

Form 0645 - 502

SECTION III - MASTER PLAN (CONTINUED)

SFWMD ONLY

	E	LEGAL RESERVATIONS	
		CONCEPTUAL APPROVAL, RESERVATIONS NOT REQUIRED ☐ YES ☐ NO	
		LEGAL RESERVATIONS ARE SUBMITTED AS ITEM III-5.	
✓	F	AFFECTED FACILITIES ANALYSIS IS SUBMITTED AS ITEM III-6	

SECTION IV - SURFACE WATER MANAGEMENT ANALYSIS

	A	FACILITIES **See Storm Water Management Analysis (Item IV)**	
		DESCRIPTION OF EXISTING FACILITIES IS SUBMITTED AS ITEM IV-1.	
		DESCRIPTION OF PREVIOUSLY APPROVED/PERMITTED FACILITIES IS SUBMITTED AS ITEM IV-2	
		DESCRIPTION OF PROPOSED FACILITIES FOR THE ENTIRE PROJECT IS SUBMITTED AS ITEM IV-3	
		DESCRIPTION OF PROPOSED FACILITIES FOR THIS PHASE IS SUBMITTED AS ITEM IV-4.	
		FACILITY DETAILS FOR EXFILTRATION TRENCH ARE SUBMITTED AS ITEM IV-5	
		PERCOLATION TESTS AND CALCULATIONS ARE SUBMITTED AS ITEM IV-6.	
		EXFILTRATION TRENCH COMPUTATIONS ARE SUBMITTED AS ITEM IV-7	
		FACILITY DETAILS FOR GRAVITY DISCHARGE STRUCTURE(S) ARE SUBMITTED AS ITEM IV-8.	
		STAGE-DISCHARGE CALCULATION IS SUBMITTED AS ITEM IV-9.	
		SPREADER SWALE VELOCITY CALCULATION IS SUBMITTED AS ITEM IV-10.	
✓	B	A STAGE-DISCHARGE, A STAGE-STORAGE, AND A LAND COVERAGE TABLE FOR EACH BASIN ARE SUBMITTED [redacted] **See Appendix/pp. 6-12**	
✓	C	DRAINAGE BASIN(S) AND/OR PHASE(S) TABLES ARE SUBMITTED [redacted]. **See Appendix/p.5**	
✓	D	WATER QUALITY BEST MANAGEMENT PRACTICES DESCRIPTION IS SUBMITTED [redacted]	
		RETENTION/DETENTION VOLUME CALCULATIONS FOR EACH BASIN OR PHASE ARE SUBMITTED [redacted], **See Appendix/p.4**	
	E	WET SEASON WATER TABLE AND SOIL STORAGE CALCULATIONS ARE SUBMITTED AS ITEM IV-13C.	
✓	F	ALLOWABLE DISCHARGE SUPPORTING CALCULATIONS ARE SUBMITTED [redacted] **See App./p.4**	
✓	G	FLOOD ROUTINGS ARE SUBMITTED [redacted], **See Appendix/pp. 17-35**	
	H	FLOODPLAIN ENCROACHMENT **N/A**	
		CONVEYANCE PREDEVELOPMENT CONDITIONS ARE SUBMITTED AS ITEM IV-16.	
		CONVEYANCE POST-DEVELOPMENT CONDITIONS ARE SUBMITTED AS ITEM IV-17	
		STORAGE PREDEVELOPMENT SITE RUNOFF CONDITIONS ARE SUBMITTED AS ITEM IV-18	
		STORAGE PREDEVELOPMENT BASIN STORAGE CONDITIONS ARE SUBMITTED AS ITEM IV-19	
		FLOODPLAIN ☐ IMPORTER ☐ EXPORTER SUPPORTING INFORMATION IS SUBMITTED AS ITEM IV-20	

Form 0645 - 503

SFWMD ONLY

N A I W

SECTION V - LEGAL AND INSTITUTIONAL

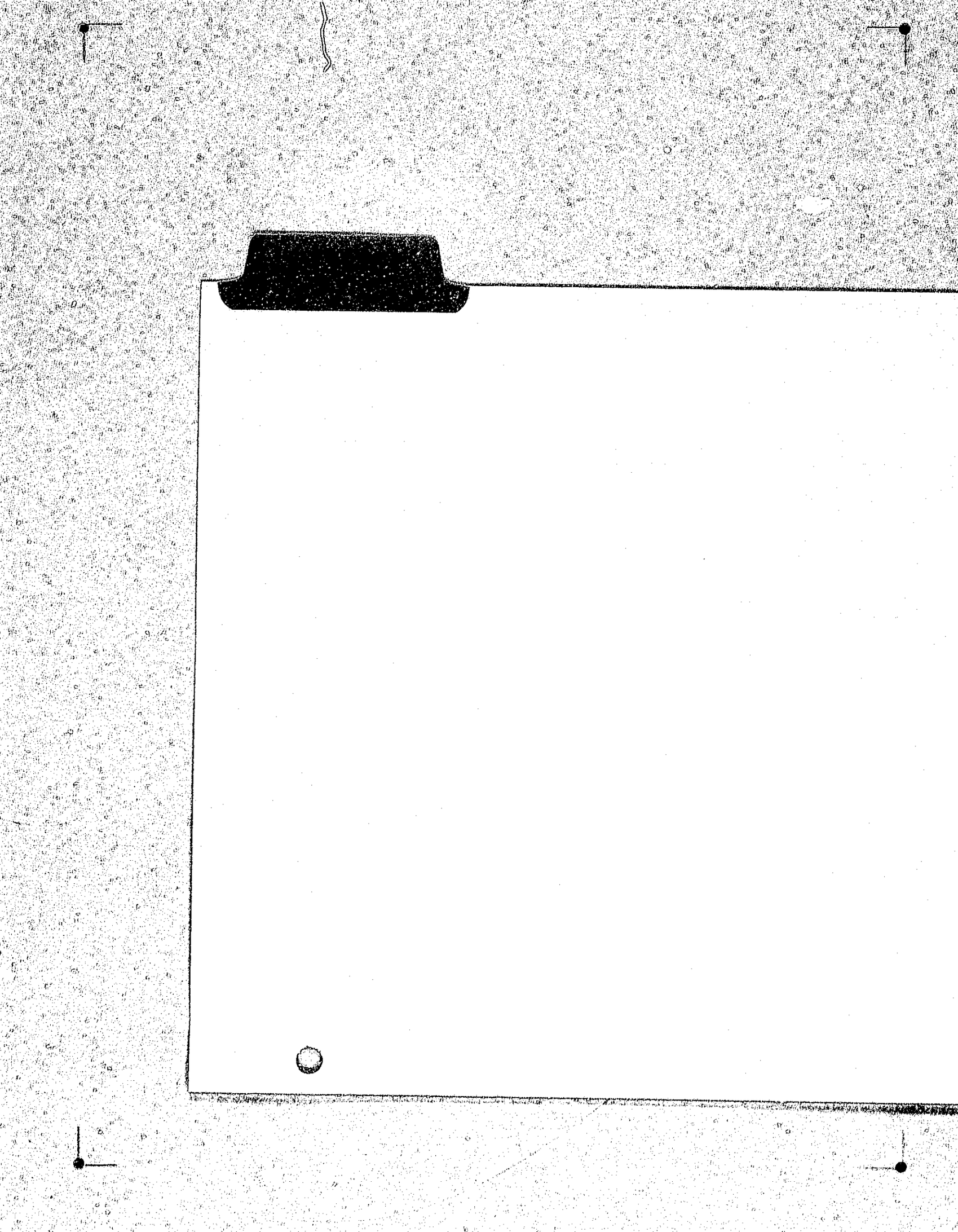
✓	A	PROOF OF OWNERSHIP SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-1	☐☐☐☐
	B	RESPONSIBLE ENTITY(IES) SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-2.	☐☐☐☐
	C	UTILITIES	
		WATER UTILITIES SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-3	☐☐☐☐
		SEWERAGE SUPPORTING INFORMATION IS SUBMITTED AS ITEM V-4	☐☐☐☐
	D	RECEIVING BODY(IES)	
		LEGAL AVAILABILITY DOCUMENTATION IS SUBMITTED AS ITEM V-5.	☐☐☐☐
		PHYSICAL CAPACITY DOCUMENTATION IS SUBMITTED AS ITEM V-6. Not used	☐☐☐☐
		RIGHT OF WAY PERMIT APPLICATION IS SUBMITTED NOW. ☐	☐☐☐☐
		RIGHT OF WAY PERMIT IS APPLIED FOR, APPLICATION NO. N/A	☐☐☐☐
		PROJECT IS PERMITTED FOR RIGHT OF WAY, PERMIT NO. _____	☐☐☐☐
	E	LAND USE TABLE IS SUBMITTED AS ITEM V-7	☐☐☐☐
	F	DEVELOPMENT OF REGIONAL IMPACT STATUS INFORMATION IS SUBMITTED AS ITEM V-8	☐☐☐☐
	G	BOUNDARY SURVEY IS SUBMITTED AS ITEM V-9.	☐☐☐☐

SECTION VI - PUBLIC NOTICING INFORMATION

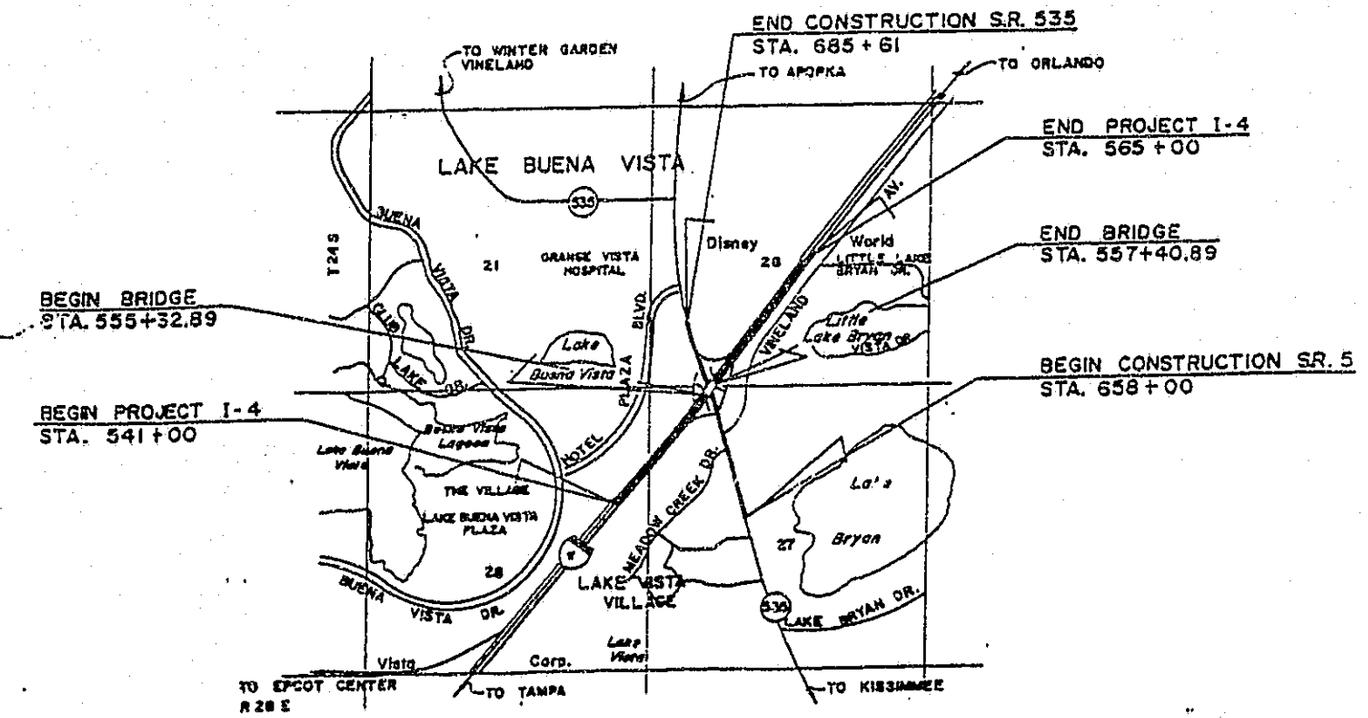
✓	A	DEPICTION OF WORKS AND FACILITIES IS SUBMITTED AS ITEM VI-1.	☐☐☐☐
✓	B	PROJECT MAP IS SUBMITTED AS ITEM VI-2	☐☐☐☐
	C	WETLANDS STATEMENT IS SUBMITTED AS ITEM VI-3. N/A None located on Project Site	☐☐☐☐
	D	MITIGATION STATEMENT IS SUBMITTED AS ITEM VI-4. N/A	☐☐☐☐

SECTION VII - WORKS OF THE DISTRICT SURFACE WATER IMPROVEMENT AND MANAGEMENT (SWIM)

	A	PROJECT IS PERMITTED FOR WORKS OF THE DISTRICT (SWIM), PERMIT NO. _____	☐☐☐☐
	B	WORKS OF THE DISTRICT (SWIM) PERMIT IS APPLIED FOR, APPLICATION NUMBER: _____ Not used N/A	☐☐☐☐
	C	WORKS OF THE DISTRICT (SWIM) PERMIT IS NOT REQUIRED ☐	☐☐☐☐



STATE ROAD NOS. 400(I-4) & 535



LOCATION SKETCH



PROJECT DESCRIPTION AND STAFF GUIDANCE

The proposed project is a modification to the existing I-4/SR 535 Interchange. The modification is to widen SR 535 to six (6) lanes through the interchange, add a loop ramp in southwest quadrant to serve as access for southbound SR 535 to eastbound I-4, reconstruct I-4 bridges over SR 535 and widen westbound I-4 off-ramp to SR 535 to create a two (2) lane off ramp. A preliminary meeting was held with SFWMD on April 14, 1987. Minutes of that meeting are attached as Item II-1-B.

Item II-1B

DHA

Memorandum

To: Files
Office:

From: R. Schmidt
Office: Orlando

Ref. or Job No.: 360

Date: April 14, 1987

Subject: Minutes of Meeting
South Florida Water
Management District
SR 535/I-4

On Tuesday, April 14, 1987, a meeting was held at the office of the South Florida Water Management District (SFWMD). The following personnel were in attendance:

Mr. A. Leavens - Regulatory Supervisor - SFWMD
Mr. R. Schmidt - DHA

The purpose of the meeting was to briefly describe the preliminary drainage scheme for the SR 535/I-4 Interchange project and discuss what requirements would be necessary to secure a stormwater management permit from the SFWMD for the project.

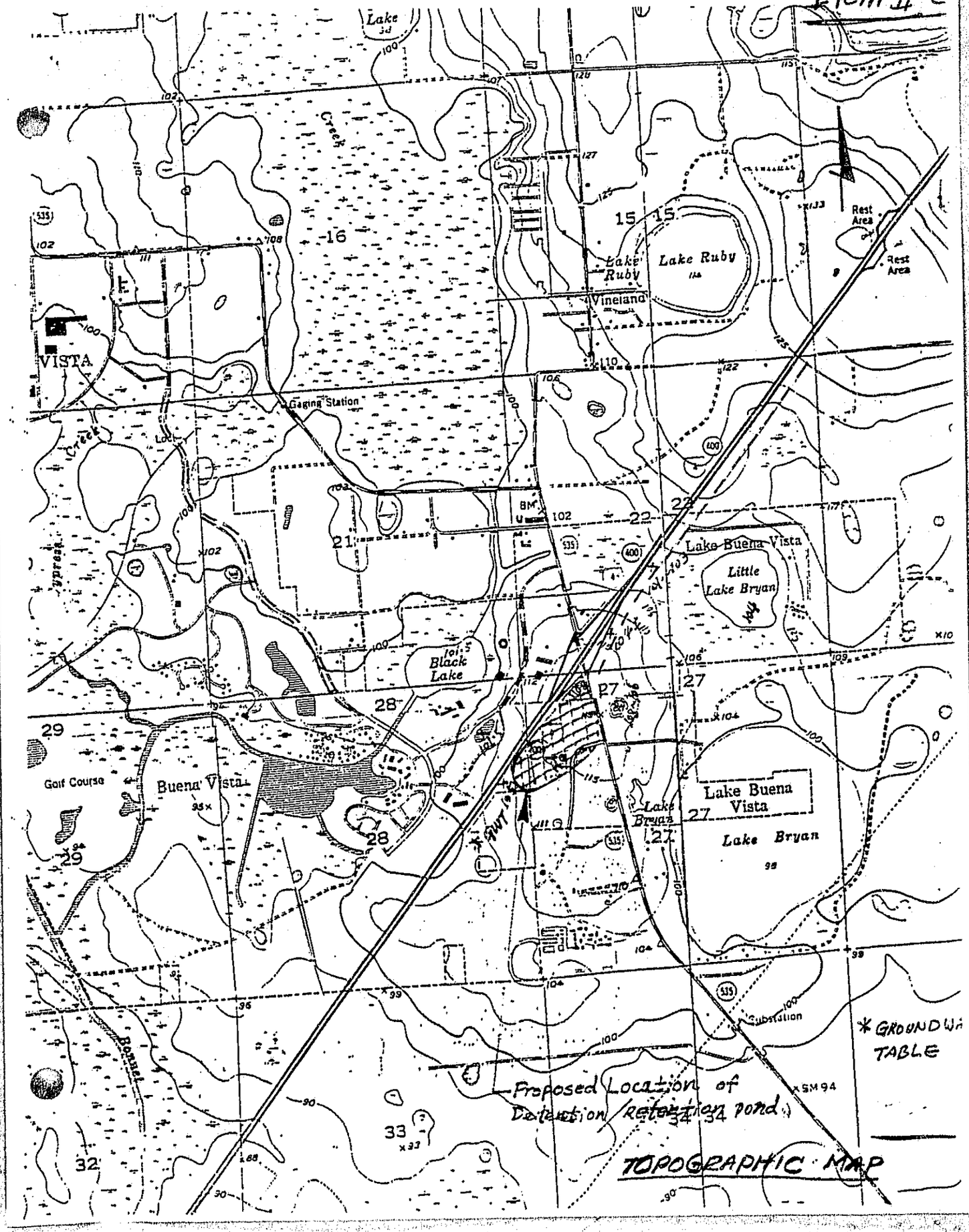
1) Mr. Schmidt began by briefly describing the drainage scheme, possible retention pond sites and drainage areas contributing to the retention pond sites. Mr. Leavens agreed with the preliminary scheme and stormwater management pond sites.

2) Some of the existing drainage patterns within the project area can not b changed to convey stormwater runoff to the proposed retention pond site. This fact was discussed with Mr. Leavens and he stated that a permit for the project could be issued if the first one inch (1") of rainfall runoff from the new ramps could be collected and retained in the proposed retention pond and that retainage of rainfall runoff from any additional areas would be a benefit.

3) Mr. Leavens indicated that permitting for the project could be coordinated with him through the SFWMD Kissimmee office.

cc: Attendees
A. Ledgerwood, FDOT
B. Gleason, FDOT
Project Files (LF, RV, BP)

Item II-2


Lake Ruby
Lake Ruby
Vineland
Rest Area
Rest Area
VISTA
Gaging Station
Lake Buena Vista
Little Lake Bryan
Black Lake
Golf Course
Buena Vista
Lake Buena Vista
Lake Bryan
Lake Bryan
Substation
Proposed Location of Detention/retention pond
TOPOGRAPHIC MAP
* GROUNDWA
TABLE

Item II-7

SOIL SURVEY REPORT
STATE ROAD 400
PROJECT NO: 75280-1465

TABLE I
PERMEABILITY RESULTS

STATION:	541+00	549+00 (on S.R. 400)
OFFSET (Ft. from C.L.):	(C.L. SR400)	(C.L. SR400)
G.S.E. (Ft.):	116.8	118.2
WATER TABLE ELEV.:		
0HR. (Ft.)	107.8	109.2
24HR.(Ft.)	108.3	109.2
DATE:	07-22-87	07-23-87
MATERIAL TESTED:	Stratum No. 2	Stratum No. 6
PERM. RATE K_{20}(cm/sec):	2.60×10^{-4}	1.72×10^{-4}
	$= 6.1 \times 10^{-3}$ in/min.	$= 4.1 \times 10^{-3}$ in/min.
	$= 5.1 \times 10^{-4}$ ft/min.	$= 3.4 \times 10^{-4}$ ft/min.

WATER ELEVATIONS

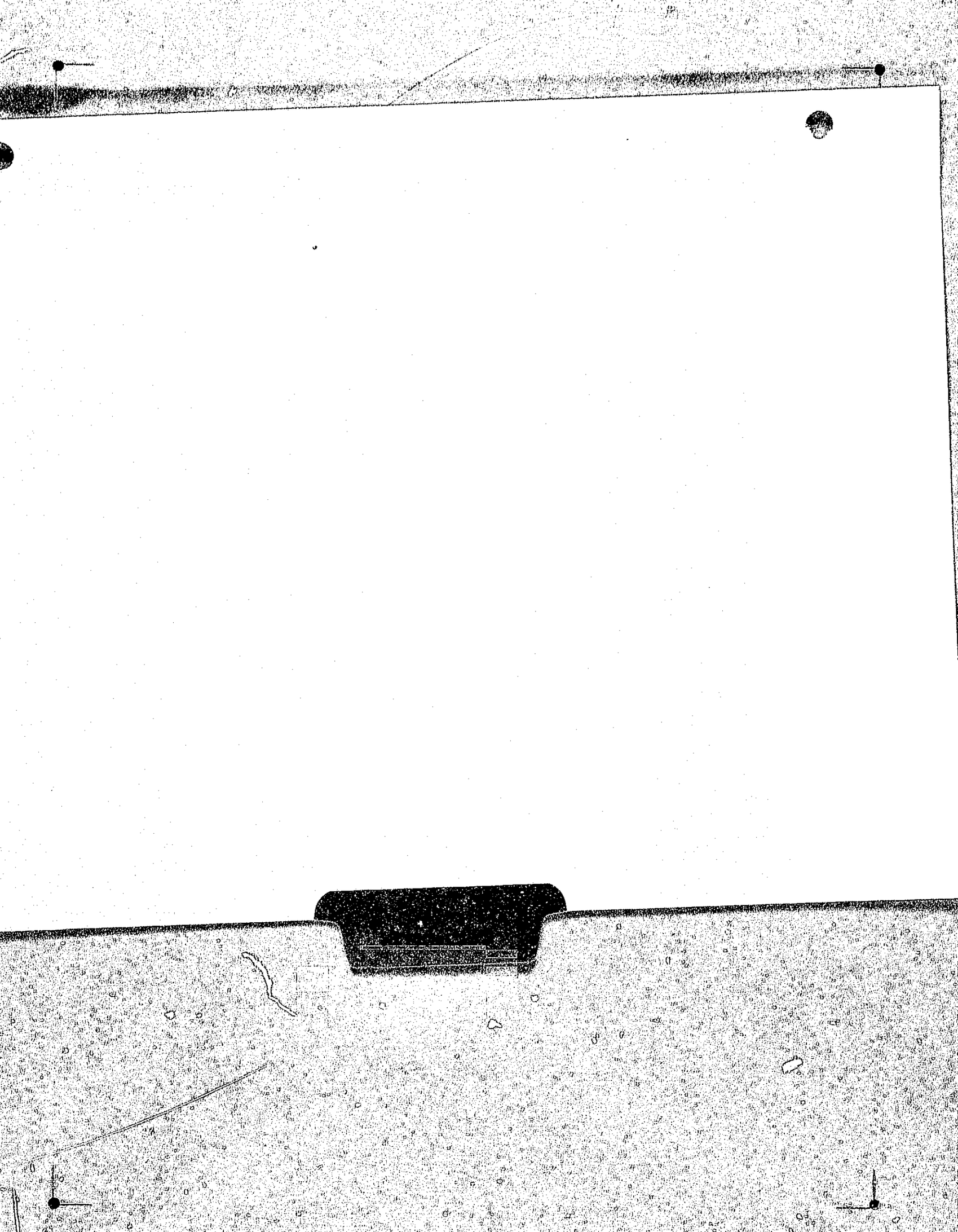
Water table elevations were established by FDOT in 1987 as a part of the soil survey for the project. Water table elevations were plotted on roadway cross-sections by FDOT. The following table lists those locations in the area of the proposed retention/detention pond.

I-4 STA./LOCATION		ELEVATION
530	(145' rt.)	102.0
531	(130' rt.)	102.5
533	℄	101.8
534	(150' rt.)	104.0
535	℄	103.6
536	℄	102.9
537	(100' rt.)	105.2
538	(160' rt.)	107.0
539	(155' rt.)	107.8
540	(155' rt.)	106.5
541	(270' rt.)	108.2
542	(155' rt.)	108.5
543	(110' rt.)	106.8

I-4 STA./LOCATION		ELEVATION
544	(110' rt.)	107.8
545	℄	107.7
546	(180' rt.)	109.0
547	(500' rt.)	108.6
548	(185' rt.)	109.2
549	(400' rt.)	109.2
551	(185' rt.)	108.2
554	(160' rt.)	108.0
559	(240' rt.)	112.2
561	(155' rt.)	105.5
564	(155' rt.)	104.4
565	(130' rt.)	105.8
566	(125' rt.)	105.0

RAMP "E" STA./LOCATION		ELEVATION
13	℄	109.6
14	℄	110.0
15	(30' rt.)	110.3
16	℄	110.7
17	℄	110.6
18	(40' rt.)	110.2
19	(70' lt.)	109.5

RAMP "E" STA./LOCATION		ELEVATION
20	℄	109.5
21	(50' rt.)	109.4
22	(50' rt.)	109.4
23	(50' rt.)	109.0
24	(40' rt.)	109.4
25	(50' rt.)	106.5



ITEM III-4

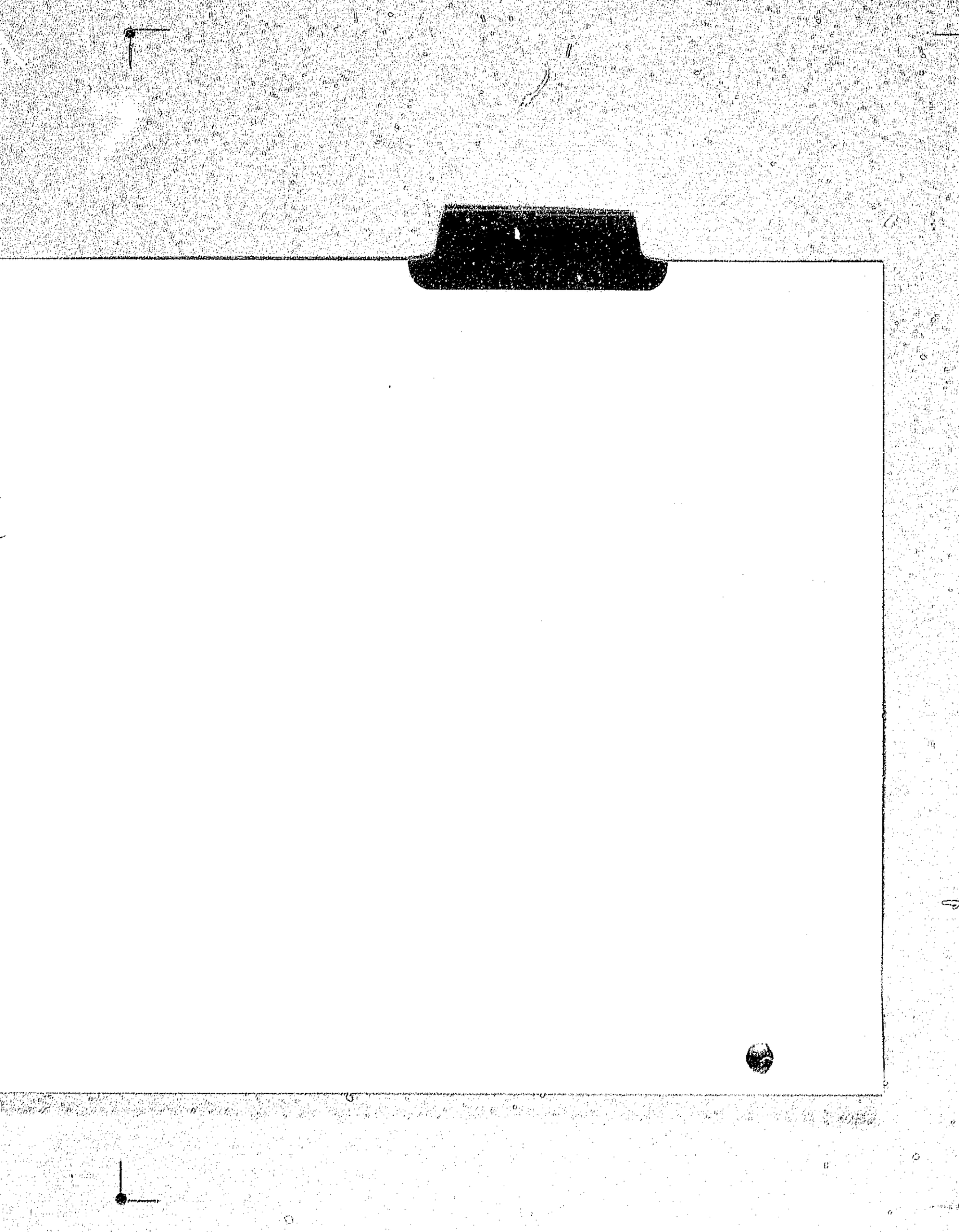
CONSTRUCTION TECHNIQUES

Construction will be accomplished in conformance with FDOT standard specifications. Temporary silt fences will be installed to prevent erosion runoff from graded areas and will be maintained until paving or permanent grassing has been established.

ITEM III-6

AFFECTED FACILITIES

No significant impact on existing drainage facilities is projected. The construction of a retention/detention pond will provide water quality preservation and maintain storm water runoff rates from the project at a level consistent with existing conditions.



STORM WATER MANAGEMENT ANALYSIS

During early discussion with Mr. Allen Leavens, with SFWMD, on April 14, 1987 and again via telephone on April 2, 1992, it was agreed that retention/detention of 1" of runoff from the proposed new paved area (or equivalent existing pavement) be provided for in the southeast quadrant. The new paved area proposed is 7.97 acres. One inch of runoff from this area is 0.67 acre feet.

Pond storage will be provided inside Loop Ramp E with a pond bottom at EL. 106.0. Outlet control is provided by a weir in the ditch along Ramp C at STA. 25+30. Two 29" x 45" equalization pipes are proposed under SR 535 to connect this ditch with the major detention area inside the loop and provide for drainage from west to east across SR 535.

Although all areas of new pavement cannot be directed to the detention pond, other compensating existing paved area can be. The total area draining to the pond is 39.17 acres, which contains 12.09 acres of impervious surfaces. Groundwater elevations in the area of the proposed pond, as determined by FDOT's soil survey, range from elevation 107 to 109, although some readings as low as 104 to 105 were noted within approximately 1,000'. Since these levels indicate that the exfiltration rate would probably be rather low, a "wet" detention pond is proposed and is conceptually shown on Exhibit IV-1. This pond provides 8.49 acre feet of retention storage for water quality mitigation. It also provides detention. For the 25 year-24 hour storm, it provides 9.68 acre feet of detention storage over and above the retention volume. Projected runoff through the ditch at the control point was calculated for existing conditions (i.e. historic discharge) and proposed conditions. Routing of storms through the detention pond indicates a reduction of projected runoff through the control point for proposed conditions, when compared to existing conditions. A summary of various calculations and projections follows.

- New impervious area added to Interchange 7.97 acres
- Total area draining into retention/detention 39.17 acres
- Impervious area draining into retention/detention 12.09 acres
- Existing area draining to control weir 18.62 acres
- Projected Q_{25} (existing conditions) 39.10 cfs
- Projected Q_{25} from retention/detention 27.64 cfs

The following pages comprise an appendix of support calculations and data used in this analysis. Routing was done using Hydro/Plus software. This program produces hydrographs by the methods of the U.S.Department of Agriculture, Soil conservation Service (SCS). The Hydro/Plus software program was developed by Hydro/Plus Software, Inc., Atlanta, Georgia. Although routing procedures for the 2, 5, 10, 25, 50 and 100 year storms were run, only the routing data for the 25 year storm is included as an example. Other storm results are shown in summary format on Page 35.

EXHIBIT IV - 1

DHA

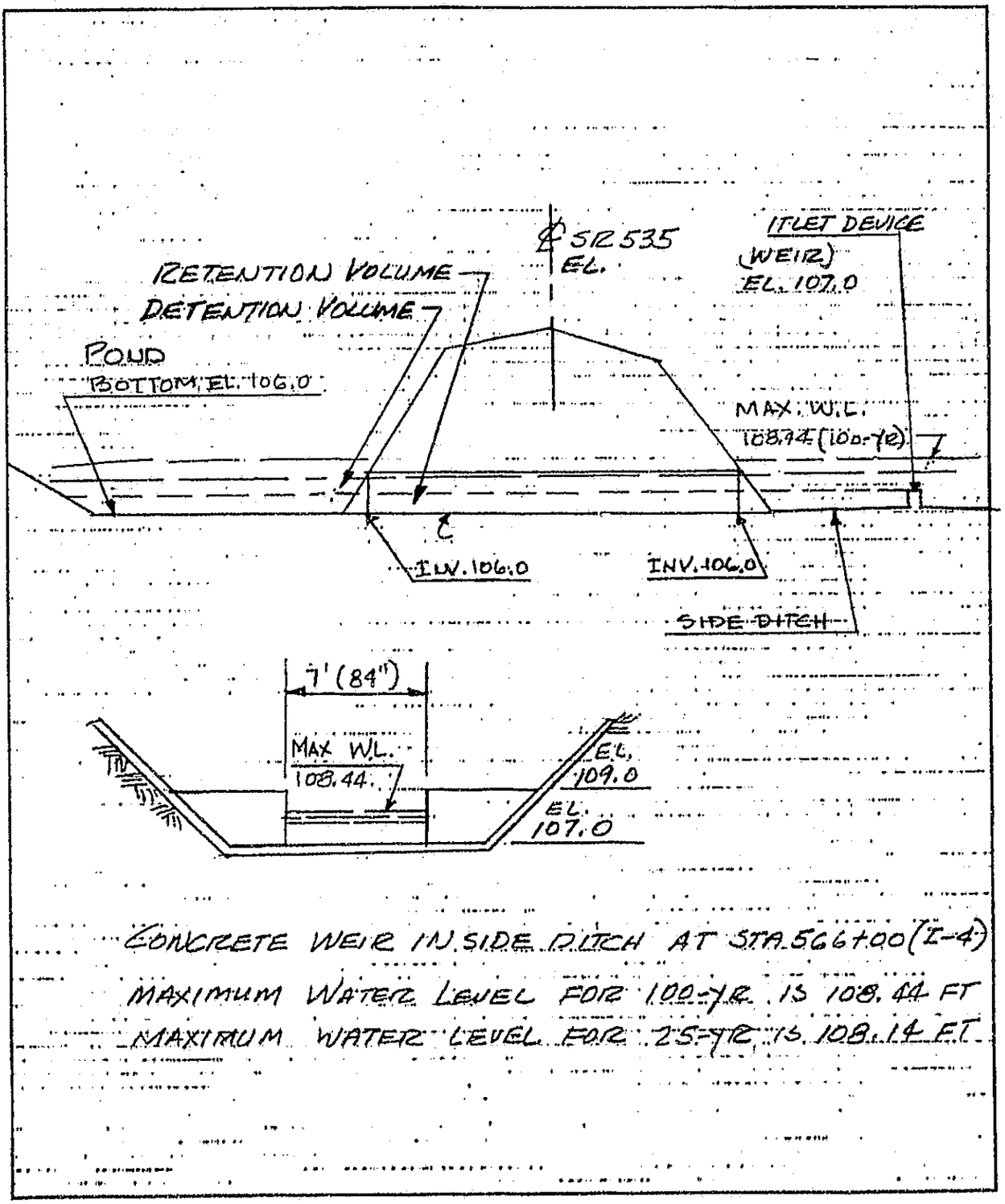
DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners

SHEET NO. 1 OF 1

PROJECT SR 535 / I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE MAY 27, 92 CHECKED BY _____ DATE _____



CONCRETE WEIR IN SIDE DITCH AT STA. 566+00 (I-4)

MAXIMUM WATER LEVEL FOR 100-YR. IS 108.44 FT

MAXIMUM WATER LEVEL FOR 25-YR. IS 108.14 FT.

APPENDIX

	Page
Existing Conditions	1 - 5
Proposed Conditions	6 - 10
Stage-Storage-Discharge	11 - 12
Rainfall Data	13 - 16
Routing Example (25 yr. storm)	17 - 34
Routing Summary	35

DHA

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Consulting Engineers · Planners

SHEET NO. ___ OF ___

PROJECT SR 535/I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F.GARCIA DATE MAY 15,92 CHECKED BY [illegible] DATE 5/92

EXISTING CONDITIONS

(SEE PAGE 5 FOR LOCATION)

AREA DESIGNATION	ACREAGE (ACRE)	ACREAGE PAVT (.95)	ACREAGE GRASS (.30)	"C"	"C" x A
A1	0.55	0.55	—	0.95	0.52
A2	1.01	—	1.01	0.30	0.30
A3	0.31	0.31	—	0.95	0.29
A4	7.82	—	7.82	0.30	2.35
A5	1.49	1.24	0.25	0.84	1.25
A6	0.87	0.87	—	0.95	0.83
A7	2.25	—	2.25	0.30	0.67
A8	0.46	0.46	—	0.95	0.44
A9	3.76	0.59	3.17	0.40	1.51
A10	0.10	—	0.10	0.30	0.03
TOTALS	18.62	4.02	14.6	—	8.15

BY RATIONAL $C_W = 8.15/18.62 = 0.44$ $C_W = 0.44$

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SHEET NO. ___ OF ___

PROJECT SR 535 / I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE JUNE 3, 92 CHECKED BY ___ DATE ___

EXISTING CONDITIONS

TOTAL WATERSHED AREA = 18.62 ACRES

RATIONAL "C_w" = $\frac{8.15}{18.62} = 0.44$ $C_w = 0.44$

SCS (CN)

LAND USE	ACRES	% OF TOTAL AREA	CN	% x CN
IMPERVIOUS	4.02	.21	98	20.58
PERVIOUS	14.60	.79	69	54.51

CN = 75.09

CN = 75

RAINFALL

THE SCS METHODS ARE BASED ON A 24 HOUR STORM EVENT WHICH HAS A TYPE II TIME DISTRIBUTION. FOR ORANGE COUNTY, THE 24 HOUR RAINFALL FOR VARIOUS FREQUENCY STORM IS GIVEN AS FOLLOW: (SEE FIG. 5-13)

24 HOUR RAINFALL

2-YEAR FREQUENCY STORM = 4.7 INCHES

5-YEAR FREQUENCY STORM = 6.3 INCHES

10-YEAR FREQUENCY STORM = 7.5 INCHES

25-YEAR FREQUENCY STORM = 8.6 INCHES

50-YEAR FREQUENCY STORM = 9.5 INCHES

100-YEAR FREQUENCY STORM = 10.5 INCHES

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SHEET NO. ___ OF ___

PROJECT SR 535 / I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F.G ARCIA DATE June 3,92 CHECKED BY ___ DATE ___

EXISTING CONDITIONS (CONT.)

THE SCS HAS DEVELOPED A RAINFALL-RUNOFF EQUATION WHICH PREDICTS PRECIPITATION EXCESS (DIRECT RUNOFF) FROM RAINFALL AND WATERSHED DATA.

USING FIGURE 4-1

GIVEN: CN = 75

	RAINFALL	DIRECT RUNOFF (Q) IN INCHES
2-YR	4.7 IN	2.3 IN
5-YR	6.3 IN	3.5 "
10-YR	7.5 IN	4.55 "
25-YR	8.6 IN	5.6 "
50-YR	9.5 IN	6.45 "
100-YR	10.5 IN	7.30 "

TIME OF CONCENTRATION (TC)

THE TIME REQUIRED FOR WATER TO TRAVEL FROM THE MOST HYDRAULICALLY DISTANT POINT IN THE WATERSHED TO THE OUTLET.

700' @ .2 FT/SEC = 58 MIN
1300 @ .5 FT/SEC = 43 MIN
USE TC = 1.5 HR

USING FIG-1 (PEAK DISCHARGE IN CSM PER INCH OF RUNOFF VERSUS TIME OF CONCENTRATION (TC) FOR 24-HOUR, TYPE-II STORM DISTRIBUTION

PEAK DISCHARGE CSM/INCH IS

q_p = 240 CFS/SQ MI/INCH (PEAK RATE OF RUNOFF), FOR 1.5 HR

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SHEET NO. ____ OF ____

PROJECT SE 535 / I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE JUN 3, 92 CHECKED BY ____ DATE ____

PEAK RATE OF RUNOFF

FOR TC = 1.5 HOURS AREA = 18.62 AC

Q_p = 240 CFS/SQ.MI./INCH

$Q_2 = 240 \times \frac{18.62}{640}$ SQ. MI. X 2.3 INCHES OF RUNOFF = 16.06 CFS

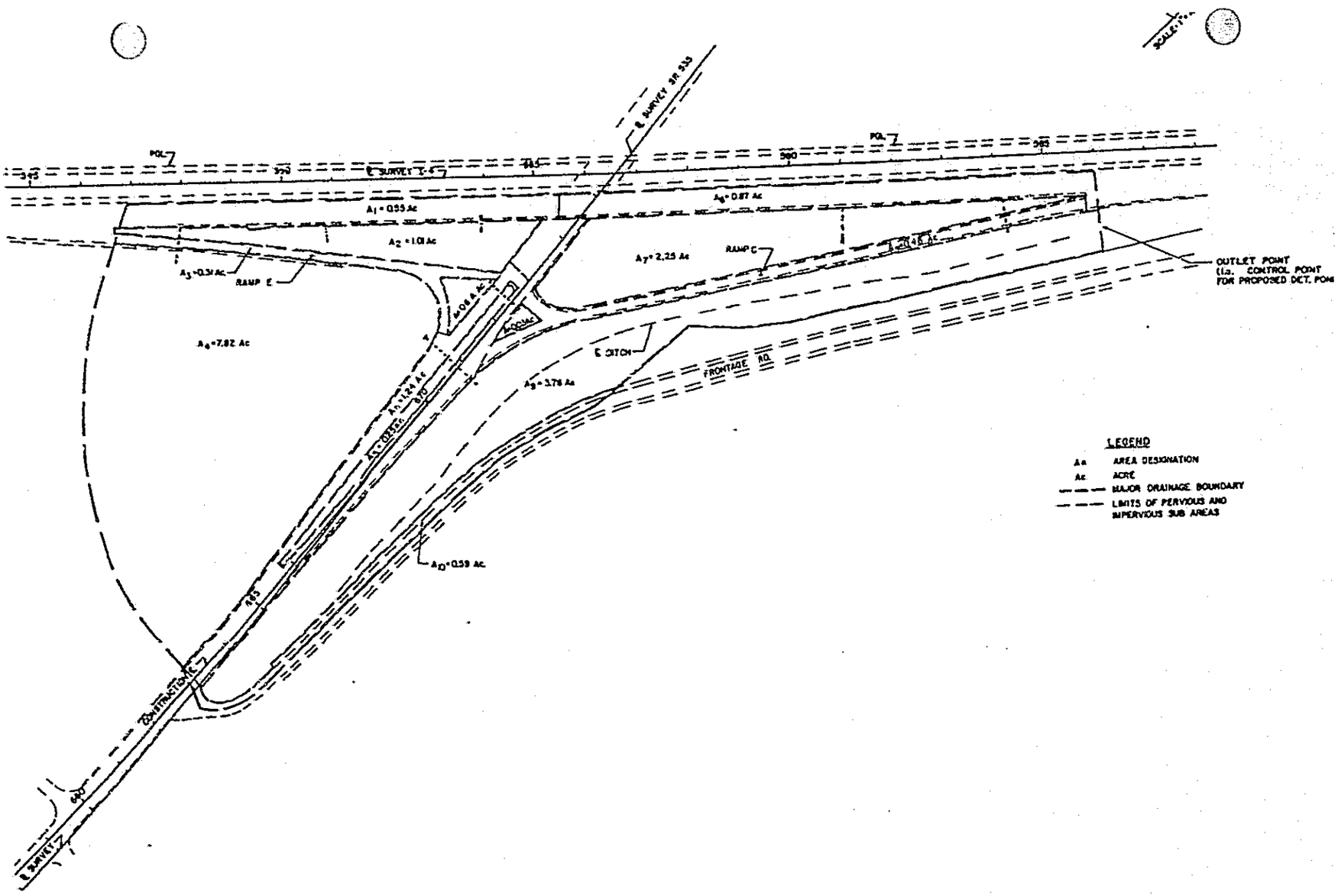
Q_5 = 240 X 18.62/640 SQ. MI. X 3.50 INCHES = 24.44 CFS

Q_{10} = 240 X 18.62/640 SQ. MI. X 4.55 INCHES = 31.77 CFS

Q_{25} = 240 X 18.62/640 SQ. MI. X 5.60 INCHES = 39.10 CFS

Q_{50} = 240 X 18.62/640 SQ. MI. X 6.45 INCHES = 45.04 CFS

Q_{100} = 240 X 18.62/640 SQ. MI. X 7.3 INCHES = 50.97 CFS



EXISTING CONDITIONS
DRAINAGE MAP
SR 400 (I-4) SR 535

5

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SHEET NO. 2 OF ____

PROJECT SR 535 / I-4 INTERCHANGE JOB NO. ____

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE MAY 15/92 CHECKED BY ____ DATE 5/92

PROPOSED CONDITIONS
(SEE EXHIBIT III-2 FOR LOCATIONS)

AREA DESIGNATION	ACREAGE (ACRE)	ACREAGE 0.95 (PAV'T)	ACREAGE 0.30 (GRASS)	"C W"	C * A
A1	0.51	0.51	—	0.95	0.48
A2	0.30	0.30	—	0.95	0.28
A3	0.75	0.23	0.52	0.50	0.37
A4	0.46	0.46	—	0.95	0.44
A5	0.26	0.26	—	0.95	0.25
A6	0.43	0.43	—	0.95	0.41
A7	0.50	0.50	—	0.95	0.47
A8	0.62	0.62	—	0.95	0.59
A9	0.34	0.34	—	0.95	0.32
A10	0.52	0.52	—	0.95	0.49
A11	0.31	0.31	—	0.95	0.29
A12	0.94	0.28	0.66	0.49	0.46
A13	0.44	0.44	—	0.95	0.42
A14	0.26	0.26	—	0.95	0.25
A15	0.22	0.21	0.01	0.92	0.20
A16	1.52	0.04	1.48	0.93	1.42
A17	4.16	0.53	3.63	0.38	1.58
A18	0.85	0.68	0.17	0.82	0.70
A19	0.49	0.39	0.10	0.83	0.41
A20	0.26	0.19	0.07	0.78	0.20
A21	0.36	0.35	0.01	0.93	0.33
A22	0.30	0.23	0.07	0.80	0.24
A23	0.34	0.29	0.05	0.85	0.29

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SHEET NO. 3 OF ____

PROJECT OC 535 / I-4 INTERCHANGE JOB NO. ____

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE May 15, 92 CHECKED BY ____ DATE ____

PROPOSED CONDITIONS (CONT.)

AREA DESIGNATION	ACREAGE (ACRE)	AEREAGE 0.95 (PAVT)	ACREAGE 0.30 (GRASS)	"Cw"	C*A
A_{24}	12.64	1.42	11.22	0.37	4.72
A_{25}	1.49	0.07	1.42	0.33	0.49
A_{26}	3.52	0.77	2.75	0.44	1.55
A_{27}	6.38	1.46	4.92	0.45	2.87
TOTALS	39.17	12.09	27.08	—	20.52

$$\text{"}C_W\text{"} = \frac{20.52}{39.17} = 0.52 \quad ; \quad C_W = 0.52$$

TIME OF CONCENTRATION (TC)

TC SAME AS EXISTING — 1.5 HRS

THEREFORE,

LAG = (.6)(1.5) = 0.9 HRS.

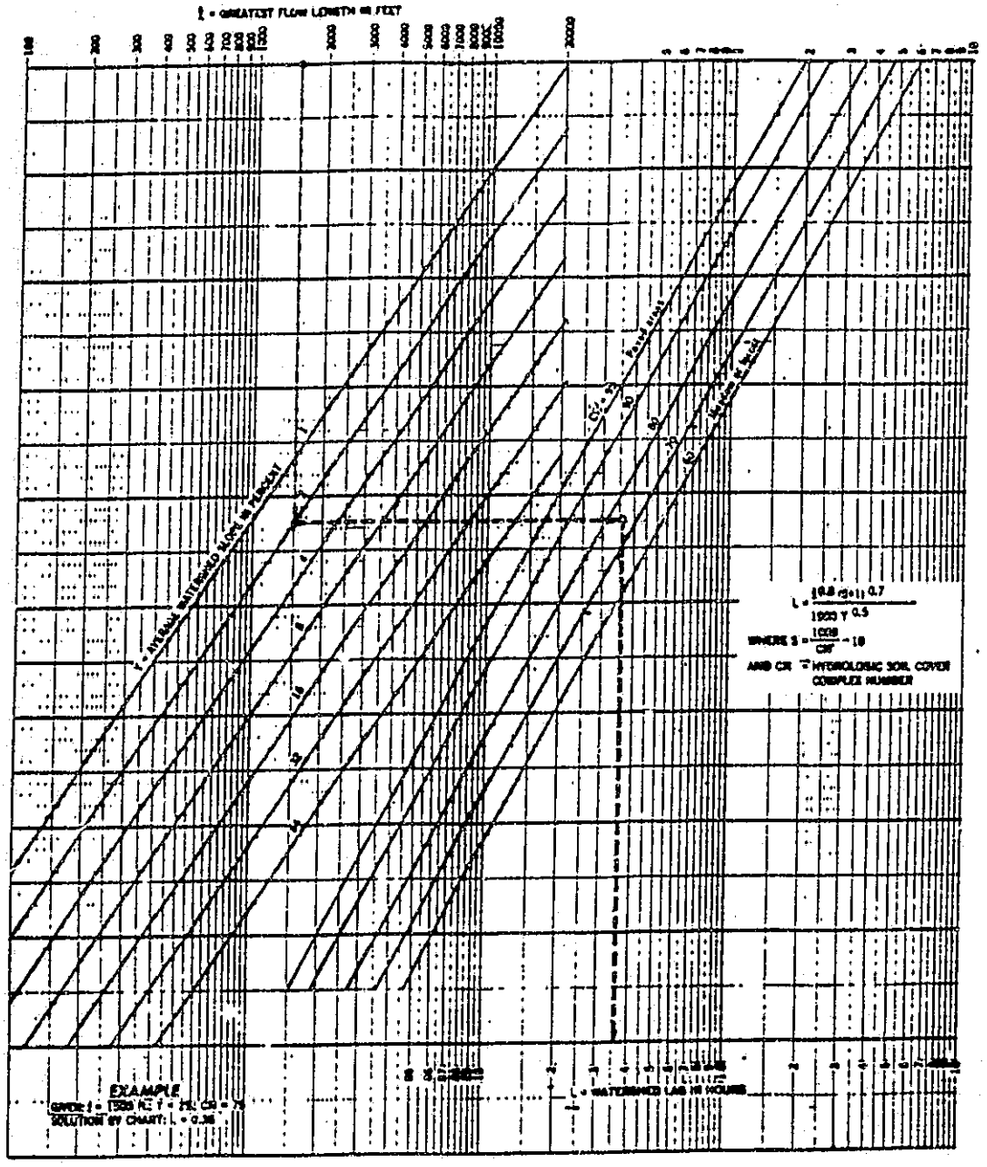

Figure 4-2 --Curve number method for estimating lag (L) for homogeneous watersheds under natural conditions up to 2,000 acres.

DHA

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SHEET NO. ___ OF ___

PROJECT SR 535 / I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE MAY 16, 92 CHECKED BY ___ DATE ___

PROPOSED CONDITIONS (CONT.)

TOTAL WATERSHED AREA = 39.17 ACRES

THE WEIGHTED RUNOFF COEFFICIENT "C_W" BY THE RATIONAL METHOD IS

$C_W = 0.52$

RUNOFF FACTOR (CN)

THE SCS USES A COMBINATION OF SOIL CONDITIONS AND LAND-USE GROUND COVER TO ASSIGN A RUNOFF FACTOR TO AN AREA. (SEE TABLE 4-3, RUNOFF CURVE NUMBERS FOR AGRICULTURAL, SUBURBAN, AND URBAN LAND USE)

PREDOMINANT SOIL TYPES FOR OPEN SPACES, FAIR CONDITION; GRASS/BUSH COVER ON 50% TO 75% OF THE AREA

HYDROLOGIC SOIL GROUP B

LAND-USE	AREA (AC.)	% OF TOTAL AREA	CN *	% x CN
IMPERVIOUS	12.09	.31	98	30.38
PERVIOUS	27.08	.69	69	47.61
				77.99

* VALUES SELECTED FROM TABLE 4-3

CN = 78

TABLE 4-3

RUNOFF CURVE NUMBERS FOR SELECTED AGRICULTURAL, SUBURBAN, AND URBAN LAND USE

LAND USE DESCRIPTION	HYDROLOGIC SOIL GROUP			
	A	B	C	D
Cultivated land[1]: without conservation treatment	72	81	88	91
: with conservation treatment	62	71	78	81
Pasture or range land: poor condition	68	79	86	89
good condition	39	61	74	80
Meadow: good condition	30	58	71	78
Wood or Forest land: thin stand, poor cover, no mulch	45	66	77	83
good cover[2]	25	55	70	77
Open Spaces, Lawns, parks, golf courses, cemeteries, etc.				
good condition: grass cover on 75% or more of the area	39	61	74	80
fair condition: grass cover on 50% to 75% of the area	49	69	79	84
Commercial and business areas (85% impervious)	89	92	94	95
Industrial districts (72% impervious).	81	88	91	93
Residential:[3]				
Average lot size				
1/8 acre or less	77	85	90	92
1/4 acre	61	75	83	87
1/3 acre	57	72	81	86
1/2 acre	54	70	80	85
1 acre	51	68	79	84
Paved parking lots, roofs, driveways, etc.	98	98	98	98
Streets and roads:				
paved with curbs and storm sewers	98	98	98	98
gravel	76	85	89	91
dirt	72	82	87	89

1/ For a more detailed description of agricultural land use curve numbers refer to National Engineering Handbook, Section 4, Hydrology, Chapter 9, Aug. 1972.

2/ Good cover is protected from grazing and litter and brush cover soil.

3/ Curve numbers are computed assuming the runoff from the house and driveway is directed towards the street with a minimum of roof water directed to lawns where additional infiltration could occur.

Source: Soil Conservation Service

DHA

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Consulting Engineers · Planners

SHEET NO. ___ OF ___

PROJECT SR 535 / I-4 INTERCHANGE WIDENING JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F. GARCIA DATE MAY 18, 92 CHECKED BY ___ DATE ___

RETENTION / DETENTION POND

BASIN AREA = 39.17 ACRES

STAGE (ELEV.)	AREA (FT^2)	VOLUME (FT^3)	CUMULATIVE VOLUME (FT^3)
107.0	364,026	0	0
		183,476	
107.5	369,876		183,476
		186,400	
108.0	375,726		369,876
		189,356	
108.5	381,616		559,212
		192,281	
109.0	387,506		751,493
		195,236	
109.5	393,436		946,729
		198,200	
110.0	399,366		1,144,929

HYDROLOGIC REPORT FOR

SR 535 \ I -4 INTERCHANGE

STAGE, STORAGE + DISCHARGE

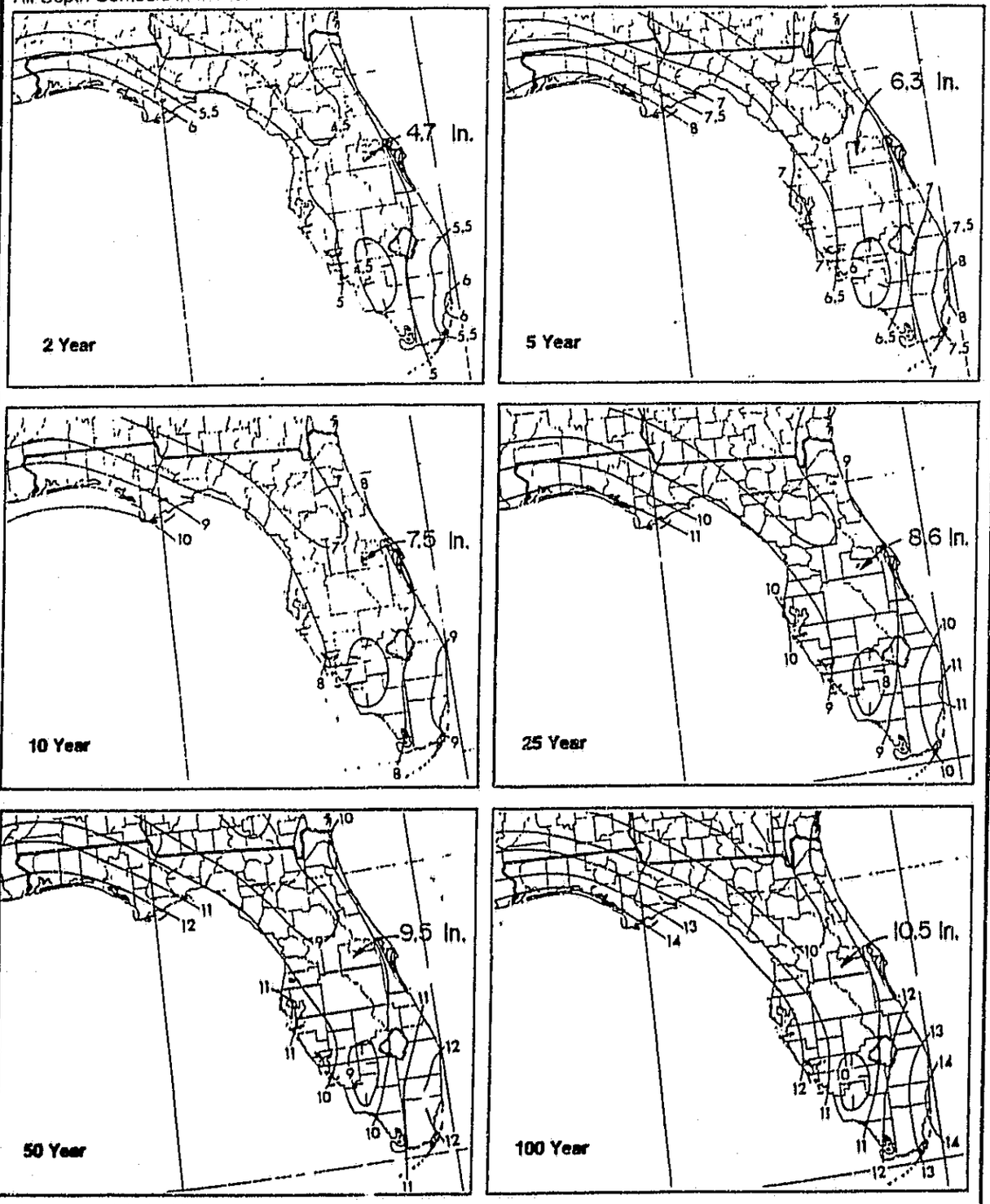
POND IDENTIFIER SR 535 \ I - 4 INTERCHANGE

1 = 84 INCH RECTANGULAR WEIR - INVERT 107

ELEV	STORAGE (CU.FT.)	OUTFLOW (CFS)	2S/T+O (CFS)
107.00	0.0	0.000	0.0
107.50	183476.0	7.944	1?31.1
108.00	369876.0	22.470	2488.3
108.50	559212.0	41.280	3769.4
109.00	751493.0	63.554	5073.5
109.50	946729.0	88.820	6400.3
110.00	1144929.0	116.757	7749.6

1 DAY

All Depth Contours in Inches



Reference: Hershfield (1961).

FIGURE 5-13

1-Day Precipitation Depth Data for 2-, 5-, 10-, 25-, 50-, and 100-Year Frequencies

DHA

DELON HAMPTON & ASSOCIATES, Chartered
Consulting Engineers · Planners

SHEET NO. ___ OF ___

PROJECT SR 535 / I-4 INTERCHANGE JOB NO. 360

SUBJECT DRAINAGE

DESIGNED BY F.G. DATE MAY 20, 92 CHECKED BY ___ DATE ___

SOIL CONSERVATION SERVICE (SCS) HYDROGRAPH

DRAINAGE AREA

THE WATERSHED WAS DETERMINED FROM TOPOGRAPHIC MAPS AND FIELD SURVEYS

A = 39.17 ACRES

RAINFALL

THE SCS METHODS ARE BASED ON A 24 HOUR STORM EVENT WHICH HAS A TYPE II TIME DISTRIBUTION. FOR ORANGE COUNTY, THE 24 HOUR RAINFALL FOR VARIOUS FREQUENCY STORM IS GIVEN AS FOLLOW: (SEE FIG. 5-13)

24 HOUR RAINFALL —

2 YEAR FREQUENCY STORM — 4.7 INCHES
5 YEAR FREQUENCY STORM — 6.3 INCHES
10 YEAR FREQUENCY STORM — 7.5 INCHES
25 YEAR FREQUENCY STORM — 8.6 INCHES
50 YEAR FREQUENCY STORM — 9.5 INCHES
100-YEAR FREQUENCY STORM — 10.5 INCHES

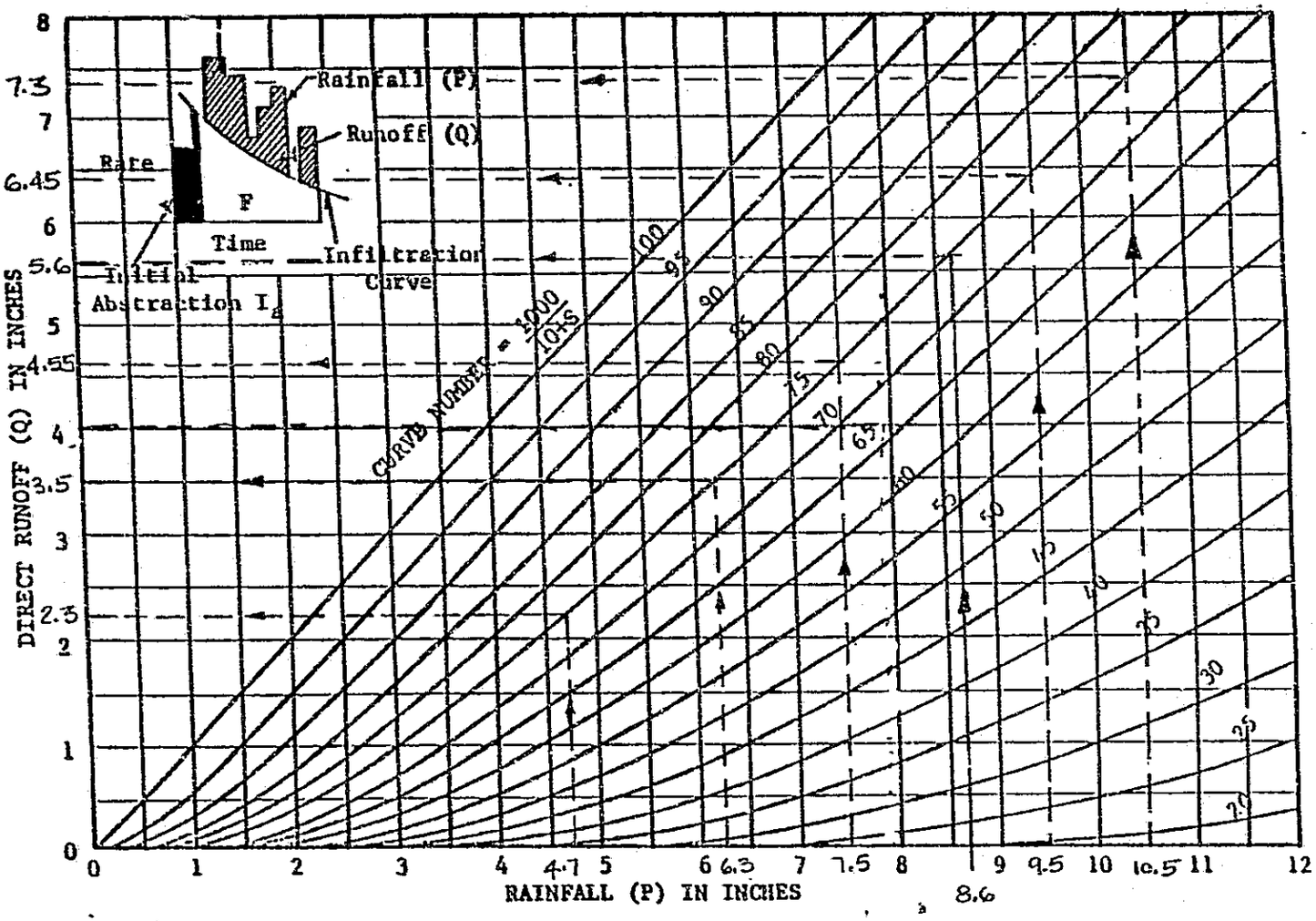


Figure - 4-1 Solution of the Runoff Equation, $Q = \frac{(P - 0.2S)^2}{P + 0.8S}$ Where $I_a = 0.2S$

Source: Soil Conservation Service

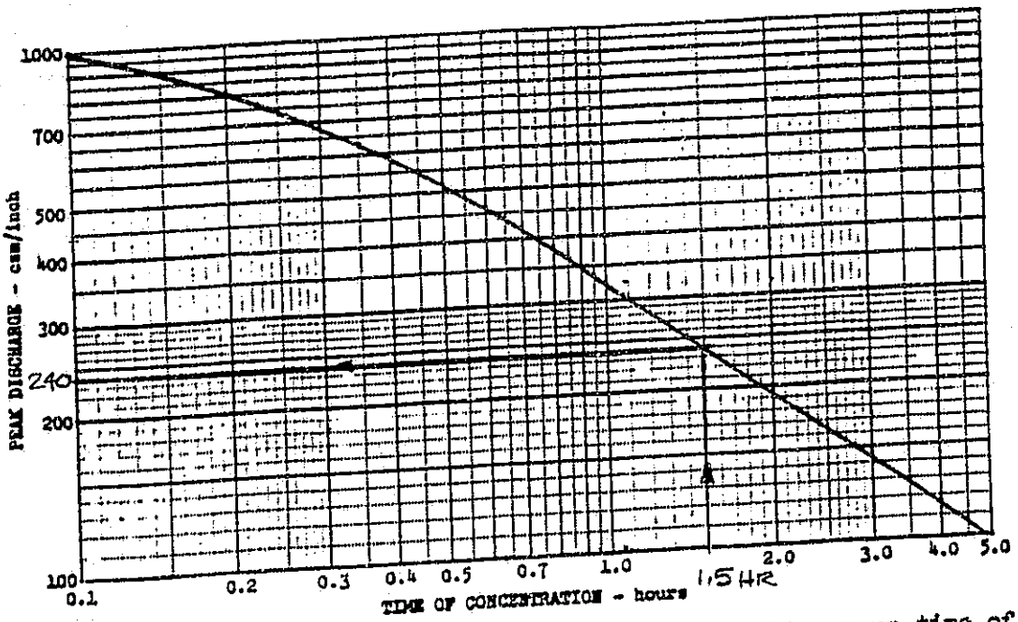


Figure 5-1—Peak discharge in csm per inch of runoff versus time of concentration (T_c) for 24-hour, type-II storm distribution.

(csm = cfs/sq.mi.)

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24 HOUR S. C. S. HYDROGRAPH

BASIN IDENTIFICATION SR 535 \ I -4 INTERCHANGE
BASIN DISCHARGES INTO POND

BASIN AREA	=	39.17	ACRES
BASIN CURVE NUMBER	=	78.00	
24-HOUR PRECIPITATION	=	8.60	INCHES
24-HOUR RUNOFF	=	5.95	INCHES
AVERAGE BASIN SLOPE	=	0.78	%
HYDRAULIC LENGTH	=	2,960.00	FEET
BASIN LAG ,(Tc)	=	0.90	HOURS , 1.50 HOURS
UNITPEAK COEFFICIENT	=	484.00	
RAINFALL DISTRIBUTION	=	TYPE II	

HYDROGRAPH RUNOFF VALUES
25 YEAR STORM FREQUENCY

TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.
4.67	0.0	4.75	0.0	4.83	0.0	4.92	0.0
5.00	0.0	5.08	0.0	5.17	0.0	5.25	0.0
5.33	0.0	5.42	0.0	5.50	0.0	5.58	0.0
5.67	0.0	5.75	0.0	5.83	0.0	5.92	0.0
6.00	0.0	6.08	0.0	6.17	0.1	6.25	0.1
6.33	0.1	6.42	0.1	6.50	0.1	6.58	0.2
6.67	0.2	6.75	0.2	6.83	0.3	6.92	0.3
7.00	0.4	7.08	0.4	7.17	0.5	7.25	0.5
7.33	0.6	7.42	0.6	7.50	0.7	7.58	0.7
7.67	0.8	7.75	0.8	7.83	0.9	7.92	0.9
8.00	1.0	8.08	1.0	8.17	1.1	8.25	1.1
8.33	1.2	8.42	1.2	8.50	1.3	8.58	1.4
8.67	1.4	8.75	1.5	8.83	1.6	8.92	1.7
9.00	1.8	9.08	1.9	9.17	1.9	9.25	2.1
9.33	2.2	9.42	2.3	9.50	2.4	9.58	2.5
9.67	2.6	9.75	2.7	9.83	2.9	9.92	3.0
10.00	3.1	10.08	3.3	10.17	3.4	10.25	3.6
10.33	3.7	10.42	3.9	10.50	4.0	10.58	4.2
10.67	4.4	10.75	4.6	10.83	4.8	10.92	5.1
11.00	5.3	11.08	5.6	11.17	6.0	11.25	6.4
11.33	6.8	11.42	7.3	11.50	7.8	11.58	8.4
11.67	9.3	11.75	10.1	11.83	11.6	11.92	13.3
12.00	16.0	12.08	20.5	12.17	25.0	12.25	32.3
12.33	39.9	12.42	48.6	12.50	58.4	12.58	67.8
12.67	75.3	12.75	82.8	12.83	86.7	12.92	89.5

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HYDROGRAPH RUNOFF VALUES
25 YEAR STORM FREQUENCY (CONT'D)

TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.
13.00	90.8	13.08	89.5	13.17	88.2	13.25	84.2
13.33	80.2	13.42	75.2	13.50	69.6	13.58	64.0
13.67	58.9	13.75	53.9	13.83	49.7	13.92	45.9
14.00	42.3	14.08	39.3	14.17	36.4	14.25	33.9
14.33	31.4	14.42	29.3	14.50	27.3	14.58	25.5
14.67	23.9	14.75	22.4	14.83	21.1	14.92	19.8
15.00	18.7	15.08	17.7	15.17	16.7	15.25	15.9
15.33	15.0	15.42	14.3	15.50	13.7	15.58	13.1
15.67	12.5	15.75	12.0	15.83	11.6	15.92	11.2
16.00	10.8	16.08	10.5	16.17	10.1	16.25	9.9
16.33	9.6	16.42	9.3	16.50	9.1	16.58	8.9
16.67	8.7	16.75	8.5	16.83	8.3	16.92	8.2
17.00	8.0	17.08	7.9	17.17	7.8	17.25	7.7
17.33	7.6	17.42	7.5	17.50	7.3	17.58	7.2
17.67	7.1	17.75	7.0	17.83	7.0	17.92	6.9
18.00	6.8	18.08	6.7	18.17	6.6	18.25	6.6
18.33	6.5	18.42	6.4	18.50	6.3	18.58	6.2
18.67	6.1	18.75	6.0	18.83	5.9	18.92	5.8
19.00	5.8	19.08	5.7	19.17	5.6	19.25	5.5
19.33	5.5	19.42	5.4	19.50	5.4	19.58	5.3
19.67	5.3	19.75	5.2	19.83	5.2	19.92	5.2
20.00	5.2	20.08	5.1	20.17	5.1	20.25	5.1
20.33	5.0	20.42	5.0	20.50	4.9	20.58	4.9
20.67	4.8	20.75	4.7	20.83	4.6	20.92	4.5
21.00	4.5	21.08	4.4	21.17	4.3	21.25	4.2
21.33	4.2	21.42	4.1	21.50	4.1	21.58	4.0
21.67	4.0	21.75	4.0	21.83	4.0	21.92	3.9
22.00	3.9	22.08	3.9	22.17	3.9	22.25	3.9
22.33	3.9	22.42	3.9	22.50	3.8	22.58	3.8
22.67	3.8	22.75	3.8	22.83	3.8	22.92	3.8
23.00	3.8	23.08	3.8	23.17	3.8	23.25	3.8
23.33	3.8	23.42	3.8	23.50	3.8	23.58	3.8
23.67	3.8	23.75	3.8	23.83	3.8	23.92	3.8
24.00	3.8	24.08	3.8	24.17	3.8	24.25	3.7
24.33	3.7	24.42	3.6	24.50	3.5	24.58	3.4

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HYDROGRAPH RUNOFF VALUES
25 YEAR STORM FREQUENCY (CONT'D)

TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.
24.67	3.2	24.75	3.1	24.83	2.9	24.92	2.6
25.00	2.4	25.08	2.2	25.17	2.0	25.25	1.8
25.33	1.5	25.42	1.4	25.50	1.2	25.58	1.0
25.67	0.9	25.75	0.8	25.83	0.7	25.92	0.6
26.00	0.5	26.08	0.5	26.17	0.4	26.25	0.3
26.33	0.3	26.42	0.3	26.50	0.2	26.58	0.2
26.67	0.2	26.75	0.1	26.83	0.1	26.92	0.1
27.00	0.1	27.08	0.1	27.17	0.1	27.25	0.1
27.33	0.1	27.42	0.0	27.50	0.0	27.58	0.0
27.67	0.0	27.75	0.0	27.83	0.0	27.92	0.0
28.00	0.0	28.08	0.0	28.17	0.0	28.25	0.0
28.33	0.0	28.42	0.0	28.50	0.0	28.58	0.0
28.67	0.0	28.75	0.0	28.83	0.0	28.92	0.0
29.00	0.0	29.08	0.0	29.17	0.0	29.25	0.0
29.33	0.0	29.42	0.0	29.50	0.0	29.58	0.0

TIME TO PEAK = 13.00 HOURS
PEAK RUNOFF = 90.79 C.F.S.

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HYDROGRAPH RESERVOIR ROUTING

BASIN IDENTIFIER SR 535 \ I -4 INTERCHANGE
POND IDENTIFIER SR 535 \ I - 4 INTERCHANGE
25 YEAR STORM FREQUENCY

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
6.17	0.0	0.1	0.0	0.0	0.1	0.0	0.1	107.00
6.25	0.1	0.1	0.1	0.0	0.2	0.0	0.2	107.00
6.33	0.1	0.1	0.2	0.0	0.3	0.0	0.3	107.00
6.42	0.1	0.1	0.3	0.0	0.5	0.0	0.5	107.00
6.50	0.1	0.1	0.5	0.0	0.8	0.0	0.8	107.00
6.58	0.1	0.2	0.8	0.0	1.1	0.0	1.1	107.00
6.67	0.2	0.2	1.1	0.0	1.4	0.0	1.4	107.00
6.75	0.2	0.2	1.4	0.0	1.8	0.0	1.8	107.00
6.83	0.2	0.3	1.8	0.0	2.3	0.0	2.3	107.00
6.92	0.3	0.3	2.3	0.0	2.9	0.0	2.8	107.00
7.00	0.3	0.4	2.8	0.0	3.5	0.0	3.5	107.00
7.08	0.4	0.4	3.5	0.0	4.2	0.0	4.2	107.00
7.17	0.4	0.5	4.2	0.0	5.0	0.0	5.0	107.00
7.25	0.5	0.5	5.0	0.0	5.9	0.0	5.9	107.00
7.33	0.5	0.6	5.9	0.0	6.9	0.0	6.9	107.00
7.42	0.6	0.6	6.9	0.0	8.0	0.1	7.9	107.00
7.50	0.6	0.7	7.9	0.1	9.2	0.1	9.1	107.00
7.58	0.7	0.7	9.1	0.1	10.4	0.1	10.3	107.00
7.67	0.7	0.8	10.3	0.1	11.7	0.1	11.7	107.00
7.75	0.8	0.8	11.7	0.1	13.2	0.1	13.1	107.01
7.83	0.8	0.9	13.1	0.1	14.7	0.1	14.6	107.01
7.92	0.9	0.9	14.6	0.1	16.3	0.1	16.2	107.01
8.00	0.9	1.0	16.2	0.1	18.0	0.1	17.9	107.01
8.08	1.0	1.0	17.9	0.1	19.8	0.1	19.6	107.01
8.17	1.0	1.1	19.6	0.1	21.6	0.1	21.5	107.01
8.25	1.1	1.1	21.5	0.1	23.5	0.2	23.4	107.01
8.33	1.1	1.2	23.4	0.2	25.6	0.2	25.4	107.01
8.42	1.2	1.2	25.4	0.2	27.7	0.2	27.5	107.01
8.50	1.2	1.3	27.5	0.2	29.8	0.2	29.6	107.01
8.58	1.3	1.4	29.6	0.2	32.1	0.2	31.9	107.01
8.67	1.4	1.4	31.9	0.2	34.5	0.2	34.2	107.01
8.75	1.4	1.5	34.2	0.2	36.9	0.2	36.7	107.02
8.83	1.5	1.6	36.7	0.2	39.5	0.3	39.3	107.02
8.92	1.6	1.7	39.3	0.3	42.3	0.3	42.0	107.02
9.00	1.7	1.8	42.0	0.3	45.1	0.3	44.9	107.02
9.08	1.8	1.9	44.9	0.3	48.2	0.3	47.9	107.02
9.17	1.9	1.9	47.9	0.3	51.3	0.3	51.0	107.02

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POND IDENTIFIER SR 535 \ I - 4 INTERCHANGE
25 YEAR STORM FREQUENCY (CONT'D)

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
9.25	1.9	2.1	51.0	0.3	54.7	0.4	54.3	107.02
9.33	2.1	2.2	54.3	0.4	58.2	0.4	57.8	107.02
9.42	2.2	2.3	57.8	0.4	61.9	0.4	61.5	107.03
9.50	2.3	2.4	61.5	0.4	65.8	0.4	65.3	107.03
9.58	2.4	2.5	65.3	0.4	69.8	0.5	69.3	107.03
9.67	2.5	2.6	69.3	0.5	74.0	0.5	73.5	107.03
9.75	2.6	2.7	73.5	0.5	78.4	0.5	77.9	107.03
9.83	2.7	2.9	77.9	0.5	83.0	0.5	82.5	107.03
9.92	2.9	3.0	82.5	0.5	87.8	0.6	87.3	107.04
10.00	3.0	3.1	87.3	0.6	92.8	0.6	92.2	107.04
10.08	3.1	3.3	92.2	0.6	98.0	0.6	97.4	107.04
10.17	3.3	3.4	97.4	0.6	103.4	0.7	102.8	107.04
10.25	3.4	3.6	102.8	0.7	109.1	0.7	108.4	107.04
10.33	3.6	3.7	108.4	0.7	114.9	0.7	114.2	107.05
10.42	3.7	3.9	114.2	0.7	121.0	0.8	120.2	107.05
10.50	3.9	4.0	120.2	0.8	127.4	0.8	126.5	107.05
10.58	4.0	4.2	126.5	0.8	133.9	0.9	133.1	107.05
10.67	4.2	4.4	133.1	0.9	140.8	0.9	139.9	107.06
10.75	4.4	4.6	139.9	0.9	148.0	1.0	147.0	107.06
10.83	4.6	4.8	147.0	1.0	155.4	1.0	154.4	107.06
10.92	4.8	5.1	154.4	1.0	163.3	1.1	162.3	107.07
11.00	5.1	5.3	162.3	1.1	171.6	1.1	170.5	107.07
11.08	5.3	5.6	170.5	1.1	180.3	1.2	179.2	107.07
11.17	5.6	6.0	179.2	1.2	189.6	1.2	188.4	107.08
11.25	6.0	6.4	188.4	1.2	199.5	1.3	198.2	107.08
11.33	6.4	6.8	198.2	1.3	210.1	1.4	208.8	107.09
11.42	6.8	7.3	208.8	1.4	221.5	1.4	220.1	107.09
11.50	7.3	7.8	220.1	1.4	233.8	1.5	232.3	107.09
11.58	7.8	8.4	232.3	1.5	247.0	1.6	245.4	107.10
11.67	8.4	9.3	245.4	1.6	261.5	1.7	259.8	107.11
11.75	9.3	10.1	259.8	1.7	277.5	1.8	275.7	107.11
11.83	10.1	11.6	275.7	1.8	295.6	1.9	293.7	107.12
11.92	11.6	13.3	293.7	1.9	316.7	2.0	314.6	107.13
12.00	13.3	16.0	314.6	2.0	341.9	2.2	339.7	107.14
12.08	16.0	20.5	339.7	2.2	374.0	2.4	371.6	107.15
12.17	20.5	25.0	371.6	2.4	414.6	2.7	411.9	107.17
12.25	25.0	32.3	411.9	2.7	466.5	3.0	463.5	107.19

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25 YEAR STORM FREQUENCY (CONT'D)

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
12.33	32.3	39.9	463.5	3.0	532.7	3.4	529.3	107.22
12.42	39.9	48.6	529.3	3.4	614.4	4.0	610.4	107.25
12.50	48.6	58.4	610.4	4.0	713.5	4.6	708.9	107.29
12.58	58.4	67.8	708.9	4.6	830.4	5.4	825.1	107.34
12.67	67.8	75.3	825.1	5.4	962.8	6.2	956.5	107.39
12.75	75.3	82.8	956.5	6.2	1108.4	7.2	1101.3	107.45
12.83	82.8	86.7	1101.3	7.2	1263.7	8.3	1255.4	107.51
12.92	86.7	89.5	1255.4	8.3	1423.3	10.2	1413.1	107.58
13.00	89.5	90.8	1413.1	10.2	1583.3	12.0	1571.3	107.64
13.08	90.8	89.5	1571.3	12.0	1739.5	13.8	1725.7	107.70
13.17	89.5	88.2	1725.7	13.8	1889.6	15.6	1874.0	107.76
13.25	88.2	84.2	1874.0	15.6	2030.9	17.2	2013.7	107.82
13.33	84.2	80.2	2013.7	17.2	2161.0	18.7	2142.3	107.87
13.42	80.2	75.2	2142.3	18.7	2279.1	20.1	2259.0	107.92
13.50	75.2	69.6	2259.0	20.1	2383.8	21.3	2362.5	107.96
13.58	69.6	64.0	2362.5	21.3	2474.8	22.3	2452.5	107.99
13.67	64.0	58.9	2452.5	22.3	2553.1	23.4	2529.7	108.03
13.75	58.9	53.9	2529.7	23.4	2619.1	24.4	2594.7	108.05
13.83	53.9	49.7	2594.7	24.4	2673.9	25.2	2648.7	108.07
13.92	49.7	45.9	2648.7	25.2	2719.1	25.9	2693.2	108.09
14.00	45.9	42.3	2693.2	25.9	2755.6	26.4	2729.2	108.10
14.08	42.3	39.3	2729.2	26.4	2784.5	26.8	2757.7	108.12
14.17	39.3	36.4	2757.7	26.8	2806.6	27.1	2779.4	108.12
14.25	36.4	33.9	2779.4	27.1	2822.5	27.4	2795.2	108.13
14.33	33.9	31.4	2795.2	27.4	2833.1	27.5	2805.6	108.13
14.42	31.4	29.3	2805.6	27.5	2838.8	27.6	2811.1	108.14
14.50	29.3	27.3	2811.1	27.6	2840.2	27.6	2812.5	108.14
14.58	27.3	25.5	2812.5	27.6	2837.7	27.6	2810.1	108.14
14.67	25.5	23.9	2810.1	27.6	2831.9	27.5	2804.4	108.13
14.75	23.9	22.4	2804.4	27.5	2823.2	27.4	2795.8	108.13
14.83	22.4	21.1	2795.8	27.4	2811.9	27.2	2784.7	108.13
14.92	21.1	19.8	2784.7	27.2	2798.3	27.0	2771.3	108.12
15.00	19.8	18.7	2771.3	27.0	2782.8	26.8	2756.0	108.11
15.08	18.7	17.7	2756.0	26.8	2765.5	26.5	2739.0	108.11
15.17	17.7	16.7	2739.0	26.5	2746.8	26.3	2720.5	108.10
15.25	16.7	15.9	2720.5	26.3	2726.7	26.0	2700.8	108.09
15.33	15.9	15.0	2700.8	26.0	2705.7	25.7	2680.0	108.08

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25 YEAR STORM FREQUENCY (CONT'D)

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
15.42	15.0	14.3	2680.0	25.7	2683.8	25.3	2658.4	108.08
15.50	14.3	13.7	2658.4	25.3	2661.1	25.0	2636.1	108.07
15.58	13.7	13.1	2636.1	25.0	2637.8	24.7	2613.2	108.06
15.67	13.1	12.5	2613.2	24.7	2614.1	24.3	2589.8	108.05
15.75	12.5	12.0	2589.8	24.3	2590.0	24.0	2566.1	108.04
15.83	12.0	11.6	2566.1	24.0	2565.7	23.6	2542.1	108.03
15.92	11.6	11.2	2542.1	23.6	2541.3	23.3	2518.0	108.02
16.00	11.2	10.8	2518.0	23.2	2516.8	22.9	2493.9	108.01
16.08	10.8	10.5	2493.9	22.9	2492.3	22.5	2469.7	108.00
16.17	10.5	10.1	2469.7	22.5	2467.8	22.2	2445.6	107.99
16.25	10.1	9.9	2445.6	22.2	2443.4	22.0	2421.4	107.98
16.33	9.9	9.6	2421.4	22.0	2418.9	21.7	2397.3	107.97
16.42	9.6	9.3	2397.3	21.7	2394.5	21.4	2373.1	107.96
16.50	9.3	9.1	2373.1	21.4	2370.2	21.1	2349.1	107.95
16.58	9.1	8.9	2349.1	21.1	2345.9	20.8	2325.1	107.94
16.67	8.9	8.7	2325.1	20.8	2321.8	20.5	2301.3	107.93
16.75	8.7	8.5	2301.3	20.5	2297.9	20.3	2277.6	107.92
16.83	8.5	8.3	2277.6	20.3	2274.2	20.0	2254.2	107.91
16.92	8.3	8.2	2254.2	20.0	2250.7	19.7	2230.9	107.91
17.00	8.2	8.0	2230.9	19.7	2227.4	19.5	2208.0	107.90
17.08	8.0	7.9	2208.0	19.5	2204.4	19.2	2185.2	107.89
17.17	7.9	7.8	2185.2	19.2	2181.8	18.9	2162.8	107.88
17.25	7.8	7.7	2162.8	18.9	2159.4	18.7	2140.7	107.87
17.33	7.7	7.6	2140.7	18.7	2137.3	18.4	2118.9	107.86
17.42	7.6	7.5	2118.9	18.4	2115.5	18.2	2097.3	107.85
17.50	7.5	7.3	2097.3	18.2	2094.0	17.9	2076.1	107.84
17.58	7.3	7.2	2076.1	17.9	2072.7	17.7	2055.1	107.83
17.67	7.2	7.1	2055.1	17.7	2051.8	17.4	2034.4	107.83
17.75	7.1	7.0	2034.4	17.4	2031.1	17.2	2013.9	107.82
17.83	7.0	7.0	2013.9	17.2	2010.7	17.0	1993.8	107.81
17.92	7.0	6.9	1993.8	17.0	1990.6	16.7	1973.9	107.80
18.00	6.9	6.8	1973.9	16.7	1970.8	16.5	1954.3	107.79
18.08	6.8	6.7	1954.3	16.5	1951.3	16.3	1935.1	107.79
18.17	6.7	6.6	1935.1	16.3	1932.1	16.0	1916.1	107.78
18.25	6.6	6.6	1916.1	16.0	1913.2	15.8	1897.4	107.77
18.33	6.6	6.5	1897.4	15.8	1894.6	15.6	1879.0	107.76
18.42	6.5	6.4	1879.0	15.6	1876.3	15.4	1860.9	107.76

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
18.50	6.4	6.3	1860.9	15.4	1858.2	15.2	1843.0	107.75
18.58	6.3	6.2	1843.0	15.2	1840.4	15.0	1825.4	107.74
18.67	6.2	6.1	1825.4	15.0	1822.8	14.8	1808.0	107.74
18.75	6.1	6.0	1808.0	14.8	1805.4	14.6	1790.8	107.73
18.83	6.0	5.9	1790.8	14.6	1788.2	14.4	1773.8	107.72
18.92	5.9	5.8	1773.8	14.4	1771.2	14.2	1757.1	107.71
19.00	5.8	5.8	1757.1	14.2	1754.5	14.0	1740.5	107.71
19.08	5.8	5.7	1740.5	14.0	1737.9	13.8	1724.1	107.70
19.17	5.7	5.6	1724.1	13.8	1721.6	13.6	1708.0	107.70
19.25	5.6	5.5	1708.0	13.6	1705.5	13.4	1692.1	107.69
19.33	5.5	5.5	1692.1	13.4	1689.6	13.2	1676.4	107.68
19.42	5.5	5.4	1676.4	13.2	1674.0	13.1	1660.9	107.68
19.50	5.4	5.4	1660.9	13.1	1658.6	12.9	1645.7	107.67
19.58	5.4	5.3	1645.7	12.9	1643.5	12.7	1630.8	107.66
19.67	5.3	5.3	1630.8	12.7	1628.7	12.5	1616.1	107.66
19.75	5.3	5.2	1616.1	12.5	1614.1	12.4	1601.7	107.65
19.83	5.2	5.2	1601.7	12.4	1599.8	12.2	1587.6	107.65
19.92	5.2	5.2	1587.6	12.2	1585.8	12.0	1573.8	107.64
20.00	5.2	5.2	1573.8	12.0	1572.1	11.9	1560.2	107.64
20.08	5.2	5.1	1560.2	11.9	1558.6	11.7	1546.9	107.63
20.17	5.1	5.1	1546.9	11.7	1545.4	11.6	1533.9	107.63
20.25	5.1	5.1	1533.9	11.6	1532.5	11.4	1521.0	107.62
20.33	5.1	5.0	1521.0	11.4	1519.7	11.3	1508.5	107.61
20.42	5.0	5.0	1508.5	11.3	1507.2	11.1	1496.1	107.61
20.50	5.0	4.9	1496.1	11.1	1494.8	11.0	1483.8	107.60
20.58	4.9	4.9	1483.8	11.0	1482.6	10.9	1471.8	107.60
20.67	4.9	4.8	1471.8	10.9	1470.6	10.7	1459.8	107.60
20.75	4.8	4.7	1459.8	10.7	1458.6	10.6	1448.0	107.59
20.83	4.7	4.6	1448.0	10.6	1446.8	10.4	1436.3	107.59
20.92	4.6	4.5	1436.3	10.4	1435.0	10.3	1424.7	107.58
21.00	4.5	4.5	1424.7	10.3	1423.4	10.2	1413.3	107.58
21.08	4.5	4.4	1413.3	10.2	1411.9	10.0	1401.9	107.57
21.17	4.4	4.3	1401.9	10.0	1400.5	9.9	1390.6	107.57
21.25	4.3	4.2	1390.6	9.9	1389.3	9.8	1379.5	107.56
21.33	4.2	4.2	1379.5	9.8	1378.2	9.6	1368.5	107.56
21.42	4.2	4.1	1368.5	9.6	1367.2	9.5	1357.7	107.55
1.50	4.1	4.1	1357.7	9.5	1356.3	9.4	1347.0	107.55

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
21.58	4.1	4.0	1347.0	9.4	1345.7	9.3	1336.4	107.55
21.67	4.0	4.0	1336.4	9.3	1335.2	9.1	1326.1	107.54
21.75	4.0	4.0	1326.1	9.1	1324.9	9.0	1315.9	107.54
21.83	4.0	4.0	1315.9	9.0	1314.8	8.9	1305.9	107.53
21.92	4.0	3.9	1305.9	8.9	1304.9	8.8	1296.1	107.53
22.00	3.9	3.9	1296.1	8.8	1295.1	8.7	1286.4	107.53
22.08	3.9	3.9	1286.4	8.7	1285.6	8.6	1277.0	107.52
22.17	3.9	3.9	1277.0	8.6	1276.2	8.5	1267.7	107.52
22.25	3.9	3.9	1267.7	8.5	1267.0	8.4	1258.7	107.51
22.33	3.9	3.9	1258.7	8.4	1258.0	8.3	1249.8	107.51
22.42	3.9	3.9	1249.8	8.3	1249.3	8.2	1241.1	107.51
22.50	3.9	3.8	1241.1	8.2	1240.6	8.1	1232.6	107.50
22.58	3.8	3.8	1232.6	8.1	1232.2	8.0	1224.3	107.50
22.67	3.8	3.8	1224.3	8.0	1224.0	7.9	1216.1	107.50
22.75	3.8	3.8	1216.1	7.9	1215.8	7.8	1208.0	107.49
22.83	3.8	3.8	1208.0	7.8	1207.8	7.8	1200.0	107.49
22.92	3.8	3.8	1200.0	7.8	1199.8	7.7	1192.1	107.49
23.00	3.8	3.8	1192.1	7.7	1192.0	7.7	1184.3	107.48
23.08	3.8	3.8	1184.3	7.7	1184.2	7.6	1176.6	107.48
23.17	3.8	3.8	1176.6	7.6	1176.6	7.6	1169.0	107.48
23.25	3.8	3.8	1169.0	7.6	1169.0	7.5	1161.5	107.47
23.33	3.8	3.8	1161.5	7.5	1161.5	7.5	1154.0	107.47
23.42	3.8	3.8	1154.0	7.5	1154.1	7.4	1146.7	107.47
23.50	3.8	3.8	1146.7	7.4	1146.9	7.4	1139.5	107.47
23.58	3.8	3.8	1139.5	7.4	1139.7	7.4	1132.3	107.46
23.67	3.8	3.8	1132.3	7.4	1132.6	7.3	1125.2	107.46
23.75	3.8	3.8	1125.2	7.3	1125.5	7.3	1118.3	107.46
23.83	3.8	3.8	1118.3	7.3	1118.6	7.2	1111.4	107.45
23.92	3.8	3.8	1111.4	7.2	1111.8	7.2	1104.6	107.45
24.00	3.8	3.8	1104.6	7.2	1105.0	7.1	1097.9	107.45
24.08	3.8	3.8	1097.9	7.1	1098.3	7.1	1091.3	107.45
24.17	3.8	3.8	1091.3	7.1	1091.7	7.0	1084.7	107.44
24.25	3.8	3.7	1084.7	7.0	1085.1	7.0	1078.1	107.44
24.33	3.7	3.7	1078.1	7.0	1078.6	7.0	1071.6	107.44
24.42	3.7	3.6	1071.6	7.0	1072.0	6.9	1065.1	107.44
24.50	3.6	3.5	1065.1	6.9	1065.3	6.9	1058.4	107.43
21.58	3.5	3.4	1058.4	6.9	1058.5	6.8	1051.6	107.43

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
24.67	3.4	3.2	1051.6	6.8	1051.4	6.8	1044.6	107.43
24.75	3.2	3.1	1044.6	6.8	1044.2	6.7	1037.4	107.42
24.83	3.1	2.9	1037.4	6.7	1036.6	6.7	1029.9	107.42
24.92	2.9	2.6	1029.9	6.7	1028.8	6.6	1022.1	107.42
25.00	2.6	2.4	1022.1	6.6	1020.5	6.6	1014.0	107.41
25.08	2.4	2.2	1014.0	6.6	1012.0	6.5	1005.4	107.41
25.17	2.2	2.0	1005.4	6.5	1003.1	6.5	996.6	107.41
25.25	2.0	1.8	996.6	6.5	993.9	6.4	987.4	107.40
25.33	1.8	1.5	987.4	6.4	984.3	6.4	978.0	107.40
25.42	1.5	1.4	978.0	6.4	974.5	6.3	968.2	107.40
25.50	1.4	1.2	968.2	6.3	964.5	6.2	958.3	107.39
25.58	1.2	1.0	958.3	6.2	954.3	6.2	948.1	107.39
25.67	1.0	0.9	948.1	6.2	943.9	6.1	937.8	107.38
25.75	0.9	0.8	937.8	6.1	933.4	6.0	927.4	107.38
25.83	0.8	0.7	927.4	6.0	922.8	6.0	916.9	107.37
25.92	0.7	0.6	916.9	6.0	912.2	5.9	906.3	107.37
26.00	0.6	0.5	906.3	5.9	901.5	5.8	895.7	107.37
26.08	0.5	0.5	895.7	5.8	890.9	5.7	885.1	107.36
26.17	0.5	0.4	885.1	5.7	880.2	5.7	874.6	107.36
26.25	0.4	0.3	874.6	5.7	869.6	5.6	864.0	107.35
26.33	0.3	0.3	864.0	5.6	859.0	5.5	853.5	107.35
26.42	0.3	0.3	853.5	5.5	848.5	5.5	843.0	107.34
26.50	0.3	0.2	843.0	5.5	838.1	5.4	832.6	107.34
26.58	0.2	0.2	832.6	5.4	827.7	5.3	822.3	107.34
26.67	0.2	0.2	822.3	5.3	817.4	5.3	812.1	107.33
26.75	0.2	0.1	812.1	5.3	807.1	5.2	801.9	107.33
26.83	0.1	0.1	801.9	5.2	797.0	5.1	791.8	107.32
26.92	0.1	0.1	791.8	5.1	787.0	5.1	781.9	107.32
27.00	0.1	0.1	781.9	5.1	777.0	5.0	772.0	107.32
27.08	0.1	0.1	772.0	5.0	767.2	5.0	762.2	107.31
27.17	0.1	0.1	762.2	5.0	757.4	4.9	752.5	107.31
27.25	0.1	0.1	752.5	4.9	747.8	4.8	743.0	107.30
27.33	0.1	0.1	743.0	4.8	738.3	4.8	733.5	107.30
27.42	0.1	0.0	733.5	4.8	728.8	4.7	724.1	107.30
27.50	0.0	0.0	724.1	4.7	719.5	4.6	714.9	107.29
27.58	0.0	0.0	714.9	4.6	710.3	4.6	705.7	107.29
27.67	0.0	0.0	705.7	4.6	701.2	4.5	696.7	107.28

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25 YEAR STORM FREQUENCY (CONT'D)

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
27.75	0.0	0.0	696.7	4.5	692.2	4.5	687.7	107.28
27.83	0.0	0.0	687.7	4.5	683.3	4.4	678.9	107.28
27.92	0.0	0.0	678.9	4.4	674.5	4.4	670.2	107.27
28.00	0.0	0.0	670.2	4.4	665.9	4.3	661.6	107.27
28.08	0.0	0.0	661.6	4.3	657.3	4.2	653.1	107.27
28.17	0.0	0.0	653.1	4.2	648.9	4.2	644.7	107.26
28.25	0.0	0.0	644.7	4.2	640.5	4.1	636.4	107.26
28.33	0.0	0.0	636.4	4.1	632.2	4.1	628.2	107.26
28.42	0.0	0.0	628.2	4.1	624.1	4.0	620.1	107.25
28.50	0.0	0.0	620.1	4.0	616.1	4.0	612.1	107.25
28.58	0.0	0.0	612.1	4.0	608.1	3.9	604.2	107.25
28.67	0.0	0.0	604.2	3.9	600.3	3.9	596.4	107.24
28.75	0.0	0.0	596.4	3.9	592.5	3.8	588.7	107.24
28.83	0.0	0.0	588.7	3.8	584.9	3.8	581.1	107.24
28.92	0.0	0.0	581.1	3.8	577.3	3.7	573.6	107.23
29.00	0.0	0.0	573.6	3.7	569.9	3.7	566.2	107.23
29.08	0.0	0.0	566.2	3.7	562.5	3.6	558.9	107.23
29.17	0.0	0.0	558.9	3.6	555.3	3.6	551.7	107.23
29.25	0.0	0.0	551.7	3.6	548.1	3.5	544.6	107.22
29.33	0.0	0.0	544.6	3.5	541.0	3.5	537.5	107.22
29.42	0.0	0.0	537.5	3.5	534.0	3.4	530.6	107.22
29.50	0.0	0.0	530.6	3.4	527.2	3.4	523.8	107.21
29.58	0.0	0.0	523.8	3.4	520.4	3.4	517.0	107.21
29.67	0.0	0.0	517.0	3.4	513.6	3.3	510.3	107.21
29.75	0.0	0.0	510.3	3.3	507.0	3.3	503.7	107.21
29.83	0.0	0.0	503.7	3.3	500.5	3.2	497.2	107.20
29.92	0.0	0.0	497.2	3.2	494.0	3.2	490.8	107.20
30.00	0.0	0.0	490.8	3.2	487.6	3.1	484.5	107.20
30.08	0.0	0.0	484.5	3.1	481.3	3.1	478.2	107.20
30.17	0.0	0.0	478.2	3.1	475.1	3.1	472.1	107.19
30.25	0.0	0.0	472.1	3.1	469.0	3.0	466.0	107.19
30.33	0.0	0.0	466.0	3.0	462.9	3.0	460.0	107.19
30.42	0.0	0.0	460.0	3.0	457.0	2.9	454.0	107.19
30.50	0.0	0.0	454.0	2.9	451.1	2.9	448.2	107.18
30.58	0.0	0.0	448.2	2.9	445.2	2.9	442.4	107.18
30.67	0.0	0.0	442.4	2.9	439.5	2.8	436.7	107.18
30.75	0.0	0.0	436.7	2.8	433.8	2.8	431.0	107.18

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25 YEAR STORM FREQUENCY (CONT'D)

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
30.83	0.0	0.0	431.0	2.8	428.2	2.8	425.5	107.17
30.92	0.0	0.0	425.5	2.8	422.7	2.7	420.0	107.17
31.00	0.0	0.0	420.0	2.7	417.2	2.7	414.6	107.17
31.08	0.0	0.0	414.6	2.7	411.9	2.7	409.2	107.17
31.17	0.0	0.0	409.2	2.7	406.5	2.6	403.9	107.17
31.25	0.0	0.0	403.9	2.6	401.3	2.6	398.7	107.16
31.33	0.0	0.0	398.7	2.6	396.1	2.6	393.6	107.16
31.42	0.0	0.0	393.6	2.6	391.0	2.5	388.5	107.16
31.50	0.0	0.0	388.5	2.5	386.0	2.5	383.5	107.16
31.58	0.0	0.0	383.5	2.5	381.0	2.5	378.5	107.15
31.67	0.0	0.0	378.5	2.5	376.1	2.4	373.6	107.15
31.75	0.0	0.0	373.6	2.4	371.2	2.4	368.8	107.15
31.83	0.0	0.0	368.8	2.4	366.4	2.4	364.1	107.15
31.92	0.0	0.0	364.1	2.4	361.7	2.3	359.4	107.15
32.00	0.0	0.0	359.4	2.3	357.0	2.3	354.7	107.14
32.08	0.0	0.0	354.7	2.3	352.4	2.3	350.1	107.14
32.17	0.0	0.0	350.1	2.3	347.9	2.2	345.6	107.14
32.25	0.0	0.0	345.6	2.2	343.4	2.2	341.2	107.14
32.33	0.0	0.0	341.2	2.2	338.9	2.2	336.8	107.14
32.42	0.0	0.0	336.8	2.2	334.6	2.2	332.4	107.14
32.50	0.0	0.0	332.4	2.2	330.3	2.1	328.1	107.13
32.58	0.0	0.0	328.1	2.1	326.0	2.1	323.9	107.13
32.67	0.0	0.0	323.9	2.1	321.8	2.1	319.7	107.13
32.75	0.0	0.0	319.7	2.1	317.6	2.0	315.6	107.13
32.83	0.0	0.0	315.6	2.0	313.5	2.0	311.5	107.13
32.92	0.0	0.0	311.5	2.0	309.5	2.0	307.5	107.13
33.00	0.0	0.0	307.5	2.0	305.5	2.0	303.5	107.12
33.08	0.0	0.0	303.5	2.0	301.5	1.9	299.6	107.12
33.17	0.0	0.0	299.6	1.9	297.7	1.9	295.7	107.12
33.25	0.0	0.0	295.7	1.9	293.8	1.9	291.9	107.12
33.33	0.0	0.0	291.9	1.9	290.0	1.9	288.2	107.12
33.42	0.0	0.0	288.2	1.9	286.3	1.8	284.4	107.12
33.50	0.0	0.0	284.4	1.8	282.6	1.8	280.8	107.11
33.58	0.0	0.0	280.8	1.8	278.9	1.8	277.1	107.11
33.67	0.0	0.0	277.1	1.8	275.3	1.8	273.6	107.11
33.75	0.0	0.0	273.6	1.8	271.8	1.8	270.0	107.11
33.83	0.0	0.0	270.0	1.8	268.3	1.7	266.5	107.11

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
33.92	0.0	0.0	266.5	1.7	264.8	1.7	263.1	107.11
34.00	0.0	0.0	263.1	1.7	261.4	1.7	259.7	107.11
34.08	0.0	0.0	259.7	1.7	258.0	1.7	256.4	107.10
34.17	0.0	0.0	256.4	1.7	254.7	1.6	253.1	107.10
34.25	0.0	0.0	253.1	1.6	251.4	1.6	249.8	107.10
34.33	0.0	0.0	249.8	1.6	248.2	1.6	246.6	107.10
34.42	0.0	0.0	246.6	1.6	245.0	1.6	243.4	107.10
34.50	0.0	0.0	243.4	1.6	241.8	1.6	240.2	107.10
34.58	0.0	0.0	240.2	1.6	238.7	1.5	237.1	107.10
34.67	0.0	0.0	237.1	1.5	235.6	1.5	234.1	107.10
34.75	0.0	0.0	234.1	1.5	232.6	1.5	231.1	107.09
34.83	0.0	0.0	231.1	1.5	229.6	1.5	228.1	107.09
34.92	0.0	0.0	228.1	1.5	226.6	1.5	225.1	107.09
35.00	0.0	0.0	225.1	1.5	223.7	1.4	222.2	107.09
35.08	0.0	0.0	222.2	1.4	220.8	1.4	219.4	107.09
35.17	0.0	0.0	219.4	1.4	217.9	1.4	216.5	107.09
35.25	0.0	0.0	216.5	1.4	215.1	1.4	213.7	107.09
35.33	0.0	0.0	213.7	1.4	212.3	1.4	211.0	107.09
35.42	0.0	0.0	211.0	1.4	209.6	1.4	208.3	107.09
35.50	0.0	0.0	208.3	1.4	206.9	1.3	205.6	107.08
35.58	0.0	0.0	205.6	1.3	204.2	1.3	202.9	107.08
35.67	0.0	0.0	202.9	1.3	201.6	1.3	200.3	107.08
35.75	0.0	0.0	200.3	1.3	199.0	1.3	197.7	107.08
35.83	0.0	0.0	197.7	1.3	196.4	1.3	195.2	107.08
35.92	0.0	0.0	195.2	1.3	193.9	1.3	192.6	107.08
36.00	0.0	0.0	192.6	1.3	191.4	1.2	190.1	107.08
36.08	0.0	0.0	190.1	1.2	188.9	1.2	187.7	107.08
36.17	0.0	0.0	187.7	1.2	186.5	1.2	185.3	107.08
36.25	0.0	0.0	185.3	1.2	184.1	1.2	182.9	107.07
36.33	0.0	0.0	182.9	1.2	181.7	1.2	180.5	107.07
36.42	0.0	0.0	180.5	1.2	179.3	1.2	178.2	107.07
36.50	0.0	0.0	178.2	1.2	177.0	1.1	175.9	107.07
36.58	0.0	0.0	175.9	1.1	174.8	1.1	173.6	107.07
36.67	0.0	0.0	173.6	1.1	172.5	1.1	171.4	107.07
36.75	0.0	0.0	171.4	1.1	170.3	1.1	169.2	107.07
36.83	0.0	0.0	169.2	1.1	168.1	1.1	167.0	107.07
36.92	0.0	0.0	167.0	1.1	165.9	1.1	164.8	107.07

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
37.00	0.0	0.0	164.8	1.1	163.8	1.1	162.7	107.07
37.08	0.0	0.0	162.7	1.1	161.6	1.0	160.6	107.07
37.17	0.0	0.0	160.6	1.0	159.6	1.0	158.5	107.06
37.25	0.0	0.0	158.5	1.0	157.5	1.0	156.5	107.06
37.33	0.0	0.0	156.5	1.0	155.5	1.0	154.5	107.06
37.42	0.0	0.0	154.5	1.0	153.5	1.0	152.5	107.06
37.50	0.0	0.0	152.5	1.0	151.5	1.0	150.5	107.06
37.58	0.0	0.0	150.5	1.0	149.5	1.0	148.6	107.06
37.67	0.0	0.0	148.6	1.0	147.6	1.0	146.6	107.06
37.75	0.0	0.0	146.6	1.0	145.7	0.9	144.8	107.06
37.83	0.0	0.0	144.8	0.9	143.8	0.9	142.9	107.06
37.92	0.0	0.0	142.9	0.9	142.0	0.9	141.0	107.06
38.00	0.0	0.0	141.0	0.9	140.1	0.9	139.2	107.06
38.08	0.0	0.0	139.2	0.9	138.3	0.9	137.4	107.06
38.17	0.0	0.0	137.4	0.9	136.5	0.9	135.6	107.06
38.25	0.0	0.0	135.6	0.9	134.8	0.9	133.9	107.05
38.33	0.0	0.0	133.9	0.9	133.0	0.9	132.2	107.05
38.42	0.0	0.0	132.2	0.9	131.3	0.8	130.5	107.05
38.50	0.0	0.0	130.5	0.8	129.6	0.8	128.8	107.05
38.58	0.0	0.0	128.8	0.8	127.9	0.8	127.1	107.05
38.67	0.0	0.0	127.1	0.8	126.3	0.8	125.5	107.05
38.75	0.0	0.0	125.5	0.8	124.7	0.8	123.9	107.05
38.83	0.0	0.0	123.9	0.8	123.1	0.8	122.3	107.05
38.92	0.0	0.0	122.3	0.8	121.5	0.8	120.7	107.05
39.00	0.0	0.0	120.7	0.8	119.9	0.8	119.1	107.05
39.08	0.0	0.0	119.1	0.8	118.4	0.8	117.6	107.05
39.17	0.0	0.0	117.6	0.8	116.8	0.8	116.1	107.05
39.25	0.0	0.0	116.1	0.8	115.3	0.7	114.6	107.05
39.33	0.0	0.0	114.6	0.7	113.8	0.7	113.1	107.05
39.42	0.0	0.0	113.1	0.7	112.4	0.7	111.6	107.05
39.50	0.0	0.0	111.6	0.7	110.9	0.7	110.2	107.05
39.58	0.0	0.0	110.2	0.7	109.5	0.7	108.8	107.04
39.67	0.0	0.0	108.8	0.7	108.1	0.7	107.4	107.04
39.75	0.0	0.0	107.4	0.7	106.7	0.7	106.0	107.04
39.83	0.0	0.0	106.0	0.7	105.3	0.7	104.6	107.04
39.92	0.0	0.0	104.6	0.7	103.9	0.7	103.3	107.04
40.00	0.0	0.0	103.3	0.7	102.6	0.7	101.9	107.04

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
40.08	0.0	0.0	101.9	0.7	101.3	0.7	100.6	107.04
40.17	0.0	0.0	100.6	0.7	100.0	0.6	99.3	107.04
40.25	0.0	0.0	99.3	0.6	98.7	0.6	98.0	107.04
40.33	0.0	0.0	98.0	0.6	97.4	0.6	96.8	107.04
40.42	0.0	0.0	96.8	0.6	96.1	0.6	95.5	107.04
40.50	0.0	0.0	95.5	0.6	94.9	0.6	94.3	107.04
40.58	0.0	0.0	94.3	0.6	93.7	0.6	93.1	107.04
40.67	0.0	0.0	93.1	0.6	92.5	0.6	91.9	107.04
40.75	0.0	0.0	91.9	0.6	91.3	0.6	90.7	107.04
40.83	0.0	0.0	90.7	0.6	90.1	0.6	89.5	107.04
40.92	0.0	0.0	89.5	0.6	88.9	0.6	88.4	107.04
41.00	0.0	0.0	88.4	0.6	87.8	0.6	87.2	107.04
41.08	0.0	0.0	87.2	0.6	86.7	0.6	86.1	107.04
41.17	0.0	0.0	86.1	0.6	85.5	0.6	85.0	107.03
41.25	0.0	0.0	85.0	0.6	84.4	0.5	83.9	107.03
41.33	0.0	0.0	83.9	0.5	83.3	0.5	82.8	107.03
41.42	0.0	0.0	82.8	0.5	82.3	0.5	81.7	107.03
41.50	0.0	0.0	81.7	0.5	81.2	0.5	80.7	107.03
41.58	0.0	0.0	80.7	0.5	80.2	0.5	79.6	107.03
41.67	0.0	0.0	79.6	0.5	79.1	0.5	78.6	107.03
41.75	0.0	0.0	78.6	0.5	78.1	0.5	77.6	107.03
41.83	0.0	0.0	77.6	0.5	77.1	0.5	76.6	107.03
41.92	0.0	0.0	76.6	0.5	76.1	0.5	75.6	107.03
42.00	0.0	0.0	75.6	0.5	75.1	0.5	74.6	107.03
42.08	0.0	0.0	74.6	0.5	74.1	0.5	73.7	107.03
42.17	0.0	0.0	73.7	0.5	73.2	0.5	72.7	107.03
42.25	0.0	0.0	72.7	0.5	72.2	0.5	71.8	107.03
42.33	0.0	0.0	71.8	0.5	71.3	0.5	70.9	107.03
42.42	0.0	0.0	70.9	0.5	70.4	0.5	69.9	107.03
42.50	0.0	0.0	69.9	0.5	69.5	0.4	69.0	107.03
42.58	0.0	0.0	69.0	0.4	68.6	0.4	68.1	107.03
42.67	0.0	0.0	68.1	0.4	67.7	0.4	67.3	107.03
42.75	0.0	0.0	67.3	0.4	66.8	0.4	66.4	107.03
42.83	0.0	0.0	66.4	0.4	66.0	0.4	65.5	107.03
42.92	0.0	0.0	65.5	0.4	65.1	0.4	64.7	107.03
43.00	0.0	0.0	64.7	0.4	64.3	0.4	63.9	107.03
43.08	0.0	0.0	63.9	0.4	63.4	0.4	63.0	107.03

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
43.17	0.0	0.0	63.0	0.4	62.6	0.4	62.2	107.03
43.25	0.0	0.0	62.2	0.4	61.8	0.4	61.4	107.03
43.33	0.0	0.0	61.4	0.4	61.0	0.4	60.6	107.02
43.42	0.0	0.0	60.6	0.4	60.2	0.4	59.8	107.02
43.50	0.0	0.0	59.8	0.4	59.5	0.4	59.1	107.02
43.58	0.0	0.0	59.1	0.4	58.7	0.4	58.3	107.02
43.67	0.0	0.0	58.3	0.4	57.9	0.4	57.6	107.02
43.75	0.0	0.0	57.6	0.4	57.2	0.4	56.8	107.02
43.83	0.0	0.0	56.8	0.4	56.4	0.4	56.1	107.02
43.92	0.0	0.0	56.1	0.4	55.7	0.4	55.4	107.02
4.00	0.0	0.0	55.4	0.4	55.0	0.4	54.6	107.02
4.08	0.0	0.0	54.6	0.4	54.3	0.4	53.9	107.02
44.17	0.0	0.0	53.9	0.4	53.6	0.3	53.2	107.02
44.25	0.0	0.0	53.2	0.3	52.9	0.3	52.6	107.02
44.33	0.0	0.0	52.6	0.3	52.2	0.3	51.9	107.02
44.42	0.0	0.0	51.9	0.3	51.5	0.3	51.2	107.02
44.50	0.0	0.0	51.2	0.3	50.9	0.3	50.5	107.02
44.58	0.0	0.0	50.5	0.3	50.2	0.3	49.9	107.02
44.67	0.0	0.0	49.9	0.3	49.6	0.3	49.2	107.02
44.75	0.0	0.0	49.2	0.3	48.9	0.3	48.6	107.02
44.83	0.0	0.0	48.6	0.3	48.3	0.3	48.0	107.02
44.92	0.0	0.0	48.0	0.3	47.7	0.3	47.4	107.02
45.00	0.0	0.0	47.4	0.3	47.1	0.3	46.8	107.02
45.08	0.0	0.0	46.8	0.3	46.5	0.3	46.2	107.02
45.17	0.0	0.0	46.2	0.3	45.9	0.3	45.6	107.02
45.25	0.0	0.0	45.6	0.3	45.3	0.3	45.0	107.02
45.33	0.0	0.0	45.0	0.3	44.7	0.3	44.4	107.02
45.42	0.0	0.0	44.4	0.3	44.1	0.3	43.8	107.02
45.50	0.0	0.0	43.8	0.3	43.5	0.3	43.2	107.02
45.58	0.0	0.0	43.2	0.3	43.0	0.3	42.7	107.02
45.67	0.0	0.0	42.7	0.3	42.4	0.3	42.1	107.02
45.75	0.0	0.0	42.1	0.3	41.9	0.3	41.6	107.02
45.83	0.0	0.0	41.6	0.3	41.3	0.3	41.1	107.02
45.92	0.0	0.0	41.1	0.3	40.8	0.3	40.5	107.02
46.00	0.0	0.0	40.5	0.3	40.3	0.3	40.0	107.02
46.08	0.0	0.0	40.0	0.3	39.7	0.3	39.5	107.02
6.17	0.0	0.0	39.5	0.3	39.2	0.3	39.0	107.02

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T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
46.25	0.0	0.0	39.0	0.3	38.7	0.2	38.5	107.02
46.33	0.0	0.0	38.5	0.2	38.2	0.2	38.0	107.02
46.42	0.0	0.0	38.0	0.2	37.7	0.2	37.5	107.02
46.50	0.0	0.0	37.5	0.2	37.2	0.2	37.0	107.02
46.58	0.0	0.0	37.0	0.2	36.8	0.2	36.5	107.01
46.67	0.0	0.0	36.5	0.2	36.3	0.2	36.1	107.01
46.75	0.0	0.0	36.1	0.2	35.8	0.2	35.6	107.01
46.83	0.0	0.0	35.6	0.2	35.4	0.2	35.1	107.01
46.92	0.0	0.0	35.1	0.2	34.9	0.2	34.7	107.01
47.00	0.0	0.0	34.7	0.2	34.5	0.2	34.2	107.01
47.08	0.0	0.0	34.2	0.2	34.0	0.2	33.8	107.01
47.17	0.0	0.0	33.8	0.2	33.6	0.2	33.4	107.01
47.25	0.0	0.0	33.4	0.2	33.1	0.2	32.9	107.01
47.33	0.0	0.0	32.9	0.2	32.7	0.2	32.5	107.01
47.42	0.0	0.0	32.5	0.2	32.3	0.2	32.1	107.01
47.50	0.0	0.0	32.1	0.2	31.9	0.2	31.7	107.01
47.58	0.0	0.0	31.7	0.2	31.5	0.2	31.3	107.01
47.67	0.0	0.0	31.3	0.2	31.1	0.2	30.9	107.01
47.75	0.0	0.0	30.9	0.2	30.7	0.2	30.5	107.01
47.83	0.0	0.0	30.5	0.2	30.3	0.2	30.1	107.01
47.92	0.0	0.0	30.1	0.2	29.9	0.2	29.7	107.01
48.00	0.0	0.0	29.7	0.2	29.5	0.2	29.3	107.01
48.08	0.0	0.0	29.3	0.2	29.1	0.2	28.9	107.01
48.17	0.0	0.0	28.9	0.2	28.7	0.2	28.5	107.01
48.25	0.0	0.0	28.5	0.2	28.4	0.2	28.2	107.01
48.33	0.0	0.0	28.2	0.2	28.0	0.2	27.8	107.01
48.42	0.0	0.0	27.8	0.2	27.6	0.2	27.4	107.01
48.50	0.0	0.0	27.4	0.2	27.3	0.2	27.1	107.01
48.58	0.0	0.0	27.1	0.2	26.9	0.2	26.7	107.01
48.67	0.0	0.0	26.7	0.2	26.6	0.2	26.4	107.01
48.75	0.0	0.0	26.4	0.2	26.2	0.2	26.1	107.01
48.83	0.0	0.0	26.1	0.2	25.9	0.2	25.7	107.01
48.92	0.0	0.0	25.7	0.2	25.6	0.2	25.4	107.01
49.00	0.0	0.0	25.4	0.2	25.2	0.2	25.1	107.01
49.08	0.0	0.0	25.1	0.2	24.9	0.2	24.7	107.01
49.17	0.0	0.0	24.7	0.2	24.6	0.2	24.4	107.01
9.25	0.0	0.0	24.4	0.2	24.3	0.2	24.1	107.01

ATLANTA, GEORGIA
MAY 29, 1992

HYDROLOGIC REPORT FOR

SR 535 \ I -4 INTERCHANGE

BASIN IDENTIFIER SR 535 \ I -4 INTERCHANGE
POND IDENTIFIER SR 535 \ I - 4 INTERCHANGE
25 YEAR STORM FREQUENCY (CONT'D)

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T	ELEV
49.33	0.0	0.0	24.1	0.2	23.9	0.2	23.8	107.01
49.42	0.0	0.0	23.8	0.2	23.6	0.2	23.5	107.01
49.50	0.0	0.0	23.5	0.2	23.3	0.2	23.2	107.01
49.58	0.0	0.0	23.2	0.2	23.0	0.1	22.9	107.01
49.67	0.0	0.0	22.9	0.1	22.7	0.1	22.6	107.01
49.75	0.0	0.0	22.6	0.1	22.4	0.1	22.3	107.01
49.83	0.0	0.0	22.3	0.1	22.2	0.1	22.0	107.01
49.92	0.0	0.0	22.0	0.1	21.9	0.1	21.7	107.01

TIME TO PEAK	=	14.50 HOURS
MAXIMUM DISCHARGE	=	27.636 C.F.S.
MAXIMUM STORAGE	=	421,877.3 CU.FT.
MAXIMUM ELEVATION	=	108.14 FEET
INFLOW VOLUME	=	846,222.6 CU.FT.
DISCHARGE VOLUME	=	842,963.6 CU.FT.

HYDROGRAPH RESERVOIR ROUTING

Historic Discharge At Control Point

2 YEAR STORM FREQUENCY

TIME TO PEAK	=	15.08 HOURS
MAXIMUM DISCHARGE	=	8.037 C.F.S.
MAXIMUM STORAGE	=	184,667.9 CU.FT.
MAXIMUM ELEVATION	=	107.50 FEET
INFLOW VOLUME	=	349,801.8 CU.FT.
DISCHARGE VOLUME	=	348,012.3 CU.FT.

∠ 16.06 cfs

5 YEAR STORM FREQUENCY

TIME TO PEAK	=	14.75 HOURS
MAXIMUM DISCHARGE	=	15.551 C.F.S.
MAXIMUM STORAGE	=	281,087.7 CU.FT.
MAXIMUM ELEVATION	=	107.76 FEET
INFLOW VOLUME	=	547,005.4 CU.FT.
DISCHARGE VOLUME	=	544,519.8 CU.FT.

∠ 24.44 cfs

10 YEAR STORM FREQUENCY

TIME TO PEAK	=	14.58 HOURS
MAXIMUM DISCHARGE	=	21.322 C.F.S.
MAXIMUM STORAGE	=	355,144.7 CU.FT.
MAXIMUM ELEVATION	=	107.96 FEET
INFLOW VOLUME	=	701,469.4 CU.FT.
DISCHARGE VOLUME	=	698,552.4 CU.FT.

∠ 31.77 cfs

25 YEAR STORM FREQUENCY

TIME TO PEAK	=	14.50 HOURS
MAXIMUM DISCHARGE	=	27.636 C.F.S.
MAXIMUM STORAGE	=	421,877.8 CU.FT.
MAXIMUM ELEVATION	=	108.14 FEET
INFLOW VOLUME	=	846,222.6 CU.FT.
DISCHARGE VOLUME	=	842,963.6 CU.FT.

∠ 39.10 cfs

50 YEAR STORM FREQUENCY

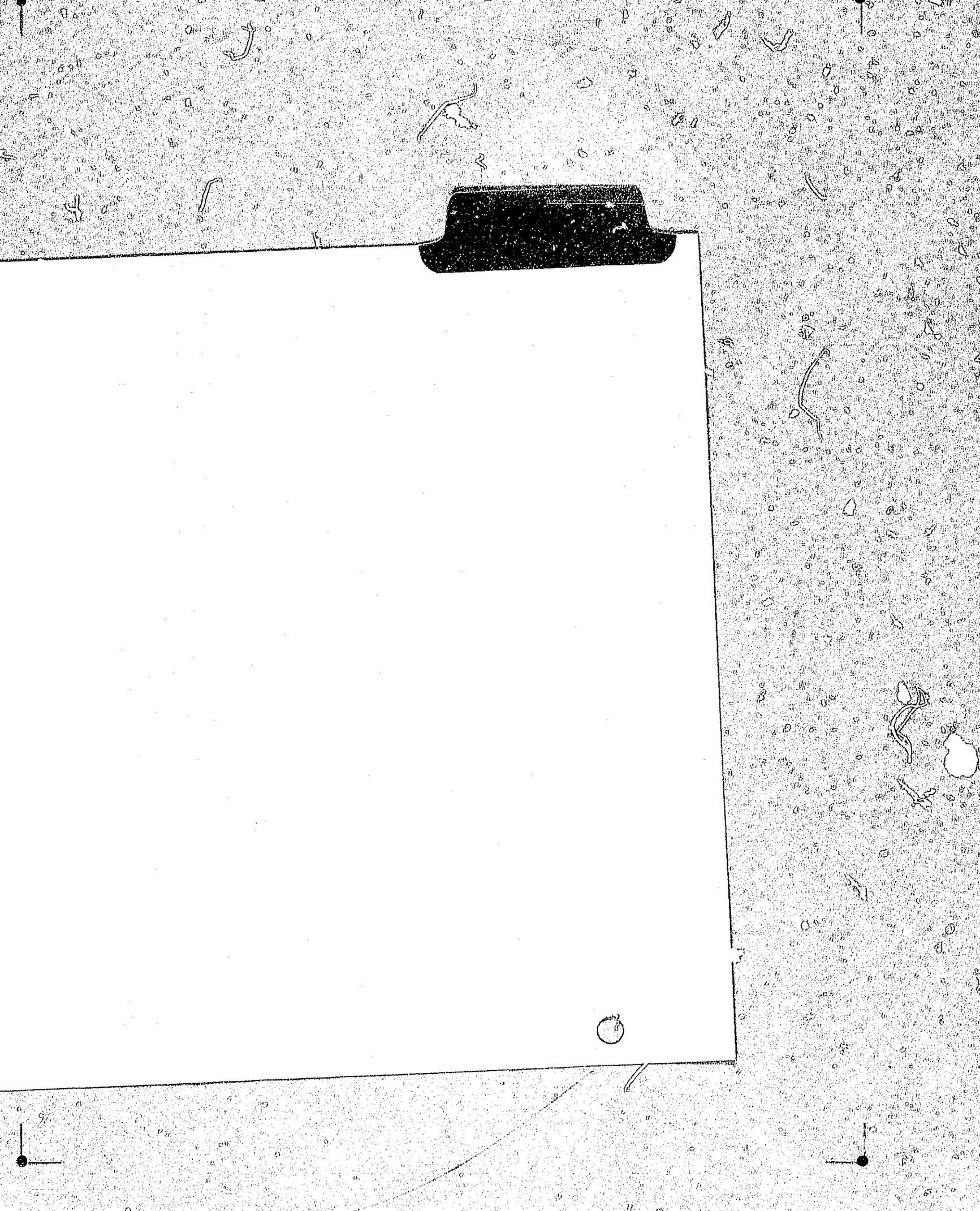
TIME TO PEAK	=	14.42 HOURS
MAXIMUM DISCHARGE	=	32.966 C.F.S.
MAXIMUM STORAGE	=	475,527.6 CU.FT.
MAXIMUM ELEVATION	=	108.28 FEET
INFLOW VOLUME	=	966,284.4 CU.FT.
DISCHARGE VOLUME	=	962,779.8 CU.FT.

∠ 45.04 cfs

100 YEAR STORM FREQUENCY

TIME TO PEAK	=	14.33 HOURS
MAXIMUM DISCHARGE	=	38.886 C.F.S.
MAXIMUM STORAGE	=	535,116.8 CU.FT.
MAXIMUM ELEVATION	=	108.44 FEET
INFLOW VOLUME	=	1,101,013.5 CU.FT.
DISCHARGE VOLUME	=	1,097,262.8 CU.FT.

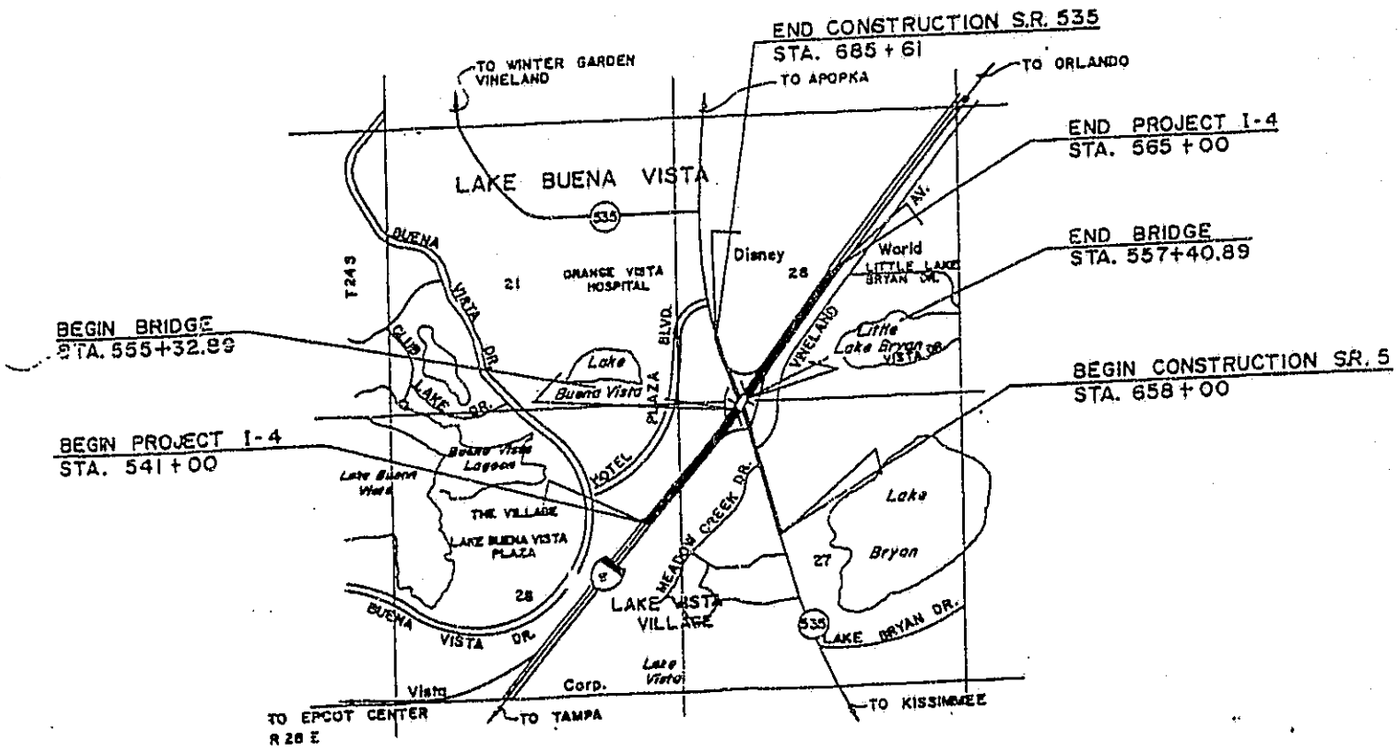
∠ 50.97 cfs



PROJECT DESCRIPTION

The proposed project is a modification to the existing I-4/SR 535 Interchange. The modification is to widen SR 535 to six (6) lanes through the interchange, add a loop ramp in southwest quadrant to serve as access for southbound SR 535 to eastbound I-4, reconstruct I-4 bridges over SR 535 and widen westbound I-4 off-ramp to SR 535 to create a two (2) lane off-ramp.

STATE ROAD NOS. 400(I-4) & 535



LOCATION SKETCH

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

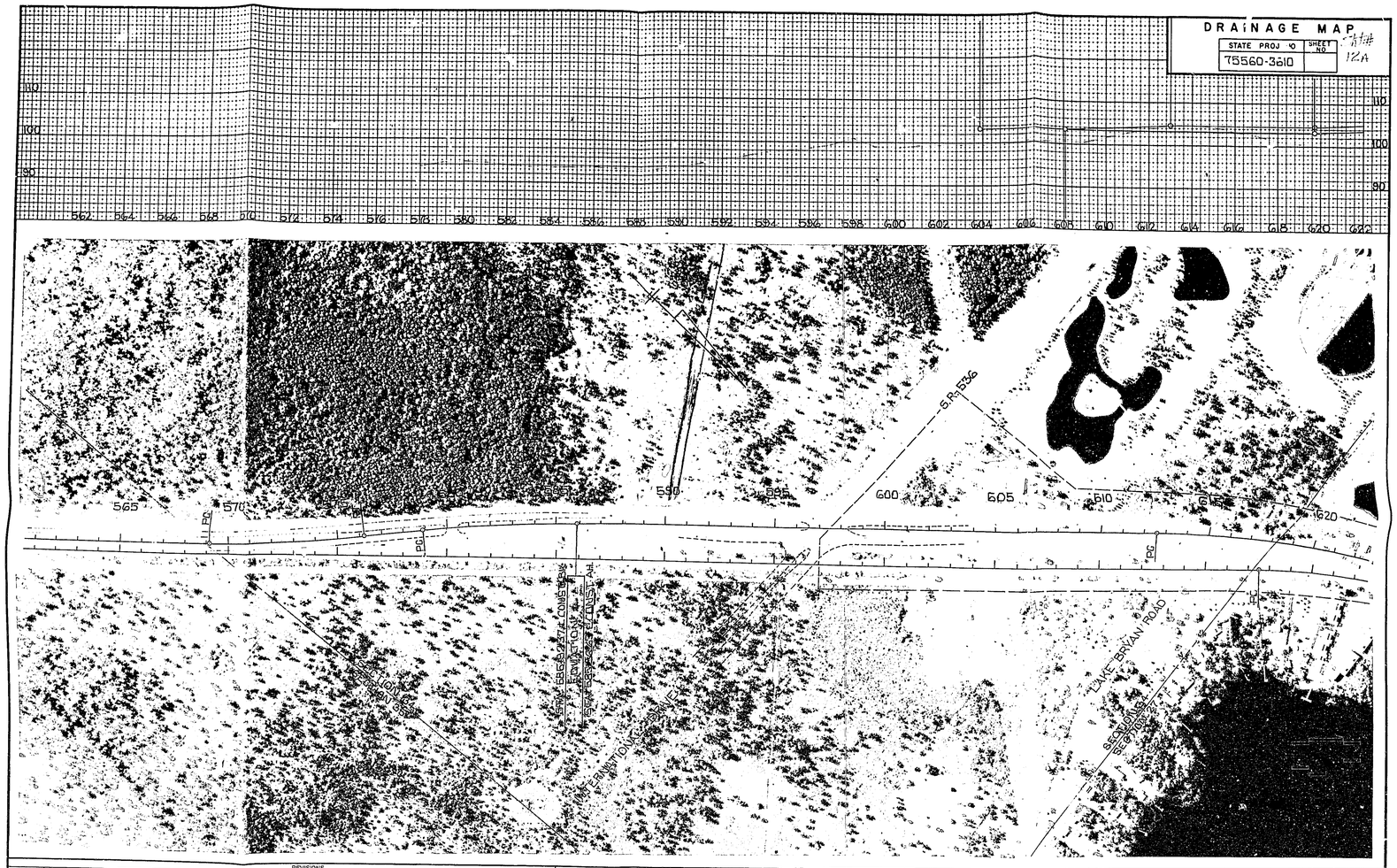
69
MAPS
FOR PERMIT #

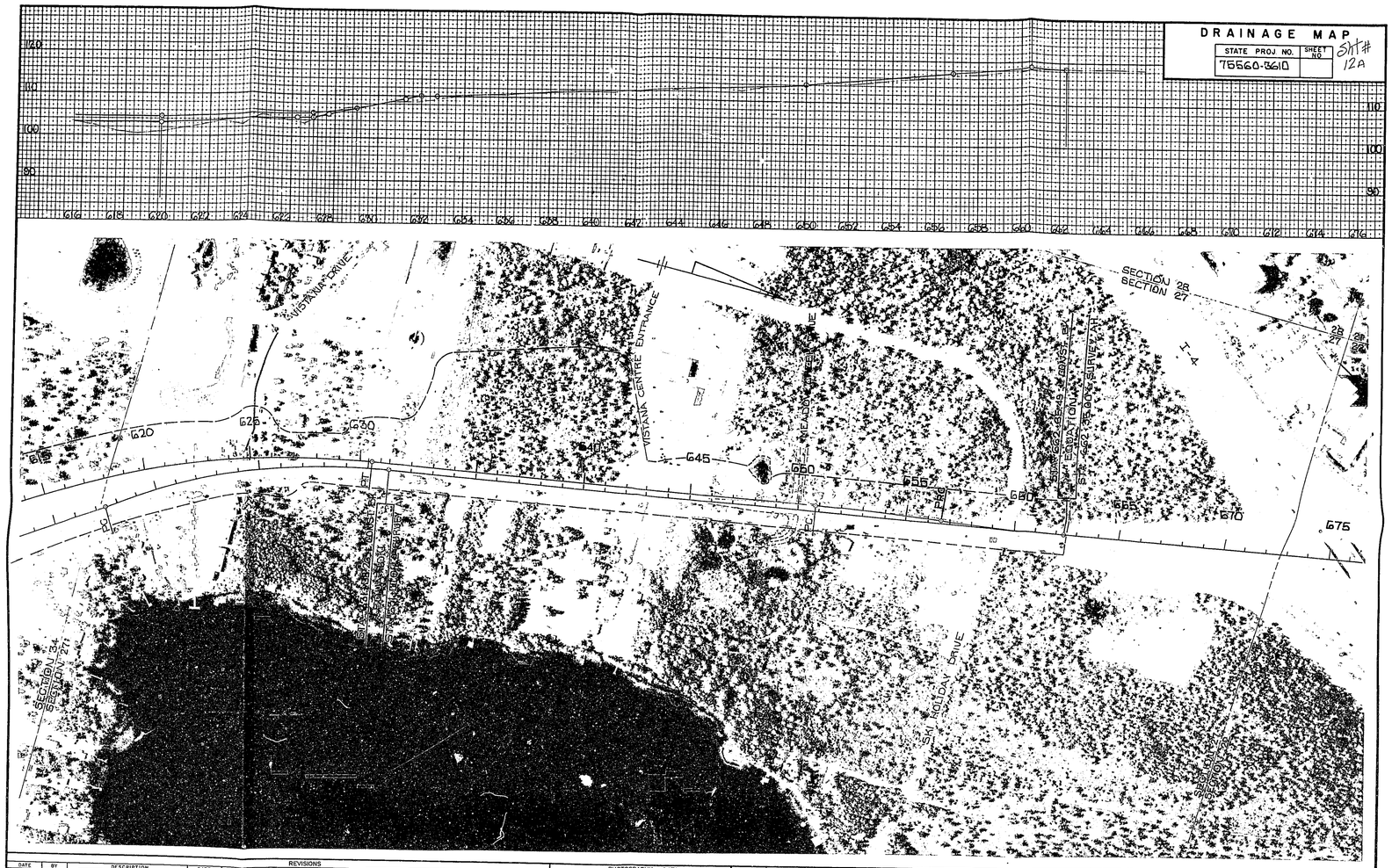
48-00592-S

DRAINAGE MAP

STATE PROJ NO	SHEET NO
75560-3610	

Sht # 12A


110
100
90
562 564 566 568 570 572 574 576 578 580 582 584 586 588 590 592 594 596 598 600 602 604 606 608 610 612 614 616 618 620 622
565
570
590
595
600
605
610
615
620
S.R. 556
PG
PG
PG


DRAINAGE MAP
STATE PROJ NO. 75560-3610
SHEET NO
Sht # 12A
VISTANA DRIVE
VISTANA CENTRE ENTRANCE
MEADOW WAY
SECTION 28
SECTION 27
SECTION 34
SECTION 21
SKI HOLIDAY DRIVE
SECTION 33
620
625
630
640
645
650
655
660
670
675
680
685
690
695
700
705
710
715
720
725
730
735
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755
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770
775
780
785
790
795
800
805
810
815
820
825
830
835
840
845
850
855
860
865

THIS CONTRACT PLANS SET INCLUDES:
ROADWAY PLANS
SIGNALIZATION PAVEMENT MARKING PLANS
SIGNALIZATION PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY

F.A. PROJ. NO. RS-5905(4)
[STATE PROJ. NO. 75560-3610]
ORANGE COUNTY
S.R. NO. 535

W.P.I. NO. 3124117

SHT. | NO. OF SHTS.
90 | 1

LOCATION OF PROJECT

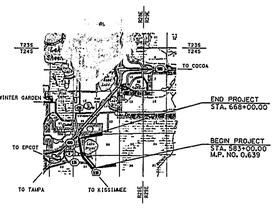
A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH GROUP OF PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-4	SUMMARY OF PAY ITEMS
5-6	TYPICAL SECTIONS
7-8	SUMMARY OF QUANTITIES
9	SUMMARY OF DRAINAGE STRUCTURES
10-13	PLAN AND PROFILE SHEETS
14-15	DRAINAGE MAP SHEETS
16-17	MAINTENANCE OF TRAFFIC DETAILS
18-19	INTERSECTION DETAILS
20	SIGNING DETAILS
21	PAVEMENT MARKING DETAIL
22	SIGNAL DETAIL
23-25	CROSS SECTIONS
26-27	RIGHT OF WAY SURVEY SHEETS
28-84	UTILITY ADJUSTMENT SHEETS

ROADWAY AND TRAFFIC DESIGN STANDARDS
(BOOKLET DATED JANUARY, 1990)

000	600	---
010	610	
102	611	
104	613	
120	620	
121	630	
122	650	
123	660	
124	670	
125	680	
126	681	
127	682	
128	683	
130	684	
140	685	
200	700	
201	711	
202	715	
204	716	



LENGTH OF PROJECT

	LENGTH P.C.	MILES
ROADWAY	8500.00	1.609
MEDIAN	8500.00	1.609
SIDE ROADWAY OF PROJ.	8500.00	1.609
EXCEPTIONS	0.00	0.000
(NORM LENGTH OF PROJ.)	8500.00	1.609

ROADWAY PLANS ENGINEER OF RECORD

GEORGE A. BORCHIK, P.E. FOR FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE
ORLANDO, FLORIDA 32803

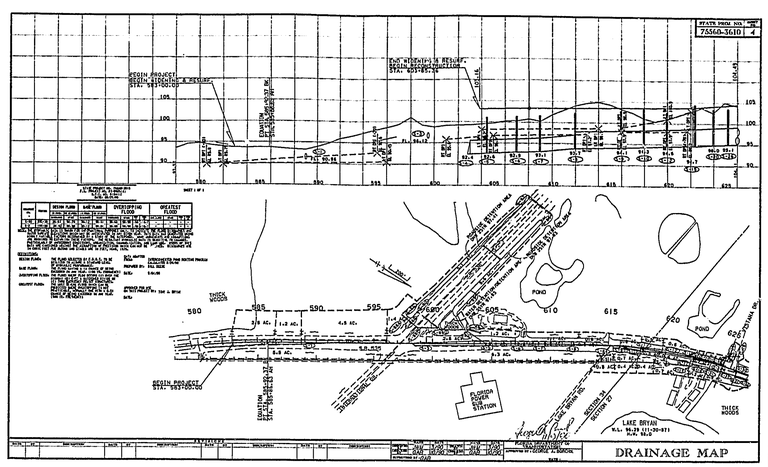
APPROVAL IS GIVEN TO THE FACT THAT THE PLANS PRESENTED HEREIN ARE IN GENERAL CONFORMITY WITH AASHTO STANDARDS.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1986 EDITION AND SUPPLEMENTAL SPECIFICATIONS THERETO IN EFFECT ON THE DATE OF ADVERTISEMENT FOR THIS PROJECT.

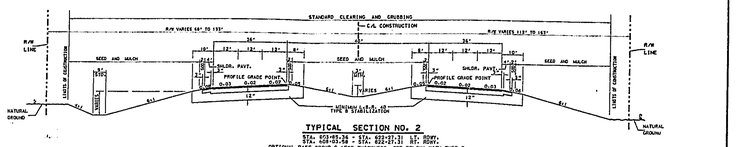
Federal Project Engineer No.: George A. Borchik, P.E.
Date: 11/9/90
F.E. No.: 40053

DESIGNER: JASON W. MCCRAY PROJECT MANAGER: GEORGE A. BORCHIK

48-00592-S


STATE PROJ. NO. 75560-3610 | SHT. 4
BEGIN PROJECT
STA. 583+00.00
END PROJECT
STA. 668+00.00
EXISTING R/W
EXISTING R/W
EXISTING R/W

STATE PROJ. NO. | SHEET NO.
7556D-3610 | 7



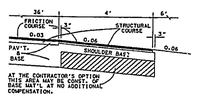
TYPICAL SECTION NO. 2

STA. 603+85.36 - STA. 622+37.31 LT. ROAD
STA. 603+85.36 - STA. 622+37.31 RT. ROAD

OPTIONAL BASE GROUP 5 (FOR THICKNESS, SEE BELOW) WITH TYPE S STRUCTURAL COURSE (1 1/2") AND FRICTION COURSE FC-2 (1.0 ")

OPTIONAL BASE COURSES PERMITTED	OPTION CODE
10" LIMEROCK BASE	990
6" ASPHALT BASE COURSE (TYPE 3)	327

FOR ADDITIONAL DETAILS SEE INDEX NOS. 500,511,513,515
DESIGN SPEED= 45 MPH



AT THE CONTRACTOR'S OPTION THIS AREA MAY BE CONSTRUCTED WITH BASE MAT'L AT NO ADDITIONAL COMPENSATION.

SHOULDER PAVEMENT DETAIL

OPTIONAL BASE GROUP 6 (FOR THICKNESS, SEE BELOW) WITH TYPE S STRUCTURAL COURSE (1 ") AND FRICTION COURSE FC-2 (0.0 ")

OPTIONAL BASE COURSES PERMITTED	OPTION CODE
4" LIMEROCK BASE	981
5" ASPHALT BASE COURSE (TYPE 1)	604
3" ASPHALT BASE COURSE (TYPE 2)	605
5" ASPHALT BASE COURSE (TYPE 3)	606

Hoyt G. Ford II 1/19/90

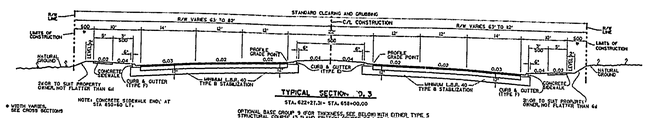
NOTE NO.	DESCRIPTION	DATE	BY
REVISIONS			

DESIGNED	1990	DRAWN	1990	FLORIDA DEPARTMENT OF TRANSPORTATION
CHECKED	1990	CHECKED	1990	APPROVED BY GENERAL ENGINEER
QUANTITIES BY	1990	CHECKED	1990	

TYPICAL SECTIONS

48-00592-S

STATE PROJ. NO. | SHEET NO.
7556D-3610 | 8



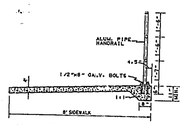
TYPICAL SECTION NO. 3

STA. 622+21.34 - STA. 650+00.00

OPTIONAL BASE GROUP 5 (FOR THICKNESS, SEE BELOW) WITH EITHER TYPE S STRUCTURAL COURSE (1 1/2") AND FRICTION COURSE FC-2 (1.0") OVER 1.5" TYPE S STRUCTURAL COURSE (1 1/2") AND FRICTION COURSE FC-2 (1.0") ALT. AB

OPTIONAL BASE COURSES PERMITTED	OPTION CODE
10" LIMEROCK BASE	990
6" ASPHALT BASE COURSE (TYPE 3)	327

FOR ADDITIONAL DETAILS SEE INDEX NOS. 500,505,511,513,515
DESIGN SPEED= 45 MPH



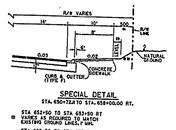
DETAIL OF ALUMINUM PIPE HANDRAIL

STA. 652+50 TO STA. 653+50 RT.

NOTE: STATIONING SHOWN ABOVE IS APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

EXTRA CONCRETE TO BE PAID FOR UNDER ITEM NO. 522-1 CONC. SIDEWALK 11" THICK

FOR ADDITIONAL DETAILS SEE INDEX NO. 520



SPECIAL DETAIL

STA. 630+70 AT TO STA. 638+00 RT.

STA. 652+50 TO STA. 653+50 RT
@ WIDTH AS REQUIRED TO MATCH EXISTING CROSS SLOPE/ GRADE

STA. 653+50 TO STA. 653+65 RT
@@ WIDTH VARIES AT REQUIRED TO MATCH EXISTING RIGHT FRONT OF WALL/SLOPE

Hoyt G. Ford II 1/19/90

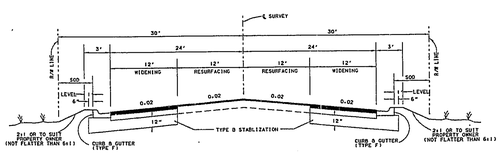
NOTE NO.	DESCRIPTION	DATE	BY
REVISIONS			

DESIGNED	1990	DRAWN	1990	FLORIDA DEPARTMENT OF TRANSPORTATION
CHECKED	1990	CHECKED	1990	APPROVED BY GENERAL ENGINEER
QUANTITIES BY	1990	CHECKED	1990	

TYPICAL SECTIONS

48-00592-S

STATE PROJ. NO. | SHEET NO.
7556D-3610 | 9



TYPICAL SECTION NO. 4

STA. 655+00.00 - STA. 668+00.00

RESURFACING

TYPE S OVERBUILD (1+1) (M/I) 19/12.5MM,SP,PG67-22, AVG. AND FRICTION COURSE FC-9.5 (M/I) 9.5MM,SP,PG67-22, AVG. AND INDUSTRIAL COURSE (25 LBS/S.Y. AVG. AND FRICTION COURSE FC-2.5 (0.6") ALT. AB

WIDENING

OPTIONAL BASE GROUP 9 (FOR THICKNESS, SEE BELOW) WITH EITHER TYPE S STRUCTURAL COURSE (1 1/2") AND FRICTION COURSE FC-2 (1.0") OR TYPE S STRUCTURAL COURSE (1 1/2") AND FRICTION COURSE FC-2 (0.6") ALT. AB

OPTIONAL BASE COURSES PERMITTED	OPTION CODE
10" LIMEROCK BASE	990
6" ASPHALT BASE COURSE (TYPE 3)	327

FOR ADDITIONAL DETAILS SEE INDEX NOS. 300,500,511,513,515
DESIGN SPEED= 45 MPH

Hoyt G. Ford II 1/19/90

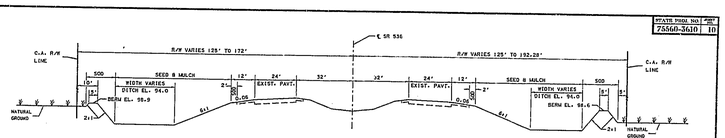
NOTE NO.	DESCRIPTION	DATE	BY
REVISIONS			

DESIGNED	1990	DRAWN	1990	FLORIDA DEPARTMENT OF TRANSPORTATION
CHECKED	1990	CHECKED	1990	APPROVED BY GENERAL ENGINEER
QUANTITIES BY	1990	CHECKED	1990	

TYPICAL SECTIONS

48-00592-S

STATE PROJ. NO. | SHEET NO.
7556D-3610 | 10



TYPICAL SECTION NO. 5

STA. 192+83.40 - STA. 203+84.84 LT ℄ SR 536
STA. 192+83.40 - STA. 207+40.00 RT ℄ SR 536

NOTE NO.	DESCRIPTION	DATE	BY
REVISIONS			

DESIGNED	1990	DRAWN	1990	FLORIDA DEPARTMENT OF TRANSPORTATION
CHECKED	1990	CHECKED	1990	APPROVED BY GENERAL ENGINEER
QUANTITIES BY	1990	CHECKED	1990	

TYPICAL SECTIONS

48-00592-S

STATE PROJ. NO. 75560-3610 11

SUMMARY OF FRENCH DRAINS

LOCATION STA. TO STA.	SIDE	PIPES 12"	BOXES 4'x4'
627+00.00 TO 633+30.50	R	650'	8
629+00.00 TO 634+91.50	R	591'	8
634+00.00 TO 639+91.50	R	591'	8
639+00.00 TO 639+91.50	R	91'	1
639+91.50 TO 644+91.50	R	500'	6
639+00.00 TO 644+91.50	R	591'	7
641+00.00 TO 644+91.50	R	391'	4
641+00.00 TO 641+91.50	R	91'	1
641+00.00 TO 644+91.50	R	391'	4
641+00.00 TO 644+91.50	R	391'	4
641+00.00 TO 644+91.50	R	391'	4
627+21.61 TO 627+72.12	R	51'	1
TOTALS		5,102'	60

DESCRIPTION	QUANTITY STA. LF
24" FRENCH DRAIN	

NOTE:
UNDERDRAINS ARE TO BE CONSTRUCTED AT LOCATION DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH STANDARD NO. 840.04 AND SHEET NO. 40

SUMMARY OF EARTHWORK

DESCRIPTION	CY	REMARKS
ROADWAY EXCAVATION	64,819	
BOX EXCAVATION	1,668	
FILL	25,765	
FILL x .954	24,578	
EXCESS	39,458	

NOTE : EARTHWORK HAS BEEN CALCULATED USING THE AVERAGE END AREA METHOD. IF THE PROJECT IS CONSTRUCTED UNDER A UNIT BID, WE DO NOT REVISE TO EARTHWORK QUANTITIES OR TO THE FINAL OVERRUN PAY QUANTITY.

SUMMARY OF SODDING

LOCATION STA. TO STA.	SIDE	SOD SQ.YDS.	SOD SQ.YDS.
640+00 TO 644+00	L	11,778	
640+00 TO 644+00	R	4,148	
MISCELLANEOUS STRUCTURES		1,700	
		900	
TOTALS		18,526	

NOTE: THE LIMITS OF SODDING INDICATED ABOVE ARE APPROXIMATE AND MAY TO BE VARIED WHERE NECESSARY AS DIRECTED BY THE ENGINEER TO SUIT THE TOPOGRAPHY OF CONSTRUCTION OR TO SUIT THE ACTUAL RIGHT-OF-WAY.

SUMMARY OF UNDERDRAINS AND UNDERDRAIN INSPECTION BOXES

LOCATION STA. TO STA.	SIDE	PIPES 6"	BOXES 4'x4'
627+00.00 TO 633+30.50	R	651'	8
629+00.00 TO 634+91.50	R	591'	8
634+00.00 TO 639+91.50	R	591'	8
639+00.00 TO 639+91.50	R	91'	1
639+91.50 TO 644+91.50	R	500'	6
639+00.00 TO 644+91.50	R	591'	7
641+00.00 TO 644+91.50	R	391'	4
641+00.00 TO 641+91.50	R	91'	1
641+00.00 TO 644+91.50	R	391'	4
641+00.00 TO 644+91.50	R	391'	4
641+00.00 TO 644+91.50	R	391'	4
627+21.61 TO 627+72.12	R	51'	1
TOTALS		5,102'	60

DESCRIPTION TYPE I UNDERDRAIN (6")	QUANTITY STA. LF

NOTE:
UNDERDRAINS ARE TO BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH STANDARD NO. 840.04 AND SHEET NO. 40

SUMMARY OF SIDEDRAINS AND MITERED END SECTIONS

LOCATION STA. TO STA.	SIDE	PIPES 12"	SECTION 4'x4'
641+00	L	24'	2
641+00	R	24'	2
TOTALS		48'	4

DESCRIPTION	QUANTITY STA. LF
24" MES	24 L.F.

NOTE:
SIDEDRAINS AND MITERED END SECTIONS ARE TO BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH STD. NO. 840.04

SUMMARY OF GUARDRAIL

LOCATION STA. TO STA.	SIDE	GUARDRAIL TYPE 'B' LF	GUARDRAIL TYPE 'C' LF	GUARDRAIL TYPE 'D' LF
627+72.12 TO 634+00.	L	627.9		
634+00. TO 640+15.	L	615.		
634+19. TO 640+37.5	R	362.5		
TOTALS		1,605		

NOTE: GUARDRAIL LIMITS AND LOCATIONS ALONG THE PROJECT MAY BE VARIED BASED ON ACTUAL PROJECT CONDITIONS AT TIME OF CONSTRUCTION.

PAY ITEM NOTES

102-10-1 IS BASED ON 1 OFF DUTY LAW ENFORCEMENT OFFICER/HR. 8 HRS. A DAY FOR 261 DAYS.

102-14-1 WILL BE PAID FOR ON THE BASIS OF PER MILE PER DAY OF USE. THE QUANTITY IS BASED ON AN ESTIMATED AVERAGE.

102-14-1
102-14-2 PHASE I: 210 BARRICADES FOR 180 DAYS.
PHASE II: 100 BARRICADES FOR 70 DAYS.
PHASE III: 50 BARRICADES FOR 70 DAYS.
102-78 PHASE I: 30 SIGNS FOR 180 DAYS.
PHASE II: 30 SIGNS FOR 70 DAYS.
PHASE III: 30 SIGNS FOR 70 DAYS.
102-78 PHASE I: 12 ADMONISHMENT SIGNS FOR 180 DAYS.
102-77 PHASE II: 12 ADMONISHMENT SIGNS FOR 70 DAYS.
PHASE III: 12 ADMONISHMENT SIGNS FOR 70 DAYS.
102-98 PHASE I: 12 REGULATORY SIGNS FOR 180 DAYS.
PHASE II: 12 REGULATORY SIGNS FOR 70 DAYS.
PHASE III: 12 REGULATORY SIGNS FOR 70 DAYS.

MAINTENANCE OF TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, SECTION 107 AND THE FOLLOWING SPECIAL PROVISIONS.

102-91-2 PHASE I IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 1060 L. F.
PHASE II IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 788 L. F.

102-93-2 PHASE III IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 9,707 S. M.
IS BASED ON 1 SURFACING PER LIFT.

102-92-4 PHASE I IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 4,982 M. M.
102-92-4 PHASE II IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 4,280 M. M.
102-92-4 PHASE III IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 8,343 M. M.
IS BASED ON 1 SURFACING PER LIFT.

102-92-5 PHASE I IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 3.77 S. Y.
102-92-5 PHASE II IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 19 S. Y.
102-92-5 PHASE III IS BASED ON 1 PAVEMENT LIFTS, CONSISTING OF 19.23 S. Y.

104-10
104-13 ARE ESTIMATED FOR PREVENTION, CONTROL AND ABATEMENT OF EROSION BY THE PLANS OF THE CONTRACTOR AND AS DIRECTED BY THE ENGINEER.

105-10 A TOTAL OF 3 TRAINEES ARE REQUIRED ON THIS PROJECT. TOTAL MANHOURS HERE ESTIMATED AT AN AVERAGE OF 1040 MANHOURS PER TRAINEE.

110-4 INCLUDES ESTIMATED 321 S.Y. OF CONCRETE SURFACING, 187 S.Y. OF CONCRETE PAVEMENT AND 858 S.Y. OF CURB AND GUTTER.

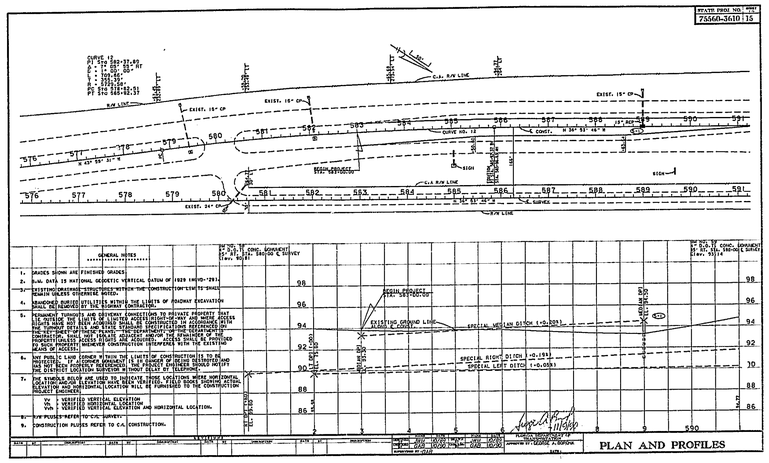
120-1 INCLUDES THE COST OF REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL ENCOUNTERED BELOW THE NORMAL EARTHWORK EXCAVATION FOR WIDENING WITHIN AS DIRECTED BY THE ENGINEER.

570-5 IS BASED ON 2 APPLICATIONS.

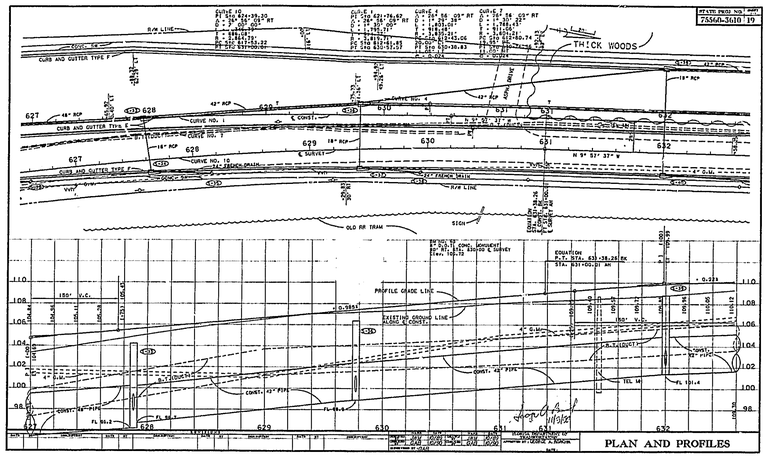
9331-2 INCLUDES REMOVAL OF EXISTING RAISED REFLECTIVE PAVEMENT MARKERS PRIOR TO STARTING RESURFACING OPERATIONS.

| | | |

STATE PROJ. NO. | SHEET NO.
75560-3610 | 15



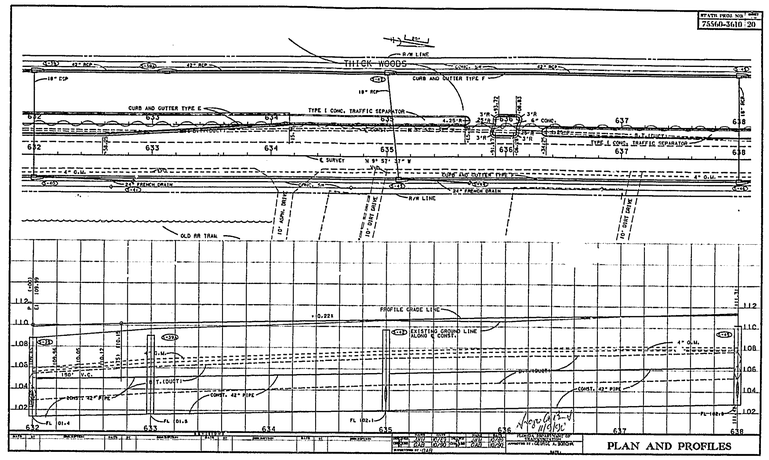
STATE PROJ. NO. | SHT. NO.
75560-3610 | 19



PLAN AND PROFILES

48-00592-S

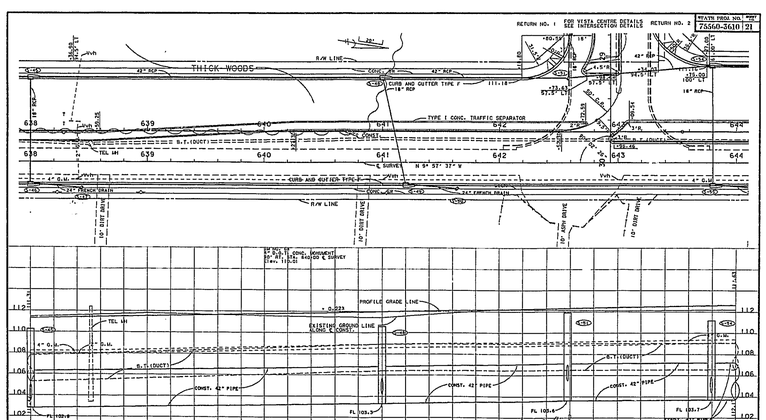
STATE PROJ. NO. | SHT. NO.
75560-3610 | 20



PLAN AND PROFILES

48-00592-S

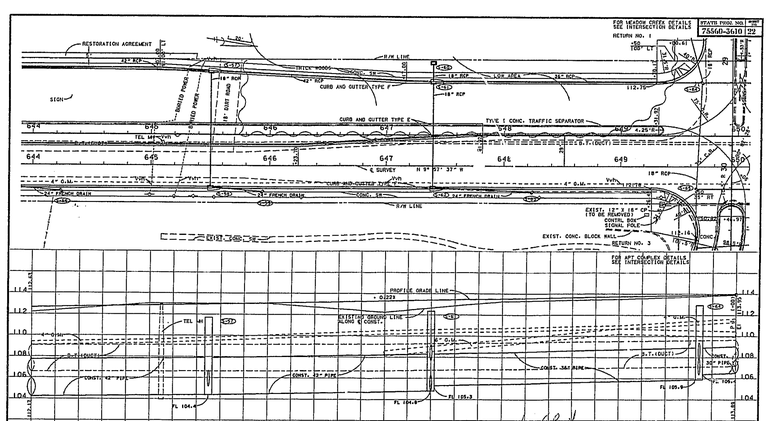
STATE PROJ. NO. | SHT. NO.
75560-3610 | 21



PLAN AND PROFILES

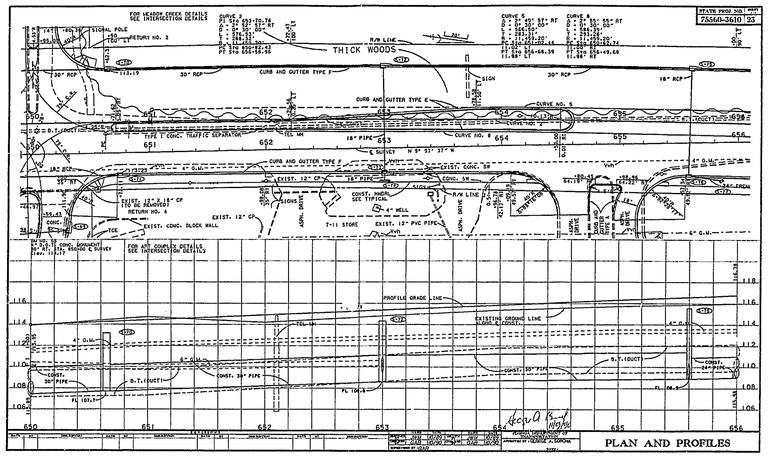
48-00592-S

STATE PROJ. NO. | SHT. NO.
75560-3610 | 22



PLAN AND PROFILES

48-00592-S



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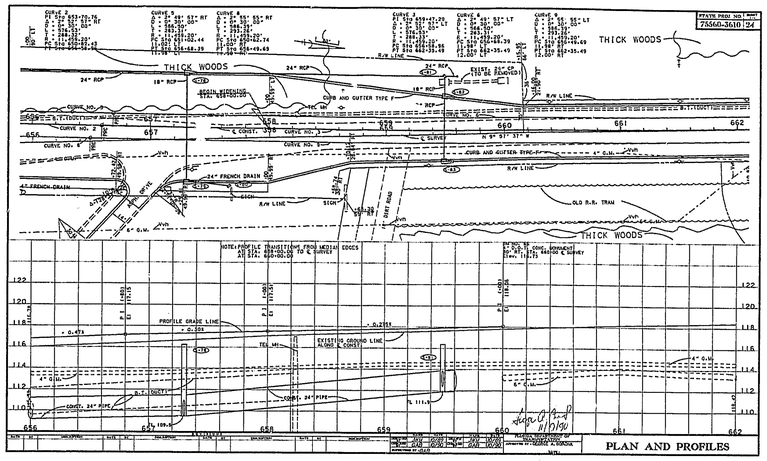

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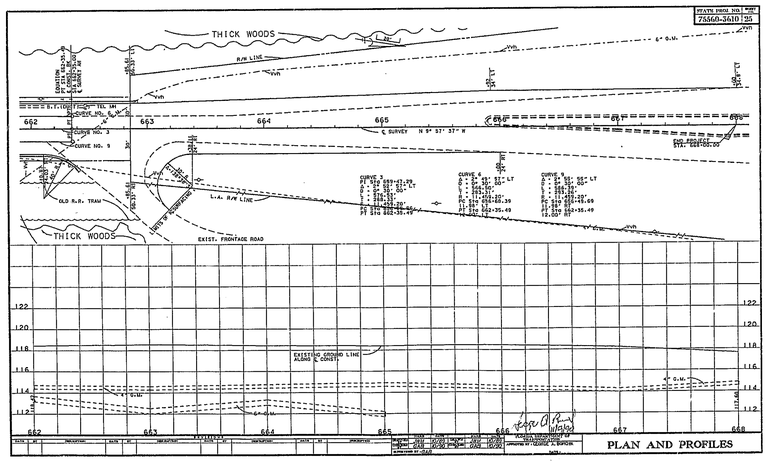

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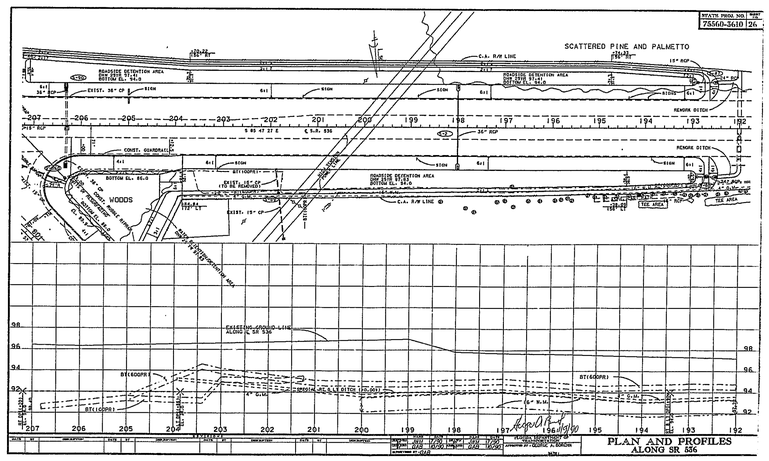
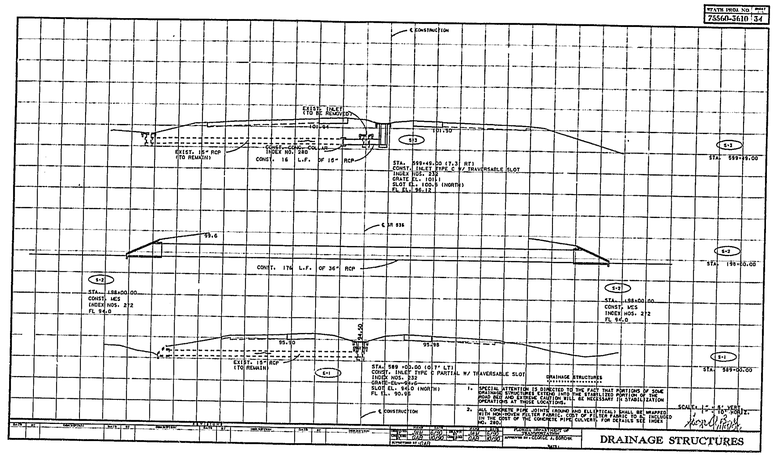


48-00592-S

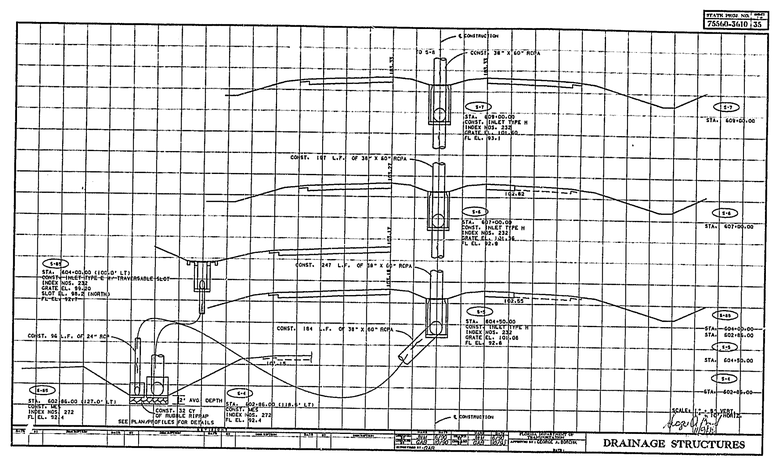
STATE PROJ. NO. | SHT. NO.
75560-3610 | 34



DRAINAGE STRUCTURES

48-00592-S

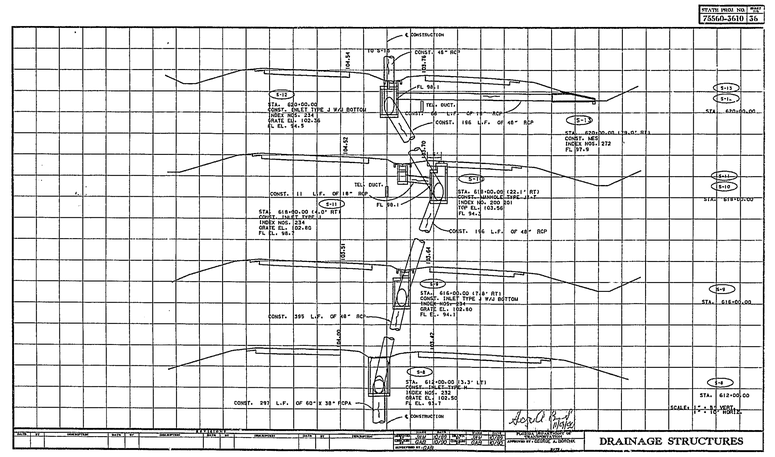
STATE PROJ. NO. | SHT. NO.
75560-3610 | 35



DRAINAGE STRUCTURES

48-00592-S

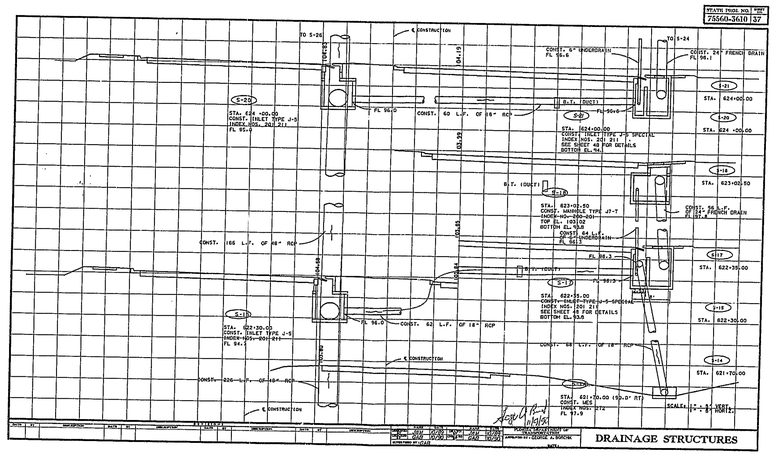
STATE PROJ. NO. | SHT. NO.
75560-3610 | 36



DRAINAGE STRUCTURES

48-00592-S

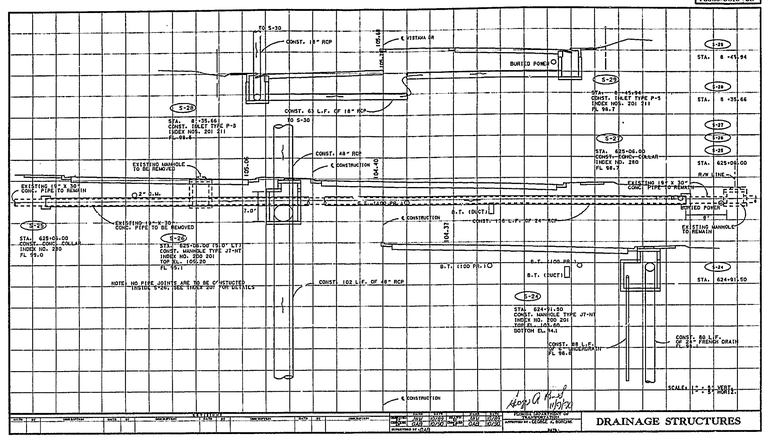
STATE PROJ. NO. | SHT. NO.
75560-3610 | 37



DRAINAGE STRUCTURES

48-00592-S

STATE PROJ. NO. | SHEET NO.
75560-3610 | 38


TO S-3D
CONST. 15" RCP
℄ VENTURA CR
BURIED POND
S-23
STA. 8+45.94
CONST. INLET TYPE P-5
INDEX NOS. 200 211
FL 99.7
S-24
STA. 8+35.66
CONST. INLET TYPE P-5
INDEX NOS. 200 211
FL=98.6
CONST. 61 L.F. OF 18" RCP
TO S-3D
S-22
STA. 625+06.00
CONST. CONC. COLLAR
INDEX NO. 280
FL 98.5
CONST. 48" RCP
℄ CONSTRUCTION
EXISTING MANHOLE TO BE REMOVED
EXISTING 18"x 30" CONC. PIPE TO REMAIN
EXISTING 18"x 30" CONC. PIPE TO BE REMOVED
EXISTING MANHOLE TO REMAIN
S-25
STA. 625+05.00
CONST. CONC. COLLAR
INDEX NO. 280
FL 98.0
S-26
STA. 625+08.00 TO 'A' LT
CONST. MANHOLE TYPE JT-HT
INDEX NO. 200 201
TOP EL. 105.25
FL 100.1
NOTE: NO PIPE JOINTS ARE TO BE 6" RESTRICTED (BOISE S-240, SEE THICK 207 FOR DETAILS)
CONST. 102 L.F. OF 48" RCP
B.T. (100 FH)
B.T. (DUCT)
S-27
STA. 624+91.50
CONST. MANHOLE TYPE JT-HT
INDEX NO. 200 201
TOP EL. 104.0
BOTTOM EL. 94.0
CONST. 88 L.F. OF 24" FRENCH DRAIN FL 98.0
CONST. 108 L.F. OF 24" RCP
S-28
STA. 624+61.50
SCALE: 1"=5' VERT. 1"=50' HORIZ.
105.45
105.40
104.40
104.37
105.05
105.10
105.15
105.20
105.25
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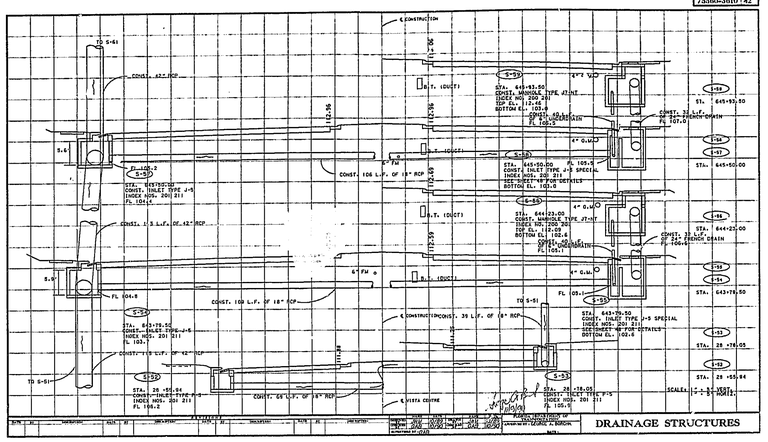
106.65
106.70
106.75
106.80
106.85
106.90
106.95
107.00

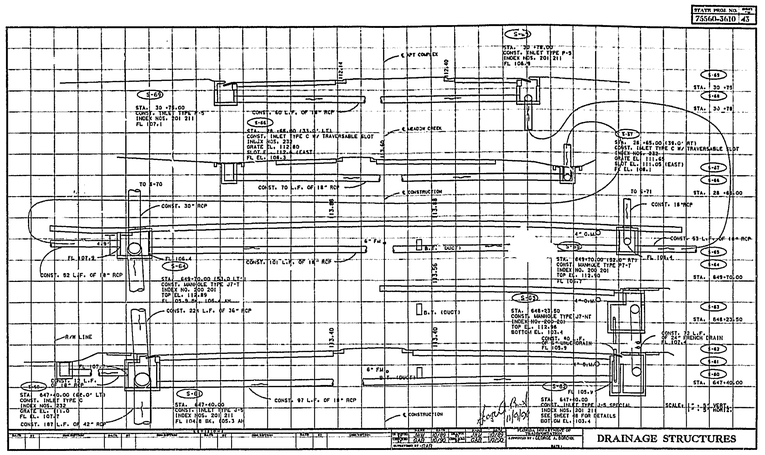
STATE PROJ. NO. | SHT. NO.
75560-3610 | 42



DRAINAGE STRUCTURES

48-00592-S

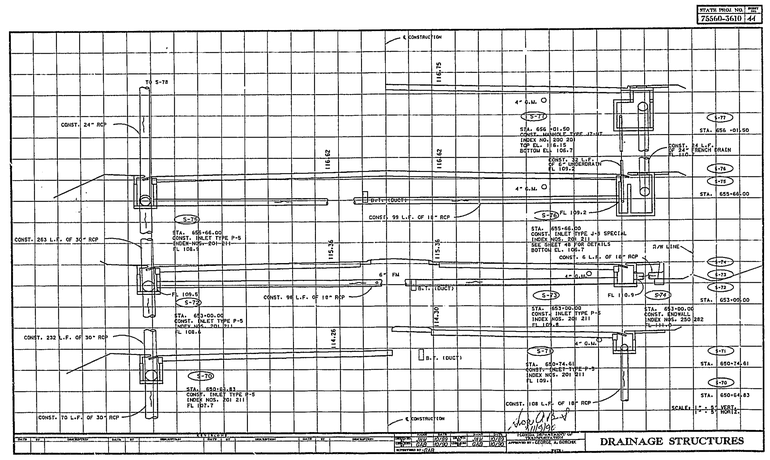
STATE PROJ. NO. | SHT. NO.
75560-3610 | 43



DRAINAGE STRUCTURES

48-00592-S

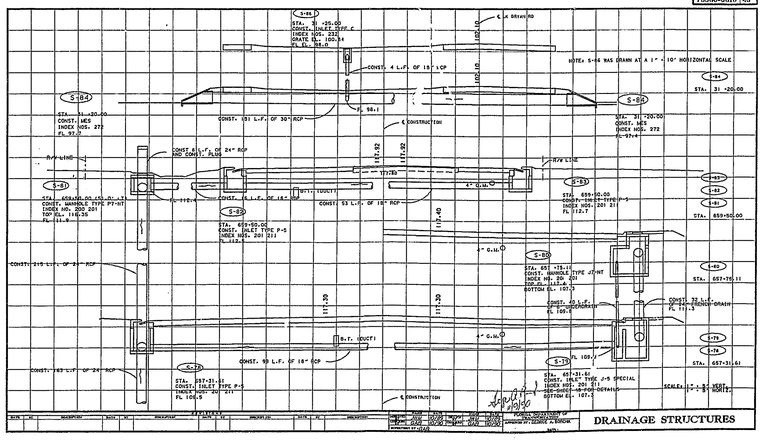
STATE PROJ. NO. | SHT. NO.
75560-3610 | 44



DRAINAGE STRUCTURES

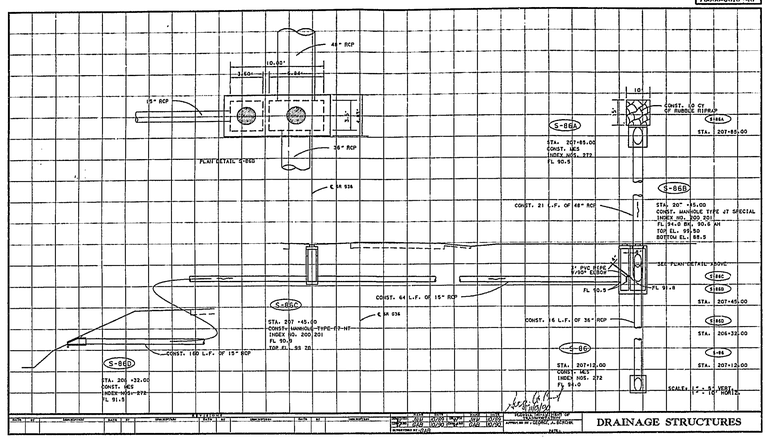
48-00592-S

STATE PROJ. NO. | SHT. NO.
75560-3610 | 45



DRAINAGE STRUCTURES

48-00592-S



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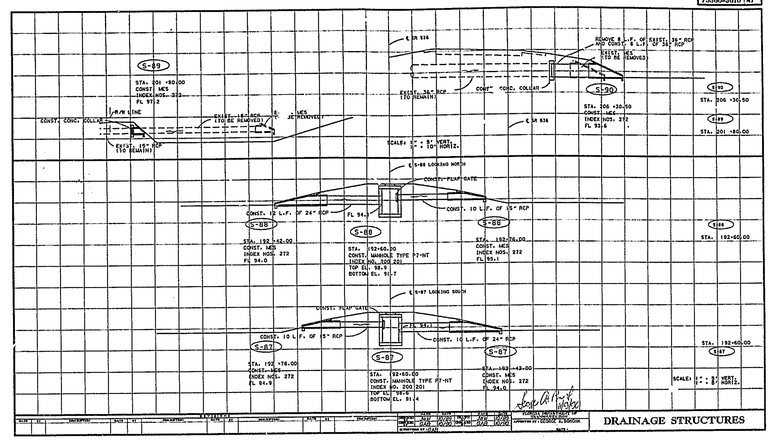
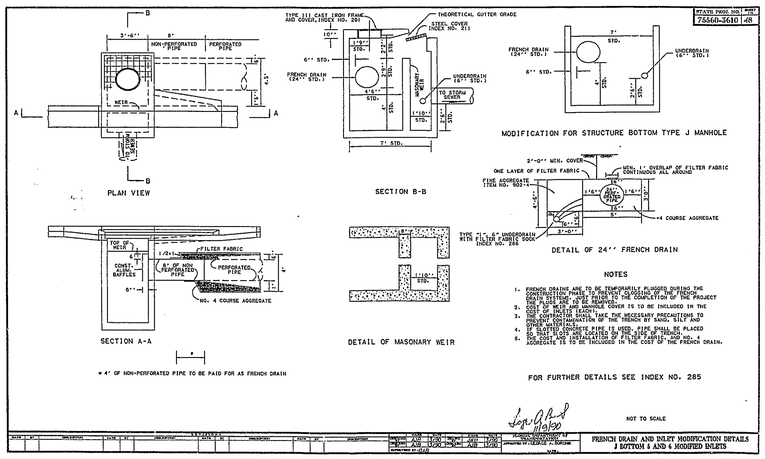
48-00592-S



DRAINAGE STRUCTURES

48-00592-S



NOTES

1. FRENCH DRAINS ARE TO BE TEMPORARILY PLUGGED DURING THE CONSTRUCTION PHASE OF THE STORM SEWER SYSTEM. SEE DETAILS IN THE CONSTRUCTION PLANS FOR THE COMPLETION OF THE PROJECT
2. COST OF 4' OF NON-PERFORATED PIPE IS TO BE INCLUDED IN THE COST OF FRENCH DRAIN.
3. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT CONTAMINATION OF THE TRENCH BY SAND, SILT AND OTHER MATERIALS.
4. ONLY NON-PERFORATED PIPE IS USED. PIPE SHALL BE PLACED SO THAT SLOTS ARE LOCATED 90 DEG. FROM TOP OF TRENCH.
5. THE COST OF THE EXCAVATION OF THE TRENCH, FILTER FABRIC, AGGREGATE IS TO BE INCLUDED IN THE COST OF THE FRENCH DRAIN.

FOR FURTHER DETAILS SEE INDEX NO. 285

NOT TO SCALE

FRENCH DRAIN AND INLET MODIFICATION DETAILS
J BOTTOM & AND 4 MODIFIED INLETS

48-00592-S

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MATERIALS AND RESEARCH
CROSS SECTION OF SOIL SURVEY
REPORT OF TESTS

PROJECT NO.: 75560-3610
ROAD NO.: S.R. 535 FROM S.R. 536 TO S.R. 400(I-4)
DISTRICT NO.: 5
LABORATORY NO.: N/A
SUBMITTED BY: ARDAMAN AND ASSOCIATES

DATE OF SURVEY: 4/2/97 TO 7/28/97 (FLORIDA DEPARTMENT OF TRANSPORTATION)
AND 4/10/00 TO 4/12/00 AND 8/22/00 TO 8/23/00
(ARDAMAN AND ASSOCIATES)
SURVEYED BY: (RAMSOM/FLORIDA DEPARTMENT OF TRANSPORTATION)
JACKSON AND JOHNSON (ARDAMAN AND ASSOCIATES)
SURVEY BEGINS STA. NO.: 609+00
SURVEY ENDS AT STA. NO.: 639+00
DATE REPORTED: 7/10/97 (FLORIDA DEPARTMENT OF TRANSPORTATION)
6/20/00 (ARDAMAN AND ASSOCIATES)
9/10/00 (ARDAMAN AND ASSOCIATES)

LOCATION:
TOWNSHIP: 24 SOUTH
RANGE: 28 EAST
SECTION: 27 & 34

MECHANICAL ANALYSIS

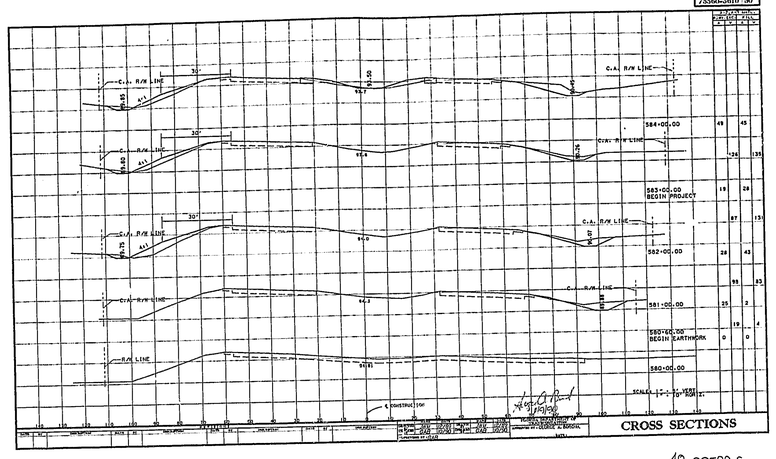
STRATUM NO.	LBR VALUE	% PASS 10 MESH	% PASS 40 MESH	% PASS 60 MESH	% PASS 100 MESH	% PASS 200 MESH	CONSTANTS MATERIAL PASS NO. 40 SIEVE LIQUID LIMIT	PLASTIC INDEX	NO. LBR TESTS	NO. GRAD TESTS	NO. LL-PI TESTS	CLASSIFICATION GROUP	MATERIAL DESCRIPTION	RESISTIVITY ohm-cm	CHLORIDES ppm	SULFATES ppm
1	22-41	100	74-80	30-39	7-14	3-4	NP-	NP-	2	3	0	A-3	GRAY TO BROWN TO LIGHT BROWN FINE SAND	6.4-7.5	9,000-40,000	4-23	6-14
2	36-41	100	66-85	35-45	11-20	5-13	NP-	NP-	2	6	1	A-3 OR A-2-4	DARK GRAY TO BROWN SLIGHTLY SILTY TO SILTY FINE SAND WITH OCCASIONAL TRACE ORGANICS (10-C-40-2+4-7)	5.8-9.3	8,000-28,000	1-18	3-29
3	-	-	-	-	-	-	-	-	0	0	0	A-8	DARK GRAY MUCK (10-C-x3-1+4-7)	-	-	-	-
4	29-36	98-100	72-84	32-42	10-16	3-10	NP-	NP-	3	5	0	A-3	LIGHT TO DARK GRAY SAND, LOOSE & MOIST	5-7.4	42,000-160,000	30	32-115
5	14-44	100	71-81	28-38	8-15	2-7	NP-	NP-	3	5	0	A-3	PALE TO DARK BROWN SAND, LOOSE TO COMPACT & MOIST	4.3-5.7	15,000-42,000	30	16-108
6	21-28	89-100	57-77	35-65	18-43	4-15	NP-	NP-	3	5	0	A-3 OR A-2-4	MIXTURE OF BROWN AND GRAY SANDS, TRACE OF ROCK & CLAY, LOOSE TO COMPACT & MOIST (FILL)	4.7-7.3	27,000-54,000	30	113-115
7	34	100	53-76	28-34	13-14	6-11	NP-	NP-	1	3	0	A-2 OR A-3-4	LIGHT TO DARK BROWN SAND, TRACE OF SILT, DENSE TO VERY DENSE & MOIST (HARDPAN)	-	-	-	-
8	-	100	65-81	34-47	12-20	5-8	NP-	NP-	0	6	0	A-3	PALE BROWN TO BROWN SAND, TRACE SILT TO SILTY, COMPACT & MOIST	4.8	58,000	30	113

NOTE:
1. STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH TEST HOLE LOCATION ONLY. STRATUM CONNECTING LINES ARE SHOWN FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS.
2. LEGEND: ▽ WATER TABLE WHERE ENCOUNTERED. ONE REPRESENTS GROUNDWATER NOT ENCOUNTERED.
3. REMOVAL OF MUCK AND PLASTIC MATERIAL ACCORDING WITHIN THE ROADWAY SHALL BE ACCOMPLISHED IN ACCORDANCE WITH INDEX NO. 500 AND THE MATERIAL UTILIZED IN EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH INDEX NO. 505.
4. IF THE SYMBOL "-" IS PRESENT IT REPRESENTS UNMEASURED SOIL PARAMETERS.

ROADWAY SOIL SURVEY

48-00592-S

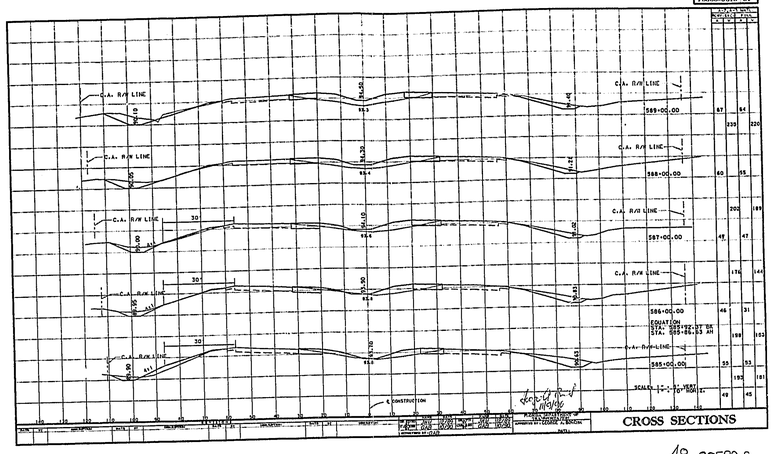
STATE PROJ. NO. | SHEET
75560-3610 | 50



CROSS SECTIONS

48-00592-S

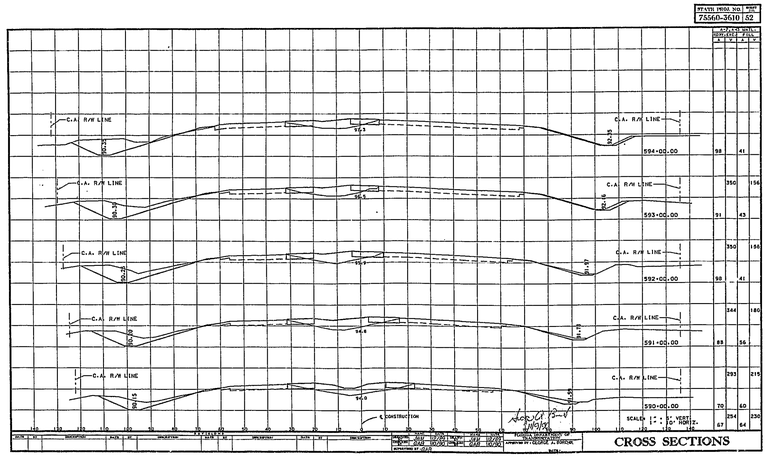
STATE PROJ. NO. | SHEET
75560-3610 | 51



CROSS SECTIONS

48-00592-S

STATE PROJ. NO. | SHEET
75560-3610 | 52



CROSS SECTIONS

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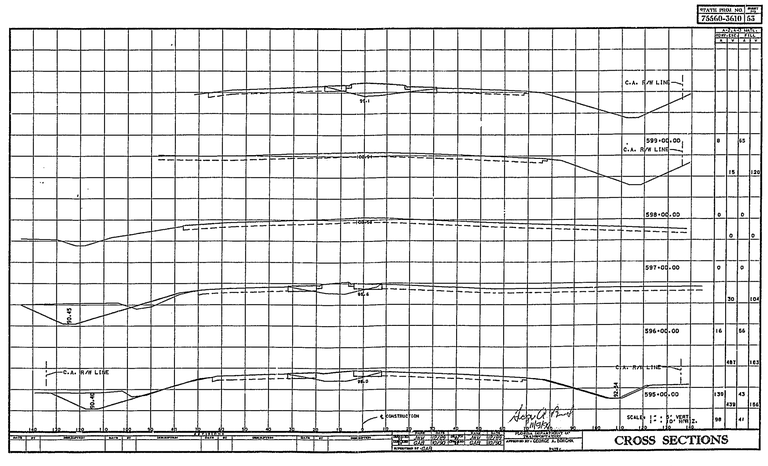

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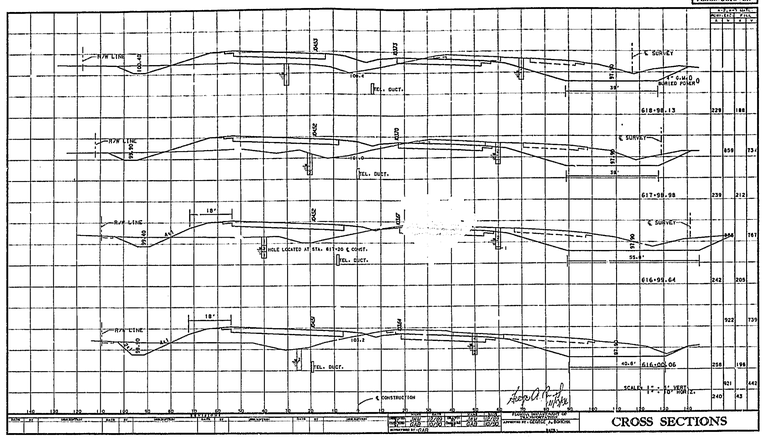
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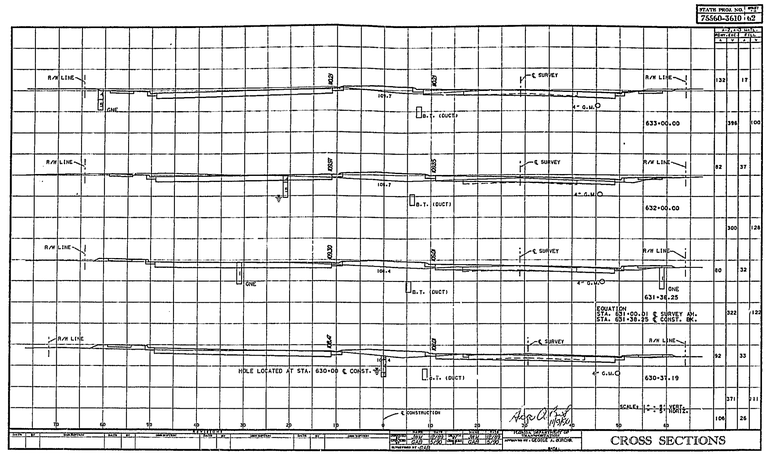
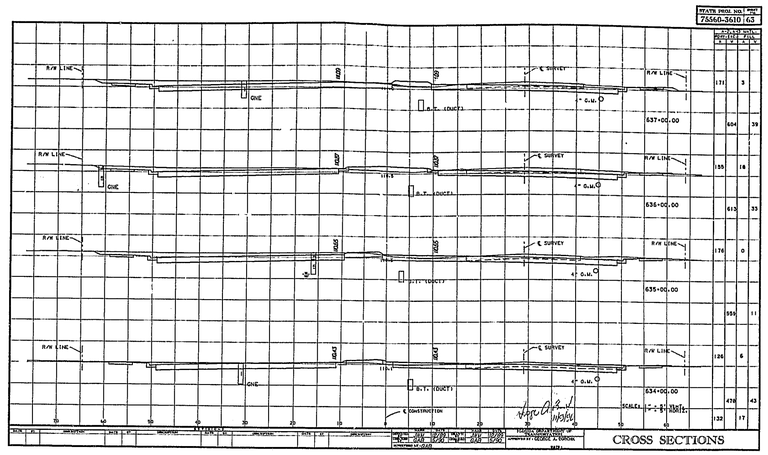
STATE PROG. NO. | SHT. NO.
75560-3610 | 62



CROSS SECTIONS

48-00592-S

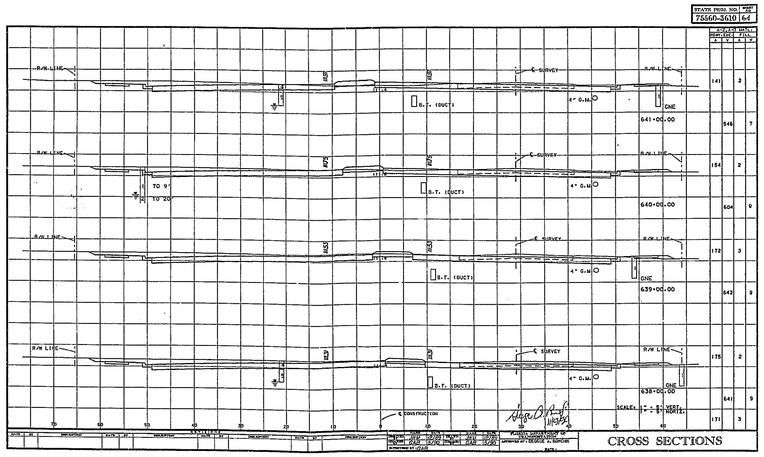
STATE PROG. NO. | SHT. NO.
75560-3610 | 63



CROSS SECTIONS

48-00592-S

STATE PROG. NO. | SHT. NO.
75560-3610 | 64



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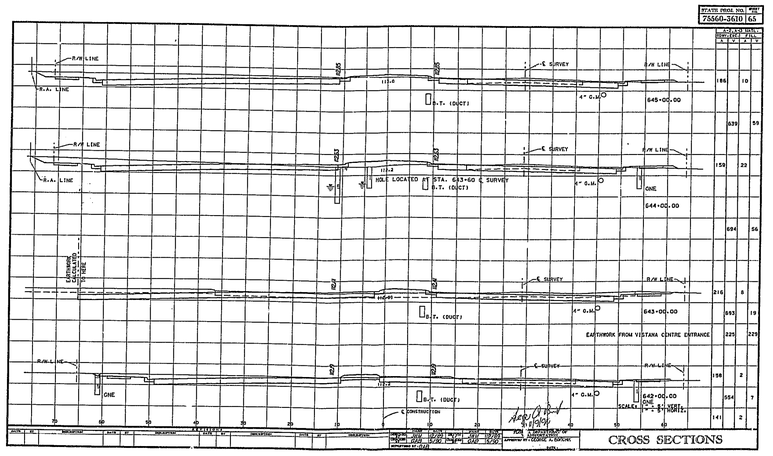
48-00592-S

STATE PROG. NO. | SHT. NO.
75560-3610 | 65



CROSS SECTIONS

48-00592-S

STATE PROJ. NO. | SHEET NO.
75560-3610 | 66

CROSS SECTIONS

48-00592-S

STATE PROJ. NO. | SHEET NO.
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STATE PROJ. NO. | SHEET NO.
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STATE PROJ. NO. | SHEET NO.
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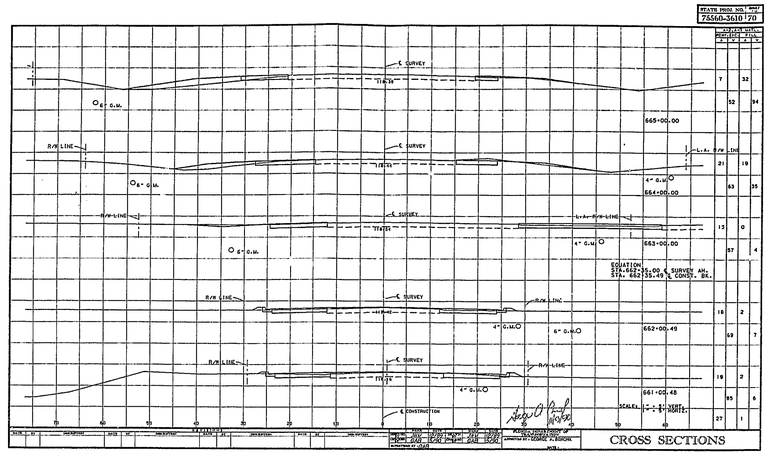
CROSS SECTIONS

48-00592-S

STATE PROJ. NO. | SHT. NO.
75560-3610 | 70

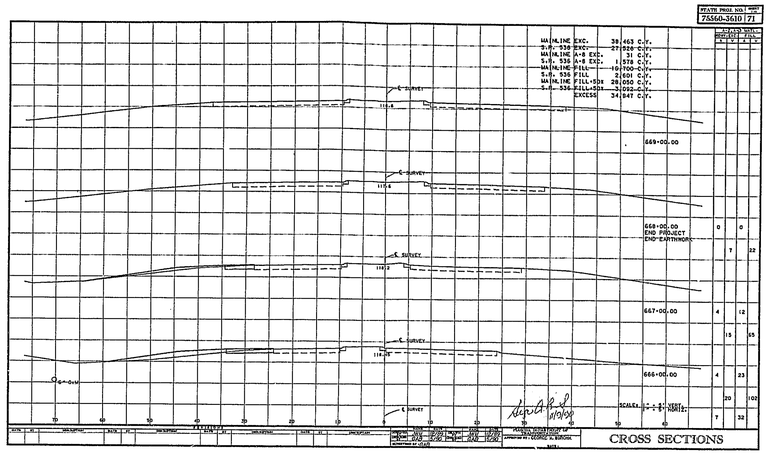


CROSS SECTIONS

48-00592-S

STATE PROJ. NO. | SHT. NO.
75560-3610 | 71

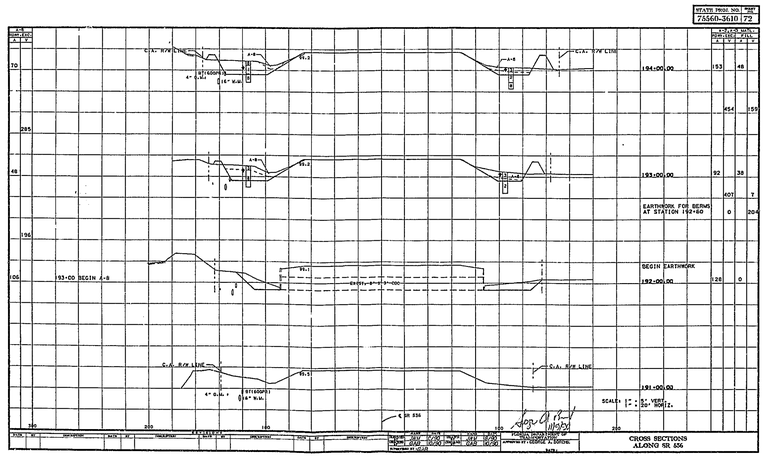
MATERIAL	
M.R.-536 EXC.	38,463 C.Y.
M.R.-536 EXC.	27,928 C.Y.
M.R.-536 A-8 EXC.	31 C.Y.
S.R. 536 EXC.	1,578 C.Y.
MAINLINE FILL	10,700 C.Y.
S.R. 536 FILL	1,600 C.Y.
MAINLINE FILL+10%	29,052 C.Y.
S.R.-536 FILL+10%	1,760 C.Y.
EXCESS	34,947 C.Y.



CROSS SECTIONS

48-00592-S

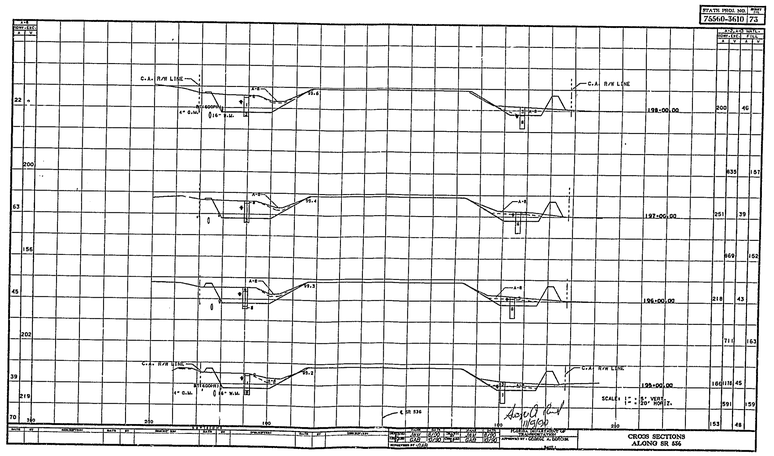
STATE PROJ. NO. | SHT. NO.
75560-3610 | 72



CROSS SECTIONS
ALONG SR 536

48-00592-S

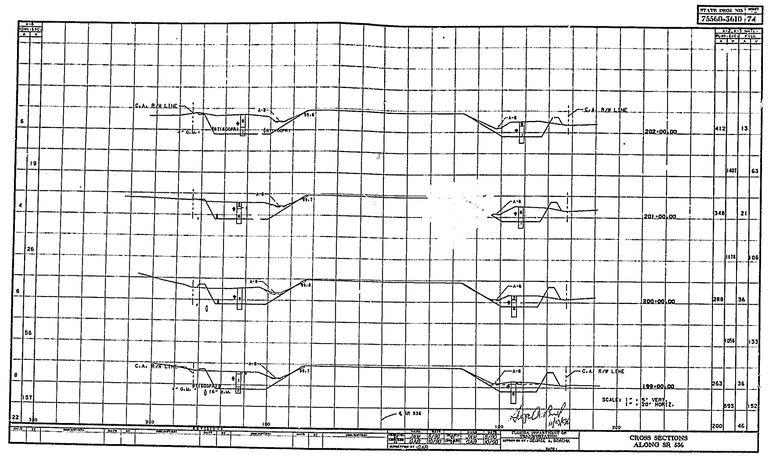
STATE PROJ. NO. | SHT. NO.
75560-3610 | 73



CROSS SECTIONS
ALONG SR 536

48-00592-S

STATE PROJ. NO. | SHEET NO.
75560-3610 | 74



48-00592-5

STATE PROJ. NO. | SHEET NO.
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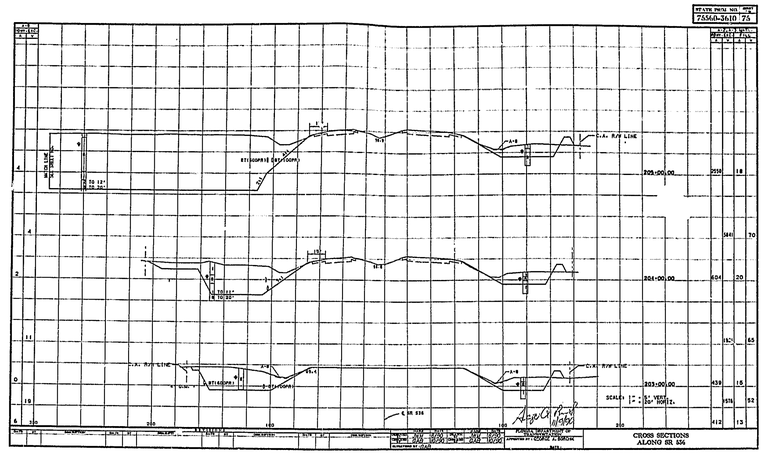
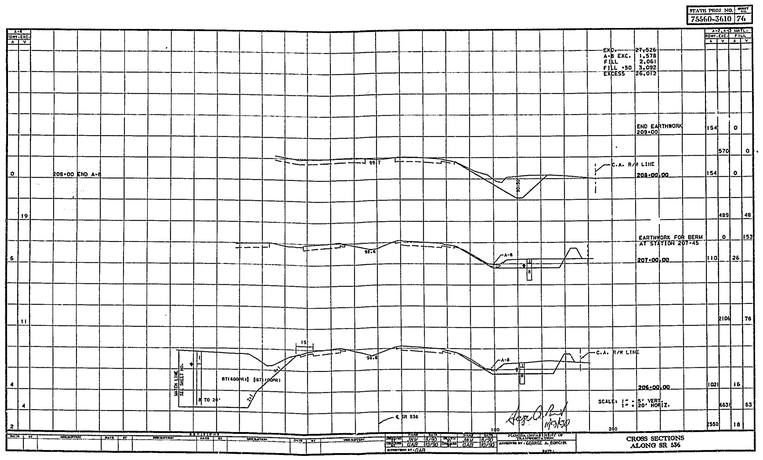


48-00592-6

STATE PROJ. NO. | SHEET NO.
75560-3610 | 76



48-00592-8

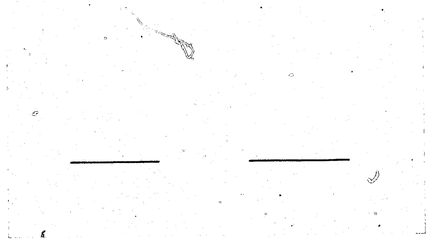
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

10

MAPS

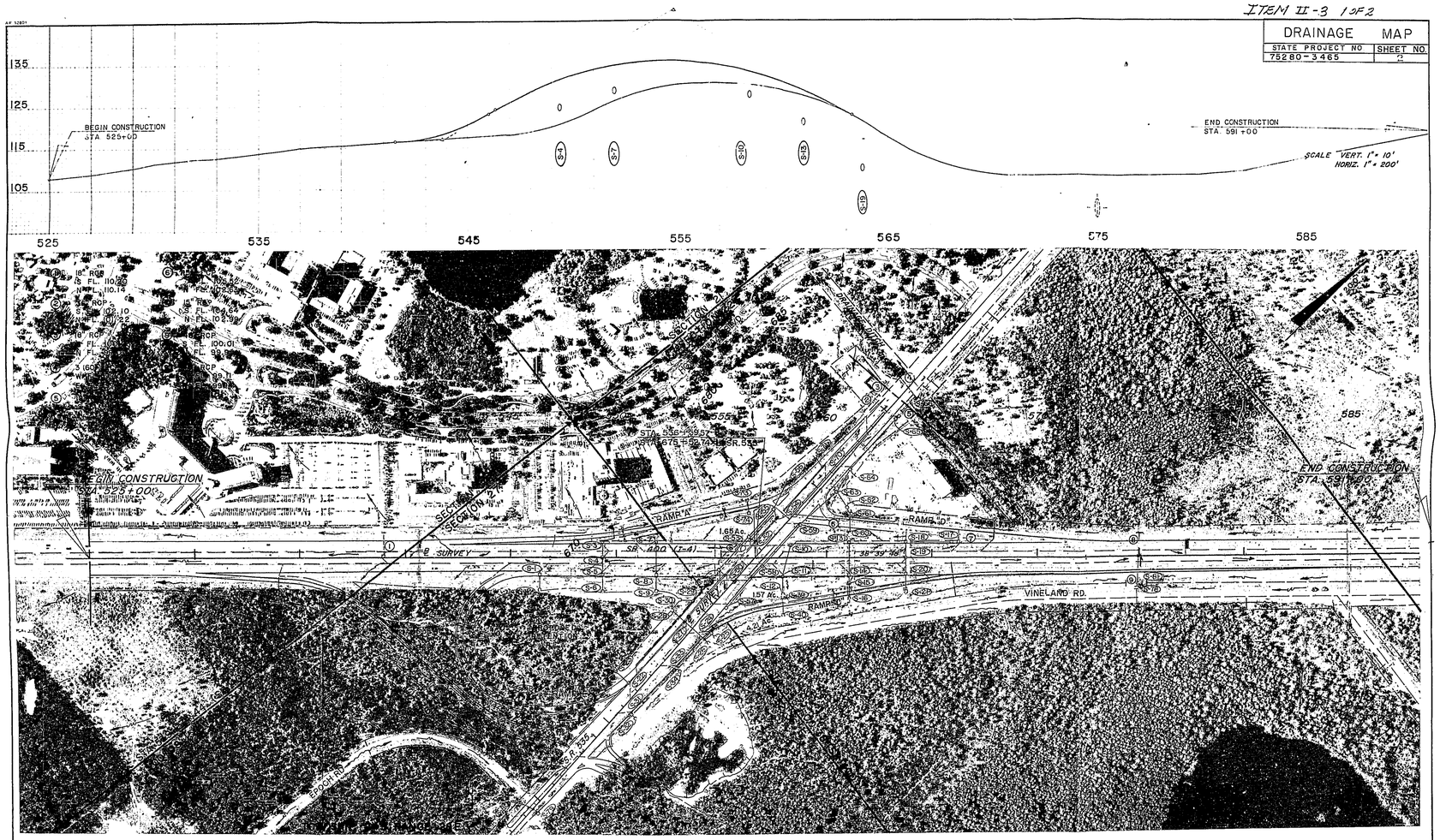
FOR PERMIT #

48-00592-S



ITEM II-3 1 OF 2

DRAINAGE MAP	
STATE PROJECT NO	SHEET NO.
75280-3465	2



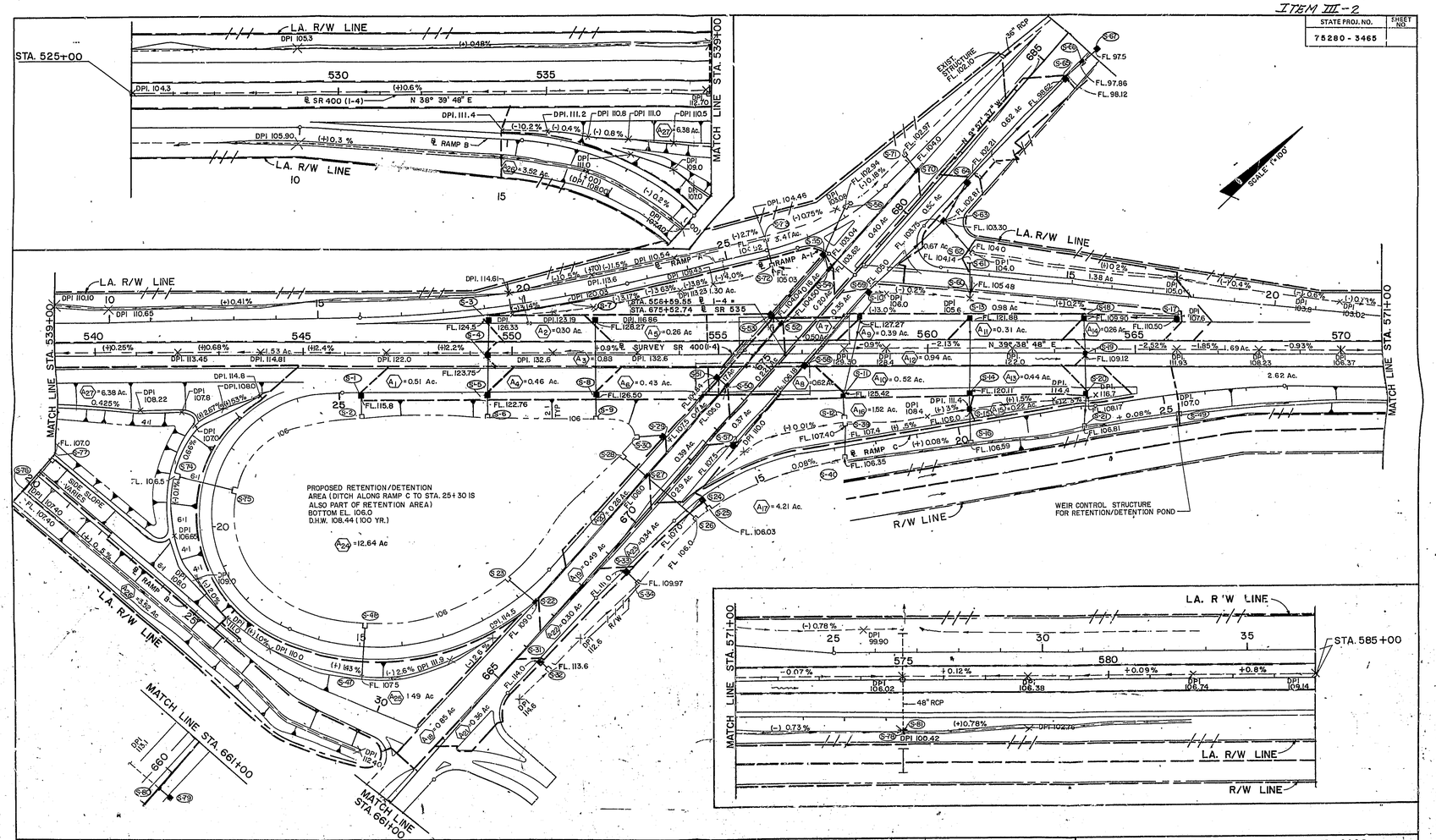


DRAINAGE MAP

SR 400 (I-4) & SR 535

ITEM III-2

STATE PROJ. NO.	SHEET NO.
75280-3465	


LA. R/W LINE
STA. 525+00
MATCH LINE STA. 539+00
530
535
DPI 104.3
(+)0.6%
℄ SR 400 (I-4)
N 38° 39' 48" E
DPI 111.4
DPI 111.2
DPI 110.8
DPI 111.0
DPI 110.5
DPI 105.90
(+)0.3 %
℄ RAMP B
LA. R/W LINE
10
15
DPI 110.10
DPI 110.65
(+)0.41%
540
545
550
555
560
565
570
MATCH LINE STA. 571+00
(+)0.25%
(+)0.68%
(+)2.4%
(+)2.2%
DPI 114.61
DPI 113.45
DPI 114.81
DPI 122.0
DPI 132.6
DPI 123.75
DPI 114.8
DPI 108.0
DPI 108.22
DPI 107.8
DPI 107.0
FL. 115.8
FL. 122.76
FL. 126.50
FL. 127.27
FL. 125.42
FL. 120.11
FL. 109.12
DPI 111.93
DPI 108.23
DPI 106.37
2.62 Ac.
FL. 97.5
FL. 97.86
FL. 98.12
EXIST. STRUCTURE FL. 102.0
46" RCP
695
680
670
665
660
FL. 102.97
FL. 103.04
FL. 103.30
FL. 104.0
FL. 104.14
FL. 105.48
FL. 121.88
FL. 110.30
FL. 106.61
FL. 106.59
FL. 106.35
FL. 106.03
FL. 109.97
FL. 113.6
FL. 107.5
FL. 107.40
FL. 106.5
FL. 107.0
FL. 107.4
FL. 107.40
FL. 107.0
FL. 105.0
FL. 108.0
FL. 107.40
DPI 104.46
DPI 105.03
DPI 105.0
DPI 104.0
DPI 105.6
DPI 107.6
DPI 105.0
DPI 103.0
DPI 103.02
DPI 108.0
DPI 107.0
DPI 114.4
DPI 108.4
DPI 122.0
DPI 129.30
DPI 128.4
DPI 116.86
DPI 123.19
DPI 120.03
DPI 115.6
DPI 113.30
DPI 110.54
DPI 109.43
DPI 108.0
DPI 106.0
DPI 105.0
DPI 104.5
DPI 111.8
DPI 112.6
DPI 114.0
DPI 114.8
DPI 118.40
DPI 102.76
DPI 100.42
DPI 99.90
DPI 106.02
DPI 106.38
DPI 106.74
DPI 109.14
DPI 102.2
DPI 114.2
DPI 108.17
DPI 107.0
DPI 108.61
DPI 102.81
DPI 105.02
DPI 100.0
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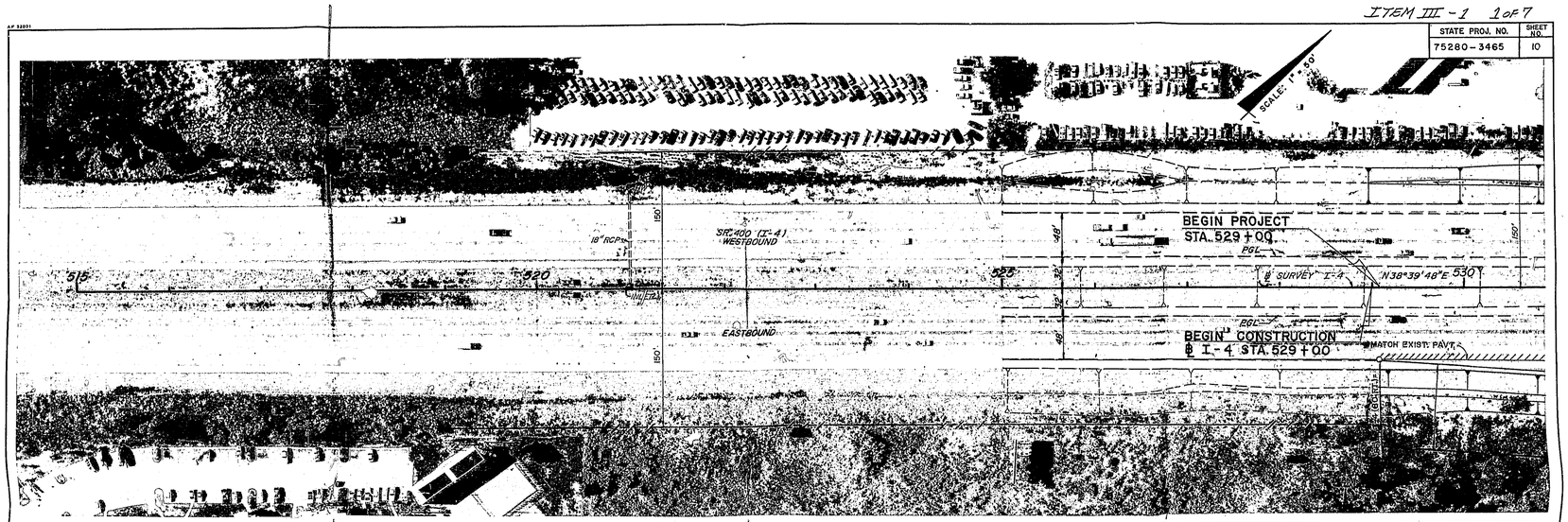
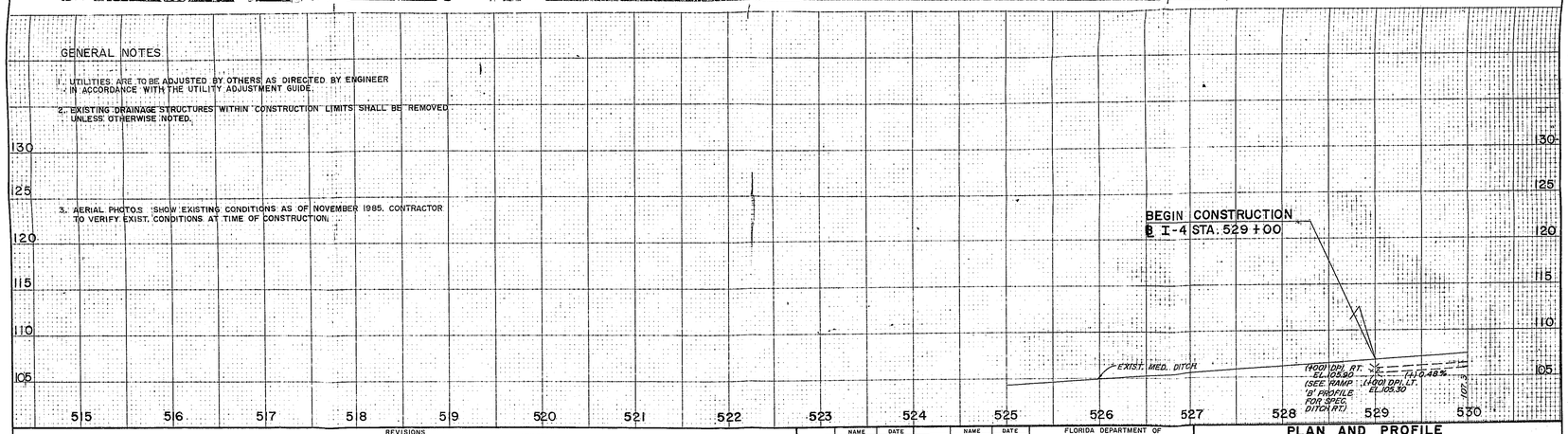
ITEM III - 1 1 OF 7

STATE PROJ. NO.	SHEET NO.
75260-3465	10



GENERAL NOTES

1. UTILITIES ARE TO BE ADJUSTED BY OTHERS AS DIRECTED BY ENGINEER IN ACCORDANCE WITH THE UTILITY ADJUSTMENT GUIDE.
2. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
3. AERIAL PHOTOS SHOW EXISTING CONDITIONS AS OF NOVEMBER 1985. CONTRACTOR TO VERIFY EXIST. CONDITIONS AT TIME OF CONSTRUCTION.



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	R.C.	2/86	DRAWN BY	R.R.	4/86
CHECKED BY	L.M.	2/87	CHECKED BY	T.F.H.	5/92
SUPERVISED BY					

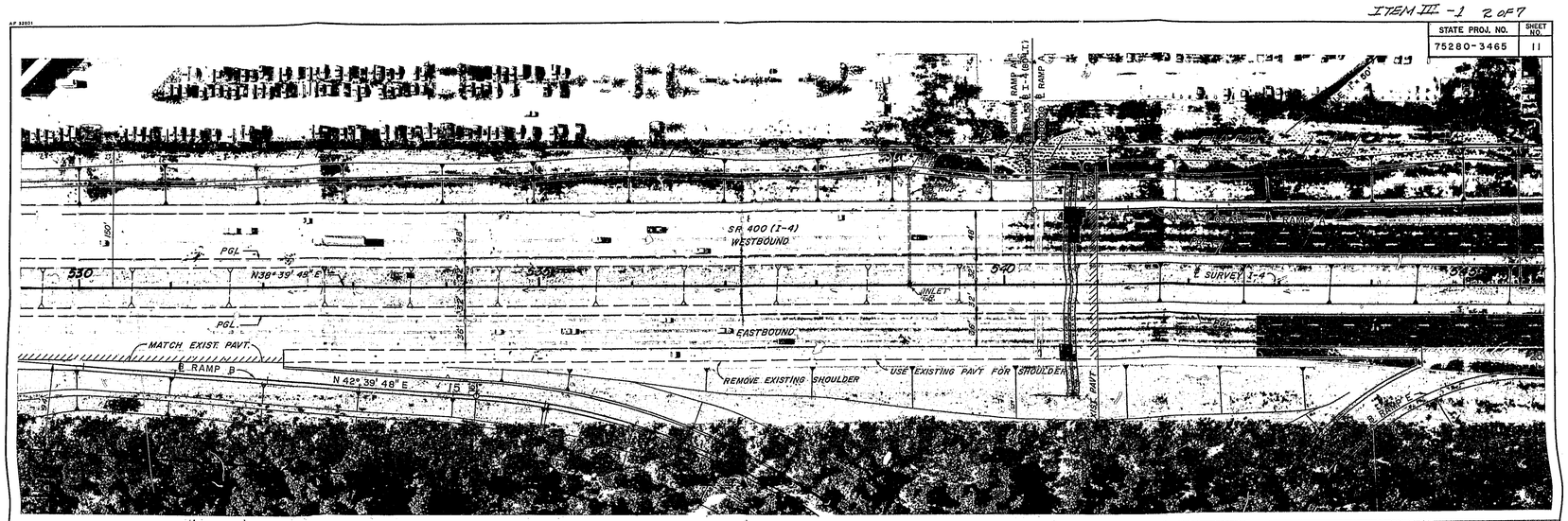
FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

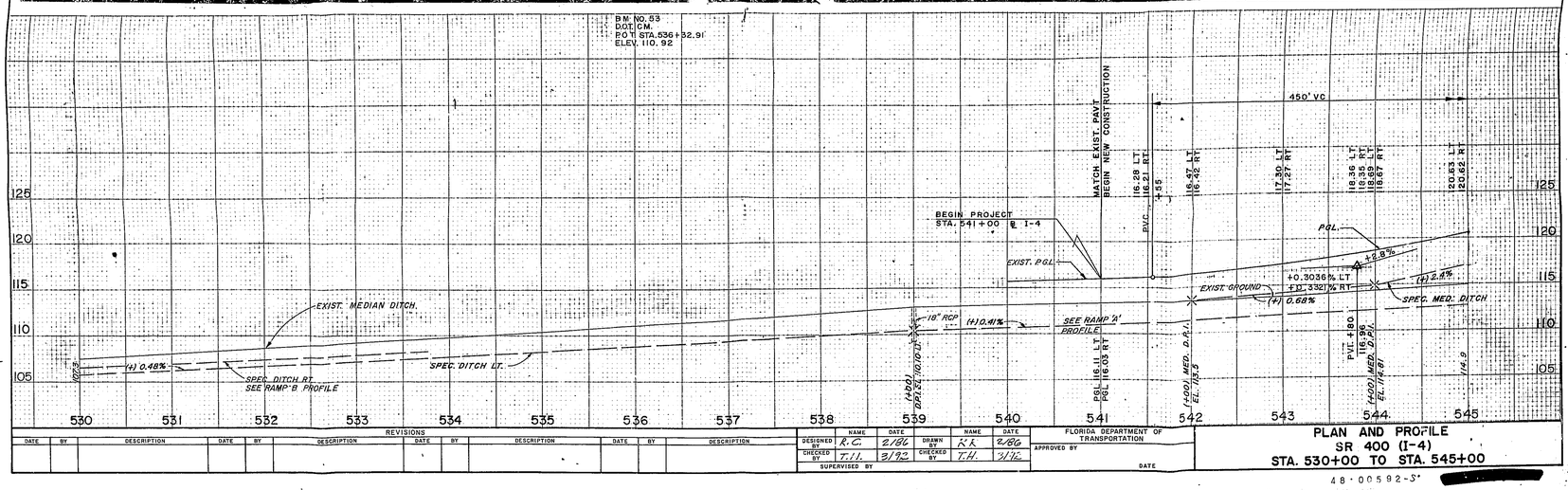
PLAN AND PROFILE
SR. 400 (I-4)
STA. 525+00 TO STA. 530+00

48-005925

ITEM II-1 2 OF 7

STATE PROJ. NO.	SHEET NO.
75280-3465	11





REVISIONS												
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	NAME	DATE		NAME	DATE
DESIGNED BY	R.C.	2/86	DRAWN BY	K.K	2/86
CHECKED BY	T.H.	3/92	CHECKED BY	T.H.	3/92
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

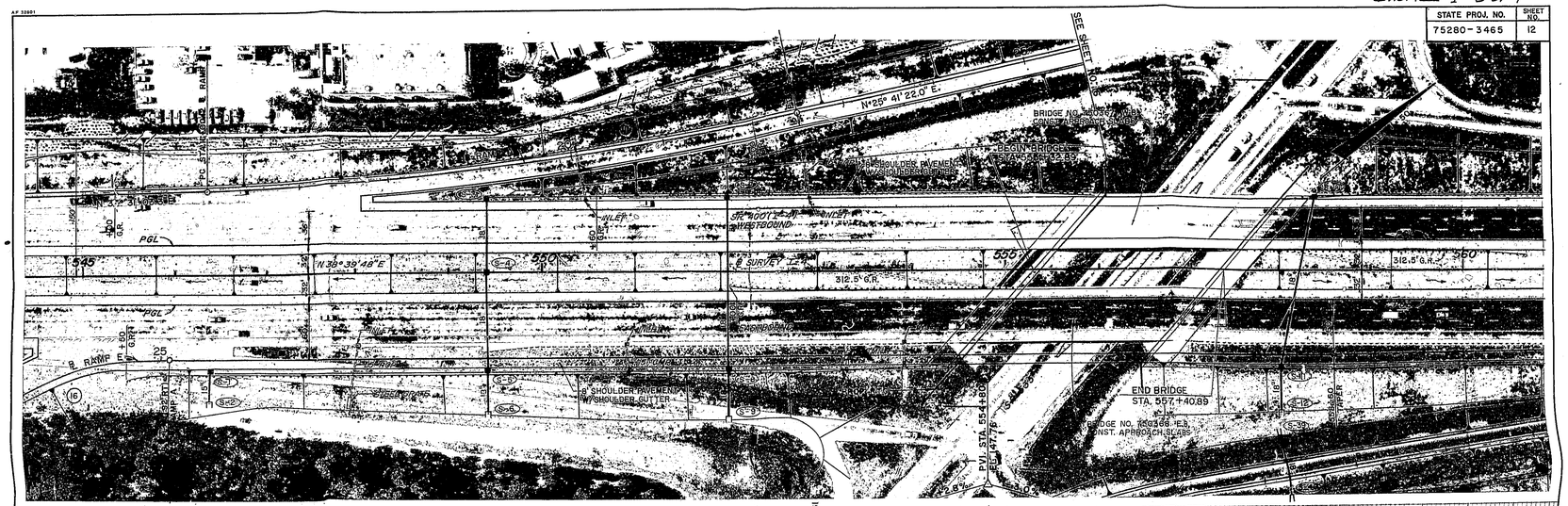
DATE

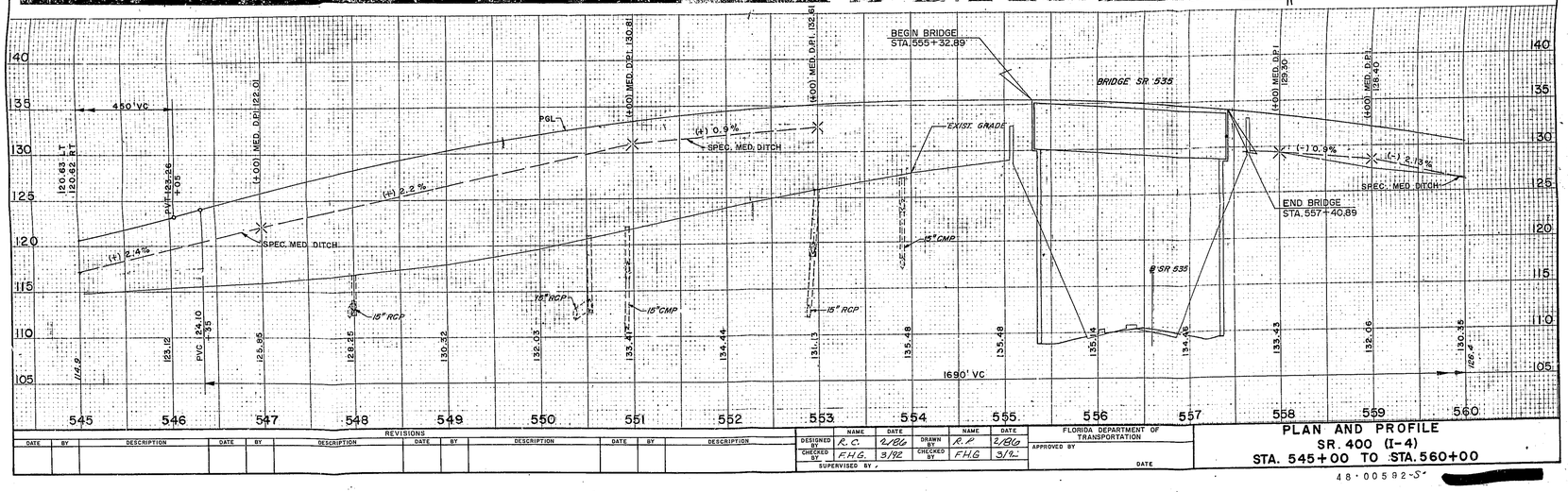
PLAN AND PROFILE
SR 400 (I-4)
STA. 530+00 TO STA. 545+00

48-00592-S*

ITEM III-1 3 OF 7

STATE PROJ. NO.	SHEET NO.
75280-3465	12





REVISIONS															
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CHECKED BY	F.H.G.	3/96	CHECKED BY	F.H.G	3/96
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

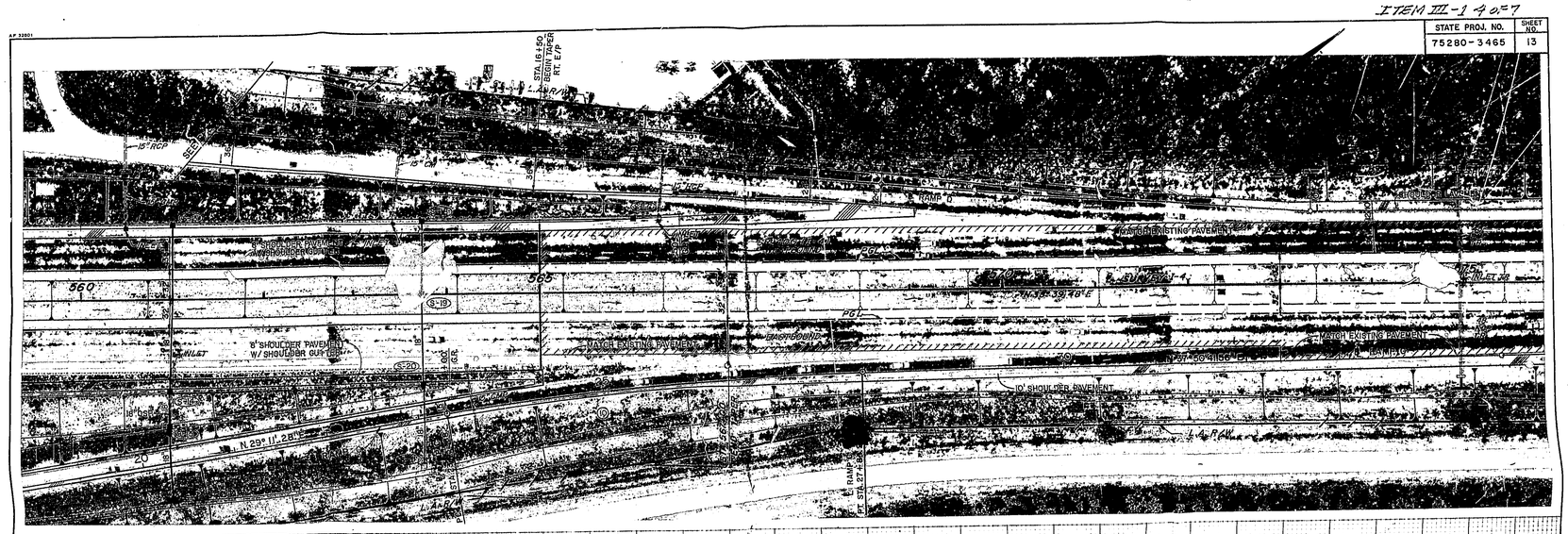
DATE

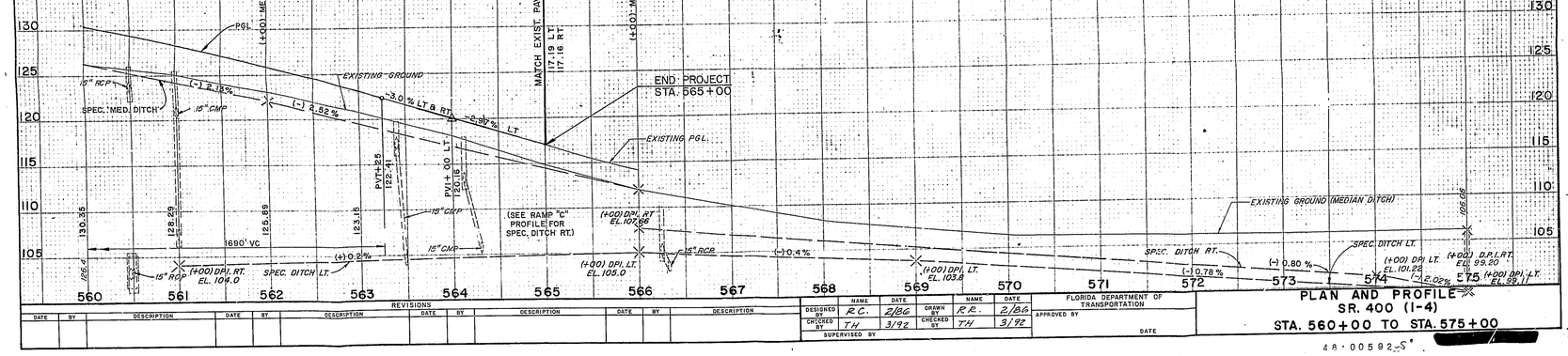
PLAN AND PROFILE
SR. 400 (I-4)
STA. 545+00 TO STA. 560+00

48-00592-S

ITEM III-1 4 OF 7

STATE PROJ. NO.	SHEET NO.
75280-3465	13





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CHECKED BY	T.H	3/92	CHECKED BY	T.H	3/92
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

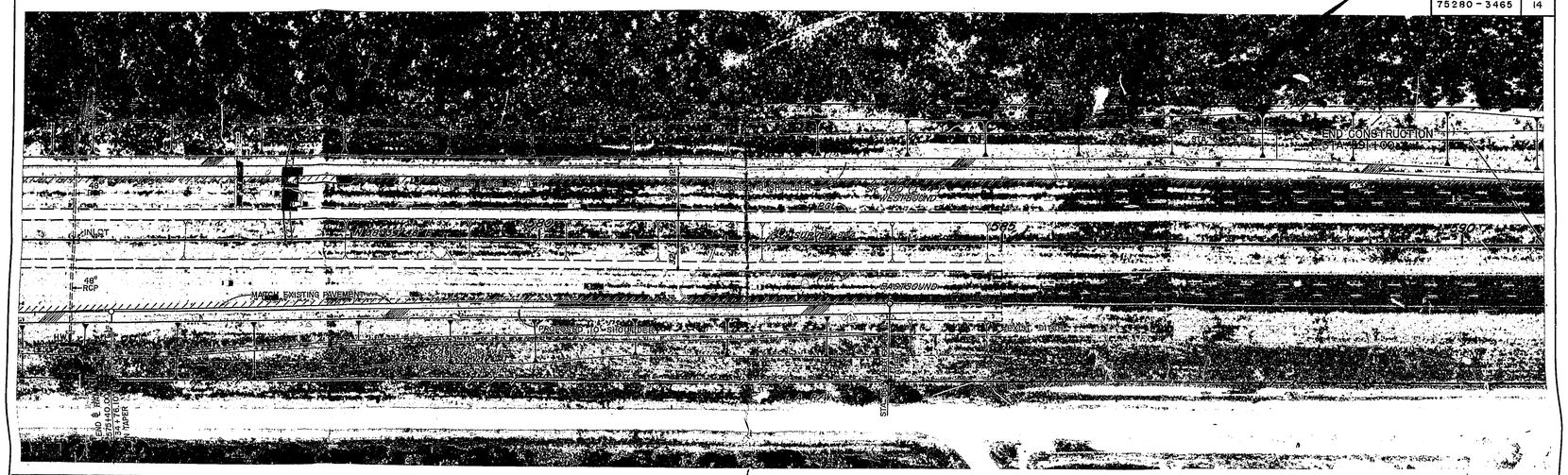
DATE

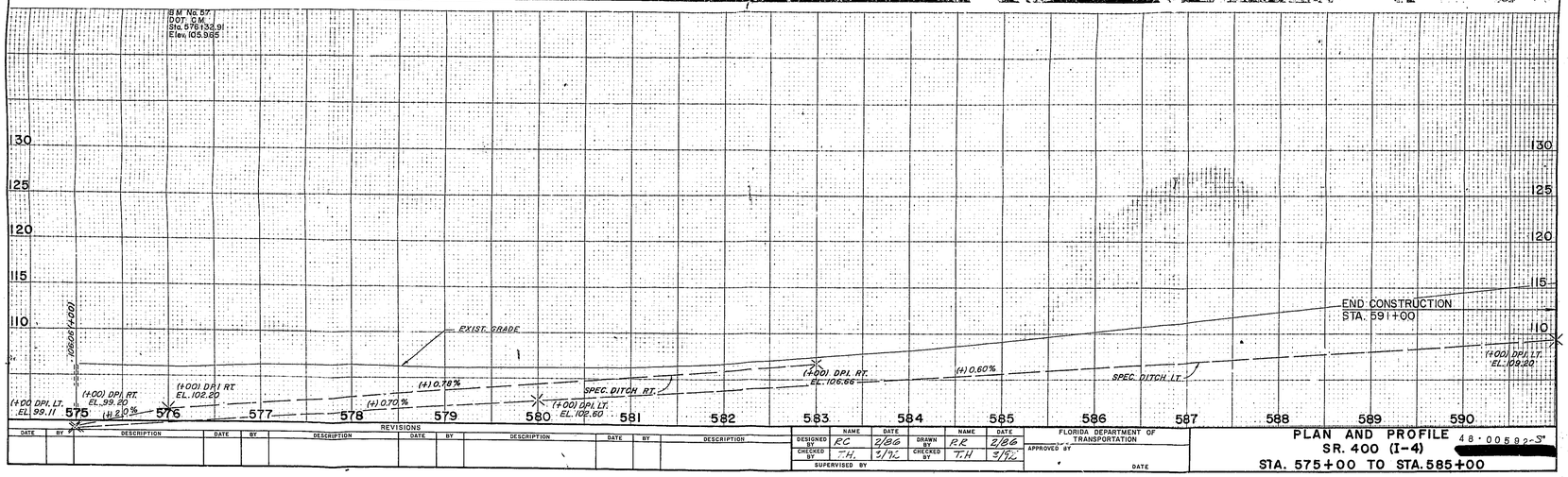
PLAN AND PROFILE
SR. 400 (I-4)
STA. 560+00 TO STA. 575+00

48-00592-S

ITEM III-1 5 OF 7

STATE PROJ. NO.	SHEET NO.
75280-3465	14





ITEM III-1 6 OF 7

STATE PROJ. NO.	SHEET NO.
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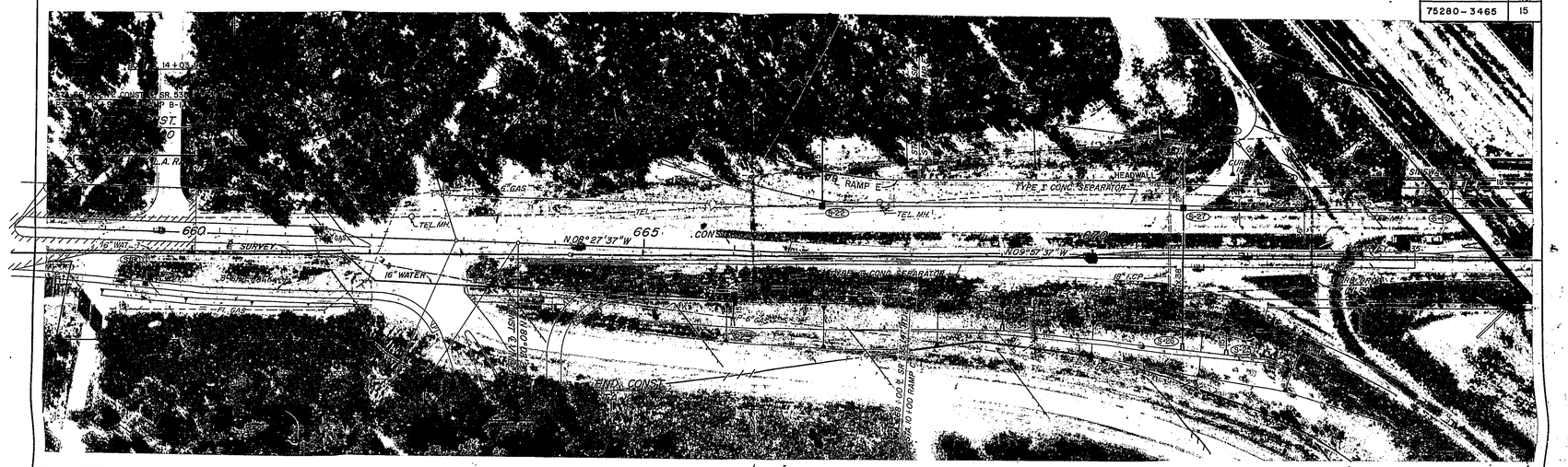
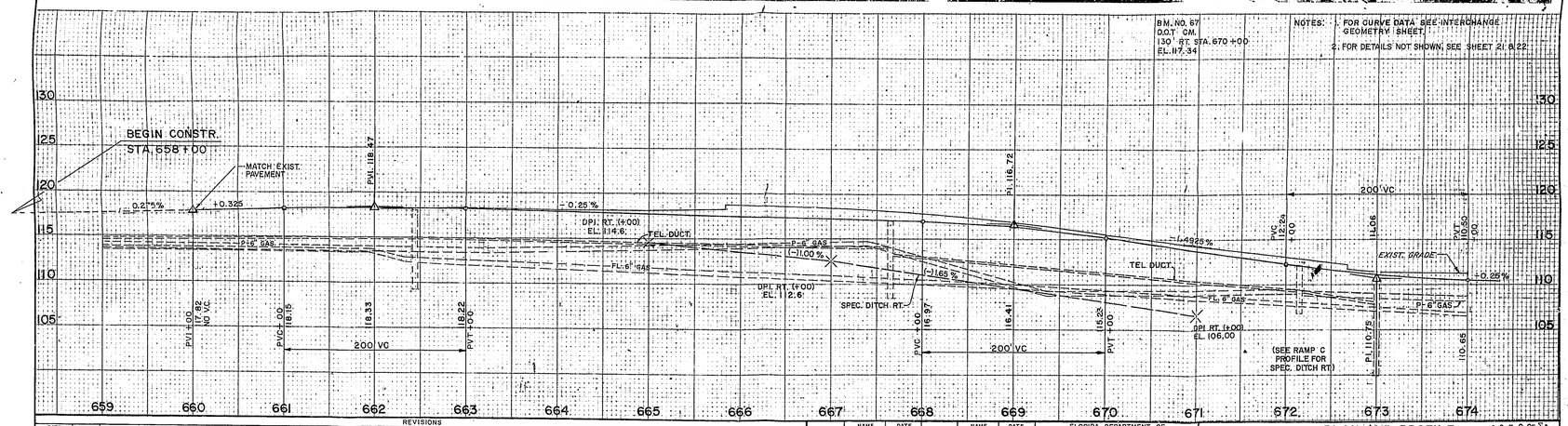




BM. NO. 67
D.O.T. CM.
130' RT. STA. 670+00
EL. 117.34

NOTES:
1. FOR CURVE DATA SEE INTERCHANGE GEOMETRY SHEET.
2. FOR DETAILS NOT SHOWN, SEE SHEET 21 & 22.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

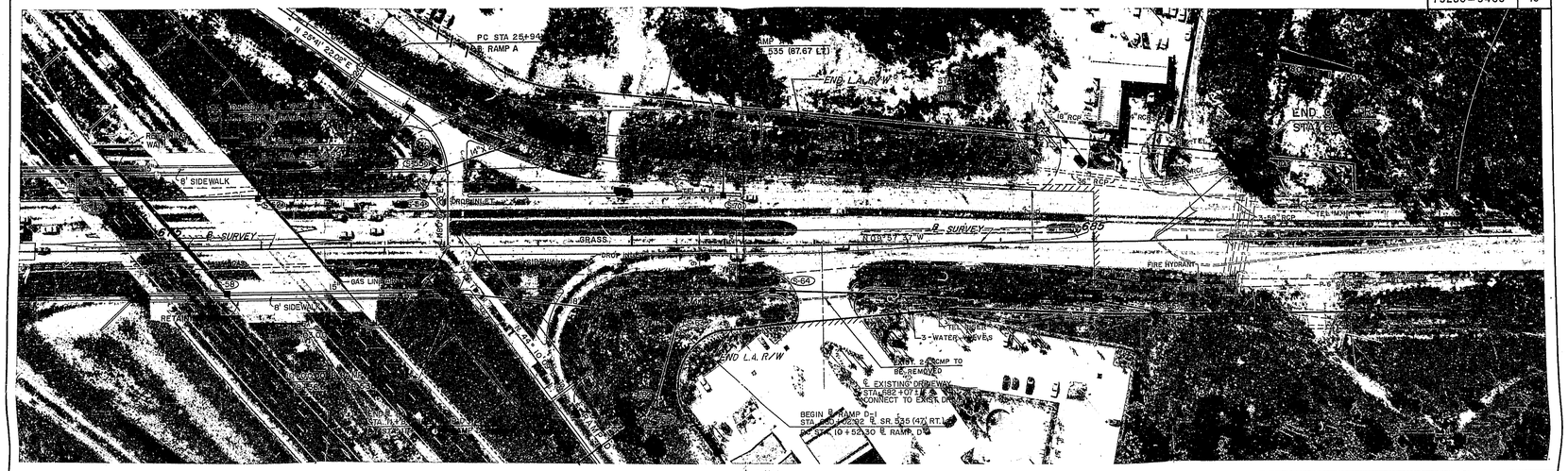
	NAME	DATE		NAME	DATE
DESIGNED BY	RC	2/86	DRAWN BY	R.R.	2/86
CHECKED BY	L.P.H.	2/87	CHECKED BY	T.P.H.	4/92
SUPERVISED BY					

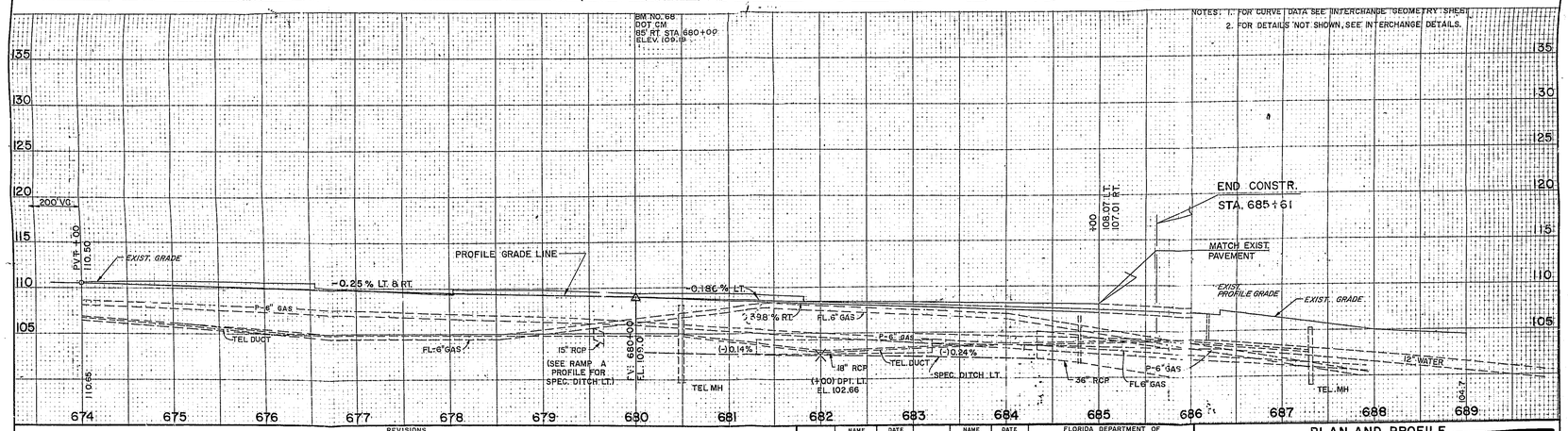
FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

PLAN AND PROFILE 48-00592-3P
SR. 535
STA. 659+00 TO STA. 674+00

ITEM III-1 7 OF 7

STATE PROJ. NO.	SHEET NO.
75280-3465	16





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	NAME	DATE		NAME	DATE
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CHECKED BY			CHECKED BY	T.P.H.	1/92
SUPERVISED BY					

FLORIDA DEPARTMENT OF TRANSPORTATION

APPROVED BY

DATE

PLAN AND PROFILE
SR. 535
STA. 674+00 TO STA. 686+00

48-00592-5

APPENDIX D.4: I-4 Auxiliary Lane: SR 535 to SR 528 (011109-7)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 • www.sfwmd.gov/org/exo/orlsc/index.html

CON 24-06

Regulation Department
Application No. 011109-7

January 4, 2002

Florida Department of Transportation
719 South Woodland Boulevard
Deland, Florida 32720

SUBJECT: Environmental Resource Standard General Permit No. 48-01243-P
Permittee: Florida Department of Transportation
Project: I-4 Auxiliary Lane S R 535 to S R 528
Location: Orange County, S11,12,13,14,15,22,23,27/T24S/R28E

Dear Permittee:

Enclosed please find notification and conditions of the South Florida Water Management District Environmental Resource Standard General Permit No. 48-01243-P issued January 4, 2002, for I-4 Auxiliary Lane S R 535 to S R 528 project. If you have questions, please do not hesitate to call me.

Sincerely,

Thomas P. Genovese
Service Center Director
Orlando Service Center

TPG/jlk

Enclosure

JLK0398

2014 FEB 13 13:10

GOVERNING BOARD

Trudi K. Williams, *Chair*
Lennart E. Lindahl, *Vice-Chair*
Pamela Brooks-Thomas
Michael Collins
Hugh M. English
Gerardo B. Fernández
Patrick J. Gleason, Ph.D., P.G.
Nicolás J. Gutiérrez, Jr., Esq.
Harkley R. Thornton

EXECUTIVE OFFICE

Henry Dean, *Executive Director*

Form #0941
08/95

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
STANDARD GENERAL PERMIT NO. 48-01243-P
DATE ISSUED: January 4, 2002

PERMITTEE: FLORIDA DEPARTMENT OF TRANSPORTATION
719 SOUTH WOODLAND BOULEVARD
DELAND, FL 32720

PROJECT DESCRIPTION: Construction and operation of a surface water management system to serve an 87.3 acre highway project known as I-4 Auxiliary Lane between SR 535 and SR 528.

PROJECT LOCATION: ORANGE COUNTY, SEC 11,12,13,14,15,22,23,27 TWP 24S RGE 28E

PERMIT DURATION: See Special Condition No:1. See attached Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Notice of Intent for Permit Application No. 011109-7, dated November 9, 2001. This action is taken pursuant to Rule 40E-1.603 and Chapter 40E-40 , Florida Administrative Code (F.A.C.).

Based on the information provided, District rules have been adhered to and an Environmental Resource General Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 19 General Conditions (See Pages : 2 - 4 of 6),
3. the attached 14 Special Conditions (See Pages : 5 - 6 of 6) and
4. the attached 12 Exhibit(s).

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the Permittee (and the persons listed in the attached distribution list) no later than 5:00 p.m. on this 4th day of January, 2002, in accordance with Section 120.60(3), Florida Statutes.

BY: Thomas P Genovese

Thomas P. Genovese
Service Center Director
Orlando Service Center

Certified mail number 7000 2870 0000 2133 5758

4/11/02

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40E-4.321 Duration of Permits

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C. is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. the effective date of the local government's comprehensive plan amendment.
2. the effective date of the local government development order.
3. the date on which the District issues the conceptual approval, or
4. the latest date of the resolution of any Chapter 120.57, F.A.C., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For a noticed general permit issued pursuant to Chapter 40-E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made in writing pursuant to subsection (3), the permit shall remain in full force and effect until:

1. the Governing Board takes action on an application for extension of an individual permit, or
2. staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environmental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to subsection 40E-4.331(2)(b), F.A.C. (letter modifications) do not extend the duration of a permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific authority 373.044, 373.113 F.S. Law Implemented 373.413, 373.416, 373.419, 373.426 F.S. History—New 9-3-81, Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4/20/94, 10-3-95

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GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373. F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permitee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied Environmental Resource Permit Construction Completion/Certification Form Number 0881. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and sepcifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings is discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "As-built" or "Record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the

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GENERAL CONDITIONS

approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(4), F.A.C., also known as the "No Notice" Rule.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

15. Any delination of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and

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GENERAL CONDITIONS

40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

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SPECIAL CONDITIONS

1. The conceptual phase of this permit shall expire on January 4, 2007.

2. Operation of the surface water management system shall be the responsibility of FLORIDA DEPARTMENT OF TRANSPORTATION. The permittee shall submit a copy of the recorded deed restrictions (or declaration of condominium, if applicable), a copy of the filed articles of incorporation, and a copy of the certificate of incorporation for the association concurrent with the engineering certification of construction completion.

3. Discharge Facilities:

Basin: I-4 AUX. LANE PONDS, Structure: 1

1-4" dia. CIRCULAR ORIFICE with invert at elev. 128' NGVD.
60 LF of 18" dia. REINFORCED CONCRETE PIPE culvert.
1-4.42' W X 5.42' L drop inlet with crest at elev. 130.2' NGVD.

Receiving body : I-4 Roadside system

Control elev : 128 feet NGVD. /128 FEET NGVD DRY SEASON.
Basin: I-4 AUX. LANE PONDS, Structure: 2

1-4" dia. CIRCULAR ORIFICE with invert at elev. 128.5' NGVD.
274 LF of 18" dia. REINFORCED CONCRETE PIPE culvert.
1-4.42' W X 5.42' L drop inlet with crest at elev. 130.6' NGVD.

Receiving body : I-4 Roadside system

Control elev : 128 feet NGVD. /128 FEET NGVD DRY SEASON.
Basin: I-4 AUX. LAND SWALES, Structure: 1

2-6' WIDE BROAD CRESTED weirs with crest at elev. 102.3' NGVD.
2-3" dia. CIRCULAR ORIFICEs with invert at elev. 101.3' NGVD.

Receiving body : I-4 Roadside system

Control elev : 101 feet NGVD. /101 FEET NGVD DRY SEASON.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.

5. Measures shall be taken during construction to insure that sedimentation and/or turbidity problems are not created in the receiving water.

6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.

7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.

8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.

9. A stable, permanent and accessible elevation reference shall be established on or within one hunded

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SPECIAL CONDITIONS

(100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.

11. Minimum road crown elevation: Basin: I-4 AUX. LANE PONDS - 134.00 feet NGVD.
Basin: I-4 AUX. LAND SWALES - 106.00 feet NGVD.

12. The authorization for construction of the surface water management system is issued pursuant to the water quality net improvement provisions referenced in Rule Section 40E-4.303(1), Florida Administrative Code; therefore, the state water quality certification is waived.

13. Silt screens, hay bales, turbidity screens/barriers or other such sediment control measures shall be utilized during construction. The selected sediment control measure shall be installed landward of the upland buffer zones around all protected wetlands and shall be properly "trenched" etc, in accordance with the erosion control plan. All areas shall be stabilized and vegetated immediately after construction to prevent erosion into the wetlands and upland buffer zones.

14. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.

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NOTICE OF RIGHTS

Section 120.569(1), Fla. Stat. (1999), requires that "each notice shall inform the recipient of any administrative hearing or judicial review that is available under this section, s. 120.57, or s. 120.68; shall indicate the procedure which must be followed to obtain the hearing or judicial review, and shall state the time limits which apply." Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

Petition for Administrative Proceedings

1. A person whose substantial interests are affected by the South Florida Water Management District's (SFWMD) action has the right to request an administrative hearing on that action. The affected person may request either a formal or an informal hearing, as set forth below. A point of entry into administrative proceedings is governed by Rules 28-106.111 and 40E-1.511, Fla. Admin. Code, (also published as an exception to the Uniform Rules of Procedure as Rule 40E-0.109), as set forth below. Petitions are deemed filed upon receipt of the original documents by the SFWMD Clerk.

a. Formal Administrative Hearing: If a genuine issue(s) of material fact is in dispute, the affected person seeking a formal hearing on a SFWMD decision which does or may determine their substantial interests shall file a petition for hearing pursuant to Sections 120.569 and 120.57(1), Fla. Stat. or for mediation pursuant to Section 120.573, Fla. Stat. within 21 days, except as provided in subsections c. and d. below, of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Petitions must substantially comply with the requirements of Rule 28-106.201(2), Fla. Admin. Code, a copy of the which is attached to this Notice of Rights.

b. Informal Administrative Hearing: If there are no issues of material fact in dispute, the affected person seeking an informal hearing on a SFWMD decision which does or may determine their substantial interests shall file a petition for hearing pursuant to Sections 120.569 and 120.57(2), Fla. Stat. or for mediation pursuant to Section 120.573, Fla. Stat. within 21 days, except as provided in subsections c. and d. below, of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Petitions must substantially comply with the requirements of Rule 28-106.301(2), Fla. Admin. Code, a copy of the which is attached to this Notice of Rights.

c. Administrative Complaint and Order: If a Respondent objects to a SFWMD Administrative Complaint and Order, pursuant to Section 373.119, Fla. Stat. (1997), the person named in the Administrative Complaint and Order may file a petition for a hearing no later than 14 days after the date such order is served. Petitions must substantially comply with the requirements of either subsection a. or b. above.

d. State Lands Environmental Resource Permit: Pursuant to Section 373.427, Fla. Stat., and Rule 40E-1.511(3), Fla. Admin. Code (also published as an exception to the Uniform Rules of Procedure as Rule 40E-0.109(2)(c)), a petition objecting to the SFWMD's agency action regarding consolidated applications for Environmental Resource Permits and Use of Sovereign Submerged Lands (SLERPs), must be filed within 14 days of the notice of consolidated intent to grant or deny the SLERP. Petitions must substantially comply with the requirements of either subsection a. or b. above.

e. Emergency Authorization and Order: A person whose substantial interests are affected by a SFWMD Emergency Authorization and Order, has a right to file a petition under Sections 120.569, 120.57(1), and 120.57(2), Fla. Stat., as provided in subsections a. and b. above. However, the person, or the agent of the person responsible for causing or contributing to the emergency conditions shall take whatever action necessary to cause immediate compliance with the terms of the Emergency Authorization and Order.

f. Order for Emergency Action: A person whose substantial interests are affected by a SFWMD Order for Emergency Action has a right to file a petition pursuant to Rules 28-107.005 and 40E-1.611, Fla. Admin. Code, copies of which are attached to this Notice of Rights, and Section 373.119(3), Fla. Stat., for a hearing on the Order. Any subsequent agency action or proposed agency action to initiate a formal revocation proceeding shall be separately noticed pursuant to section g. below.

g. Permit Suspension, Revocation, Annulment, and Withdrawal: If the SFWMD issues an administrative complaint to suspend, revoke, annul, or withdraw a permit, the permittee may request a hearing to be conducted in accordance with Sections 120.569 and 120.57, Fla. Stat., within 21 days of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Petitions must substantially comply with the requirements of Rule 28-107.004(3), Fla. Admin. Code, a copy of the which is attached to this Notice of Rights.

2. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the SFWMD's final action may be different from the position taken by it previously. Persons whose substantial interests may be affected by

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any such final decision of the SFWMD shall have, pursuant to Rule 40E-1.511(2), Fla. Admin. Code (also published as an exception to the Uniform Rules of Procedure as Rule 40E-0.109(2)(c)), an additional 21 days from the date of receipt of notice of said decision to request an administrative hearing. However, the scope of the administrative hearing shall be limited to the substantial deviation.

3. Pursuant to Rule 40E-1.511(4), Fla. Admin. Code, substantially affected persons entitled to a hearing pursuant to Section 120.57(1), Fla. Stat., may waive their right to such a hearing and request an informal hearing before the Governing Board pursuant to Section 120.57(2), Fla. Stat., which may be granted at the option of the Governing Board.

4. Pursuant to Rule 28-106.111(3), Fla. Admin. Code, persons may file with the SFWMD a request for extension of time for filing a petition. The SFWMD, for good cause shown, may grant the extension. The request for extension must contain a certificate that the petitioner has consulted with all other parties, if any, concerning the extension and that the SFWMD and all other parties agree to the extension.

CIRCUIT COURT

5. Pursuant to Section 373.617, Fla. Stat., any substantially affected person who claims that final agency action of the SFWMD relating to permit decisions constitutes an unconstitutional taking of property without just compensation may seek judicial review of the action in circuit court by filing a civil action in the circuit court in the judicial circuit in which the affected property is located within 90 days of the rendering of the SFWMD's final agency action.

6. Pursuant to Section 403.412, Fla. Stat., any citizen of Florida may bring an action for injunctive relief against the SFWMD to compel the SFWMD to enforce the laws of Chapter 373, Fla. Stat., and Title 40E, Fla. Admin. Code. The complaining party must file with the SFWMD Clerk a verified complaint setting forth the facts upon which the complaint is based and the manner in which the complaining party is affected. If the SFWMD does not take appropriate action on the complaint within 30 days of receipt, the complaining party may then file a civil suit for injunctive relief in the 15th Judicial Circuit in and for Palm Beach County or circuit court in the county where the cause of action allegedly occurred.

7. Pursuant to Section 373.433, Fla. Stat., a private citizen of Florida may file suit in circuit court to require the abatement of any stormwater management system, dam, impoundment, reservoir, appurtenant work or works that violate the provisions of Chapter 373, Fla. Stat.

DISTRICT COURT OF APPEAL

8. Pursuant to Section 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

LAND AND WATER ADJUDICATORY COMMISSION

9. A party to a "proceeding below" may seek review by the Land and Water Adjudicatory Commission (FLAWAC) of SFWMD's final agency action to determine if such action is consistent with the provisions and purposes of Chapter 373, Fla. Stat. Pursuant to Section 373.114, Fla. Stat., and Rules 42-2.013 and 42-2.0132, Fla. Admin. Code, a request for review of (a) an order or rule of the SFWMD must be filed with FLAWAC within 20 days after rendition of the order or adoption of the rule sought to be reviewed; (b) an order of the Department of Environmental Protection (DEP) requiring amendment or repeal of a SFWMD rule must be filed with FLAWAC within 30 days of rendition of the DEP's order, and (c) a SFWMD order entered pursuant to a formal administrative hearing under Section 120.57(1), Fla. Stat., must be filed no later than 20 days after rendition of the SFWMD's final order. Simultaneous with filing, a copy of the request for review must be served on the DEP Secretary, any person named in the SFWMD or DEP final order, and all parties to the proceeding below. A copy of Rule 42-2.013, Fla. Admin. Code is attached to this Notice of Rights.

PRIVATE PROPERTY RIGHTS PROTECTION ACT

10. A property owner who alleges a specific action of the SFWMD has inordinately burdened an existing use of the real property, or a vested right to a specific use of the real property, may file a claim in the circuit court where the real property is located within 1 year of the SFWMD action pursuant to the procedures set forth in Subsection 70.001(4)(a), Fla. Stat.

LAND USE AND ENVIRONMENTAL DISPUTE RESOLUTION

11. A property owner who alleges that a SFWMD development order (as that term is defined in Section 70.51(2)(a), Fla. Stat. to include permits) or SFWMD enforcement action is unreasonable, or unfairly burdens the use of the real property, may file a request for relief with the SFWMD within 30 days of receipt of the SFWMD's order or notice of agency action pursuant to the procedures set forth in Subsections 70.51(4) and (6), Fla. Stat.

MEDIATION

12. A person whose substantial interests are, or may be, affected by the SFWMD's action may choose mediation as an alternative remedy under Section 120.573, Fla. Stat. Pursuant to Rule 28-106.111(2), Fla. Admin. Code, the petition for mediation shall be filed within 21 days of either written notice through mail or posting or

publication of notice that the SFWMD has or intends to take final agency action. Choosing mediation will not affect the right to an administrative hearing if mediation does not result in settlement.

Pursuant to Rule 28-106.402, Fla. Admin. Code, the contents of the petition for mediation shall contain the following information:

(1) the name, address, and telephone number of the person requesting mediation and that person's representative, if any;

(2) a statement of the preliminary agency action;

(3) an explanation of how the person's substantial interests will be affected by the agency determination; and

(4) a statement of relief sought.

As provided in Section 120.573, Fla. Stat. (1997), the timely agreement of all the parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, Fla. Stat., for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within 60 days of the execution of the agreement. If mediation results in settlement of the dispute, the SFWMD must enter a final order incorporating the agreement of the parties. Persons whose substantial interest will be affected by such a modified agency decision have a right to petition for hearing within 21 days of receipt of the final order in accordance with the requirements of Sections 120.569 and 120.57, Fla. Stat., and SFWMD Rule 28-106.201(2), Fla. Admin. Code. If mediation terminates without settlement of the dispute, the SFWMD shall notify all parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Fla. Stat., remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action.

VARIANCES AND WAIVERS

13. A person who is subject to regulation pursuant to a SFWMD rule and believes the application of that rule will create a substantial hardship or will violate principles of fairness (as those terms are defined in Subsection 120.542(2), Fla. Stat.) and can demonstrate that the purpose of the underlying statute will be or has been achieved by other means, may file a petition with the SFWMD Clerk requesting a variance from or waiver of the SFWMD rule. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have concerning the SFWMD's action. Pursuant to Rule 28-104.002(2), Fla. Admin. Code, the petition must include the following information:

(a) the caption shall read:
Petition for (Variance from) or (Waiver of) Rule (Citation)

(b) The name, address, telephone number and any facsimile number of the petitioner;

(c) The name, address telephone number and any facsimile number of the attorney or qualified representative of the petitioner, (if any);

(d) the applicable rule or portion of the rule;

(e) the citation to the statue the rule is implementing;

(f) the type of action requested;

(g) the specific facts that demonstrate a substantial hardship or violation of principals of fairness that would justify a waiver or variance for the petitioner;

(h) the reason why the variance or the waiver requested would serve the purposes of the underlying statute; and

(i) a statement of whether the variance or waiver is permanent or temporary. If the variance or waiver is temporary, the petition shall include the dates indicating the duration of the requested variance or waiver.

A person requesting an emergency variance from or waiver of a SFWMD rule must clearly so state in the caption of the petition. In addition to the requirements of Section 120.542(5), Fla. Stat. pursuant to Rule 28-104.004(2), Fla. Admin. Code, the petition must also include:

a) the specific facts that make the situation an emergency; and

b) the specific facts to show that the petitioner will suffer immediate adverse effect unless the variance or waiver is issued by the SFWMD more expeditiously than the applicable timeframes set forth in Section 120.542, Fla. Stat.

WAIVER OF RIGHTS

14. Failure to observe the relevant time frames prescribed above will constitute a waiver of such right.

28-106.201 INITIATION OF PROCEEDINGS
(INVOLVING DISPUTED ISSUES OF MATERIAL FACT)

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding, and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and

(f) A demand for relief.

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28-106.301 INITIATION OF PROCEEDINGS (NOT INVOLVING DISPUTED ISSUES OF MATERIAL FACT)

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding, and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and

(e) A demand for relief.

28-107.004 SUSPENSION, REVOCATION, ANNULMENT, OR WITHDRAWAL

(3) Requests for hearing filed in accordance with this rule shall include:

(a) The name and address of the party making the request, for purposes of service;

(b) A statement that the party is requesting a hearing involving disputed issues of material fact, or a hearing not involving disputed issues of material fact; and

(c) A reference to the notice, order to show cause, administrative complaint, or other communication that the party has received from the agency.

42-2.013 REQUEST FOR REVIEW PURSUANT TO SECTION 373.114 OR 373.217

(1) In any proceeding arising under Chapter 373, F.S., review by the Florida Land and Water Adjudicatory Commission may be initiated by the Department or a party by filing a request for such review with the Secretary of the Commission and serving a copy on any person named in the rule or order, and on all parties to the proceeding which resulted in the order sought to be reviewed. A certificate of service showing completion of service as required by this subsection shall be a requirement for a determination of sufficiency under Rule 42-2.0132. Failure to file the request with the Commission within the time period provided in Rule 42-2.0132 shall result in dismissal of the request for review.

(2) The request for review shall identify the rule or order requested to be reviewed, the proceeding in which the rule or order was entered and the nature of the rule or order. A copy of the rule or order sought to be reviewed shall be attached. The request for review shall state with particularity:

(a) How the order or rule conflicts with the requirements, provisions and purposes of Chapter 373, F.S., or rules duly adopted thereunder;

(b) How the rule or order sought to be reviewed affects the interests of the party seeking review;

(c) The oral or written statement, sworn or unsworn, which was submitted to the agency concerning the matter to be reviewed and the date and location of the statement, if the individual or entity requesting the review has not participated in a proceeding previously instituted pursuant to Chapter 120, F.S., on the order for which review is sought;

(d) If review of an order is being sought, whether and how the activity authorized by the order would substantially affect natural resources of statewide or regional significance, or whether the order raises issues of policy, statutory interpretation, or rule interpretation that have regional or statewide significance from a standpoint of agency precedent, and all the factual bases in the record which the petitioner claims support such determination(s); and

(e) The action requested to be taken by the Commission as a result of the review, whether to rescind or modify the order, or remand the proceeding to the water management district for further action, or to require the water management district to initiate rulemaking to adopt, amend or repeal a rule.

28-107.005 EMERGENCY ACTION

(1) If the agency finds that immediate serious danger to the public health, safety, or welfare requires emergency action, the agency shall summarily suspend, limit, or restrict a license.

(2) the 14-day notice requirement of Section 120.569(2)(b), F. S., does not apply and shall not be construed to prevent a hearing at the earliest time practicable upon request of an aggrieved party.

(3) Unless otherwise provided by law, within 20 days after emergency action taken pursuant to paragraph (1) of this rule, the agency shall initiate a formal suspension or revocation proceeding in compliance with Sections 120.569, 120.57. and 120.60, F.S.

40E-1.611 EMERGENCY ACTION

(1) An emergency exists when immediate action is necessary to protect public health, safety or welfare; the health of animals, fish or aquatic life; the works of the District; a public water supply, or recreational, commercial, industrial, agricultural or other reasonable uses of land and water resources.

(2) The Executive Director may employ the resources of the District to take whatever remedial action necessary to alleviate the emergency condition without the issuance of an emergency order, or in the event an emergency order has been issued, after the expiration of the requisite time for compliance with that order.

2014 EB 13-10

THE JONES TEAM

JONES BROS INC. | TCD | HNTB | Ranger Construction Industries, Inc.

ADDITIONAL INFORMATION

DEC 18 2001

ORLANDO SERVICE CENTER

December 18, 2001

Susan 1/9

Mr. Alan Leavens
South Florida Water Management District
Orlando Service Center
1707 Orlando Central Parkway
Orlando, Florida 32809

011109-7

Re: Permit Application ~~010130-2~~
I-4 Auxiliary Lane from SR 535 to SR 528 Standard General Permit

Dear Mr. Leavens:

We have made some revisions to our design for the above referenced project based on comments received from the Reedy Creek Improvement District (RCID). The following summarizes the extent of the revisions:

- Treatment ditch blocks have been added to the ditches along the I-4 eastbound and westbound roadway between the existing rest areas and the SR 535 Interchange. These were requested by RCID to provide additional treatment to the roadway runoff over what had already been proposed.

- The overflow from Pond 2 has been relocated to the east side of the pond. The discharge from the orifice will go into the existing I-4 drainage ditch northeast of the pond. Please note that the overflow weir for this pond has been set above the 100-year flood elevation. The only discharge from this pond will be typically through the drawdown orifice.

Three copies of following plans are enclosed that were revised to reflect the changes outlined above:

RECEIVED

DEC 18 2001

ORLANDO SERVICE CENTER

South Florida Water Management District
Permit Application 010130-8
December 18, 2001

ADDITIONAL INFORMATION
DEC 18 2001
ORLANDO SERVICE CENTER

Plan Sheet	Title
23	Summary of Drainage Structures
24-25	Drainage Detail Sheets
26	Control Structure Details
31-33	Plan Sheets 2, 3 and 4
35-36	Plan Sheets 6 and 7
45	Pond 2 Plan

Also enclosed are three copies of the revised Stormwater and Design Calculations, revised December 18, 2001.

We appreciate your timely review of our permit application. Please give me a call if you have any questions.

Very truly yours,

HNTB Corporation

Amy E. Trewin, EI
Drainage Engineer

cc: Mr. Mack Elsabagh, RCID with Attachments
Ms. Jennifer Vreeland, FDOT with Attachments
Mr. Bill Bentley, Jones Bros. Construction with Attachments

HNTB
The HNTB Companies

APP# 011109-7

Letter of Transmittal

Date: November 30, 2001

HNTB Job Number: 34671 DS 001 001

011109-7

To: Alan Leavens
South Florida Water Management District
Orlando Service Center
7335 Lake Ellenor Drive
Orlando, Florida 32809

ADDITIONAL INFORMATION
DEC 03 2001
ORLANDO SERVICE CENTER

WE ARE FORWARDING TO YOU ☒ Enclosed ☐ Under separate cover via _____

☐ Drawings (Disc)	☐ Shop Drawing	☐ Copy of Letter	☐ Originals
☐ Specifications	☐ Change Order	☐ Proposal	☐ Reproducible
☐ Estimates	☐ Samples	☐ Report	☐ Prints

No. of Copies	Drawing No.	Last Dated	Code	Description
5 sets				Two signed and sealed wetland sheets.

THESE ARE TRANSMITTED

☐ For approval	☐ Resubmit __ Copies for review	☐ No exceptions taken (NE)
☒ For your use	☐ Submit __ Copies for distribution	☐ Make corrections noted (MCN)
☐ As requested	☐ Return __ Corrected prints	☐ Amend and resubmit (AR)
☐ For review and comment	☐ Rejected - See remarks (R)	

PLEASE NOTE

Susan requested that the biologist wetland sheets be signed and sealed.
Let me know if there is anything else you need.

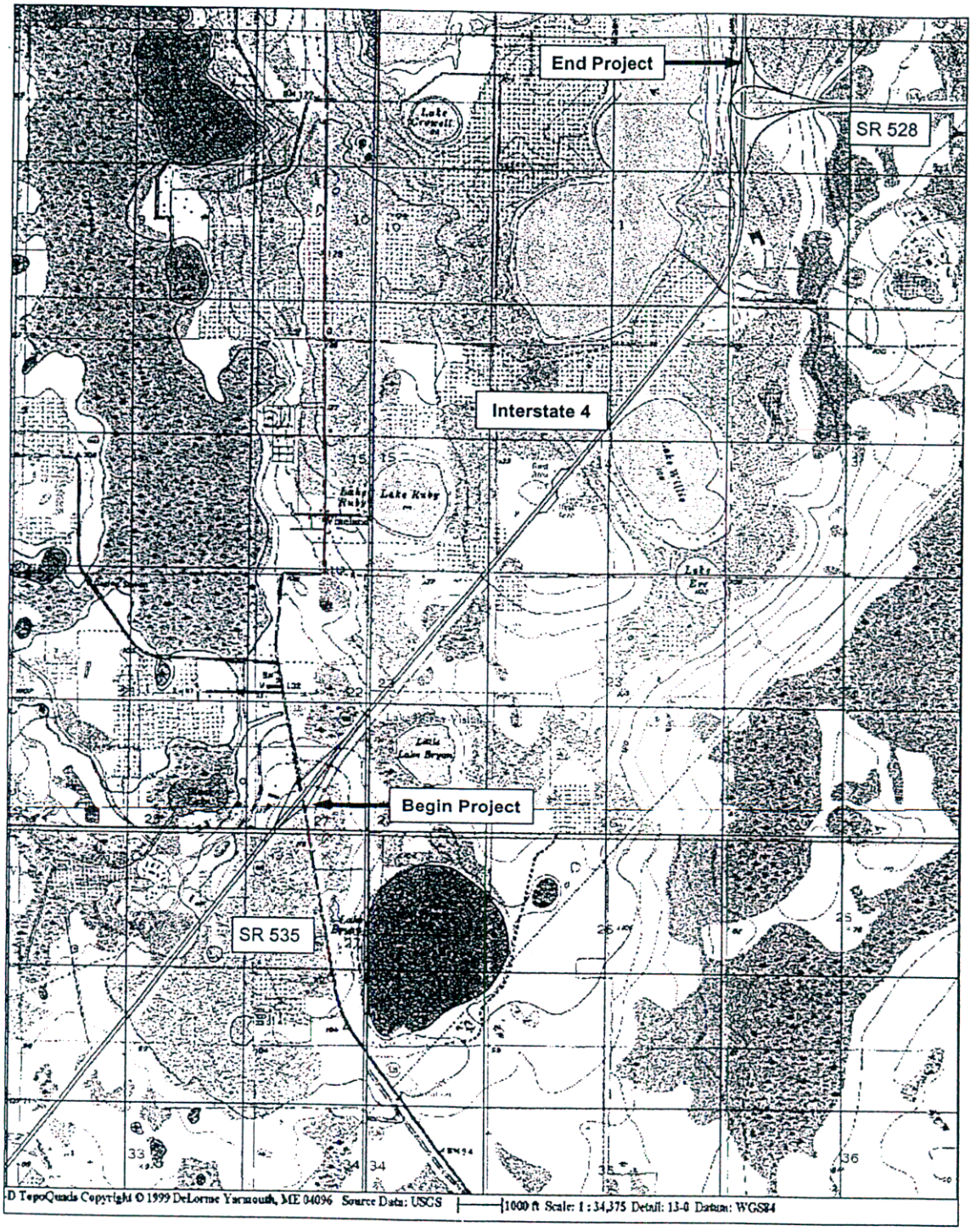
RECEIVED
DEC 03 2001
ORLANDO SERVICE CENTER

cc: File: 34671.DS.001.210

By: Amy Trewin
Amy Trewin

\\ORLW00\pmwork\JOBS\34671\TECHPROD\permits\113001SFWMD.doc
11/30/01

2015 FEB 13 13:10



EMD
ENVIRONMENTAL CONSULTANTS

Figure 1
Location Map

I-4 Auxiliary Lanes
Milling and Resurfacing
Orange County, FL

EXHIBIT 1

2016 FEB 12 13:10

Last Date For Agency Action: January 8, 2002

GENERAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: I-4 Auxiliary Lane S R 535 To S R 528

Permit No.: 48-01243-P

Application No.: 011109-7

Application Type: Environmental Resource (New General Permit)

Location: Orange County, S11,12,13,14,15,22,23,27/T24S/R28E

Permittee : Florida Department Of Transportation

Operating Entity : Florida Department Of Transportation

Project Area: 87.3 acres

Project Land Use: Highway

Drainage Basin: REEDY CREEK

Receiving Body: Reedy Creek & Shingle Creek via existing road system **Class:** CLASS III

Special Drainage District: NA

Total Acres Wetland Onsite:	.85
Total Acres Wetland Preserved Onsite:	.41
Total Acres Impacted Onsite :	.44

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

This application is a request for an Environmental Resource Permit to authorize construction and operation of a surface water management system to serve 87.3 acres of highway construction. Staff recommends approval with conditions.

EXHIBIT 2a

2014 FEB 13 13:10

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The site is located along the existing I-4 corrider between the SR 535 and SR 528 (Beeline Expressway) interchanges.

There are no permitted surface water management facilities within the project area. This section of I-4 pre-dates District permitting criteria.

The 87.3 acre project site is composed in the large majority of existing road and right-of-way. Approximately 4.4 acres of upland cut roadside swales will be filled (part of the existing surface water management system) and culverted as a part of the proposed activities. A small (0.44 acre) isolated herbaceous marsh is proposed for impact as a part of the roadway widening. Since the wetland falls below half an acre and harbors no nesting or denning activities of listed species, mitigation is not required. Another forested shrub wetland area (W-2, 0.41 acre) occurs on the south side of the project at stations 665-670+50. This wetland is a part of the lakeshore wetland areas surrounding Lake Willis, just offsite of the project. The roadway is only proposed for milling and resurfacing within the adjacent areas and therefore the proposed activities should have no impact on the wetlnad. An erosion control plan has been incorporated into the overall design plan, thereby providing protection against potential ersoional impacts to wetlands and offsite areas. No adverse impacts to wetlands, surface waters, or listed species are anticipated as the result of the proposed activities.

PROPOSED PROJECT:

Construction proposed consists of adding two auxiliary lanes to I-4 between the SR 535 and SR 528 interchanges; the existing right of way contains 87.3 acres. The water management system consists of dry detention swales serving 28.65 acres and two wet detention ponds serving 18.14 acres. The new lanes contain 5.81 acres of pavement. The existing rest areas containing 6.86 acres of pavement are being removed and the detention ponds constructed in this area. The balance of the right of way will continue to drain to the existing I-4 roadside swales. The detention swales provide water quality treatment in excess of 2.5 inches over the new pavement for the contributing area. The detention ponds provide water quality treatment in excess of 2.5 inches over the new pavement for the contributing area and the portion of the new pavement that can not be directed to the ponds or swales. The detention ponds detain the 100 year 24 hour storm with discharge only via the bleeder orifices. Final discharge will be to the existing I-4 roadside system that eventually flows to Reedy Creek on the South and Shingle Creek on the north. The flows in the I-4 roadside ditches, which may sheet flow to Lake Wills, have been reduced by the detention of the 100 year 24 hour design storm. Also with the removal of all pavement in the rest areas and construction of the ponds there, runoff from those areas will no longer contribute to the I-4 roadside swales again reducing the potential of any runoff sheet flowing to Lake Willis.

LAND USE:

Construction:
Project:

	This Phase	Total Project	
Pavement	37.30	37.30	acres
Pervious	43.72	43.72	acres
Water Mgnt Acreage	6.28	6.28	acres
Total:	**87.30**	**87.30**	

EXHIBIT 26

2014 FEB 13 13:10

WATER QUANTITY :

Discharge Rate :

As shown in the table below, the proposed project discharge is within the allowable limit for the area.

Discharge Storm Frequency : 25 YEAR-1 DAY Design Rainfall : 7 inches

Basin	Allow Disch (cfs)	Method Of Determination	Peak Disch (cfs)	Peak Stage (ft, NGVD)
I-4 Aux. Lane Ponds	2	Pre Vs Post	1	129.4
I-4 Aux. Land Swales	6.1	Pre Vs Post	6.1	103.3

Road Design :

Road Storm Frequency : 25 YEAR-1 DAY Design Rainfall: 7 inches

Basin	Peak Stage (ft, NGVD)	Proposed Min. Road Crown (ft, NGVD)
I-4 Aux. Lane Ponds	129.4	134
I-4 Aux. Land Swales	103.3	106

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD)	WSWT Ctrl Elev (ft, NGVD)	Method Of Determination
I-4 Aux. Lane Ponds	58.65	128/128	128.00	Wet Season Soil Borings
I-4 Aux. Land Swales	28.65	101/101	101.00	Wet Season Soil Borings

Receiving Body :

Basin	Str.#	Receiving Body
I-4 Aux. Lane Ponds	1	I-4 Roadside system
I-4 Aux. Lane Ponds	2	I-4 Roadside system
I-4 Aux. Land Swales	1	I-4 Roadside system

Discharge Structures

Discharge Culverts:

Basin	Str.#	Dimensions
I-4 Aux. Lane Ponds	1	1 - 60' long 18" dia. Reinforced Concrete Pipe
I-4 Aux. Lane Ponds	2	1 - 274' long 18" dia. Reinforced Concrete Pipe

Discharge Inlets:

Basin	Str. #	Dimensions	Crest Elev. (ft, NGVD)
I-4 Aux. Lane Ponds	1	1 - 4.42' wide X 5.42' length Inlet	130.2

EXHIBIT 2c

2015 FEB 13 13:10

Basin	Str. #	Dimensions	Crest Elev. (ft, NGVD)
I-4 Aux. Lane Ponds	2	1 - 4.42' wide X 5.42' length Inlet	130.6

Discharge Weirs:

Basin	Str.#	Dimensions	Crest Elev. (ft, NGVD)
I-4 Aux. Land Swales	1	2 - 6' wide Broad Crested	102.3

Water Quality Structures:

Water Quality Bleeders:

Basin	Str.#	Dimensions	Invert Elev. (ft, NGVD)
I-4 Aux. Lane Ponds	1	1 - 4" Dia. Circular Orifice	128
I-4 Aux. Lane Ponds	2	1 - 4" Dia. Circular Orifice	128.5
I-4 Aux. Land Swales	1	2 - 3" Dia. Circular Orifice	101.3

WATER QUALITY :

No adverse water quality impacts are anticipated as a result of the proposed project. Water quality treatment in excess of 2.5 inches times the percentage of impervious coverage over the new pavement is provided in the detention swales and two wet detention ponds. This project is being permitted on the net water quality improvement provisions of the rules. (See Special Condition)

Basin		Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd (ac-ft)
I-4 Aux. Lane Ponds	Treatment	Wet Detention	5.28 acres	.78	1.44
I-4 Aux. Land Swales	Treatment	Dry Detention	1 acres	.56	.57

WETLANDS:

Wetland Inventory:

Wetland #W-2 is an isolated freshwater marsh occuring within the right-of-way of the south side of the road between stations 606 and 608. The wetland is less than half an acre in size and does not provide significant habitat for any wetland dependent listed species. As a consequence no mitigation will be required to offset the proposed impact. Approximately 4.4 acres of upland cut, roadside swales will be filled and culverted as a result of the proposed activities. No mitigation is required for fillng surface water management facilities.

EXHIBIT 2d

2014 FEB 13 13:10

Wetland Inventory :

CONSTRUCTION NEW -I-4 AUXILIARY LANE SR 535 TO SR 528 ONSITE

Pre-Development		Post-Development				
	Total Existing	Impacted	Undisturbed	Enhanced	Preserved	Restored/ Created
Fresh Water Forested	.02		.02			
Fresh Water Herbaceous	.83	.44	.39			
Other Surface Waters	4.41	4.41				
Total:	**5.26**	**4.85**	**.41**			

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and subsection 40E-4361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Subsection 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Section 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

EXHIBIT 2e

2014 FEB 13 13:10

RELATED CONCERNS:

Water Use Permit Status:

A Water Use permit is not required for this project at this time.

Historical/Archeological Resources:

No information has been received that indicates the presence of archaeological or historical resources or that the proposed activities could cause adverse impacts to archaeological or historical resources.

DCA/CZM Consistency Review:

The District has not received a finding of inconsistency from the Florida Department of Community Affairs regarding the provisions of the federal Coastal Zone Management Plan.

Enforcement:

There has been no enforcement activity associated with this application.

EXHIBIT 2f

2014 FEB 13 13:10

STAFF RECOMMENDATION:

The Staff recommends that the following be issued :

Construction and operation of a surface water management system to serve an 87.3 acre highway project known as I-4 auxillary lanes beteeen SR 535 and SR 528.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached
General and Special Conditions.

STAFF REVIEW:

DIVISION APPROVAL:

NATURAL RESOURCE MANAGEMENT:

Marc S. Ady

DATE: 1/02/02

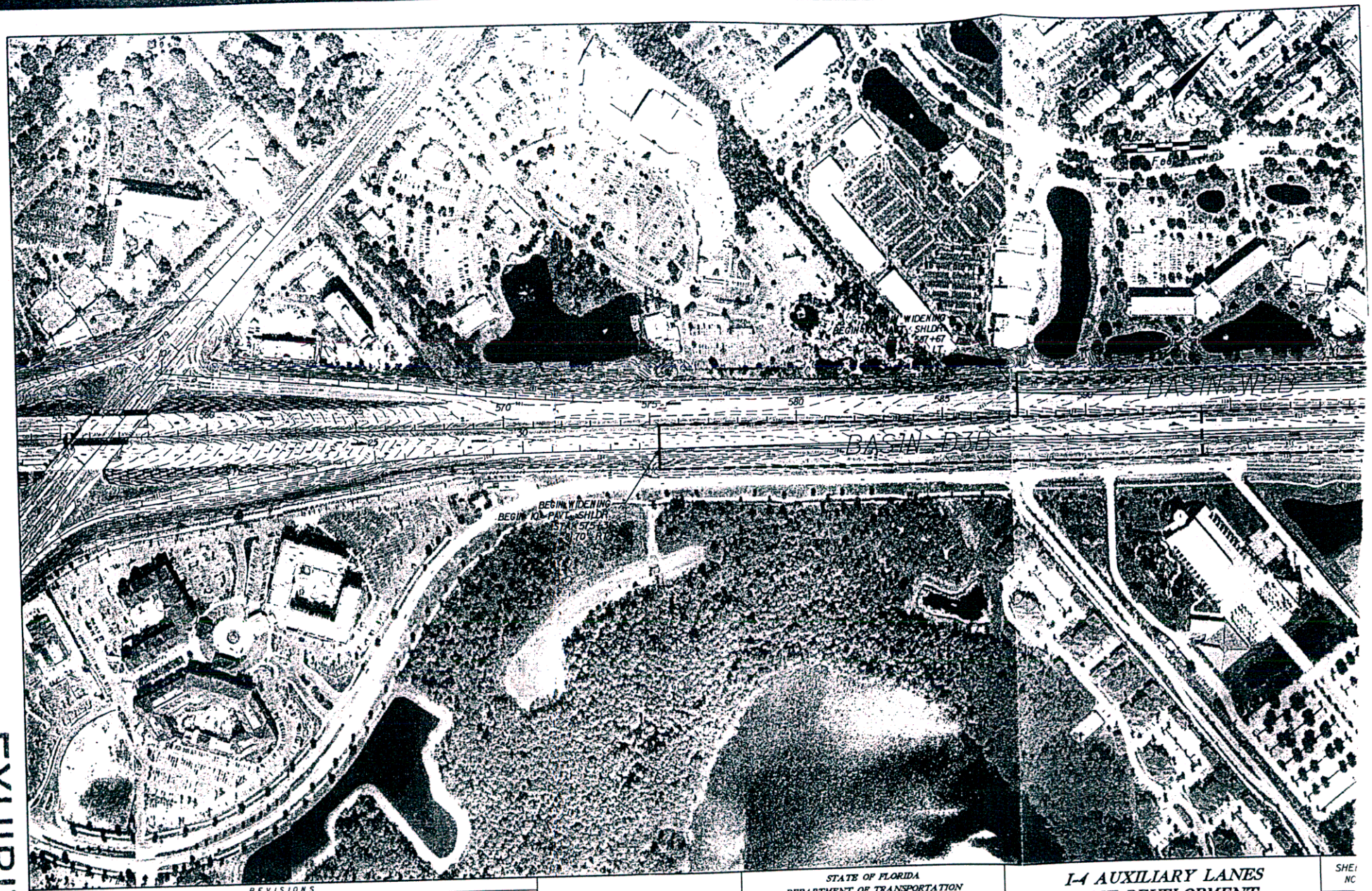
SURFACE WATER MANAGEMENT:

for Edward W. Yaun, P.E.

DATE: 1/02/02

EXHIBIT 2g

2014 FEB 13 13:10



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

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NO
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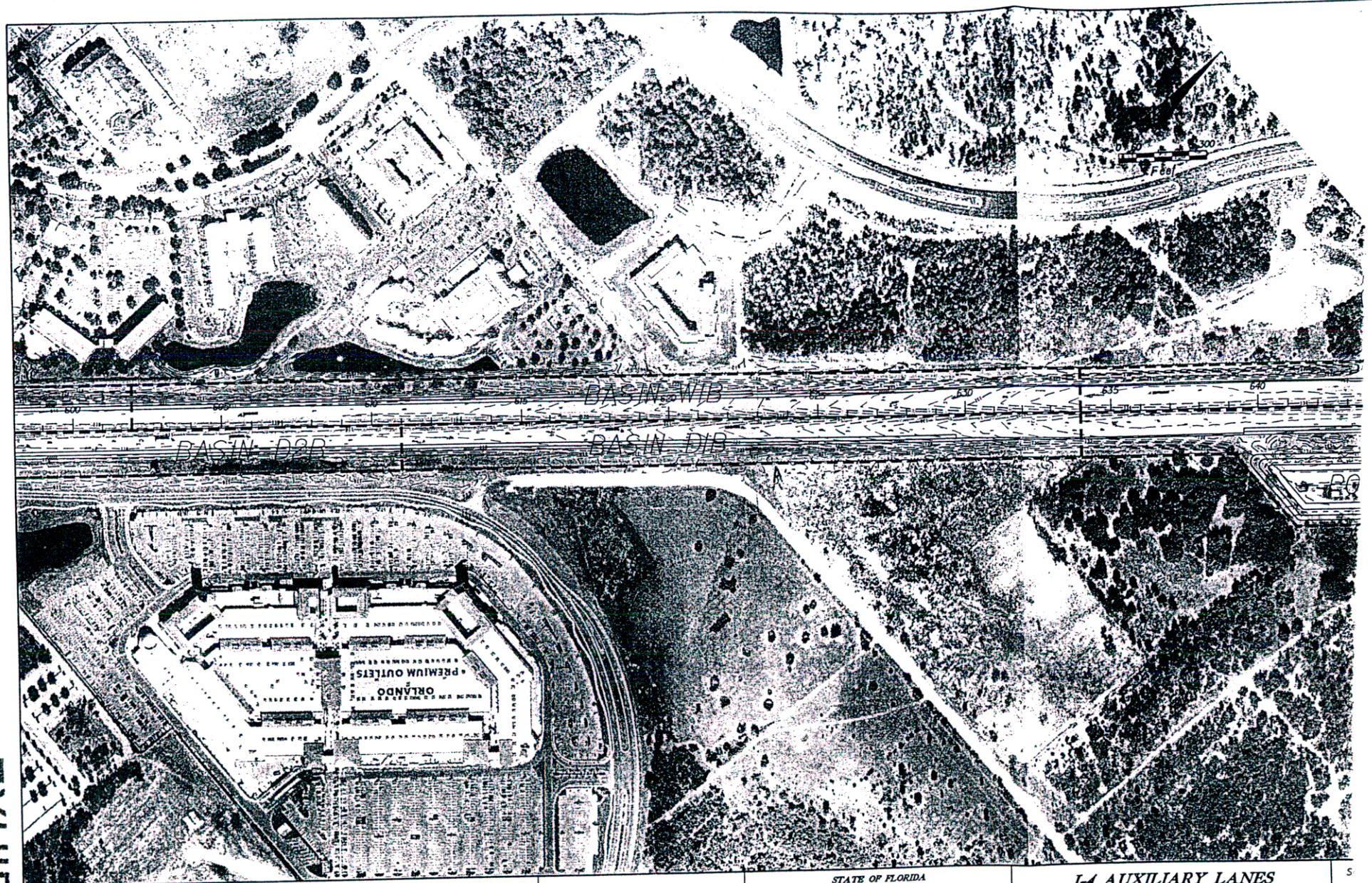
18-DEC-2001 10:00

EXHIBIT 3

2014 FEB 13 13:10



EXHIBIT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

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DRAINAGE MAP

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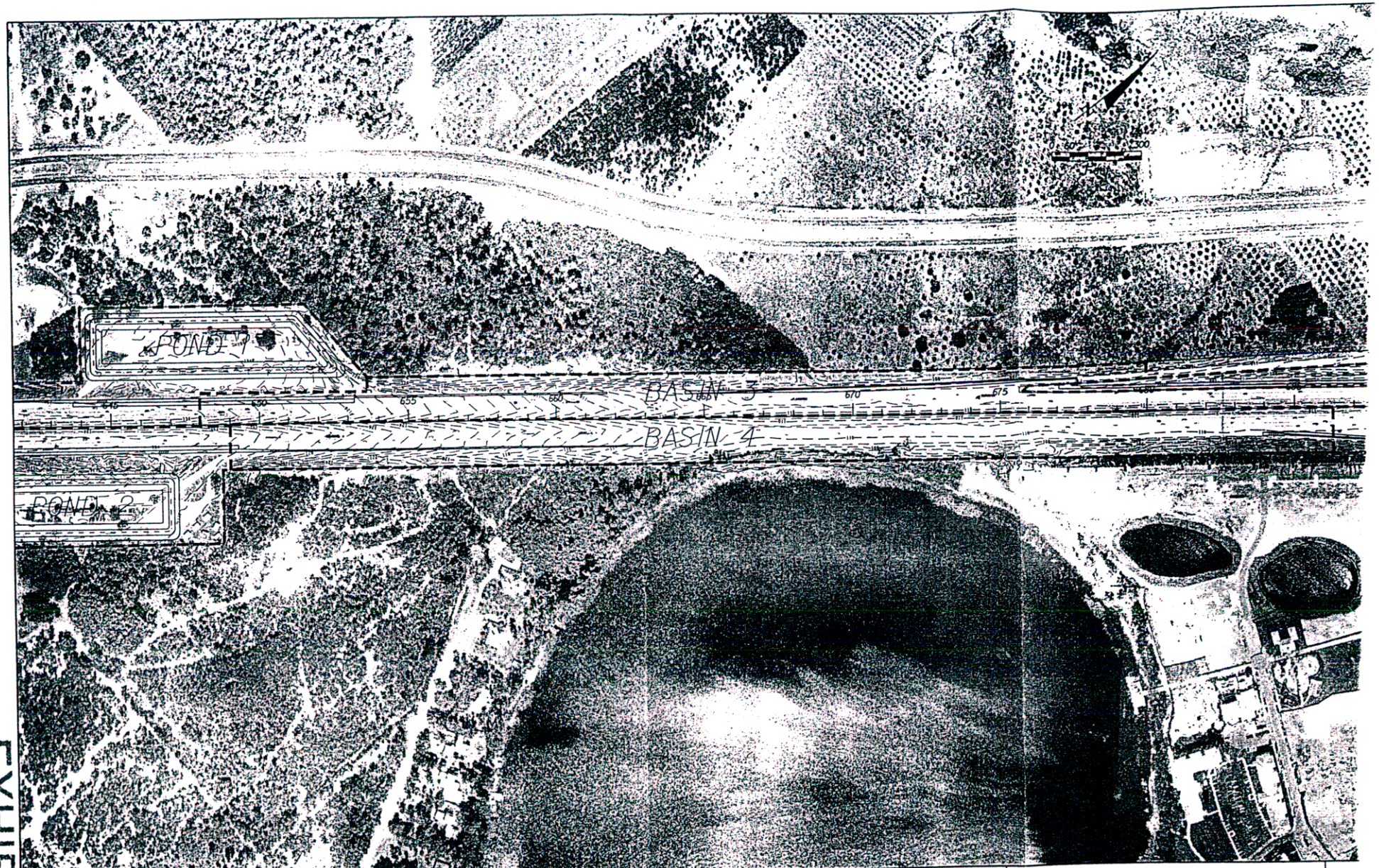

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

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EXHIBIT 5

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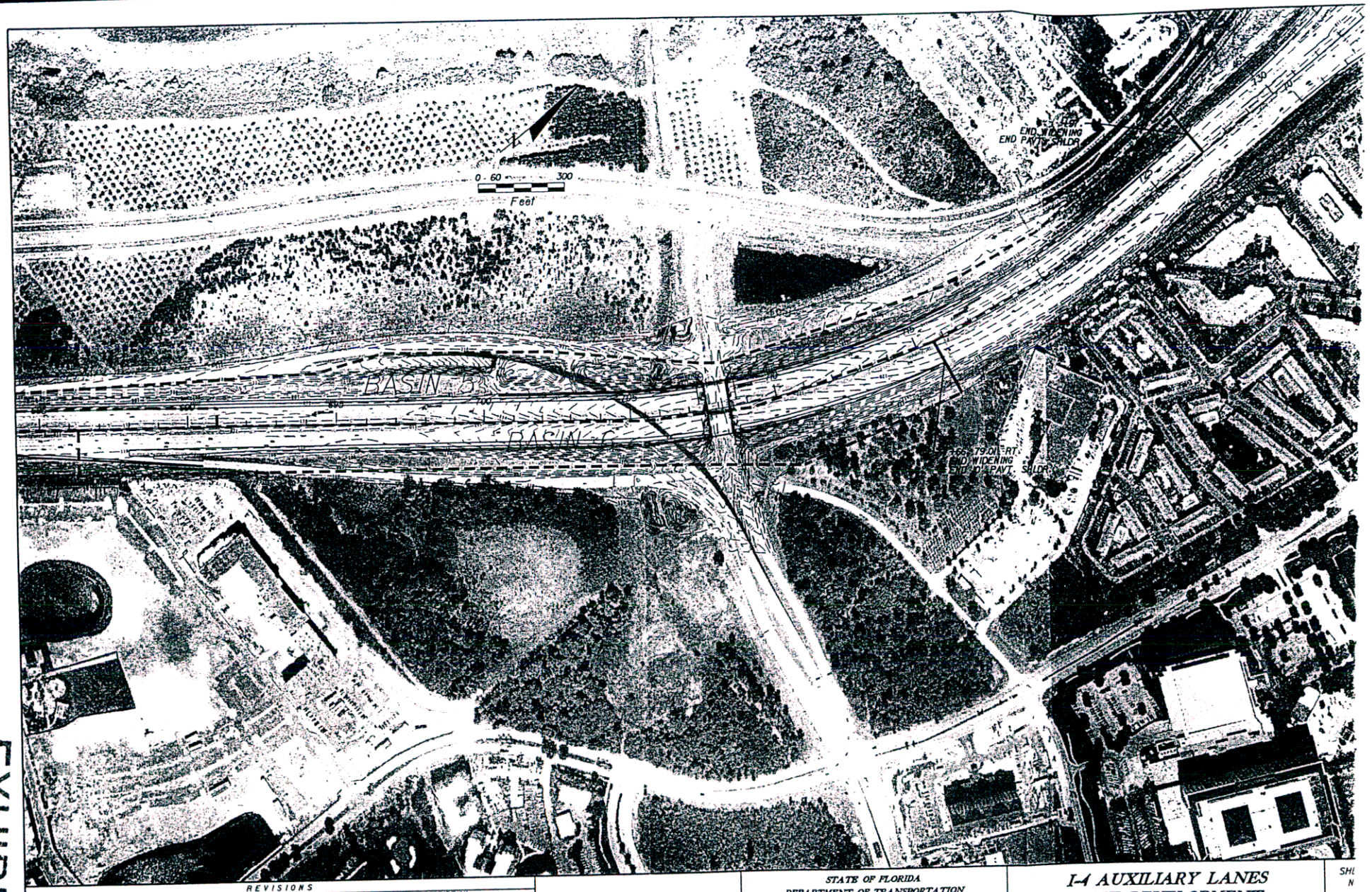

EXHIBIT G

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

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DRAINAGE MAP

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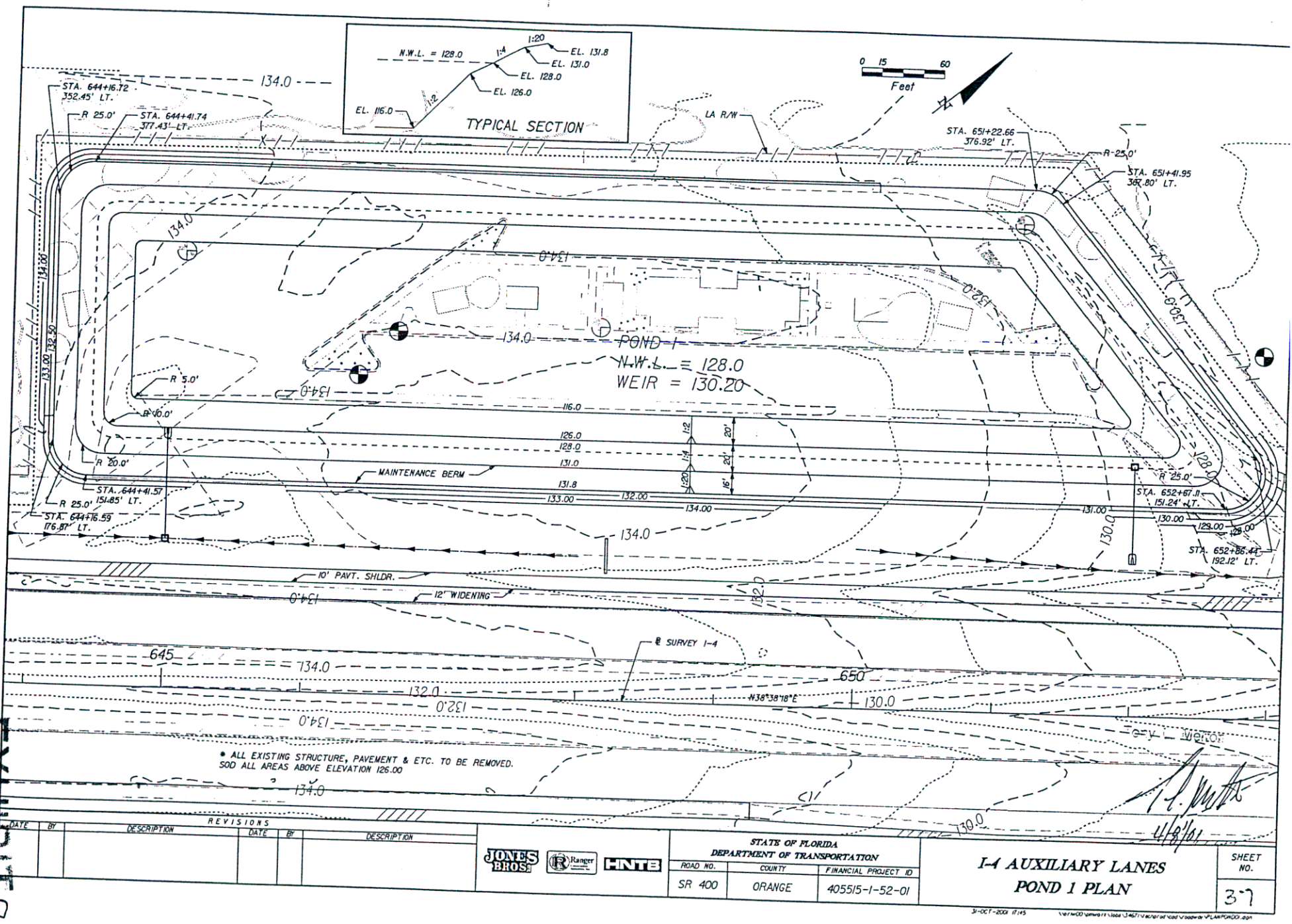

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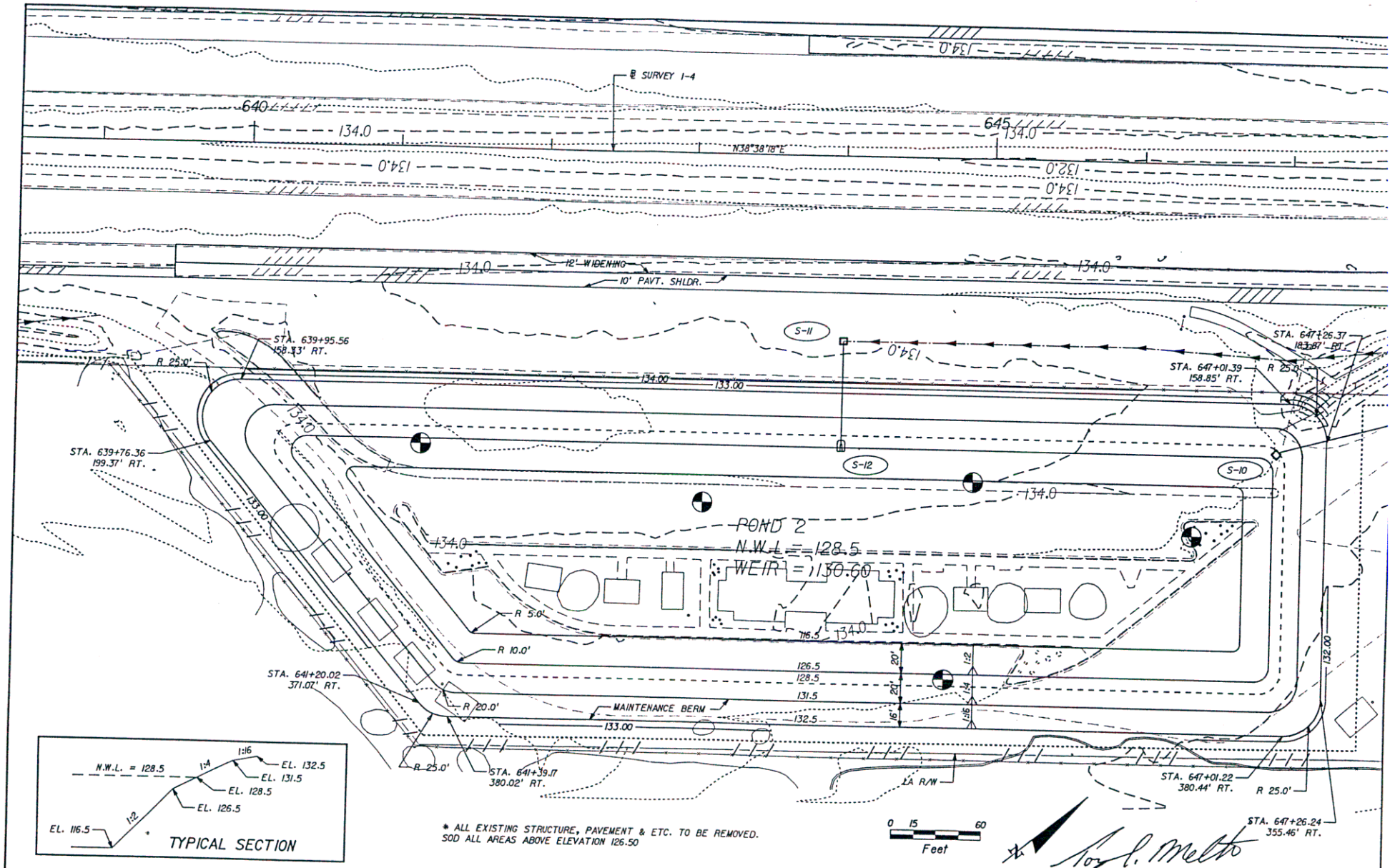


Roy L. Melto
12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

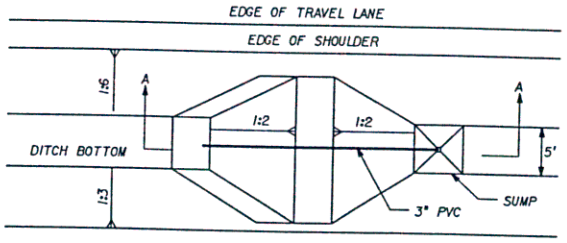
I-4 AUXILIARY LANES
POND 2 PLAN

SHEET NO. 45

18-DEC-2001 14:37

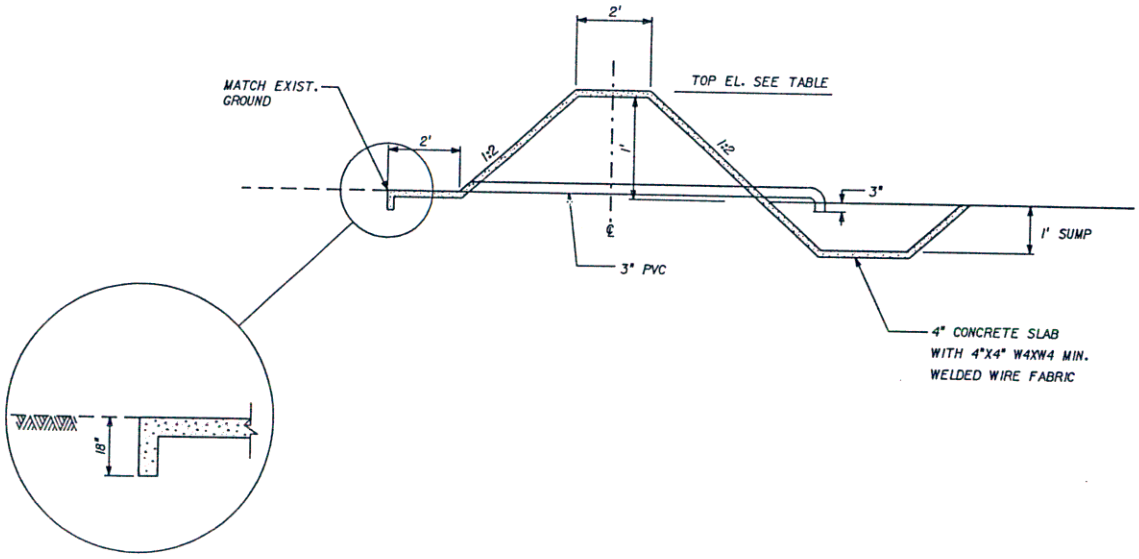
EXHIBIT 8

2014 FEB 13 13:10



PLAN

DITCH BLOCK LOCATION AT CENTERLINE	TOP ELEVATION
576+00 Rt.	102.70
576+00 Lt.	102.30
594+00 Rt.	113.83
602+00 Lt.	114.38
611+00 Rt.	114.85



APPLY TO ALL DOWNSTREAM DITCH PAVEMENT

SECTION A-A

TREATMENT DITCH BLOCK DETAIL

NOTES:
1. CONCRETE SHALL BE CLASS I WITH A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
2. REINFORCE STEEL SHALL BE A615, GRADE 60.

DRAINAGE GENERAL NOTE:
ALL EXISTING DRAINAGE TO REMAIN UNLESS OTHERWISE NOTED.

12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. Ranger HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

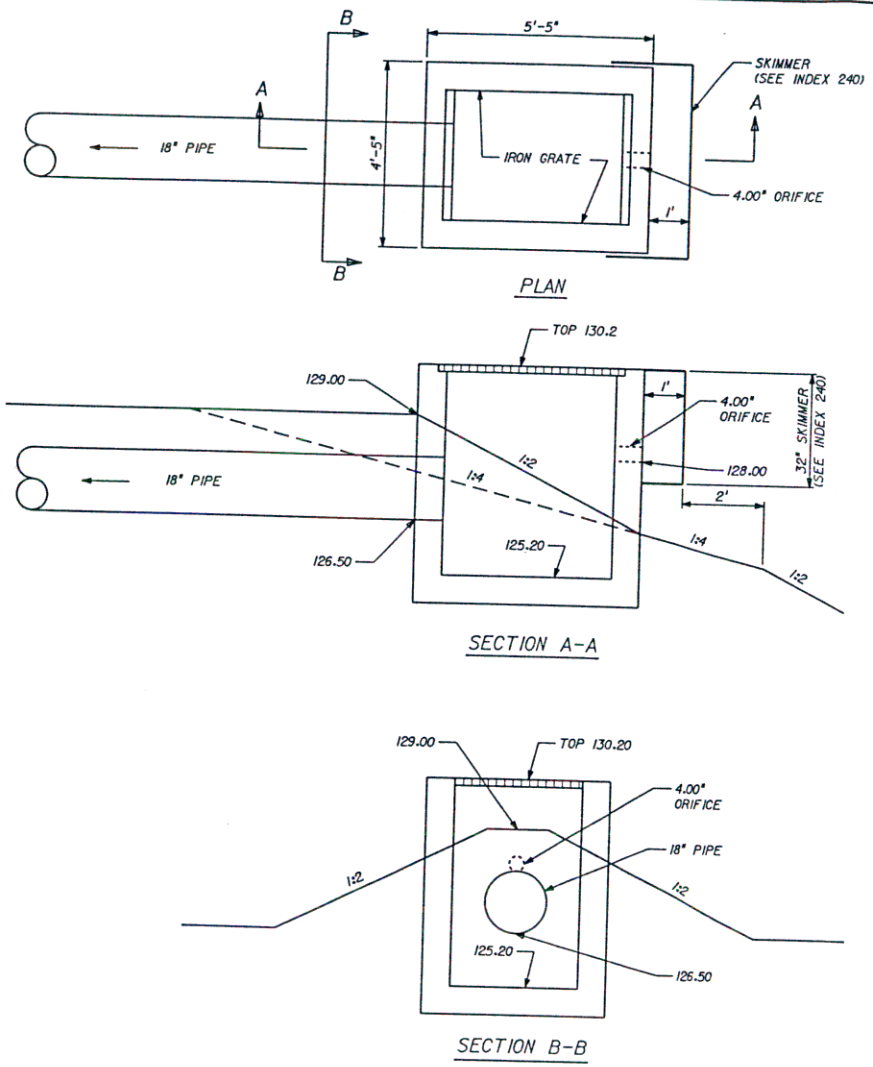
I-4 AUXILIARY LANES
DRAINAGE DETAIL SHEET

SHEET NO. 25

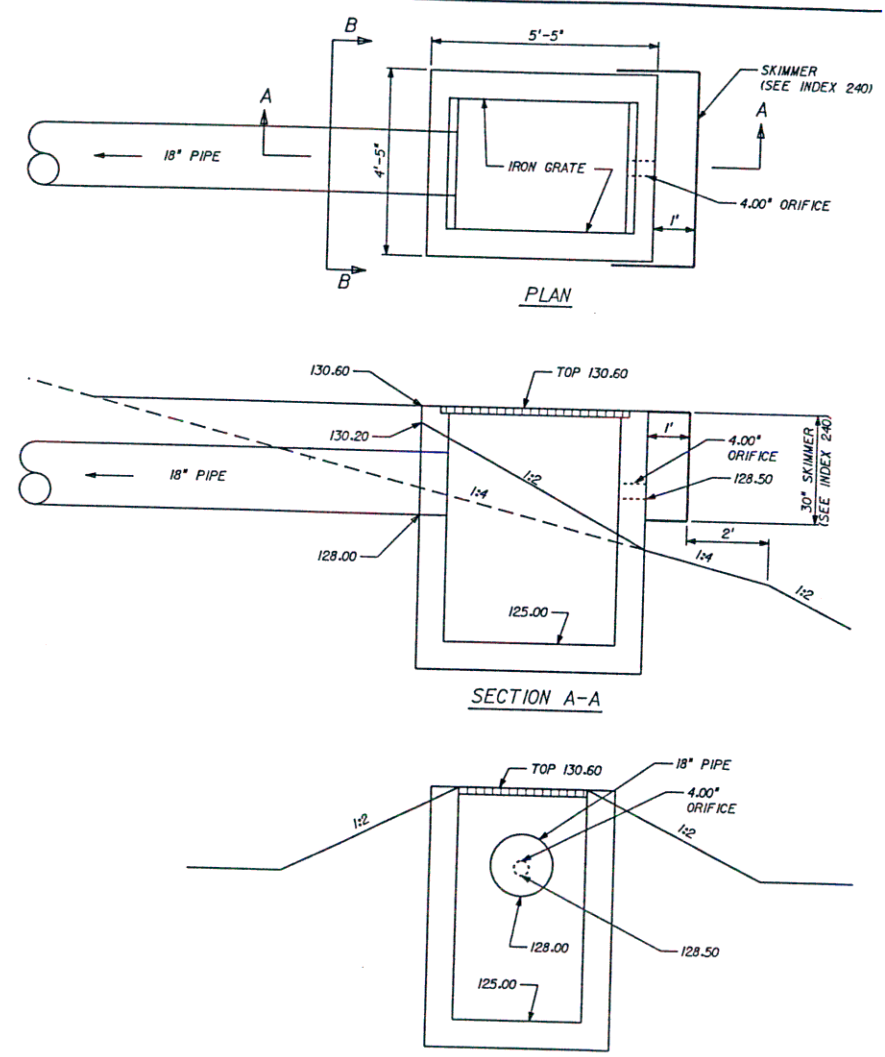
18-DEC-2001 14:40

EXHIBIT 9

2014 FEB 13 13:10



S-15
POND 1 CONTROL STRUCTURE
(TYPE D BOX)



S-10
POND 2 CONTROL STRUCTURE
(TYPE D BOX)

12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. Ranger HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
CONTROL STRUCTURE DETAILS

SHEET NO. 26

18-DEC-2001 14:25

EXHIBIT 10

2014 FEB 13 13:10

erp_existing_site_details.rdf

Run Report on : 29-NOV-01 02:20 PM

Application Number: 011109-7

South Florida Water Management District
Existing / Proposed Environmental Features Information

CSTR NEW I-4 AUXILIARY LANE SR 535 TO SR 528

ONSITE

	Pre - Development					Post - Development					
OSW											
Site Id	Acreage	Quality	Qualify Melaleuca	Habitat		Impact Type	Impact Acreage	Undisturbed Acreage	Preserved Acreage	Enhanced Acreage	Restored Acreage
ROADSII	4.41	N/A	N	Streams And Waterways							
Total:	4.41						0	0	0	0	0
UPLA											
Site Id	Acreage	Quality	Qualify Melaleuca	Habitat		Impact Type	Impact Acreage	Undisturbed Acreage	Preserved Acreage	Enhanced Acreage	Restored Acreage
SITE	69.8	N/A	N	Roads And Highways							
SITE	12.2	N/A	N	Disturbed Lands							
Total:	82						0	0	0	0	0
WETL											
Site Id	Acreage	Quality	Qualify Melaleuca	Habitat		Impact Type	Impact Acreage	Undisturbed Acreage	Preserved Acreage	Enhanced Acreage	Restored Acreage
W-2	.44	MARGINAL	N	Freshwater Marshes		Direct	.44				
W-1	.39	MARGINAL	N	Wetland Scrubs		Direct		.39			
W-1	.02	POOR	N	Cypress		Direct		.02			
Total:	.85						.44	.41	0	0	0

EXHIBIT 11

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EXHIBIT 0

STAFF REPORT DISTRIBUTION LIST

I-4 AUXILIARY LANE S R 535 TO S R 528

Application No: 011109-7

Permit No: 48-01243-P

INTERNAL DISTRIBUTION

X Alan L. Leavens - 4710
X Susan C. Elfers - 4710
X Edward W. Yaun, P.E. - 4710
X Marc S. Ady - 4710
X A. Lee - 4710
X ERC Engineering - 4710
X ERC Environmental - 4710
X Permit File

EXTERNAL DISTRIBUTION

X Permittee - Florida Department Of Transportation
X Check Issue - Hntb Corporation
X Engr Consultant - Hntb Corporation

GOVERNMENT AGENCIES

X Div of Recreation and Park - District 6 - FDEP
X Florida Fish & Wildlife Conservation Commission - Bureau of Protected Species Mgmt
X Orange County - Dept of Environmental Protection
X Orange County - Public Utilities Div
X Orange County Engineer
X US Army Corps of Engineers - Palatka Reg Office - CESAJ-RD-AP

OTHER INTERESTED PARTIES

X Sierra Club - Central Florida Group
X Water Management Institute - Michael N. Vanatta

EXHIBIT 12

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GENERAL PERMIT

STAFF REPORT ROUTE SHEET

APPLICATION NO. 011109-7

PROJECT NAME: I-4 Aux Lanes between 535 & 528

LAST DATE FOR MAIL-OUT 1/8/2002

SWM REVIEWER A Leavens [signature] **to SWM SuProf** 26 Dec 2001 (date)

SWM SUPV PROF [signature] Edward W. Yaun, P.E. **to NRM Review** 12/27 (date)

NRM REVIEWER S Elfers [signature] **to NRM SuProf** 26 Dec 01 (date)

NRM SUPV PROF [signature] Marc S. Ady **to Admin** 1/02/02 (date)

2014 FEB 13 13:10

App#011109-7

APP# 011109-7

HNTB
The HNTB Companies

FAX Correspondence

To: **Alan Leavens** Date: December 4, 2001

Location: **South Florida Water Management – Orlando Service Center**

From: Amy Trewin Fax #: (407) 858-6121

Job #: 34671 I-4 Auxiliary Lane Project

ADDITIONAL INFORMATION

DEC 04 2001

ORLANDO SERVICE CENTER

Pages Including Cover Sheet: 3

Message:

Alan,

Here is the updated 'Basin Total' Sheet and the Summary of Impervious Area Sheet. Please call me if you have any questions or need any additional information.

Amy

HNTB CORPORATION Architects Engineers Planners
5850 T. G. Lee Boulevard Orlando, FL 32822
Tel (407) 859-8380
Fax (407) 855-9641

G:\JOBS\34671\TECHPROD\permits\SFWMD-Leaven-120401.doc

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ADDITIONAL INFORMATION
DEC 0 4 2001
ORLANDO SERVICE CENTER APP# 011109-7

HNTB	By: AET	Date: 12/4/01	Job No. 34671
	Checked By: KFH	Date: 12/4/01	Office No. 59

I-4 SR 535 to SR 528 ***SFWMD***

Orange County

Basin Totals

Drainage Area in Acres

Reedy Creek Improvement District

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Basin 1	10.27	7.86	18.13	6.41	6.34	12.75
Basin 2	11.16	7.81	18.97	8.09	7.79	15.88
Total	**21.43**	**15.67**	**37.10**	**14.5**	**14.13**	**28.63**

Big Sand Lake

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Basin 3	5.07	6.07	11.14	4.37	6.2	10.57
Basin 4	7.76	7.79	15.55	4.85	4.94	9.79
Total	**12.83**	**13.86**	**26.69**	**9.22**	**11.14**	**20.36**

Big Sand Lake Outlet

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Basin 5	9.47	4.78	14.25	6.83	4.09	10.92
Basin 6	5.78	3.51	9.29	5.1	4.19	9.29
Total	**15.25**	**8.29**	**23.54**	**11.93**	**8.28**	**20.21**

Ponds

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Pond 1				7.39	1.79	9.18
Pond 2				7.00	1.96	8.96
Total				**14.39**	**3.75**	**18.14**

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ADDITIONAL INFORMATION
DEC 0 4 2001
ORLANDO SERVICE CENTER APP# 011109-7

HNTB

By: AET Date: 12/4/01 Job No. 34671
Checked By: KFH Date: 12/4/01 Office No. 59

SFWMD

I-4 SR 535 to SR 528 ***Orange County***

Using Pre-Development Basin Divides

	Impervious Added Ac.	Impervious Removed Ac.
Basin 1	1.43	1.36
Basin 2	1.57	0.75
Basin 3	0.86	2.08
Basin 4	0.36	2.17
Basin 5	0.88	
Basin 6	0.71	
TOTAL	**5.81**	**6.36**

Total Amount of Impervious Area Removed = 6.36 Acres
(Rest Area pavement only - buildings not included)

Total Amount of Impervious Area Added = 5.81 Acres
(Auxiliary lane widening)

Total Amount of Pavement Being Treated = 3.75 Acres
(Pond 1 and Pond 2)

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HNTB *The HNTB Companies* 5850 T.G. Lee Boulevard, Suite 600, Orlando, FL 32822 (407) 859-8380	LETTER OF TRANSMITTAL	Job No. 34671 Date Friday, November 09, 2001

Ed Yaun
South Florida Water Management District
Orlando Service Center
7335 Lake Ellenor Drive
Orlando, Florida 32809
FAX NO. 858-6121

RE: I-4 Auxiliary Lane from SR 536 to SR 528
SFWMD Permit Application Modification

ORIGINAL SUBMITTAL

NOV - 9 2001

ORLANDO SERVICE CENTER

WE ARE FORWARDING TO YOU:

NO. OF COPIES	DRAWING NO.	LAST DATED	DESCRIPTION
5			Permit Application
5			Biological Assessment (ERP Application)
5			Stormwater Pollution Prevention Plan
5			Report of Roadway Soil Survey (S&S)
5			Stormwater Analysis and Design Calculations (S&S)
5			Roadway Plans (S&S)
1			Fee Application Check in the amount of $2000.00

REMARKS:

Please find enclosed our Permit Application and supporting documents for the I-4 Auxiliary Lanes Project

Please contact me after you have had a chance to review the attached information if you have any questions.

Thank you for your cooperation in this matter.

cc: File 34671 DS 001 603
Tony Melton, HNTB
Bill Bentley, Jones Bros.

Per _____
Tony L. Melton P. E.
Senior Project Manager

RECEIVED

NOV 09 2001

ORLANDO SERVICE CENTER

APP# 011107-7 MES

ORIGINAL SUBMITTAL
NOV - 9 2001
ORLANDO SERVICE CENTER

PERMIT APPLICATION

To

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

And

REEDY CREEK IMPROVEMENT DISTRICT

For

I-4 AUXILIARY LANES

from SR 535 to SR 528

Financial Project ID
405515-1-52-01

Prepared for:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

Prepared by:

HNTB Corporation

November 9, 2001

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BIOLOGICAL ASSESSMENT
ERP APPLICATION

I-4 AUXILIARY LANES AND MILLING AND RESURFACING
SECTIONS 11, 12, 13, 14, 15, 22 & 23
TOWNSHIP 24 SOUTH, RANGE 28 EAST
ORLANDO, FLORIDA

ORIGINAL SUBMITTAL

NOV - 9 2001

ORLANDO SERVICE CENTER

Submitted to:

South Florida Water Management District
1707 Orlando Central Parkway
Orlando, FL 32809

Prepared for:

HNTB Architects Engineers Planners
5850 T. G. Lee Blvd., Suite 600
Orlando, FL 32822

Prepared by:

Environmental Management & Design, Inc.
17 S. Lake Ave., Suite 201
Orlando, FL 32801

October 2001

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1.0 INTRODUCTION

The proposed Interstate 4 (I-4) Auxiliary Lanes and Milling and Resurfacing project is located in the southwestern portion of Orange County. The project consists of adding auxiliary lanes east of the State Road (SR) 535 interchange to west of SR 528 on I-4; milling and resurfacing the existing lanes and paved shoulder within this section to meet current Florida Department of Transportation (FDOT) standards. Drainage improvements consistent with South Florida Water Management District (SFWMD) and Reedy Creek Improvement District (RCID) treatment and attenuation requirements are proposed as part of this project, including the addition of two wet detention ponds (wet ponds). Ponds 1 and 2 will be located at the former rest areas, one eastbound and one westbound. The project is located within Sections 11, 12, 13, 14, 15, 22, and 23, Township 24 South, Range 28 East (Figure 1). Land use within the project area consists of a major six-lane transportation corridor, with three lanes in each direction. Primarily, commercial development, hotels, and restaurants are adjacent to this section of I-4.

The purpose of the biological assessment is to provide additional data to support the environmental review of the Environmental Resource Permit (ERP) application. The following information is provided: land use types, wetlands jurisdictional determination, protected wildlife and plants, wetland and surface water impacts, and secondary and cumulative impacts. Wetland and surface water impacts are presented in Tables 1-3.

2.0 CURRENT CONDITIONS

Several site visits were conducted in the fall 2001 to identify current land uses, wetland areas, and ecological conditions within the project boundaries.

2.1 Land Use Types

The land use types (vegetative communities) present along the I-4 corridor between SR 535 and SR 528 were evaluated and classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT, January 1999). Figure 2 depicts a level III

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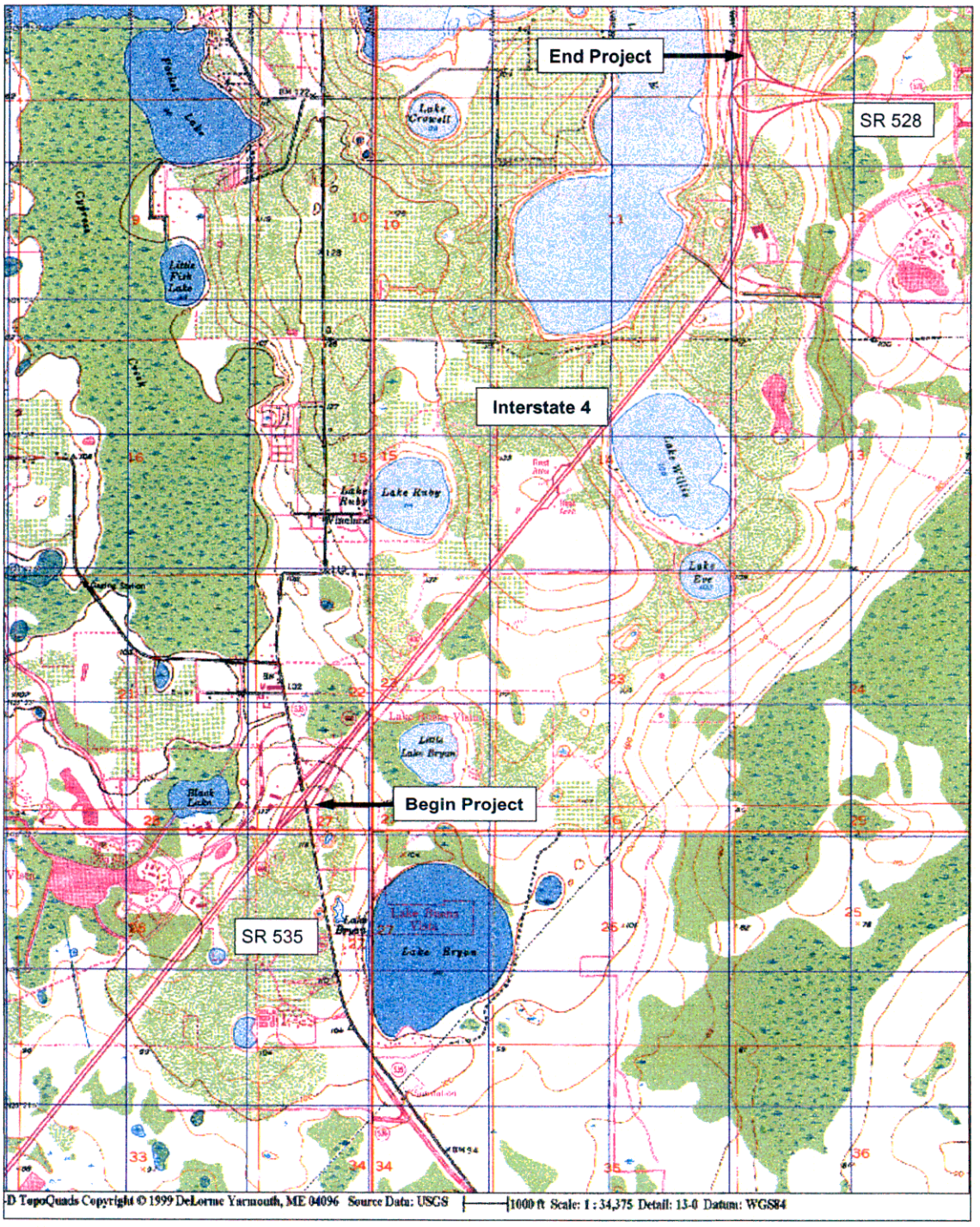

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Figure 1
Location Map

I-4 Auxiliary Lanes
Milling and Resurfacing
Orange County, FL

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Table 1: Project Wetland (WL) and Surface Water (SW) Summary for I-4 Auxiliary Lanes and Milling and Resurfacing

WL & SW ID	WL & SW TYPE	WL & SW SIZE	WL & SW NOT IMPACTED	PERMANENT WL & SW IMPACTS			TEMPORARY WL & SW IMPACTS			MITIGATION ID
				WL & SW TYPE	IMPACT SIZE	IMPACT CODE	WL & SW TYPE	IMPACT SIZE	IMPACT CODE	
Wetland 1	621/647	0.41	0.41	621/647	0.00	N/A				N/A
Wetland 2	641	0.44	0.00	641	0.44	F				N/A
Roadside Ditches and Swales	510 (SW)	4.41	0.00				510	4.41	DI	N/A
PROJECT TOTALS										
Wetlands		0.85	0.41		0.44			0.00		
Surface Waters		4.41	0.00		0.00			4.41		

510 = Roadside Ditches and Swales; 621 = Cypress; 641 = Freshwater Marshes; 647 = Mixed Hardwood Shrub Wetland; 740 = Disturbed Lands; 814 = Roads and Highw
F = Fill; DI = Draniage Imrovements; N/A = Not Applicable

[a] Area within the I-4 right-of-way only.

Table 2: Project On-site Mitigation Summary for I-4 Auxiliary Lanes and Milling and Resurfacing

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT UPLAND		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA (acreage)	TYPE	AREA	TYPE	AREA (acreage)	TYPE
N/A												

Table 3: Project Off-site Mitigation Summary for I-4 Auxiliary Lanes and Milling and Resurfacing

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT UPLAND		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA (acreage)	TYPE	AREA	TYPE	AREA (acreage)	TYPE
N/A												

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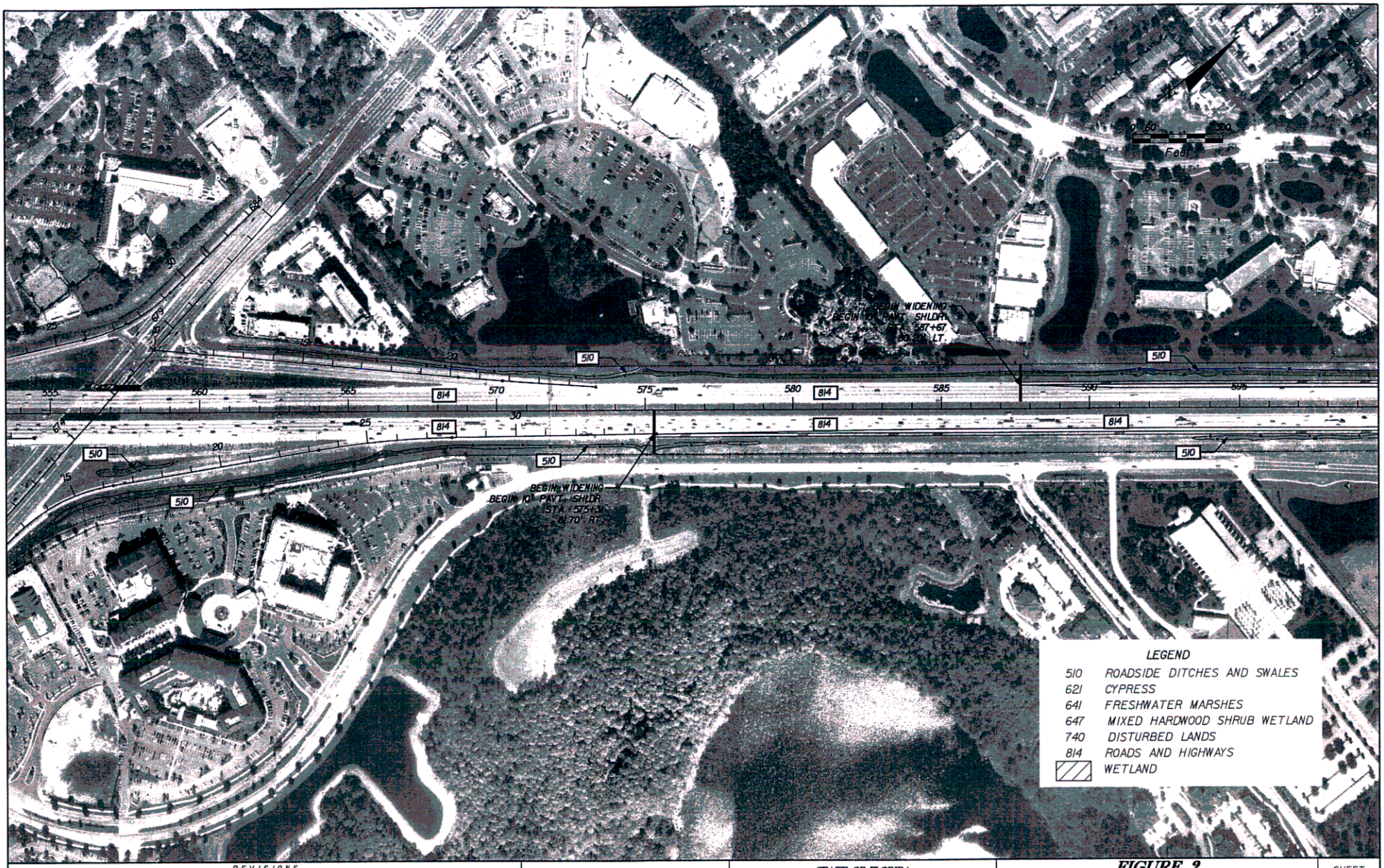

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	4055I5-I-52-0I

FIGURE 2
I-4 AUXILIARY LANES
MILLING AND RESURFACING
FLUCFCS MAP

SHEET NO. 1

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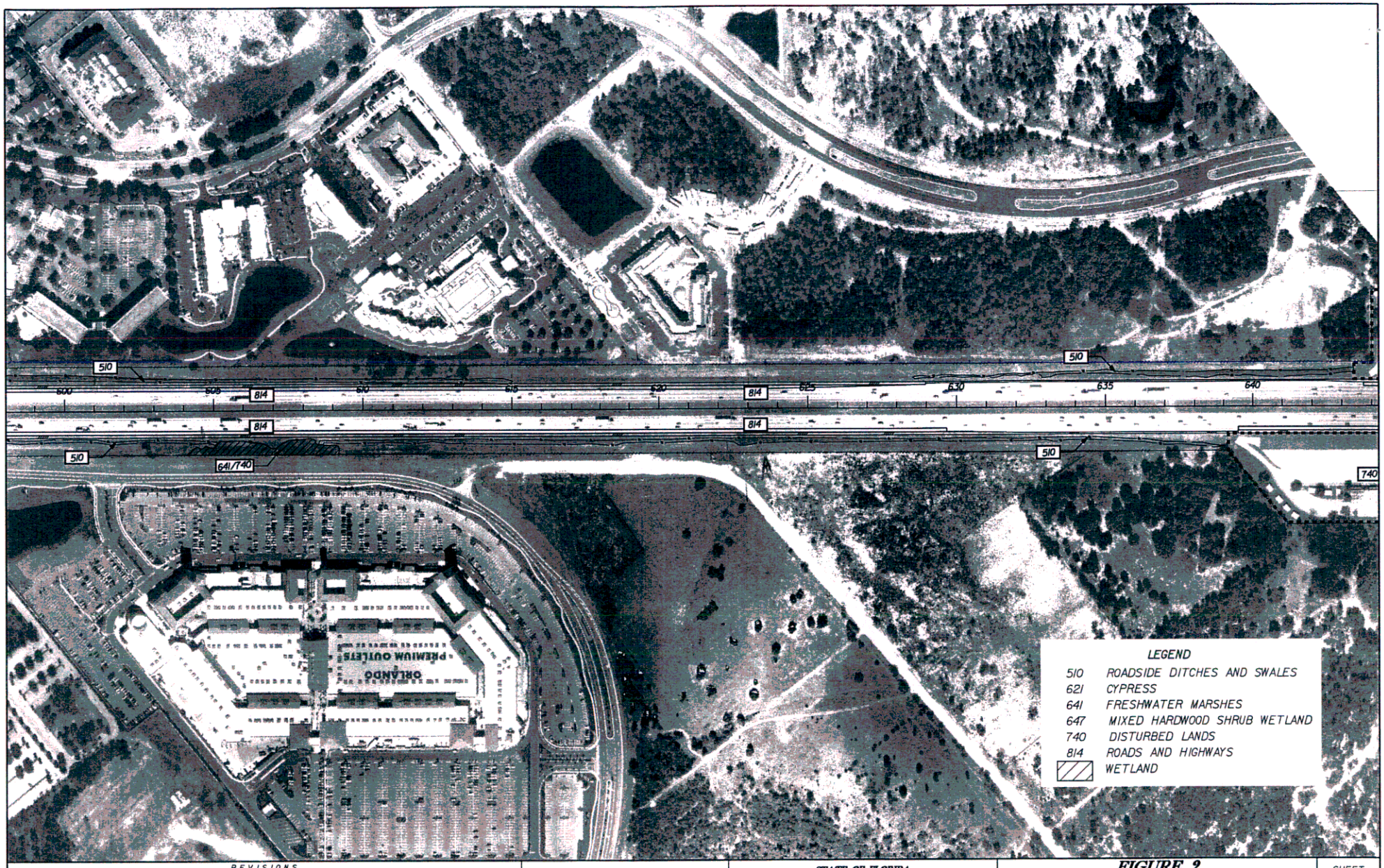

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

FIGURE 2
I-4 AUXILIARY LANES
MILLING AND RESURFACING
FLUCFCS MAP

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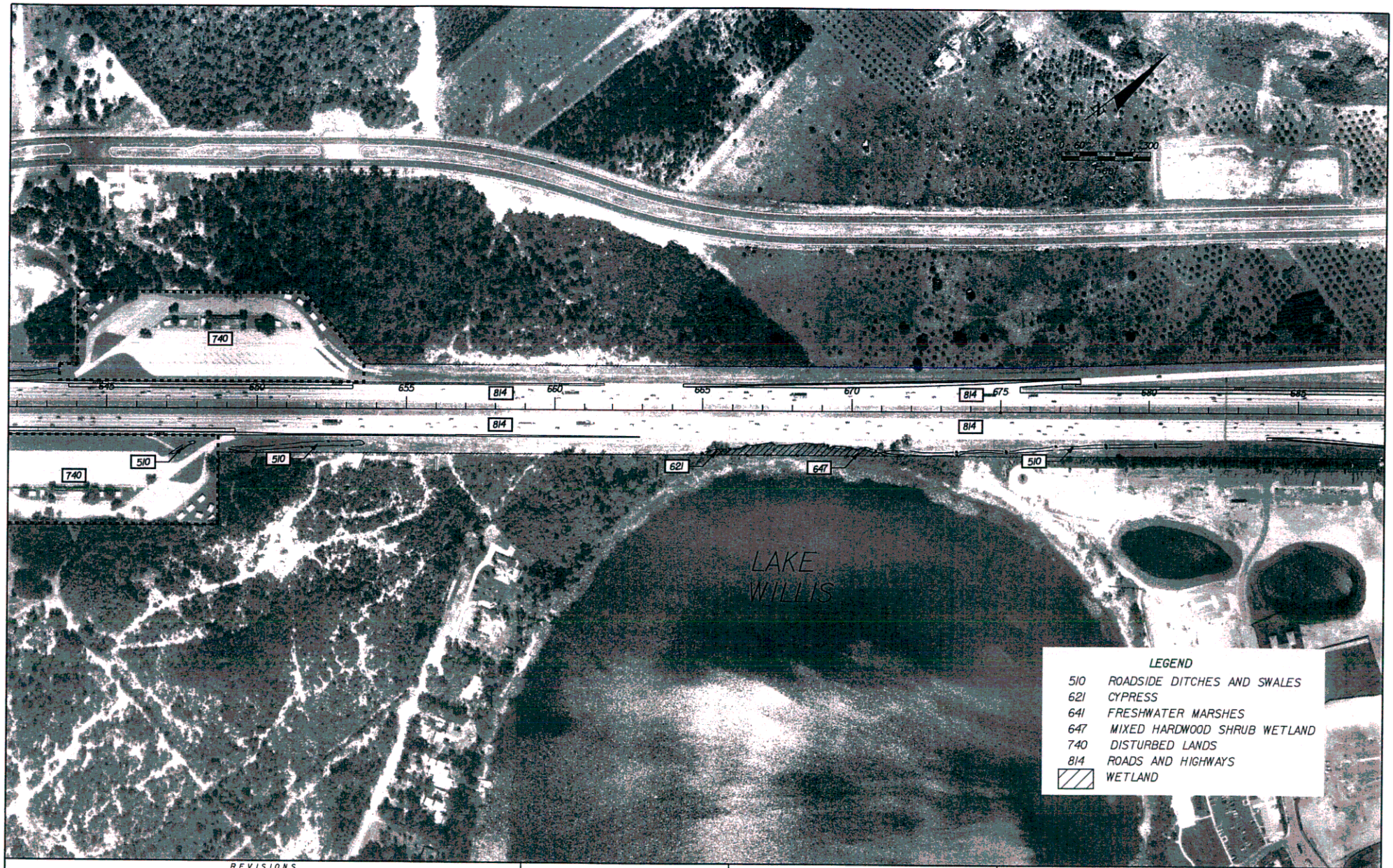

LEGEND

510	ROADSIDE DITCHES AND SWALES
621	CYPRESS
641	FRESHWATER MARSHES
647	MIXED HARDWOOD SHRUB WETLAND
740	DISTURBED LANDS
814	ROADS AND HIGHWAYS
▨	WETLAND

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

FIGURE 2
I-4 AUXILIARY LANES
MILLING AND RESURFACING
FLUCFCS MAP

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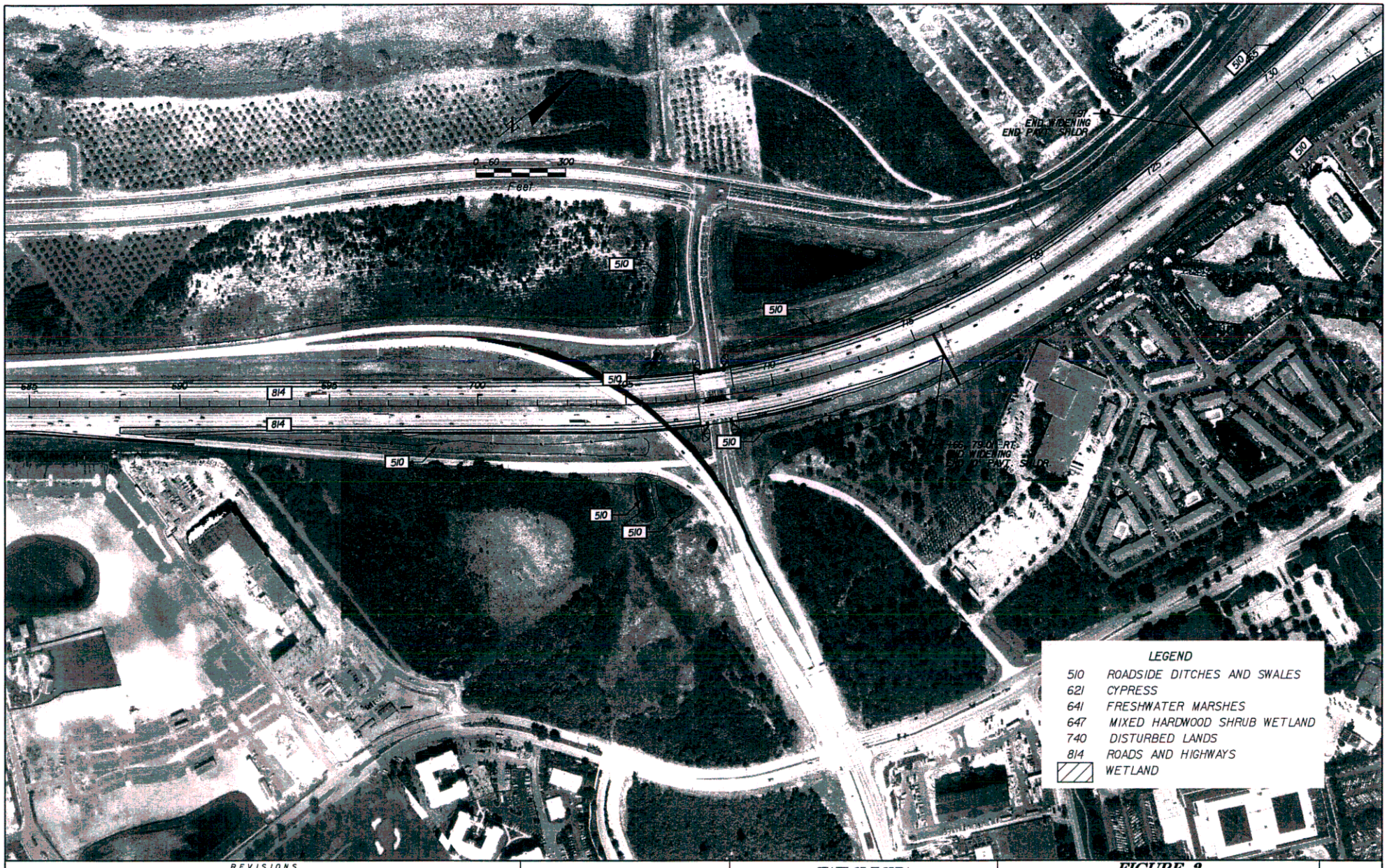

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	4055I5-I-52-0I

FIGURE 2
I-4 AUXILIARY LANES
MILLING AND RESURFACING
FLUCFCS MAP

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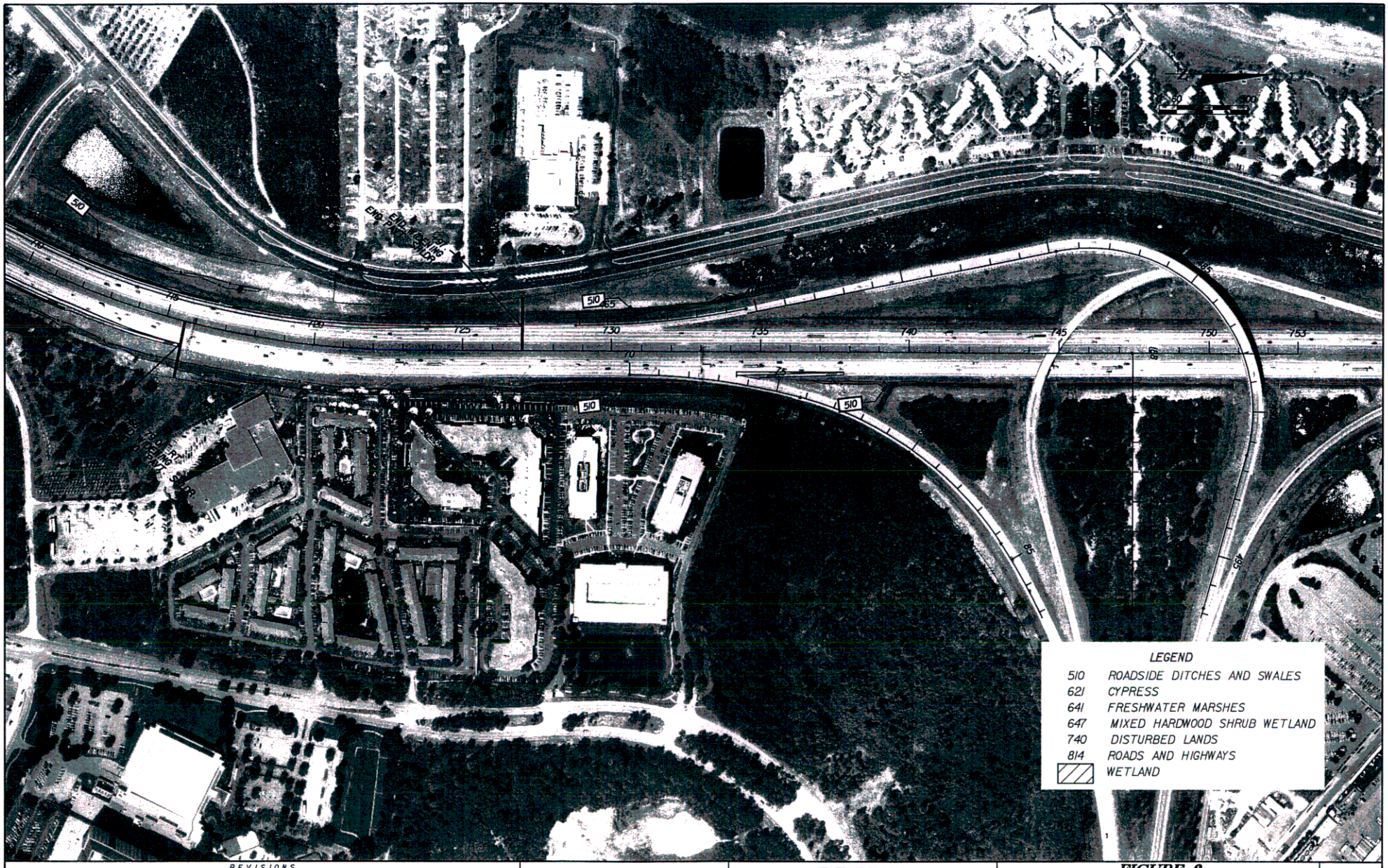
510
510
510

classification of the land use types within the limits of the project. The land use types, classifications, approximate acreage, and percentage of coverage are presented in Table 4.

Table 4: Florida Land Use, Cover and Forms Classification System, Acreage and Percent Coverage of the I-4 Auxiliary Lanes and Milling and Resurfacing Project

FLUCFCS[a] Code	Description	Acreage	Percent Cover
510	Roadside Ditches and Swales	4.41	5.06
621	Cypress	0.02	<0.03
641	Freshwater Marshes	0.44	0.51
647[b]	Mixed Hardwood Shrub Wetland	0.39	0.45
740	Disturbed Lands	12.20	13.98
814	Roads and Highways	69.8	79.97
TOTAL		87.3	100.0

[a] Florida Land Use, Cover and Forms Classification System, Florida Department of Transportation, January 1999.
[b] This classification was assigned to describe mixed hardwood shrub wetland community not specified using FLUCFCS.

2.1.1 Roadside Ditches and Swales (510)

Roadside drainage ditches and swales comprised approximately 4.41 acres (5.06%). Typical herbaceous vegetation found within this classification included manyspike flatsedge (*Cyperus polystachyos*), fragrant flatsedge (*Cyperus odoratus*), cattail (*Typha* sp.), torpedograss (*Panicum repens*), giant bulrush (*Scirpus californicus*), and pickerelweed (*Pontederia cordata*). Typical shrub species included Mexican primrosewillow (*Ludwigia octovalvis*), Peruvian primrosewillow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*), elderberry (*Sambucus canadensis*), and groundsel tree (*Baccharis halimifolia*)

2.1.2 Cypress (621)

The cypress system was comprised of approximately 0.02 acres (<0.03%) of the project site. This forested wetland system was identified as Wetland 1. Typical vegetation included pond cypress (*Taxodium ascendens*), cabbage palm (*Sabal palmetto*), and longleaf pine (*Pinus palustris*). The majority of this system bordered the southwest edge of Lake Willis. Only a small portion of the cypress system bordered I-4, which appeared to be severely degraded.

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2.1.3 Freshwater Marshes (641)

Approximately 0.44 acres (0.51%) of the project site contained an isolated remnant freshwater marsh, identified as Wetland 2. Typical vegetation associated with this marsh system included dotted smartweed (*Polygonum punctatum*), cattail, marshpennywort (*Hydrocotyle* sp.), and blue maidencane (*Amphicarpum muhlenbergianum*).

2.1.4 Mixed Hardwood Shrub Wetland (647)

Approximately 0.39 acres (0.45%) was classified as a hardwood shrub wetland, also identified as Wetland 1. This portion of Wetland 1 extended northeast from the cypress system along the edge of Lake Willis. Typical vegetation associated with this wetland included wax myrtle (*Myrica cerifera*), Carolina willow, elderberry, and red maple (*Acer rubrum*). The small area adjacent to the I-4 ROW appeared to be severely degraded.

2.1.5 Disturbed Lands (740)

This designation was used to classify the former rest areas and disturbance associated with the remnant freshwater marsh (Wetland 2). Disturbed lands accounted for approximately 12.20 acres (13.98%). The former buildings at the rest areas were removed prior to the site visits. During the site review, the concrete pads and parking areas were still present. Vegetation observed at each rest area included bahiagrass (*Paspalum notatum*) and scattered pines (*Pinus* sp.).

2.1.6 Roads and Highways (814)

The majority of the project site, 69.8 acres (79.97%), was classified as roads and highways. This classification includes the right-of-way and median associated with I-4. I-4 is a six-lane interstate bisecting peninsular Florida in a west/east direction. Typical vegetation found in the ROW and median included bahiagrass, capeweed (*Phyla nodiflora*), and marshpennywort.

2.2 Wetlands and Surface Water Jurisdictional Determination

The determination of jurisdictional wetlands and other surface waters utilized aerial photo-interpretation, topographical surveys, and ground-truthing. Two wetland systems were identified within the ROW of I-4. Wetland 1 was located between roadway station 665 and station

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southeast of I-4. Roadside drainage ditches and swales parallel to the I-4 travel lanes were identified as jurisdictional surface waters. Wetlands 1 and 2, and the roadside drainage systems are depicted on the roadway plans submitted by HNTB and on Figure 2.

2.2.1 Wetland 1

Wetland 1 bordered the project's southeastern boundary from station 665 to station 670+50. Adjacent developments have seriously degraded this wetland. From station 665 to station 665+50, the wetland was comprised mainly of a forested system. From station 665+50 to station 670+50, a hardwood shrub wetland system was present. Both areas were covered with invasive species, including grape vines (*Vitus* sp.) and morning glory (*Ipomea* sp.). Castorbean (*Ricinus communis*) was the dominant nuisance/exotic species observed throughout this system. The wetland edge was disturbed by the I-4 right-of-way fencing and litter from the highway. Figure 3 shows a photograph of Wetland 1.

2.2.2 Wetland 2

An isolated remnant freshwater marsh was located between station 604 and station 608 within the ROW. This system was seriously degraded. Fill material associated with the adjacent commercial construction and road project southeast of I-4 was stockpiled on the southeastern border of this wetland. Fill material was observed going into this wetland. Piping materials and other litter were observed in and around this wetland. Water depth ranged from approximately two inches to two feet. Several nuisance and exotic species were observed within this wetland, the most abundant were cattails and torpedograss. Figure 4 shows a photograph of this wetland.

2.2.3 Roadside Ditches and Swales

Areas parallel to I-4 where vegetation was generally hydrophytic, standing water was observed, and the vegetation was not mowed were characterized as roadside ditches or swales. Three main types of ditches and swales exist: relatively shallow, gently sloping swales; moderately deep and narrow ditches or canals; and moderately shallow and wide swales.

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Figure 3
Wetland 1 Lake Willis Wetland
October 10, 2001

I-4 Auxiliary Lanes
Milling and Resurfacing
Orange County, FL

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Figure 4
Wetland 2 Remnant Freshwater Marsh
October 10, 2001

I-4 Auxiliary Lanes
Milling and Resurfacing
Orange County, FL

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2.3 Protected Wildlife and Plants

During on-site evaluations of the project area, observations were made for any sightings of wildlife, specifically Florida Fish and Wildlife Conservation Commission (FFWCC) and U.S. Fish and Wildlife Service (FWS) protected species. Biologists observed the following wildlife species and/or evidence: red-winged blackbird (*Agelaius phoeniceus)*, white ibis (*Eudocimus albus*) (FFWCC listed as species of special concern), woodstork (*Mycteria americana*) (FFWCC and FWS listed as endangered), and great egret (*Casmerodius albus*).

According to FFWCC, no known bald eagle (*Haliaeetus leucocephalus*) nests were documented within two miles of the project site.

The U.S. Fish & Wildlife Service's publication Endangered and Threatened Species of the Southeast United States did not show a designation of critical habitat for threatened and endangered species within the project boundaries of the I-4 auxiliary lanes and milling and resurfacing project site.

In addition, protected plant species pursuant to Chapter 5B-40, F.A.C. and the Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. § 1531-1543, were not observed within the project alignment.

3.0 PROJECT IMPACTS

The purpose of the project is to add auxiliary lanes between SR 535 and SR 528 on I-4 and to mill and resurface the interstate according to FDOT standards. Additionally, drainage improvements are proposed to meet SFWMD and RCID treatment and attenuation requirements. These include creating three wet ponds to improve the roadside drainage system and directing runoff from I-4 to the newly constructed retention ponds.

In order to complete the auxiliary lanes and milling and resurfacing project, certain wetland impacts will be unavoidable. Proposed wetland impacts will be less than 0.5 acres and include filling the isolated remnant freshwater marsh.

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3.1 Wetland and Surface Water Impacts

No impacts are proposed to Wetland 1.

As shown on the final roadway plans submitted by HNTB, Inc., as part of the SFWMD ERP permit application, the applicant proposes impacts to Wetland 2. As shown on Table 1, the remaining remnant freshwater marsh wetland will be filled and replaced with a vegetated drainage swale. The overall wetland impact is approximately 0.44 acres.

In addition, surface water impacts include roadside drainage system improvements to direct runoff into three wet ponds to attain treatment and attenuation requirements. On-site surface waters within the ROW will be impacted as drainage improvements are made. Runoff from the westbound roadway from station 634 to station 648 will be directed into Pond 1, located within the former westbound rest area. Runoff from the eastbound roadway from station 634 to station 649 will be directed into Pond 2, located within the former eastbound rest area.

3.2 Secondary and Cumulative Impacts

Secondary and cumulative impacts were assessed for the proposed project. The project proposes to remain in the current I-4 right-of-way. No new right-of-ways will be required. The project proposes enhancements to water quality by adding improved drainage facilities and two wet detention ponds along the I-4 corridor to treat and store runoff. Best management practices employed during and after construction will prevent secondary and cumulative impacts. Since the proposed project involves an existing major interstate roadway facility, wildlife impacts are not expected.

4.0 MITIGATION

Only one isolated, highly disturbed remnant herbaceous wetland (Wetland 2) will be impacted by the construction of this project as proposed. This wetland is less than 0.5 acres. No adverse affects to water quality will incur by filling this wetland system. Wetland 2 will be replaced with vegetated drainage swales. It is anticipated that this will enhance water quality. Therefore, no mitigation is proposed with this project (Tables 2 and 3).

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5.0 CONCLUSION

The I-4 Auxiliary Lanes and Milling and Resurfacing project proposes roadway and drainage improvements between SR 535 and SR 528. Environmental project impacts are minimal and include filling Wetland 2 and temporarily impacting surface water during drainage improvement work. Overall, project drainage improvements, including filling Wetland 2, will enhance water quality and provide additional flood protection to the Reedy Creek, Lake Willis, and Big Sand Lake basins.

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STORMWATER

POLLUTION PREVENTION PLAN

ORIGINAL SUBMITTAL
NOV - 9 2001
ORLANDO SERVICE CENTER

I-4 AUXILIARY LANES WIDENING FROM SR 535 TO SR 528 AND MILLING AND RESURFACING FROM SR 535 TO SR 528

ORANGE COUNTY

FINANCIAL PROJECT ID
405515-1-52-01

FAN 0042-205-1

Prepared for:

Florida Department of Transportation District Five

Environmental Management

Prepared by:

HNTB CORPORATION

November 2001

2014 FEB 13 13:10

STORMWATER POLLUTION PREVENTION PLAN

****

PROJECT OWNER:	**Florida Department of Transportation, District Five**
PROJECT NAME:	**I-4 Auxiliary Lanes**
	Financial Project ID 405515-1-52-01
	FAN 0042-205-1
LOCATION:	**Sections 22, 27, 15, 14, 11, 12, 2, 1 Township 24 South, Range 28 East**
DATE:	**October 2001**

****

1. SITE DESCRIPTION

a. Description of the nature of the construction activity

The project involves the milling and resurfacing of the existing mainline from SR. 535 to SR. 528, paved shoulders, and ramps at SR. 536, SR. 535, and Central Florida Parkway. An auxiliary lane will be added to the outside of the existing roadway from SR. 535 to SR. 528. The roadside ditches will undergo reconstruction in areas due to the widening. Regrading and resodding of the ditches will be necessary. The project lies within Sections 22, 27, 15, 14, 11, 12, 2, and 1 of Township 24 South and Range 28 East. The longitude and latitude of the project N28°23.5' and W81°29'.

b. Description of the intended sequence of major activities which disturb soils for major portions of the site.

The probable sequence of construction is as follows. Some events may overlap or be happening simultaneously.

- Installation of erosion and sediment controls and traffic control devices along the project;
- Milling and resurfacing of the mainline;
- Widening of the I-4 Mainline with reconstruction of the shoulders.
- Reconstruction of the roadside ditches.
- Grading and resodding of the shoulder and ditches.

Maintenance of the erosion and sediment controls will be ongoing throughout the duration of the project.

c. Estimates of the total area of the site and the total area expected to be disturbed by excavation, grading or other activities.

The total area of the site is 87.3 acres. Construction activity will disturb approximately 13.3 acres of soils.

d. An estimate of the runoff coefficient at the site before, during and after construction using "C" from the Rational equation.

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The estimated runoff coefficient of the existing roadway is 0.52. The runoff coefficient during construction is 0.52, and after construction is 0.52.

Existing data describing the soil or the quality of discharge from the site.

I-4 is predominately located in Smyrna, Sanibel, Basinger, Tavares, Archbold, Immokalee, Zolfo, Pomello, St. John's, St. Lucie and Ona Fine Sands according to the Soil Conservation Service Soil Survey for Orange County. These soils range from very poorly drained to moderately well drained.

An estimate of the size of the drainage area for each outfall.

Pond 1 will treat 1.8 acres of roadway and Pond 2 will treat 2.0 acres of roadway.

e. Location of Drainage Areas and Outfalls

From SR 535 to approximately the existing rest areas flows into the Reedy Creek Improvement District. From the rest areas to approximately Central Florida Parkway flows into the Big Sand Lake. The final drainage area is from Central Florida Parkway to the end of the project, which flows into the Big Sand Lake outlet.

f. The name of the receiving water(s), and areal extent of wetland acreage at the site.

The stormwater from the project area flows between Lake Willis, Big Sand Lake and Big Sand Lake outlet to the Valencia Water Control District. There are 0.44 acres of wetland being filled in for the project.

2. CONTROLS

The Contract Documents prepared for this project require the contractor to employ any and all of the pollution control measures listed below, as necessary, to prevent pollutants from entering surface waters as a result of construction activities.

a. Erosion and Sediment Controls.

During the construction operations, the following non-structural control measures are used to minimize erosion and sedimentation:

- Sodding of reworked shoulders as soon as final grading is completed.
- All excess material is to be removed from the site and properly disposed of by the contractor.
- All on-site storage of materials is subject to the approval of the site Construction Manager.

Structural controls to be employed at this site include the following:

- Staked silt fences and hay bales will be installed prior to work as required and shall remain in place until the work in the area is completed and the area is stabilized.
- Fuels and any other potentially hazardous chemicals necessary for construction operations will be placed in a contained area and lined with visquene so as to prevent uncontrolled spills and contamination of storm runoff.

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b. Stormwater Management

There are two wet detention ponds proposed at the existing rest areas.

c. Other Controls

- No solid materials, including building materials, shall be discharged to Waters of the State.
- The Contractor will provide pollution control by using street and vacuum sweepers in conjunction with the milling operations.
- Off-site vehicle tracking of sediments and the generation of dust shall be minimized.
- Construction and demolition debris is to be disposed of off-site.
- All sanitary waste will be collected from the portable units as necessary by a licensed sanitary waste management contractor as required by state regulations.
- Fertilizers shall be applied at 450 lb/ac at two applications. Pesticides will be used in accordance with label directions.

d. Approved State and Local Plans

South Florida Water Management District – Standard General Environmental Resource Permit

3. MAINTENANCE

All stormwater pollution prevention measures are to be inspected and maintained as necessary by the contractor to assure proper function of these devices or practices.

4. INSPECTIONS

Inspection reports summarizing the scope of the inspection will include: name(s), qualifications of personnel making the inspection, date(s) of the inspection, major observations relating to the implementation of the stormwater pollution prevention plan, and actions taken to revise plans. Inspections will be performed at least once daily (on work days) for on-site measures. Off-site measures are to be inspected every seven calendar days and within 24 hours of the end of a storm of 0.25 inches or greater precipitation. The inspection reports will be filed as part of this stormwater pollution prevention plan and will be retained on-site. All records will be maintained for a period of three years after final site stabilization.

At a minimum, inspection points shall include:

- All points of discharge into the storm sewer conveyance system (median inlets),
- Stormwater management system outfalls to Waters of the State,
- All site areas that have not received final stabilization or have established control measures.
- All areas where materials exposed to precipitation are stored.
- All structural control measures.

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Each contractor is responsible for his/her assigned site area of construction. The reports must address the initial implementation as well as the inspection and any maintenance performed to maintain, repair, or remove the erosion and sediment control measures. All reports are to be submitted weekly to the Project Site Construction manager and are to be accompanied by the certification statement attached to this Stormwater Pollution Prevention Plan, and are to be signed by a responsible corporate officer of the company or firm, or the officer's authorized agent pursuant to Part IV G, of the NPDES General Permit (Federal Register/Vol. 57, No. 187/Friday, September 25, 1992).

In addition to the contractor inspections, periodic inspections will be made by FDOT and SJRWMD personnel for sampling of site discharges to determine compliance with State water quality standards.

Any violation of stormwater discharges authorized by this permit or discharge of substances which violated State water quality standards (as listed in Chapter 17-312, F.A.C.), are to be reported immediately to the Project Site Construction Manager.

The Construction Manager shall immediately inspect the discharges that area reported in violation and shall notify the Owner if these discharges contain substances which require reporting in accordance with 40 CFR, Parts 117, and 302.

5. NON-STORM WATER DISCHARGES

Discharges from this site are anticipated to consist primarily of stormwater runoff, including normal stormwater constituents. Non-stormwater discharges that may occur include the following in accordance with the NPDES Permit FLR100000, PART X.D. Florida Revisions to Part III., A,2,b,: discharges of potable water flushing, air-conditioning condensate, vehicular and building wash down waters - provided no detergents or hazardous chemicals are used in the wash, waters to control dust, and waters from fire-fighting activities.

Should hazardous substances be released in quantities that require reporting as defined in 40 CFR Parts 117, and 302, the Owner or Owner's authorized representative shall take actions as specified in Part III B, of the NPDES General Permit.

CONTRACTOR CERTIFICATION OF RESPONSIBILITY

Contracts have not yet been awarded for all aspects of the site work covered under this permit. It is therefore necessary that this plan be updated periodically by transmittal of Contractors Certifications to SJRWMD, in accordance with **Part IV C**, and **Part IV E**. of the NPDES General Permit.

Each contractor and subcontractor is to become familiar with the terms and conditions of the NPDES General Permit, and to submit a written statement of responsibility which specifies the stormwater controls to be employed under their scope of work, specific to site locations. This statement shall be accompanied by a properly completed copy of the Contractor Certification statement attached to this Stormwater Pollution Prevention Plan (SWPPP).

ATTACHMENTS

Owner/Operator Certification
Engineer Certification
Contractor Certification
SWPPP Inspection and Maintenance Report Form
SWPPP Inspection/Compliance Report Form
Construction Plans

2014 FEB 13 13:10

I-4 Milling and Resurfacing from SR 535 to SR 558
I-4 Auxiliary Lane Widening from SR 535 to SR 558
Summary of Erosion Control Elements
Right Ditch

Silt Fence - FDOT Index 102		
Perpendicular in Right Ditch		Inlet
Stations	Stations	Stations
574+50	652+00	644+00
575+50	655+00	705+50
578+50	658+00	
580+00	661+00	
581+50	664+00	
583+00	667+00	
584+50	670+00	
586+00	673+00	
587+50	676+00	
589+00	679+00	
590+50	680+00	
592+00	683+00	
595+00	691+00 - Right of Ramp	
598+00	712+00	
601+00	713+00	
604+00	716+00	
606+50	719+00	
607+50	722+00	
610+00	725+00	
613+00	728+00	
614+50	731+00	
616+00	734+00	
617+50	737+00	
619+00	738+00	
620+50		
622+00		
623+50		
625+00		
626+50		
628+00		
629+50		
631+00		
632+50		
635+50		
638+50		
641+50		
643+50		
644+50		
646+00		
647+00		
648+00		

Hay Bales - FDOT Index 102	
Median	
Station	
564+00	
575+00	
592+00	
607+00	
658+00	
679+50	
697+00	
716+50	

Hay Bales - FDOT Index 102	
Fill Slopes	
708+50 to 715+70	

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I-4 Milling and Resurfacing from SR 535 to SR 558
I-4 Auxiliary Lane Widening from SR 535 to SR 558
Summary of Erosion Control Elements
Left Ditch

Silt Fence - FDOT Index 102			Hay Bales - FDOT Index 102	
Perpendicular in Left Ditch		Inlet	DBI - Left	
Stations		Stations	Station	
574+50		645+00	679+50	
575+50			685+00	
592+50			699+70	
601+00				
604+00				
606+50				
607+50				
610+00			Hay Bales - FDOT Index 102	
613+00			Fill Slopes	
614+50			587+50 to 601+00	
616+00				
617+50			700+00 to 707+50	
619+00				
620+50			708+50 to 727+00	
622+00				
623+50				
625+00				
626+50				
628+00				
629+50				
631+00				
632+50				
635+50				
638+50				
641+50				
644+50				
645+50				
649+50				
652+50				
655+50				
658+50				
661+50				
664+50				
667+50				
670+50				
673+50				
676+50				
678+50				
680+00 - Left of Ramp				

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Stormwater Analysis and Design Calculations

ADDITIONAL INFORMATION
DEC 18 2001
ORLANDO SERVICE CENTER

I-4 Auxiliary Lane from SR 535 to SR 528

Prepared for:
Florida Department of Transportation District Five
and Jones Bros. Construction Company

Prepared by:
HNTB Corporation

November, 2001
Revised: December 18, 2001

DEC 18 2001
ORLANDO SERVICE CENTER
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Stormwater Analysis and Design Calculations

ADDITIONAL INFORMATION
DEC 1 8 2001
ORLANDO SERVICE CENTER

I-4 Auxiliary Lane from SR 535 to SR 528

Prepared for:
Florida Department of Transportation District Five
and Jones Bros. Construction Company

Prepared by:
HNTB Corporation

November, 2001
Revised: December 18, 2001

Tony L. Metts
12/18/01

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1.0 - Introduction

The Florida Department of Transportation (FDOT) proposes to add one eastbound and one westbound Auxiliary Lane on I-4 from SR 535 to SR 528 in Orange County. Also included is the milling and resurfacing of the existing lanes along with cross slope correction. The existing eastbound and westbound rest areas are also being removed as part of this project.

2.0 - Stormwater Management Summary

The project is within the jurisdiction of the South Florida Water Management District (SFWMD) and is subject to the design criteria of the SFWMD and the FDOT. The western portion of the project, from the rest areas to SR 535 is also within the Reedy Creek Improvement District (RCID).

The project is located within three distinct drainage basins. The western portion, from the rest areas to SR 535 drain to the west and is tributary to Reedy Creek. The portion of the project from the rest areas to just west of Central Florida Parkway drains into Big Sand Lake and the section from just west of Central Florida Parkway to SR 528 drains into the Big Sand Lake Outlet, which is adjacent to Central Florida Parkway.

Stormwater treatment and attenuation is being provided through a combination of removing the pavement in the rest areas and constructing detention ponds in the rest areas. The stormwater treatment regulations are based on the total increase in impervious area and credit is given for removal of existing impervious area. The detention ponds are designed to capture the runoff from all four lanes in each direction for the portion of roadway in the vicinity of the ponds. Stormwater treatment and attenuation for the section of the project that drains to the Big Sand Lake Outlet is being provided by redirecting a portion of roadway drainage into the Big Sand Lake Basin. Five ditch blocks were added to the I-4 eastbound and westbound ditches between the rest areas and SR 535 at the request of RCID to provide additional treatment.

3.0 - Water Quality Design Criteria

The water quality design criteria is governed by the SFWMD and Reedy Creek Improvement District requirements.

Wet Detention Ponds

Treatment Volume

The greater of:

One inch of runoff over the entire drainage area - or -
2.5 inches of runoff over the impervious drainage area

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Recovery Time

Outfall structure should be designed to drawdown one half the required treatment volume in greater than 24 hours.

Pond Depth

Recommended that 25 to 50 percent of the detention area be deeper than 12 feet.

4.0 – Floodplain Impacts

Based on the FEMA Flood Insurance Rate Maps, the only portion of the project area that lies within a designated floodplain is adjacent to Lake Willis along the eastbound roadway. There is no widening or proposed work within this area therefore there are no floodplain impacts.

5.0 – Flood Discharge Attenuation

Flood discharge attenuation is being provided by removing the existing impervious area within the rest areas and by the proposed ponds. Pre- and post-development calculations are provided for 25-year, 24-hour; 25-year, 72-hour; 50-year, 72 hour and 100-year 24-hour storms. These calculations determined that there would be no increase in flood discharges.

The proposed ponds provide substantial volume of flood storage in relation to the contributory drainage areas. These ponds are designed as wet detention ponds with controlled orifices to meet the recovery criteria. They are also designed to store the entire runoff volume for all storms investigated below the weir elevation of the outlet structures.

The FDOT critical storm criteria is met as evidenced by the flood routings for the storms outlined above and by the fact that the overall drainage areas and impervious areas have been reduced over existing conditions.

6.0 – Roadway Drainage

The existing roadway for most of the project area is a rural section with roadside ditches. The proposed widening will require that the ditches be relocated as shown on the typical section. The roadway drainage in the vicinity of the bridge over Central Florida Parkway will consist of shoulder gutter, inlets and piping to adjacent ditches.

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HNTB	By: AET	Date: 12/4/01	Job No. 34671
	Checked By: KFH	Date: 12/4/01	Office No. 59

I-4 SR 535 to SR 528

SFWMD

Orange County

Basin Totals

Drainage Area in Acres

Reedy Creek Improvement District

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Basin 1	10.27	7.86	18.13	6.41	6.34	12.75
Basin 2	11.16	7.81	18.97	8.09	7.79	15.88
Total	**21.43**	**15.67**	**37.10**	**14.5**	**14.13**	**28.63**

Big Sand Lake

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Basin 3	5.07	6.07	11.14	4.37	6.2	10.57
Basin 4	7.76	7.79	15.55	4.85	4.94	9.79
Total	**12.83**	**13.86**	**26.69**	**9.22**	**11.14**	**20.36**

Big Sand Lake Outlet

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Basin 5	9.47	4.78	14.25	6.83	4.09	10.92
Basin 6	5.78	3.51	9.29	5.1	4.19	9.29
Total	**15.25**	**8.29**	**23.54**	**11.93**	**8.28**	**20.21**

Ponds

	Pre-Development			Post-Development		
	Pervious	Impervious	Total	Pervious	Impervious	Total
Pond 1				7.39	1.79	9.18
Pond 2				7.00	1.96	8.96
Total				**14.39**	**3.75**	**18.14**

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Pre-Development Drainage Maps

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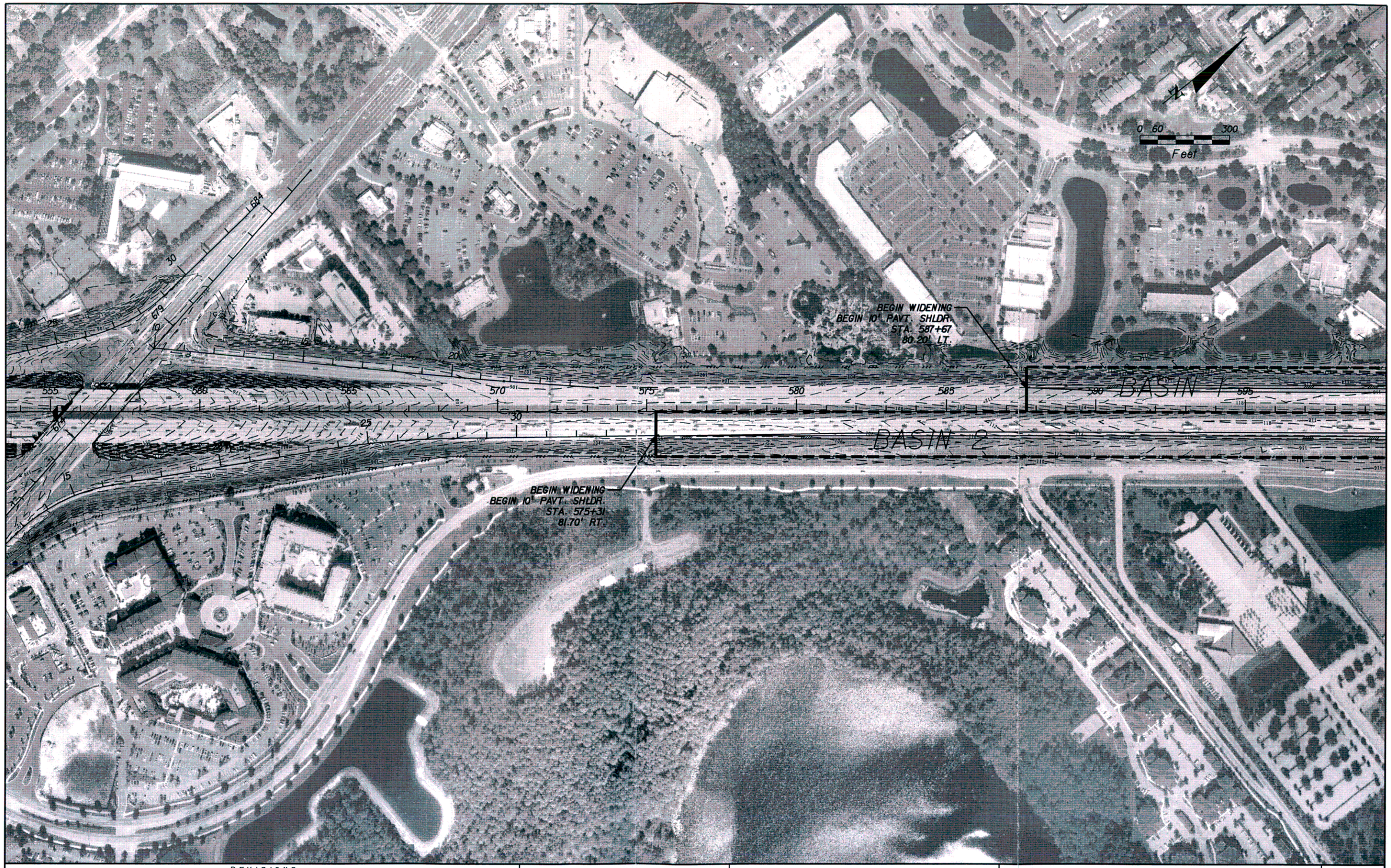

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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES PRE DEVELOPMENT DRAINAGE MAP

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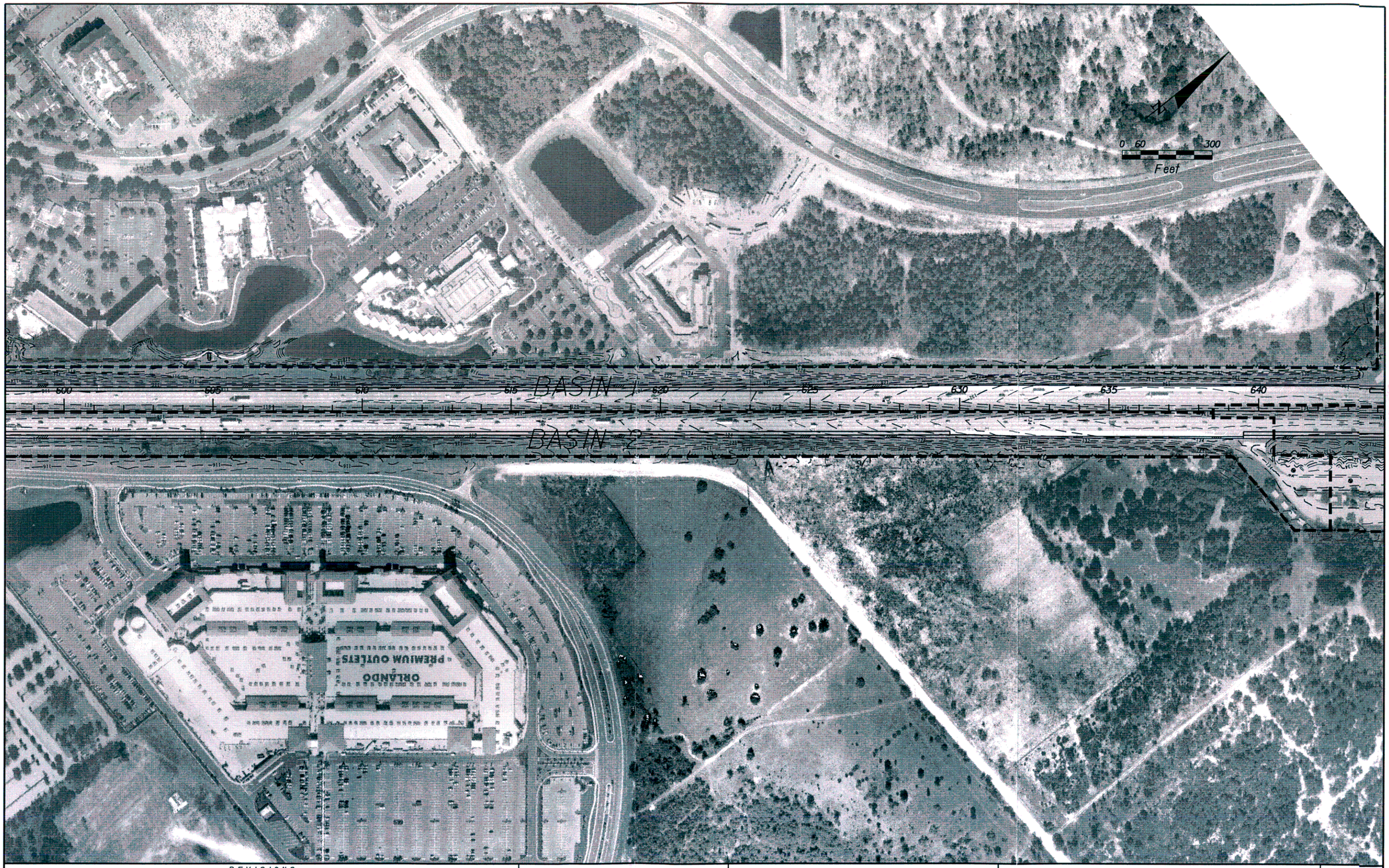

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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES PRE DEVELOPMENT DRAINAGE MAP

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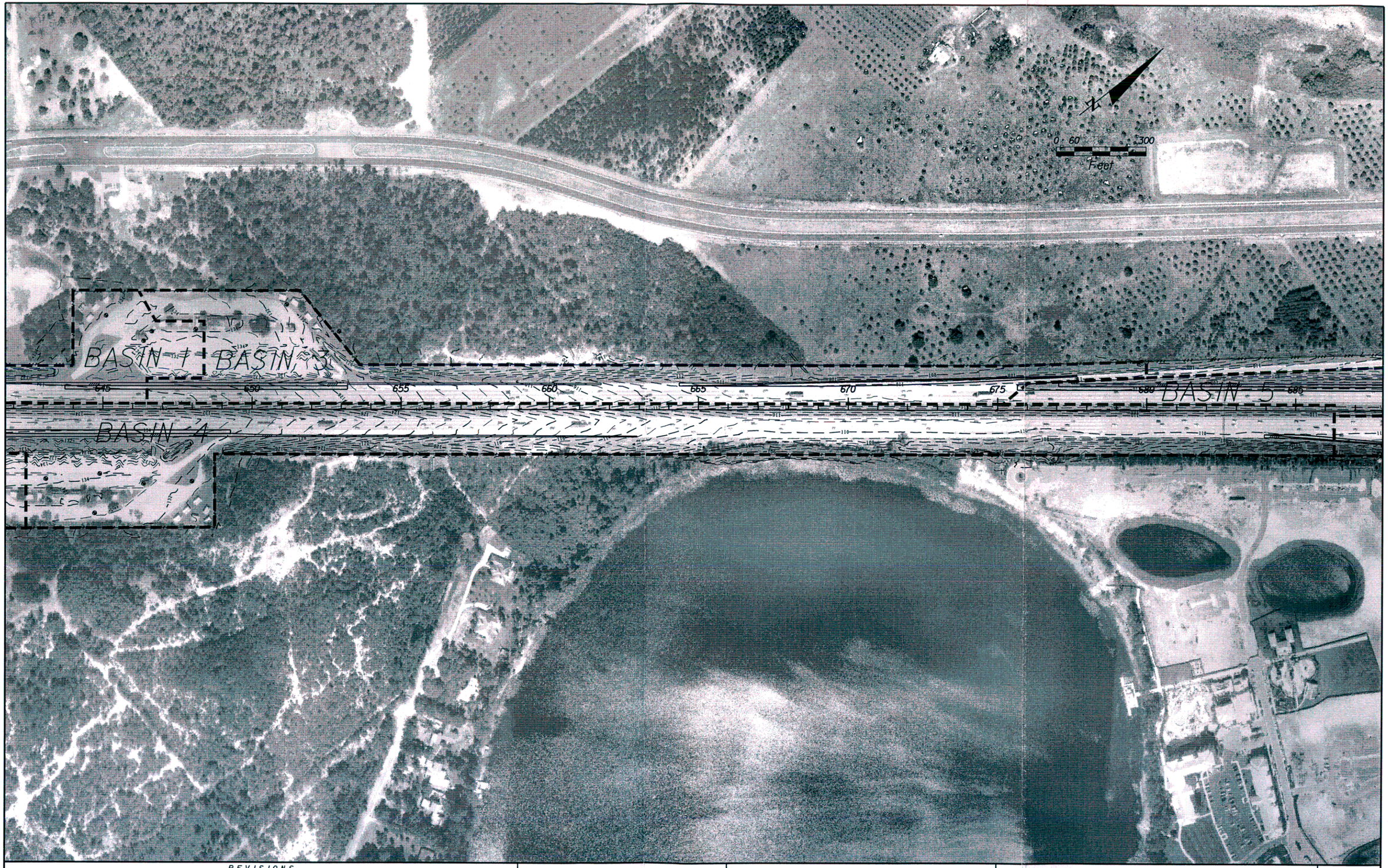

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DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES PRE DEVELOPMENT DRAINAGE MAP

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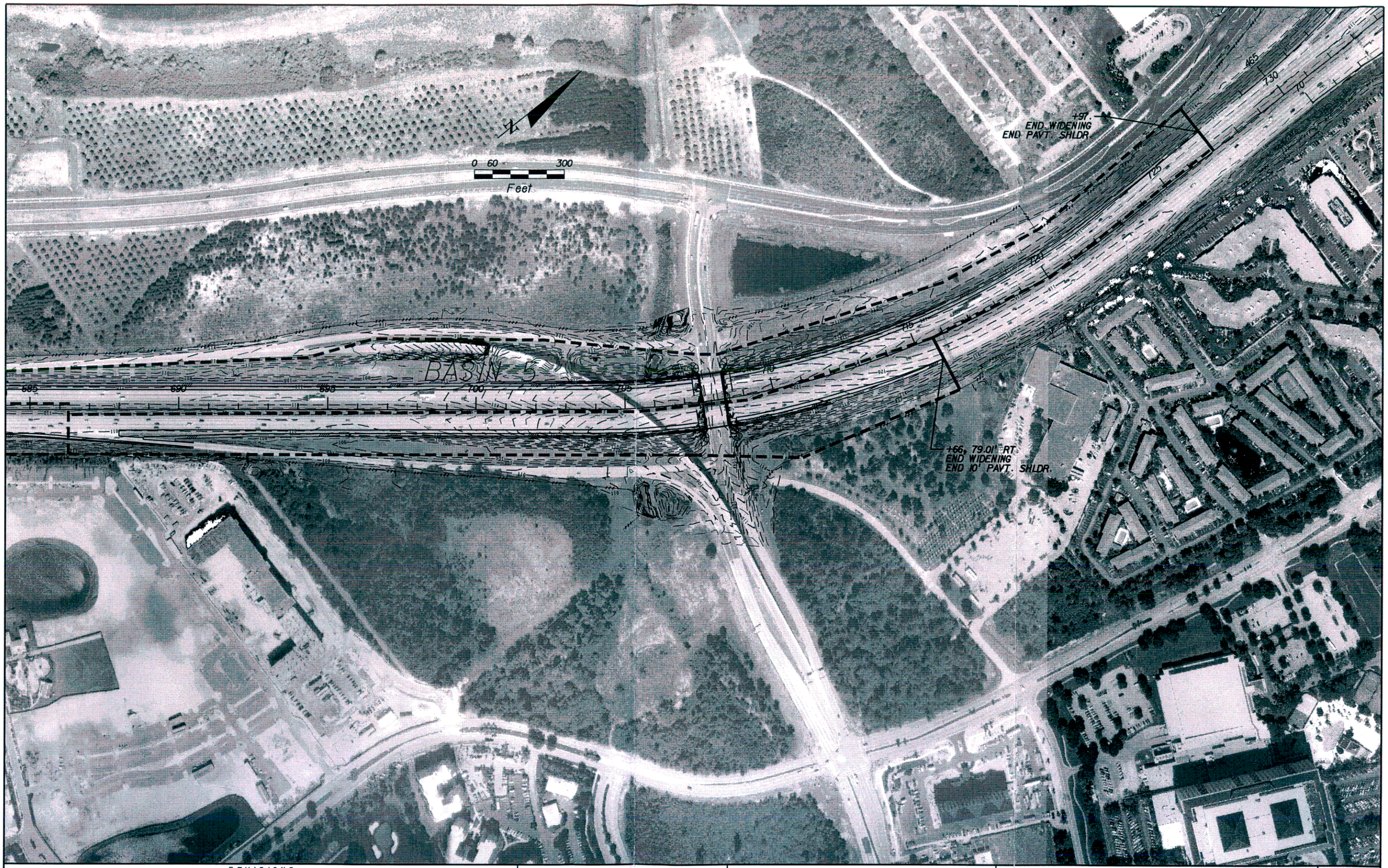

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES PRE DEVELOPMENT DRAINAGE MAP

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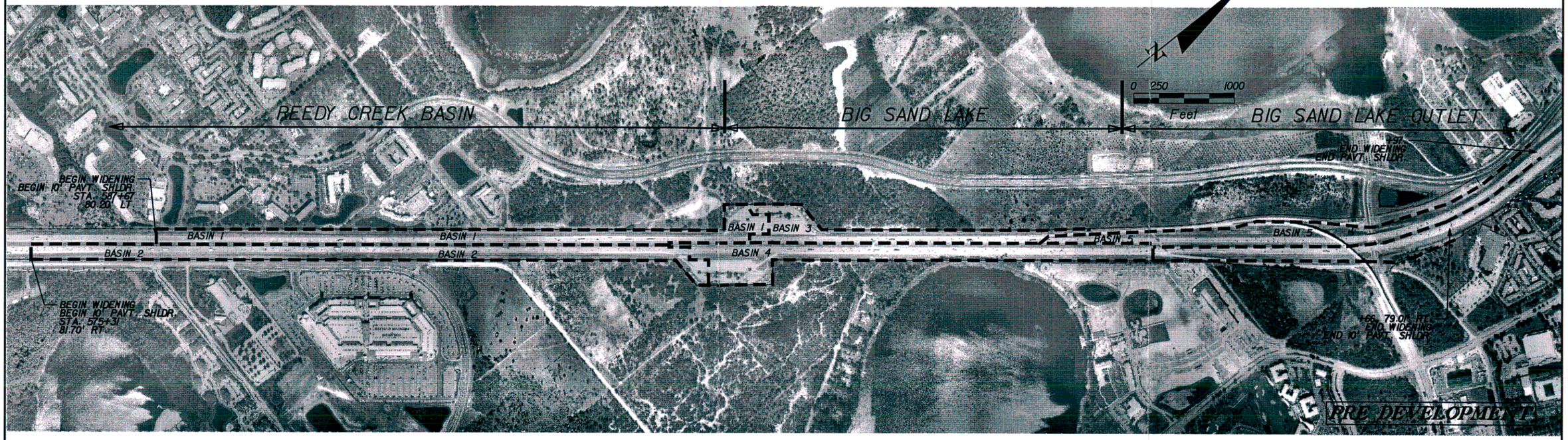

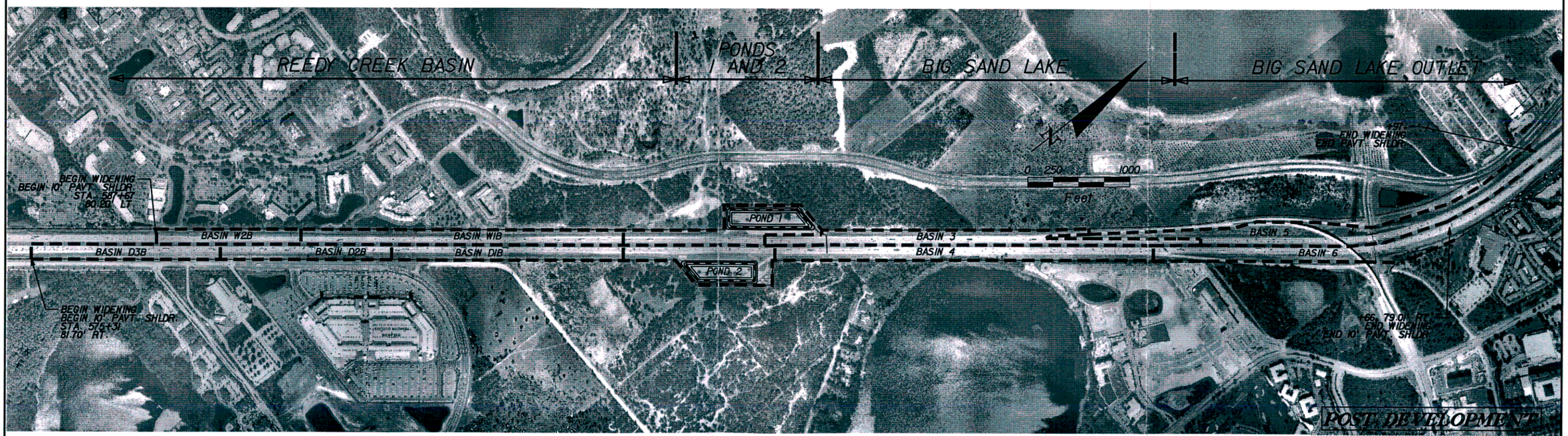

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES DRAINAGE BASINS

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Post-Development Drainage Maps

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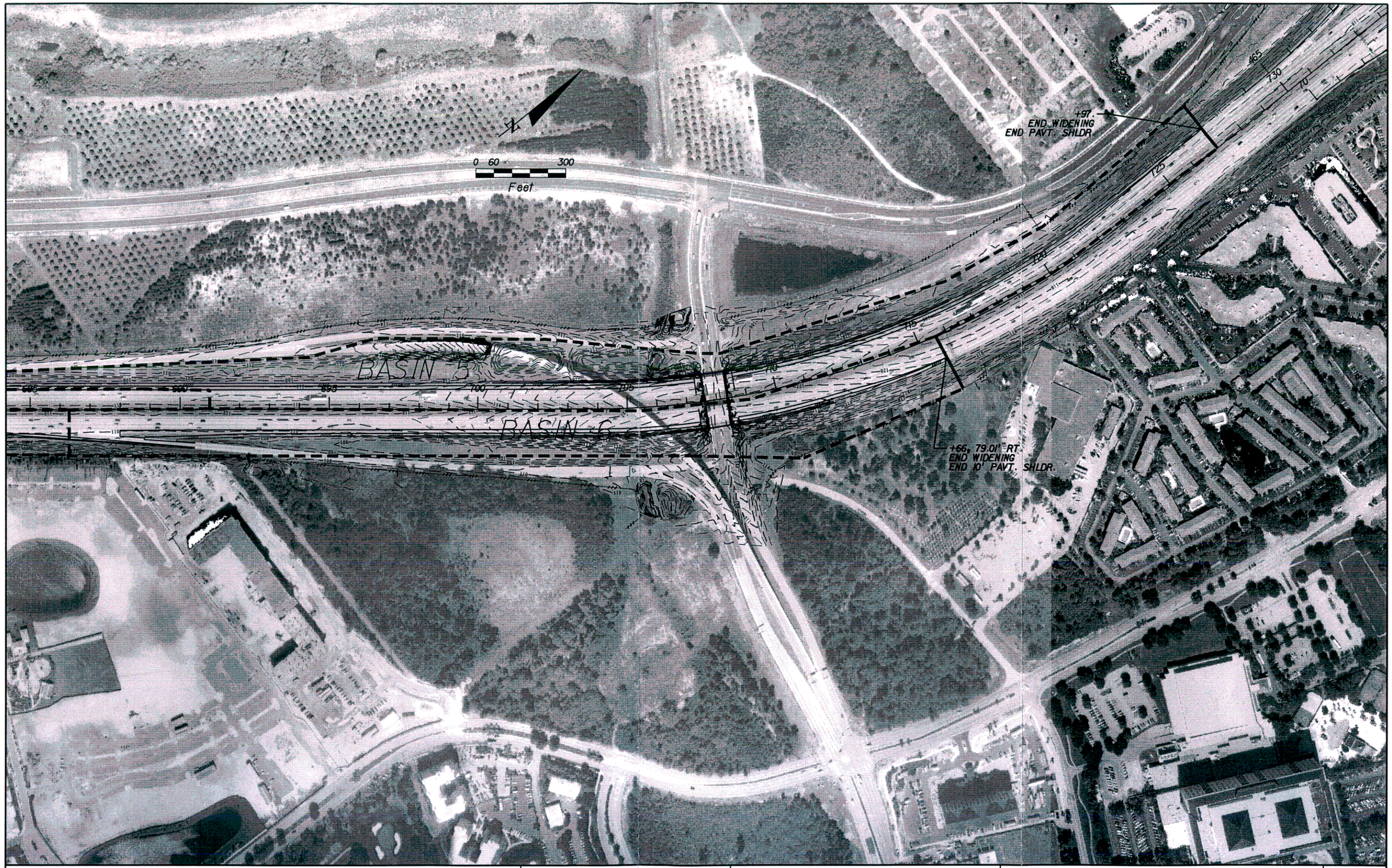

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

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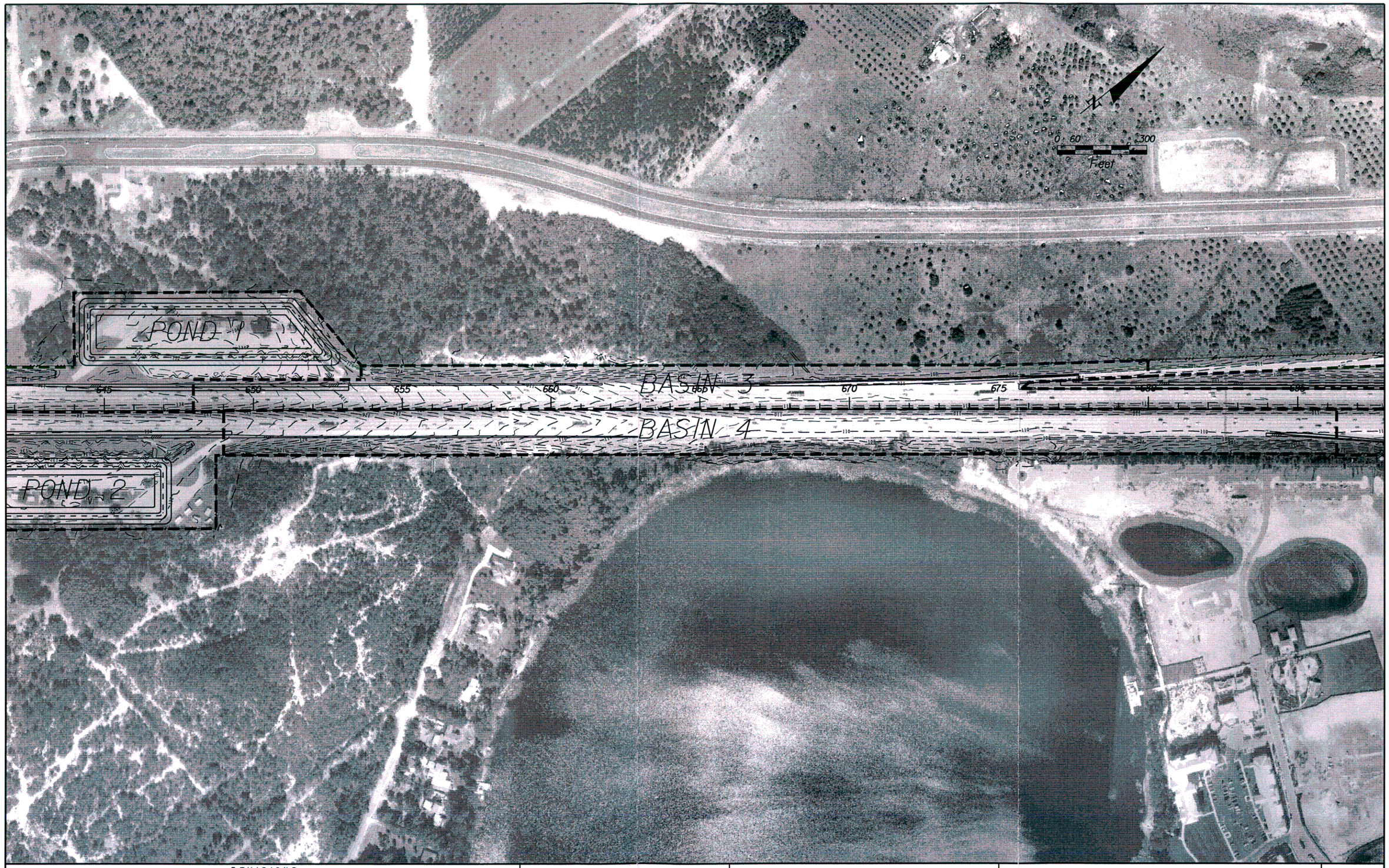
2014 FEB 13 13:10



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger Construction Industries, Inc. | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

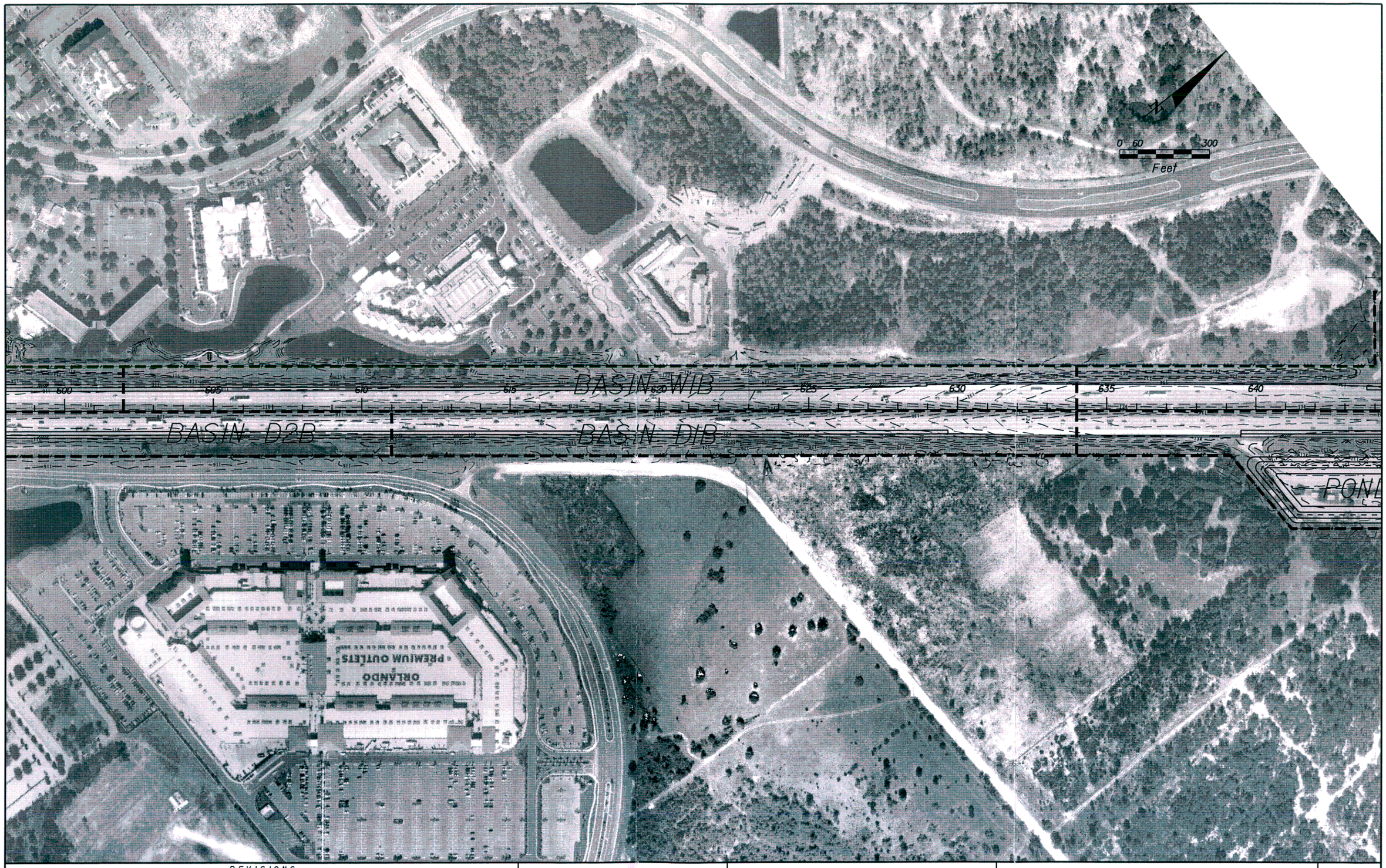
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

SHEET NO. S3

18-DEC-2001 10:16 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\PDRNGRD03.dgn

2014 FEB 13 13:10



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

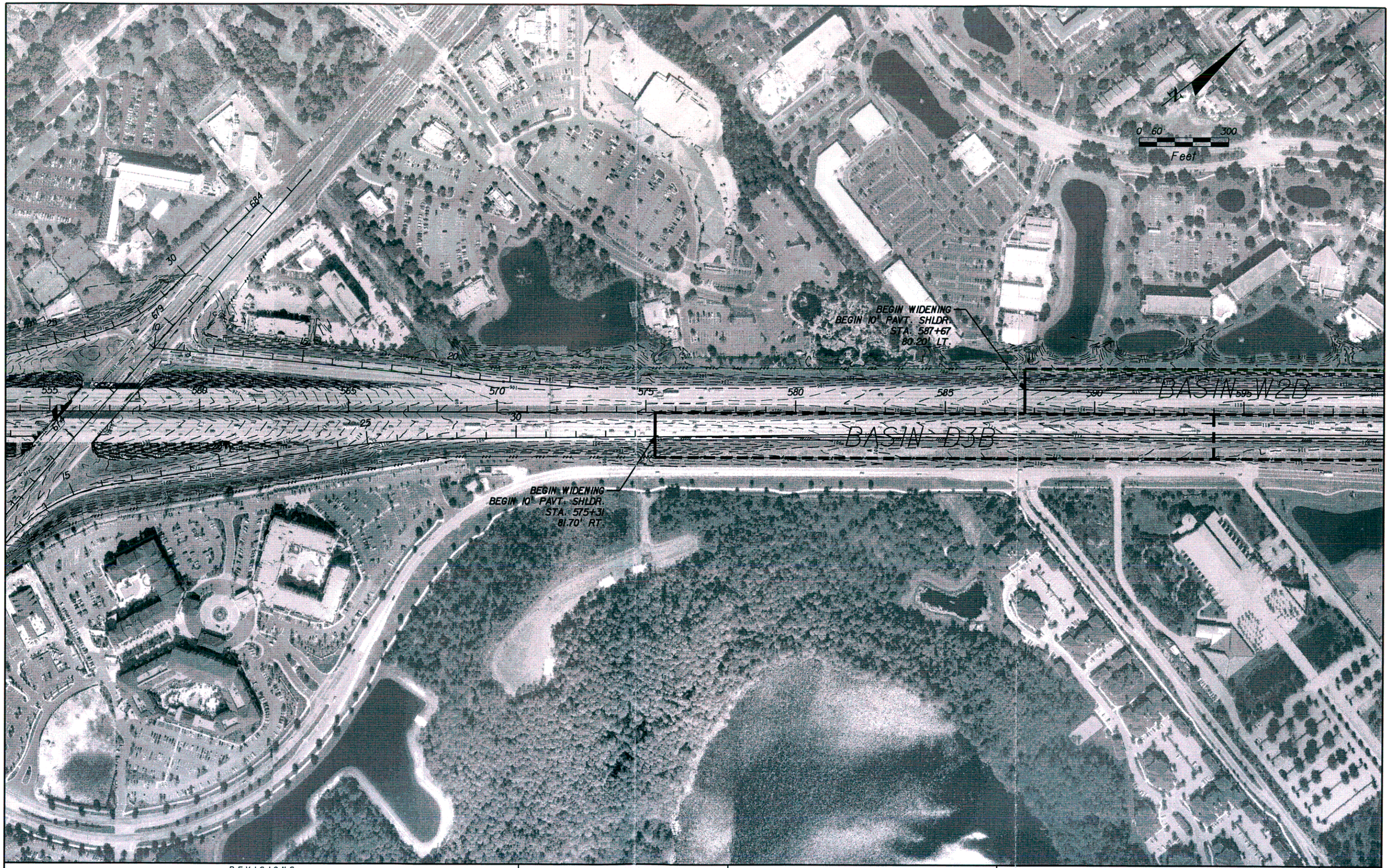
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

SHEET NO. S2

18-DEC-2001 10:14 \\orlw00\pmwork\Jobs\34671\techprod\cad\roadway\PDRNGRD02.dgn

2014 FEB 13 13:10



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES POST DEVELOPMENT DRAINAGE MAP

SHEET NO. S1

18-DEC-2001 10:00 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\PDRNGRD01.dgn

Reedy Creek Improvement District Sub-Basin

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No.	34671
	Checked By: KFH	Date: 10/17/01	Office No.	59

BASIN 1 PRE

Curve Number Existing

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	7.860	770.28
B/D, A, and C	Grassed area ROW	74	10.270	759.98
			18.130	**1530.26**

WEIGHTED CN - PROPOSED 84.4

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No.	34671
	Checked By: KFH	Date: 10/17/01	Office No.	59

BASIN 2 PRE

Curve Number Existing

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	7.81	765.38
B/D, A, and C	Grassed Area ROW	74	11.16	825.84
			18.970	**1591.22**

WEIGHTED CN - PROPOSED 83.9

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

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REEDY CREEK PRE-DEVELOPMENT CONDITIONS

********** Basin Summary - 50Y72H **********

***		
Basin Name:	B2PRE	B1PRE
Group Name:	BASE	BASE
Node Name:	B2PRE	B1PRE
Hydrograph Type:	UH	UH
Unit Hydrograph:	UH256	UH256
Peaking Factor:	256.00	256.00
Spec Time Inc (min):	1.33	1.33
Comp Time Inc (min):	1.33	1.33
Rainfall File:	SFWMD72	SFWMD72
Rainfall Amount (in):	12.91	12.91
Storm Duration (hr):	72.00	72.00
Status:	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00
Lag Time (hr):	0.00	0.00
Area (acres):	18.97	18.13
Vol of Unit Hyd (in):	1.00	1.00
Curve Number:	83.90	84.40
DCIA (%):	0.00	0.00
Time Max (hrs):	60.02	60.02
Flow Max (cfs):	104.65	100.26
Runoff Volume (in):	10.86	10.93
Runoff Volume (cf):	747720	719034

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REEDY CREEK PRE-DEVELOPMENT CONDITIONS

********** Basin Summary - 25Y24H **********

***

Basin Name:	B2PRE	B1PRE
Group Name:	BASE	BASE
Node Name:	B2PRE	B1PRE
Hydrograph Type:	UH	UH
Unit Hydrograph:	UH256	UH256
Peaking Factor:	256.00	256.00
Spec Time Inc (min):	1.33	1.33
Comp Time Inc (min):	1.33	1.33
Rainfall File:	ORANGE	ORANGE
Rainfall Amount (in):	7.00	7.00
Storm Duration (hr):	24.00	24.00
Status:	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00
Lag Time (hr):	0.00	0.00
Area (acres):	18.97	18.13
Vol of Unit Hyd (in):	1.00	1.00
Curve Number:	83.90	84.40
DCIA (%):	0.00	0.00
Time Max (hrs):	9.00	9.00
Flow Max (cfs):	23.78	22.91
Runoff Volume (in):	5.13	5.18
Runoff Volume (cf):	353051	341117

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REEDY CREEK PRE-DEVELOPMENT CONDITIONS

********** Basin Summary - 25Y72H **********

***		
Basin Name:	B2PRE	B1PRE
Group Name:	BASE	BASE
Node Name:	B2PRE	B1PRE
Hydrograph Type:	UH	UH
Unit Hydrograph:	UH256	UH256
Peaking Factor:	256.00	256.00
Spec Time Inc (min):	1.33	1.33
Comp Time Inc (min):	1.33	1.33
Rainfall File:	ORANGE	ORANGE
Rainfall Amount (in):	10.50	10.50
Storm Duration (hr):	72.00	72.00
Status:	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00
Lag Time (hr):	0.00	0.00
Area (acres):	18.97	18.13
Vol of Unit Hyd (in):	1.00	1.00
Curve Number:	83.90	84.40
DCIA (%):	0.00	0.00
Time Max (hrs):	27.00	27.00
Flow Max (cfs):	12.80	12.28
Runoff Volume (in):	8.50	8.56
Runoff Volume (cf):	585348	563639

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REEDY CREEK PRE-DEVELOPMENT CONDITIONS

********** Basin Summary - 100Y24H **********

***		
Basin Name:	B2PRE	B1PRE
Group Name:	BASE	BASE
Node Name:	B2PRE	B1PRE
Hydrograph Type:	UH	UH
Unit Hydrograph:	UH256	UH256
Peaking Factor:	256.00	256.00
Spec Time Inc (min):	1.33	1.33
Comp Time Inc (min):	1.33	1.33
Rainfall File:	ORANGE	ORANGE
Rainfall Amount (in):	9.00	9.00
Storm Duration (hr):	24.00	24.00
Status:	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00
Lag Time (hr):	0.00	0.00
Area (acres):	18.97	18.13
Vol of Unit Hyd (in):	1.00	1.00
Curve Number:	83.90	84.40
DCIA (%):	0.00	0.00
Time Max (hrs):	9.00	9.00
Flow Max (cfs):	32.00	30.76
Runoff Volume (in):	7.04	7.11
Runoff Volume (cf):	485089	467637

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```
    Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
    Copyright 1995, Streamline Technologies, Inc.

    REEDY CREEK PRE-DEVELOPMENT CONDITIONS


    ********** Input Report ************************************************************
    --------Class: Basin-----------------------------------------------------------
    Basin: B1PRE      Node: B1PRE      Status: On Site    Type: SCS Unit Hydr
    Group: BASE
        Unit Hydrograph: UH256                  Peak Factor: 256
          Rainfall File: ORANGE          Storm Duration(hrs): 24
    Rainfall Amount(in): 8.6
               Area(ac): 18.13       Concentration Time(min): 10
                Curve #: 84.4                Time Shift(hrs): 0
                DCIA(%): 0



    --------Class: Basin-----------------------------------------------------------
    Basin: B2PRE      Node: B2PRE      Status: On Site    Type: SCS Unit Hydr
    Group: BASE
        Unit Hydrograph: UH256                  Peak Factor: 256
          Rainfall File: ORANGE          Storm Duration(hrs): 24
    Rainfall Amount(in): 8.6
               Area(ac): 18.97       Concentration Time(min): 10
                Curve #: 83.9                Time Shift(hrs): 0
                DCIA(%): 0



    --------Class: Simulation------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPRE\50Y72
 Execution: Hydrology
    Header: REEDY CREEK PRE-DEVELOPMENT BASINS


---------HYDRAULICS----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0                Storm Dur(hrs): 72
Drop Structure Optimizer: 0              Rain Amount(in): 12.91
     Sim Start Time(hrs): 0                Rainfall File: SFWMD72
       Sim End Time(hrs): 72
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):              To Hour:   PInc(min):
        72         15                      72         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE      [ NO RUN ]
```

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```
    Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [2]
    Copyright 1995, Streamline Technologies, Inc.

    REEDY CREEK PRE-DEVELOPMENT CONDITIONS


    ********** Input Report ************************************************************
    --------Class: Simulation-------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPRE\25Y24
 Execution: Hydrology
    Header: REEDY CREEK PRE-DEVELOPMENT CONDITIONS


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0               Storm Dur(hrs): 24
Drop Structure Optimizer: 0             Rain Amount(in): 7
     Sim Start Time(hrs): 0               Rainfall File: ORANGE
       Sim End Time(hrs): 24
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):               To Hour:   PInc(min):
        24         15                       24         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE      [ NO RUN ]
    --------Class: Simulation-------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPRE\25Y72
 Execution: Hydrology
    Header: REEDY CREEK PRE-DEVELOPMENT CONDITIONS


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0               Storm Dur(hrs): 72
Drop Structure Optimizer: 0             Rain Amount(in): 10.5
     Sim Start Time(hrs): 0               Rainfall File: ORANGE
       Sim End Time(hrs): 72
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):               To Hour:   PInc(min):
        72         15                       72         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE      [ NO RUN ]
```

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [3]
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REEDY CREEK PRE-DEVELOPMENT CONDITIONS

```
********** Input Report ********************************************************
--------Class: Simulation-------------------------------------------------------
G:\JOBS\34671\TECHPROD\ICPR\RCIDPRE\100Y2
Execution: Hydrology
   Header: REEDY CREEK PRE-DEVELOPMENT CONDITIONS

---------HYDRAULICS----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0                Storm Dur(hrs): 24
Drop Structure Optimizer: 0               Rain Amount(in): 9
     Sim Start Time(hrs): 0                 Rainfall File: ORANGE
       Sim End Time(hrs): 24
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):                 To Hour:   PInc(min):
        24         15                         24         15
---------GROUP SELECTIONS----------------------------------------------------
+ BASE     [ NO RUN ]
```

2014 FEB 13 13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Basin W1B

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	4.44	435.12
B/D, A, and C	Grassed Area ROW	74	4.48	331.52
			8.920	**766.64**

WEIGHTED CN - PROPOSED 85.9

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:30

HNTB

By: AET Date: 12/12/01 Job No. 34671
Checked By: KFH Date: 12/12/01 Office No. 59

Basin W2B

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	1.93	189.14
B/D, A, and C	Grassed Area ROW	74	1.94	143.56
			3.870	**332.70**

WEIGHTED CN - PROPOSED 86.0

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Basin D1B

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	3.05	298.90
B/D, A, and C	Grassed Area ROW	74	3.18	235.32
			6.230	**534.22**

WEIGHTED CN - PROPOSED 85.7

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Basin D2B

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	2.25	220.50
B/D, A, and C	Grassed Area ROW	74	2.39	176.86
			4.640	**397.36**

WEIGHTED CN - PROPOSED 85.6

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 12/12/01	Job No.	34671
	Checked By: KFH	Date: 12/12/01	Office No.	59

Basin D3B

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	2.570	251.86
B/D, A, and C	Grassed Area ROW	74	2.44	180.56
			5.010	**432.42**

WEIGHTED CN - PROPOSED 86.3

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Pond W1P

Detention Pond Drawdown Calculations

Size Outflow Orifice

Q = CA(2gh)^.5

Q = Discharge, cfs
A = Orifice Area, ft^2
g = Gravitational Constant = 32.2 ft/sec^2
h = Depth of water above center of orifice, ft
C = Orifice coefficient (assumed = 0.6)

t=TV/(2Q*CF)

TV = Treatment Volume, ft^3 = 5956 ft^3
t = Recovery Time, hrs = 24 hrs
CF = Conversion Factor = 3600sec/hr

Try 3 inch, 7.62 cm orifice

h = $(h_1 + h_2)/2$

h_1 = Depth of water between TOT and Center Orifice, m
h_1 = 1.000 ft
h_2 = Depth of water at half treatment volume, m
h_2 = 0.500 ft

h = 0.750 ft

Q=CA(2gh)^.5 = 0.819 cfs

Recovery Time, t = 1.0 hours

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Pond W2P

Detention Pond Drawdown Calculations

Size Outflow Orifice

Q = CA(2gh)^.5

Q = Discharge, cfs
A = Orifice Area, ft^2
g = Gravitational Constant = 32.2 ft/sec^2
h = Depth of water above center of orifice, ft
C = Orifice coefficient (assumed = 0.6)

t=TV/(2Q*CF)

TV = Treatment Volume, ft^3 = 1009 ft^3
t = Recovery Time, hrs = 24 hrs
CF = Conversion Factor = 3600sec/hr

Try 3 inch, 7.62 cm orifice

h = $(h_1 + h_2)/2$

h_1 = Depth of water between TOT and Center Orifice, m
h_1 = 1.000 ft
h_2 = Depth of water at half treatment volume, m
h_2 = 0.500 ft

h = 0.750 ft

Q=CA(2gh)^.5 = 0.819 cfs

Recovery Time, t = 0.2 hours

2014 FEB 13 13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Pond D1P

Detention Pond Drawdown Calculations

Size Outflow Orifice

Q = CA(2gh)^.5

Q = Discharge, cfs
A = Orifice Area, ft^2
g = Gravitational Constant = 32.2 ft/sec^2
h = Depth of water above center of orifice, ft
C = Orifice coefficient (assumed = 0.6)

t=TV/(2Q*CF)

TV = Treatment Volume, ft^3 = 3121 ft^3
t = Recovery Time, hrs = 24 hrs
CF = Conversion Factor = 3600sec/hr

Try 3 inch, 7.62 cm orifice

h = (h_1 + h_2)/2

h_1 = Depth of water between TOT and Center Orifice, m
h_1 = 1.000 ft
h_2 = Depth of water at half treatment volume, m
h_2 = 0.500 ft

h = 0.750 ft

Q=CA(2gh)^.5 = 0.819 cfs

Recovery Time, t = 0.5 hours

2014 FEB 13 13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Pond D2P

Detention Pond Drawdown Calculations

Size Outflow Orifice

Q = CA(2gh)^.5

Q = Discharge, cfs
A = Orifice Area, ft^2
g = Gravitational Constant = 32.2 ft/sec^2
h = Depth of water above center of orifice, ft
C = Orifice coefficient (assumed = 0.6)

t=TV/(2Q*CF)

TV = Treatment Volume, ft^3 = 10196 ft^3
t = Recovery Time, hrs = 24 hrs
CF = Conversion Factor = 3600sec/hr

Try 3 inch, 7.62 cm orifice

h = (h_1 + h_2)/2

h_1 = Depth of water between TOT and Center Orifice, m
h_1 = 1.000 ft
h_2 = Depth of water at half treatment volume, m
h_2 = 0.500 ft

h = 0.750 ft

Q=CA(2gh)^.5 = 0.819 cfs

Recovery Time, t = 1.7 hours

2014-FEB-13 13:13:10

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

Pond D3P

Detention Pond Drawdown Calculations

Size Outflow Orifice

Q = CA(2gh)^.5

Q = Discharge, cfs
A = Orifice Area, ft^2
g = Gravitational Constant = 32.2 ft/sec^2
h = Depth of water above center of orifice, ft
C = Orifice coefficient (assumed = 0.6)

t=TV//(2Q*CF)

TV = Treatment Volume, ft^3 = 4422 ft^3
t = Recovery Time, hrs = 24 hrs
CF = Conversion Factor = 3600sec/hr

Try 3 inch, 7.62 cm orifice

h = (h_1 + h_2)/2

h_1 = Depth of water between TOT and Center Orifice, m
h_1 = 1.000 ft
h_2 = Depth of water at half treatment volume, m
h_2 = 0.500 ft

h = 0.750 ft

Q=CA(2gh)^.5 = 0.819 cfs

Recovery Time, t = 0.8 hours

HNTB	By: AET	Date: 12/12/01	Job No. 34671
	Checked By: KFH	Date: 12/12/01	Office No. 59

I-4 SR 535 to SR 528 ***SFWMD***

Orange County

Reedy Creek Basin

Increase in Impervious

Basin 1	1.20	Acres
Basin 2	1.51	Acres
Total	**2.71**	**Acres**

Treatment Volume = 2.5" x Increase in Impervious

TV =	**0.56**	**Ac-Ft**
	24593	**Ft3**

Basin	Volume Treated Ft3	Remaining Volume to be Treated Ft3
		24593
D3B	4422	20171
D2B	10196	9975
D1B	3121	6854
W1B	5956	898
W2B	1009	-111

Treatment Volume Provided

24704	**Ft3**
0.57	**Ac-Ft**

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Basin Summary - 50Y72H **********

***					
Basin Name:	D1B	D2B	D3B	W1B	W2B
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	D1P	D2P	D3P	W1P	W2P
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	SFWMD72	SFWMD72	SFWMD72	SFWMD72	SFWMD72
Rainfall Amount (in):	12.91	12.91	12.91	12.91	12.91
Storm Duration (hr):	72.00	72.00	72.00	72.00	72.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.23	4.64	5.01	8.92	3.87
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.70	85.60	86.30	85.90	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	60.02	60.02	60.02	60.02	60.02
Flow Max (cfs):	34.66	25.83	27.94	49.66	21.56
Runoff Volume (in):	11.10	11.09	11.18	11.13	11.14
Runoff Volume (cf):	251008	186924	203302	360249	156483

2014 FEB 13 13:10

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Basin Summary - 25Y24H **********

***					
Basin Name:	D1B	D2B	D3B	W1B	W2B
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	D1P	D2P	D3P	W1P	W2P
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	7.00	7.00	7.00	7.00	7.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.23	4.64	5.01	8.92	3.87
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.70	85.60	86.30	85.90	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	9.00	9.00	9.00	9.00	9.00
Flow Max (cfs):	8.03	5.98	6.51	11.53	5.01
Runoff Volume (in):	5.33	5.32	5.40	5.35	5.36
Runoff Volume (cf):	120536	89679	98169	173315	75353

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Basin Summary - 100Y24H **********

***					
Basin Name:	D1B	D2B	D3B	W1B	W2B
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	D1P	D2P	D3P	W1P	W2P
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	9.00	9.00	9.00	9.00	9.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.23	4.64	5.01	8.92	3.87
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.70	85.60	86.30	85.90	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	9.00	9.00	9.00	9.00	9.00
Flow Max (cfs):	10.71	7.98	8.67	15.37	6.68
Runoff Volume (in):	7.26	7.25	7.34	7.29	7.30
Runoff Volume (cf):	164290	122286	133450	236018	102570

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Basin Summary - 25Y72H **********

***					
Basin Name:	D1B	D2B	D3B	W1B	W2B
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	D1P	D2P	D3P	W1P	W2P
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	10.50	10.50	10.50	10.50	10.50
Storm Duration (hr):	72.00	72.00	72.00	72.00	72.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.23	4.64	5.01	8.92	3.87
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.70	85.60	86.30	85.90	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	27.00	27.00	27.00	27.00	27.00
Flow Max (cfs):	4.26	3.18	3.44	6.11	2.65
Runoff Volume (in):	8.73	8.72	8.81	8.76	8.77
Runoff Volume (cf):	197430	146986	160152	283497	123176

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Node Maximum Conditions - 50Y72H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
D1P	BASE	60.01	115.61	117.35	0.0143	9123.29	60.00	34.45	60.01	33.59
D2P	BASE	60.06	114.85	116.31	0.0168	28105.63	60.01	58.97	60.06	55.27
D3P	BASE	60.06	104.00	105.00	0.0202	11345.43	60.02	81.07	60.06	80.39
EB	BASE	0.00	101.00	106.00	0.0000	0.06	60.06	80.39	0.00	0.00
W1P	BASE	60.03	115.31	118.00	-0.0333	20043.32	60.00	49.37	60.03	46.85
W2P	BASE	60.02	103.48	105.00	0.0330	3357.79	60.01	67.63	60.02	67.48
WB	BASE	71.99	101.12	106.00	0.0005	4399560.25	60.02	67.48	0.00	0.00

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Node Maximum Conditions - 25Y72H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
D1P	BASE	26.99	115.05	117.35	0.0036	5945.72	26.99	4.26	26.99	4.26
D2P	BASE	26.99	114.12	116.31	0.0034	18300.06	26.99	7.43	26.99	7.42
D3P	BASE	26.99	103.11	105.00	0.0039	7029.55	26.99	10.86	26.99	10.86
EB	BASE	0.00	101.00	106.00	0.0000	0.06	26.99	10.86	0.00	0.00
W1P	BASE	26.99	114.64	118.00	-0.0333	9846.42	26.99	6.11	26.99	6.11
W2P	BASE	26.99	102.66	105.00	0.0330	1076.88	26.99	8.76	26.99	8.76
WB	BASE	72.00	101.09	106.00	0.0001	4399560.86	26.99	8.76	0.00	0.00

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Node Maximum Conditions - 100Y24H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
D1P	BASE	9.00	115.22	117.35	0.0055	6911.36	8.98	10.70	9.00	10.69
D2P	BASE	9.02	114.36	116.31	0.0073	21444.47	9.00	18.66	9.02	18.55
D3P	BASE	9.02	103.40	105.00	0.0060	8434.95	9.00	27.20	9.02	27.15
EB	BASE	0.00	101.00	106.00	0.0000	0.06	9.02	27.15	0.00	0.00
W1P	BASE	9.00	114.85	118.00	-0.0333	12482.42	8.98	15.36	9.00	15.31
W2P	BASE	9.00	102.92	105.00	0.0330	1795.43	9.00	21.98	9.00	21.98
WB	BASE	24.00	101.08	106.00	0.0003	4399560.28	9.00	21.98	0.00	0.00

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Node Maximum Conditions - 25Y24H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
D1P	BASE	9.00	115.16	117.35	0.0070	6547.99	9.00	8.03	9.00	8.00
D2P	BASE	9.03	114.27	116.31	0.0093	20252.35	9.00	13.97	9.03	13.85
D3P	BASE	9.02	103.29	105.00	0.0067	7905.68	9.00	20.34	9.02	20.28
EB	BASE	0.00	101.00	106.00	0.0000	0.06	9.02	20.28	0.00	0.00
W1P	BASE	9.02	114.77	118.00	-0.0333	11447.68	9.00	11.52	9.02	11.46
W2P	BASE	9.00	102.82	105.00	0.0330	1527.23	9.00	16.47	9.00	16.46
WB	BASE	24.00	101.06	106.00	0.0002	4399560.27	9.00	16.46	0.00	0.00

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********** Input Report **********

--------Class: Node----------

Name: D1P Base Flow(cfs): 0 Init Stage(ft): 113.85
Group: BASE Warn Stage(ft): 117.35
Comment:

Stage(ft)	Area(ac)
113.85	0.0001
114.85	0.11
116	0.26

--------Class: Node----------

Name: D2P Base Flow(cfs): 0 Init Stage(ft): 112.83
Group: BASE Warn Stage(ft): 116.31
Comment:

Stage(ft)	Area(ac)
112.83	0.0001
113.83	0.33
115	0.69

--------Class: Node----------

Name: D3P Base Flow(cfs): 0 Init Stage(ft): 101.73
Group: BASE Warn Stage(ft): 105
Comment:

Stage(ft)	Area(ac)
101.73	0.0001
102.73	0.12
104	0.26

--------Class: Node----------

Name: EB Base Flow(cfs): 0 Init Stage(ft): 101
Group: BASE Warn Stage(ft): 106
Comment:

Time(hrs)	Stage(ft)
0	101
24	101

--------Class: Node----------

Name: W1P Base Flow(cfs): 0 Init Stage(ft): 113.83
Group: BASE Warn Stage(ft): 118
Comment:

Stage(ft)	Area(ac)
113.83	0.0001
114.83	0.28
116	0.72

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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Input Report **
--------Class: Node--
   Name: W2P   Base Flow(cfs): 0   Init Stage(ft): 101.33
  Group: BASE   Warn Stage(ft): 105
Comment:

Stage(ft)	Area(ac)
101.33	0.0001
102.33	0.004
104	0.11

--------Class: Node--
   Name: WB   Base Flow(cfs): 0   Init Stage(ft): 101
  Group: BASE   Warn Stage(ft): 106
Comment:

Stage(ft)	Area(ac)
0	101
24	101

--------Class: Basin---
Basin: D1B   Node: D1P   Status: On Site   Type: SCS Unit Hydr
Group: BASE
    Unit Hydrograph: UH256   Peak Factor: 256
      Rainfall File: ORANGE   Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
          Area(ac): 6.23   Concentration Time(min): 10
           Curve #: 85.7   Time Shift(hrs): 0
           DCIA(%): 0

--------Class: Basin---
Basin: D2B   Node: D2P   Status: On Site   Type: SCS Unit Hydr
Group: BASE
    Unit Hydrograph: UH256   Peak Factor: 256
      Rainfall File: ORANGE   Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
          Area(ac): 4.645   Concentration Time(min): 10
           Curve #: 85.6   Time Shift(hrs): 0
           DCIA(%): 0

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********** Input Report **
--------Class: Basin--
Basin: D3B Node: D3P Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 5.01 Concentration Time(min): 10
Curve #: 86.3 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--
Basin: W1B Node: W1P Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: SFWMD72 Storm Duration(hrs): 72
Rainfall Amount(in): 12.91
Area(ac): 8.92 Concentration Time(min): 10
Curve #: 85.9 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--
Basin: W2B Node: W2P Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: SFWMD72 Storm Duration(hrs): 72
Rainfall Amount(in): 12.91
Area(ac): 3.87 Concentration Time(min): 10
Curve #: 86 Time Shift(hrs): 0
DCIA(%): 0

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********** Input Report **
--------Class: Pipe--

Name:	D1O	From Node:	D1P
Group:	BASE	To Node:	D2P

Length(ft): 10
Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	
Span(in):	3	3	
Rise(in):	3	3	
Invert(ft):	113.85	113.83	
Manning's N:	0.011	0.011	
Top Clip(in):	0	0	
Bottom Clip(in):	0	0	

Equation: Average K
Flow: Both
Entrance Loss Coef: 0.7
Exit Loss Coef: 0.2
Bend Loss Coef: 0
Outlet Cntrl Spec: Use dc or tw
Inlet Cntrl Spec: Use dn
Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

--------Class: Pipe--

Name:	D2O	From Node:	D2P
Group:	BASE	To Node:	D3P

Length(ft): 10
Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	
Span(in):	3	3	
Rise(in):	3	3	
Invert(ft):	112.83	112.81	
Manning's N:	0.011	0.011	
Top Clip(in):	0	0	
Bottom Clip(in):	0	0	

Equation: Average K
Flow: Both
Entrance Loss Coef: 0.7
Exit Loss Coef: 0.2
Bend Loss Coef: 0
Outlet Cntrl Spec: Use dc or tw
Inlet Cntrl Spec: Use dn
Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [5]
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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Input Report **********

--------Class: Pipe----------

Name:	D3O	From Node:	D3P	Length(ft):	10
Group:	BASE	To Node:	EB	Count:	1
	UPSTREAM	DOWNSTREAM		Equation:	Average K
Geometry:	Circular	Circular		Flow:	Both
Span(in):	3	3	Entrance Loss Coef:		0.7
Rise(in):	3	3	Exit Loss Coef:		0.2
Invert(ft):	101.73	101.71	Bend Loss Coef:		0
Manning's N:	0.011	0.011	Outlet Cntrl Spec:		Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec:		Use dn
Bottom Clip(in):	0	0	Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

--------Class: Pipe----------

Name:	W10	From Node:	W1P	Length(ft):	10
Group:	BASE	To Node:	W2P	Count:	1
	UPSTREAM	DOWNSTREAM		Equation:	Average K
Geometry:	Circular	Circular		Flow:	Both
Span(in):	3	3	Entrance Loss Coef:		0.7
Rise(in):	3	3	Exit Loss Coef:		0.2
Invert(ft):	113.38	113.35	Bend Loss Coef:		0
Manning's N:	0.011	0.011	Outlet Cntrl Spec:		Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec:		Use dn
Bottom Clip(in):	0	0	Stabilizer Option:		None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [6]
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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Input Report **
--------Class: Pipe---

```
          Name: W2O          From Node: W2P       Length(ft): 10
         Group: BASE           To Node: WB            Count: 1

                UPSTREAM     DOWNSTREAM            Equation: Average K
      Geometry: Circular     Circular                 Flow: Both
      Span(in): 3            3           Entrance Loss Coef: 0.7
      Rise(in): 3            3               Exit Loss Coef: 0.2
    Invert(ft): 101.33       101.3           Bend Loss Coef: 0
   Manning's N: 0.011        0.011       Outlet Cntrl Spec: Use dc or tw
  Top Clip(in): 0            0            Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0           0           Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

--------Class: Weir---

```
    Name: D1W              From Node: D1P
   Group: BASE               To Node: D2P
   Count: 1

 Type: Mavis    Flow: Both      Geometry: Trapezoidal

     Bottom Width(ft): 14
  Left Side Slope(h/v): 6
 Right Side Slope(h/v): 3
           Invert(ft): 114.85
     Control Elev(ft): 113.85
  StructOpeningDim(ft): 9999       TABLE
      Bottom Clip(ft): 0
         Top Clip(ft): 0
   Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6
```

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [7]
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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Input Report **
--------Class: Weir--
Name: D2W From Node: D2P
Group: BASE To Node: D3P
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 14
Left Side Slope(h/v): 6
Right Side Slope(h/v): 3
Invert(ft): 113.83
Control Elev(ft): 112.83
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

--------Class: Weir--
Name: D3W From Node: D3P
Group: BASE To Node: EB
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 14
Left Side Slope(h/v): 6
Right Side Slope(h/v): 3
Invert(ft): 102.73
Control Elev(ft): 101.73
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [8]
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REEDY CREEK POST-DEVELOPMENT CONDITIONS

********** Input Report **
--------Class: Weir--
    Name: W1W   From Node: W1P
   Group: BASE   To Node: W2P
   Count: 1

 Type: Mavis   Flow: Both   Geometry: Trapezoidal

      Bottom Width(ft): 14
  Left Side Slope(h/v): 6
 Right Side Slope(h/v): 3
           Invert(ft): 114.38
      Control Elev(ft): 113.38
  StructOpeningDim(ft): 9999   TABLE
       Bottom Clip(ft): 0
          Top Clip(ft): 0
   Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

--------Class: Weir--
    Name: W2W   From Node: W2P
   Group: BASE   To Node: WB
   Count: 1

 Type: Mavis   Flow: Both   Geometry: Trapezoidal

      Bottom Width(ft): 14
  Left Side Slope(h/v): 6
 Right Side Slope(h/v): 3
           Invert(ft): 102.33
      Control Elev(ft): 101.33
  StructOpeningDim(ft): 9999   TABLE
       Bottom Clip(ft): 0
          Top Clip(ft): 0
   Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

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```
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    REEDY CREEK POST-DEVELOPMENT CONDITIONS


    ********** Input Report ************************************************************
    --------Class: Simulation-----------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPST\50Y72
 Execution: Both
    Header: REEDY CREEK POST-DEVELOPMENT CONDITIONS


---------HYDRAULICS----------------------------HYDROLOGY-------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0               Storm Dur(hrs): 72
Drop Structure Optimizer: 0              Rain Amount(in): 12.91
     Sim Start Time(hrs): 0                Rainfall File: SFWMD72
       Sim End Time(hrs): 72
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):              To Hour:   PInc(min):
        72         15                      72         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE      [12/17/01]
    --------Class: Simulation-----------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPST\25Y72
 Execution: Both
    Header: REEDY CREEK POST-DEVELOPMENT CONDITIONS


---------HYDRAULICS----------------------------HYDROLOGY-------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0               Storm Dur(hrs): 72
Drop Structure Optimizer: 0              Rain Amount(in): 10.5
     Sim Start Time(hrs): 0                Rainfall File: ORANGE
       Sim End Time(hrs): 72
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):              To Hour:   PInc(min):
        72         15                      72         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE      [12/17/01]
```

```
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    REEDY CREEK POST-DEVELOPMENT CONDITIONS


    ********** Input Report ************************************************************
    --------Class: Simulation-----------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPST\100Y2
 Execution: Both
    Header: REEDY CREEK POST-DEVELOPMENT CONDITIONS


---------HYDRAULICS----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0               Storm Dur(hrs): 24
Drop Structure Optimizer: 0              Rain Amount(in): 9
     Sim Start Time(hrs): 0                Rainfall File: ORANGE
       Sim End Time(hrs): 24
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):                To Hour:   PInc(min):
        24         15                        24         15
---------GROUP SELECTIONS-----------------------------------------------------------
+ BASE      [12/17/01]
    --------Class: Simulation-----------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RCIDPST\25Y24
 Execution: Both
    Header: REEDY CREEK POST-DEVELOPMENT CONDITIONS


---------HYDRAULICS----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0               Storm Dur(hrs): 24
Drop Structure Optimizer: 0              Rain Amount(in): 7
     Sim Start Time(hrs): 0                Rainfall File: ORANGE
       Sim End Time(hrs): 24
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):                To Hour:   PInc(min):
        24         15                        24         15
---------GROUP SELECTIONS-----------------------------------------------------------
+ BASE      [12/17/01]
```

Big Sand Lake Sub-Basin

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 3 PRE

Curve Number Existing

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	6.070	594.86
B/D, A, and C	Grassed area ROW	74	5.070	375.18
			11.140	**970.04**

WEIGHTED CN - PROPOSED 87.1

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 3 POST

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	6.200	607.60
B/D, A, and C	Grassed Area ROW	74	4.37	323.38
			10.570	**930.98**

WEIGHTED CN - PROPOSED 88.1

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 4 PRE

Curve Number Existing

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	7.79	763.42
B/D, A, and C	Grassed Area ROW	74	7.76	574.24
			15.550	**1337.66**

WEIGHTED CN - PROPOSED 86.0

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 4 POST

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	4.94	484.12
B/D, A, and C	Grassed Area ROW	74	4.85	358.90
			9.790	**843.02**

WEIGHTED CN - PROPOSED 86.1

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

POND 1

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
NA	Proposed Pavement	98	1.790	175.42
B/D, A, and C	Grassed Area ROW	77	4.490	345.73
	water surface	100	2.900	290.00
			9.180	**811.15**

WEIGHTED CN - PROPOSED 88.4

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

POND 2

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	1.96	192.1
B/D, A, and C	Grassed Area ROW	74	4.62	341.9
	Water Surface	100	2.38	238.0
			8.96	**771.96**

WEIGHTED CN - PROPOSED 86.2

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/25/01	Job No. 34671
	Checked By: KFH	Date: 10/25/01	Office No. 59

SFWMD

I-4 SR 535 to SR 528 ***Orange County***

Pond 1 - Westbound Rest Area

Amount of Impervious Being Treated

A = 1.79 Acres

Treatment Volume = 2.5" x impervious area

Treatment Volume = 0.37 Acre-Feet

Top of Treatment = 128.12 Feet

Total Site Area

A = 8.30 Acres

Treatment Volume = 1.0" x total area

Treatment Volume = 0.69 Acre-Feet

Top of Treatment = 128.23 Feet

Pond 1
Stage - Storage Table

ELEV. (Feet) NGVD	DESCRIPTION	AREA (acre)	AVERAGE AREA (acre)	^d (Feet)	INC. VOLUME (acre ft)	CUM. STORAGE VOLUME (acre ft)
116.0	Bottom	1.78				0.00
			2.17	10.00	21.70	
126.0	Slope Break	2.56				0.00
			2.73	2.00	5.46	
128.0	N.W.L.	2.90				0.00
			2.99	1.00	2.99	
129.0		3.08				2.99
			3.17	1.00	3.17	
130.0		3.25				6.16
			3.34	1.00	3.34	
131.0	Slope Break	3.43				9.50
			3.81	0.80	3.04	
131.8	Top of Berm	4.18				12.54

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/25/01	Job No. 34671
	Checked By: KFH	Date: 10/25/01	Office No. 59

SFWMD

I-4 SR 535 to SR 528 ***Orange County***

Pond 2 - Eastbound Rest Area

Amount of Impervious Being Treated

A = 1.96 Acres

Treatment Volume = 2.5" x impervious area

Treatment Volume = 0.41 Acre-Feet

Top of Treatment = 128.7 Feet

Total Site Area

A = 8.96 Acres

Treatment Volume = 1.0" x total area

Treatment Volume = 0.75 Acre-Feet

Top of Treatment = 128.8 Feet

Pond 2
Stage - Storage Table

ELEV. (Feet) NGVD	DESCRIPTION	AREA (acre)	AVERAGE AREA (acre)	^d (Feet)	INC. VOLUME (acre ft)	CUM. STORAGE VOLUME (acre ft)
116.5	Bottom	1.41				0.00
			1.75	10.00	17.50	
126.5	Slope Break	2.09				0.00
			2.24	2.00	4.47	
128.5	N.W.L.	2.38				0.00
			2.46	1.00	2.46	
129.5		2.53				2.46
			2.61	1.00	2.61	
130.5		2.69				5.07
			2.77	1.00	2.77	
131.5	Slope Break	2.84				7.83
			3.17	1.00	3.17	
132.5	Top of Bank	3.50				11.00

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/25/01	Job No. 34671
	Checked By: KFH	Date: 10/25/01	Office No. 59

SFWMD

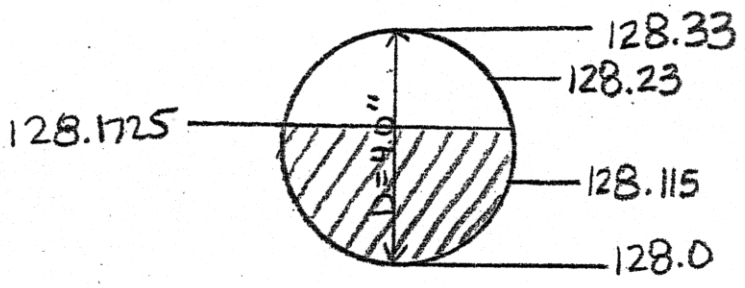
I-4 SR 535 to SR 528 *Orange County*

Pond 1 Drawdown Calculations

Since top of treatment is below the top of the orifice, use weir equation to estimate discharge through the orifice.

Treatment Volume = 30056 ft3
Treatment Stage = 128.23 ft

Half of Treatment Volume = 15028 ft3
Half of Treatment Stage = 128.12 ft



Average Depth = (TV Stage - 1/2 TV Stage)/2 - NWL = 0.1725 ft

Flow Area at Average Depth = 0.0456 ft2

Average Width = Average Area / Depth = 0.264 ft

Q = C*L*(H^1.5)

Where:
C = 3.0
L = Average Width
H = Average Depth

Q = 0.057 cfs

Recovery Time, t = (1/2 Treatment Volume) / (Q* 3600s/hr)
t= 73.47 hours

2014 FEB 13 13:10

HNTB	By: AET	Date 10/25/01	Job No 34671
	Checked By: KFH	Date 10/25/01	Office No 59

SFWMD

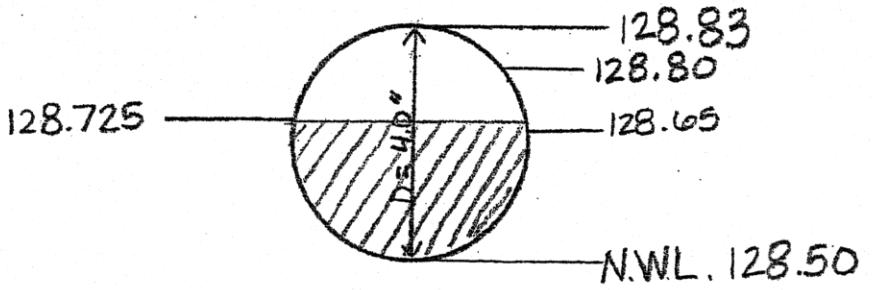
I-4 SR 535 to SR 528 *Orange County*

Pond 2 Drawdown Calculations

Since top of treatment is below the top of the orifice, use weir equation to estimate discharge through the orifice.

Treatment Volume = 32670 ft3
Treatment Stage = 128.80 ft

Half of Treatment Volume = 16335 ft3
Half of Treatment Stage = 128.65 ft



Average Depth = (TV Stage - 1/2 TV Stage)/2 - NWL = 0.225 ft

Flow Area at Average Depth = 0.0628 ft2

Average Width = Average Area / Depth = 0.279 ft

Q = C*L*(H^1.5)

Where:
C = 3.0
L = Average Width
H = Average Depth

Q = 0.089 cfs

Recovery Time, t = (1/2 Treatment Volume) / (Q* 3600s/hr)
t= 50.77 hours

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BIG SAND LAKE BASIN

********** Basin Summary - 25Y72H **********

***					
Basin Name:	B3PRE	B3POST	B4PRE	B4POST	POND1
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	B3PRE	B3POST	B4PRE	B4POST	POND1
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	10.50	10.50	10.50	10.50	10.50
Storm Duration (hr):	72.00	72.00	72.00	72.00	72.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	11.14	10.57	15.55	9.79	9.18
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	87.10	88.10	86.00	86.10	88.40
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	27.00	27.00	27.00	27.00	27.00
Flow Max (cfs):	7.69	7.35	10.66	6.72	6.39
Runoff Volume (in):	8.91	9.03	8.77	8.78	9.07
Runoff Volume (cf):	360202	346613	494934	312051	302291

***	
Basin Name:	POND2
Group Name:	BASE
Node Name:	POND2
Hydrograph Type:	UH
Unit Hydrograph:	UH256
Peaking Factor:	256.00
Spec Time Inc (min):	1.33
Comp Time Inc (min):	1.33
Rainfall File:	ORANGE
Rainfall Amount (in):	10.50
Storm Duration (hr):	72.00
Status:	ONSITE
Time of Conc. (min):	10.00
Lag Time (hr):	0.00
Area (acres):	8.96
Vol of Unit Hyd (in):	1.00
Curve Number:	86.20
DCIA (%):	0.00
Time Max (hrs):	27.00
Flow Max (cfs):	6.15

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BIG SAND LAKE BASIN

********** Basin Summary - 25Y72H **********

Runoff Volume (in):	8.79
Runoff Volume (cf):	286007

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BIG SAND LAKE BASIN

********** Basin Summary - 25Y24H **********

***					
Basin Name:	B3PRE	B3POST	B4PRE	B4POST	POND1
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	B3PRE	B3POST	B4PRE	B4POST	POND1
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	7.00	7.00	7.00	7.00	7.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	11.14	10.57	15.55	9.79	9.18
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	87.10	88.10	86.00	86.10	88.40
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	9.00	9.00	9.00	9.00	9.00
Flow Max (cfs):	14.63	14.07	20.12	12.69	12.26
Runoff Volume (in):	5.49	5.60	5.36	5.38	5.64
Runoff Volume (cf):	221962	214984	302775	191025	187857

***	
Basin Name:	POND2
Group Name:	BASE
Node Name:	POND2
Hydrograph Type:	UH
Unit Hydrograph:	UH256
Peaking Factor:	256.00
Spec Time Inc (min):	1.33
Comp Time Inc (min):	1.33
Rainfall File:	ORANGE
Rainfall Amount (in):	7.00
Storm Duration (hr):	24.00
Status:	ONSITE
Time of Conc. (min):	10.00
Lag Time (hr):	0.00
Area (acres):	8.96
Vol of Unit Hyd (in):	1.00
Curve Number:	86.20
DCIA (%):	0.00
Time Max (hrs):	9.00
Flow Max (cfs):	11.63

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BIG SAND LAKE BASIN

********** Basin Summary - 25Y24H **********

Runoff Volume (in):	5.39
Runoff Volume (cf):	175198

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BIG SAND LAKE BASIN

********** Basin Summary - 100Y24H **********

***					
Basin Name:	B3PRE	B3POST	B4PRE	B4POST	POND1
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	B3PRE	B3POST	B4PRE	B4POST	POND1
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	9.00	9.00	9.00	9.00	9.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	11.14	10.57	15.55	9.79	9.18
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	87.10	88.10	86.00	86.10	88.40
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	9.00	9.00	9.00	9.00	9.00
Flow Max (cfs):	19.42	18.59	26.82	16.91	16.19
Runoff Volume (in):	7.44	7.56	7.30	7.31	7.59
Runoff Volume (cf):	300684	289978	412134	259907	253063

***	
Basin Name:	POND2
Group Name:	BASE
Node Name:	POND2
Hydrograph Type:	UH
Unit Hydrograph:	UH256
Peaking Factor:	256.00
Spec Time Inc (min):	1.33
Comp Time Inc (min):	1.33
Rainfall File:	ORANGE
Rainfall Amount (in):	9.00
Storm Duration (hr):	24.00
Status:	ONSITE
Time of Conc. (min):	10.00
Lag Time (hr):	0.00
Area (acres):	8.96
Vol of Unit Hyd (in):	1.00
Curve Number:	86.20
DCIA (%):	0.00
Time Max (hrs):	9.00
Flow Max (cfs):	15.49

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BIG SAND LAKE BASIN

********** Basin Summary - 100Y24H **********

Runoff Volume (in):	7.33
Runoff Volume (cf):	238269

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BIG SAND LAKE BASIN

********** Node Maximum Conditions - 25Y72H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
BOUND1	BASE	0.00	102.20	131.80	0.0000	0.00	42.33	0.54	0.00	0.00
BOUND2	BASE	0.00	103.00	131.00	0.0000	0.00	42.24	0.57	0.00	0.00
POND1	BASE	42.33	129.81	131.80	0.0027	140282.01	26.99	6.39	42.33	0.54
POND2	BASE	42.24	130.53	132.50	0.0031	117221.46	26.99	6.15	42.24	0.57

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BIG SAND LAKE BASIN

********** Node Maximum Conditions - 25Y24H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
BOUND1	BASE	0.00	102.20	131.80	0.0000	0.00	20.11	0.44	0.00	0.00
BOUND2	BASE	0.00	103.00	131.00	0.0000	0.00	19.09	0.47	0.00	0.00
POND1	BASE	20.11	129.26	131.80	0.0055	136054.23	8.99	12.26	20.11	0.44
POND2	BASE	19.09	129.91	132.50	0.0063	113063.84	8.99	11.62	19.09	0.47

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BIG SAND LAKE BASIN

********** Node Maximum Conditions - 100Y24H **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
BOUND1	BASE	0.00	102.20	131.80	0.0000	0.00	20.18	0.52	0.00	0.00
BOUND2	BASE	0.00	103.00	131.00	0.0000	0.00	20.11	0.55	0.00	0.00
POND1	BASE	20.18	129.70	131.80	0.0071	139422.80	8.99	16.18	20.18	0.52
POND2	BASE	20.11	130.41	132.50	0.0082	116425.30	8.99	15.48	20.11	0.55

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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BIG SAND LAKE BASIN

********** Input Report **********

--------Class: Node--------

Name: BOUND1 Base Flow(cfs): 0 Init Stage(ft): 102.2
Group: BASE Warn Stage(ft): 131.8
Comment:

Time(hrs)	Stage(ft)
0	102.2
24	102.2

--------Class: Node--------

Name: BOUND2 Base Flow(cfs): 0 Init Stage(ft): 103
Group: BASE Warn Stage(ft): 131
Comment:

Time(hrs)	Stage(ft)
0	103
24	103

--------Class: Node--------

Name: POND1 Base Flow(cfs): 0 Init Stage(ft): 128
Group: BASE Warn Stage(ft): 131.8
Comment:

Stage(ft)	Area(ac)
128	2.9
131	3.43
131.8	4.18

--------Class: Node--------

Name: POND2 Base Flow(cfs): 0 Init Stage(ft): 128.5
Group: BASE Warn Stage(ft): 132.5
Comment:

Stage(ft)	Area(ac)
128.5	2.38
131.5	2.84
132.5	3.5

--------Class: Basin--------

Basin: B3POST Node: B3POST Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 10.57 Concentration Time(min): 10
Curve #: 88.1 Time Shift(hrs): 0
DCIA(%): 0

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [2]
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BIG SAND LAKE BASIN

********** Input Report **
--------Class: Basin--
Basin: B3PRE Node: B3PRE Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 11.14 Concentration Time(min): 10
Curve #: 87.1 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--
Basin: B4POST Node: B4POST Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 7.4
Area(ac): 9.79 Concentration Time(min): 10
Curve #: 86.1 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--
Basin: B4PRE Node: B4PRE Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 15.55 Concentration Time(min): 10
Curve #: 86 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--
Basin: POND1 Node: POND1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 9.18 Concentration Time(min): 10
Curve #: 88.4 Time Shift(hrs): 0
DCIA(%): 0

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Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [3]
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BIG SAND LAKE BASIN

********** Input Report **
--------Class: Basin--
Basin: POND2 Node: POND2 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 8.96 Concentration Time(min): 10
Curve #: 86.2 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Drop Structure---
Name: OUTFAL1 From Node: POND1 Length(ft): 60
Group: BASE To Node: BOUND1 Count: 1

Outlet Cntrl Spec: Use dc or tw Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular Downstream Geometry: Circular

	UPSTREAM	DOWNSTREAM
Span(in):	18	18
Rise(in):	18	18
Invert(ft):	126.5	126
Manning's N:	0.012	0.012
Top Clip(in):	0	0
Bottom Clip(in):	0	0

Entrance Loss Coef: 0.5 Flow: Both
Exit Loss Coef: 0.2 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

*** Weir 1 of 2 for Drop Structure OUTFAL1 *** [TABLE]
Count: 1 Bottom Clip(in): 0
Type: Mavis Top Clip(in): 0
Flow: Both Weir Discharge Coef: 3.13
Geometry: Circular Orifice Discharge Coef: 0.6

Span(in): 4 Invert(ft): 128
Rise(in): 4 Control Elev(ft): 128

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BIG SAND LAKE BASIN

********** Input Report **********

*** Weir 2 of 2 for Drop Structure OUTFAL1 *** [TABLE]

Count: 1	Bottom Clip(in): 0		
Type: Horiz	Top Clip(in): 0		
Flow: Both	Weir Discharge Coef: 3.13		
Geometry: Rectangular	Orifice Discharge Coef: 0.6		
Span(in): 37		Invert(ft): 130.2	
Rise(in): 49		Control Elev(ft): 130.2	

--------Class: Drop Structure----------

Name: OUTFAL2	From Node: POND2	Length(ft): 300	
Group: BASE	To Node: BOUND2	Count: 1	
Outlet Cntrl Spec: Use dc or tw		Inlet Cntrl Spec: Use dn	
Upstream Geometry: Circular		Downstream Geometry: Circular	

	UPSTREAM	DOWNSTREAM
Span(in):	18	18
Rise(in):	18	18
Invert(ft):	128	127
Manning's N:	0.012	0.012
Top Clip(in):	0	0
Bottom Clip(in):	0	0

Entrance Loss Coef: 0.5		Flow: Both	
Exit Loss Coef: 0.2		Equation: Aver Conveyance	
Upstream FHWA Inlet Edge Description:			
Circular Concrete: Square edge w/ headwall		1	1
Downstream FHWA Inlet Edge Description:			
Circular Concrete: Square edge w/ headwall		1	1

*** Weir 1 of 2 for Drop Structure OUTFAL2 *** [TABLE]

Count: 1	Bottom Clip(in): 0		
Type: Mavis	Top Clip(in): 0		
Flow: Both	Weir Discharge Coef: 3.13		
Geometry: Circular	Orifice Discharge Coef: 0.6		
Span(in): 4		Invert(ft): 128.5	
Rise(in): 4		Control Elev(ft): 128.5	

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```
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   BIG SAND LAKE BASIN


   ********** Input Report ************************************************************
    *** Weir 2 of 2 for Drop Structure OUTFAL2 ***                [TABLE]
      Count: 1                    Bottom Clip(in): 0
       Type: Horiz                   Top Clip(in): 0
       Flow: Both              Weir Discharge Coef: 3.13
   Geometry: Rectangular   Orifice Discharge Coef: 0.6

            Span(in): 37                          Invert(ft): 130.6
            Rise(in): 49                     Control Elev(ft): 130.6


   --------Class: Simulation-------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RPONDW\25Y72H
 Execution: Both
   Header: BIG SAND LAKE BASIN


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
       Max Delta Z (ft): 1
         Delta Z Factor: 0.01           Override Defaults: Yes
    Time Step Optimizer: 0                 Storm Dur(hrs): 72
Drop Structure Optimizer: 0               Rain Amount(in): 10.5
    Sim Start Time(hrs): 0                   Rainfall File: ORANGE
      Sim End Time(hrs): 72
     Min Calc Time(sec): 30
     Max Calc Time(sec): 60
       To Hour:   PInc(min):                  To Hour:   PInc(min):
       72         15                          72         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE     [12/18/01]
   --------Class: Simulation-------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\RPONDW\25Y24H
 Execution: Both
   Header: BIG SAND LAKE BASIN


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
       Max Delta Z (ft): 1
         Delta Z Factor: 0.01           Override Defaults: Yes
    Time Step Optimizer: 0                 Storm Dur(hrs): 24
Drop Structure Optimizer: 0               Rain Amount(in): 7
    Sim Start Time(hrs): 0                   Rainfall File: ORANGE
      Sim End Time(hrs): 24
     Min Calc Time(sec): 30
     Max Calc Time(sec): 60
       To Hour:   PInc(min):                  To Hour:   PInc(min):
       24         15                          24         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE     [12/18/01]
```

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BIG SAND LAKE BASIN

********** Input Report **********
--------Class: Simulation----------
G:\JOBS\34671\TECHPROD\ICPR\RPONDW\100Y24
Execution: Both
Header: BIG SAND LAKE BASIN

---------HYDRAULICS----------HYDROLOGY----------
Max Delta Z (ft): 1
Delta Z Factor: 0.01 Override Defaults: Yes
Time Step Optimizer: 0 Storm Dur(hrs): 24
Drop Structure Optimizer: 0 Rain Amount(in): 9
Sim Start Time(hrs): 0 Rainfall File: ORANGE
Sim End Time(hrs): 24
Min Calc Time(sec): 30
Max Calc Time(sec): 60

To Hour:	PInc(min):	To Hour:	PInc(min):
24	15	24	15

---------GROUP SELECTIONS----------
+ BASE [12/18/01]

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Big Sand Lake Outlet Sub-Basin

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 5 PRE

Curve Number Existing

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	4.780	468.44
B/D, A, and C	Grassed area ROW	74	9.470	700.78
			14.250	**1169.22**

WEIGHTED CN - PROPOSED 82.1

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 6 PRE

Curve Number Existing

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	3.51	343.98
B/D, A, and C	Grassed Area ROW	74	5.78	427.72
			9.290	**771.70**

WEIGHTED CN - PROPOSED 83.1

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

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HNTB

By: AET Date: 10/17/01 Job No. 34671
Checked By: KFH Date: 10/17/01 Office No. 59

BASIN 5 POST

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Proposed Pavement	98	4.090	400.82
B/D, A, and C	Grassed Area ROW	74	6.83	505.42
			10.920	**906.24**

WEIGHTED CN - PROPOSED 83.0

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

2014 FEB 13 13:10

HNTB	By: AET	Date: 10/17/01	Job No. 34671
	Checked By: KFH	Date: 10/17/01	Office No. 59

BASIN 6 POST

Curve Number Proposed

Soil Name and Hydrologic Group	Cover Description (Cover type, treatment, and hydrologic condition)	CN	Area Acres	Product of CN X Area
	Roadway Pavement	98	4.19	410.62
B/D, A, and C	Grassed Area ROW	74	5.10	377.40
			9.290	**788.02**

WEIGHTED CN - PROPOSED 84.8

REFERENCE: *Urban Hydrology for Small Watersheds*
Technical Release 55, Soil Conservation Service
U.S. Department of Agriculture, June 1986

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BIG SAND LAKE OUTLET

********** Basin Summary - 25Y24H **********

***				
Basin Name:	B5PRE	B5POST	B6PRE	B6POST
Group Name:	BASE	BASE	BASE	BASE
Node Name:	B5PRE	B5POST	B6PRE	B6POST
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	8.60	8.60	8.60	8.60
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	14.25	10.92	9.29	9.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	82.10	83.00	83.10	84.80
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	9.00	9.00	9.00	9.00
Flow Max (cfs):	22.30	17.29	14.73	15.03
Runoff Volume (in):	6.44	6.55	6.56	6.77
Runoff Volume (cf):	333181	259629	221282	228202

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BIG SAND LAKE OUTLET

********** Basin Summary - 25Y72H **********

***

Basin Name:	B5PRE	B5POST	B6PRE	B6POST
Group Name:	BASE	BASE	BASE	BASE
Node Name:	B5PRE	B5POST	B6PRE	B6POST
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33
Rainfall File:	SFWMD72	SFWMD72	SFWMD72	SFWMD72
Rainfall Amount (in):	10.50	10.50	10.50	10.50
Storm Duration (hr):	72.00	72.00	72.00	72.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	14.25	10.92	9.29	9.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	82.10	83.00	83.10	84.80
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	60.02	60.02	60.02	60.02
Flow Max (cfs):	62.09	47.90	40.78	41.25
Runoff Volume (in):	8.27	8.38	8.40	8.62
Runoff Volume (cf):	427734	332372	283192	290531

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BIG SAND LAKE OUTLET

********** Basin Summary - 100Y24H **********

***

Basin Name:	B5PRE	B5POST	B6PRE	B6POST
Group Name:	BASE	BASE	BASE	BASE
Node Name:	B5PRE	B5POST	B6PRE	B6POST
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00
Spec Time Inc (min):	1.33	1.33	1.33	1.33
Comp Time Inc (min):	1.33	1.33	1.33	1.33
Rainfall File:	ORANGE	ORANGE	ORANGE	ORANGE
Rainfall Amount (in):	10.60	10.60	10.60	10.60
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	14.25	10.92	9.29	9.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	82.10	83.00	83.10	84.80
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	9.00	9.00	9.00	9.00
Flow Max (cfs):	28.47	22.00	18.74	19.02
Runoff Volume (in):	8.37	8.48	8.50	8.71
Runoff Volume (cf):	432752	336228	286475	293831

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BIG SAND LAKE OUTLET

********** Input Report **********

--------Class: Node----------

Name: BOUND Base Flow(cfs): 0 Init Stage(ft): 103
Group: BASE Warn Stage(ft): 105
Comment:

Time(hrs)	Stage(ft)
0	103
24	103

--------Class: Node----------

Name: POND3 Base Flow(cfs): 0 Init Stage(ft): 103.5
Group: BASE Warn Stage(ft): 106.5
Comment:

Stage(ft)	Area(ac)
103.5	0.001
104.5	0.19
105.5	0.23
106.5	0.28

--------Class: Basin----------

Basin: B5POST Node: B5POST Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 10.92 Concentration Time(min): 10
Curve #: 83 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin----------

Basin: B5PRE Node: B5PRE Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 14.25 Concentration Time(min): 10
Curve #: 82.1 Time Shift(hrs): 0
DCIA(%): 0

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BIG SAND LAKE OUTLET

********** Input Report **
--------Class: Basin--
Basin: B6POST Node: B6POST Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 9.29 Concentration Time(min): 10
Curve #: 84.8 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--
Basin: B6PRE Node: B6PRE Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: ORANGE Storm Duration(hrs): 24
Rainfall Amount(in): 8.6
Area(ac): 9.29 Concentration Time(min): 10
Curve #: 83.1 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Drop Structure---
Name: OUTFALL From Node: POND3 Length(ft): 40
Group: BASE To Node: BOUND Count: 1

Outlet Cntrl Spec: Use dc or tw Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular Downstream Geometry: Circular

	UPSTREAM	DOWNSTREAM
Span(in):	18	18
Rise(in):	18	18
Invert(ft):	101	100.5
Manning's N:	0.012	0.012
Top Clip(in):	0	0
Bottom Clip(in):	0	0

Entrance Loss Coef: 0.5 Flow: Both
Exit Loss Coef: 0.2 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

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```
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BIG SAND LAKE OUTLET


********** Input Report ************************************************************
 *** Weir 1 of 2 for Drop Structure OUTFALL ***                [TABLE]
   Count: 1                    Bottom Clip(in): 0
    Type: Mavis                   Top Clip(in): 0
    Flow: Both              Weir Discharge Coef: 3.13
Geometry: Circular      Orifice Discharge Coef: 0.6

         Span(in): 3                          Invert(ft): 103.5
         Rise(in): 3                     Control Elev(ft): 103.5


 *** Weir 2 of 2 for Drop Structure OUTFALL ***                [TABLE]
   Count: 1                    Bottom Clip(in): 0
    Type: Mavis                   Top Clip(in): 0
    Flow: Both              Weir Discharge Coef: 3.13
Geometry: Rectangular   Orifice Discharge Coef: 0.6

         Span(in): 36                         Invert(ft): 105.5
         Rise(in): 999                   Control Elev(ft): 105.5


--------Class: Simulation-------------------------------------------------------
G:\JOBS\34671\TECHPROD\ICPR\CFPOND\25Y24H
Execution: Hydrology
   Header: BIG SAND LAKE OUTLET


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
       Max Delta Z (ft): 1
         Delta Z Factor: 0.01          Override Defaults: Yes
    Time Step Optimizer: 0                Storm Dur(hrs): 24
Drop Structure Optimizer: 0              Rain Amount(in): 8.6
    Sim Start Time(hrs): 0                 Rainfall File: ORANGE
      Sim End Time(hrs): 24
     Min Calc Time(sec): 30
     Max Calc Time(sec): 60
       To Hour:   PInc(min):                To Hour:   PInc(min):
       24         15                        24         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE     [10/10/01]
```

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```
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    BIG SAND LAKE OUTLET


    ********** Input Report ************************************************************
    --------Class: Simulation-------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\CFPOND\25Y72H
 Execution: Hydrology
    Header: BIG SAND LAKE OUTLET


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0                Storm Dur(hrs): 72
Drop Structure Optimizer: 0               Rain Amount(in): 10.5
     Sim Start Time(hrs): 0                 Rainfall File: SFWMD72
       Sim End Time(hrs): 72
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):                To Hour:   PInc(min):
        72         15                        72         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE     [10/10/01]
    --------Class: Simulation-------------------------------------------------------
 G:\JOBS\34671\TECHPROD\ICPR\CFPOND\100Y24
 Execution: Hydrology
    Header: BIG SAND LAKE OUTLET


---------HYDRAULICS-----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 0                Storm Dur(hrs): 24
Drop Structure Optimizer: 0               Rain Amount(in): 10.6
     Sim Start Time(hrs): 0                 Rainfall File: ORANGE
       Sim End Time(hrs): 24
      Min Calc Time(sec): 30
      Max Calc Time(sec): 60
        To Hour:   PInc(min):                To Hour:   PInc(min):
        24         15                        24         15
---------GROUP SELECTIONS-----------------------------------------------------
+ BASE     [ NO RUN ]
```

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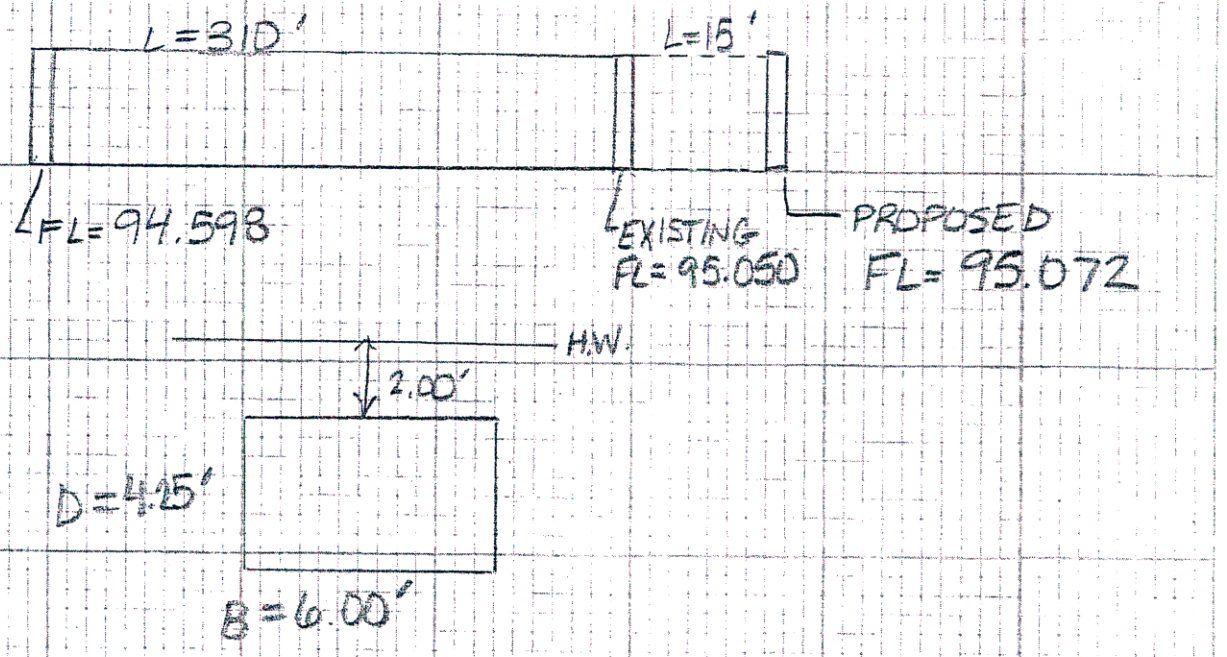
Box Culvert Extension

2014 FEB 13 13:10

HNTB The HNTB Companies	Made by	Date	Job Number
	Checked by	Date	
Calculations For	Backchecked by	Date	Sheet Number

CENTRAL FLORIDA PARKWAY BOX CULVERT EXTENSION



- No known historical problems. See Memo.
- Use Method I Per FDOT Drainage Handbook Cross Drains August 1996 4.12.1.1

Q Estimate discharges as follows:

I. 25yr Q = A V where A = Culvert area
V = 6 feet per second

25yr Q = (4.25 x 6)(6) = 153 cfs

II. 100yr Q = 1.4 x 25yr Q

100yr Q = 1.4 x (153 cfs) = 214.2 cfs

III. 500yr Q = 1.7 x (100yr Q)

500yr Q = 1.7 x (214.2 cfs) = 364.14 cfs

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b. Estimate Tailwater

TW = crown of the pipe = 4.25 ft

C. Hydraulic analysis using FHWA HDS #5 technique.

Evaluate 100 year

Inlet Control: No wingwalls

$\frac{Q}{B} = \frac{214.2\ cfs}{6.00\ ft} = 35.7\ \frac{cfs}{ft}$

Using Figure 8-3 Inlet and Outlet Nomographs for Concrete Box Culverts from Volume 2 of the FDOT Drainage Manual

$\frac{HW}{D} = 1.52$ $\quad HW = 1.52 \times D = 1.52 \times 4.25$

$HW = 6.46\ ft$

Outlet Control

$Q_{100} = 214.2\ cfs$

$Ke = 0.5$ - from FDOT Vol 2 Drainage Manual

$H = 2.8$ - from Figure 8-3 Inlet and Outlet Nomographs from FDOT Vol 2 Drainage Manual

$dc = 3.0$ - FDOT Vol 2 Drainage Manual

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HNTB The HNTB Companies	Made by	Date	Job Number
	Checked by	Date	
Calculations For	Backchecked by	Date	Sheet Number

Outlet Control Continued

$$ho = \frac{dc + D}{2} = \frac{3 + 4.25}{2} = 3.63ft$$

Since TW > ho DTW = 4.0ft

$HW = H + DTW - LS_o$

$HW = 2.8 + 4.0 - (325 \times .0015)$

HW = 6.31feet

HW depth is greater for inlet control then the controlling HW elevation is

6.46ft + 95.072 = 101.53 ft

100 year Flood Stage = 101.53ft

Using the same approach - assumed inlet Control

500 year Flood Stage = 106.97ft

50 year Flood Stage = 100.38ft

25 year Flood Stage = 99.75ft

ME111-0793

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HNTB
The HNTB Companies

Memorandum

To File 34671 DS 001 602

From Tony Melton

Subject Box Culvert

Date November 1, 2001

34671

A field review of the Box culvert at sta. 705+85+/- right was completed by Tony Melton on Friday October 26th. From my review I found that the culvert was in good condition with no signs of sedimentation or scour. The culvert is structural sound and may be extended.

Tony Melton.

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HNTB
The HNTB Companies

Record of Telephone Call

Date	October 25, 2001	Job Number	34671
With	Fonz Tumlinson	Of	FDOT Orlando Maintenance
and	Amy Trewin	Of	HNTB

Subject Discussed

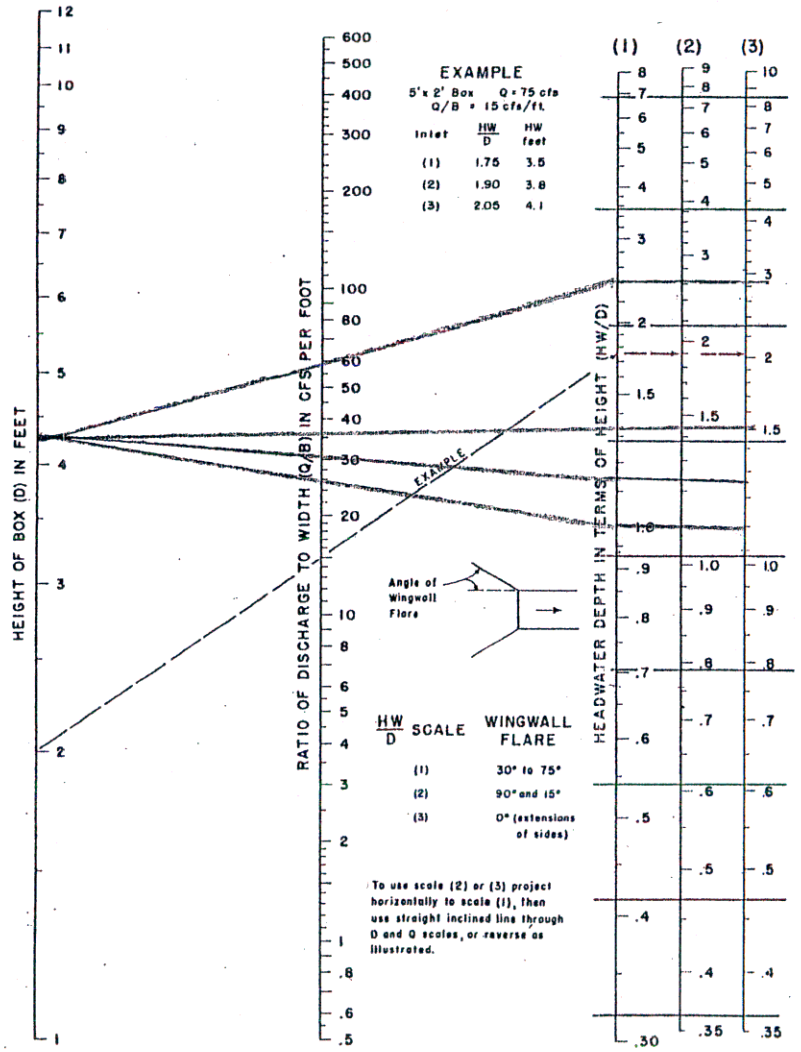
Culvert extension for the box culvert near Central Florida Parkway and I-4. Per the FDOT Cross Drain Manual, a FDOT maintenance person must be contacted to inquire about any known problems with the culvert. She said the box was structurally sound with no problems. There hasn't been any reports of flooding problems in that area. She asked another co-worker in the background, and he concurred with her statements.

Phone Number: 407-858-5900

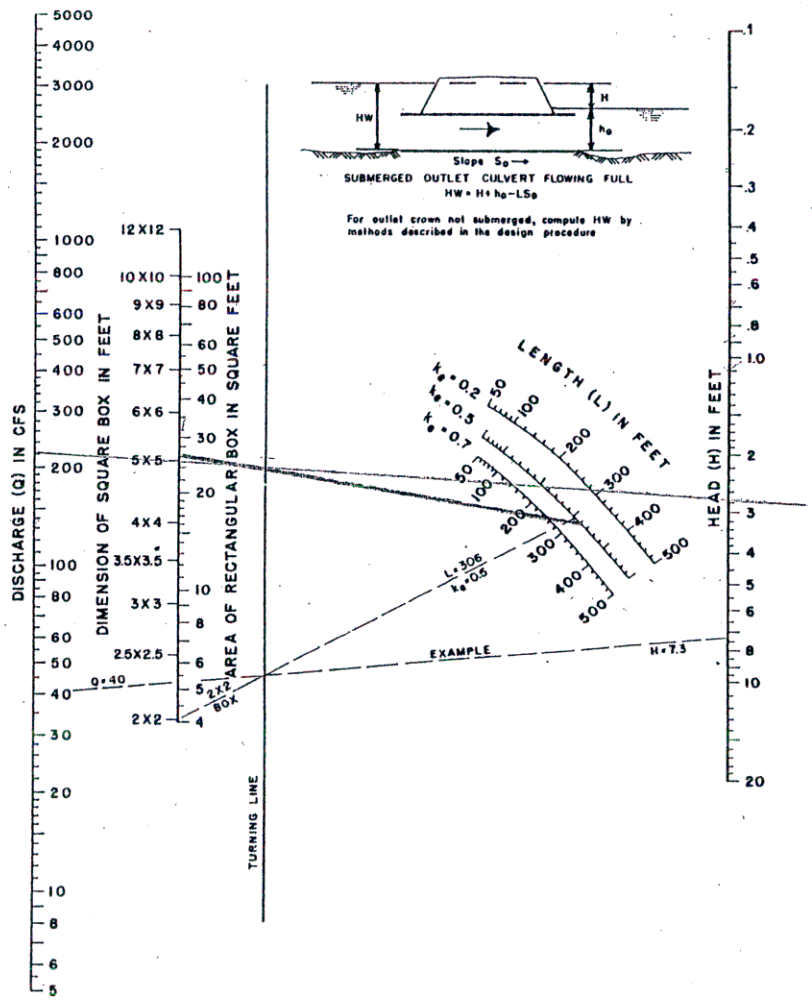
Copy To: 34671.DS.001.602

RECEIVED FEB 13 '15

A) INLET CHART



B) OUTLET CHART--Flowing Full, n = 0.012



Reference: USDOT, FHWA, HEC-5 (1965).

Standard Format: Span x Rise

FIGURE 8-3
Inlet and Outlet Nomographs for Concrete Box Culverts

2014 FEB 13 13:10

Spread Calculations

2014 FEB 13 13:10

1

HNTB

By: KFH Date: 10/29/01 Job No. 34671

Checked By: AET Date: 10/29/01 Office No. 059

I-4 SR 535 to SR 528

SFWMD
Orange County

Cross Slope (AVG) = 0.02 ft/ft

Maximum Spread = 10 ft (SHOULDER GUTTER)

Roadway Slope	Maximum Q, cfs	Maximum Area, sq ft	Maximum Length for 53' Wide, ft	Maximum Length for 55.5' Wide, ft	Maximum Length for 68' Wide, ft
0.1%	0.75	8632	163	156	127
0.2%	1.06	12207	230	220	180
0.4%	1.51	17263	326	311	254
0.6%	1.84	21143	399	381	311
0.8%	2.13	24414	461	440	359
1.0%	2.38	27296	515	492	401
1.5%	2.92	33430	631	602	492
2.0%	3.37	38602	728	696	568
2.5%	3.76	43158	814	778	635
3.0%	4.12	47277	892	852	695
4.0%	4.76	54591	1030	984	803
5.0%	5.32	61035	1152	1100	898

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ORIGINAL SUBMITTAL
NOV - 9 2001
ORLANDO SERVICE CENTER

90% Report of Roadway Soil Survey
I-4 AUXILIARY LANES FROM
S.R. 536 TO S.R. 528
Orange County, Florida
Financial Project No. 405515
Section No. 75280
GEC Project No. 1576G

Geotechnical
and
Environmental
Consultants, Inc.

October 25, 2001

HNTB Corporation
5850 T. G. Lee Boulevard, Suite 600
Orlando, Florida 32822

Attention: Mr. Tony Melton, P.E.

Subject: 90% Report of Roadway Soil Survey
I-4 AUXILIARY LANES
FROM S.R. 536 TO S.R. 528
Orange County, Florida
Financial Project No. 405515
Section No. 75280
GEC Project No. 1576G

Dear Mr. Melton:

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this 90% Report of Roadway Soil Survey for the above-referenced project. The purpose of this investigation was to explore subsurface conditions along the proposed auxiliary lane alignments and in pond locations and to develop geotechnical engineering recommendations for the design and construction of these improvements. This report describes our investigation procedures, exhibits the data obtained, and presents our conclusions and recommendations regarding design and construction of the auxiliary lanes and ponds.

The recommendations in this report are based on project information provided by HNTB Corporation. Changes in project design that may occur as plans preparation continues may require re-evaluation of our recommendations. GEC should review final construction plans to verify conformance with our final geotechnical report.

1230 East Hillcrest Street, Orlando, FL 32803-4713
407/898-1818 Fax 407/898-1837 E-mail: gec@g-e-c.com

GEC appreciates the opportunity to be of service to HNTB Corporation and the Florida Department of Transportation (FDOT) on this project. If you should have any questions concerning the contents of this report, please contact us.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.

11.7.01

Riad Touati, P.E.
Project Engineer
Florida Registration No. 57613

11-7-01

Mark C. Canty, P.E.
Senior Project Manager
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11/7/01

Gary L. Kuhns, P.E.
Senior Geotechnical Engineer
Florida Registration No. 38704

RT/MCC/GLK/ydb

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Equivalent Fluid Density Calculations

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1.0 SITE AND PROJECT DESCRIPTION

The subject site is located in Sections 11, 12, 14, 15, 22, 27, 28 and 33, Township 24 South, Range 28 East in Orange County. More specifically, the proposed auxiliary lanes are planned from S.R. 535 to S.R. 528. The project site vicinity is shown on the U.S. Geological Survey, Lake Jessamine, Windermere and Intercession City, Florida Quadrangle Maps in the Appendix (Figures 1A and 1B).

In general, this portion of I-4 roadway consists of six 12-foot wide travel lanes with 10-foot wide inside and outside shoulders and a grass median. According to the USGS Quadrangle map, the natural grades along the project alignment vary from approximately +115 ft NGVD near S.R. 535 to +135 ft NGVD at the existing Rest Areas. The grades then decrease to about +115 ft NGVD near S.R. 528.

...improvements consist of adding a 12-foot wide auxiliary lane with a 10-foot wide shoulder to the outside of I-4...

According to plans provided by HNTB, the proposed improvements consist of adding a 12-foot wide auxiliary lane with a 10-foot wide shoulder to the outside of I-4 between Stations 575+24 and 738+02. In addition, three ponds (Nos. 1, 2 and 3) are planned. Pond 1 is planned at the location of the former Rest Area of I-4 Westbound, Pond 2 is planned at the location of the former Rest Area of I-4 Eastbound and Pond 3 is planned just southwest of the I-4 bridge over Central Florida Parkway.

2.0 REVIEW OF SCS SOIL SURVEY MAPS

The Soil Conservation Service (SCS) Soil Survey of Orange County was reviewed to obtain near-surface soils information in the vicinity of the project alignment. The SCS Soil Survey map of this area is shown on Figures 2A and 2B in the Appendix. According to the SCS map, the surficial soils along the project alignment between S.R. 535 and S.R. 528 include the following:

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SCS Soil Survey Classifications

Soil Number	Soil Name	Depth (in.)	Soil Description	AASHTO Soil Classification	Seasonal High Groundwater Depth (ft.)
3	Basinger fine sand, depressional	0 - 80	Fine sand, sand	A-3, A-2-4	+2 - 1.0
20	Immokalee fine sand	0 - 80	Fine sand, sand	A-3, A-2-4	0 - 1.0
26	Ona fine sand	0 - 80	Fine sand, sand	A-3, A-2-4	0 - 1.0
34	Pomello fine sand, 0 to 5 percent slopes	0 - 80	Fine sand, sand	A-3, A-2-4	2.0 - 3.5
37	St. Johns fine sand	0 - 80	Fine sand, sand, loamy fine sand	A-3, A-2-4	0 - 1.0
38	St. Lucie fine sand, 0 to 5 percent slopes	0 - 80	Fine sand	A-3	>6.0
42	Sanibel muck	0 - 11 11 - 15 15 - 80	Muck Sand, mucky fine sand Sand, fine sand	A-8 A-8 A-3	+1 - 1.0
44	Smyrna fine sand	0 - 80	Fine sand, sand, loamy fine sand	A-3, A-2-4	0 - 1.0
47	Tavares-Millhopper fine sands, 0 to 5 percent slopes	0 - 80	Fine sand, sand	A-3	3.5 - 6.0
50	Urban Land	---	---	---	
54	Zolfo fine sand	0 - 80	Fine sand, sand	A-3, A-2-4	2.0 - 3.5

The above soil types, with the exception of Sanibel muck, are generally appropriate for embankment support. Sanibel muck is organic and highly compressible and is not appropriate for embankment support.

Information contained in the SCS Soil Survey is very general and may be outdated. Therefore, it may not be reflective of actual soil and groundwater condition, particularly if development in the vicinity has modified soil conditions or surface/subsurface drainage.

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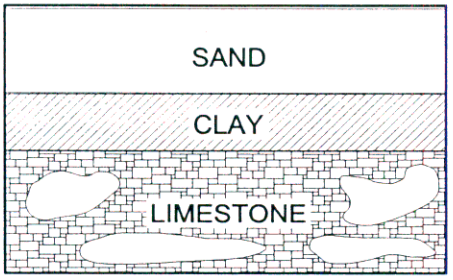
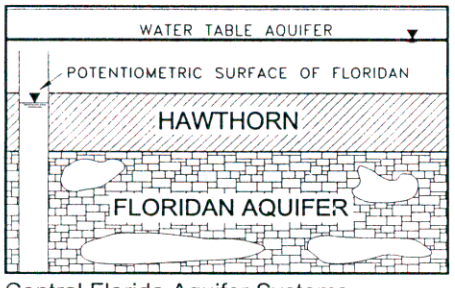
3.0 CENTRAL FLORIDA GEOLOGY



Karst Geology of Central Florida

Due to its prevalent geology, referred to as karst, Central Florida is prone to the formation of sinkholes, or large, circular depressions created by local subsidence of the ground surface. The nature and relationship of the three sedimentary layers typical of Central Florida geology cause sinkholes. The deepest, or basement, layer is a massive cavernous limestone formation known as the Floridan aquifer. The Floridan aquifer limestone is overlain by a silty or clayey sand, clay, phosphate, and limestone aquitard (or flow-retarding layer) ranging in thickness from nearly absent to greater than 100 feet and locally referred to as the Hawthorn formation. The Hawthorn formation is in turn overlain by a 40 to 70-foot thick surficial layer of sand, bearing the water table aquifer. The likelihood of sinkhole occurrence at a given site within the region is determined by the relationship among these three layers, specifically by the water (and soil)-transmitting capacity of the Hawthorn formation at that location.



Central Florida Aquifer Systems

The water table aquifer is comprised of Recent and Pleistocene sands and is separated from the Eocene limestone of the Floridan aquifer by the Miocene sands, clays and limestone of the Hawthorn formation. Since the thickness and consistency of the Hawthorn layer is variable across Central Florida, the likelihood of groundwater flow from the upper to the lower aquifer (known as aquifer recharge) will also vary by geographical location. In areas where the Hawthorn formation is absent, water table groundwater (and associated sands) can flow downward to cavities within the limestone aquifer, like sand through an hourglass, recharging the Floridan aquifer, and sometimes causing the formation of surface sinkholes. This process of subsurface erosion associated with recharging the Floridan aquifer is known as raveling. Thus, in Central Florida, areas of effective groundwater recharge to the Floridan aquifer have a higher potential for the formation of surface sinkholes.

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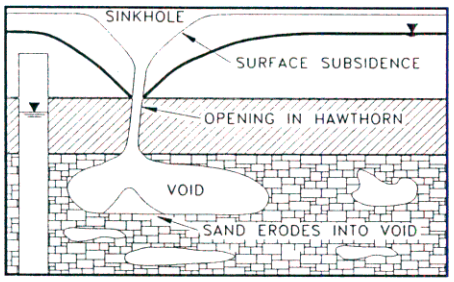
3.0 CENTRAL FLORIDA GEOLOGY (Cont'd)



Sinkhole Formation Mechanism

No method of geological, geotechnical, or geophysical exploration is known that can accurately predict the occurrence of sinkholes. It is common geotechnical practice in Central Florida to make a qualitative prediction of sinkhole risk on the basis of local geological conditions in the vicinity of a particular site. Based on our review of the U.S. Geological Survey Map entitled "Recharge and Discharge Areas of the Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida," 1984, the site lies in a known "low to moderate" recharge area and, therefore, we can conclude that it also lies in an area where the risk of sinkhole formation is moderate compared to the overall risk across Central Florida.

Reviewing the U.S. Geological Survey Map entitled "Potentiometric Surface of the Upper Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida," September 2000, indicates the potentiometer elevation of the Floridan aquifer in the site vicinity is approximately +55 ft NGVD. Since ground surface elevations are typically above +115 ft NGVD, artesian flow above ground surface is not expected but may be encountered in wells or excavations which penetrate the confining layer.

4.0 SUBSURFACE EXPLORATION

GEC evaluated subsurface conditions...by performing... auger borings at approximate 100 foot intervals.

GEC evaluated subsurface conditions along the proposed auxiliary lane alignments by performing hand and machine auger borings at approximate 100 foot intervals. The boring depths ranged from 4 to 10 feet below existing ground surface.

Seven 20-foot deep machine auger borings (PB-1 through PB-7) were performed in the three proposed pond locations to explore subsurface conditions. In addition, 1 field permeability test was performed at each pond location.

Muck probes were performed in the proposed box culvert extension location (i.e., canal bottom in vicinity of Station 705+55, 110 LT).

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4.0 SUBSURFACE EXPLORATION (Cont'd)

Borings were located in the field by taping distances from survey control established by Harding ESE and the existing edge of pavement; therefore, the boring locations should be considered approximate.

4.1 Hand Auger Borings

Our engineering technician performed standard barrel hand auger borings, ASTM D-4700, by manually turning a 3-inch diameter, 6-inch long sampler into the soil until it was full. He then retrieved the sampler and visually examined and classified the soil. This procedure was repeated until the desired termination depth was achieved. Our technician collected representative samples for further visual examination and classification in our laboratory.

4.2 Machine Auger Borings

Machine auger borings were performed in accordance with ASTM Procedure D-4700. Machine auger borings were made by hydraulically turning a 4-inch wide continuous flight, solid-stem, auger into the ground in 5-foot increments until the desired boring termination depth was achieved. The auger flights were retrieved in 5-foot increments and examined by our technician prior to collection of representative soil samples. The samples were placed in sealed jars and transported to GEC's laboratory for further examination and limited laboratory testing.

4.3 Muck Probes

Manual muck probes were performed by pushing a slender metal rod into the surficial soil and evaluating the relative resistance of the soil to manual penetration. Highly organic soils, such as muck and/or peat, are characteristically very soft and will easily yield to the manual probe. Manual probes, however, cannot detect peat or muck layers which are present beneath layers of sand or dense soils which cannot be penetrated. The probes can also penetrate to some extent in very loose sands which may be present beneath

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peat or muck layers. In addition, no soil samples are obtained for visual examination or laboratory testing. The soil type is inferred solely by evaluating the relative resistance of the soil to penetration. These limitations can lead to some under-estimation or over-estimation of peat or muck layer thicknesses. The probe data presented in this report should be evaluated with these limitations in mind.

4.4 Field Permeability Tests

One constant head and two falling head permeability tests were performed at the proposed pond sites. The field permeability tests were performed by driving a 3-inch diameter casing into the ground to the desired test depth and washing the soil out of the casing with water. The casing was backfilled with quartz gravel to 24 inches above the bottom of the casing and was then raised a distance of 18 inches.

When a constant head permeability test was conducted, water was added to the casing to achieve a stable water level. Once the water level stabilized, the flow required to maintain the stable water level over time was measured.

When a falling head permeability test was conducted, water was added to the casing to achieve a stable water level. Once the water level stabilized, the water source was taken away and the drop in water level in the casing with respect to time was recorded.

This relationship was used to calculate the permeability of the soil. Field permeability tests and calculations were performed in general conformance with NAVFAC DM-7.1-108.

4.5 Groundwater Measurement

A GEC engineering technician measured the depth to groundwater in the boreholes at the time of drilling and again after approximately 24 hours. Once the 24-hour groundwater measurement was recorded, the boreholes were then backfilled with soil cuttings to prevailing ground surface.

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5.0 LABORATORY TESTING

Selected soil samples retrieved from our borings were tested in accordance with Florida Standard Testing Methods (FM). The GEC laboratory is reviewed annually by the Florida Department of Transportation (FDOT) Inspection-In-Depth (IID) team to verify compliance with FM. Our laboratory testing program is summarized below:

Summary of Laboratory Testing Program

Type of Test	Number of Tests
Grain Size Analysis (FM 1-T88)	34
Atterberg Limits (FM 1-T89/90)	1
Organic Content (FM 1-T267)	10
Natural Moisture Content (FM 1-T265)	11

The results are summarized on the Roadway Soil Survey sheet in the Appendix. The results of the individual laboratory tests are presented on the Summary of Laboratory Test Results sheets (Tables 1 and 2) in the Appendix.

6.0 SUBSURFACE CONDITIONS

The boring logs describe the soil layers using the American Association of State Highway and Transportation Officials (AASHTO) symbol (e.g., A-2-4) and ASTM soil descriptions (e.g., sand with silt). We based our soil classifications and descriptions on visual examination and the laboratory test results shown on the Summary of Laboratory Test Results sheets in the Appendix.

The boring logs indicate subsurface conditions only at the specific boring locations at the time of our field exploration.

Subsurface conditions, including groundwater levels, at other locations of the subject site may differ from conditions we encountered at the boring and sounding locations. Moreover, conditions at these locations can change over time. Groundwater levels fluctuate seasonally, and soil conditions can be altered by earthmoving operations.

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The depths and thicknesses of the subsurface strata indicated on the boring logs were interpolated between samples obtained at different depths in the borings. The actual transition between soil layers may be different than indicated. *These stratification lines were used for our analytical purposes. Earthwork quantity estimates based on the results of the borings will vary from the actual quantities measured during construction.*

6.1 Soil Strata

The roadway and pond borings primarily encountered sands of varying silt content.

The roadway and pond borings primarily encountered sands of varying silt content. These soil strata are classified as A-3 and A-2-4. In addition, mucky fine sand to sandy muck (A-8) were encountered in some of the roadway and pond borings. Sandy clay (A-7-6) was encountered in one boring at Station 685+00, 95 RT, and a 1-foot thick surficial layer of limerock was encountered at Station 645+00, 80 LT. The soil descriptions and stratum numbers are summarized as follows:

Soil Strata Description

Stratum No.	Soil Description	AASHTO Classification Symbol	Embankment Soil Utilization (FDOT Index 505)
1	Brown fine sand and fine sand with silt, occasional trace limerock	A-3	Select (S)
2	Brown fine sand with silt and silty fine sand, occasional trace limerock	A-2-4	Select (S)
3	Brown to dark brown mucky fine sand to sandy muck	A-8	Muck (M)
4	Light brown sandy clay	A-7-6	Plastic (P)
5	Limerock	---	Limerock

...manual probes performed in the...box culvert...encountered a concrete liner...

The manual probes performed in the proposed box culvert extension location on the left side of I-4 (in vicinity of Station 705+55, 110 LT) encountered a concrete liner (i.e., fabriform) in the bottom of the existing canal.

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6.2 Groundwater Levels

Groundwater levels were encountered in the roadway borings at depths ranging from 0.1 foot to 8.9 feet below existing ground surface. In some of the borings, groundwater was not encountered (GNE) to the maximum depths explored. Groundwater levels were encountered in Pond 1 borings at depths ranging from 1.8 feet to 4.4 feet below ground surface, in Pond 2 borings at depths ranging from 4.2 feet to 6.1 feet below ground surface and in Pond 3 boring at a depth of about 4.6 feet below ground surface. Seasonal high groundwater levels have been estimated at the boring locations where groundwater was encountered and are shown on the Roadway and Pond Boring Results sheets in the Appendix.

Groundwater levels can vary seasonally and with changes in subsurface conditions between boring locations. Alterations in surface and/or subsurface drainage brought about by site development can also affect groundwater levels. *Therefore, groundwater depths measured at different times or at different locations on the site can be expected to vary from those measured by GEC during this investigation.*

For purposes of this report, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season during a "normal rainfall" year under pre-development site conditions. We define a "normal rainfall" year as a year in which rainfall quantity and distribution were at or near historical averages.

7.0 GEOTECHNICAL ANALYSES AND RECOMMENDATIONS

The analyses and recommendations contained in this report are based in part on the data obtained from a limited number of soil samples and groundwater measurements obtained from widely-spaced borings. The sampling methods used indicate subsurface conditions only at the specific boring locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Borings and soundings cannot be relied upon to accurately reflect the variations that usually exist away from boring and sounding

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locations and these variations may not become evident until construction. If variations from the subsurface conditions described in this report do become evident during construction or if the project characteristics described in this report change, GEC should be retained to reevaluate this report's conclusions and recommendations in light of such changes.

7.1 Roadway Embankment Construction

...near-surface soils...are generally appropriate for support of the proposed roadway construction.

The results of our geotechnical investigation indicate that the near-surface soils along the project alignment are generally appropriate for support of the proposed roadway construction. However, surficial and buried layers of organic soils (Stratum No. 3) were encountered in a few of our roadway borings, mainly between Stations 604+00 and 610+00. Buried muck layers were also encountered in Pond 1 and Pond 2. In addition, Plastic (P) material (Stratum No. 4) was encountered in one roadway boring (Station 685+00, 95 RT) at a depth of 4 feet below ground surface.

Muck (M) material (Stratum No. 3) and Plastic (P) material (Stratum No. 4) should be removed in accordance with Index 500 of the FDOT Roadway and Traffic Design Standards, except where marked "TO REMAIN" on the roadway cross sections. Muck was encountered at the following areas: Station 604+00 to 610+00 right side, Station 608+00 left side and Station 725+00 left side.

All fill soils placed for new roadway construction should be selected in accordance with Index 505 of the FDOT Roadway and Traffic Design Standards. Stratum Nos. 1 and 2 (A-3 and A-2-4) are Select (S) soils. However, Stratum No. 2 may retain excess moisture and be difficult to dry and compact. Stratum No. 3 (A-8) is Muck (M), Stratum No. 4 (A-7-6) is Plastic (P) material and Stratum No. 5 is limerock.

7.1 Roadway Embankment Construction (Cont'd)

Embankment fill should be placed and compacted in accordance with the FDOT Standard Specifications for Road and Bridge Construction. In-place density tests should be performed on fill soils to verify the specified degree of compaction. The minimum test frequency should be in accordance with the FDOT Materials, Sampling, Testing and Reporting Guide.

7.2 Pavement Design

After proper subsoil preparation, the pavement subgrade and base courses should be constructed in accordance with the FDOT Standard Specifications for Road and Bridge Construction. According to the FDOT Plans Preparation Manual, final grades for interstate roadways should provide at least 3 feet of separation between the bottom of the base course and the design high water level. GEC should review final cross sections to evaluate groundwater separation requirements.

7.3 Stormwater Ponds

One field permeability test was performed at each pond location. A summary of the permeability test results are presented below:

Permeability Test Results

Location	Station	Offset (feet)	Stratum Number	Elevation (ft NGVD)	Mean Permeability (feet/day)
Pond 1	648+11	269 LT	1	+125	4.8
Pond 2	644+89	229 RT	1	+127	0.9
Pond 3	703+99	169 LT	1	+98	0.7

The individual permeability calculations are included in the Appendix.

GEC can provide volume recovery or background seepage analyses, if needed for permitting.

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7.4 Box Culvert Foundation

A 20 foot long extension of the 6 foot by 4 foot concrete box culvert is planned at Station 705+55, 110 LT. GEC performed manual probes in the extension area and a concrete liner (i.e., fabriform) was found along the entire ditch bottom. Therefore, the streambed soils in the extension area could not be evaluated by manual probing. Also, the dimensions of the footing supporting the box culvert headwall could not be determined by probing due to the liner.

The foundation subsoil should be prepared in accordance with FDOT specifications and the box culvert construction recommendations presented in a subsequent section of this report.

7.4.1 Lateral Earth Pressure

Lateral earth pressures for design of the box culvert extension can be calculated using a geostatic pressure distribution based on equivalent fluid densities for active, passive and at-rest conditions. Density values were determined based on soil backfill having a saturated unit weight of 115 pounds/cubic foot (pcf) internal soil friction angle of 30 degrees and the groundwater surface was assumed to be at the top of the box culvert. We recommend the following values:

Recommended Equivalent Fluid Densities

Lateral Earth Pressure Condition	Equivalent Fluid Density (pcf)
Active	80
Passive	158
At-Rest	89

These...soil design parameters do not include a factor of safety.

These recommended soil design parameters do not include a factor of safety. Appropriate safety factors should be incorporated in culvert design by the structural engineer. Our equivalent fluid density calculations are included in the Appendix.

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7.4.2 Box Culvert Construction

This section includes comments on issues related to box culvert construction.

Temporary dewatering will be required to facilitate stable excavations and placement and compaction of culvert bedding soil and backfill. The contractor should provide a dewatering system which maintains groundwater levels at least 2 feet below compaction surfaces, including the bottom of excavations.

Side slopes of the box culvert excavation should be maintained no steeper than 1.5 horizontal to 1 vertical (1.5:1) to prevent slope failures. Excavations should be properly braced and shored in accordance with OSHA standards as needed to provide safe conditions for workers and to prevent undermining of adjacent roadways, existing utilities and/or structures. Safe working distances should be maintained between traffic areas and work areas in accordance with applicable regulations.

Side slopes of the box culvert excavation should be maintained no steeper than 1.5 horizontal to 1 vertical...

Soils for box culvert bedding should be prepared in accordance with the FDOT Standard Specifications for Road and Bridge Construction. If organic soils, such as muck or peat are encountered during footing construction, they should be excavated and disposed of in general accordance with FDOT Standard Specifications for Road and Bridge Construction. Also, all backfill should be placed and compacted in accordance with FDOT Standard Specifications.

8.0 USE OF THIS REPORT

GEC has prepared this report for the exclusive use of our client, HNTB Corporation and the FDOT, and for specific application to our client's project. GEC will not be held responsible for any other party's interpretation or use of this report's subsurface data or engineering analysis without our written authorization.

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GEC has not evaluated the site for the potential presence of contaminated soil or groundwater...

The sole purpose of the borings made by GEC at this site was to obtain indications of subsurface conditions as part of a geotechnical exploration program. GEC has not evaluated the site for the potential presence of contaminated soil or groundwater, nor have we subjected any soil samples to analysis for contaminants.

GEC has strived to provide the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

The conclusions or recommendations of this report should be disregarded if the nature, design, or location of the facilities is changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

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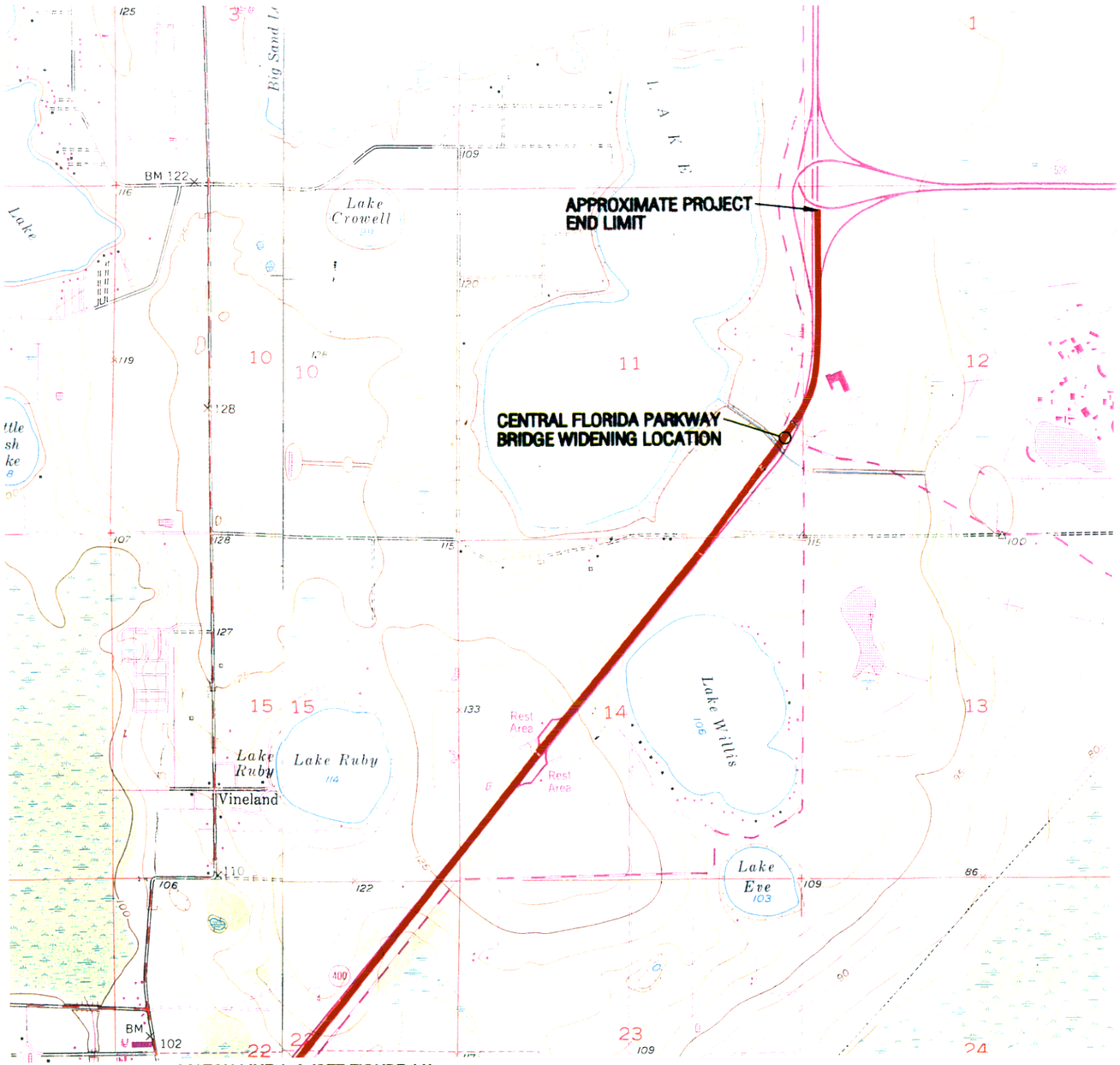
APPENDIX



MATCH LINE A-A (SEE FIGURE 1A)

PREPARED FROM:

USGS LAKE JESSAMINE, FLA. QUADRANGLE MAP
ISSUED 1958
PHOTOREVISED 1980

USGS WIDERMERE, FLA. QUADRANGLE MAP
ISSUED 1958
PHOTOREVISED 1980

USGS INTERCESSION CITY, FLA. QUADRANGLE MAP
ISSUED 1953
PHOTOREVISED 1980

SECTIONS: 11, 12, 14, 15, 22, 27, 28, 33
TOWNSHIP: 24 SOUTH
RANGE: 28 EAST

Geotechnical and Environmental Consultants, Inc.

I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

USGS QUADRANGLE MAP

PROJECT NO.:	1576G
DATE:	10-5-01
PROJECT ENGINEER:	RT
SENIOR ENGINEER:	MCC
DRAWN BY:	SKR
REVISION:	
REVISION:	



ORANGE COUNTY



0 1000 2000

SCALE: FEET

FIGURE 1B

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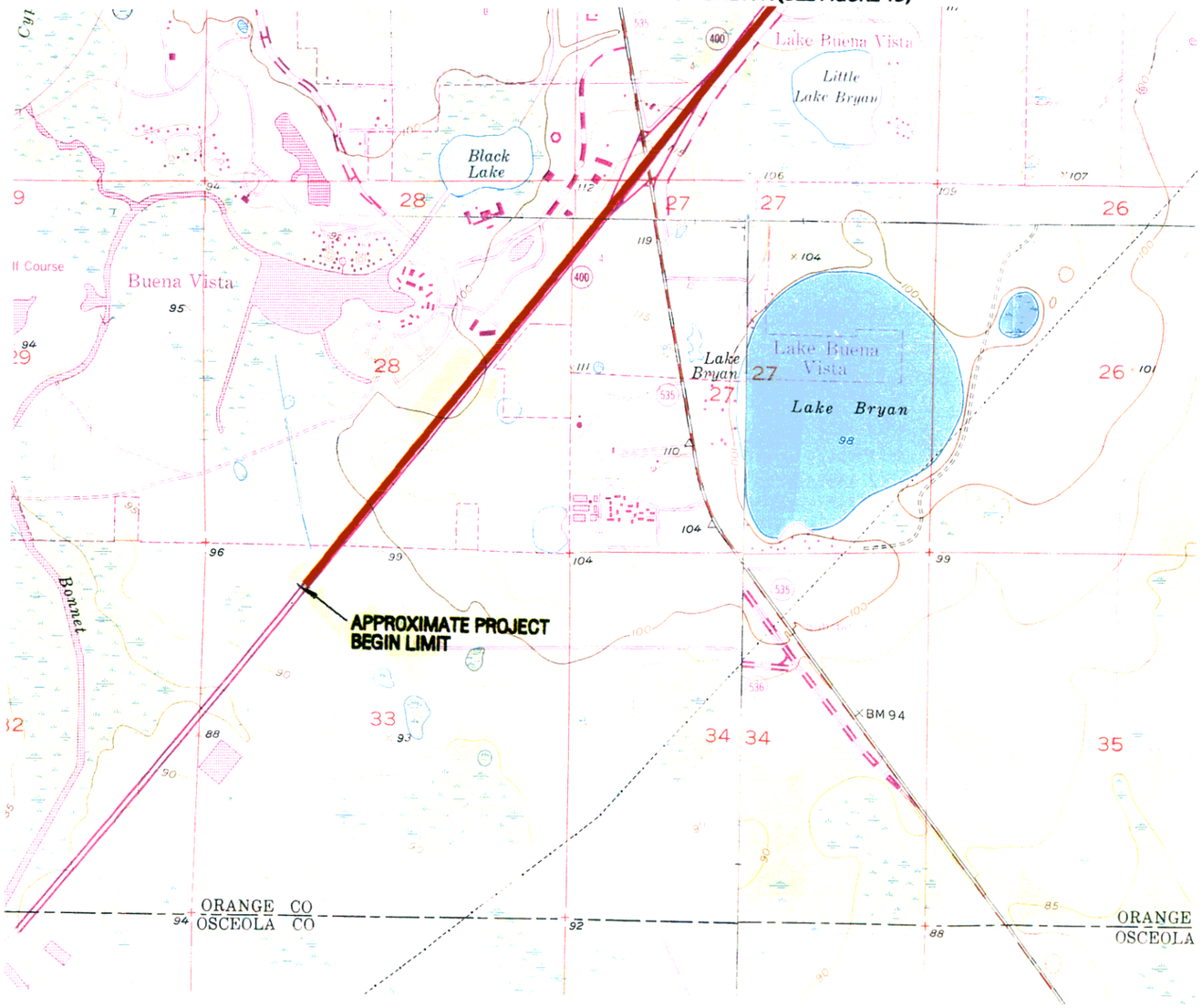

PREPARED FROM:

USGS LAKE JESSAMINE, FLA. QUADRANGLE MAP
ISSUED 1958
PHOTOREVISED 1980

USGS WIDERMERE, FLA. QUADRANGLE MAP
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USGS INTERCESSION CITY, FLA. QUADRANGLE MAP
ISSUED 1953
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SECTIONS: 11, 12, 14, 15, 22, 27, 28, 33
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Geotechnical and Environmental Consultants, Inc.

I-4 AUXILIARY LANES
FROM S.R. 536 TO S.R. 528

USGS QUADRANGLE MAP

PROJECT NO.:	1576G
DATE:	10-5-01
PROJECT ENGINEER:	RT
SENIOR ENGINEER:	MCC
DRAWN BY:	SKR
REVISION:	
REVISION:	

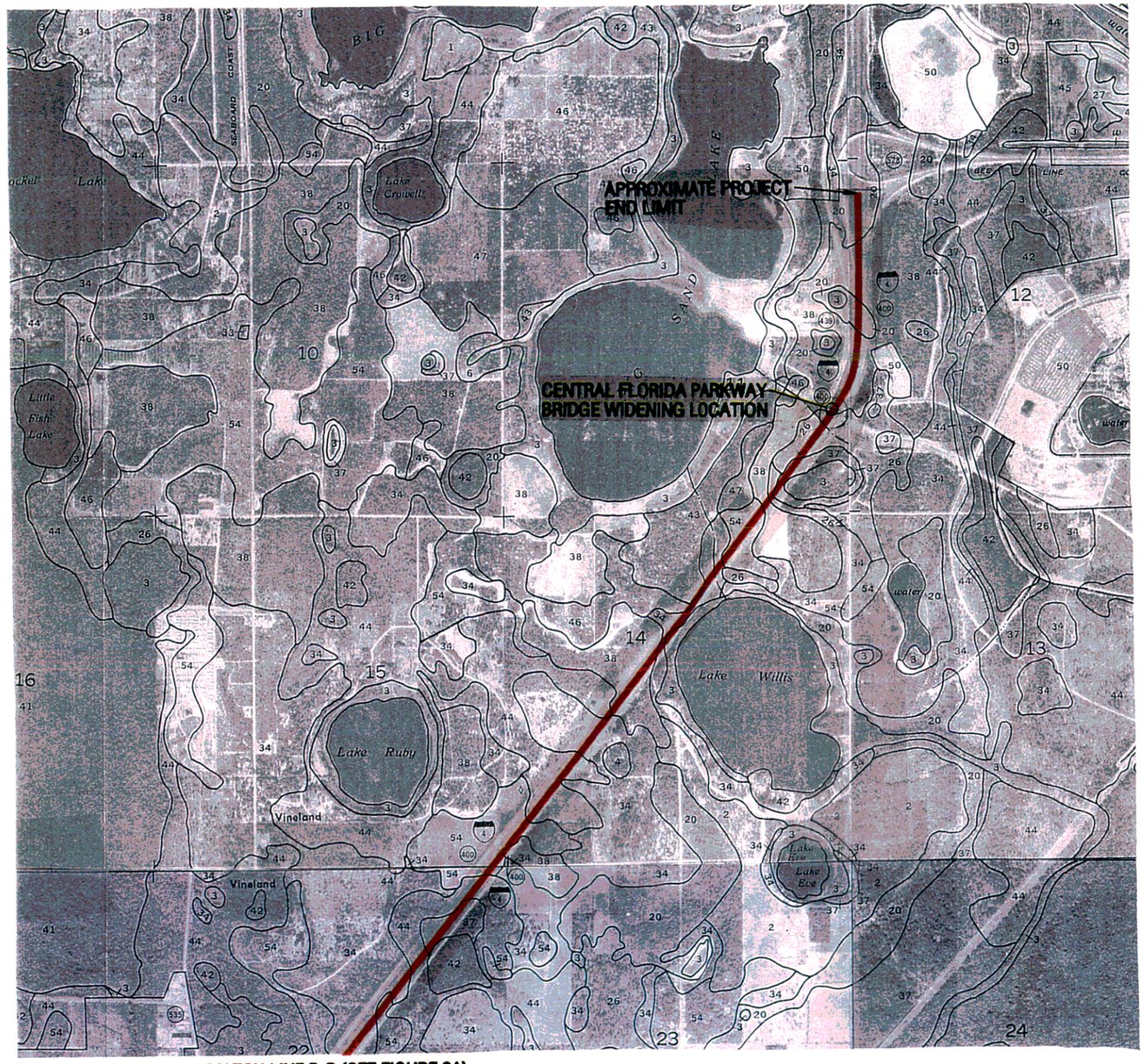


0 1000 2000
SCALE: FEET

FIGURE 1A

D16/1576Q

USGS QUADRANGLE MAP



MATCH LINE B-B (SEE FIGURE 2A)

PREPARED FROM:
SCS SOIL SURVEY OF ORANGE COUNTY, FLORIDA
AERIAL PHOTOBASE DATED 1981

ORANGE COUNTY MAP UNIT LEGEND

2 - Archbold fine sand, 0 to 5 percent slopes
3 - Basinger fine sand, depressional
20 - Immokalee fine sand
26 - Ona fine sand
34 - Pomello fine sand, 0 to 5 percent slopes
37 - St. Johns fine sand
38 - St. Lucie fine sand, 0 to 5 percent slopes
42 - Sanibel muck
44 - Smyrna fine sand
47 - Tavares-Millhopper fine sands, 0 to 5 percent slopes
50 - Urban land
54 - Zolfo fine sand

Geotechnical and Environmental Consultants, Inc.

I-4 AUXILIARY LANES
FROM S.R. 536 TO S.R. 528

SCS SOIL SURVEY MAP

PROJECT NO.:	1576G
DATE:	10-5-01
PROJECT ENGINEER:	RT
SENIOR ENGINEER:	MCC
DRAWN BY:	SKR
REVISION:	
REVISION:	

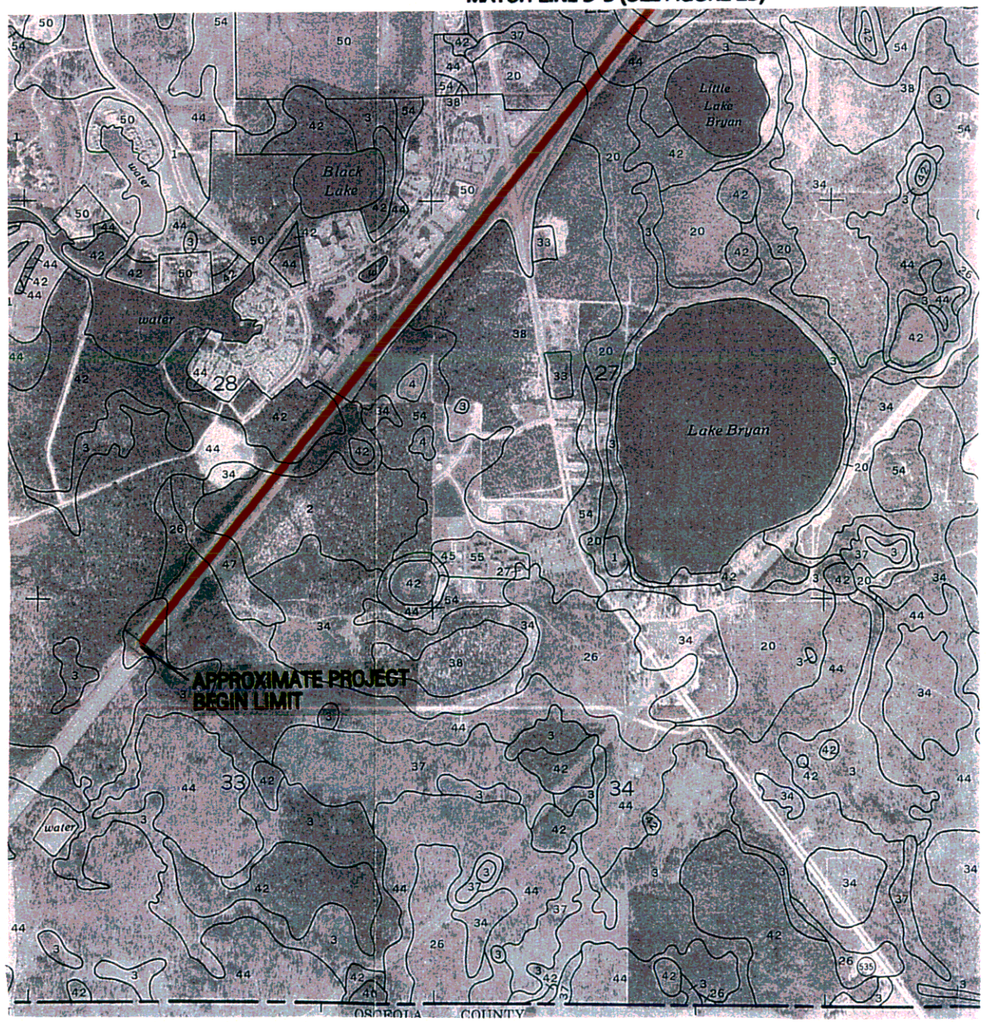


0 1000 2000
SCALE: FEET

FIGURE 2B

D16/1576Q

MATCH LINE B-B (SEE FIGURE 2B)



PREPARED FROM:
SCS SOIL SURVEY OF ORANGE COUNTY, FLORIDA
AERIAL PHOTOBASE DATED 1981

ORANGE COUNTY MAP UNIT LEGEND

2 - Archbold fine sand, 0 to 5 percent slopes
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Geotechnical and Environmental Consultants, Inc.

I-4 AUXILIARY LANES
FROM S.R. 536 TO S.R. 528

SCS SOIL SURVEY MAP

PROJECT NO.:	1576G
DATE:	10-5-01
PROJECT ENGINEER:	RT
SENIOR ENGINEER:	MCC
DRAWN BY:	SKR
REVISION:	
REVISION:	



0 1000 2000
SCALE: FEET

FIGURE 2A

D16/1576Q

ROADWAY SOIL SURVEY REPORT OF TESTS

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
CROSS SECTION OF SOIL SURVEY
REPORT OF TESTS
I-4 AUXILIARY LANES
FROM S.R. 536 TO S.R. 528

FINANCIAL PROJECT ID.: 405515-1-52-01
SECTION NO.: 75280
DISTRICT: 5
SUBMITTED BY: MARK C. CANTY, P.E.

TOWNSHIP: 24 SOUTH
RANGE: 28 EAST
SECTIONS: 11, 12, 14, 15, 22, 27, 28 AND 33
COUNTY: ORANGE

DATE OF SURVEY: SEPTEMBER 12, 2001
SURVEYED BY: R. CARLIE AND S. ROBINSON
SURVEY BEGINS APPROXIMATE STA. NO.: 575+24
SURVEY ENDS APPROXIMATE STA. NO.: 738+02
DATE REPORTED: OCTOBER 2001

STRATUM NO.	MAX. LBR VALUE	% PASS 10 MESH	% PASS 40 MESH	% PASS 60 MESH	% PASS 100 MESH	% PASS 200 MESH	% ORGANIC CONTENT	LIQUID LIMIT	PLASTICITY INDEX	NO. LBR TESTS	NO. GRAD. TESTS	NO. % FINES TESTS	NO. ORGANIC CONTENT TESTS	NO. LL-PI TESTS	NO. CORROSION TESTS	AASHTO CLASSIFICATION	MATERIAL DESCRIPTION	pH	RESISTIVITY (ohm-cm)	CHLORIDES (ppm)	SULFATES (ppm)	SUBSTRUCTURE ENVIRONMENTAL CLASSIFICATION STEEL & CONCRETE	
1	–	100	88-95	43-60	7-19	2-8	–	–	–	0	15	0	0	0	0	A-3	BROWN FINE SAND AND FINE SAND WITH SILT, OCCASIONAL TRACE LIMEROCK	–	–	–	–	–	–
2	–	100	83-93	45-77	15-54	12-16	–	–	–	0	8	0	0	0	0	A-2-4	BROWN FINE SAND WITH SILT AND SILTY FINE SAND, OCCASIONAL TRACE LIMEROCK	–	–	–	–	–	–
3	–	100	90-95	47-70	10-49	8-43	6-45	–	–	0	10	0	10	0	0	A-8	BROWN TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK	–	–	–	–	–	–
4	–	100	97	85	71	66	–	47	18	0	1	0	0	1	0	A-7-6	LIGHT BROWN SANDY CLAY	–	–	–	–	–	–
5	–	–	–	–	–	–	–	–	–	0	0	0	0	0	0	–	LIMEROCK	–	–	–	–	–	–

NOTES:

1. SOIL BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY. ANY STRATUM CONNECTING LINES SHOWN ARE FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4. FOR FURTHER DETAILS SEE SECTION 120-3.
2. WATER TABLE SHOWN AS ▼ WHERE ENCOUNTERED AT TIME OF SURVEY. ESTIMATED SEASONAL HIGH GROUNDWATER LEVELS SHOWN AS ▽ .
3. REMOVAL OF MUCK AND PLASTIC MATERIAL OCCURRING WITHIN ROADWAY SHALL BE ACCOMPLISHED IN ACCORDANCE WITH INDEX NO. 500 UNLESS OTHERWISE SHOWN ON THE PLANS. THE MATERIAL USED IN EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH INDEX NO. 505 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
4. SOIL ANALYSIS INCLUDES DATA FROM ROADWAY AND PONDS.
5. SOIL PARAMETER NOT TESTED DENOTED AS "-" ABOVE.
6. STRATUM NOS. 1 AND 2 SHALL BE TREATED AS SELECT (S) MATERIAL IN ACCORDANCE WITH FDOT INDEX 505.
7. STRATUM NO. 2 MAY RETAIN EXCESS MOISTURE AND MAY BE DIFFICULT TO DRY AND COMPACT.
8. STRATUM 3 SHALL BE TREATED AS MUCK (M) IN ACCORDANCE WITH FDOT INDEX 505.
9. STRATUM 4 SHALL BE TREATED AS PLASTIC (P) IN ACCORDANCE WITH FDOT INDEX 505.

Geotechnical and
Environmental Consultants, Inc. APPROVED BY: _____
MARK C. CANTY, P.E.
FILE NO.: 1576G P.E. NO.: 44641 DATE:

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	SKR	10-4-01
Checked by	RT	10-4-01
Designed by	RT	10-4-01
Checked by	MCC	10-4-01
Approved by	MARK C. CANTY, P.E.	

ENGINEER OF RECORD:
MARK C. CANTY, P.E. 44641
Geotechnical and Environmental Consultants, Inc.
1230 East Hillcrest Street, Orlando, Florida 32803-4713
407/898-1818 FAX 407/898-1837

LOGO: Geotechnical and Environmental Consultants, Inc.

FLORIDA DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL OFFICE

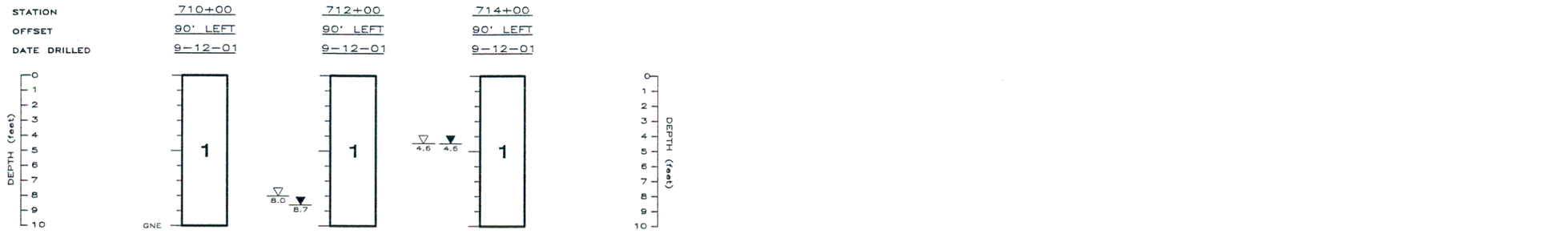
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
S.R. 400	ORANGE	405515-1-52-01

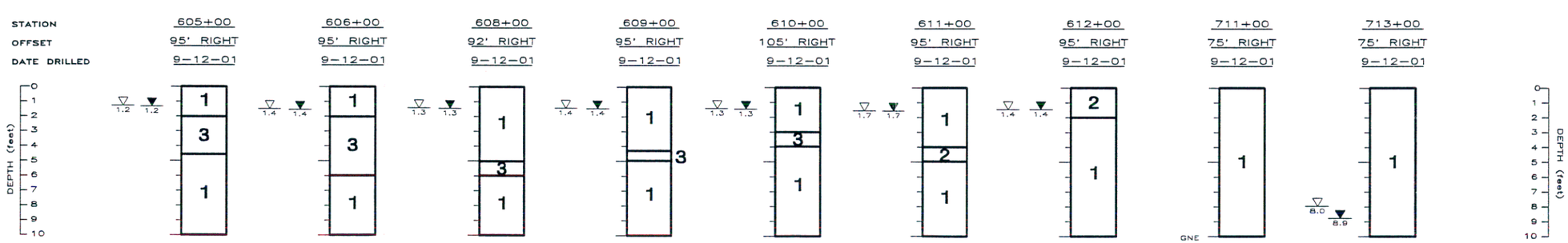
SHEET TITLE: ROADWAY SOIL SURVEY
Sheet No.
PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528
D16/1576T

ROADWAY AUGER BORING RESULTS

ROADWAY AUGER BORING RESULTS

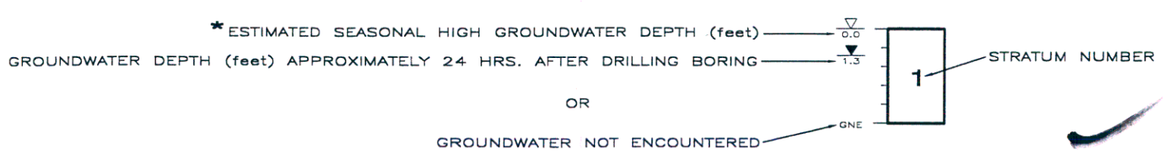
SCALE: AS SHOWN





STRATUM NO.	AASHTO SOIL CLASSIFICATION SYMBOL	DESCRIPTION
1	A-3	BROWN FINE SAND AND FINE SAND WITH SILT, OCCASIONAL TRACE LIMEROCK
2	A-2-4	BROWN FINE SAND WITH SILT AND SILTY FINE SAND, OCCASIONAL TRACE LIMEROCK
3	A-8	BROWN TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK

BORING LEGEND



* AT SOME BORING LOCATIONS ESTIMATED SEASONAL HIGH GROUNDWATER DEPTHS (feet) ARE BELOW ENCOUNTERED LEVELS DUE TO PROPOSED DRAINAGE IMPROVEMENTS.

	Names	Dates
Drawn by	SKR	10-12-01
Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number 1576G		

Geotechnical and Environmental Consultants, Inc.

SHEET TITLE: ROADWAY AUGER BORING RESULTS

PROJECT NAME: **I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528**

Drawing No. 016/1576B

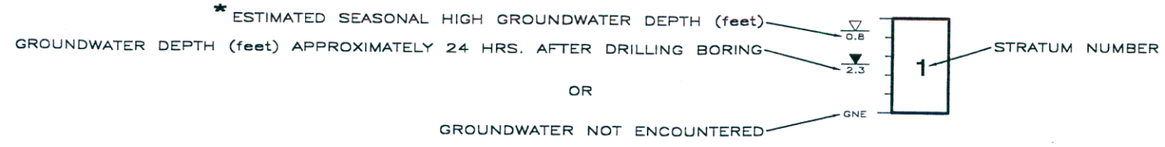
ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN



STRATUM NO.	AASHTO SOIL CLASSIFICATION SYMBOL	DESCRIPTION
1	A-3	BROWN FINE SAND AND FINE SAND WITH SILT, OCCASIONAL TRACE LIMEROCK
2	A-2-4	BROWN FINE SAND WITH SILT AND SILTY FINE SAND, OCCASIONAL TRACE LIMEROCK
4	A-7-6	LIGHT BROWN SANDY CLAY

BORING LEGEND



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Drawn by	SKR	10-12-01
Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number	1576G	

Geotechnical and Environmental Consultants, Inc.

SHEET TITLE: ROADWAY AUGER BORING RESULTS

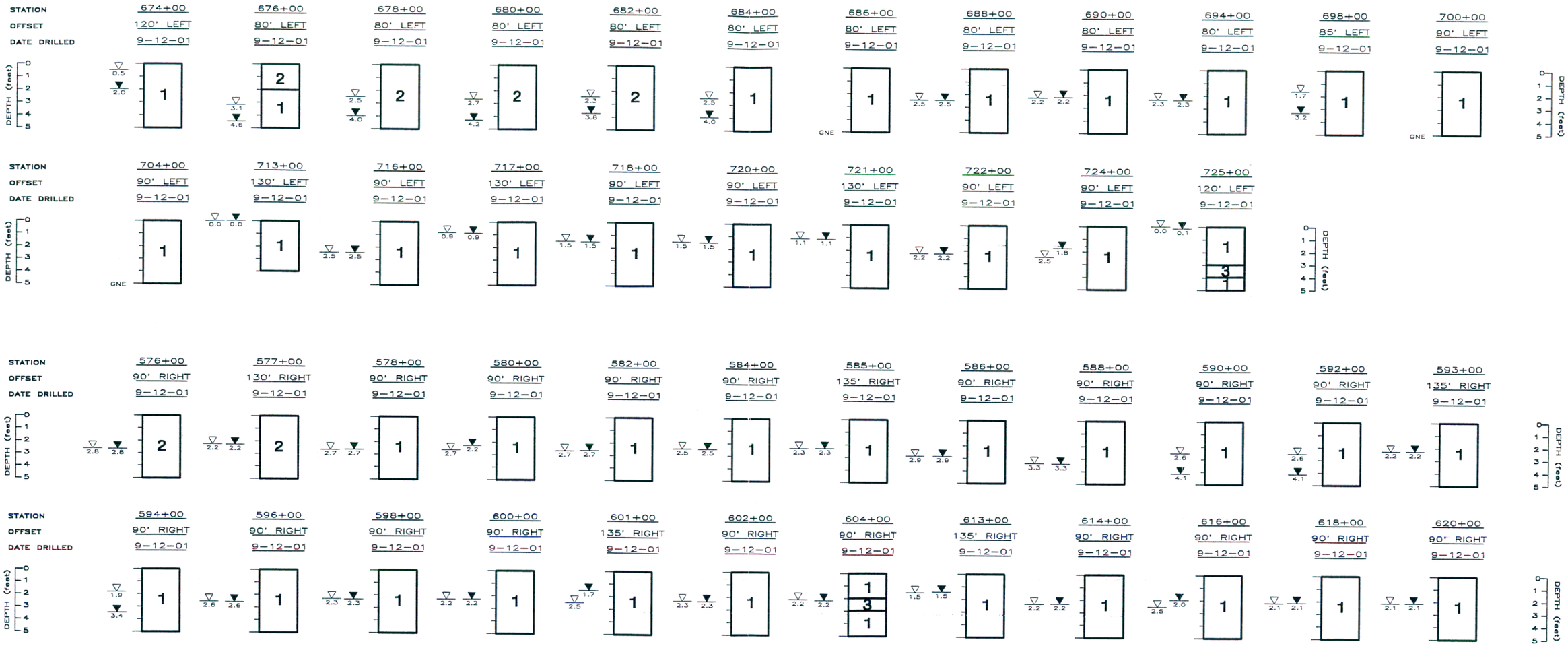
PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No.

D16/1576B

ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN



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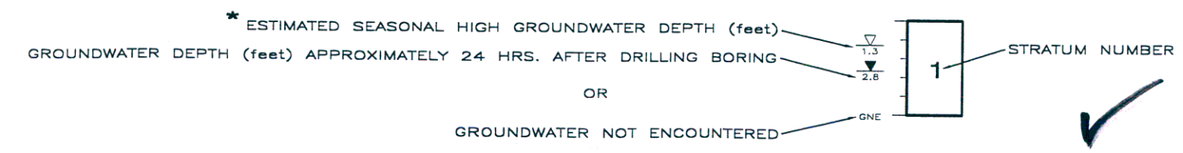
3	A-8	BROWN TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK

BORING LEGEND



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Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number	1576G	

GEC Geotechnical and Environmental Consultants, Inc.

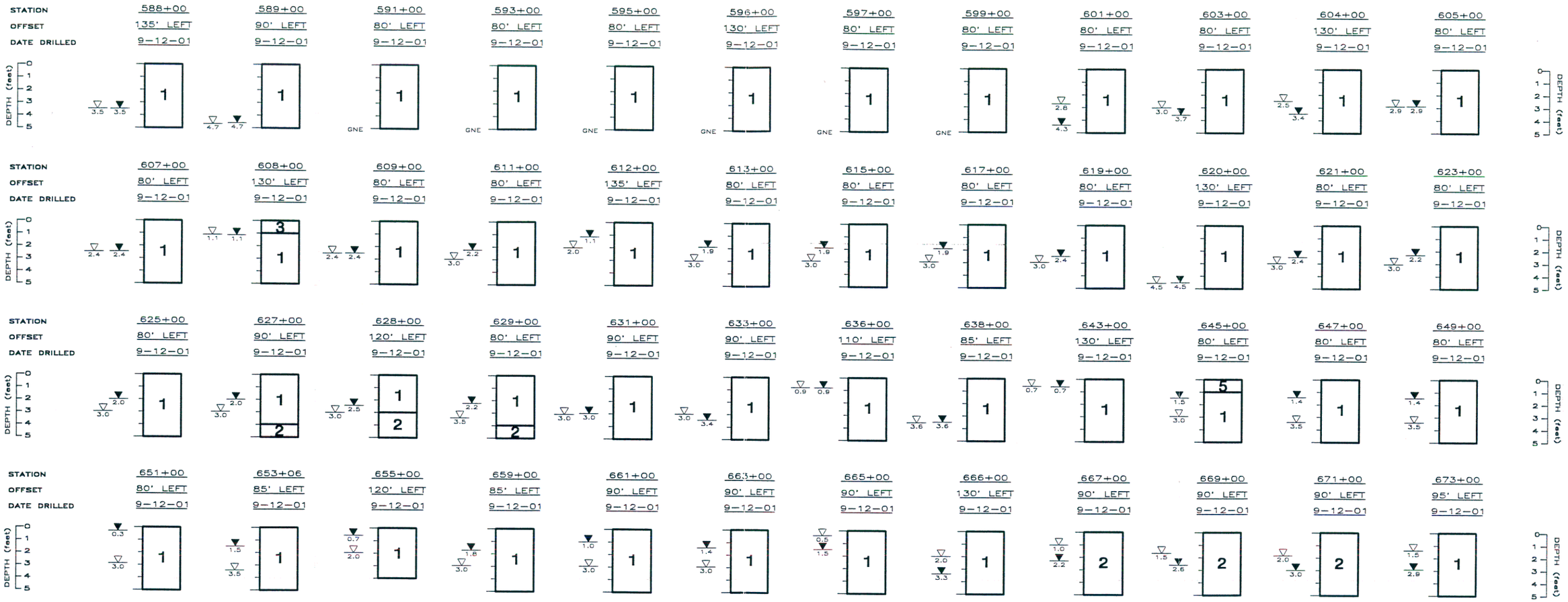
SHEET TITLE: ROADWAY AUGER BORING RESULTS

PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No. 018/1578B

ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN



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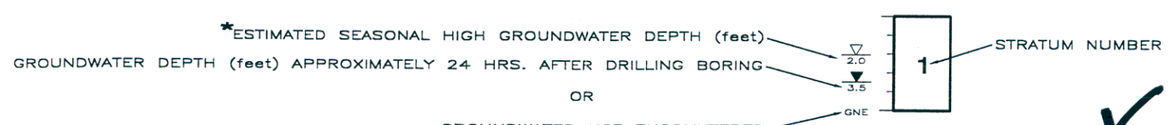
3	A-8	BROWN TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK
5	–	LIMEROCK

BORING LEGEND



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Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number 1576G		

GEC Geotechnical and Environmental Consultants, Inc.

SHEET TITLE: ROADWAY AUGER BORING RESULTS

PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

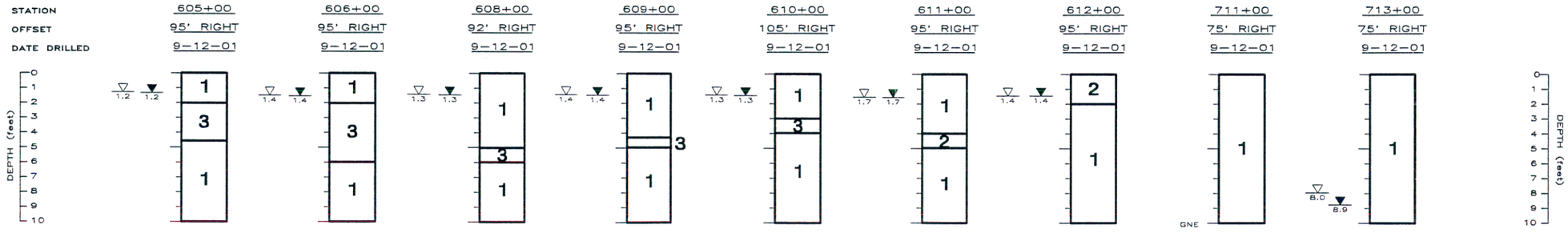
Drawing No. D16/1576B

ROADWAY AUGER BORING RESULTS

ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN





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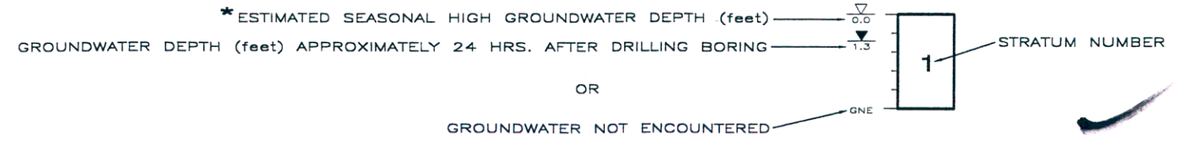
BORING LEGEND



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	Names	Dates
Drawn by	SKR	10-12-01
Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number	1576G	

GEC Geotechnical and Environmental Consultants, Inc.

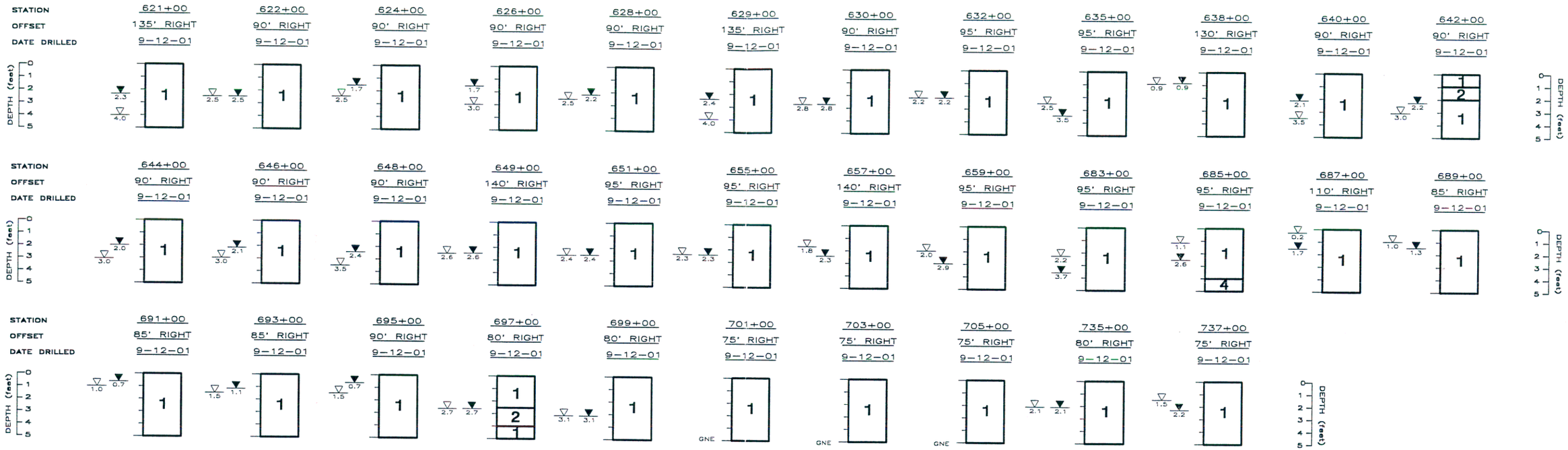
SHEET TITLE: ROADWAY AUGER BORING RESULTS

PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No. D16/1576B

ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN



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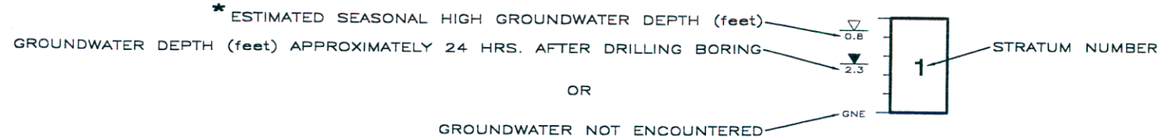
BORING LEGEND



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	Names	Dates
Drawn by	SKR	10-12-01
Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number	1576G	

GEC Geotechnical and Environmental Consultants, Inc.

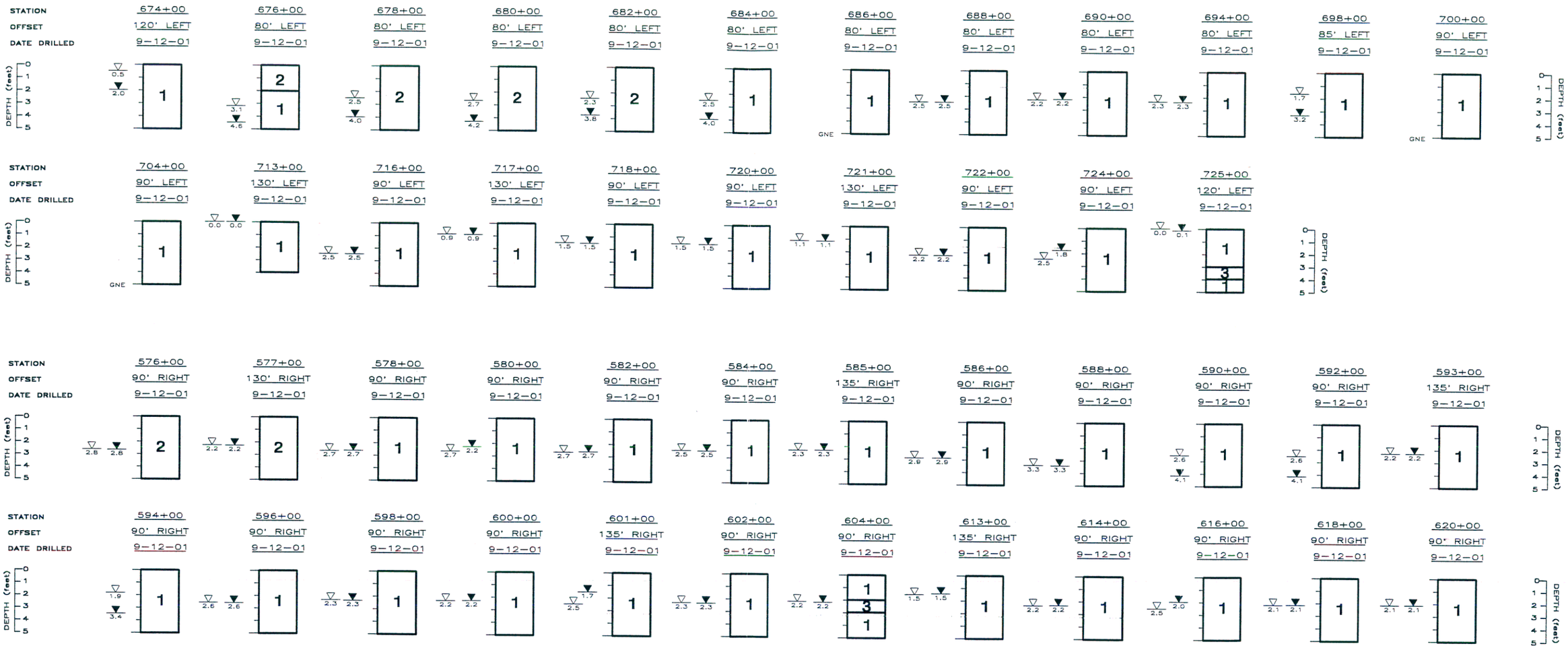
SHEET TITLE: ROADWAY AUGER BORING RESULTS

PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No. D16/15760

ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN



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3	A-8	BROWN TO DARK BROWN MUCKY FINE SAND TO SANDY MUCK

BORING LEGEND

* ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (feet)

GROUNDWATER DEPTH (feet) APPROXIMATELY 24 HRS. AFTER DRILLING BORING

OR

GROUNDWATER NOT ENCOUNTERED

STRATUM NUMBER

* AT SOME BORING LOCATIONS ESTIMATED SEASONAL HIGH GROUNDWATER DEPTHS (feet) ARE BELOW ENCOUNTERED LEVELS DUE TO PROPOSED DRAINAGE IMPROVEMENTS.

	Names	Dates
Drawn by	SKR	10-12-01
Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number	1576G	

GEC Geotechnical and Environmental Consultants, Inc.

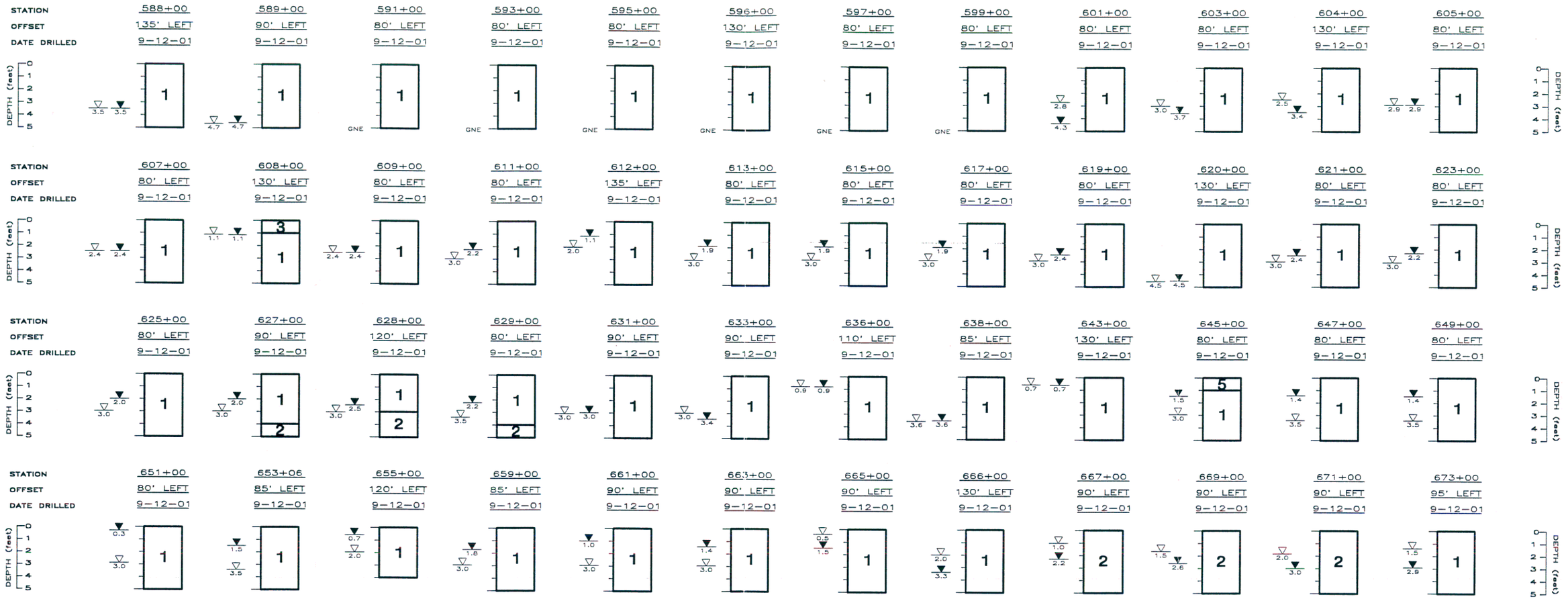
SHEET TITLE: ROADWAY AUGER BORING RESULTS

PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No. D18/1576B

ROADWAY AUGER BORING RESULTS

SCALE: AS SHOWN



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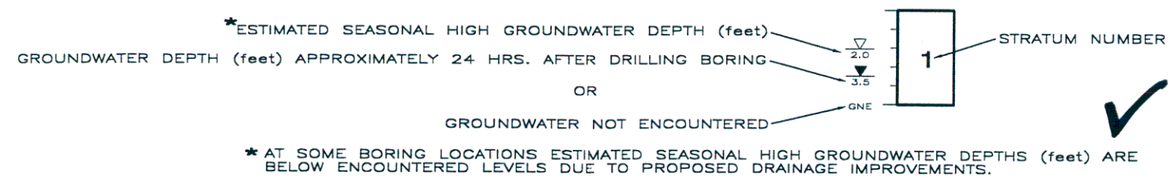
BORING LEGEND



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	Names	Dates
Drawn by	SKR	10-12-01
Checked by	RT	10-12-01
Designed by	RT	10-12-01
Checked by	MCC	2-12-01
Project Number	1576G	

GEC Geotechnical and Environmental Consultants, Inc.

SHEET TITLE: ROADWAY AUGER BORING RESULTS

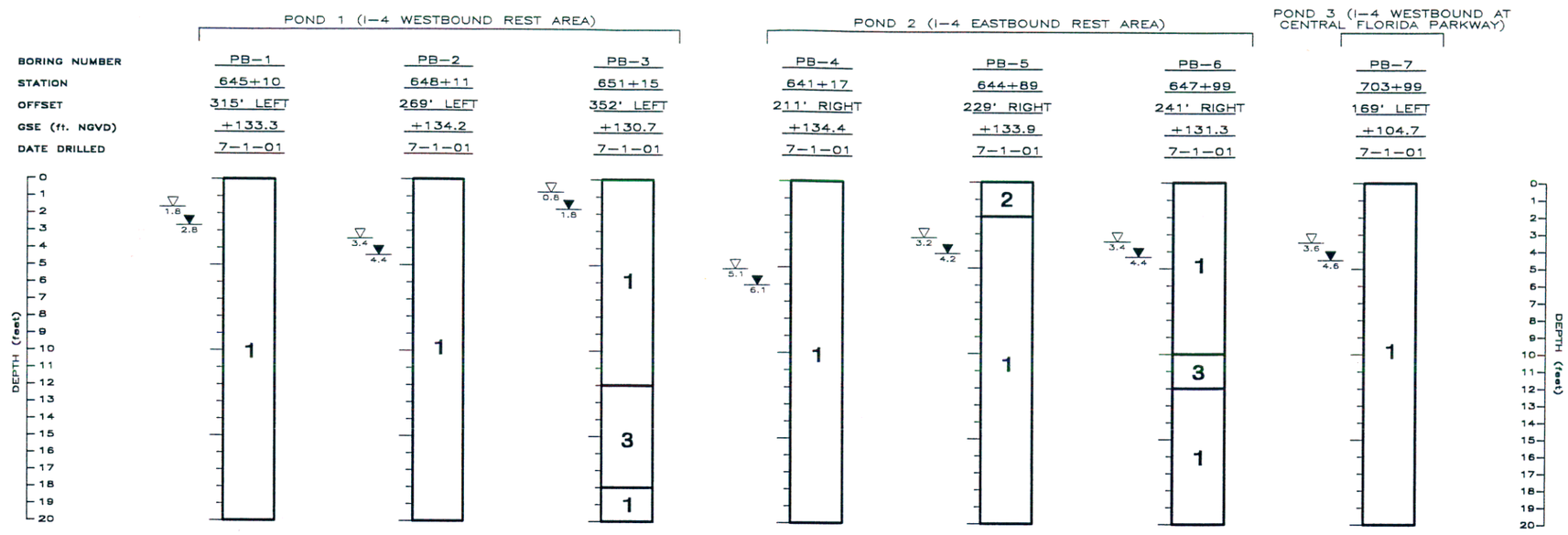
PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No. D16/1576B

POND AUGER BORING RESULTS

POND AUGER BORING RESULTS

SCALE: AS SHOWN



STRATUM NO.	AASHTO SOIL CLASSIFICATION SYMBOL	DESCRIPTION
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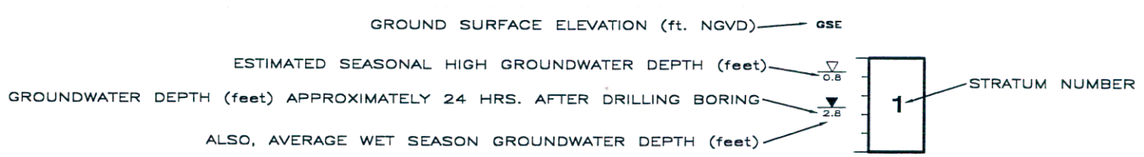
BORING LEGEND



	Names	Dates
Drawn by	SKR	7-30-01
Checked by	RT	10-25-01
Designed by	RT	10-25-01
Checked by	MCC	10-26-01
Project Number 1576G		

GEC Geotechnical and Environmental Consultants, Inc.

SHEET TITLE: POND AUGER BORING RESULTS

PROJECT NAME: I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528

Drawing No. D15/1576G

ROADWAY SOIL SURVEY REPORT OF TESTS

Table 1
Summary of Roadway Laboratory Test Results
I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528
Financial Project No. 405515
Section No. 75280
GEC Project No. 1576G

Station Number	Offset (ft)	Sample Depth (ft)	Stratum Number	Percent Passing by Weight					Atterberg Limits			Organic Content (%)	AASHTO Class.
				#10 Sieve	#40 Sieve	#60 Sieve	#100 Sieve	#200 Sieve	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)		
588+00	135 LT	0-5	1	100	95	54	10	2	---	---	---	---	A-3
594+00	90RT	0-5	1	100	92	43	10	5	---	---	---	---	A-3
603+00	80 LT	0-5	1	100	92	53	10	3	---	---	---	---	A-3
620+00	130 LT	0-5	1	100	92	48	9	3	---	---	---	---	A-3
628+00	90 RT	0-5	1	100	92	51	10	5	---	---	---	---	A-3
636+00	110 LT	0.5-5	1	100	93	60	9	3	---	---	---	---	A-3
651+00	80 LT	0-5	1	100	89	60	19	8	---	---	---	---	A-3
659+00	95 RT	0-5	1	100	88	49	12	4	---	---	---	---	A-3
717+00	130 LT	0-5	1	100	89	56	13	4	---	---	---	---	A-3
576+00	90 RT	0-5	2	100	88	47	23	13	---	---	---	---	A-2-4
611+00	95 RT	4-5	2	100	92	50	20	13	---	---	---	---	A-2-4
612+00	95 RT	0-2	2	100	92	56	23	12	---	---	---	---	A-2-4
628+00	120 LT	3-5	2	100	91	50	19	16	---	---	---	---	A-2-4
629+00	80 LT	4-5	2	100	90	45	15	10	---	---	---	---	A-2-4
669+00	40 LT	0-5	2	100	83	59	24	13	---	---	---	---	A-2-4
676+00	80 LT	0-2	2	100	85	63	29	16	---	---	---	---	A-2-4
697+00	80 RT	2.5-4.5	2	100	93	77	54	16	---	---	---	---	A-2-4
604+00	90 RT	2-3	3	100	92	58	33	27	70	---	---	26	A-8
605+00	95 RT	2-4.5	3	100	92	51	22	16	29	---	---	10	A-8
606+00	95 RT	2-6	3	100	93	64	42	30	40	---	---	16	A-8
608+00	92 RT	5-6	3	100	95	70	49	43	142	---	---	45	A-8

Table 1
Summary of Roadway Laboratory Test Results
I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528
Financial Project No. 405515
Section No. 75280
GEC Project No. 1576G

Station Number	Offset (ft)	Sample Depth (ft)	Stratum Number	Percent Passing by Weight					Atterberg Limits			Organic Content (%)	AASHTO Class.
				#10 Sieve	#40 Sieve	#60 Sieve	#100 Sieve	#200 Sieve	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)		
608+00	130 LT	0-1	3	100	94	64	31	19	46	---	---	7	A-8
609+00	95 RT	4.5-5	3	100	93	57	32	28	56	---	---	32	A-8
610+00	105 RT	3-4	3	100	91	47	17	11	33	---	---	7	A-8
725+00	120 LT	3.5-4	3	100	90	58	25	19	49	---	---	15	A-8
685+00	95 RT	4-5	4	100	97	85	71	66	38	47	18	---	A-7-6

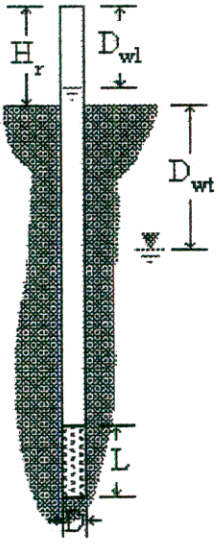
Table 2
Summary of Pond Laboratory Test Results
I-4 AUXILIARY LANES FROM S.R. 536 TO S.R. 528
Financial Project No. 405515
Section No. 75280
GEC Project No. 1576G

Station Number	Offset (ft)	Sample Depth (ft)	Stratum Number	Percent Passing by Weight					Atterberg Limits			Organic Content (%)	AASHTO Class.
				#10 Sieve	#40 Sieve	#60 Sieve	#100 Sieve	#200 Sieve	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)		
641+00	210 RT	0-5	1	100	90	48	10	4	---	---	---	---	A-3
645+00	240 RT	5-10	1	100	89	52	7	3	---	---	---	---	A-3
645+00	310 LT	0-5	1	100	92	54	11	3	---	---	---	---	A-3
648+00	230 RT	5-10	1	100	89	55	10	3	---	---	---	---	A-3
648+00	250 LT	5-10	1	100	91	53	10	2	---	---	---	---	A-3
704+00	160 LT	5-10	1	100	91	56	11	4	---	---	---	---	A-3
648+00	230 RT	10-12	3	100	92	55	10	8	---	---	---	6	A-8
651+00	350 LT	12-18	3	100	90	55	13	8	---	---	---	7	A-8

PERMEABILITY CALCULATIONS

FIELD PERMEABILITY TEST CALCULATIONS
I-4 AUXILIARY LANES
GEC PROJECT NO. 1576G
TEST LOCATION: PB-2, 648+00, 250' LT
SOIL TYPE: A-3
TEST DEPTH: 8 - 10 Feet

CONSTANT HEAD PERMEABILITY TEST



$q := 0.6 \cdot \frac{gal}{min}$ FLOW IN GALLONS/MINUTE

$q = 115.5 \cdot \frac{ft^3}{day}$ FLOW IN CUBIC FEET/DAY

$D := 3 \cdot in$ DIAMETER OF GRAVEL PACK

$L := 2 \cdot ft$ LENGTH OF GRAVEL PACK

$H_r := 2 \cdot ft$ RISER HEIGHT

$D_{wl} := 0 \cdot ft$ WATER LEVEL IN CASING

$D_{wt} := 4 \cdot ft$ GROUNDWATER DEPTH

$m = \sqrt{\frac{k_h}{k_v}}$ TRANSFORMATION RATIO

$m := \sqrt{2}$ ASSUMING $k_v = 0.5k_h$

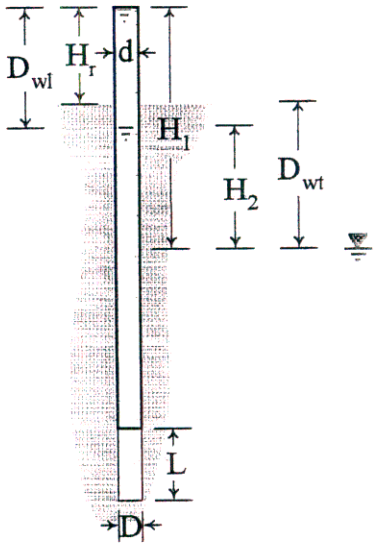
$H_c := D_{wt} + H_r - D_{wl}$ CONSTANT PIEZOMETRIC HEAD

$k_h := q \cdot \frac{\ln\left[m \cdot \frac{L}{D} + \sqrt{1 + \left(m \cdot \frac{L}{D}\right)^2}\right]}{2 \cdot \pi \cdot L \cdot H_c}$ FROM NAVFAC TM 5-818-5 PG. 35

$k_h = 4.8 \cdot \frac{ft}{day}$ OR $k_h = 1.46 \cdot \frac{meters}{day}$

I-4 AUXILIARY LANES
GEC PROJECT NO. 1576G
FIELD PERMEABILITY TEST CALCULATIONS
TEST LOCATION: PB-5, 645+00, 240' RT
TEST DEPTH: 6 - 8 FEET

INPUT FROM TEST:



$d := 3 \cdot in$ CASING DIAMETER

$H_r := 4.0 \cdot ft$ RISER HEIGHT

$D_{wt} := 5.0 \cdot ft$ DEPTH TO GROUNDWATER

$L := 2 \cdot ft$ LENGTH OF GRAVEL PACK

$D_{wl} := 0.5 \cdot ft$ WATER LEVEL DROP (DRAWDOWN)

$\Delta t := 1 \cdot min + 4 \cdot sec$ TIME FOR WATER LEVEL TO DROP

$D := d$ DIAMETER OF GRAVEL PACK

$H_1 := H_r + D_{wt}$ INITIAL PIEZOMETRIC HEAD (ASSUMES STARTING WATER LEVEL AT THE TOP OF THE CASING)

$H_2 := H_1 - D_{wl}$ FINAL PIEZOMETRIC HEAD

$m = \sqrt{\frac{kh}{kv}}$ TRANSFORMATION RATIO $m := \sqrt{2}$ ASSUMING kv = 0.5kh

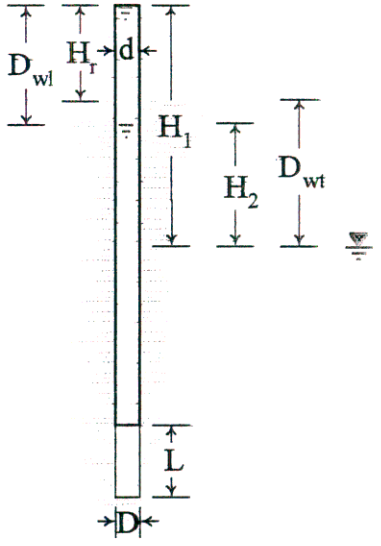
$m \cdot \frac{L}{D} = 11.314$

$k_h := \frac{d^2 \cdot \ln\left(\frac{2 \cdot m \cdot L}{D}\right)}{8 \cdot L \cdot (\Delta t)} \cdot \ln\left(\frac{H_1}{H_2}\right)$ FROM NAVFAC TM 5-818-5 PG. 35 (FORMULA APPLICABLE WHEN mL/D > 4)

$k_h = 0.9 \cdot \frac{ft}{day}$ $k_h = 0.29 \cdot \frac{meters}{day}$

I-4 AUXILIARY LANES
GEC PROJECT NO. 1576G
FIELD PERMEABILITY TEST CALCULATIONS
TEST LOCATION: PB-7, 704+00, 160' LT
TEST DEPTH: 6 - 8 FEET
SOIL TYPE: A-3

INPUT FROM TEST:



$d := 3 \cdot in$ CASING DIAMETER

$H_r := 4.0 \cdot ft$ RISER HEIGHT

$D_{wt} := 5 \cdot ft$ DEPTH TO GROUNDWATER

$L := 2 \cdot ft$ LENGTH OF GRAVEL PACK

$D_{wl} := 0.5 \cdot ft$ WATER LEVEL DROP (DRAWDOWN)

$\Delta t := 1 \cdot min + 22 \cdot sec$ TIME FOR WATER LEVEL TO DROP

$D := d$ DIAMETER OF GRAVEL PACK

$H_1 := H_r + D_{wt}$ INITIAL PIEZOMETRIC HEAD (ASSUMES STARTING WATER LEVEL AT THE TOP OF THE CASING)

$H_2 := H_1 - D_{wl}$ FINAL PIEZOMETRIC HEAD

$m = \sqrt{\frac{kh}{kv}}$ TRANSFORMATION RATIO $m := \sqrt{2}$ ASSUMING kv = 0.5kh

$m \cdot \frac{L}{D} = 11.314$

$k_h := \frac{d^2 \cdot \ln\left(\frac{2 \cdot m \cdot L}{D}\right)}{8 \cdot L \cdot (\Delta t)} \cdot \ln\left(\frac{H_1}{H_2}\right)$ FROM NAVFAC TM 5-818-5 PG. 35
(FORMULA APPLICABLE WHEN mL/D > 4)

$k_h = 0.7 \cdot \frac{ft}{day}$ $k_h = 0.22 \cdot \frac{meters}{day}$

EQUIVALENT FLUID DENSITY CALCULATIONS

EQUIVALENT FLUID DENSITY CALCULATIONS

ASSUMED SATURATED SOIL UNIT WEIGHT $\gamma_{sat} := 115.PCF$

UNIT WEIGHT OF WATER $\gamma_w := 62.4.PCF$

ASSUMED ANGLE OF INTERNAL FRICTION $\phi := 30.deg$

EARTH PRESSURE COEFFICIENTS

$K_a := \tan\left(\frac{\pi}{4} - \frac{\phi}{2}\right)^2$ $K_a = 0.33$

$K_p := \tan\left(\frac{\pi}{4} + \frac{\phi}{2}\right)^2$ $K_p = 3$

$K_o := 1 - \sin(\phi)$ $K_o = 0.5$

LATERAL EARTH PRESSURE CONDITION	EQUIVALENT FLUID DENSITY	
ACTIVE	$\gamma_a := K_a \cdot (\gamma_{sat} - \gamma_w) + \gamma_w$	$\gamma_a = 80\ PCF$
PASSIVE *	$\gamma_p := K_p \cdot (\gamma_{sat} - \gamma_w)$	$\gamma_p = 158\ PCF$
AT-REST	$\gamma_o := K_o \cdot (\gamma_{sat} - \gamma_w) + \gamma_w$	$\gamma_o = 89\ PCF$

* CONSERVATIVELY ASSUME THAT HYDROSTATIC PRESSURE DOES NOT CONTRIBUTE TO PASSIVE EARTH PRESSURE.

SUMMARY OF LABORATORY TEST RESULTS

0 20 100
Feet

MATCH LINE

CONST. TREATMENT DITCH BLOCK
STA. 576+00.00
(SEE SHT. NO. 25)

LA R/W

N42°39'48"E

MILL AND RESURFACE

℄ SURVEY I-4

575

580

N38°39'57"E

MILL AND RESURFACE

MILL AND RESURFACE

30

N37°50'42"E

SAW CUT

MILL AND RESURFACE

10' PAVT. SHLDR.

WIDENING VARIES

BEGIN WIDENING
BEGIN 10' PAVT. SHLDR.
STA. 575+31.00

LA R/W

BEGIN SPECIAL DITCH RT.
STA. 576+00.00
FL. 101.70

CONST. TREATMENT DITCH BLOCK
STA. 576+00.00
(SEE SHT. NO. 25)

END SPECIAL DITCH RT.
STA. 581+50.00
FL. 101.98

MATCH LINE

12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	40551 5-1-52-01

I-4 AUXILIARY LANES
PLAN 2

SHEET NO. 31

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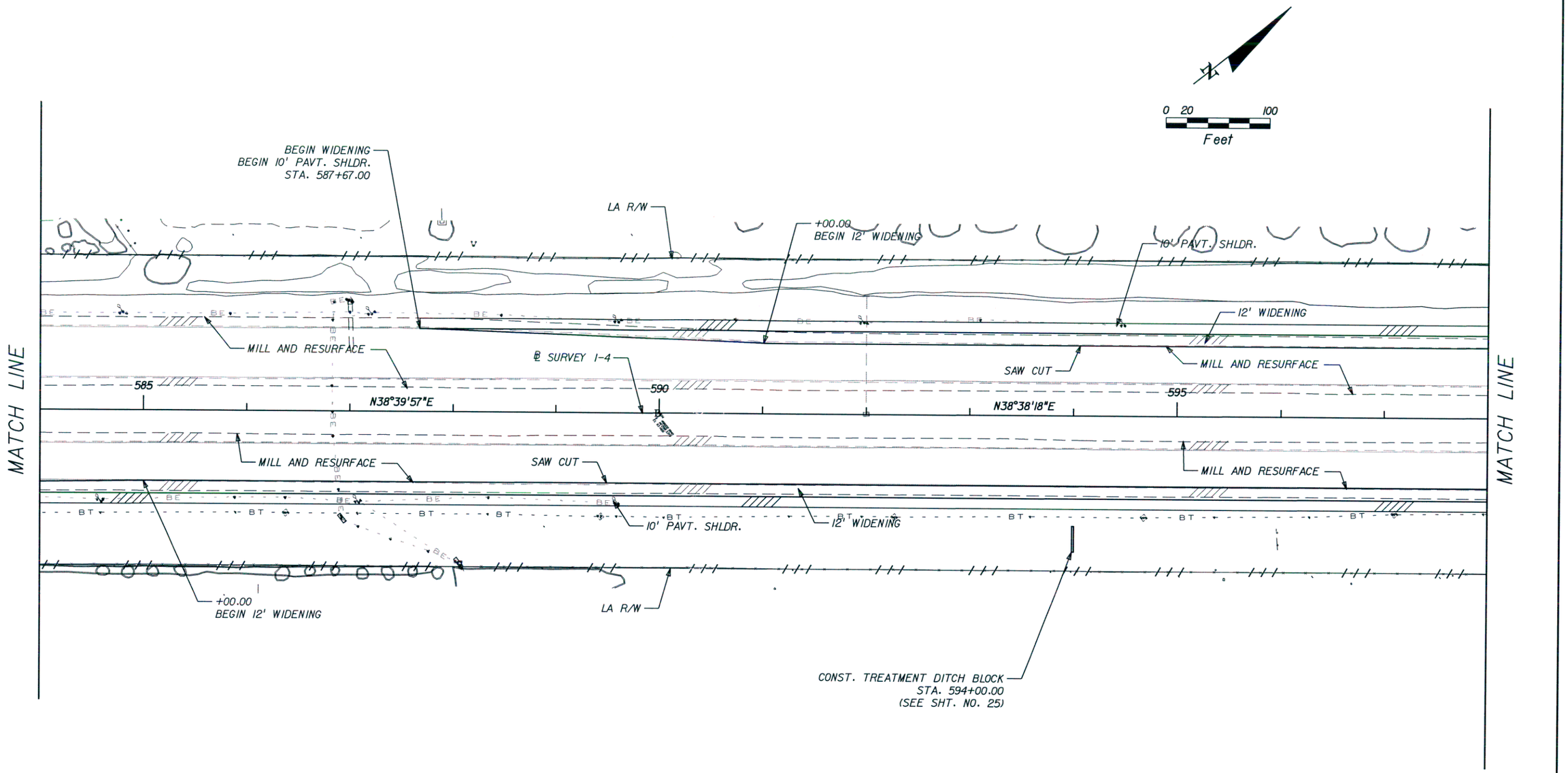

Roy L. Mello
12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 3

SHEET NO. 32

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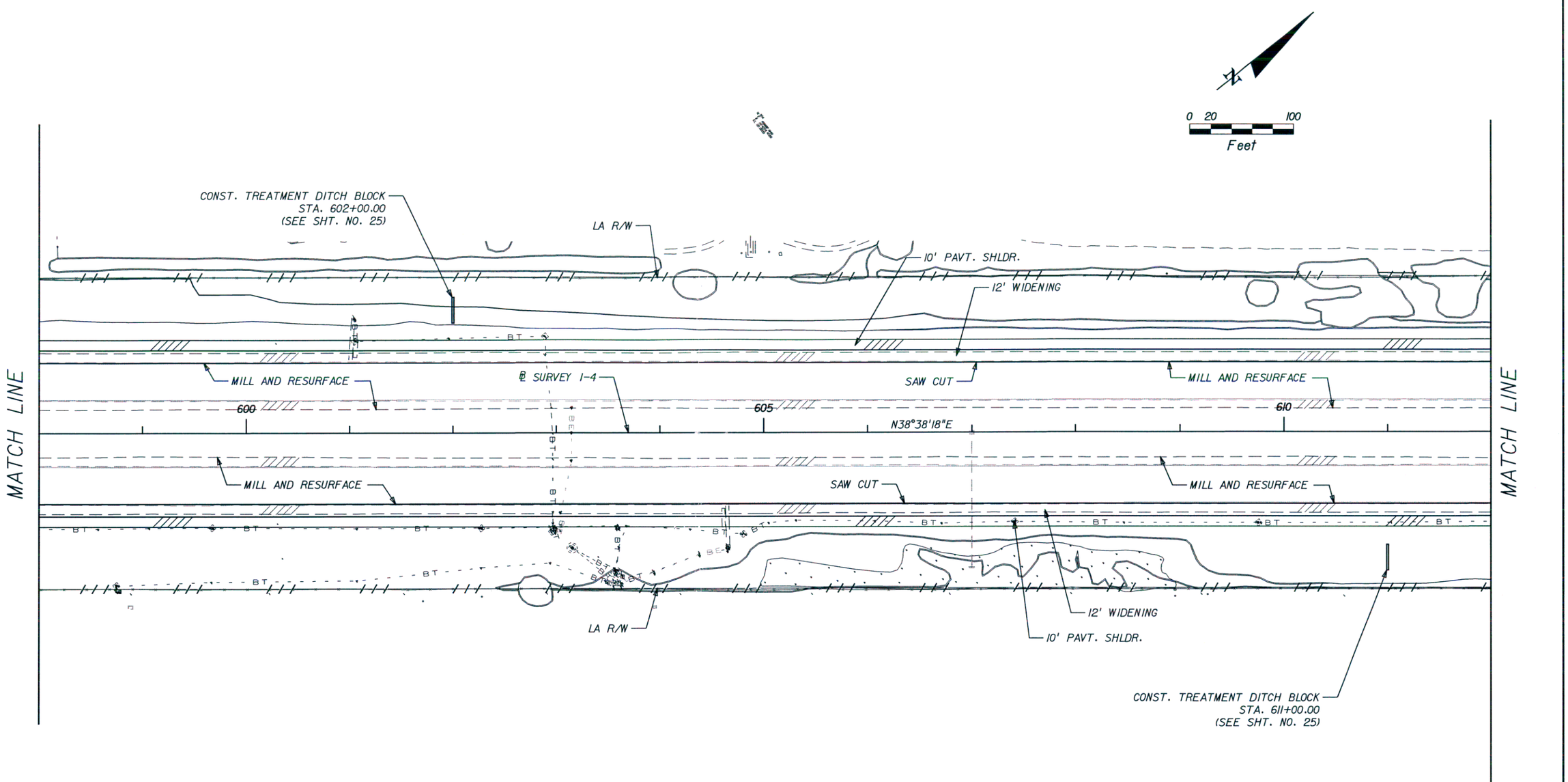

Tony J. Mette
12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 4

SHEET NO. 33

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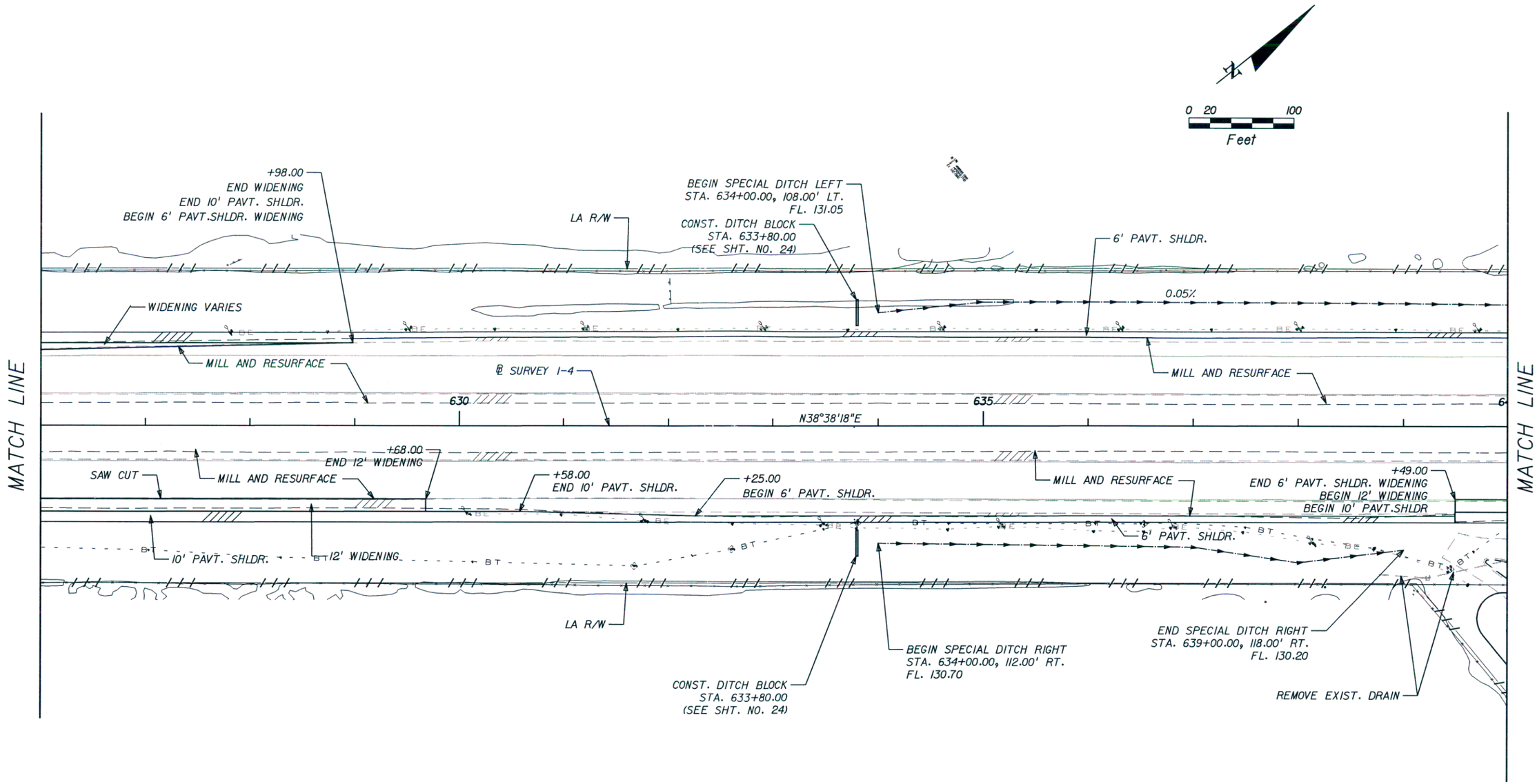

Troy L. Metts
12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger Construction Industries, Inc. | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	40551 5-1-52-01

I-4 AUXILIARY LANES
PLAN 6

SHEET NO. 35

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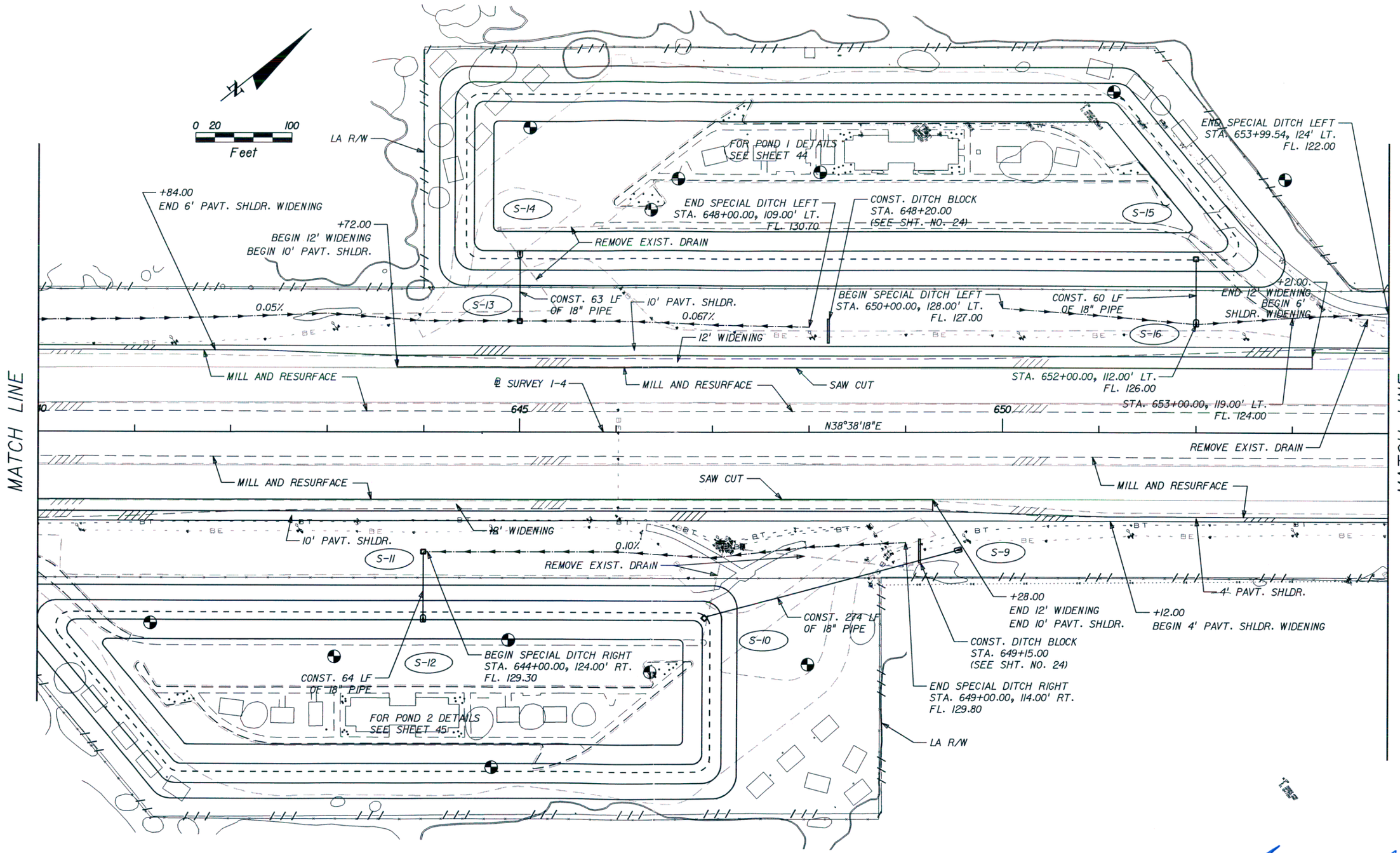

Tony L. Metts
12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger Construction Industries, Inc. | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 7

SHEET NO. 36

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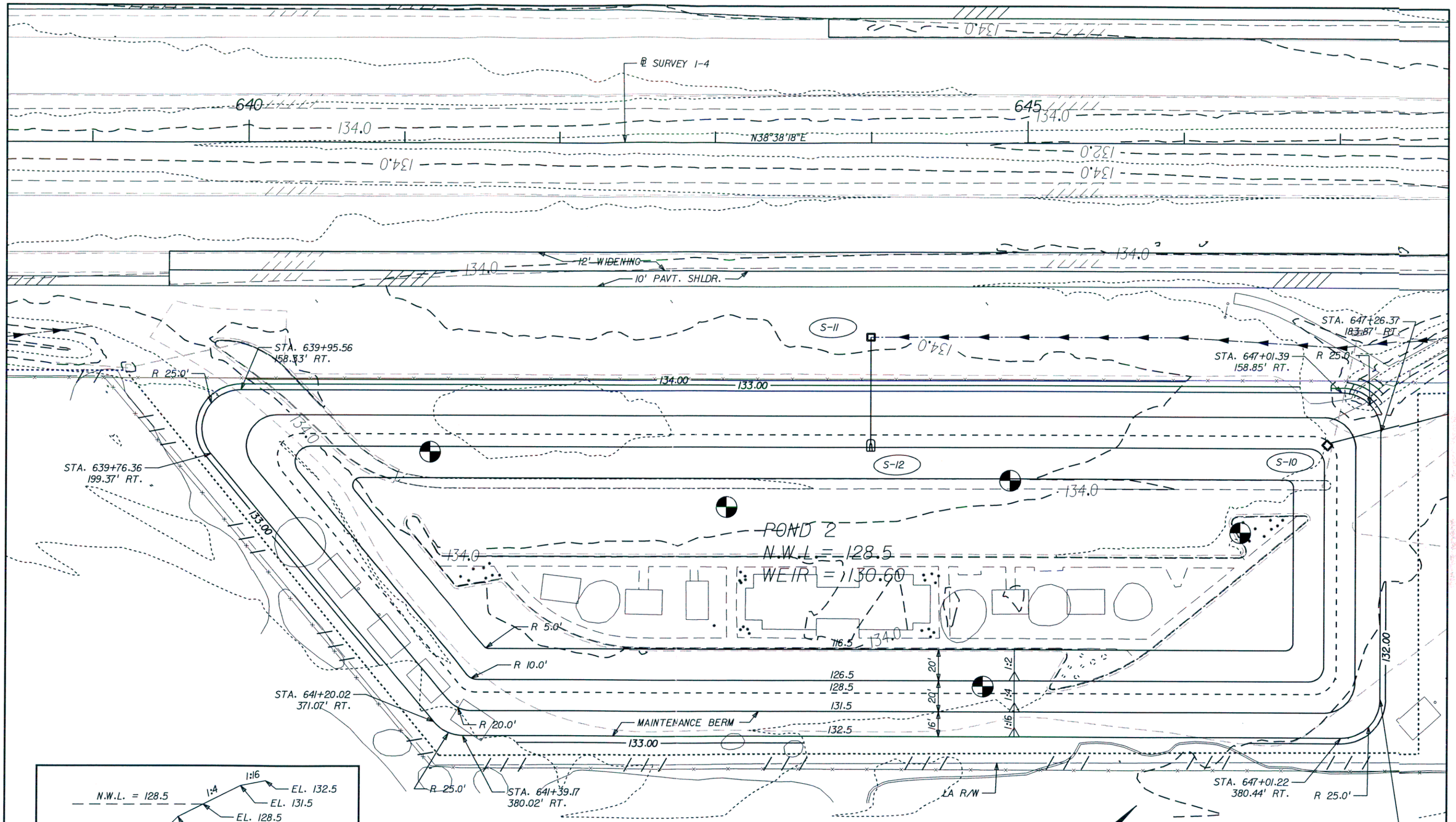


Troy L. Mello
12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger Construction Industries, Inc. | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

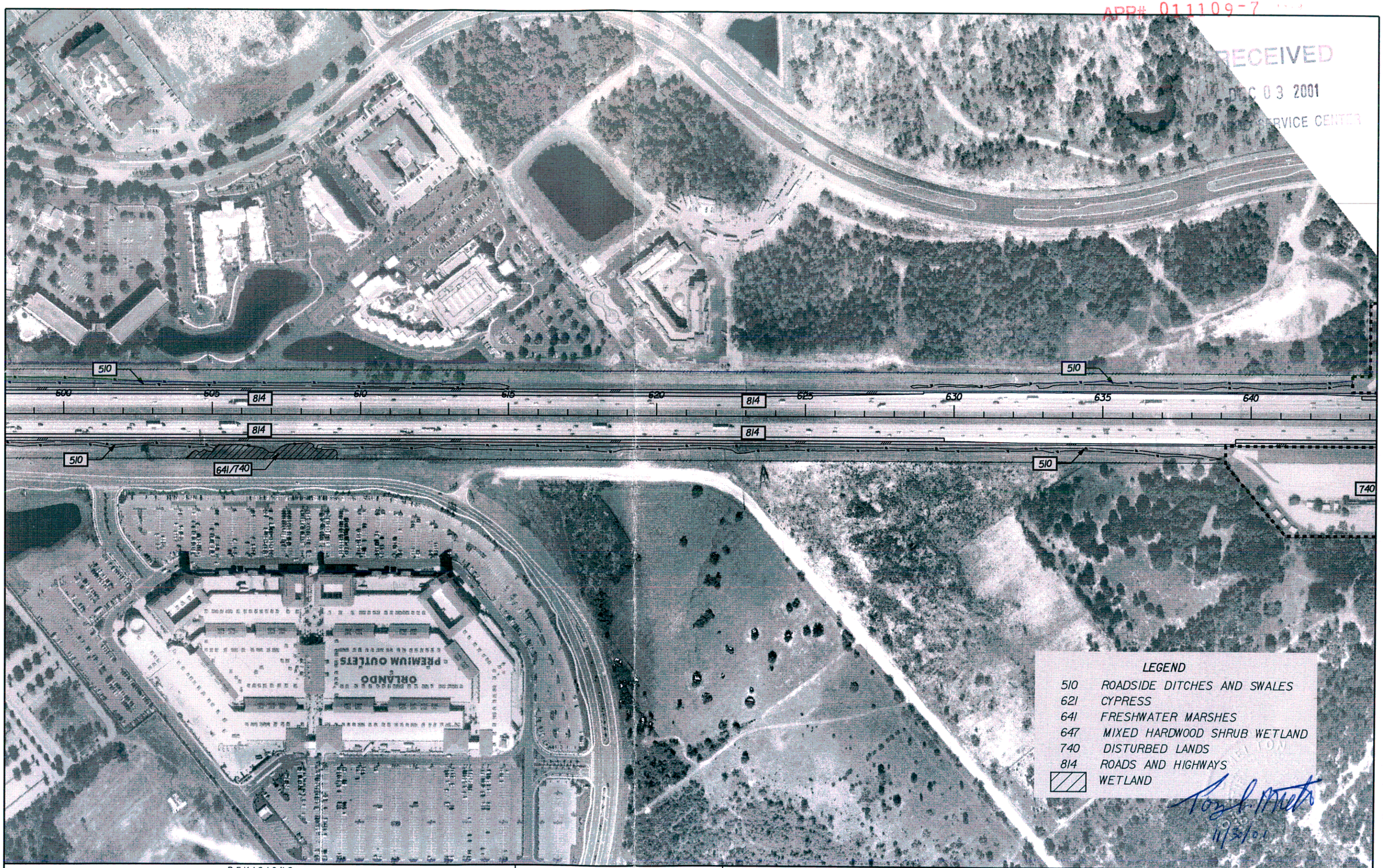
I-4 AUXILIARY LANES
POND 2 PLAN

SHEET NO. 45

18-DEC-2001 14:37 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\PLANPOND02.dgn

ADDITIONAL INFORMATION
DEC 0 3 2001
ORLANDO SERVICE CENTER

APP# 011109-7
RECEIVED
DEC 0 3 2001
SERVICE CENTER



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

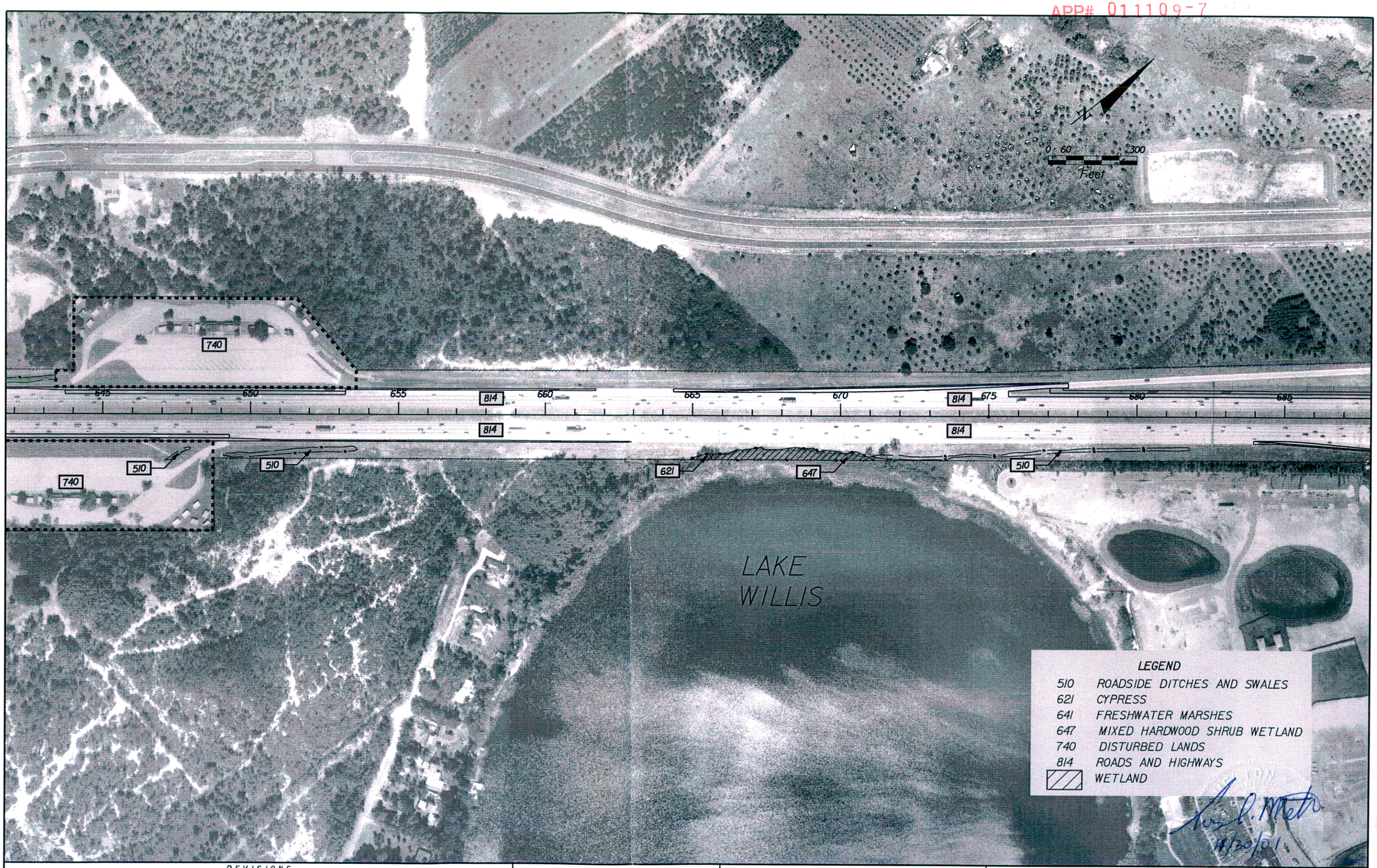
FIGURE 2
I-4 AUXILIARY LANES
MILLING AND RESURFACING
FLUCFCS MAP

SHEET NO. 2

30-NOV-2001 11:52 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\FLUC03.dgn

ADDITIONAL INFORMATION
DEC 03 2001
ORLANDO SERVICE CENTER

APP# 011109-7



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

FIGURE 2
I-4 AUXILIARY LANES MILLING AND RESURFACING FLUCFCS MAP

SHEET NO. 3

30-NOV-2001 11:52 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\FLUC04.dgn

APP# 01110-7 MRM

COMPONENTS OF CONTRACT PLANS SET

ROADWAY PLANS
SIGNING & PAVEMENT MARKINGS PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

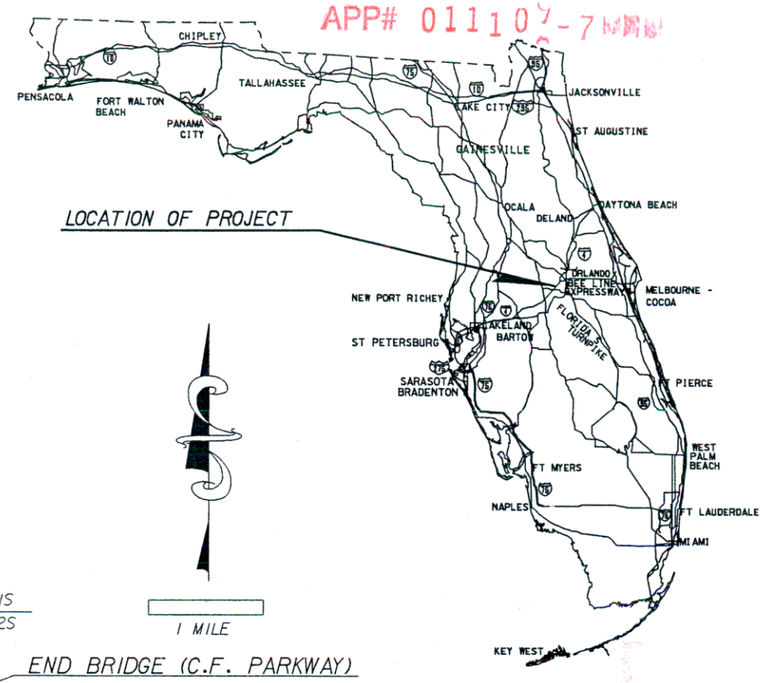
INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-4	TYPICAL SECTIONS
5-16	MILL AND RESURFACE DETAILS
16A	BOX CULVERT DATA SHEET
16B	REFERENCE POINTS
17	SUMMARY DRAINAGE STRUCTURES
18-19	DRAINAGE DETAILS
20-22	INTERCHANGE LAYOUT SHEETS
23-36	ROADWAY PLANS
37-38	PONDS LAYOUT
39-41	ROADWAY SOIL SURVEY
42-76	CROSS SECTIONS
77-87	TRAFFIC CONTROL PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

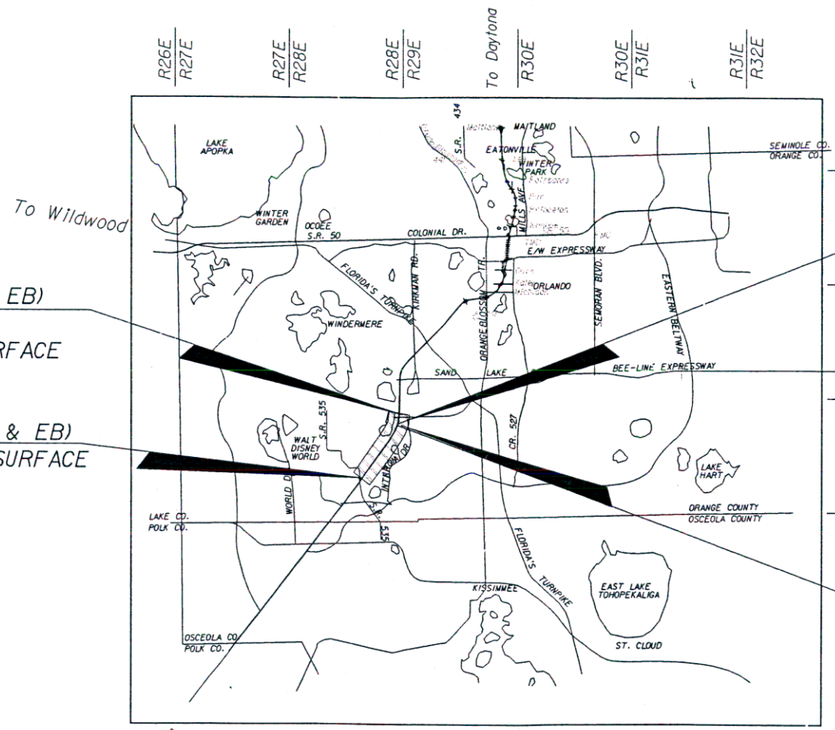
CONTRACT PLANS

FINANCIAL PROJECT ID 405515-1-52-01
SR 400 (I-4) (SR 535 TO SR 528)
ORANGE COUNTY (75280)
FAN 0042-205-1
DESIGN - BUILD



LOCATION OF PROJECT

1 MILE



END PROJECT (WB & EB)
STA 744+43
END MILL AND RESURFACE

BEGIN PROJECT (WB & EB)
BEGIN MILL AND RESURFACE
STA 557+39.89

END BRIDGE (C.F. PARKWAY)
STA 708+42.30

BEGIN BRIDGE (C.F. PARKWAY)
STA 707+55.30

90% SUBMITTAL
(OCTOBER 31, 2001)

ORIGINAL SUBMITTAL

NOV - 9 2001

ORLANDO SERVICE CENTER

PLANS PREPARED BY :
HNTB CORPORATION
5850 T.G. LEE BOULEVARD
ORLANDO, FL 32822
VENDER NO. V98567003

GOVERNING STANDARDS AND SPECIFICATION:
FLORIDA DEPARTMENT OF TRANSPORTATION,
ROADWAY AND TRAFFIC DESIGN STANDARDS
DATED JANUARY 2000 WITH INTERIMS
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
CONSTRUCTION DATED 2000,
AS AMENDED BY CONTRACT DOCUMENTS.

REVISIONS

NOTE: PROJECT LENGTH IS BASED ON WESTBOUND ROADWAY.

LENGTH OF PROJECT	LINEAR FT.	MILES
ROADWAY	18,616	3.526
BRIDGES	87	0.016
NET LENGTH OF PROJ.	18,703	3.542
EXCEPTIONS	0	0
GROSS LENGTH OF PROJ.	18,703	3.542

FDOT PROJECT MANAGER : JENNIFER VREELAND

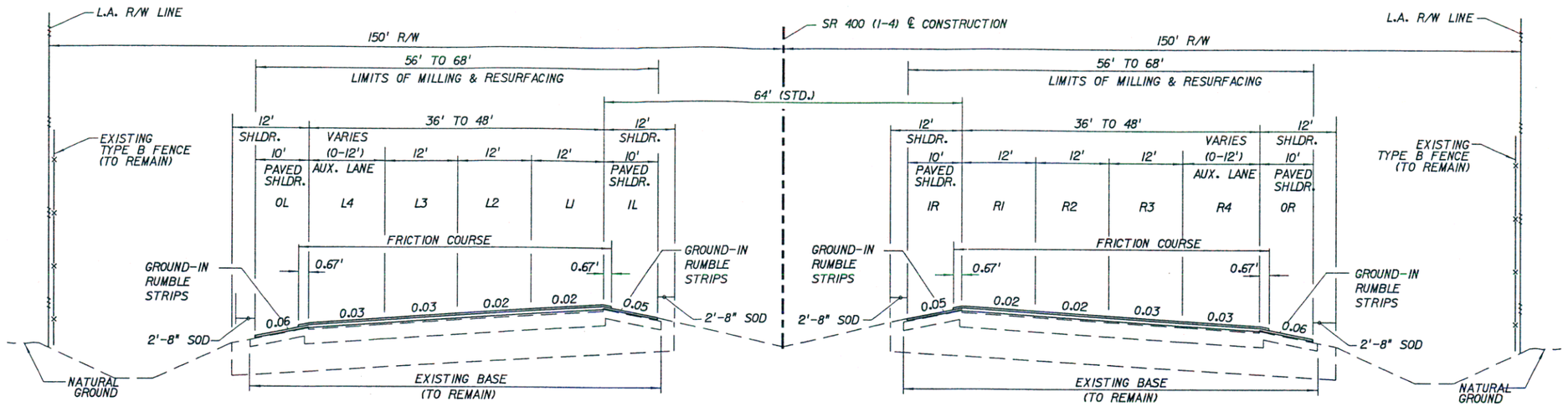
KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

ROADWAY PLANS ENGINEER OF RECORD : TONY L. MELTON, P.E.
DATE: 11/8/01
P.E. NO.: 40398

FISCAL YEAR	SHEET NO.
02	1

31-OCT-2001 16:31
\orlw10\d\d2002\Orl-Standards\JohnPenEng-plan-Haen
g\JOBS\34671\TECH\DC\adroadway\keyrd02.dgn



TYPICAL SECTION NO. 1

TRAFFIC DATA

CURRENT YEAR = 2000 AADT = 160,500
OPENING YEAR ESTIMATE = 2003 AADT = 168,800
DESIGN YEAR ESTIMATE = 2023 AADT = 224,000
K = 7.46% D = 60.6% T = 5.03% (DAILY)
T = 3.45% (PEAK)
DESIGN SPEED
STA. 557+39.89 TO STA. 665+00.00 70 MPH
STA. 665+00.00 TO STA. 744+43.00 60 MPH

*INFORMATION PROVIDED BY FINAL TECHNICAL MEMORANDUM FEBRUARY 2001

WESTBOUND LANES

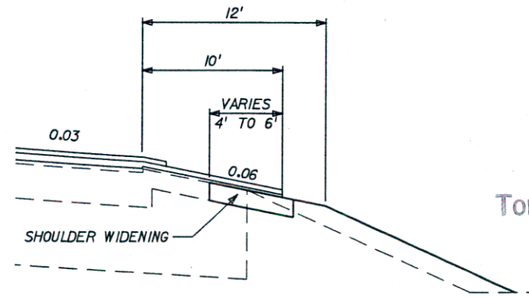
STA. 557+39.89 TO STA. 587+67
STA. 628+98 TO STA. 643+72
STA. 653+21 TO STA. 664+35
STA. 725+97 TO STA. 744+43

EASTBOUND LANES

STA. 577+39.89 TO STA. 575+31
STA. 629+68 TO STA. 639+49
STA. 649+28 TO STA. 683+94
STA. 715+66 TO STA. 734+20
STA. 737+80 TO STA. 744+43

TYPICAL SECTION NOTES

1) GROUND-IN RUMBLE STRIPS SHALL BE CONSTRUCTED ON ALL SHOULDERS AS SHOWN IN INTERIM INDEX 518.
2) REWORK SHOULDERS AS NEEDED FOR CROSS SLOPE CORRECTION.
3) IF THE CONTRACTOR MILLS THE PAVEMENT DOWN TO THE BASE, THE INTEGRITY OF THE LIMEROCK BASE MUST BE MAINTAINED BY PAVING QUICKLY OVER IT OR BY PRIMING THE LIMEROCK BASE.
4) SEE MILLING AND RESURFACING DETAILS FOR ADDITIONAL INFORMATION.



SHOULDER WIDENING DETAIL

Tony L. Melton
11/8/01

WESTBOUND LANES

STA. 628+98 TO STA. 643+72
STA. 653+21 TO STA. 661+71

EASTBOUND LANES

STA. 629+68 TO STA. 639+49
STA. 649+28 TO STA. 662+93

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

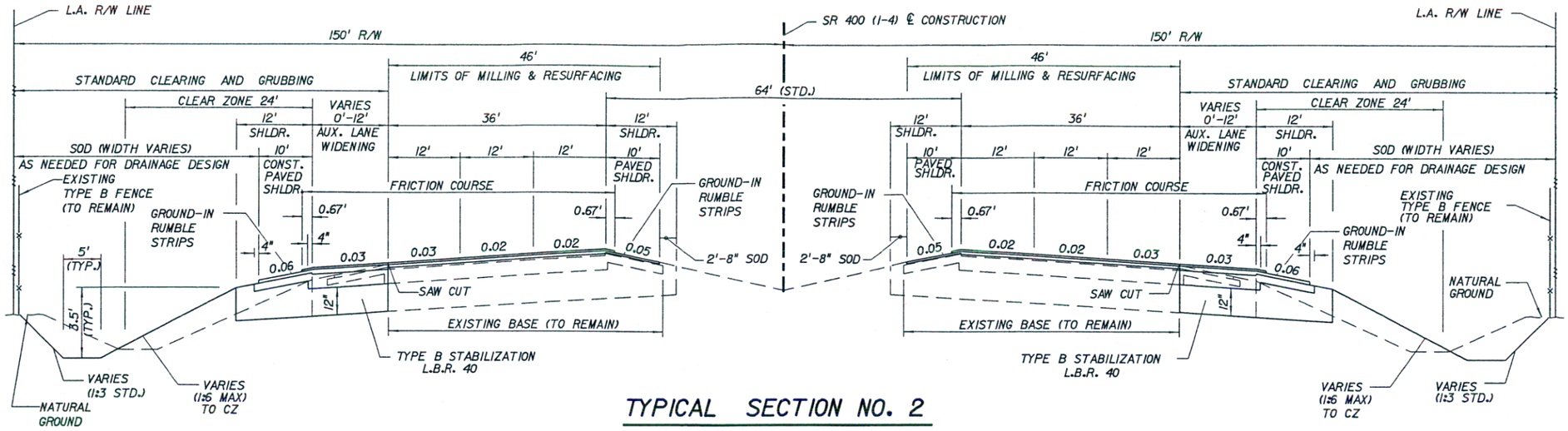
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES TYPICAL SECTION

SHEET NO. 2

31-OCT-2001 17:44 G:\JOBS\34671\TECHPROD\Cad\roadway\typsrd23.dgn



TYPICAL SECTION NO. 2

TRAFFIC DATA

CURRENT YEAR = 2000 AADT = 160,500
OPENING YEAR ESTIMATE = 2003 AADT = 168,800
DESIGN YEAR ESTIMATE = 2023 AADT = 224,000
K = 7.46% D = 60.6% T = 5.03% (DAILY)
T = 3.45% (PEAK)
DESIGN SPEED
STA. 557+39.89 TO STA. 665+00.00 70 MPH
STA. 665+00.00 TO STA. 744+43.00 60 MPH

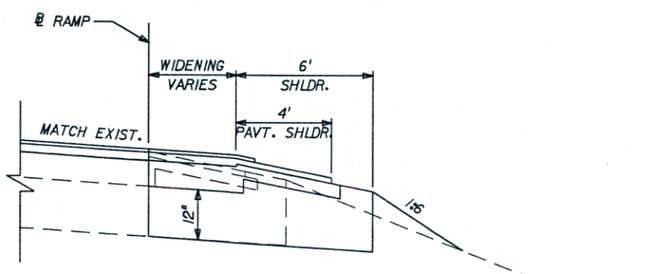
*INFORMATION PROVIDED BY FINAL TECHNICAL MEMORANDUM FEBRUARY 2001

WESTBOUND LANES

STA. 587+67 TO STA. 628+98
STA. 643+72 TO STA. 653+21
STA. 664+35 TO STA. 707+55.30
STA. 708+42.30 TO STA. 725+97

EASTBOUND LANES

STA. 575+31 TO STA. 629+68
STA. 639+49 TO STA. 649+28
STA. 683+94 TO STA. 707+55.30
STA. 708+42.30 TO STA. 715+66
STA. 734+20 TO STA. 737+80



RAMP WIDENING DETAIL

STA. 683+94.00 TO STA. 690+50.00 (WESTBOUND)
STA. 664+35.00 TO STA. 677+65.00 (EASTBOUND)

TYPICAL SECTION NOTES

1) GROUND-IN RUMBLE STRIPS SHALL BE CONSTRUCTED ON ALL SHOULDERS AS SHOWN IN INTERIM INDEX 518.
2) REWORK SHOULDERS AS NEEDED FOR CROSS SLOPE CORRECTION.
3) IF THE CONTRACTOR MILLS THE PAVEMENT DOWN TO THE BASE, THE INTEGRITY OF THE LIMEROCK BASE MUST BE MAINTAINED BY PAVING QUICKLY OVER IT OR BY PRIMING THE LIMEROCK BASE.
4) SEE MILLING AND RESURFACING DETAILS FOR ADDITIONAL INFORMATION.

Tony L. Melton
10/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

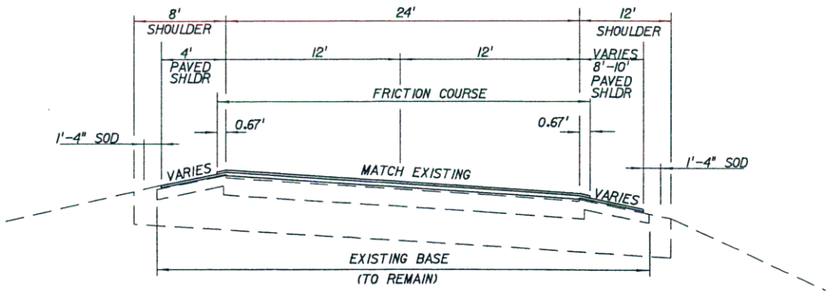
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
TYPICAL SECTION

SHEET NO. 3

31-OCT-2001 17:44 d:\JOBS\34671\TECHPROD\Cad\roadway\typsrd24.dgn



MULTI LANE
TYPICAL SECTION NO. 3

DESIGN SPEED 25-45 MPH

S.R. 536 INTERCHANGE

RAMP B-2
STA. 9+14.45 TO STA. 33+55.33
STA. 37+15.04 TO STA. 56+94.39
STA. 60+02.77 TO STA. 81+86.10

RAMP D-1
STA. 0+73.37 TO STA. 56+06.41

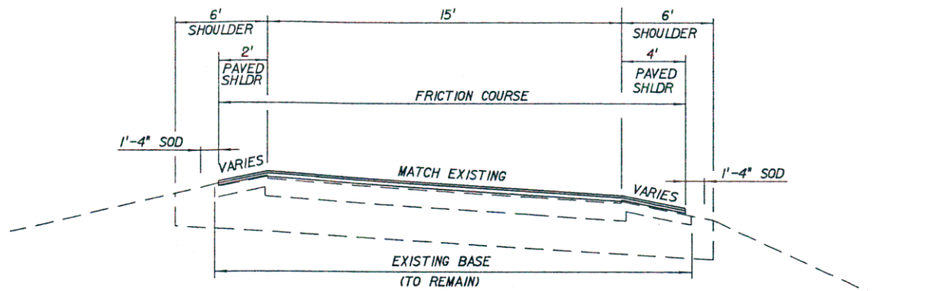
S.R. 535 INTERCHANGE

RAMP B-2
STA. 9+07.24 TO STA. 33+77.30

RAMP D-1
STA. 11+80.42 TO STA. 24+28.82

S.R. 528 INTERCHANGE

RAMP B-1
STA. 70+00.00 TO STA. 91+32.21



ONE LANE
TYPICAL SECTION NO. 4

DESIGN SPEED 25-45 MPH

S.R. 536 INTERCHANGE

RAMP A-1
STA. 21+36.63 TO STA. 26+02.95

RAMP A-2
STA. 5+23.31 TO STA. 31+49.92

RAMP B-1
STA. 12+00.84 TO STA. 40+32.18

RAMP C-1
STA. 0.00.00 TO STA. 20+06.27

RAMP C-2
STA. 12+65.45 TO STA. 24+86.36

RAMP D-2
STA. 1+53.44 TO STA. 27+70.59

RAMP AL
STA. 2+17.72 TO STA. 46+02.29

S.R. 535 INTERCHANGE

RAMP A-1
STA. 17+81.36 TO STA. 26+71.12

RAMP B-1
STA. 10+25.05 TO STA. 31+11.42

RAMP C-1
STA. 13+81.77 TO STA. 27+84.99

CENTRAL FLORIDA PKWY INTERCHANGE

RAMP A-1
STA. 677+67.25 TO STA. 694+17.28

RAMP B-1
STA. 688+80.16 TO STA. 707+74.67

S.R. 528 INTERCHANGE

RAMP A-1
STA. 463+86.34 TO STA.483+17.74

TYPICAL SECTION NOTES

1) IF THE CONTRACTOR MILLS THE PAVEMENT DOWN TO THE BASE, THE INTEGRITY OF THE LIMEROCK BASE MUST BE MAINTAINED BY PAVING QUICKLY OVER IT OR BY PRIMING THE LIMEROCK BASE.

Tony L. Melton

11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

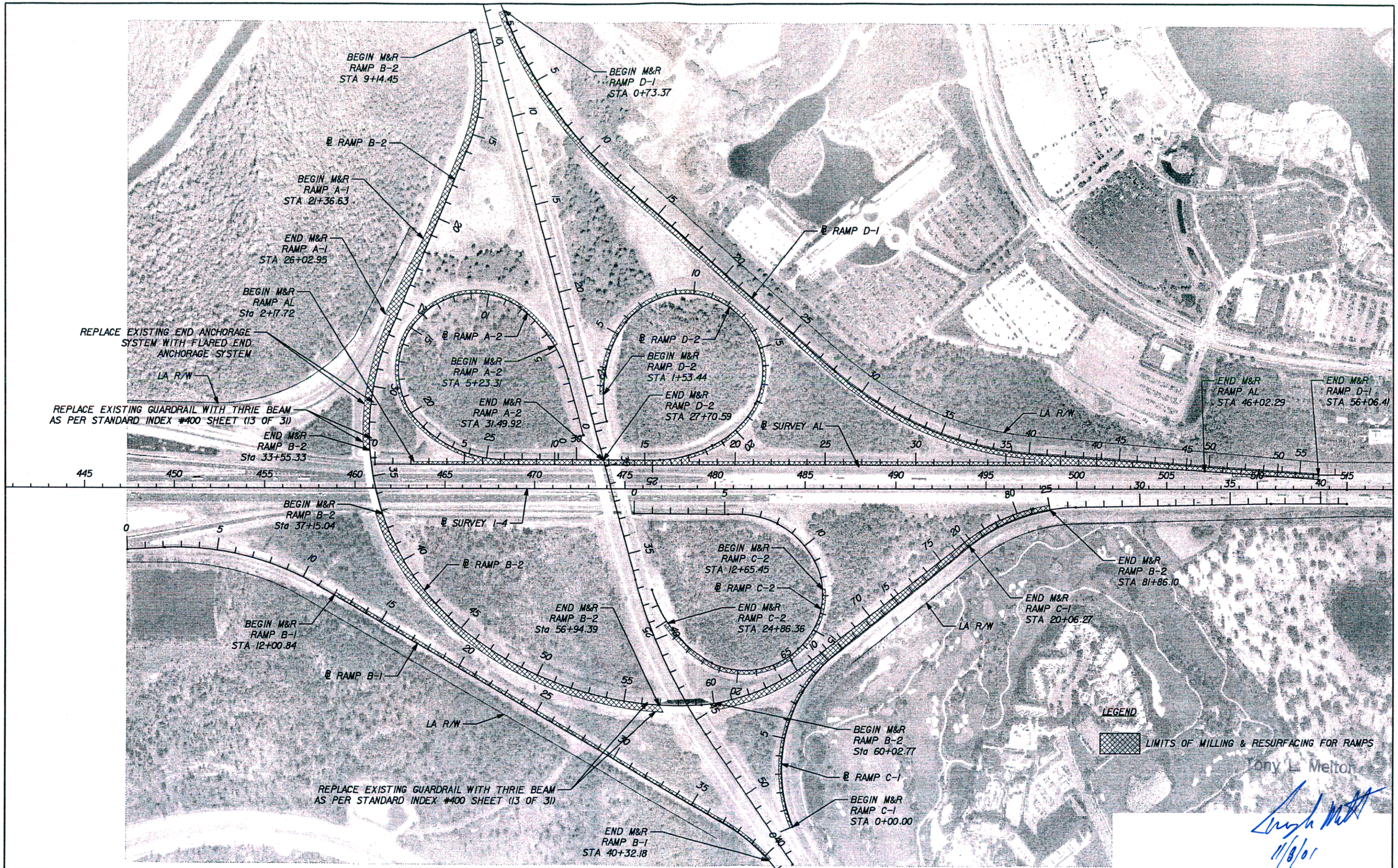
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
TYPICAL SECTION

SHEET NO. 4

31-OCT-2001 14:04 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\typsrd25.dgn



Tony L. Melton

11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

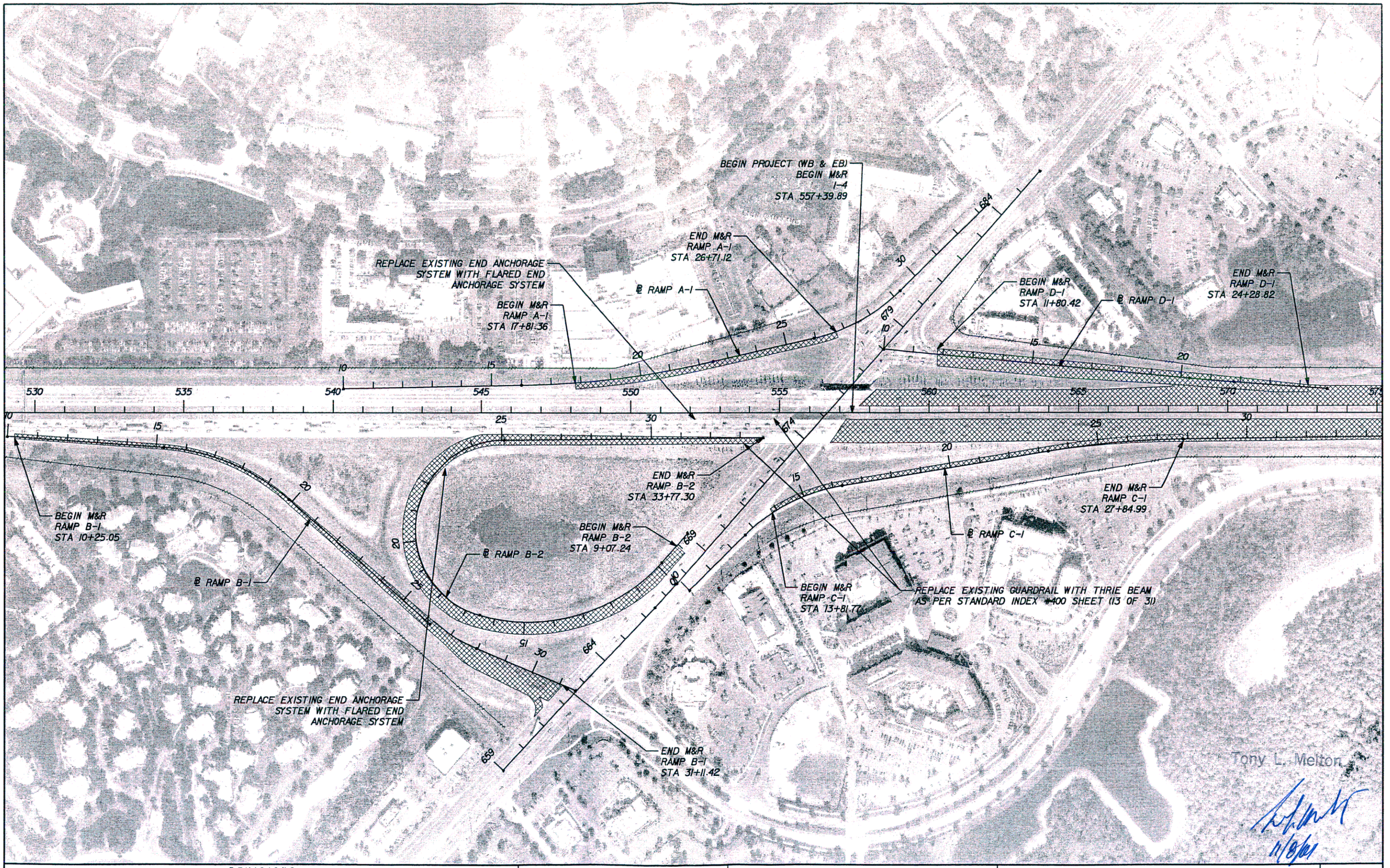
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	40551 5-1-52-01

I-4 AUXILIARY LANES
SR 536 INTERCHANGE LAYOUT

SHEET NO. 20

31-OCT-2001 15:27 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\INTDRD01.DGN



Tony L. Melton

11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

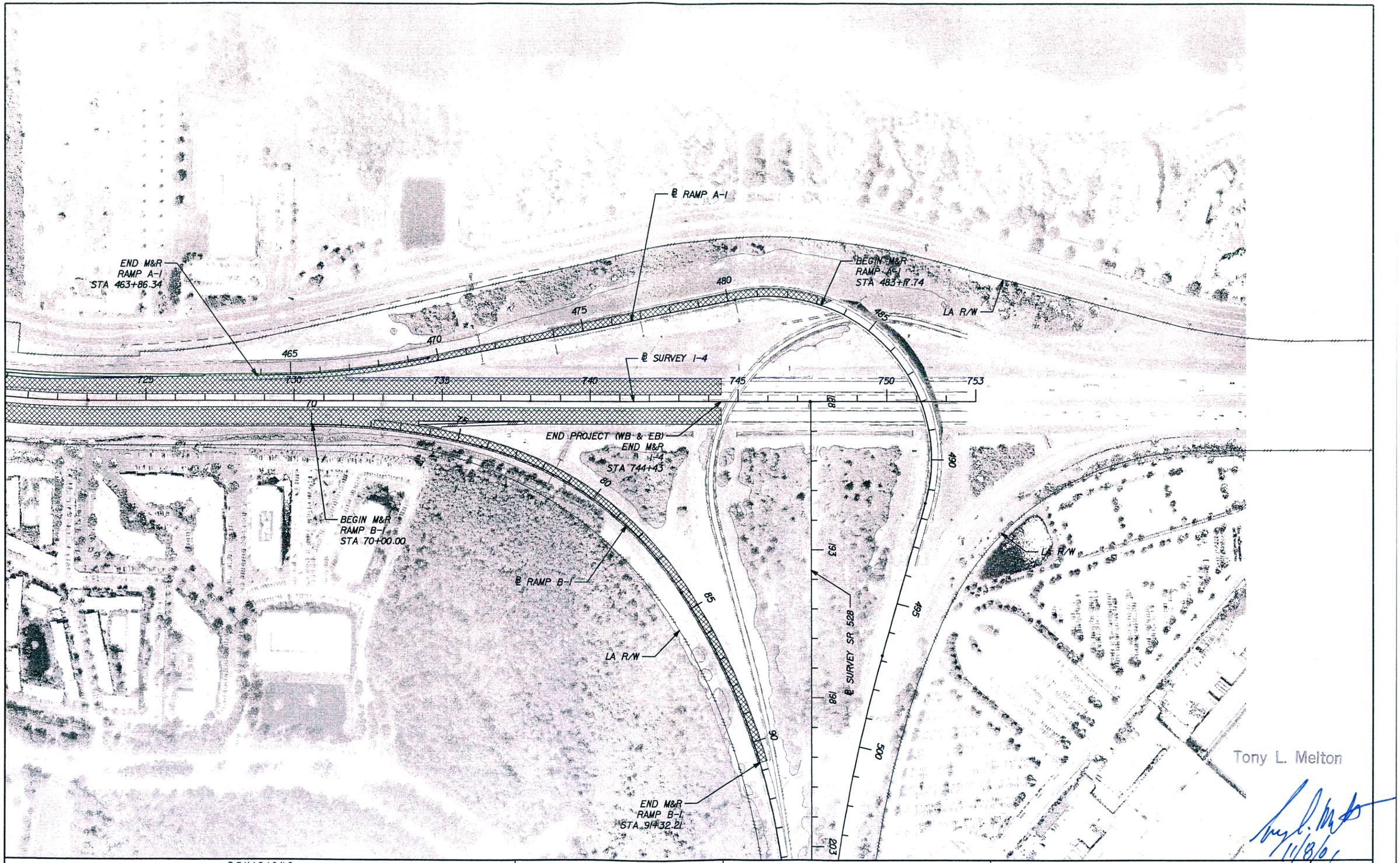
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
SR 535 INTERCHANGE LAYOUT

SHEET NO. 21

31-OCT-2001 15:38 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\INTDRD02.dgn



Tony L. Melton

11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
SR 528 INTERCHANGE LAYOUT

SHEET NO. 22

31-OCT-2001 14:06 \\orlw00\pmwork\jobs\34671\techprod\cad\roadway\INTDRD04.dgn

℄ RAMP A

℄ S.R. 535

679

10

15

℄ RAMP D-1

LA R/W

REPLACE EXISTING END ANCHORAGE SYSTEM WITH FLARED END ANCHORAGE SYSTEM

20

REPLACE EXISTING GUARDRAIL WITH THRIE BEAM AS PER STANDARD INDEX #400 SHEET (13 OF 31)

MILL AND RESURFACE

℄ SURVEY 1-4

560

565

N38°39'57"E

REPLACE EXISTING GUARDRAIL WITH THRIE BEAM AS PER STANDARD INDEX #400 SHEET (13 OF 31)

REPLACE EXISTING END ANCHORAGE SYSTEM WITH FLARED END ANCHORAGE SYSTEM

MILL AND RESURFACE

MATCH LINE

674

BEGIN PROJECT (WB & EB)
BEGIN MILL AND RESURFACE
Sta 557+39.89

25

20

℄ RAMP C-1

15

LA R/W

0 20 100
Feet

NOTE:
FOR RAMP MILLING & RESURFACING LIMITS
SEE INTERCHANGE LAYOUT SHEET.

Tony L. Melton

11/6/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger Construction Industries, Inc. | HNTB

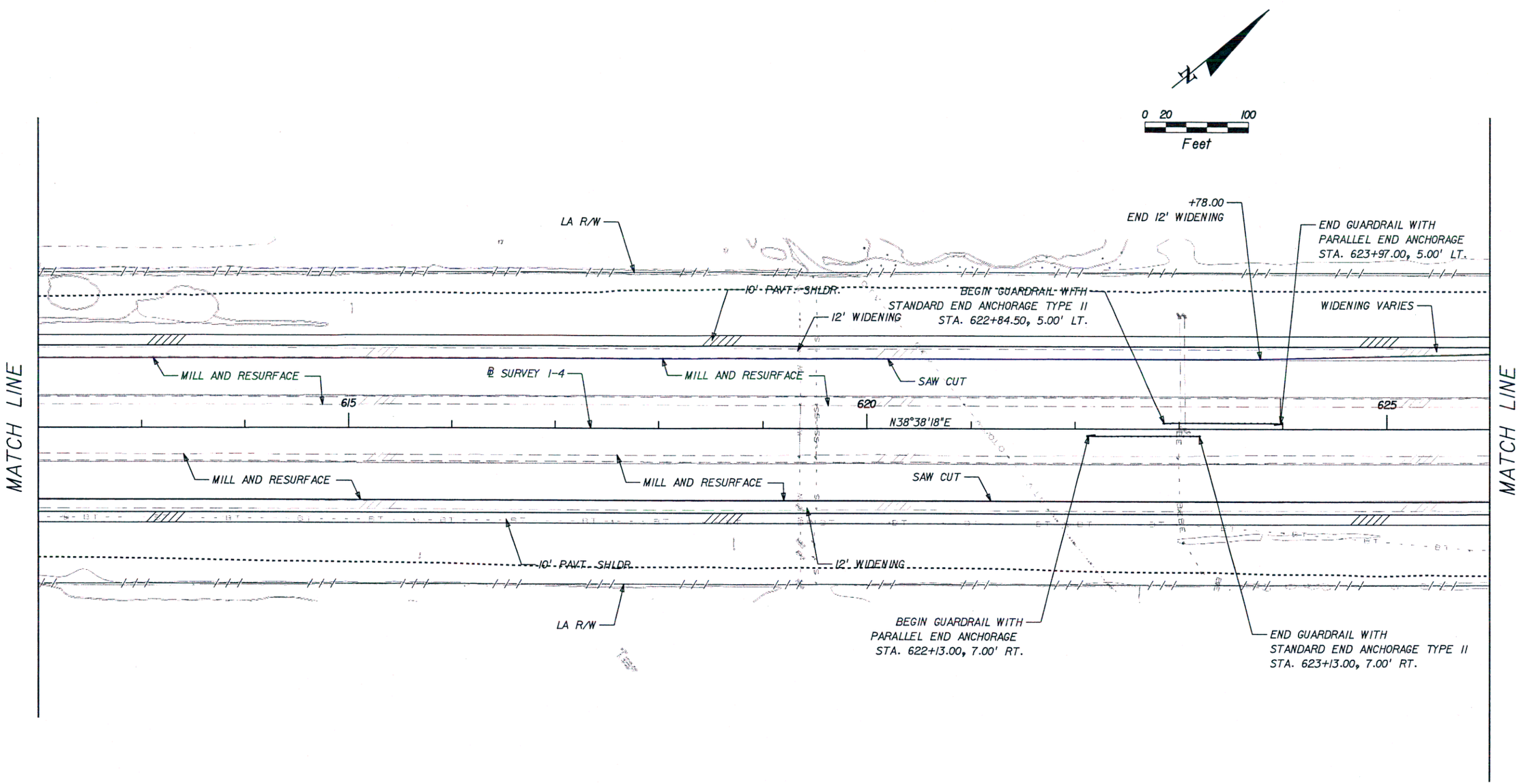
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 1

SHEET NO. 23

31-OCT-2001 14:06 a:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD01.dgn



Tony L. Melton

11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	4055I5-I-52-0I

I-4 AUXILIARY LANES
PLAN 5

SHEET NO. 27

31-OCT-2001 14:07 g:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD05.dgn

0 20 100
Feet

MATCH LINE

MATCH LINE

CANTILEVER SIGN STRUCTURE
TO BE RELOCATED
STA. 660+00.00, 103.20' LT

LA R/W

+35.00
BEGIN 10' PAVT. SHLDR.
BEGIN WIDENING

+80.00
BEGIN 4' PAVT. SHLDR.

6' PAVT. SHLDR.

+71.27
END 6' PAVT. SHLDR. WIDENING

WIDENING VARIES

MILL AND RESURFACE

℄ SURVEY I-4

SAW CUT

MILL AND RESURFACE

655

660

665

N38°38'18"E

MILL AND RESURFACE

MILL AND RESURFACE

4' PAVT. SHLDR.

+93.00
END 4' PAVT. SHLDR. WIDENING

LA R/W

BEGIN GUARDRAIL WITH
FLARED END ANCHORAGE
STA. 664+51.00, 97.00' RT.

END GUARDRAIL WITH
STANDARD END ANCHORAGE TYPE II
STA. 666+01.00, 93.00' RT.

Tony L. Melton

11/9/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

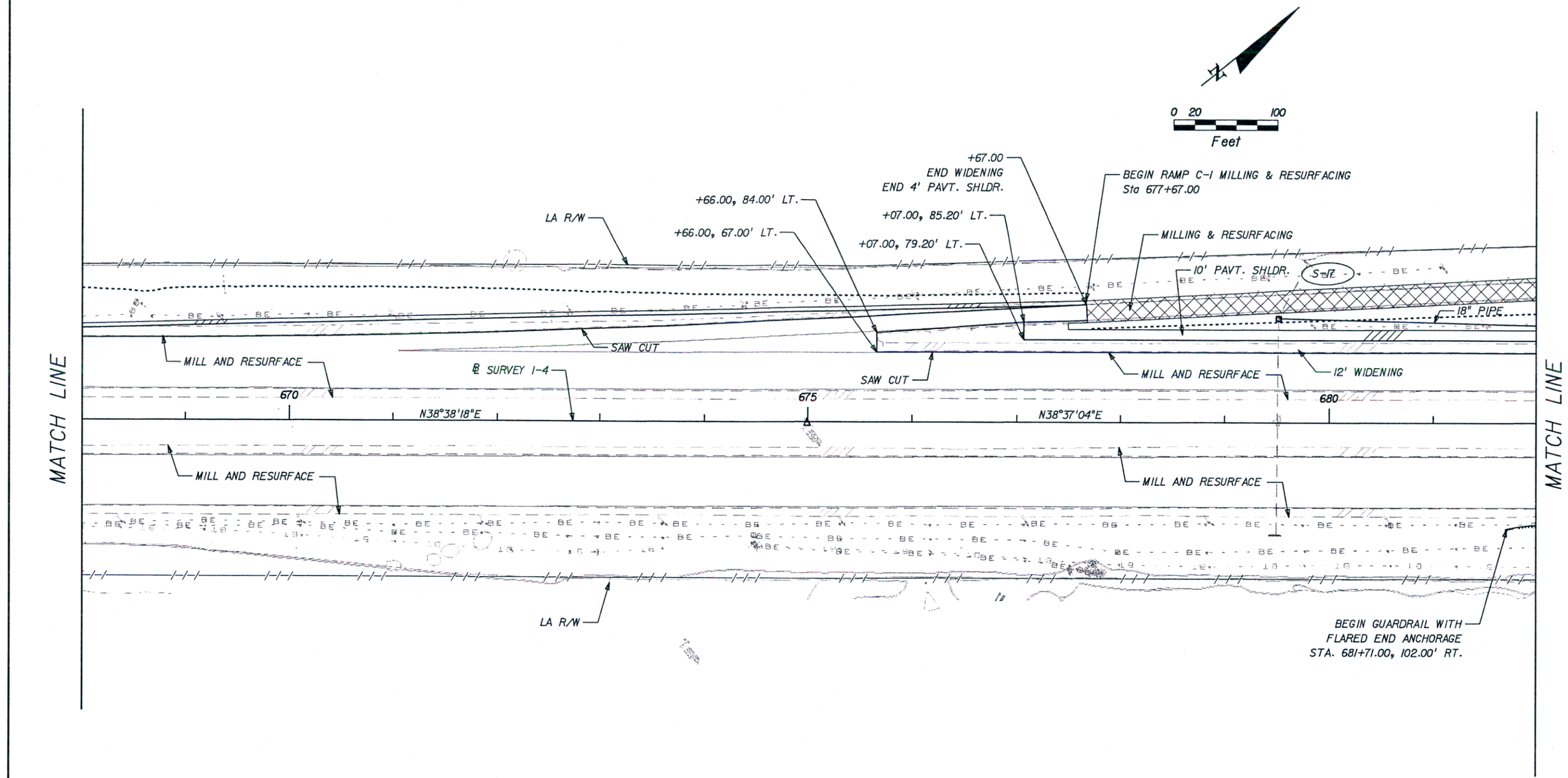
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	40515-1-52-01

I-4 AUXILIARY LANES
PLAN 8

SHEET NO. 30

01-NOV-2001 13:04 q:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD08.dgn



LEGEND

RAMP MILLING & RESURFACING AREA

Tony L. Melton

11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

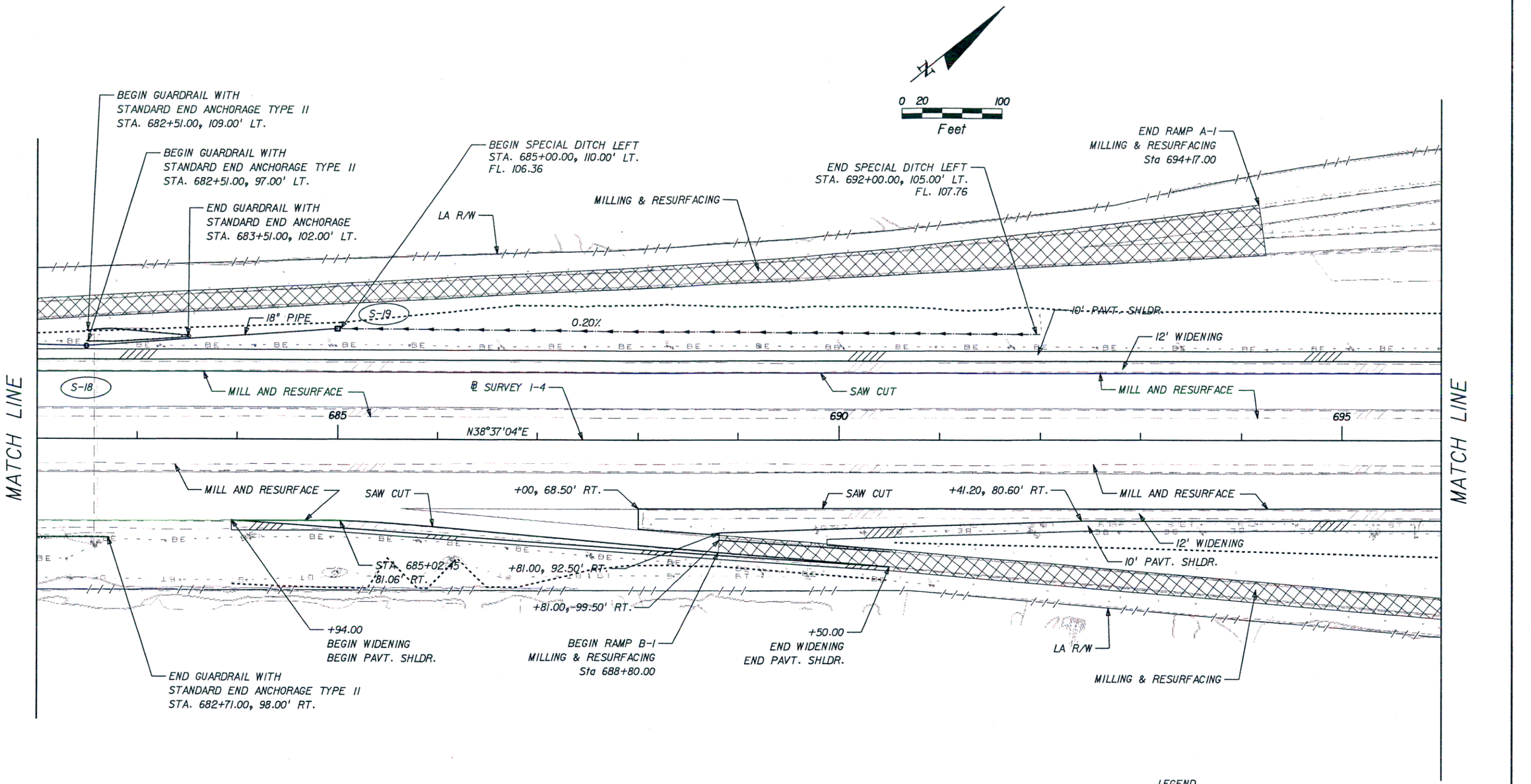
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 9

SHEET NO. 31

31-OCT-2001 14:07 g:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD09.dgn



LEGEND

RAMP MILLING & RESURFACING AREA

Tony L. Melton

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 10

SHEET NO. 32

31-OCT-2001 14:07 q:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD10.dgn

CURVE DATA C-1
PI STA.= 713+79.77
DELTA = 38°30'30" LT.
T= 1000.72
L= 1925.52
R= 2864.95
E= 169.74
D = 0.052
PC STA. 703+79.05
PT STA. 723+04.57

0 20 100
Feet

MATCH LINE

LA R/W

+50
BEGIN GUARDRAIL WITH
STANDARD END
ANCHORAGE TYPE II

GUARDRAIL

+38.00
END GUARDRAIL
BEGIN BARRIER WALL

ALIGN/ ANGLE SO THAT IT
DOES NOT HIT A PIER/COLUMN
CONST. 65 LF OF 18" CMP

+63.00
BEGIN SHLDR. GUTTER
BEGIN THRIE-BEAM GUARDRAIL

REMOVE EXIST.
STRUCTURE

12' WIDENING

CONST. 60 LF
OF 18" CMP

REMOVE EXIST.
STRUCTURE

3.5' SHLDR. GUTTER

+50.00
BEGIN SHLDR. GUTTER

S-22

S-22A

8' PAVT. SHLDR.

S-24A

REPLACE EXISTING END ANCHORAGE
SYSTEM WITH STANDARD END
ANCHORAGE SYSTEM

REMOVE EXIST.
STRUCTURE

S-26

+35.00
END SHLDR. GUTTER

EXTEND BOX
CULVERT 15 LF

BARRIER
WALL

CONST. 240 LF
OF 18" PIPE

MILL AND RESURFACE

SAW CUT

℄ SURVEY I-4

N38°37'04"E

700

S-25

PC

S-24

MILL AND RESURFACE

750142

MILL AND
RESURFACE

705

C-1

S-21

REMOVE EXIST.
STRUCTURE

S-23

SAW CUT

MILL AND RESURFACE

S-21A

REMOVE EXIST.
STRUCTURE

GUARDRAIL

8' PAVT. SHLDR.

CONST. 40 LF
OF 18" CMP

S-23A

3.5' SHLDR. GUTTER

750200

BEGIN MILLING TRANS.
STA. 705+85.00

12' WIDENING

+03.00
END GUARDRAIL
BEGIN BARRIER WALL

BARRIER
WALL

BEGIN MILLING
TRANS.
STA. 708+62

+62.00
BEGIN SHLDR. GUTTER
BEGIN GUARDRAIL

CONST. 15 LF
OF 18" CMP

+00.00
BEGIN SHLDR. GUTTER

LA R/W

+72.50
BEGIN GUARDRAIL WITH
FLARED END ANCHORAGE

MILLING & RESURFACING

END MILLING TRANS.
STA. 707+35.00

+35.00
END SHLDR. GUTTER

CENTRAL FLORIDA PARKWAY

END MILLING & RESURFACING
Sta 707+74.67

END MILLING & RESURFACING
Sta 707+55.57

REPLACE EXISTING GUARDRAIL WITH THRIE BEAM
AS PER STANDARD INDEX #400 SHEET (13 OF 31)

LEGEND

RAMP MILLING & RESURFACING AREA

* MATCH EXIST. SUPERELEVATION

Tony L. Melton
11/2/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 11

SHEET NO. 33

01-NOV-2001 13:17 \\orlw00\pnwork\jobs\34671\TECHPROD\Cad\roadway\PLANRD11.dgn

CURVE DATA C-1
PI STA.= 713+79.77
DELTA = 38°30'30" LT.
T= 1000.72
L= 1925.52
R= 2864.95
E= 169.74
e = 0.052
PC STA. 703+79.05
PT STA. 723+04.57

N

0 20 100
Feet

MATCH LINE

+00.50
END GUARDRAIL WITH
FLARED END ANCHORAGE

LA R/W

BEGIN GUARDRAIL WITH
STANDARD END ANCHORAGE TYPE II
STA. 715+76.00, 6.00' LT.

CONST. 240 LF
OF 18" PIPE

REMOVE EXIST.
STRUCTURE

GUARDRAIL

CONST. 25 LF
OF 18" CMP

S-27

S-29A

1:2

3.5' SHLDR. GUTTER

1:3

S-29

4:1

1:6

CONST. 20LF
OF 18" CMP

+52.00
END SHLDR. GUTTER

REMOVE EXIST.
STRUCTURE

END GUARDRAIL WITH
PARALLEL END ANCHORAGE
STA. 717+01.00, 6.00' LT.

+79.00
END 12' WIDENING

12' WIDENING

10' PAVT. SHLDR.

WIDENING VARIES

REPLACE EXISTING END ANCHORAGE
SYSTEM WITH FLARED END
ANCHORAGE SYSTEM

MILL AND RESURFACE

8' PAVT. SHLDR.

SAW CUT

S-30A

S-30

℄ SURVEY 1-4

C-1

715

720

N00°03'34"E

PT

END MILLING TRANS.
STA. 710+12

S-28

MILL AND RESURFACE

SAW CUT

GUARDRAIL

1:2

1:4

1:6

8' PAVT. SHLDR.

S-28A

3.5' SHLDR. GUTTER

WIDENING VARIES

10' PAVT. SHLDR.

MILL AND RESURFACE

+50.00
END GUARDRAIL WITH
STANDARD END ANCHORAGE
TYPE II

CONST. 22LF
OF 18" CMP

REMOVE EXIST.
STRUCTURE

+74.00
END SHLDR. GUTTER

+35.50
END 12' WIDENING

BEGIN GUARDRAIL WITH
PARALLEL END ANCHORAGE
STA. 714+73.00, 8.00' RT.

LA R/W

+66.00
END WIDENING
END 10' PAVT. SHLDR.

END GUARDRAIL WITH
STANDARD END ANCHORAGE TYPE II
STA. 716+00.00, 7' RT.

MATCH LINE

* MATCH EXIST. SUPERELEVATION

Tony L. Melton
11/6/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 12

SHEET NO. 34

31-OCT-2001 17:23 g:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD12.dgn

N

0 20 100

Feet

MATCH LINE

MATCH LINE

LA R/W

+12.00
END WIDENING
END 10' PAVT. SHLDR.

+97.00
END PAVT. SHLDR.

BEGIN GUARDRAIL WITH
STANDARD END ANCHORAGE TYPE II
STA. 732+88.00, 4.00' LT.

END GUARDRAIL WITH
PARALLEL END ANCHORAGE
STA. 733+88.00, 5.00' LT.

410

℄ RAMP A-1

465

WIDENING
VARIES

SAW CUT

MILL AND RESURFACE

℄ SURVEY 1-4

MILL AND RESURFACE

725

730

735

N00°03'34"E

MILL AND RESURFACE

70

LA R/W

BEGIN GUARDRAIL WITH
PARALLEL END ANCHORAGE
STA. 731+99.00, 10.00' RT.

END GUARDRAIL WITH
STANDARD END ANCHORAGE TYPE II
STA. 733+11.50, 8.00' RT.

+20.00, 67.84' RT.
BEGIN WIDENING

+20.00, 79.84' RT.

+20.00, 86.84' RT.

WIDENING VARIES

SAW CUT

MILL AND RESURFACE

75

10' PAVT. SHLDR.

℄ RAMP B-1

+80.50
END WIDENING
END 10' PAVT. SHLDR.

Tony L. Melton

11/2/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 13

SHEET NO. 35

31-OCT-2001 14:08 d:\JOBS\34671\TECHPROD\Cad\roadway\PLANRDI3.dgn

LA R/W

LA R/W

N

0 20 100
Feet

480

475

485

℄ RAMP A-1

END PROJECT (WB & EB)
END MILL AND RESURFACE
Sta 744+43.00
MILLING TRANSITION 50:1

MILL AND RESURFACE

℄ SURVEY I-4

740

N00°03'34"E

745

750

MATCH LINE

MILL AND RESURFACE

881

490

80

℄ RAMP B-1

℄ SURVEY S.R. 528

LA R/W

Tony L. Melton
11/8/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS | Ranger | HNTB

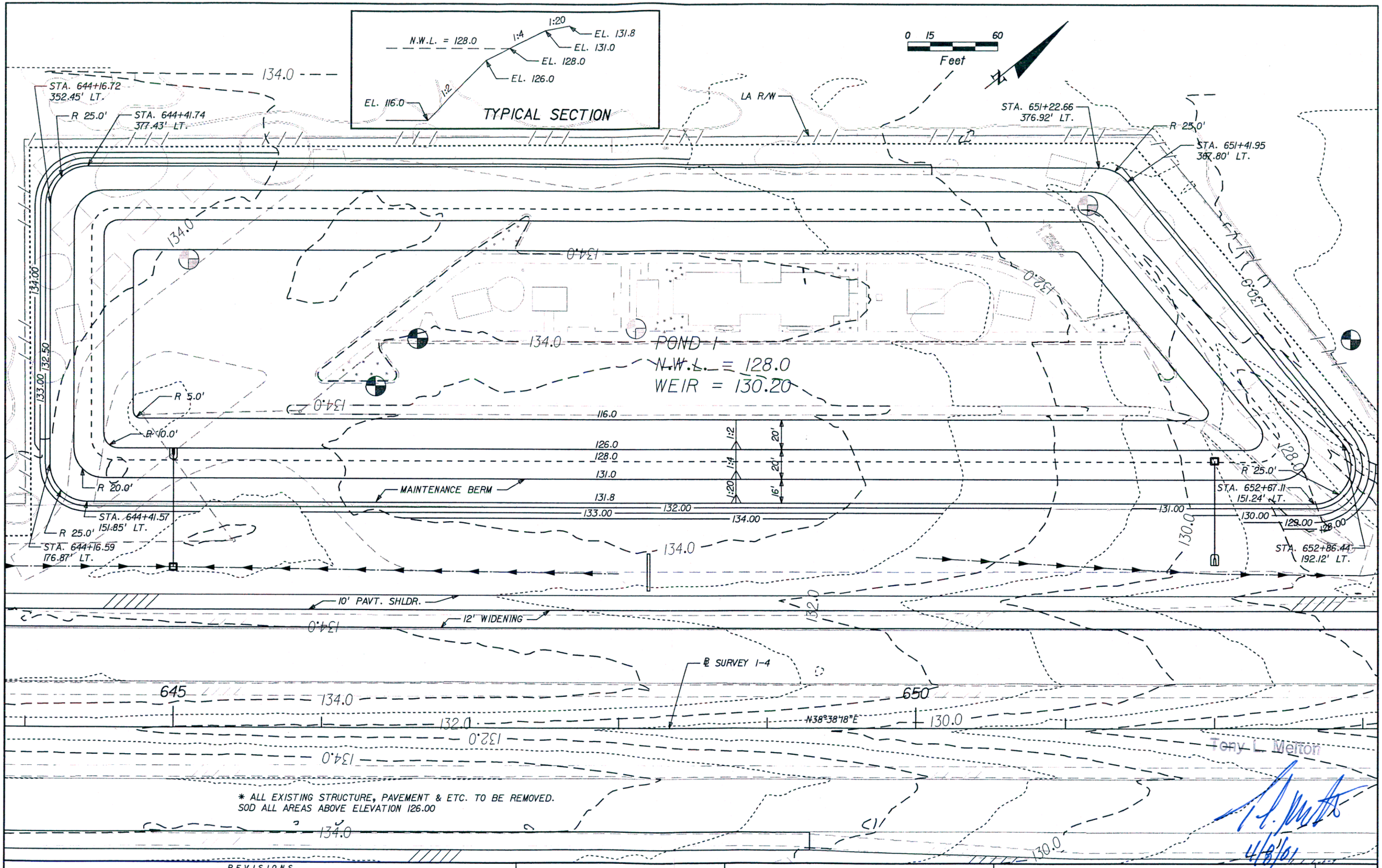
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
PLAN 14

SHEET NO. 36

31-OCT-2001 16:37 g:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD14.dgn



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger Construction Industries, Inc. | HNTB

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
POND 1 PLAN

SHEET NO. 37

31-OCT-2001 17:45 \\orlw00\pmwork\Jobs\34671\techprod\cad\roadway\PLANPOND01.dgn

0 20 100
Feet

CONST. TREATMENT DITCH BLOCK
STA. 576+00.00
(SEE SHT. NO. 25)

LA R/W

MATCH LINE

MATCH LINE

N42°39'48"E

MILL AND RESURFACE

℄ SURVEY I-4

575

580

N38°39'57"E

MILL AND RESURFACE

MILL AND RESURFACE

30

N37°50'42"E

SAW CUT

MILL AND RESURFACE

10' PAVT. SHLDR.

WIDENING VARIES

BEGIN WIDENING
BEGIN 10' PAVT. SHLDR.
STA. 575+31.00

LA R/W

BEGIN SPECIAL DITCH RT.
STA. 576+00.00
FL. 101.70

CONST. TREATMENT DITCH BLOCK
STA. 576+00.00
(SEE SHT. NO. 25)

END SPECIAL DITCH RT.
STA. 581+50.00
FL. 101.98

12/18/01

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JONES BROS. | Ranger Construction Industries, Inc. | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	4055I5-I-52-0I

I-4 AUXILIARY LANES
PLAN 2

SHEET NO. 31

18-DEC-2001 14:26 a:\JOBS\34671\TECHPROD\Cad\roadway\PLANRD02.dgn

APPENDIX D.5: Wildwood Area Roadway Network Road "B" (070307-6)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
STANDARD GENERAL PERMIT NO. 48-01583-P
DATE ISSUED:October 10, 2008

Form #0941
08/95

PERMITTEE: ORANGE COUNTY PUBLIC WORKS
DEPARTMENT
4200 S JOHN YOUNG PARKWAY
ORLANDO, FL 32839

PROJECT DESCRIPTION: Modification for construction and operation of a surface water management system to serve a 6.42 acre roadway project known as Wildwood Area Road Network Road "B".

PROJECT LOCATION: ORANGE COUNTY, SEC 14 TWP 24S RGE 28E

PERMIT DURATION: See Special Condition No:1. See attached Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Notice of Intent for Permit Application No. 070307-6, dated March 7, 2007. This action is taken pursuant to Rule 40E-1.603 and Chapter 40E-40 , Florida Administrative Code (F.A.C.).

Based on the information provided, District rules have been adhered to and an Environmental Resource General Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 19 General Conditions (See Pages : 2 - 4 of 6),
3. the attached 13 Special Conditions (See Pages : 5 - 6 of 6) and
4. the attached 2 Exhibit(s)

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the Permittee (and the persons listed in the attached distribution list) no later than 5:00 p.m. on this 10th day of October, 2008, in accordance with Section 120.60(3), Florida Statutes.

BY: _____
Edward Yaun, P.E.
Director, Orlando Regulatory Division
Orlando Service Center

Certified mail number 7008 1300 0001 2001 5965

40E-4.321 Duration of Permits

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C. is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. the effective date of the local government's comprehensive plan amendment.
2. the effective date of the local government development order.
3. the date on which the District issues the conceptual approval, or
4. the latest date of the resolution of any Chapter 120.57, F.A.C., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For a noticed general permit issued pursuant to chapter 40-E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made in writing pursuant to subsection (3), the permit shall remain in full force and effect until:

1. the Governing Board takes action on an application for extension of an individual permit, or
2. staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environmental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to subsection 40E-4.331(2)(b), F.A.C. (letter modifications) do not extend the duration of a permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific authority 373.044, 373.113 F.S. Law Implemented 373.413, 373.416, 373.419, 373.426 F.S. History—New 9-3-81, Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4/20/94, Amended 7-1-86, 4/20/94, 10-3-95

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373. F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permitee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit

GENERAL CONDITIONS

Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit

GENERAL CONDITIONS

application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on October 10, 2013.

2. Operation of the surface water management system for Palm Parkway shall be the responsibility of ORANGE COUNTY PUBLIC WORKS DEPARTMENT. Operation of the I-4 Ponds shall be the responsibility of the Florida Department of Transportation (FDOT).

3. Discharge Facilities: Through previously permitted facilities.

4. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.

5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

6. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.

7. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

8. Minimum road crown elevation: Basin: Road "B" Mod. - 130.00 feet NGVD 29.

9. Silt fencing shall be installed at the limits of construction to protect all areas from silt and sediment deposition during the construction of the project. The sediment controls shall be installed prior to the commencement of any clearing or construction and shall remain in place and be maintained in good functional condition until all adjacent construction activities have been completed and all fill slopes have been stabilized.

10. Grass seed or sod, shall be installed and maintained on all disturbed areas within 48 hours of completing final grade, and at other times, as necessary, to prevent erosion, sedimentation or turbid discharges into receiving waters and/or adjacent wetlands.

11. Prior to any future construction, the permittee shall apply for and receive a permit modification. As part of the permit application, the applicant for that phase shall provide documentation verifying that the proposed construction is consistent with the design of the master surface water management system, including the land use and site grading assumptions.

12. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 48-01583-P unless otherwise specified herein.

13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as

SPECIAL CONDITIONS

the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

Last Date For Agency Action: 12-OCT-2008

GENERAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Wildwood Area Roadway Network Road "B"

Permit No.: 48-01583-P

Application No.: 070307-6 **Associated File:** 080205-41 ERP Concurrent

Application Type: Environmental Resource (General Permit Modification)

Location: Orange County, S14/T24S/R28E

Permittee : Orange County Public Works Department

Operating Entity : Orange County Public Works Department

Project Area: 6.42 acres

Project Land Use: Roadway

Drainage Basin: SHINGLE CREEK

Receiving Body: Existing I-4 Ponds **Class:** CLASS III

Special Drainage District: NA

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

Modification of an Environmental Resource Permit to authorize construction and operation of a surface water management system to serve a 6.42 acre roadway project known as Wildwood Area Roadway Network Road "B". Staff recommends approval with conditions.

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The site is located on the west side of International Drive between CR 535 and Central Florida Parkway and will extend from its present terminus, over I-4 and connect with Palm Parkway.

There are permitted surface water management facilities within the project area. The site contains undeveloped uplands, the existing road terminus, I-4 and it's related wet detention ponds and Palm Parkway.

There are no wetlands or other surface waters located within or affected by the proposed project.

PROPOSED PROJECT:

Construction proposed consists of the surface water management system serving the proposed road construction. The water management system consists of inlets and culverts directing runoff to the existing I-4 wet detention ponds.

Construction under this application is limited to the roadway, from its current terminus west of International Drive, west over I-4 and terminating at Palm Parkway. There are two applications that are related to this project. The first, Application No. 080205-41, modification of Permit No. 48-01243-P to relocate and reconfigure the existing I-4 ponds to serve this section of the roadway, is being processed concurrently with this modification. The second, Application No. 080603-24, modification of Permit No. 48-00963-P for required revisions at the intersection of Palm Parkway and Road "B" was issued on July 23, 2008.

The relocated and reconfigured I-4 ponds have been redesigned to handle the drainage area of I-4 and Road "B" and provide the required attenuation and water quality treatment for the 20.42 acre contributing drainage area.

LAND USE:

Construction:
Project:

	This Phase	Total Project	
Pavement	4.76	4.76	acres
Pervious	1.66	1.66	acres
Total:	**6.42**	**6.42**	

WATER QUANTITY :

Discharge Rate :

Discharge is to the existing I-4 ponds that are being modified under concurrent Application No. 080205-41 Permit No. 48-01243-P to provide attenuation and water quality treatment for this portion of the roadway.

Discharge Storm Frequency : 25 YEAR-1 DAY Design Rainfall : 8.6 inches

Road Design :

Road Storm Frequency : 10 YEAR-1 DAY Design Rainfall: 7.4 inches

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Road Crown (ft, NGVD 29)
Road "B" Mod.	129.9	130

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
Road "B" Mod.	20.42	128	128.00	Previously Permitted

WATER QUALITY :

No adverse water quality impacts are anticipated as a result of the proposed project. Water quality treatment in excess of the first inch of runoff is provided in the off-site I-4 wet detention ponds.

Basin		Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd
Road "B" Mod.	Treatment	Wet Detention	5.43 acres	1.7	1.9

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that no irrigation water use is proposed for the project at this time.

The applicant has indicated that dewatering is not required for construction of this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Historical/Archeological Resources:

The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that the agency has no objections to the issuance of this permit.

DCA/CZM Consistency Review:

The District has not received a finding of inconsistency from the Florida Department of Environmental Protection or other commenting agencies regarding the provisions of the federal Coastal Zone Management Plan.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF REVIEW:

DIVISION APPROVAL:

NATURAL RESOURCE MANAGEMENT:

Marc S. Ady

DATE: 10/13/08

SURFACE WATER MANAGEMENT:

Mark S. Daron, P.E.

DATE: 10/13/08

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office**. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District's Governing Board takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

App. no. : 070307-6

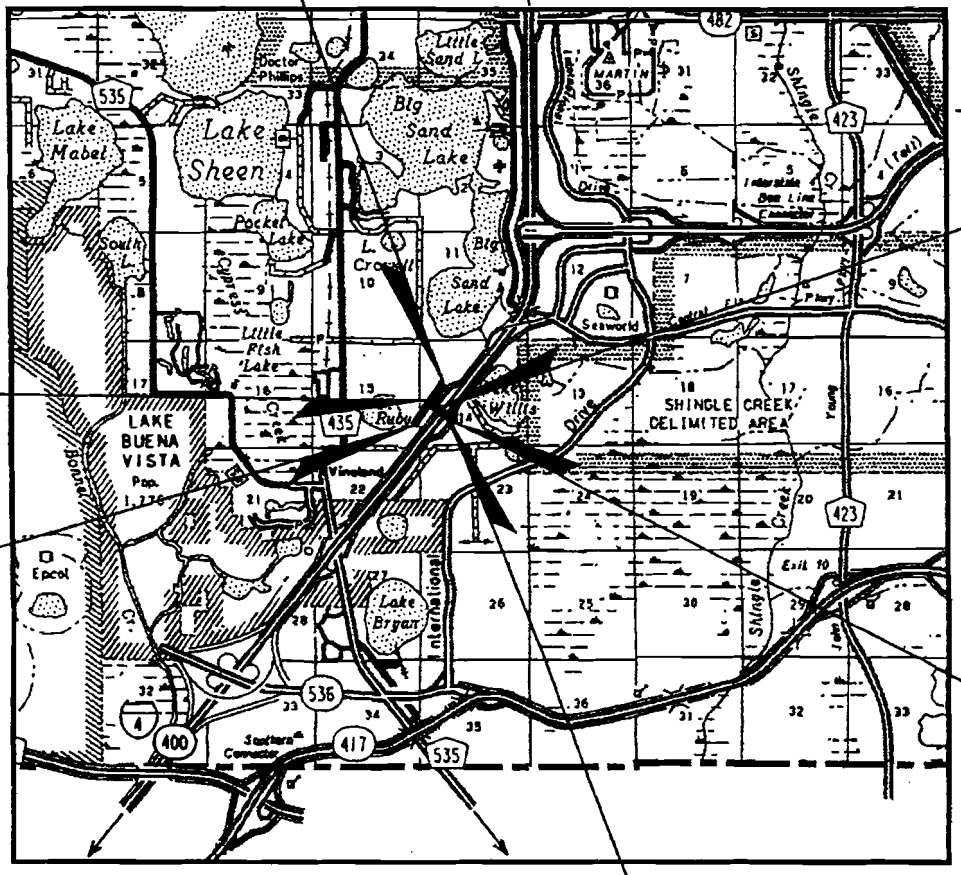
Page 1 of 1

Exhibit 1

END CONSTRUCTION
STA. 60+66.55
℄ SURVEY PALM PARKWAY

END PROJECT
END CONSTRUCTION
STA. 131+17.24
℄ CONST. STREET B

BEGIN CONSTRUCTION
STA. 44+82.29
℄ SURVEY PALM PARKWAY

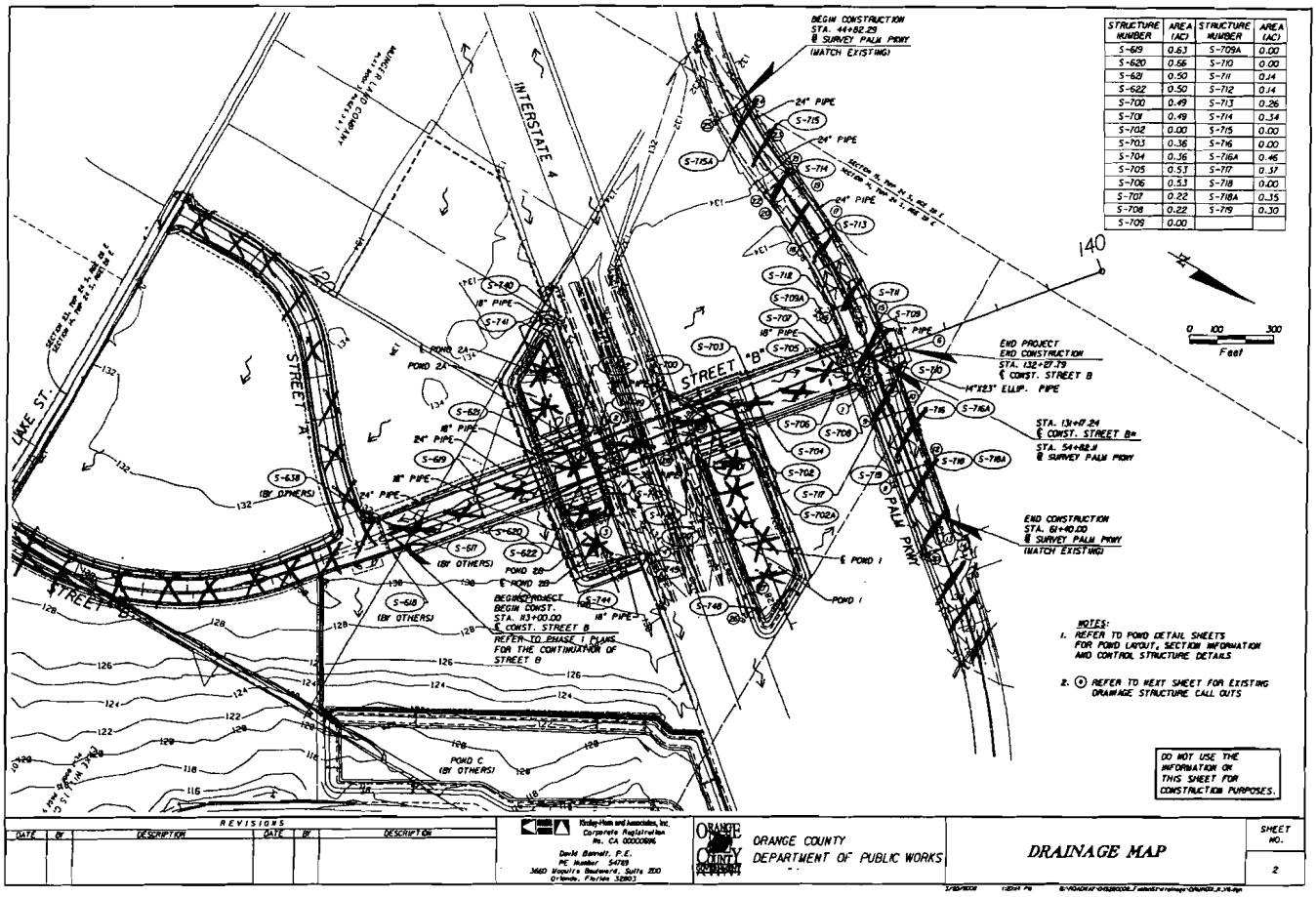


END BRIDGE
STA. 124+60.00
℄ CONST. STREET B

N

BEGIN PROJECT
BEGIN CONSTRUCTION
STA. 113+00.00
℄ CONST. STREET B

BEGIN BRIDGE
STA. 120+40.00
℄ CONST. STREET B



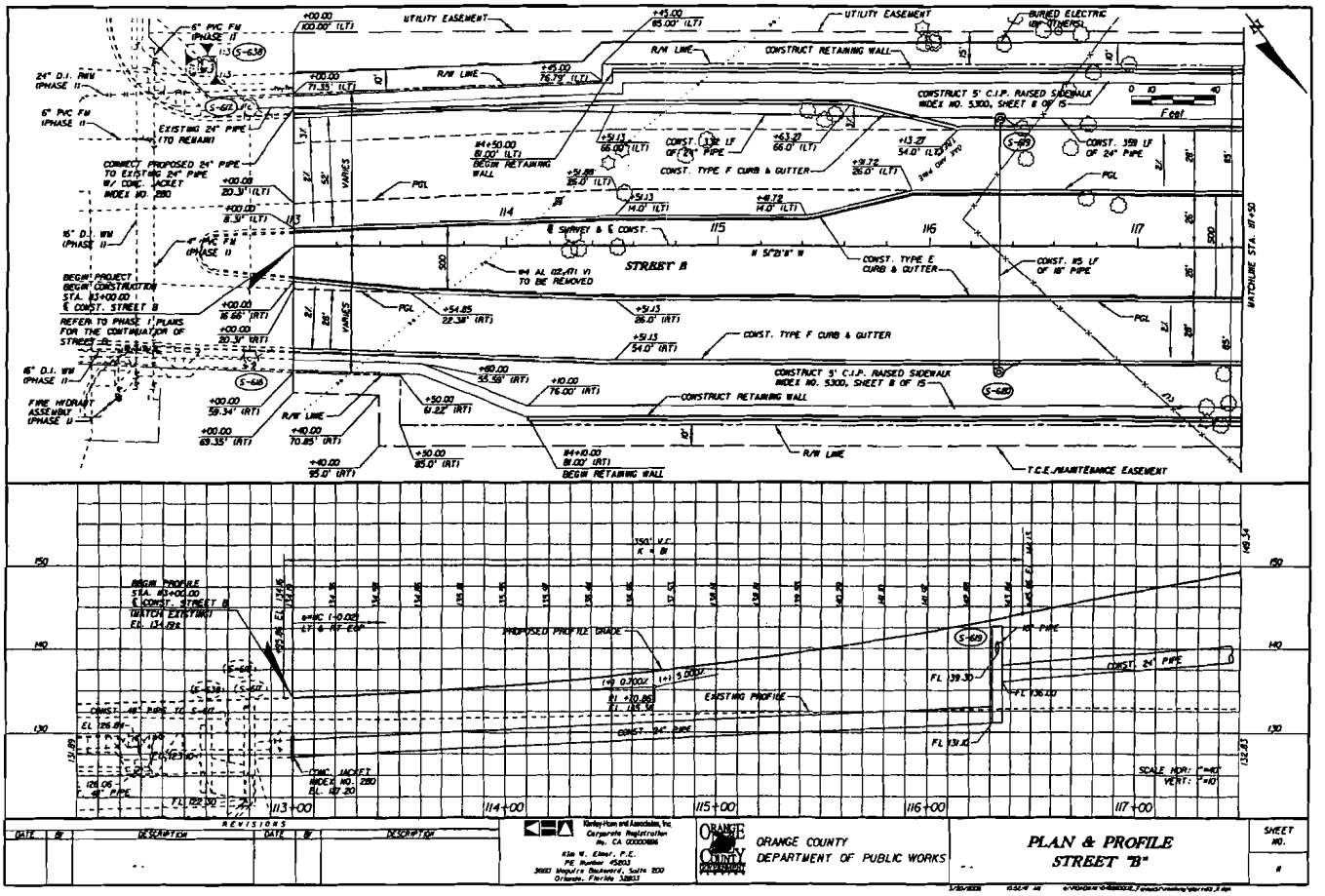
STRUCTURE NUMBER	AREA (AC)	STRUCTURE NUMBER	AREA (AC)
S-619	0.63	S-709A	0.00
S-620	0.56	S-710	0.00
S-621	0.50	S-711	0.14
S-622	0.50	S-712	0.14
S-700	0.49	S-713	0.26
S-701	0.49	S-714	0.34
S-702	0.00	S-715	0.00
S-703	0.36	S-716	0.00
S-704	0.36	S-716A	0.46
S-705	0.53	S-717	0.37
S-706	0.53	S-718	0.00
S-707	0.22	S-718A	0.35
S-708	0.22	S-719	0.30
S-709	0.00		

XX - Existing Previously Permitted.

+ + - STREET B This Modification

** - I-4 Pond Modification (App 080205-41)

/// - Palm Parkway Modification (App No. 080603-24)



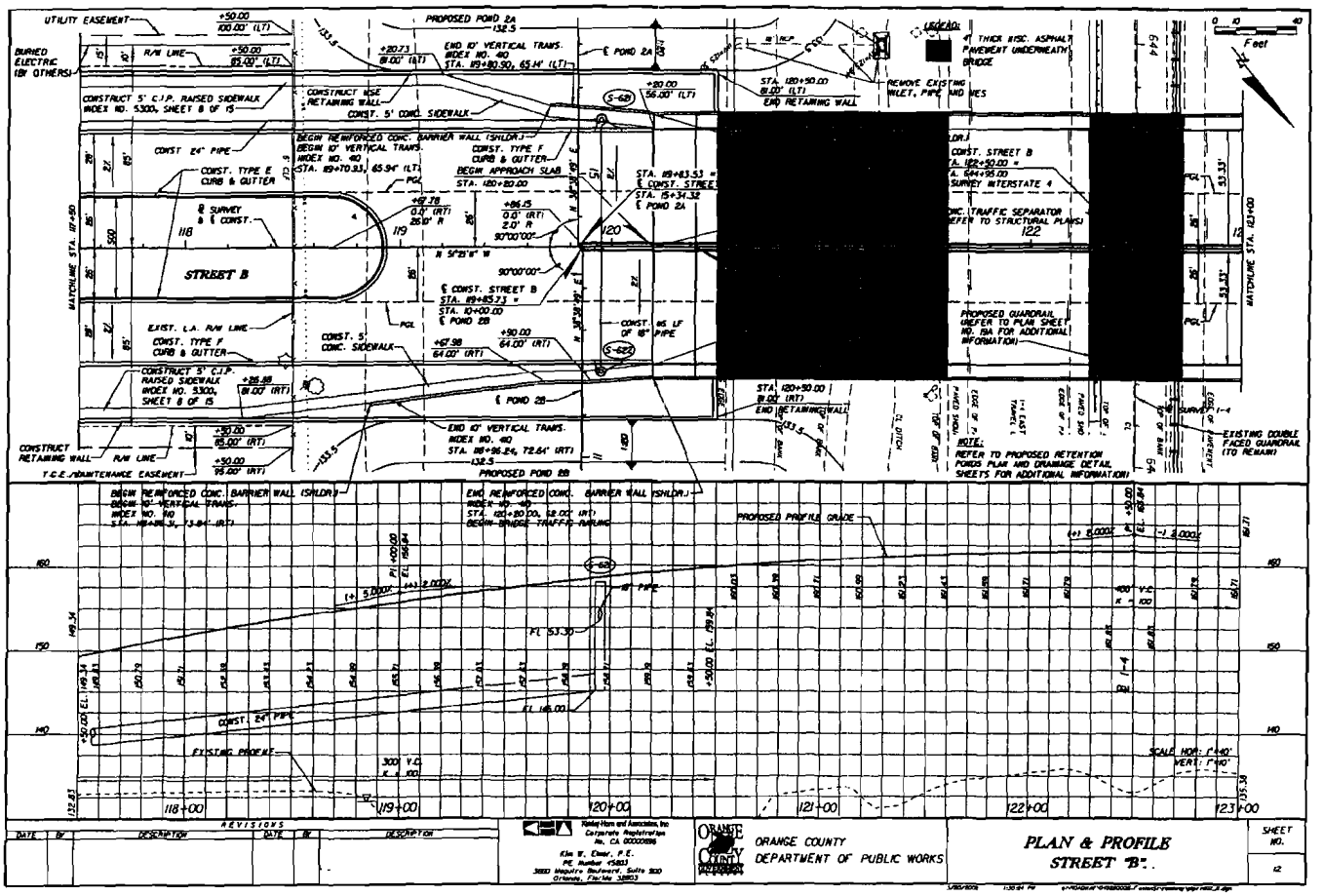
REVISIONS				
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

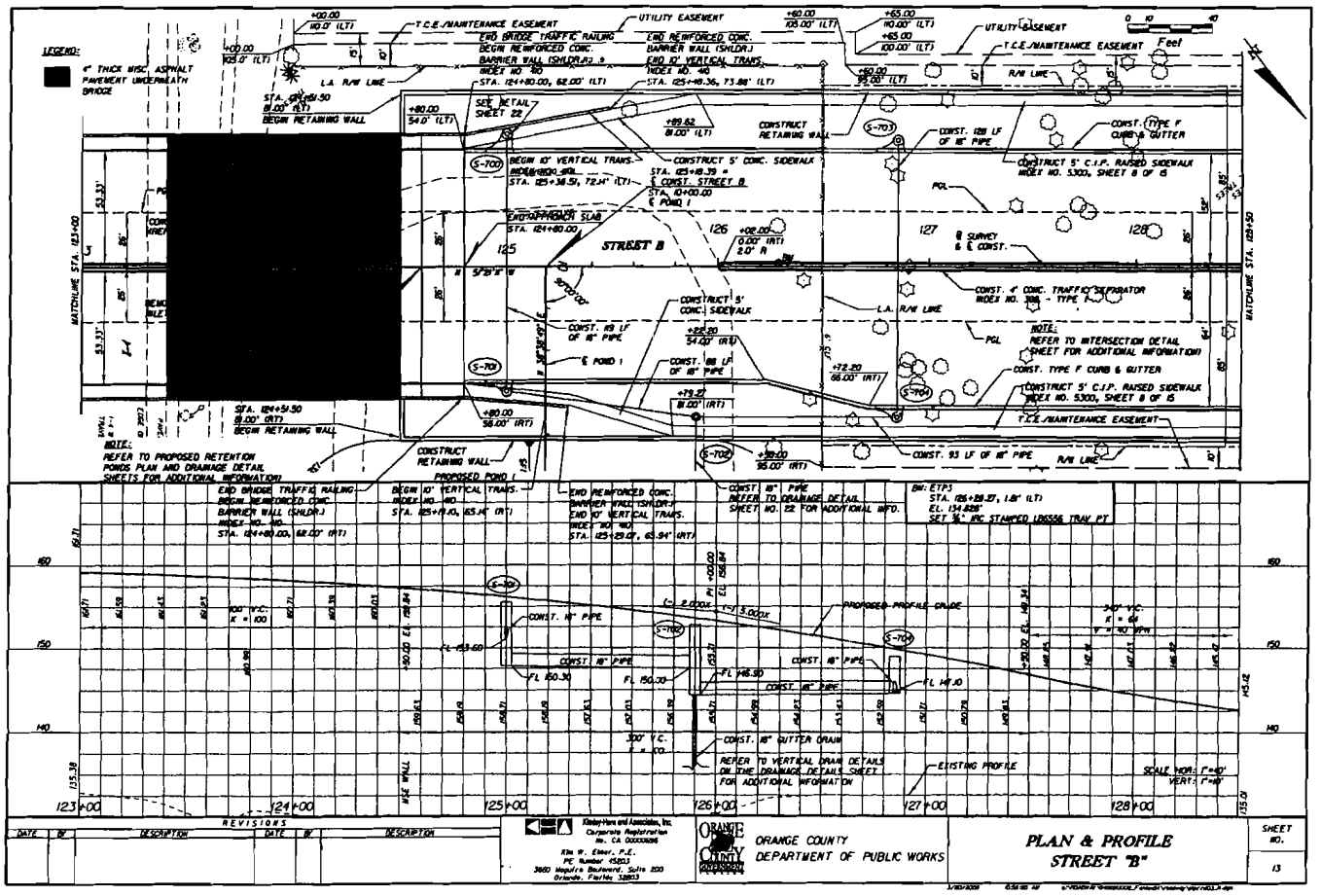
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000096
Kim W. Ebner, P.E.
PE Number #52803
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

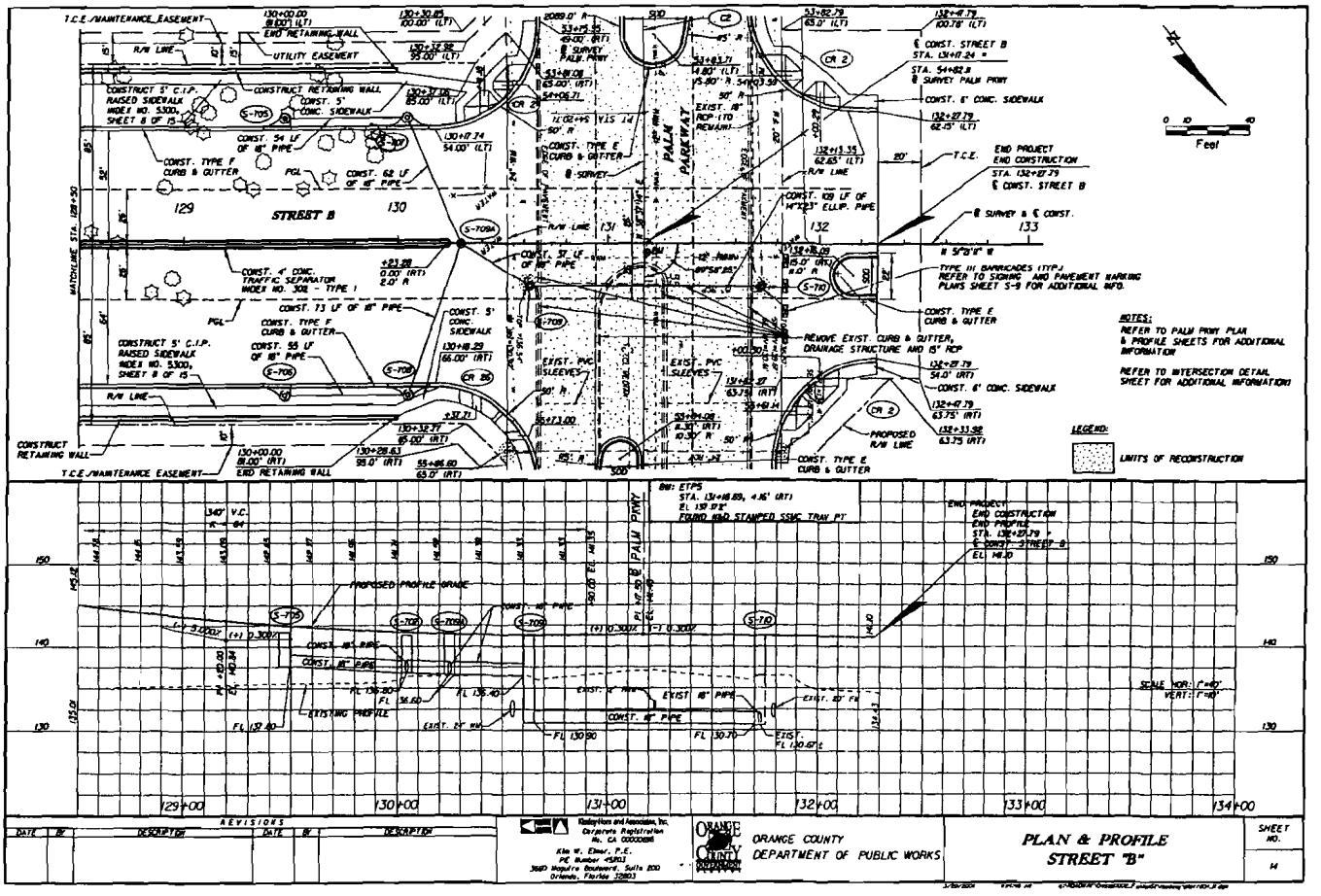
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE
STREET "B"

SHEET NO. 8


PLAN & PROFILE
STREET "B".
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS
SHEET NO.
12
REVISIONS
DATE
BY
DESCRIPTION
STREET B
PROPOSED POND 2A
PROPOSED POND 2B
PROPOSED PROFILE GRADE
SCALE HOR: 1"=40'
VERT: 1"=10'
118+00
119+00
120+00
121+00
122+00
123+00


LEGEND:
4" THICK MISC. ASPHALT PAVEMENT UNDERNEATH BRIDGE
STREET B
PROPOSED POND 1
NOTE: REFER TO PROPOSED RETENTION PONDS PLAN AND DRAINAGE DETAIL SHEETS FOR ADDITIONAL INFORMATION
NOTE: REFER TO INTERSECTION DETAIL SHEET FOR ADDITIONAL INFORMATION
REFER TO DRAINAGE DETAIL SHEET NO. 22 FOR ADDITIONAL INFO.
REFER TO VERTICAL DRAIN DETAILS ON THE DRAINAGE DETAILS SHEET FOR ADDITIONAL INFORMATION
PROPOSED PROFILE GRADE
EXISTING PROFILE
SCALE: HOR.: 1"=40' VERT.: 1"=10'
REVISIONS
DATE
BY
DESCRIPTION
Kimley-Horn and Associates, Inc.
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS
PLAN & PROFILE STREET "B"
SHEET NO.
13


STREET B
PALM PARKWAY
CONSTRUCT RETAINING WALL
CONSTRUCT 5' C.I.P. RAISED SIDEWALK WIDE II NO. 5300, SHEET 8 OF 15
CONST. 5' CONC. SIDEWALK
CONST. TYPE F CURB & GUTTER
CONST. TYPE E CURB & GUTTER
CONST. 4' CONC. TRAFFIC SEPARATOR WIDE II NO. 308 - TYPE I
CONST. 73 LF OF 18" PIPE
CONST. 55 LF OF 18" PIPE
CONST. 54 LF OF 18" PIPE
CONST. 62 LF OF 18" PIPE
CONST. 57 LF OF 18" PIPE
CONST. 109 LF OF 14"x23" ELLIP. PIPE
EXIST. 18" RCP (TO REMAIN)
EXIST. PVC SLEEVES
REMOVE EXIST. CURB & GUTTER, DRAINAGE STRUCTURE AND 15" RCP
TYPE III BARRICADES (TYP.) REFER TO SIGNING AND PAVEMENT MARKING PLANS SHEET S-9 FOR ADDITIONAL INFO.
T.C.E./MAINTENANCE EASEMENT
UTILITY EASEMENT
R/W LINE
PROPOSED R/W LINE
END RETAINING WALL
END PROJECT END CONSTRUCTION STA. 132+27.79 ℄ CONST. STREET B
℄ SURVEY & ℄ CONST.
NOTES:
REFER TO PALM PKWY PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION
REFER TO INTERSECTION DETAIL SHEET FOR ADDITIONAL INFORMATION
LEGEND:
LIMITS OF RECONSTRUCTION
0 10 40
Feet
PROPOSED PROFILE GRADE
EXISTING PROFILE
CONST. 48" PIPE
EXIST. 48" PIPE
EXIST. 24" RCP
EXIST. 30" RCP
EXIST. 20" PIPE
EXIST. 18" RCP
EXIST. 24" RCP
EXIST. 30" RCP
EXIST. 36" RCP
EXIST. 42" RCP
EXIST. 48" RCP
EXIST. 54" RCP
EXIST. 60" RCP
EXIST. 66" RCP
EXIST. 72" RCP
EXIST. 78" RCP
EXIST. 84" RCP
EXIST. 90" RCP
EXIST.

STAFF REPORT DISTRIBUTION LIST

WILDWOOD AREA ROADWAY NETWORK ROAD "B"

Application No: 070307-6

Permit No: 48-01583-P

INTERNAL DISTRIBUTION

X Alan L. Leavens - 2250
X Nicole Gough - 2250
X Marc S. Ady - 2250
X Mark S. Daron, P.E. - 1640
X A. Lee - 6850
X ERC Engineering - 6850
X ERC Environmental - 6850
X Permit File

EXTERNAL DISTRIBUTION

X Permittee - Orange County Public Works Department
X Engr Consultant - Kimley Horn & Associates Inc

GOVERNMENT AGENCIES

X Div of Recreation and Park - District 6 - FDEP
X Florida Department of Environmental Protection
X Orange County - Environmental Protection Division
X Orange County - Public Utilities Division
X Orange County Engineer Public Works Division Dvlpmnt Engineering Dept.

OTHER INTERESTED PARTIES

X Sierra Club - Central Florida Group P.O. Box 941692

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 • www.sfwmd.gov/orlando/

Regulation Department
Application No. 070307-6
Permit No. 48-01583-P

April 18, 2007

Mr. Herman D. Tirado, P.E.
Kimley-Horn and Associates, Inc.
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

Subject: **Request for Additional Time to Respond,**
Widlwood Area Road Network, ~~Phase 2~~ (ROAD) B
Orange County, S14/T24S/R28E

Dear Mr. Tirado:

District staff has reviewed your letter of April 11, 2007. Your request has been approved and your response should be submitted to the District prior to December 15, 2007. All questions in our letter of March 15, 2007 remain to be addressed. If you have any questions please call me at 858-6100 Ext. 3812.

Sincerely,

Alan Leavens
Staff Engineer
Orlando Service Center

AL/che

GOVERNING BOARD

Kevin McCarty, *Chair*
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Miya Burt-Stewart
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Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

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Carol Ann Wehle, *Executive Director*

bc: Alan Leavens
Nicole Simotes
Reader File
Backup File

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 • www.sfwmd.gov/orlando/

Regulation Department
Application No. 070307-6
Permit No. 48-01583-P

March 15, 2007

Mr. Herman D. Tirado, P.E.
Kimley-Horn & Associates, Inc.
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

Subject: **Wildwood Area Roadway Network, ~~Phase 2,~~ ROAD B**
Orange County, S14/T24S/R28E

Dear Mr. Tirado:

South Florida Water Management District (SFWMD) staff has completed a preliminary review of the Wildwood Area Roadway Network, Phase 2 construction application. Pursuant to Rule 40E-40, Florida Administrative Code (FAC), and as discussed in our telephone conversation of March 14, 2007, the SFWMD is requesting the following information needed to complete the application.

1. This application needs to be revised to reflect the correct Permit No. 48-01583-P, which is the permit for the Wildwood Area Roadway Network. The acreage for the application will need to be revised to reflect the area of the roadway only up to the right-of-way of Palm Parkway.

2. A second application for a permit modification to Permit No. 48-01243-P (I-4 Widening) will need to be submitted. This application will need to be from Florida Department of Transportation (FDOT), since the ponds being modified were permitted to FDOT. The application should reflect FDOT as the owner, and the entity to receive the permit even if Orange County will be performing the construction. The acreage of this modification will be limited to the area of the proposed pond construction only. The permit processing fee for this application will be $1000.00.

3. And finally a third application for a permit modification to Permit No. 48-00963-P (Palm Parkway) will need to be submitted. This application for the modification to a portion of existing Palm Parkway may be able to be processed as a letter modification, since the revisions to the road and drainage system are limited to raising the road elevation and raising inlet tops with no changes proposed in the existing water management system. The acreage for this application will be limited

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Miya Burt-Stewart
Alice J. Carlson
Michael Collins
Nicolás J. Gutiérrez, Jr., Esq.
Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

to the area of the road revisions only. The permit processing fee for the letter modification if applicable will be $100.00. Please be advised that because of the inseparable nature of these applications all three modifications will be processed concurrently and neither application will be considered complete until all are complete and can be issued concurrently.

4. Based on the submitted information, it appears that dewatering operations may be performed as part of this project. Chapter 373 of the Florida Statutes requires that a Water Use Permit be obtained for dewatering activities. If the applicant is proposing dewatering activities under the District's "No-Notice" authorization, please address the following criteria, in addition to the Conditions of Issuance in Rule 40E-20.301, F.A.C., and the "No-Notice" requirements in Rule 40E20.302(3), F.A.C.
   a) Will retain all discharge on the project site. No off-site discharge is authorized under "No-Notice" dewatering.
   b) Will not dewater to a depth below 0.0 feet NGVD within 1000 feet of saline water, except when dewatering saline water, as defined in Chapter 1 of the Basis of Review Volume III.
   c) Will not occur within 100 feet of wastewater treatment plant rapid-rate land application system permitted under Chapter 62-610, F.A.C.
   d) Will not occur within one mile of a known landfill or contamination.
   e) Will not occur within 1000 feet of a wetland.

   If the applicant is proposing dewatering that does not fit the "No-Notice" requirements, a Water Use Permit must be obtained for dewatering activities. Please submit a Water Use (dewatering) application for the activities proposed (if applicable).

   If a Water Use Permit is required, it will be handled concurrently with the ERP application. The ERP application will not be considered complete until the Water Use (dewatering) permit is deemed complete.

5. Please amend the water quality calculations to clearly show the required water quality treatment for the I-4 contributing area and the required water quality for the Wildwood roadway drainage area as separate elements; and then the combined treatment volume provided in the modified ponds.

6. The construction plans, drainage report, and land use tables should be divided to reflect only the construction and or other information associated with the respective permit modifications.

Advisory Comment: The following comment is advisory in nature and does not require a response to the District. Included with this letter/permit is a brochure from the Florida

Department of Environmental Protection (DEP) on Florida's National Pollutant Discharge Elimination System (NPDES) program for construction activities.

As the brochure indicates, the U.S. Environmental Protection Agency authorized the DEP in October 2000 to implement the NPDES stormwater permitting program in Florida. The District is assisting DEP by distributing this information to entities which may be subject to regulation under the NPDES program. No response to the District is required.

A "Generic Permit for Stormwater Discharge For Stormwater Discharge from Large and Small Construction Activities (CGP) is required for a construction activity which contributes stormwater discharges to surface waters of the State or into a municipal separate storm sewer system. Phase I regulates "large" construction activity (disturbing five or more acres of total land area) and Phase II regulates "small" construction activity (disturbing between 1 and 5 acres of total land area).

The permit required under DEP's NPDES stormwater permitting program is separate from the Environmental Resource Permit required by the District. Receiving a permit from the District does not exempt you from meeting the NPDES program requirements.

If you have any questions on the NPDES program, there are DEP phone numbers, mailing addresses and internet web page addresses in the brochure. The DEP web site, at www.dep.state.fl.us/water/stormwater/npdes/, provides information associated with the NPDES program including all regulations and forms cited in the brochure.

In accordance with Rule 40E-1.603(1)(b) FAC, if the requested information is not received within 90 days of the date of this letter, this application may be processed for denial, if not withdrawn by the applicant. Please use the attached transmittal form and **submit THREE copies of the requested information** to the Orlando Service Center and **include additional copies of your cover letter**. Also, in order to process your application as quickly as possible; **please collate your response into separate complete packages**.

If you have any questions please call Nicole Simotes or me at (407) 858-6100.

Sincerely,

Alan Leavens
Staff Engineer
Orlando Service Center

AL/che

Attachments

c: Orange County Development Engineering Department (w/o attachments)

bc: Alan Leavens
Nicole Simotes
Backup File
Reader File

Kimley-Horn
and Associates, Inc.

3660 Maguire Boulevard
Suite 200
Orlando, FL 32803
Tel. 407 898-1511
Fax 407 894-4791

April 11, 2007

Mr. Alan Leavens
South Florida Water Management District
1707 Orlando Central Parkway, Suite 200
Orlando, Fl 32809

Re: **Wildwood Roadway Area Network – Phase II**
Application No. 070307-6
Permit No. 48-01583-P
Orange County, S14/T24S/R28E

Dear Mr. Leavens:

The purpose of this letter is to request for an extension on responding to the request for additional information regarding the abovementioned project. We are coordinating with FDOT and will finalize our plans to FDOT in about 2 to 3 months. Upon FDOT review of our 90% plans submittal, we will follow up with the South Florida Water Management District permit modification for I-4 as per your letter dated March 15th, 2007.

If you have any questions or further comments, please feel free to contact us immediately.

KIMLEY-HORN AND ASSOCIATES, INC.

Herman D. Tirado, P.E.
Senior Engineer

cc: Mr. Hao Chau, KHA Orlando
Mr. Jay Jackson, KHA Orlando
Ms. Emily Brown, Maury Carter & Associates, Inc.

RECEIVED
APR 13 2007
ORLANDO SERVICE CENTER

COMPONENTS OF CONTRACT PLANS SET

ROADWAY PLANS
SIGNING AND PAVEMENT MARKING PLANS
SIGNALIZATION PLANS
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)
LIGHTING
STRUCTURAL PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

APP# 070307-6

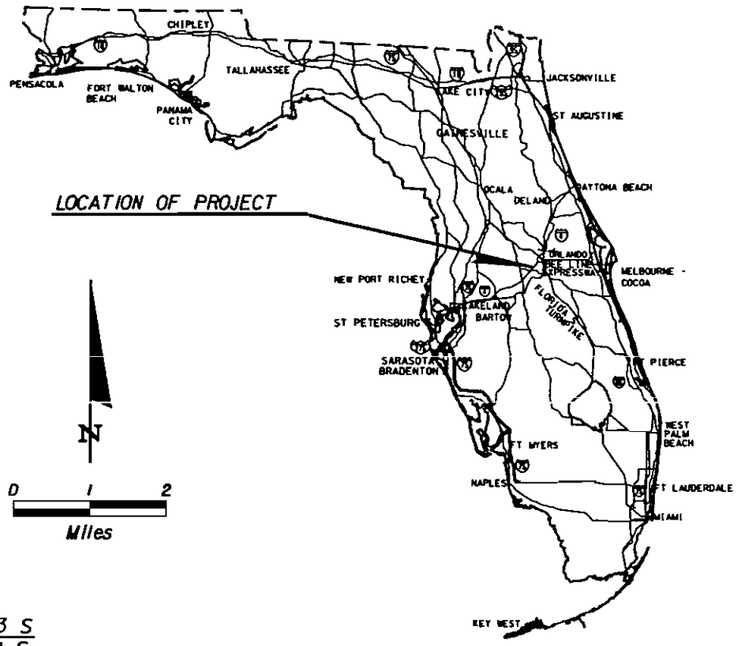
ADDITIONAL INFORMATION

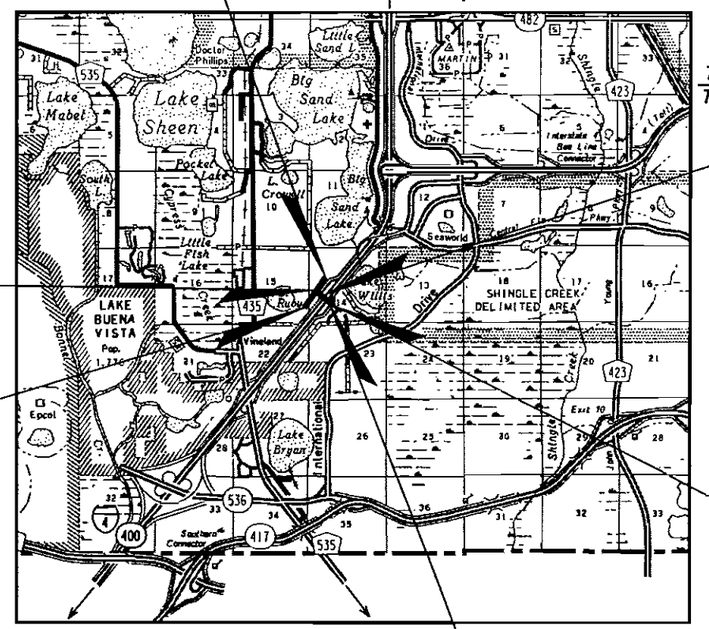
AUG 13 2008

ORLANDO SERVICE CENTER

CONSTRUCTION PLANS FOR WILDWOOD AREA ROAD NETWORK DISTRICT NO. 1 ORANGE COUNTY, FLORIDA

PHASE II





END CONSTRUCTION
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℄ SURVEY PALM PARKWAY

END PROJECT
END CONSTRUCTION
STA. 132+27.79
℄ CONST. STREET B

BEGIN CONSTRUCTION
STA. 44+82.29
℄ SURVEY PALM PARKWAY

END BRIDGE
STA. 124+60.00
℄ CONST. STREET B

BEGIN PROJECT
BEGIN CONSTRUCTION
STA. 113+00.00
℄ CONST. STREET B

BEGIN BRIDGE
STA. 120+40.00
℄ CONST. STREET B

To Lokeland

To Kissimmee

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:
KIMLEY-HORN AND ASSOCIATES, INC.
KIM W. ELMER, P.E.
3660 MAGUIRE BOULEVARD
SUITE 200
ORLANDO, FLORIDA 32803

PLANS PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.
CONSULTING ENGINEERS AND PLANNERS
3660 MAGUIRE BOULEVARD
SUITE 200
ORLANDO, FLORIDA 32803
TEL: (407) 898-1511
FAX: (407) 894-4791
Board Registration No. CA 00000696
Vendor No. 56-0885615
Contract No. C-7670

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2 - 3	DRAINAGE MAP
4 - 5	TYPICAL SECTIONS
6, 6A	SUMMARY OF DRAINAGE STRUCTURES
7	DRAINAGE STRUCTURES
8	GENERAL NOTES
9	PROJECT LAYOUT
10	REFERENCE POINTS
11 - 18	ROADWAY PLAN & PROFILE
19	INTERSECTION DETAIL
19A	PLAN - INTERSTATE 4
20 - 22, 22A	DRAINAGE DETAILS
23 - 25	PROPOSED RETENTION PONDS
26 - 33	POND CROSS SECTIONS
34	ROADWAY SOIL SURVEY
35 - 36	REPORT OF AUGER BORINGS FOR ROADWAY
37 - 53	ROADWAY CROSS SECTIONS
54-85, 85A, 85B, 86, 86A, 87-91, 91A, 92, 92A, 93-97, 97A	TRAFFIC CONTROL PLANS

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS DATED 2004, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2007, AS AMENDED BY CONTRACT DOCUMENTS.

ORANGE COUNTY BENCHMARKS USED

- O.C. B.M. DESIGNATED: L-665-002
  ELEVATION: 124.552
  DESCRIPTION: 2" ORANGE COUNTY CONTROL BRASS DISK STAMPED "L-665-002" IN NORTHERLY CORNER OF SIGN BASE

- O.C. B.M. DESIGNATED: L-665-004
  ELEVATION: 108.447
  DESCRIPTION: 2" ORANGE COUNTY CONTROL BRASS DISK STAMPED "L-665-004" IN NORTHERLY CORNER OF DROP INLET.

BOARD OF COUNTY COMMISSIONERS

RICHARD T. CROTTY	MAYOR
TERESA S. JACOBS	DISTRICT 1
FRED BRUMMER	DISTRICT 2
MILDRED FERNANDEZ	DISTRICT 3
LINDA STEWART	DISTRICT 4
BILL SEGAL	DISTRICT 5
TIFFANY MOORE RUSSELL	DISTRICT 6

MARK V. MASSARO — PUBLIC WORKS DIRECTOR

PROJECT LENGTH IS BASED ON ℄ CONSTRUCTION

LENGTH OF PROJECT

	LINEAR FEET	MILES
ROADWAY	1,495.76	0.283
BRIDGES	420.00	0.080
NET LENGTH OF PROJECT	1,915.76	0.363
EXCEPTIONS	N/A	N/A
GROSS LENGTH OF PROJECT	1,915.76	0.363

KEY SHEET REVISIONS

DATE	BY	DESCRIPTION

CERTIFICATION TO PLANS

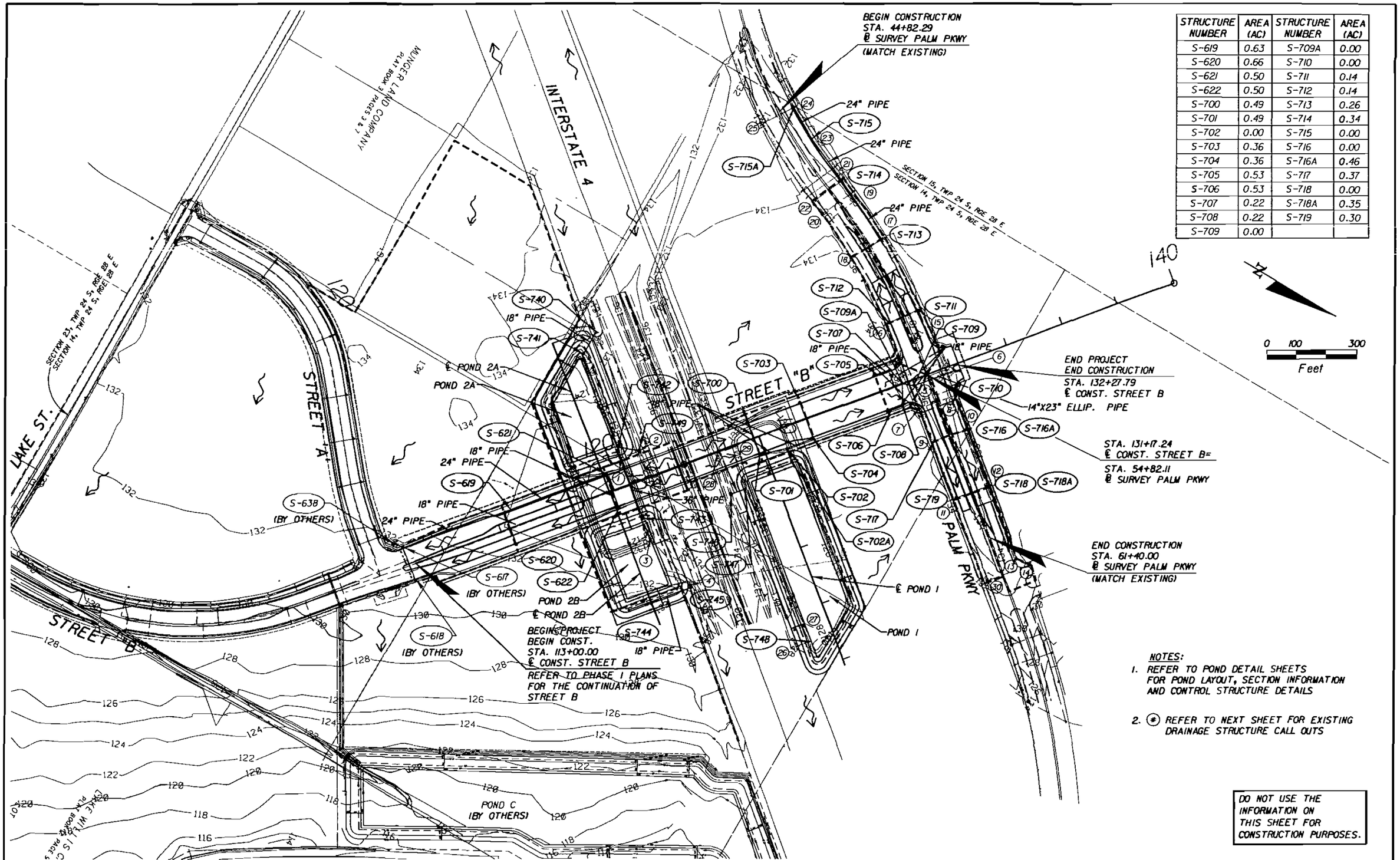
I HEREBY CERTIFY THAT THE DESIGN FOR THIS PROJECT AND THE ATTACHED CONSTRUCTION PLANS COMPLY WITH THE REQUIREMENTS OF SECTION 336.045 OF THE FLORIDA STATUTES AND ARE IN SUBSTANTIAL CONFORMANCE WITH THE STANDARDS CONTAINED IN THE EDITION OF THE "MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS" IN EFFECT ON THIS DATE AS ADOPTED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION PURSUANT TO SUBSECTION 336.045(1) OF THE FLORIDA STATUTES.

ROADWAY PLANS
ENGINEER OF RECORDS: _____ DATE:
KIM W. ELMER, P.E.
P.E. NO.: 45297

DRAINAGE PLANS
ENGINEER OF RECORDS: _____ DATE: 3/13/08
DAVID BENNETT, P.E.
P.E. NO.: 57769

SHEET NO. 1

3/18/2008 5:25:52 PM q:\ROADWAY\049280002_FentonSt\Roadway\keysrd01_N.dgn



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S-701	0.49	S-714	0.34
S-702	0.00	S-715	0.00
S-703	0.36	S-716	0.00
S-704	0.36	S-716A	0.46
S-705	0.53	S-717	0.37
S-706	0.53	S-718	0.00
S-707	0.22	S-718A	0.35
S-708	0.22	S-719	0.30
S-709	0.00		

NOTES:

1. REFER TO POND DETAIL SHEETS FOR POND LAYOUT, SECTION INFORMATION AND CONTROL STRUCTURE DETAILS
2. (*) REFER TO NEXT SHEET FOR EXISTING DRAINAGE STRUCTURE CALL OUTS

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE MAP

SHEET NO. 2

3/20/2008 1:20:14 PM Q:\ROADWAY\049280002_FentonSt\drainage\DRMRD01_N_V8.dgn

(1) CATCH BASIN
18" RCP = INV. 125.30

(2) CATCH BASIN
18" RCP = INV. 125.94

(3) CATCH BASIN
18" RCP = INV. 129.00

(4) MES
18" RCP = INV. 127.96

(5) CURB INLET △
TOP = 136.54
15" RCP = NW INV. 130.92

(6) CURB INLET △
TOP = 136.57
15" RCP = SE INV. 130.61
18" RCP = SW INV. 130.67

(7) MH
TOP = 136.42
24" RCP = NW INV. 131.71

(8) MH
TOP = 136.41
24" RCP = SE INV. 131.36

(9) CURB INLET △
TOP = 135.85
15" RCP = NW INV. 130.55

(10) CURB INLET △
TOP = 135.98
15" RCP = SE INV. 129.48
18" RCP = NE INV. 129.40

(11) CURB INLET △
TOP = 135.36
15" RCP = NW INV. 129.42

(12) CURB INLET △
TOP = 135.31
15" RCP = SE INV. 128.09
18" RCP = NE INV. 128.26
18" RCP = SW INV. 128.22

(13) MH
TOP = 133.28
18" RCP = SW INV. 123.28
18" RCP = NW INV. 121.51

(14) MH
TOP = 131.57
18" RCP = SSE INV. 121.21
15" RCP = SE INV. 121.42
24" RCP = NE INV. 121.21

(15) CURB INLET △
TOP = 137.34
18" RCP = SW INV. 129.77
15" RCP = SE INV. 131.01
18" RCP = NE INV. 129.81

(16) CURB INLET △
TOP = 137.32
15" RCP = NW INV. 131.76

(17) CURB INLET ▽
TOP = 136.90
15" RCP = SW INV. 128.96
18" RCP = SE INV. 132.71
18" RCP = NE INV. 129.01

(18) CURB INLET
TOP = 136.94
15" RCP = NW INV. 133.24

(19) MH
TOP = 134.11
36" RCP = SE INV. 124.64

(20) MH
TOP = 134.90
36" RCP = NW INV. 124.90

(21) CURB INLET *
TOP = 136.28
18" RCP = SW INV. 128.40
15" RCP = SE INV. 131.89
18" RCP = NE INV. 128.45

(22) CURB INLET
TOP = 136.44
15" RCP = NW INV. 132.70

(23) MH *
TOP = 135.42
18" RCP = SW INV. 127.79
18" RCP = NE INV. 127.82

(24) CURB INLET *
TOP = 134.88
18" RCP = SW INV. 127.27
15" RCP = SE INV. 127.35
18" RCP = NE INV. 127.25

(25) CURB INLET
TOP = 135.05
15" RCP = NW INV. 127.92

(26) MES
18" RCP = INV. 126.98

(27) CATCH BASIN
18" RCP = INV. 127.42

(28) CATCH BASIN
18" RCP = INV.

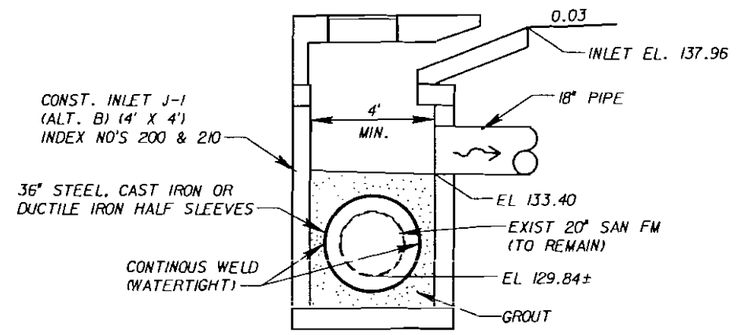
(29) MES
18" RCP = INV. 126.70

(30) CURB INLET △
TOP = 132.87
15" RCP = NW INV. 126.93

LEGEND:

* REMOVE EXIST. STRUCTURE AND PIPE, SEE PLANS.
△ REMOVE EXIST. STRUCTURE TOP, SEE PLANS.
▽ REMOVE EXIST. STRUCTURE TOP AND PORTION OF EXIST PIPES, SEE PLANS.

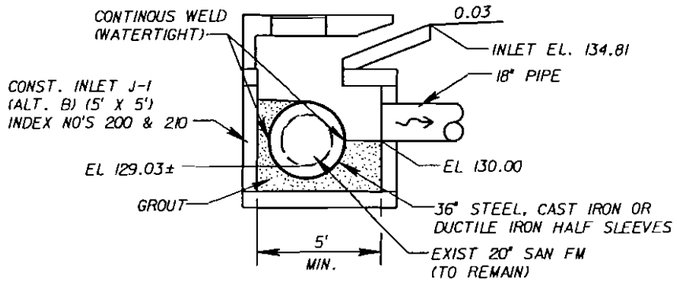
EXISTING DRAINAGE STRUCTURES



UTILITY CONFLICT STRUCTURE DETAIL
N.T.S.

S-716A

STA. 57+02.71 (66.00' LT)
℄ PALM PARKWAY



UTILITY CONFLICT STRUCTURE DETAIL
N.T.S.

S-718A

STA. 59+05.98 (66.00' LT)
℄ PALM PARKWAY

UTILITY CONFLICT STRUCTURE DETAILS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

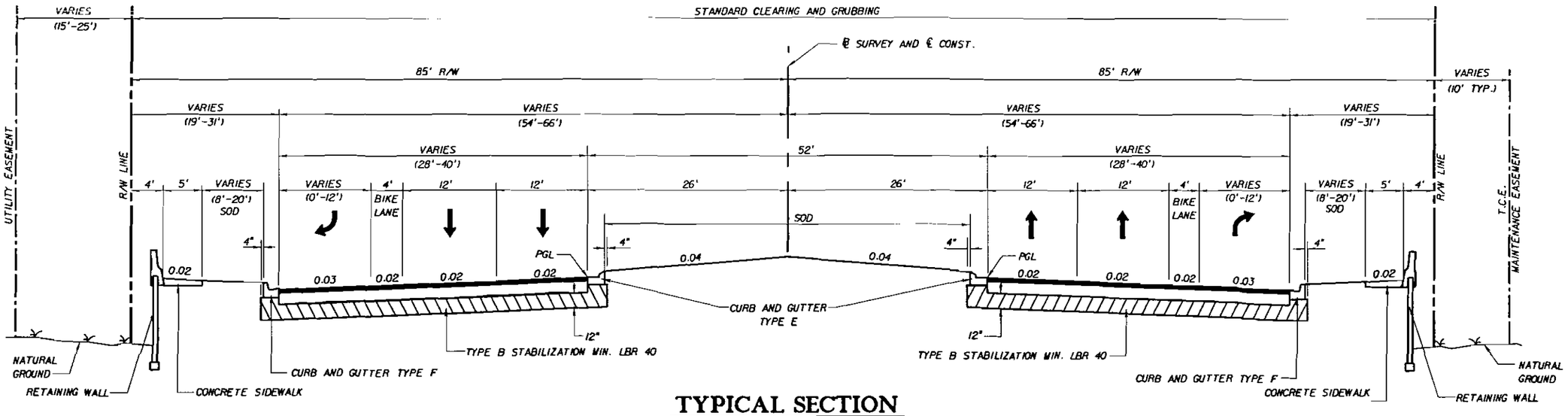
Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE MAP

SHEET NO. 3

1/31/2008 11:31:20 AM Q:\ROADWAY\049280002_FentonSt\drainage\DRWR002_N_V8.dgn



TYPICAL SECTION

STREET B

STA. 113+00.00 TO STA. 114+51.13 (℄ CONST.) (NOT TYPICAL - IN TRANSITION)
STA. 114+51.13 TO STA. 120+20.00 (℄ CONST.)
STA. 124+80.00 TO STA. 130+33.01 (℄ CONST.)
STA. 130+17.74 TO STA. 132+27.79 (NOT TYPICAL - IN INTERSECTION)
REFER TO PLAN & PROFILE SHEETS FOR LOCATIONS OF AUXILIARY LANES AND TRAFFIC SEPARATORS

NEW CONSTRUCTION

12" TYPE B STABILIZATION MIN. LBR 40
12" SOIL CEMENT BASE COURSE (MIN. 300 PSI)
3 ½" TYPE S STRUCTURAL COURSE
AND 1" FRICTION COURSE FC-3 (RUBBER)
DESIGN SPEED = 40 MPH

STREET B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

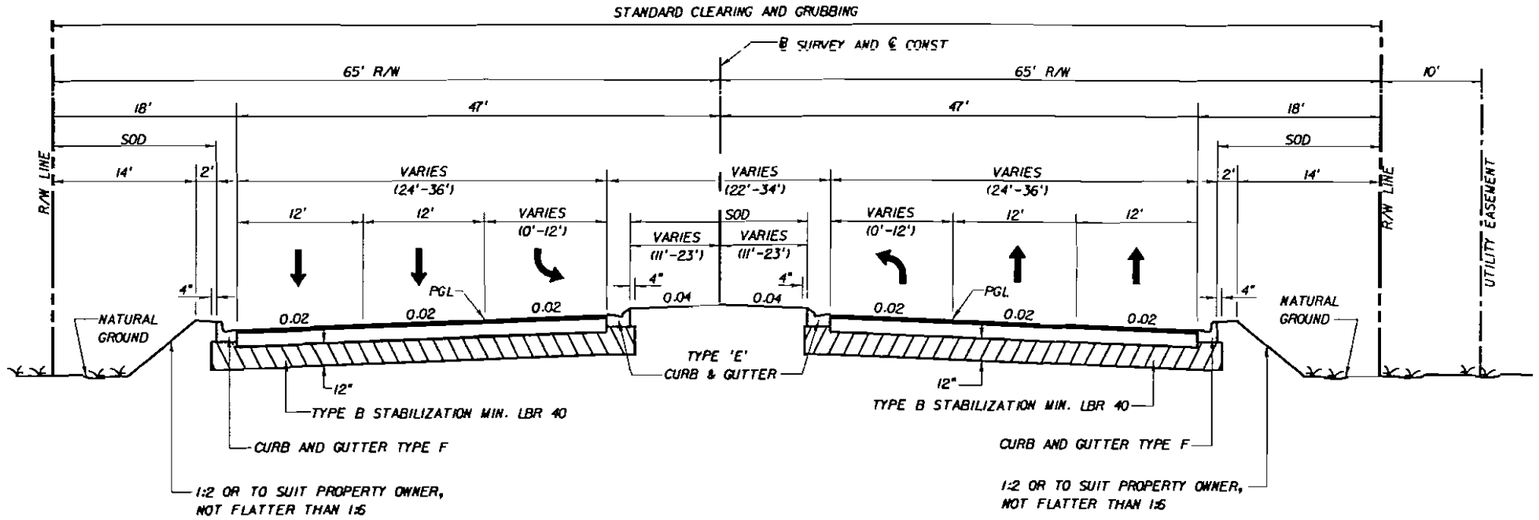
Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTIONS

SHEET NO. 4

1/24/2008 2:12:41 PM q:\ROADWAY\049280002_FentonSt\roadway\Typsec02_N.dgn



TYPICAL SECTION

PALM PARKWAY

STA. 51+20.00 TO STA. 59+57.50 (℄ SURVEY)
STA. 53+91.91 TO STA. 55+83.07 (NOT TYPICAL - IN INTERSECTION)
STA. 48+96.74 TO STA. 51+20.00 AND STA. 59+57.50 TO STA. 61+40.00 (REFER TO PLAN & PROFILE SHEETS FOR WIDENING TO EXTEND EXISTING AUXILIARY LANES.

NEW CONSTRUCTION

12" TYPE B STABILIZATION MIN. LBR 40
12" SOIL CEMENT BASE COURSE (MIN. 300 PSI)
3 ½" TYPE S STRUCTURAL COURSE
AND 1" FRICTION COURSE FC-3 (RUBBER)
DESIGN SPEED = 45 MPH

PALM PARKWAY

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTIONS

SHEET NO. 5

12/19/2007 8:22:39 AM Q:\ROADWAY\049280002_FentonSt\roadway\Typsrd03_N.dgn

QTY	STR. NO.	STATION	SIDE	DESC.	BARL	PIPE LENGTH FT	PIPE SIZE IN.	STORM SEWER RCP ROUND 15"	ROUND 18"	ROUND 24"	ROUND 36"	ELLIP. 14" X 23"	CURB INLETS P-1 <10	P-1 >10	P-1 PARTIAL	P-2 <10	J-1 <10	DBI C <10	DBI C MOD <10	DBI E <10	MANHOLES P-8 <10	P-8 >10	P-8 PARTIAL	M.E.S. 18"	M.E.S. 36"	RUBBLE RIP RAP (TONS)	REMARKS
P	S-619	116+33	LT	INLET, PIPE	1	332	24			332			1														
F																											
P	S-620	116+33	RT	INLET, PIPE	1	115	18		115				1														
F																											
P	S-621	119+95	LT	INLET, PIPE	1	359	24			359				1													
F																											
P	S-622	119+95	RT	INLET, PIPE	1	116	18		116				1														
F																											
P	S-700	125+00	LT	INLET, PIPE	1	119	18		119				1														
F																											
P	S-701	125+00	RT	INLET, PIPE	1	88	18		88				1														
F																											
P	S-702	125+90	RT	MH, PIPE	1	21	18		21												1						INCLUDES APPROX. 36 LF OF FLANGE D.I.P., DUCTILE IRON ELBOW, CONC.
F																											THRUST BLOCK, CONC. JACKET & 30 TN OF RUBBLE RIP-RAP (SEE SHT 22)
P	S-702A	11+14	LT	MES	1																			1		30	1:4, ℄ POND 1
F																											
P	S-703	126+85	LT	INLET, PIPE	1	128	18		128				1														
F																											
P	S-704	126+85	RT	INLET, PIPE	1	93	18		93				1														
F																											
P	S-705	129+47	LT	INLET, PIPE	1	54	18		54				1														
F																											
P	S-706	129+47	RT	INLET, PIPE	1	55	18		55				1														
F																											
P	S-707	130+04	LT	INLET, PIPE	1	62	18		62							1											
F																											
P	S-708	130+05	RT	INLET, PIPE	1	73	18		73							1											
F																											
P	S-709A	130+30	RT	MH, PIPE	1	37	18		37												1						
F																											
P	S-709	130+63	RT	MH, PIPE	1	109	18					109										1					
F																											
P	S-710	55+02	LT	MH																			1				℄ PALM PARKWAY
F																											
P	S-711	52+71	LT	INLET											1												℄ PALM PARKWAY
F																											
P	S-712	52+70	RT	INLET											1												℄ PALM PARKWAY
F																											
P	S-713	50+10	LT	INLET, PIPES	1	8,8,231	15,18,24	8	8	231			1														℄ PALM PARKWAY
F																											
P	S-714	47+80	LT	INLET, PIPES	1	8, 168	15, 24	8		168			1														℄ PALM PARKWAY
F																											
P	S-715	46+05	LT	MH, PIPE	1	117	24			117											1						℄ PALM PARKWAY, CONNECT TO EXISTING
F																											
P	S-715A	44+82	LT	INLET, PIPE	1	8, 8	15, 24	8		8			1														℄ PALM PARKWAY
F																											
P	S-716	57+02	LT	MH																			1				℄ PALM PARKWAY
F																											
P	S-716A	57+02	LT	INLET, PIPE	1	9	18		9								1										℄ PALM PARKWAY, ALT. B (4' X4')
F																											
P	S-717	57+00	RT	INLET											1												℄ PALM PARKWAY
F																											
P	S-718	59+05	LT	MH																			1				℄ PALM PARKWAY
F																											
P	S-718A	59+05	LT	INLET, PIPE	1	8	18		8								1										℄ PALM PARKWAY, ALT. B (5' X 5')
F																											
P	S-719	59+05	RT	INLET											1												℄ PALM PARKWAY
F																											
P	S-740	10+14	LT	INLET, PIPE	1	78	18		78									1									℄ POND 2A
F																											
P	S-741	10+68	LT	MES																				1			℄ POND 2A 1:4
F																											
	S-742	14+18	LT	MES, PIPE	1	224	36				224														1		℄ POND 2A 1:4
F																											
	SUBTOTALS	PLAN QUANTITY						24	1,064	1,215	224	109	12	1	4	2	2	1	0	0	3	1	3	2	1	30	
		FINAL QUANTITY																									

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696

David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

SUMMARY OF DRAINAGE STRUCTURES

SHEET NO. 6

QTY	STR. NO.	STATION	SIDE	DESC.	BARL	PIPE LENGTH FT	PIPE SIZE IN.	STORM SEWER RCP ROUND 15"	ROUND 18"	ROUND 24"	ROUND 36"	ELLIP. 14" X 23"	CURB INLETS P-1 <10	P-1 >10	P-1 PARTIAL	P-2 <10	J-1 <10	DBI C <10	DBI C MOD <10	DBI E <10	MANHOLES P-8 <10	P-8 >10	P-8 PARTIAL	M.E.S. 18"	M.E.S. 36"	RUBBLE RIP RAP (TONS)	REMARKS
P	S-743	11+15	LT	MES																					1		℄ POND 2B 1:4
F																											
P	S-744	13+96	RT	INLET, PIPE	1	218	18		218										1								℄ POND 2B
F																											
P	S-745	13+97	LT	MES																				1			℄ POND 2B 1:2
F																											
P	S-746	11+50	RT	INLET, PIPE	1	46	18		46											1							℄ POND 1
F																											
P	S-747	11+50	RT	MES																				1			℄ POND 1 1:4
F																											
P	S-748	17+06	RT	INLET	1														1								℄ POND 1, PARTIAL
F																											
P	S-749	14+40	LT	INLET, PIPE	1	69	18		69											1							℄ POND 2A
F																											
P	S-750	14+02	LT	MES																				1			℄ POND 2A 1:4
F																											
P																										

S-619
STA. 116+33.65 (59.50' LT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 142.67
FL 131.10 (BK)
FL 139.30 (RT)
FL 136.00 (AH)

S-620
STA. 116+33.65 (59.50' RT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 142.58
FL 139.40 (LT)

S-621
STA. 119+95.00 (59.50' LT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 158.03
FL 145.00 (BK)
FL 153.30 (RT)

S-622
STA. 119+95.00 (59.50' RT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 158.03
FL 153.50 (LT)

S-700
STA. 125+00.00 (62.65' LT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 158.15
FL 153.70 (RT)

S-701
STA. 125+00.00 (59.50' RT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 158.15
FL 150.30 (AH)
FL 153.60 (LT)

S-702
STA. 125+90.00 (71.50' RT)
CONST. MANHOLE TYPE P-8
INDEX NO. 201
TOP EL. 156.19
FL 150.00 (BK)
FL 146.90 (AH)
FL (RT) SEE DRAINAGE DETAIL SHEET 22

S-702A
STA. 111+14.00 (71.61' LT)
CONST. MITERED END SECTION (4:1) ℄ POND 1
INDEX NO. 272
FL 126.00

S-703
STA. 126+85.20 (59.50' LT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 151.81
FL 147.30 (RT)

S-704
STA. 126+85.20 (71.50' RT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. (51.45
FL 147.10 (BK)
FL 147.10 (LT)

S-705
STA. 129+47.00 (59.50' LT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 141.97
FL 137.60 (AH)

S-706
STA. 129+47.00 (71.50' RT)
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 141.74
FL 137.50 (AH)

S-750
STA. 14+02.00 (81.81' LT)
℄ POND 2A
CONST MITERED END SECTION (1:4)
FL 125.00

S-707
STA. 130+04.69 (59.50' LT)
CONST. INLET TYPE P-2
INDEX NO. 210
INLET EL. 141.46
FL 136.80 (RT)
FL 136.80 (BK)

S-708
STA. 130+05.29 (71.50' RT)
CONST. INLET TYPE P-2
INDEX NO. 210
INLET EL. 141.36
FL 136.20 (LT)
FL 136.20 (BK)

S-709A
STA. 130+30.00 (0.00' RT)
CONST. MANHOLE TYPE P-8
INDEX NO. 200 & 201
TOP EL. 141.60
FL 136.40 (BK)
FL 130.90 (AH)

S-709
STA. 130+63.00 (20.00' RT)
CONST. MANHOLE TYPE P-8
(INDEX NO. 200 & 201
TOP EL. 141.30
FL 130.90 (AH)
FL 136.00 (LT)
FL 136.00 (RT)

S-710
STA. 55+02.69 (55.00' LT)
℄ PALM PARKWAY
CONST. MANHOLE TYPE P-8
(PARTIAL)
INDEX NO. 201
RIM EL. 141.30
FL 130.67 (BK Exist. to Remain)
FL 130.70 (RT)

S-711
STA. 52+71.11 (54.00' LT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
(PARTIAL)
INDEX NO. 210
INLET EL. 138.59
FL 129.77 (BK Exist. to Remain)
FL 129.81 (AH Exist. to Remain)
FL 131.01 (RT Exist. to Remain)

S-712
STA. 52+70.13 (54.50' RT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
(PARTIAL)
INDEX NO. 210
INLET EL. 138.56
FL (31.76 (LT Exist. to Remain)

S-713
STA. 50+10.52 (54.58' LT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 136.42
FL 128.96 (BK)
FL 132.71 (RT Connect to Exist.)
FL 129.01 (AH Connect to Exist.)

S-714
STA. 47+80.41 (54.71' LT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL. 135.71
FL 128.40 (BK)
FL 131.89 (RT Connect to Exist.)
FL 128.43 (AH)

S-715
STA. 46+05.98 (53.77' LT)
℄ PALM PARKWAY
CONST. MANHOLE TYPE P-8
INDEX NO. 201
TOP EL. 135.48
FL 127.79 (BK)
FL 127.82 (AH)

S-715A
STA. 44+82.29 (54.67' LT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
INDEX NO. 210
INLET EL 134.31
FL 127.25 (AH)
FL 127.25 (BK Connect to Exist.)
FL 127.35 (RT Connect to Exist.)

S-716
STA. 57+02.71 (54.00' LT)
℄ PALM PARKWAY
CONST. MANHOLE TYPE P-8
(PARTIAL)
INDEX NO. 201
RIM EL. 138.13
FL 129.40 (AH) (EXIST. TO REMAIN)
FL 129.41 (RT) (EXIST. TO REMAIN)
FL 133.30 (LT)

S-716A
STA. 57+02.71 (66.00' LT)
℄ PALM PARKWAY
CONST. INLET TYPE J-1
(ALT. B) (4' X 4')
INDEX NO'S 200 & 210
INLET EL. 137.96
FL 133.40 (RT)

S-717
STA. 57+00.28 (54.50' RT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
(PARTIAL)
INDEX NO. 210
INLET EL. 138.36

S-718
STA. 59+05.98 (54.00' LT)
℄ PALM PARKWAY
CONST. MANHOLE TYPE P-8
(PARTIAL)
INDEX NO. 201
RIM EL. 134.96
FL 128.26 (AH) (EXIST. TO REMAIN)
FL 128.22 (BK) (EXIST. TO REMAIN)
FL 128.09 (RT) (EXIST. TO REMAIN)
FL 130.10 (LT)

S-718A
STA. 59+05.98 (66.00' LT)
℄ PALM PARKWAY
CONST. INLET TYPE J-1
(ALT. B) (5' X 5')
INDEX NO'S 200 & 210
INLET EL. 134.81
FL 130.20 (RT)

S-719
STA. 59+05.62 (54.50' RT)
℄ PALM PARKWAY
CONST. INLET TYPE P-1
(PARTIAL)
INDEX NO. 210
INLET EL. 135.16

S-740
STA. 10+14.00 (147.50' LT)
℄ POND 2A
CONST. DBI TYPE 'C'
INDEX NO. 232
GRATE EL. 132.00
FL 128.00 (RT)

S-741
STA. 10+68.23 (84.71' LT)
℄ POND 2A
CONST. MITERED END SECTION (4:1)
INDEX NO. 272
FL 127.70

S-742
STA. 14+18.70 (74.50' LT)
℄ POND 2A
CONST. MITERED END SECTION 14:1)
INDEX NO. 272
FL 125.50

S-743
STA. 11+15.59 (72.22' LT)
℄ POND 2B
CONST. MITERED END SECTION (4:1)
INDEX NO. 272
FL 125.40 (LT)

S-744
STA. 13+96.00 (80.50' RT)
℄ POND 2B
CONST. DBI TYPE 'C' MOD.
INDEX NO. 232
GRATE EL. 131.50
1-4" PVC ORIFICE
INV. 128.50
FL 127.85 (LT)

S-745
STA. 13+97.00 (141.25' LT)
℄ POND 2B
CONST. MITERED END SECTION (2:1)
INDEX NO. 272
FL 127.96

S-746
STA. 11+50.00 (156.57' RT)
℄ POND 1
CONST. DBI TYPE 'E' W/ TRAVERSABLE SLOT
INDEX NO. 232
GRATE EL. 131.00
FL 128.20 (LT)

S-747
STA. 11+50.00 (106.0' RT)
℄ POND 1
CONST. MITERED END SECTION (4:1)
INDEX NO. 272
FL 128.00

S-748
STA. 17+06.00 (86.0' RT)
℄ POND 1
CONST. DBI TYPE 'C' MOD. PARTIAL
INDEX NO. 232
GRATE EL 131.00
1-3" ORIFICE
INV. 128.00
MATCH EXIST. INV.

S-749
STA. 14+40.00 (144.28' LT)
℄ POND 2A
CONST DBI TYPE 'E' W/ TRAVERSABLE SLOTS
INDEX NO. 232
GRATE EL. 129.50
INV. 125.50

S-750
STA. 14+01.35 (80.76' LT)
℄ POND 2A
CONST. MITERED END SECTION (4:1)
INDEX NO. 272
FL 124.5

NOTE:
INLET ELEVATION FOR CURB INLETS ARE AT EDGE OF PAVEMENT.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
		- -			

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE STRUCTURES

SHEET NO. 7

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH AND CONFORM TO THE MOST STRINGENT REQUIREMENT OF THE PROJECT SPECIFICATIONS, THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (FDOT), AND SUPPLEMENTS THERETO, AND ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS.

2. ALL PERSONAL PROPERTY, EXCEPT MAIL BOXES WITHIN THE RIGHT-OF-WAY NOT RELOCATED BY PROPERTY OWNER SHALL BE REMOVED BY THE CONTRACTOR AS NECESSARY TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE PLANS. MAIL BOXES SHALL BE RELOCATED BY THE CONTRACTOR IN ACCORDANCE WITH INDEX NO. 532, MAILBOXES. PAYMENT WILL BE INCLUDED IN PAY ITEM NO. 110-1-1, CLEARING & GRUBBING.

3. THE DISPOSAL OF EXCESS EARTHWORK MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. APPROVALS OF DISPOSAL SITES SHALL BE OBTAINED FROM ORANGE COUNTY PRIOR TO DISPOSAL. ALL EXCESS MATERIAL IS THE PROPERTY OF THE CONTRACTOR.

4. THE CONTRACTOR SHALL IMPLEMENT MEASURES TO PRESERVE EXISTING TREES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION. THE REMOVAL OF ANY TREE REQUIRED FOR CONSTRUCTION MUST BE APPROVED BY THE ENGINEER AND SHALL BE INCLUDED IN PAY ITEM NO. 110-1-1, CLEARING AND GRUBBING.

5. SOD ALL DISTURBED AREAS UNLESS OTHERWISE DIRECTED. SOD SHALL MATCH EXISTING TYPE SOD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

6. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING PAVEMENT ELEVATIONS OF ALL DRIVEWAYS AND SIDEWALKS TO MATCH THE PROPOSED PAVEMENT TO THE EXISTING. DRIVEWAYS MAY BE ADJUSTED OR ADDED TO SUIT PROPERTY OWNERS PER THE DIRECTION OF THE ENGINEER. ALL DRIVEWAYS TO BE CONSTRUCTED IN ACCORDANCE WITH INDEX NO. 515, TURNOUTS.

7. ALL OFFSETS SHOWN ARE TO THE BASELINE OF SURVEY WHERE ℄ CONSTRUCTION IS NOT PRESENT.

8. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND SURVEYS BUT IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND PROTECT EXIST. O.C.U. FACILITIES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WITH UTILITY OWNERS. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (1-800-432-4770) IN ACCORDANCE WITH FLORIDA STATUTE 556.

9. ALL EXISTING UTILITIES OTHER THAN THE WATER MAINS, FORCE MAINS AND RECLAIMED WATER LINES ARE TO BE RELOCATED OR ADJUSTED BY OTHERS OR AS DIRECTED BY THE ENGINEER.

10. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION AS REQUIRED BY CHAPTER 77-153 OF THE FLORIDA STATUTES.

11. ALL (P.R.M. - PERMANENT REFERENCE MONUMENT) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.

12. ANY U.S.C. AND G.S. (US COAST AND GEODETIC SURVEY) (NOW NATIONAL GEODETIC SURVEY) MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED, IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, AND BOTH SHALL NOTIFY: STATE GEODETIC ADVISOR, RONNIE TAYLOR, 3900 COMMONWEALTH BOULEVARD, MS105, TALLAHASSEE, FL, 32399 (850) 245-2606.

13. PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE COUNTY SURVEYOR (407) 836-7940, WITHOUT DELAY, BY TELEPHONE. THE CONTRACTOR SHALL PROVIDE WRITTEN FOLLOW UP CONFIRMATION WITHIN 48 HOURS OF TELEPHONE NOTIFICATION.

14. WITHIN 21 CALENDAR DAYS AFTER NOTICE TO PROCEED, THE CONTRACTOR SHALL STAKE THE RIGHT-OF-WAY AT 50 FEET INTERVALS AND AT RIGHT-OF-WAY BREAKS WITH STATIONING SHOWN ON THE STAKES. NO INVOICE FOR PAYMENT WILL BE PROCESSED UNTIL THE RIGHT-OF-WAY HAS BEEN STAKED TO THE SATISFACTION OF THE ENGINEER. PAYMENT IS INCLUDED IN PAY ITEM NO. 101-1, MOBILIZATION.

15. CONTRACTOR IS TO MAINTAIN UNINTERRUPTED ACCESS TO ALL DRIVEWAYS AT ALL TIMES AND IS TO NOTIFY PROPERTY OWNERS FIVE DAYS PRIOR TO STARTING CONSTRUCTION.

16. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION EXISTING. COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.

17. ALL DRAINAGE PIPES SHALL BE STEEL REINFORCED CONCRETE PIPE, CLASS III, UNLESS OTHERWISE NOTED.

18. MEASUREMENT OF DRAINAGE PIPE FOR PAYMENT SHALL BE DETERMINED FROM ACTUAL LENGTHS INSTALLED.

19. ALL EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE RIGHT-OF-WAY SHALL REMAIN, UNLESS OTHERWISE DIRECTED.

20. ALL INLET/MANHOLE-PIPE JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT, COVERED WITH AN ASPHALTIC MASTIC COATING, AND WRAPPED WITH A FILTER FABRIC MATERIAL PER INDEX NO. 201. SUPPLEMENTARY DETAILS FOR MANHOLES AND INLETS.

21. SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.

22. INSTALL A 4" MUCK BLANKET OR TOPSOIL TREATMENT ON ALL PERMANENT GRASS AREAS.

23. THE CONTRACTOR SHALL PERFORM HIS WORK IN ACCORDANCE WITH REQUIREMENTS OF FDOT DESIGN STANDARDS INDEX 102 & 103 EROSION & SEDIMENT CONTROL MEASURES INCLUDED IN THE BID PRICE FOR SECTION 104; "PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION", EXCLUDING ITEMS SPECIFIED ELSEWHERE. ENVIRONMENTAL CONTROLS SHALL BE USED AT LOCATIONS DESIGNATED IN THE PLANS AND/OR DESIGNATED BY THE ENGINEER.

24. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO ORANGE COUNTY HIGHWAY CONSTRUCTION DIVISION A SET OF FIELD NOTES VERIFYING THE BENCHMARK ELEVATIONS AND THE REFERENCE POINT TIES SHOWN ON THE TITLE SHEET AND PLAN AND PROFILE SHEETS, AND/OR A SET OF FIELD NOTES FOR ALL ADDITIONAL BENCHMARK AND REFERENCE POINT TIES PROPOSED TO BE USED IN CONSTRUCTING THE PROJECT WITH THEIR LOCATION, DESCRIPTION SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.

25. THE CONTRACTOR SHALL DEVELOP AND SUBMIT MAINTENANCE OF TRAFFIC STAGING PLANS AND A CONSTRUCTION SCHEDULE FOR APPROVAL BY THE ENGINEER AND THE ORANGE COUNTY HIGHWAY CONSTRUCTION DIVISION PRIOR TO CONSTRUCTION.

26. THE VERTICAL INFORMATION OBTAINED FROM SURVEY IS BASED UPON THE NGVD OF 1929 AS PUBLISHED BY ORANGE COUNTY PUBLIC WORKS DEPARTMENT.

27. EXISTING DRIVEWAYS WITHIN THE LIMITS OF THIS PROJECT ARE TO BE REPLACED AT THE SAME LOCATION AND WIDTH, UNLESS OTHERWISE SHOWN IN PLANS.

28. THE CONTRACTOR SHALL CONSTRUCT PUBLIC SIDEWALK CURB RAMPS IN ACCORDANCE WITH DETAIL (CR 21) SHOWN IN INDEX NO. 304 PUBLIC SIDEWALK CURB RAMPS, UNLESS OTHERWISE NOTED ON PLANS.

29. COST OF STORM SEWER PIPE INCLUDES STABILIZATION, BASE, PAVEMENT, CURB & GUTTER, SOD AND ALL NECESSARY LABOR AND MATERIALS TO REPLACE IN KIND FOR PALM PARKWAY FOR THE INSTALLATION OF STORM SEWER NOT LOCATED WITHIN THE ROADWAY RECONSTRUCTION LIMITS.

30. PIPE COSTS SHALL INCLUDE ANY EXISTING, INCIDENTAL IMPROVEMENTS IN THE FIELD.

31. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (1-800-432-4770) IN ACCORDANCE WITH FLORIDA STATUTE 556.

UTILITY OWNERS:

COMPANY	CONTACT	TELEPHONE NUMBERS
BRIGHT HOUSE NETWORKS	MARVIN USRY	407-532-8509
PROGRESS ENERGY	LISA WINGFIELD	407-942-9413
MCI	INVESTIGATIONS	972-729-6016
ORANGE COUNTY UTILITIES	JOE PURYEA	407-254-9922
ORLANDO TELEPHONE COMPANY	PAUL CASE	407-996-8900 EXT. 183
ORLANDO UTILITIES COMMISSION	RON HAWKINS	407-649-4410
PEOPLES GAS	CARLOS QUINTANA	407-420-2675
BELLSOUTH	KARRIE SNYDER	407-539-2313
TRAFFIC CONTROL DEVICES	FRED HORN	407-869-5300 EXT. 110
ADELPHIA CABLE	SHARON WALDEN	407-422-3961
SPRINT	MIKE SHELL	407-814-5344

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW!
1-800-432-4770
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

TRAFFIC CONTROL

1. ALL MAINTENANCE OF TRAFFIC ITEMS REQUIRED BY THE 600 SERIES INDICES SHALL BE SUPPLIED, INSTALLED, AND MAINTAINED TO PROPERLY MAINTAIN TRAFFIC AND DROP OFF CRITERIA IN THE WORK ZONE.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

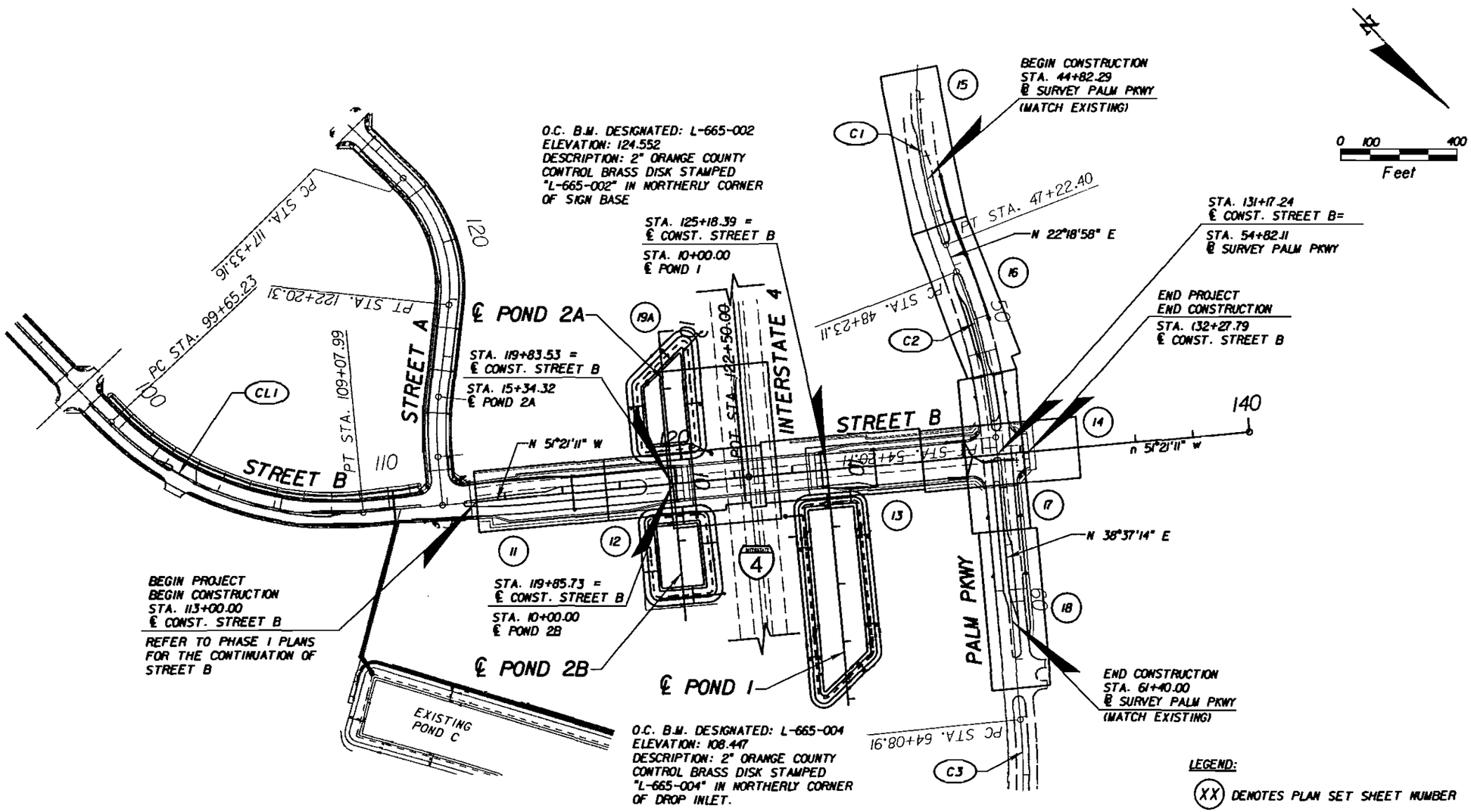
GENERAL NOTES

SHEET NO. 8

12/19/2007 8:23:23 AM Q:\ROADWAY\043280002_FentonSt\roadway\GenNotes_N.dgn

CURVE DATA

ALIGNMENT NAME	CURVE NAME	PC			PI			PT			BEARING		RADIUS	DEGREE	DELTA	TANGENT	LENGTH	DESIGN SPEED (MPH)	SUPER ELEV.
		STATION	NORTHING	EASTING	STATION	NORTHING	EASTING	STATION	NORTHING	EASTING	BACK	AHEAD							
℄ CONST. STREET B	CL1	99+65.23	1,475,550.00	500,878.32	104+71.06	1,476,055.83	500,879.13	109+07.99	1,476,371.73	500,484.07	N 0°05'27" E	N 5°21'11" W	1,050.00'	5°27'24"	51°26'38" (LT)	505.83'	942.76'	40	RC
@ SURVEY PALM PKWY	C1	31+59.57	1,476,158.67	497,213.01	40+14.69	1,476,305.89	498,055.36	47+22.40	1,477,096.97	498,380.07	N 80° 05' 10" E	N 22° 18' 58" E	1,550.00'	3° 41' 47"	57° 46' 13" LT	855.12'	1,562.83'	40	NC
@ SURVEY PALM PKWY	C2	48+23.11	1,477,190.13	498,418.31	51+23.94	1,477,468.43	498,532.53	54+20.71	1,477,703.47	498,720.30	N 22° 18' 58" E	N 38° 37' 14" E	2,100.00'	2° 43' 42"	16° 18' 17" RT	300.83'	597.60'	45	NC
@ SURVEY PALM PKWY	C3	64+08.91	1,478,475.55	499,337.10	67+36.44	1,478,731.45	499,541.53	70+58.74	1,478,912.94	499,814.18	N 38° 37' 14" E	N 56° 21' 01" E	2,100.00'	2° 43' 42"	17° 43' 47" RT	327.53'	649.82'	45	NC



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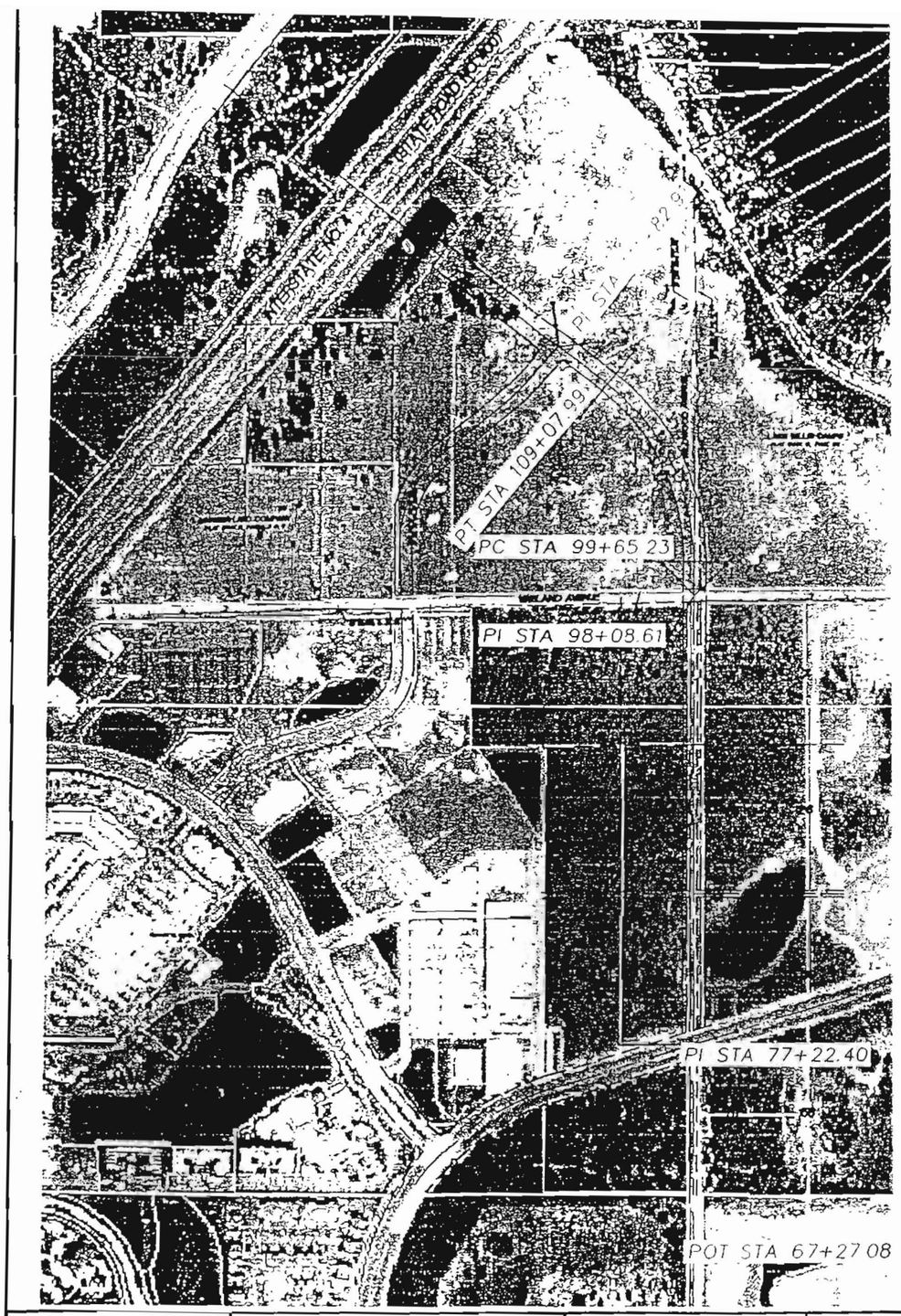
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

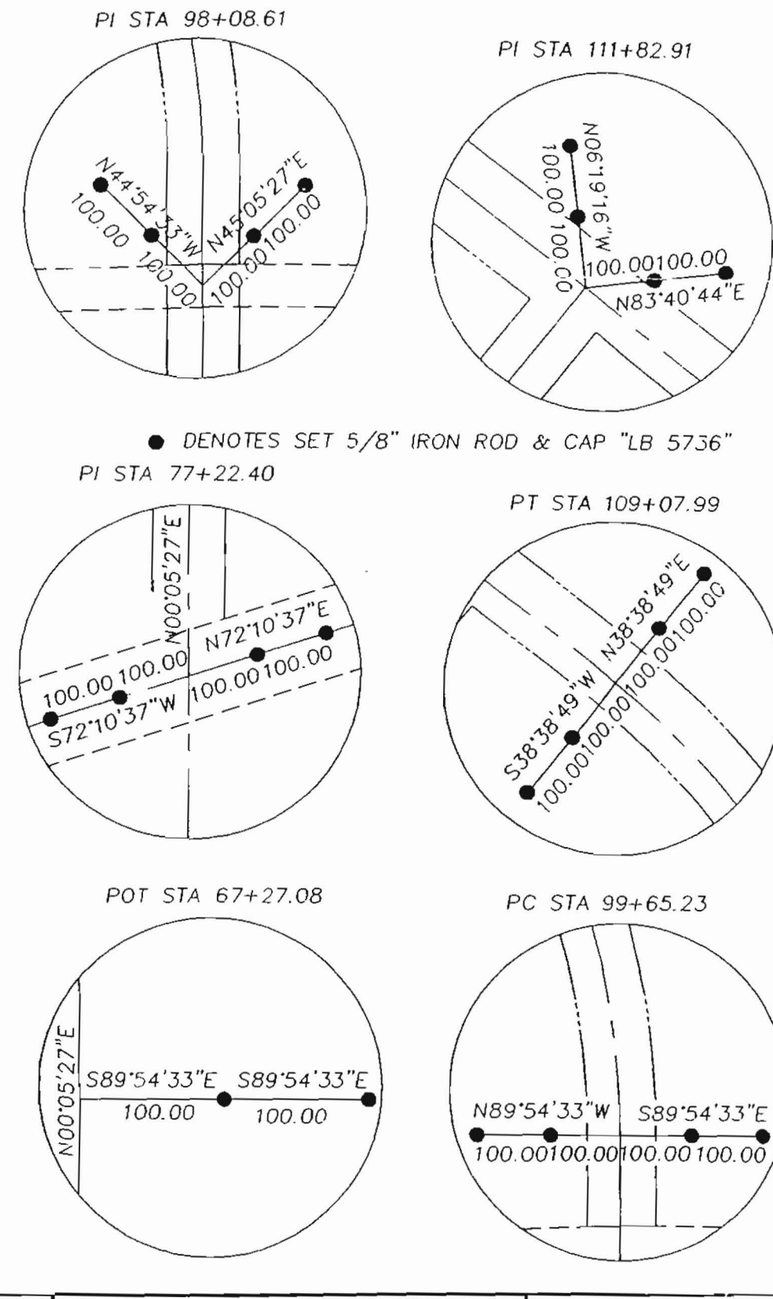
PROJECT LAYOUT

SHEET NO. 9

3/20/2008 11:16:36 AM q:\ROADWAY\049280002_FentonSt\roadway\playrd01_N.dgn



CONTROL POINT MAP



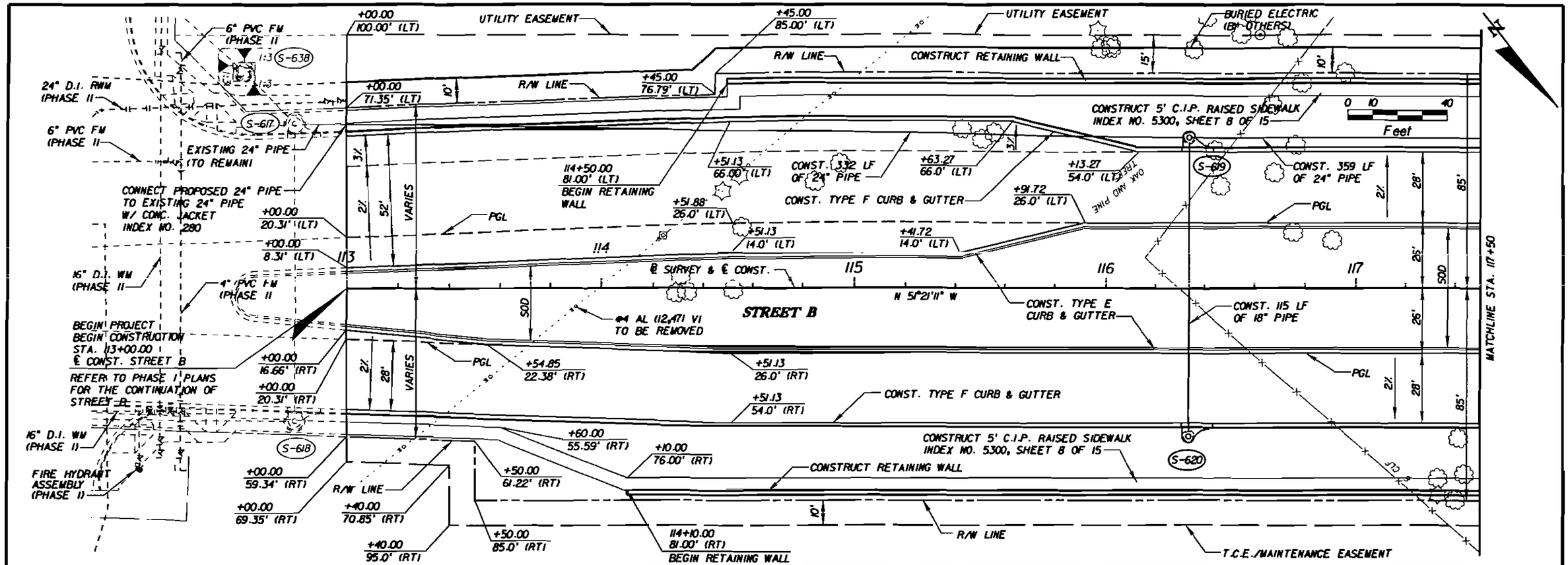
SHEET 10	SECTION 14 , TOWNSHIP 24 SOUTH, RANGE 28 EAST ORANGE COUNTY FLORIDA	JOB NUMBER: 01005.000 SURVEY DATE: 3/27/06 FIELD BY: M.Potter FIELD BOOK: PAGES: FIELD FILE: CALC BY: R. Sears DRAWN BY: R. Sears CHECKED BY: R. Sears DRAWING NAME: P:\01005-Rotation\01005-1.dwg DRAWING SCALE: 1" = 300'

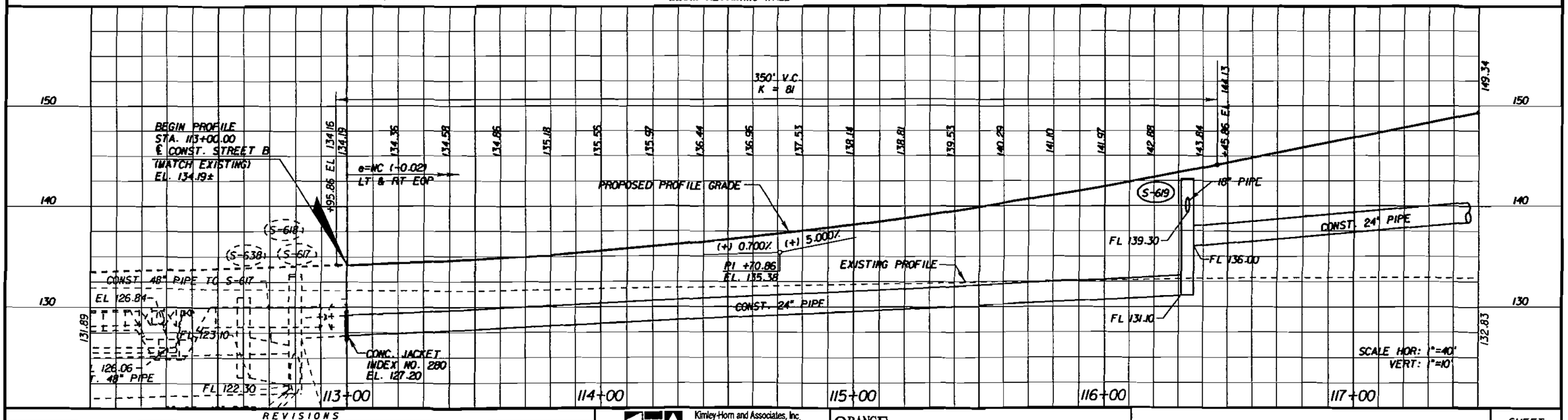
SURVEYORS CERTIFICATION:

WE HEREBY CERTIFY THAT THIS Specific Purpose Survey OF THE HEREON DESCRIBED PROPERTY IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF AS PREPARED UNDER OUR DIRECTION IN March, 2006. WE FURTHER CERTIFY THAT THIS Specific Purpose Survey MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH IN RULE 61G17-6 ADOPTED BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, PURSUANT TO FLORIDA STATUTE 472.027.

ROBERT O.M. SEARS P.S.M.
FLORIDA REGISTRATION No. 4263
FLORIDA LICENSED BUSINESS No. 5736

SEARS SURVEYING COMPANY
1160 Solana Avenue, Winter Park, Florida 32789 (407) 645-1





REVISIONS					
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ORANGE COUNTY GOVERNMENT
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE STREET "B"

SHEET NO. 11

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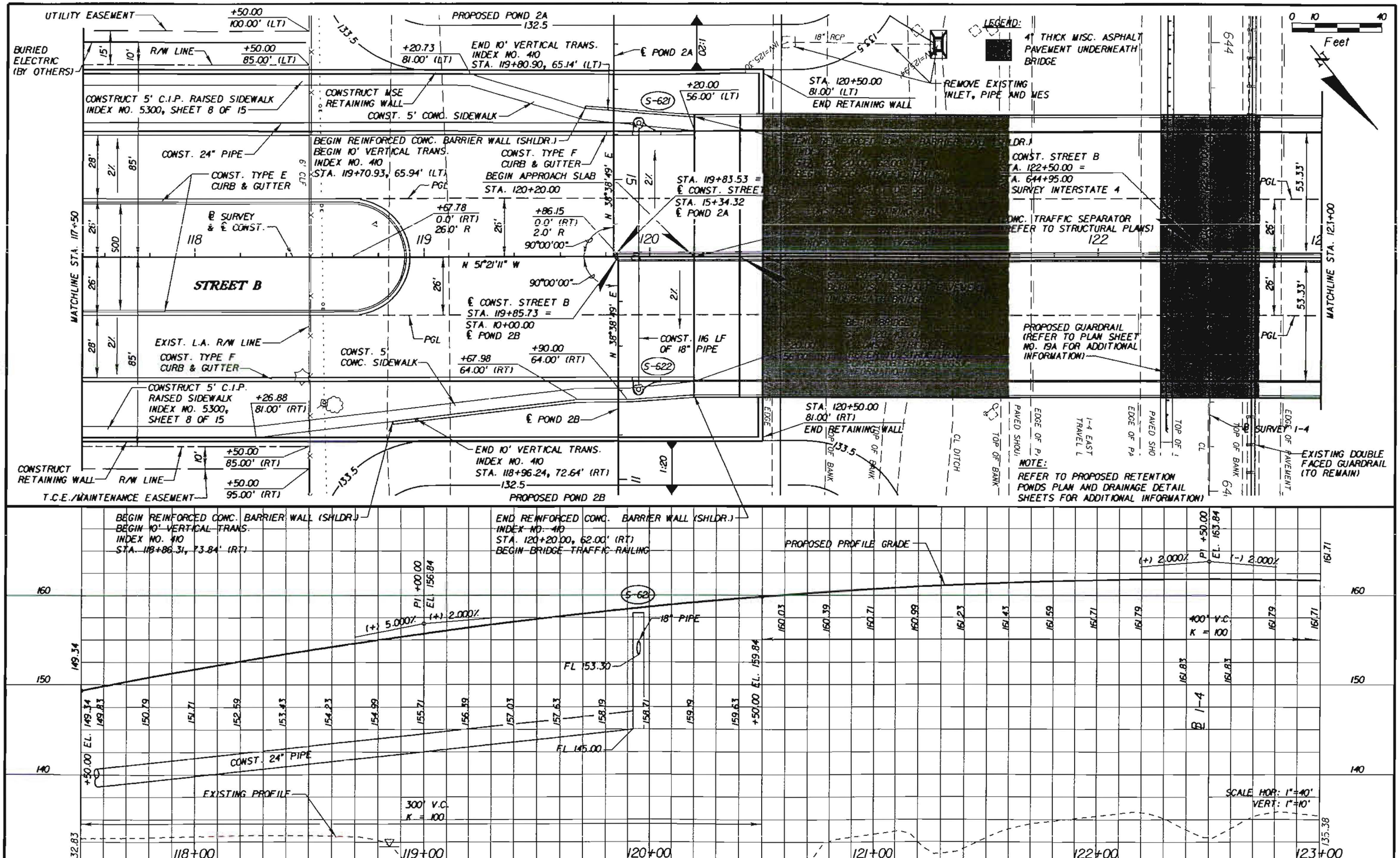

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ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE STREET "B"

SHEET NO. 12

3/20/2008 1:30:24 PM q:\ROADWAY\049280002_FentonS1\roadway\plprrd02_N.dgn

LEGEND:

4" THICK MISC. ASPHALT PAVEMENT UNDERNEATH BRIDGE

0 10 40 Feet

+00.00 110.0' (LT) — T.C.E./MAINTENANCE EASEMENT — UTILITY EASEMENT — +60.00 105.00' (LT) — +65.00 110.00' (LT) — +65.00 100.00' (LT) — UTILITY EASEMENT — T.C.E./MAINTENANCE EASEMENT

+00.00 105.0' (LT) — 15' — 10' — L.A. R/W LINE

END BRIDGE TRAFFIC RAILING BEGIN REINFORCED CONC. BARRIER WALL (SHLDR.) INDEX NO. 410 STA. 124+80.00, 62.00' (LT)

END REINFORCED CONC. BARRIER WALL (SHLDR.) END 10' VERTICAL TRANS. INDEX NO. 410 STA. 125+48.36, 73.88' (LT)

+60.00 95.00' (LT) — 10' — R/W LINE — 15'

STA. 124+51.50 81.00' (LT) BEGIN RETAINING WALL

+80.00 54.0' (LT) — SEE DETAIL SHEET 22 — +89.62 81.00' (LT) — CONSTRUCT RETAINING WALL — S-703 — CONST. 128 LF OF 18" PIPE — CONST. TYPE F CURB & GUTTER

S-700 — BEGIN 10' VERTICAL TRANS. INDEX NO. 410 STA. 125+38.54, 72.14' (LT) — CONSTRUCT 5' CONC. SIDEWALK — STA. 125+18.39 = ℄ CONST. STREET B STA. 10+00.00 ℄ POND 1 — CONSTRUCT 5' C.I.P. RAISED SIDEWALK INDEX NO. 5300, SHEET 8 OF 15

PGL

MATCHLINE STA. 123+00

53.33' — 26' — 26' — 26' — 53.33'

END APPROACH SLAB STA. 124+80.00

125 — STREET B — 126 — +02.00 0.00' (RT) 2.0' R — BM — 127 — ℄ SURVEY & ℄ CONST. — 128

N 51°21'11" W

90°00'00"

CONSTRUCT 5' CONC. SIDEWALK — L.A. R/W LINE — CONST. 4' CONC. TRAFFIC SEPARATOR INDEX NO. 302 - TYPE I

CONST. 119 LF OF 18" PIPE — +22.20 54.00' (RT) — PGL

NOTE: REFER TO INTERSECTION DETAIL SHEET FOR ADDITIONAL INFORMATION)

S-701 — ℄ POND 1 — N 38°38'49" E — CONST. 88 LF OF 18" PIPE — +72.20 66.00' (RT) — S-704 — CONST. TYPE F CURB & GUTTER — CONSTRUCT 5' C.I.P. RAISED SIDEWALK INDEX NO. 5300, SHEET 8 OF 15

+79.27 81.00' (RT)

I-4 — I-4 W TRAVE — EDGE OF PAVE.

STA. 124+51.50 81.00' (RT) BEGIN RETAINING WALL — +80.00 56.00' (RT) — T.C.E./MAINTENANCE EASEMENT

NOTE: REFER TO PROPOSED RETENTION PONDS PLAN AND DRAINAGE DETAIL SHEETS FOR ADDITIONAL INFORMATION)

CONSTRUCT RETAINING WALL — PROPOSED POND 1 — 1:15 — S-702 — +58.00 95.00' (RT) — CONST. 93 LF OF 18" PIPE — R/W LINE — 10'

MATCHLINE STA. 128+50

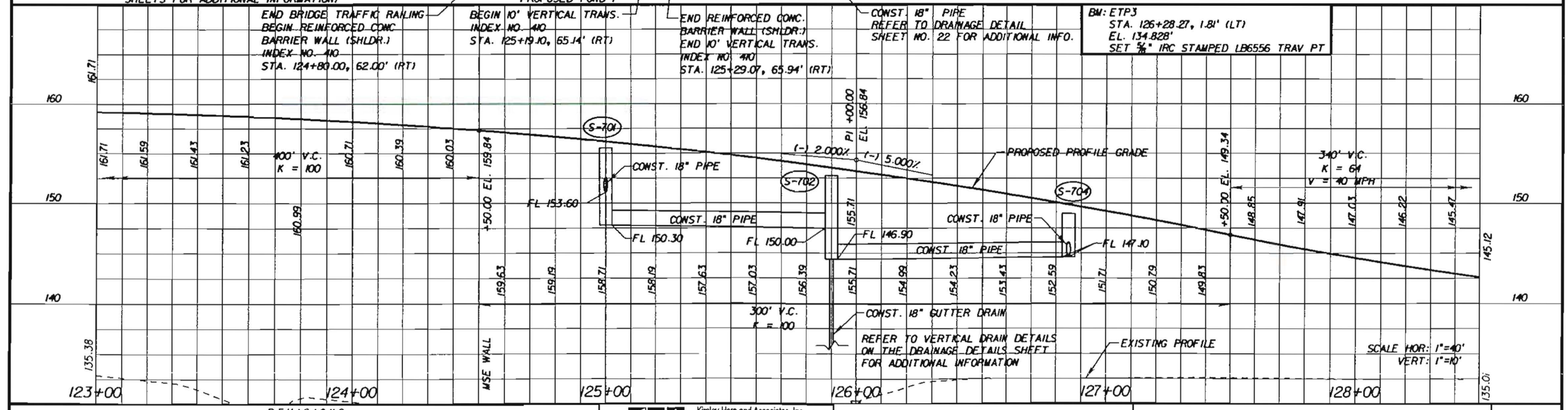
END BRIDGE TRAFFIC RAILING BEGIN REINFORCED CONC. BARRIER WALL (SHLDR.) INDEX NO. 410 STA. 124+80.00, 62.00' (RT)

BEGIN 10' VERTICAL TRANS. INDEX NO. 410 STA. 125+19.10, 65.14' (RT)

END REINFORCED CONC. BARRIER WALL (SHLDR.) END 10' VERTICAL TRANS. INDEX NO. 410 STA. 125+29.07, 65.94' (RT)

CONST. 18" PIPE REFER TO DRAINAGE DETAIL SHEET NO. 22 FOR ADDITIONAL INFO.

BM: ETP3
STA. 126+28.27, 1.81' (LT)
EL. 134.828'
SET 5/8" IRC STAMPED LB6556 TRAV PT



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ORANGE COUNTY GOVERNMENT FLORIDA

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE STREET "B"

SHEET NO. 13

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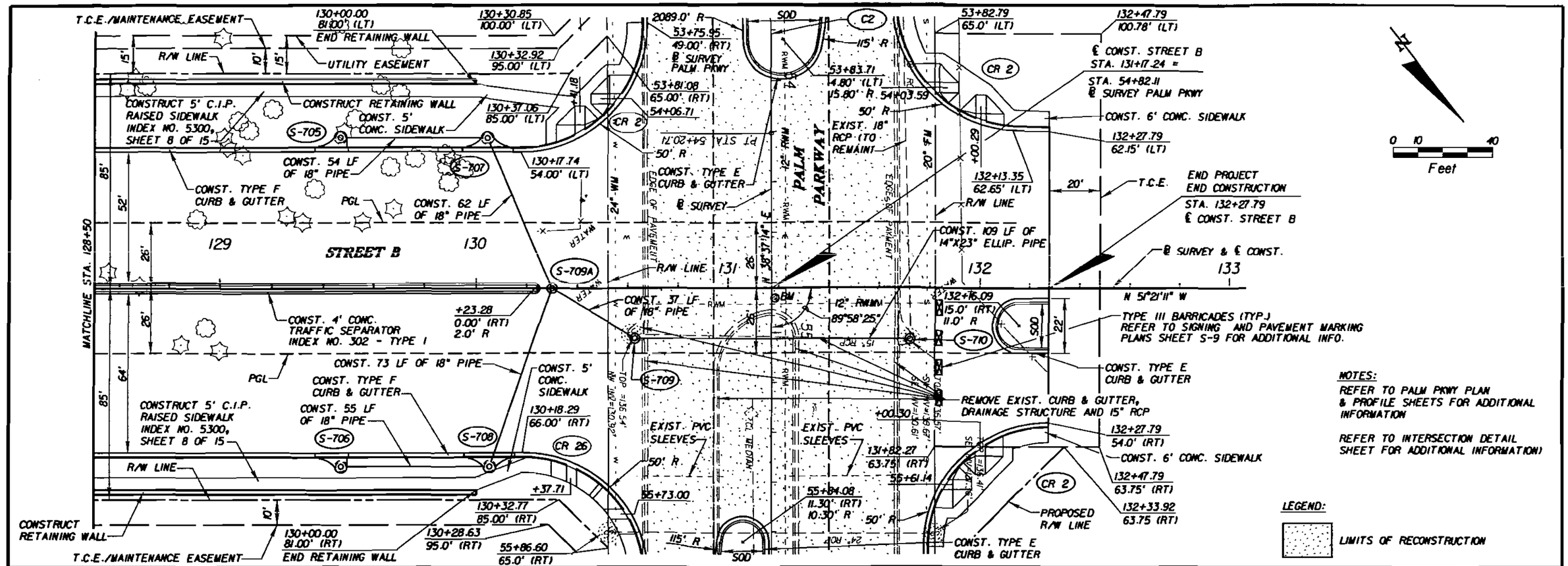

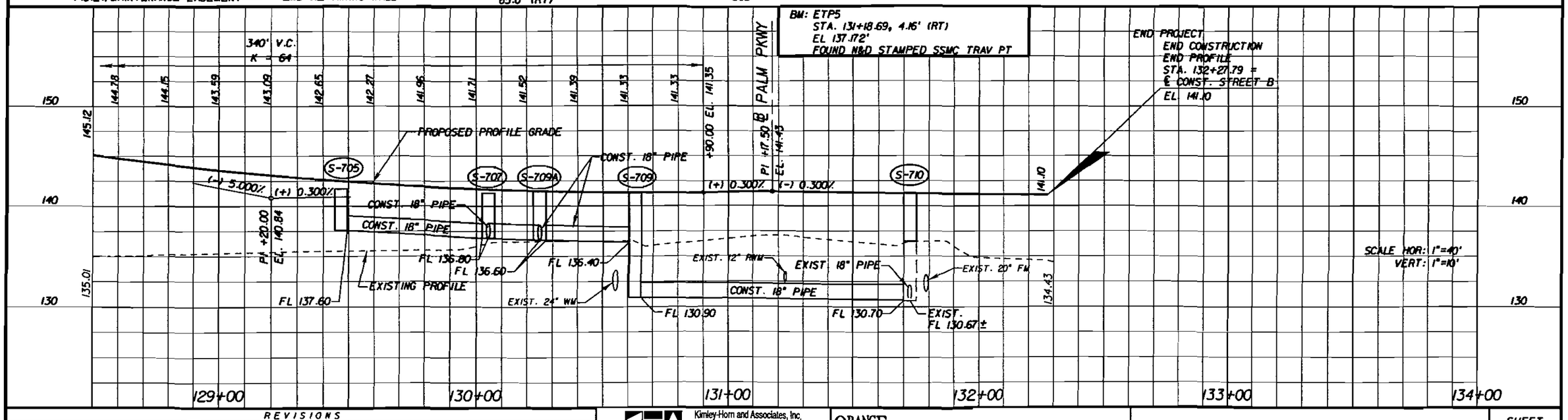

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Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE STREET "B"

SHEET NO. 14

3/20/2008 11:14:48 AM q:\ROADWAY\049280002_FentonSt\roadway\plprd04_kl.dgn

0 10 40
Feet

BARBED WIRE FENCE
EXIST. 20" SAN FM
20" FM
24" RCP
EDGE OF PAVEMENT
R/W LINE
EXIST. STRUCT. & 18" PIPE (TO BE REMOVED)
TOP =134.88'
SW INV=127.27'
SE INV=127.35'
NE INV=127.25'
S-715A
CONST. TYPE F CURB & GUTTER
CONST. 117 LF OF 24" PIPE
CURB INLET (TYP.)
18" RCP
EXIST. STRUCT. & 18" PIPE (TO BE REMOVED)
TOP =135.42'
SW INV =127.79'
NE INV =127.82'
S-715
CONST. 168 LF OF 24" PIPE
REMOVE PORTION OF EXISTING PIPE INSTALL NEW 24" PIPE AND CONNECT TO EXISTING PIPE WITH CONCRETE JACKET INDEX NO. 280
+71.93 MATCH EXISTING
CONST. 8 LF OF 24" PIPE
CONST. 8 LF OF 15" PIPE
REMOVE PORTION OF EXISTING PIPE INSTALL NEW 15" PIPE AND CONNECT TO EXISTING PIPE WITH CONCRETE JACKET INDEX NO. 280
41
42
43
44
45
46
LANE LINE (TYP.)
RWM
12" RWM
EXIST. 12" RWM
℄ SURVEY
CL MEDIAN
C1
FL
BC
EP
OBM
PALM PARKWAY
BEGIN CONSTRUCTION STA. 44+82.29 ℄ SURVEY PALM PKWY (MATCH EXISTING)
EDGE OF PAVEMENT
U/G WATER LINE
24" WM
EXIST. 24" DIP WM
R/W LINE
CURB INLET (TYP.) TOP =135.05' NW INV=127.92'
MATCHLINE STA. 46+50.00

BEGIN CONSTRUCTION STA. 44+82.29 ℄ SURVEY PALM PKWY (MATCH EXISTING) EL. 136.11

BM: FTPI
STA. 44+91.11, 3.65' (RT)
EL 136.080
SET 5/8" IRC STAMPED LB6556 TRAV PT

EXIST. PROFILE GRADE
15" PIPE
EXIST. 24" PIPE (TO REMAIN)
133.68
24" WM
12" RWM
20" SAN
EXIST. 24" PIPE (TO REMAIN)
REMOVE PORTION OF EXISTING PIPE INSTALL NEW PIPE AND CONNECT TO EXISTING PIPE WITH CONCRETE JACKET INDEX NO. 280
S-715A
FL 127.25
15" PIPE
CONSTRUCT 24" PIPE
EXIST. 18" PIPE (TO BE REMOVED)
FL 127.25
FL 127.35
S-715
FL 127.79
FL 127.82
CONSTRUCT 24" PIPE
EXIST. 18" PIPE (TO BE REMOVED)
137.06
140
130
120
42+00
43+00
44+00
45+00
46+00
SCALE HOR: 1"=40'
VERT: 1"=10'

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

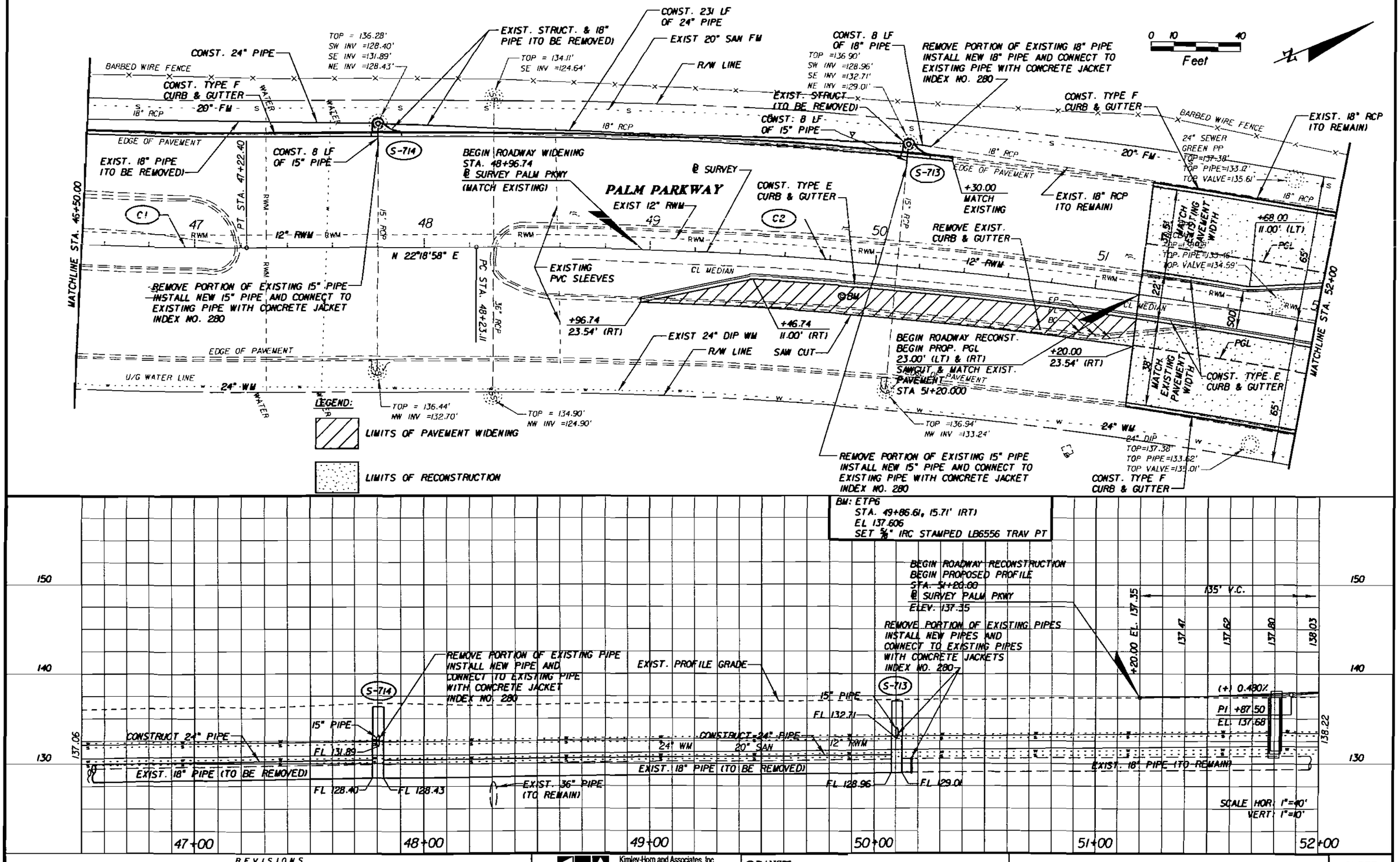
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE
PALM PARKWAY

SHEET NO. 15

3/20/2008 11:37:58 AM q:\ROADWAY\049280002_FentonSt\roadway\plprdll_Palm.dgn



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Corporate Registration No. CA 00000696
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PE Number 45203
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Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE PALM PARKWAY

SHEET NO. 16

12/19/2007 8:42:28 AM Q:\ROADWAY\049280002_FentonSt\roadway\plprd12_Palm.dgn

NOTE: REFER TO STREET B PLAN & PROFILE SHEET FOR ADDITIONAL INFORMATION

REMOVE EXISTING PVC SLEEVE

PROPOSED 6" PVC SLEEVE

TOP =137.34' SW INV=129.77' SE INV=131.01' NE INV=129.81'

EXIST. 18" RCP (TO REMAIN)

CONST. 6' CONC. SIDEWALK

53+82.79 65.0' (LT)

53+71.82 48.50' (LT)

S-711

20" FM

EDGE OF PAVEMENT

EXIST. 15" RCP (TO REMAIN)

+61.93 22.95' (LT)

53+89.69 19.63' (LT)

MATCHLINE STA. 52+00

+18.00 23.00' (LT)

53 CONST. TYPE E CURB & GUTTER

115' R

12" RWM

REMOVE EXIST. PAVEMENT

REMOVE EXIST. CURB & GUTTER

53+75.95 49.00' (RT)

CONST. 6' CONC. SIDEWALK

EXIST 24" DIP WM

PROPOSED 6" PVC SLEEVE

S-712

53+66.80 65.00' (RT)

53+81.08 65.00' (RT)

24" WM

TOP =137.32' NW INV =131.48'

130+51.32 130.48' (LT)

130+32.92 95.00' (LT)

130+30.85 100.00' (LT)

130+37.06 85.00' (LT)

REMOVE EXISTING PVC SLEEVE

R/W LINE

CONST. TYPE F CURB & GUTTER

T.C.E./MAINTENANCE EASEMENT

UTILITY EASEMENT

10'

15'

S-707

R/W LINE

@ SURVEY PALM PKWY STA. 54+82.11 = STA. 131+17.24 @ CONST. STREET B

PROPOSED T.C.E.

CONST. TYPE E CURB & GUTTER

+00.29

EXIST 20" SAN FM

50' R

CR 2

53+83.71 4.80' (LT) 15.80' R

CR 105'

@ SURVEY

EXIST. 8" RWM

EXIST. 6" WM

CR 115'

PT STA 54+20.71

CONST. 6' CONC. SIDEWALK

54+06.71

EDGE OF PAVEMENT

50.0' R

CR 105'

+44.18

PGL

@ SURVEY & @ CONST.

130+17.74 54.00' (LT)

CONST. 18" PIPE

STREET B

WATER

S-709A

S-708

CONST. 18" PIPE

R/W LINE

+00.30

131+82.27 63.75' (RT)

TOP =136.57' SW INV=130.67'

S-710 INV=130.61'

50' R

55+61.14

CR 2

55+90.06 72.5' (LT)

CONST. 6' CONC. SIDEWALK

55+86.15 48.50' (LT)

20" FM

REMOVE EXISTING PVC SLEEVE

REMOVE EXIST. CURB & GUTTER, DRAINAGE STRUCTURE AND 15" RCP

CR 115'

N 35°37'14" E

+78.81 20.81' (RT)

CONST. 14"X23" ELLIP. PIPE

115.0' R

REMOVE EXISTING PVC SLEEVE

50.0' R

55+98.06 49.00' (RT)

55+73.00

S-709 TOP =136.54' NW INV=130.92'

CONST. 18" PIPE

CR 26

+37.71

PGL

130+18.29 66.00' (RT)

TOP =136.42' NW INV=131.71'

56+00.74 65.00' (RT)

T.C.E./MAINTENANCE EASEMENT

10'

130+32.77 85.00' (RT)

130+28.63 95.00' (RT)

R/W LINE

PROPOSED T.C.E.

PROPOSED R/W LINE

CONST. TYPE F CURB & GUTTER

R/W LINE

TOP =135.98' SE INV=129.41' NE INV=129.40'

S-716A

S-716

CONST. 8 LF OF 18" PIPE

PROPOSED 6" PVC SLEEVE

EXIST. 15" RCP (TO REMAIN)

PALM PARKWAY

EXIST. 12" RWM

55+84.08 11.30' (RT) 10.30' R

CONST. TYPE E CURB & GUTTER

+01.15 23.00' (RT)

PROPOSED 6" PVC SLEEVE

CONST. 6' CONC. SIDEWALK

55+86.60 65.0' (RT)

CONST. TYPE F CURB & GUTTER

S-717

TOP =135.85' NW INV=130.55'

24" WM

EDGE OF PAVEMENT

R/W LINE

MATCHLINE STA. 57+50

S-716A REFER TO SHEET NO. 3 FOR UTILITY CONFLICT STRUCTURE DETAIL

0 10 40 Feet

LEGEND:

LIMITS OF RECONSTRUCTION

NOTE: REFER TO STREET B PLAN & PROFILE SHEET FOR ADDITIONAL INFORMATION

BM:ETP5
STA. 54+86.19, 1.34' (LT)
EL 137.172
FOUND N&D STAMPED SSMC TRAV PT

135' V.C.

+55.00 EL. 138.82

PROP. PROFILE GRADE

(+) 1.700%

PI +50.00 EL. 140.44

(+) 1.000%

S-711

EXIST. 15" PIPE (TO REMAIN)

FL 131.01

FL 129.77

FL 129.81

EXIST. PROFILE GRADE

EXIST. 18" PIPE (TO REMAIN)

PI +82.09 EL. 140.76

PI +82.09 EL. 141.76

(+) 1.000% (-) 1.000%

18" PIPE

S-710

24" WM

20" SAN

FL 130.67

FL 130.70

200' V.C.

PI +00.00 EL. 140.58

(-) 1.000% (-) 1.700%

12" RWM

S-716

CONST. 18" PIPE

EXIST. 15" PIPE (TO REMAIN)

FL 133.80

FL 129.41

FL 129.40

EXIST. 18" PIPE (TO REMAIN)

138.03 138.28 138.58

140.92 141.07 141.17 141.24 141.26 141.28 141.18 141.09 140.96 140.78

138.22

136.64

150 140 130

52+00 53+00 54+00 55+00 56+00 57+00

SCALE HOR: 1"=40'
VERT: 1"=10'

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE PALM PARKWAY

SHEET NO. 17

3/12/2008 4:36:52 PM q:\ROADWAY\049280002_FentonSt\roadway\plprdt3_Palm.dgn

S-718A REFER TO SHEET NO. 3 FOR UTILITY CONFLICT STRUCTURE DETAIL

0 10 40 Feet

EXIST 20" SAN FM
PROPOSED R/W LINE
R/W LINE
TOP =135.31'
SW INV=128.22'
SE INV=128.69'
NE INV=128.26'
CONST. 8 LF OF 18" PIPE
S-718A
CONST. TYPE F CURB & GUTTER
+91.22
72.50' (LT)
TOP =131.57'
SSE INV=121.21'
SE INV=121.42'
NE INV=121.21'
+26.48
65.24' (LT)
TOP =123.28'
SW INV=123.28'
NW INV=121.51'
WATER
24" RCP
18" RCP
LEGEND:
LIMITS OF PAVEMENT WIDENING
LIMITS OF RECONSTRUCTION
7.5'
18" RCP
EDGE OF PAVEMENT
65'
61.5'
PGL
S-718
REMOVE EXIST. CURB & GUTTER
SAW CUT
REMOVE EXIST. CURB & GUTTER
+90.00
60.50' (LT)
EL 133.57
+57.50
23.00' (LT)
+66.55
23.00' (LT)
(MATCH EXISTING)
+40.00
48.50' (LT)
EL 133.42±
(MATCH EXISTING)
20" FM
15" RCP
EXIST 12" RWM
12" RWM
EXIST. 15" RCP (TO REMAIN)
58
59
60
61
62
PALM PARKWAY
CL MEDIAN
RWM
MATCHLINE STA. 57+50
CL MEDIAN
50D
22'
N 38°37'14" E
℄ SURVEY & ℄ CONST.
℄ BM
CONST. TYPE E CURB & GUTTER
END ROADWAY RECONST. SAWCUT & MATCH EXIST. PAVT. STA. 59+57.50 ℄ SURVEY PALM PKWY
END CONSTRUCTION END ROADWAY WIDENING STA. 61+40.00 ℄ SURVEY PALM PKWY (MATCH EXISTING)
+57.50
23.00' (RT)
65'
26'
PGL
REMOVE EXIST. CURB & GUTTER
EDGE OF PAVEMENT
EDGE OF PAVEMENT
S-719
CONST. TYPE F CURB & GUTTER
24" WM
TOP=135.36'
NW INV=129.42'
TOP =132.87'
NW INV=126.93'
EXIST 24" DIP WM
R/W LINE
WATER

BM: FTP3
STA. 60+33.61, 14.50' (RT)
EL 135.234
SET N&D STAMPED LB6556 TRAV PT

END PROPOSED PROFILE
STA. 59+57.50
℄ SURVEY PALM PKWY
ELEV. 135.29
END CONSTRUCTION
STA. 61+40.00
℄ SURVEY PALM PKWY
(MATCH EXISTING)
135' V.C.
+22.50 EL. 135.80
+57.50 EL. 135.29
138.03
136.51
136.22
135.96
135.74
135.55
135.40
131.48
PROP. PROFILE GRADE
EXIST. PROFILE GRADE
136.64
(-) 1.70%
(-) 0.53%
S-718
PI +90.00
EL 135.65
CONST. 18" PIPE
FL 130.40
FL 128.26
EXIST. 18" PIPE (TO REMAIN)
FL 128.22
FL 128.09
FL 128.26
EXIST. 15" PIPE (TO REMAIN)
24" WM
12" RWM
20" SAN
EXIST. 18" PIPE (TO REMAIN)
FL 123.28
EXIST. 18" PIPE (TO REMAIN)
SCALE HOR: 1"=40'
VERT: 1"=10'
150
140
130
58+00
59+00
60+00
61+00
62+00
63+00

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PLAN & PROFILE PALM PARKWAY

SHEET NO. 18

1/17/2008 11:33:50 AM q:\ROADWAY\049280002_FentonSt\roadway\plprfdt4_Palm.dgn

STA. 131+07.24
℄ CONST. STREET B =
℄ SURVEY PALM PKWY
STA. 54+82.11

L.A. R/W LINE

UTILITY EASEMENT

T.C.E./MAINTENANCE EASEMENT

R/W LINE

R/W LINE

PALM PARKWAY

EDGE OF PAVEMENT

R/W LINE

T.C.E.

0 10 40
Feet

S-703

S-705

S-707

CONST. 18" PIPE

PGL

OAK TREES & PINE TREES

127

℄ SURVEY & ℄ CONST.

128

129

130

131

132

STREET B

N 51°21'11" W

S-709A

S-709

S-710

S-704

S-706

S-708

CONST. 18" PIPE

R/W LINE

T.C.E./MAINTENANCE EASEMENT

POND 1

L.A. R/W LINE

NOTE:

REFER TO PLAN & PROFILE SHEETS
FOR ADDITIONAL INFORMATION

PT STA 54+20.11

53

55

56

END PROJECT
END CONSTRUCTION
STA. 132+27.79
℄ CONST. STREET B

PROPOSED R/W LINE

R/W LINE

PGL

PGL

EDGE OF PAVEMENT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Corporate Registration
No. CA 00000696

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3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

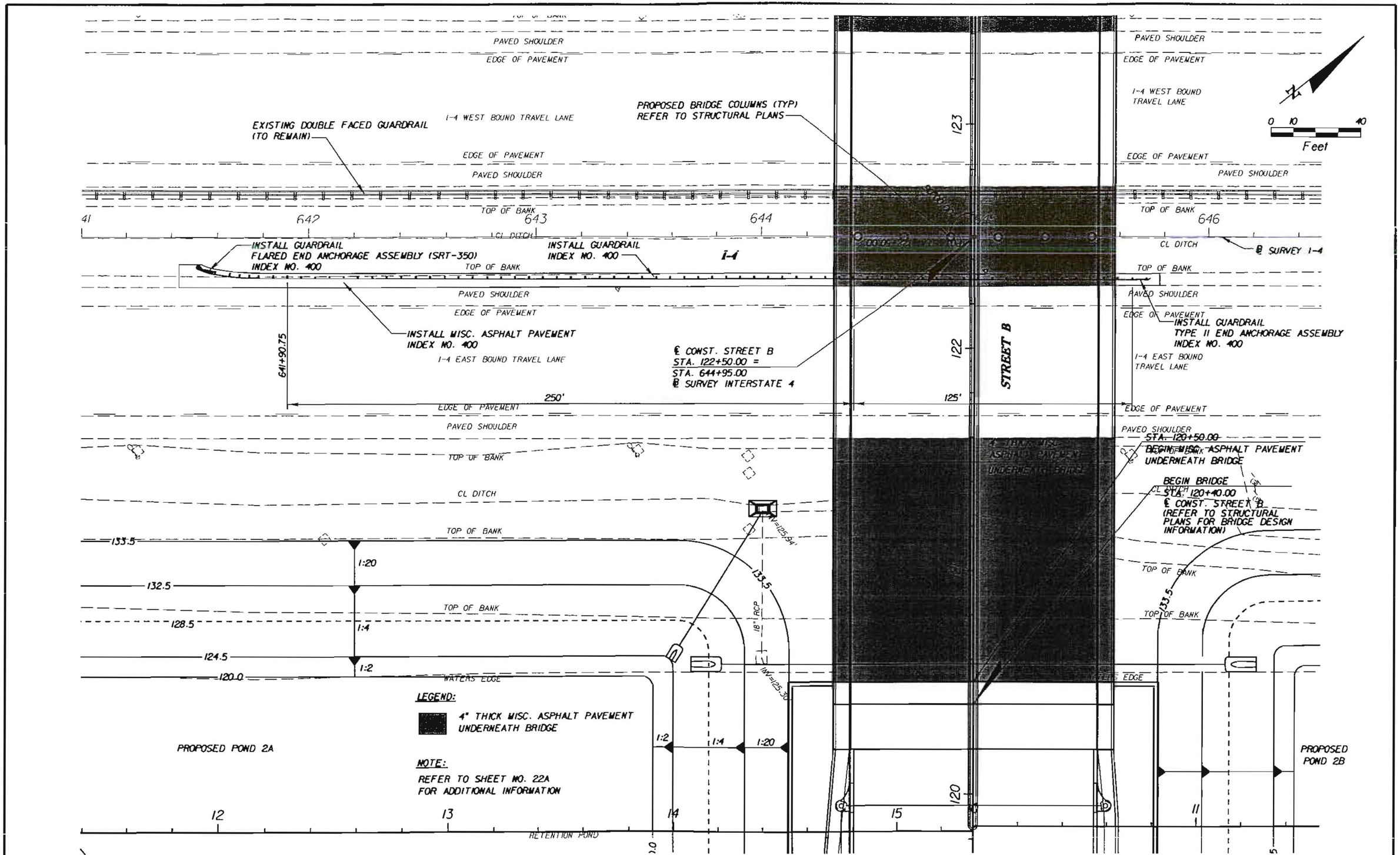
ORANGE COUNTY GOVERNMENT FLORIDA

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

INTERSECTION DETAIL
PALM PARKWAY

SHEET NO. 19

3/20/2008 11:27:34 AM q:\ROADWAY\049280002_FantonSt\roadway\Intprd01_R.dgn



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PLAN INTERSTATE 4

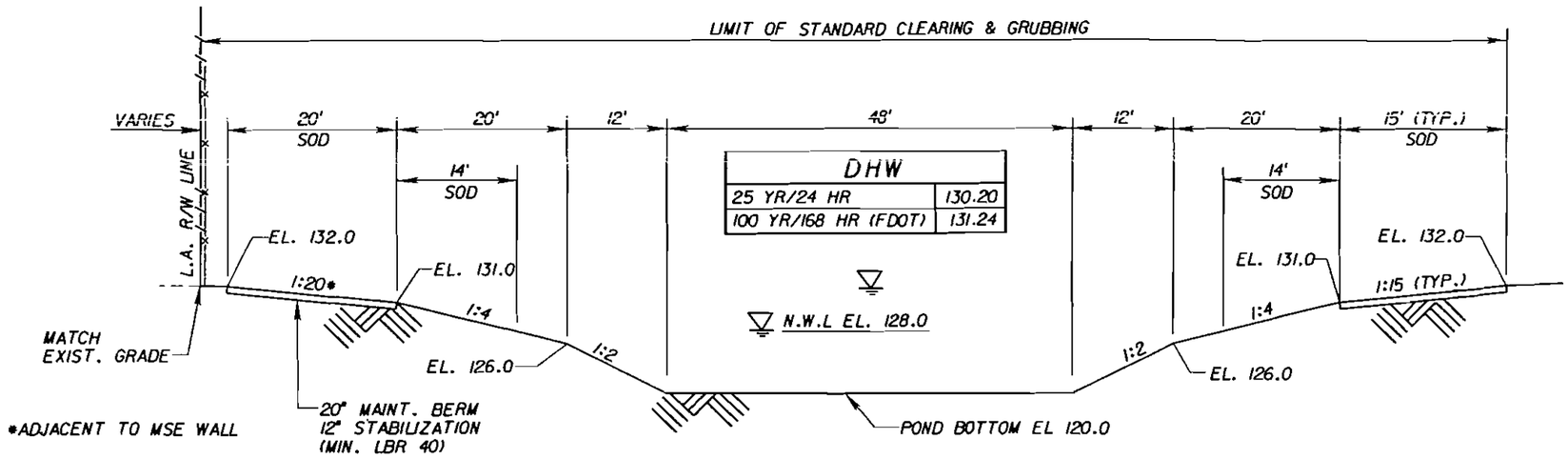
SHEET NO. 19A

3/25/2008 8:36:31 AM q:\ROADWAY\049280002_FentonSt\roadway\plprrd02A_N.dgn

NOTES:

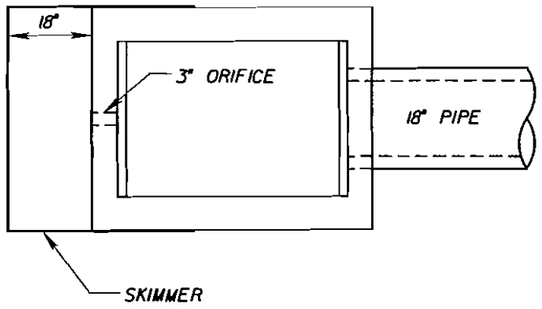
1. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL, AND SHALL BE INCLUDED IN THE UNIT PRICE BID "INLET" (TYPE 'C')

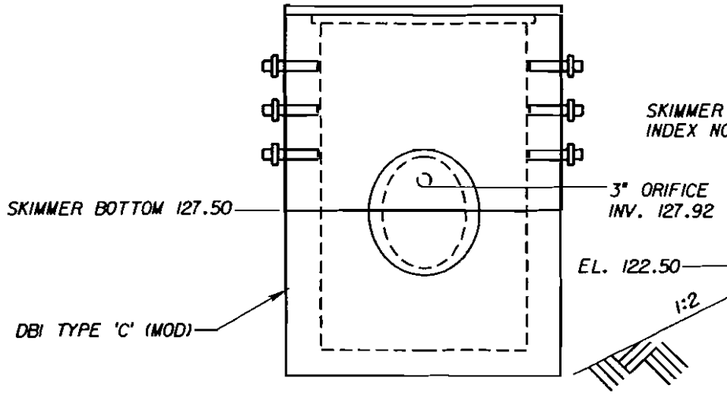
2. ALL STATION AND OFFSETS ARE REFERENCED FROM CENTER LINE CONSTRUCTION STREET 'B', UNLESS OTHERWISE NOTED.

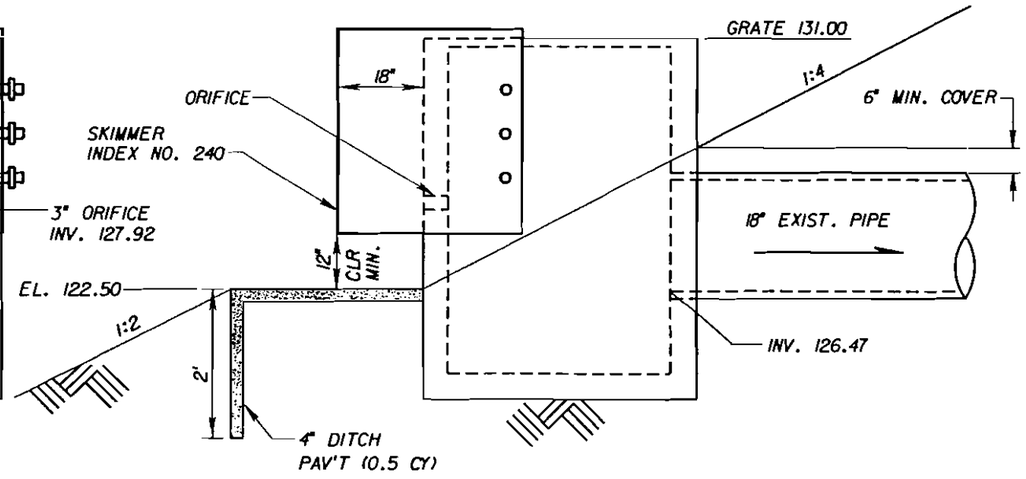


POND TYPICAL SECTION

N.T.S.







NOTE:

THE PRECAST CONCRETE MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND DESIGN COMPUTATIONS PREPARED BY A STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE ENGINEER PRIOR TO CASTING ANY OF PRECAST UNITS NOT COVERED BY THE FL. STD. DETAILS

POND CONTROL STRUCTURE DETAIL

N.T.S.

S-748

POND 1

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
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3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

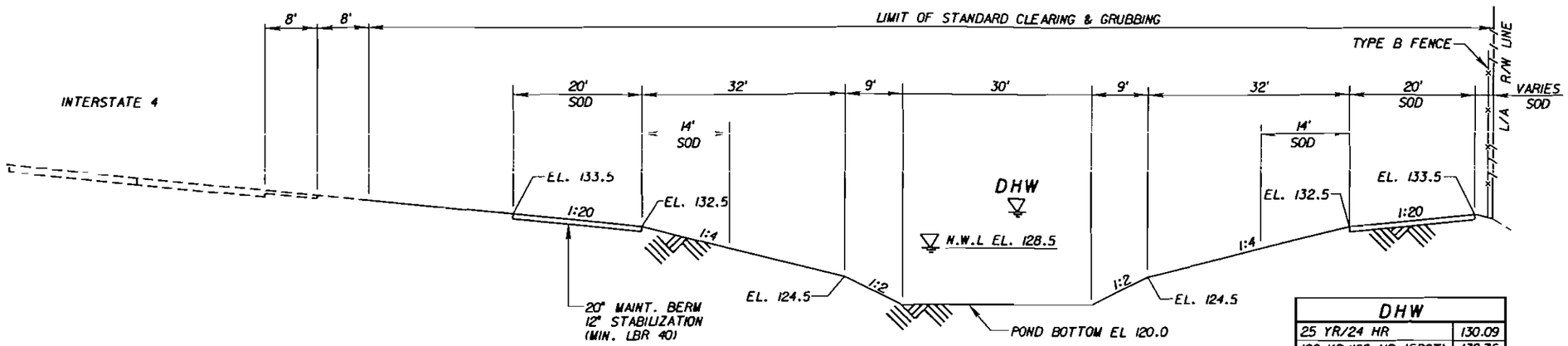
SHEET NO. 20

1/31/2008 3:23:23 PM Q:\ROADWAY\Q49280002_FentonSt\drainage\DRDTRD02_N_V8.dgn

NOTES:

1. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL, AND SHALL BE INCLUDED IN THE UNIT PRICE BID "INLET" (TYPE 'C')

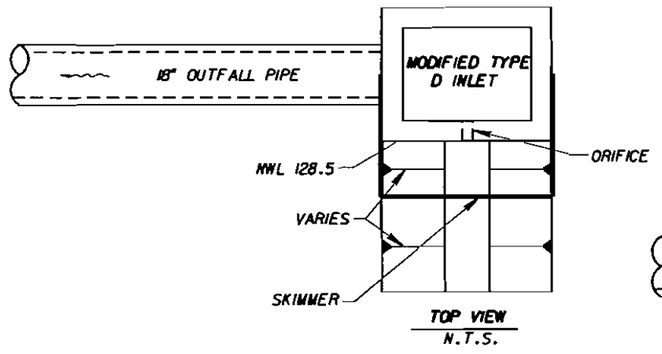
2. ALL STATION AND OFFSETS ARE REFERENCED FROM CENTER LINE CONSTRUCTION STREET 'B', UNLESS OTHERWISE NOTED.



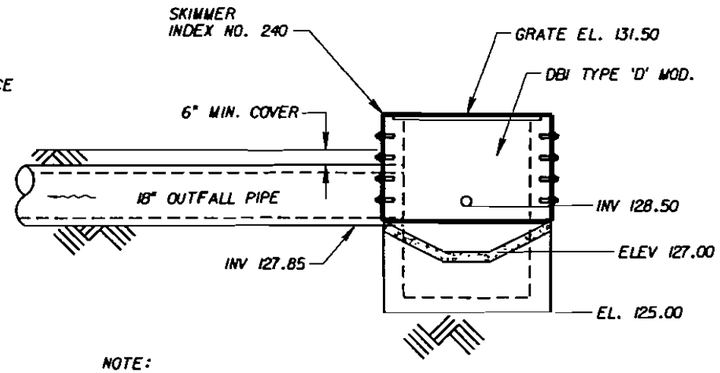
DHW	
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

POND TYPICAL SECTION

N.T.S.

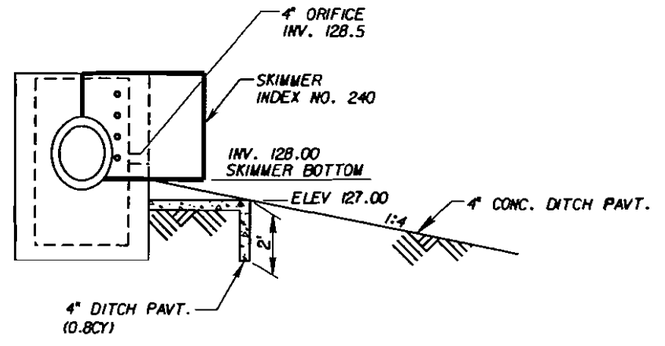


TOP VIEW
N.T.S.



NOTE:

THE PRECAST CONCRETE MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND DESIGN COMPUTATIONS PREPARED BY A STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE ENGINEER PRIOR TO CASTING ANY OF PRECAST UNITS NOT COVERED BY THE FL. STD. DETAILS



POND CONTROL STRUCTURE DETAIL

N.T.S.

S-744

PONDS 2A & 2B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

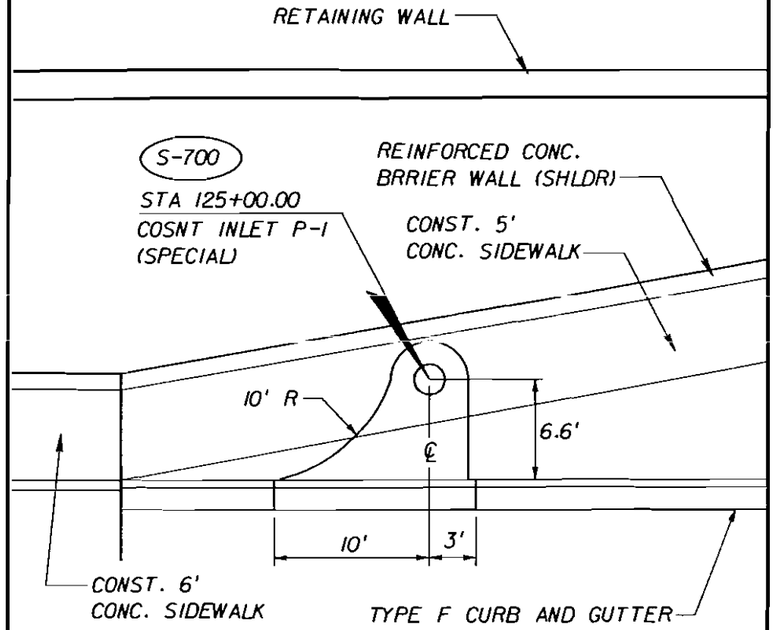
Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

SHEET NO. 21

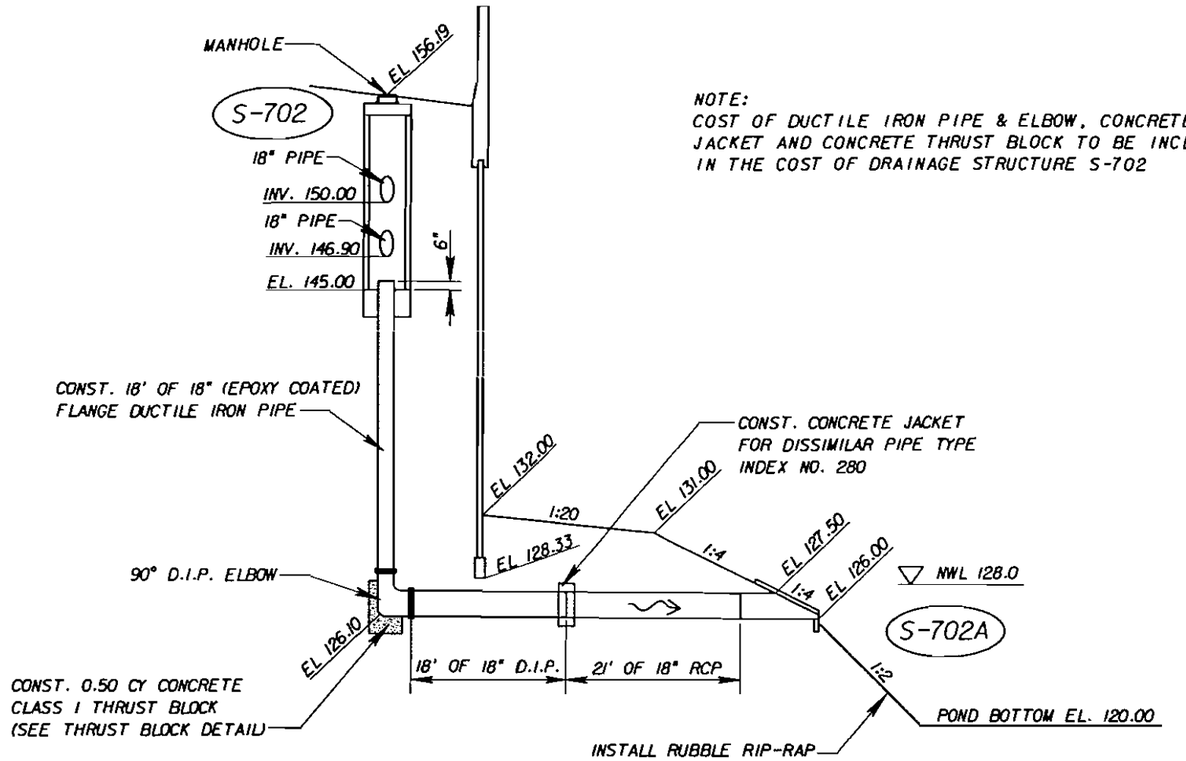
1/31/2008 3:23:53 PM Q:\ROADWAY\049280002_FentonSt\drainage\DRDTR001_N_V8.dgn



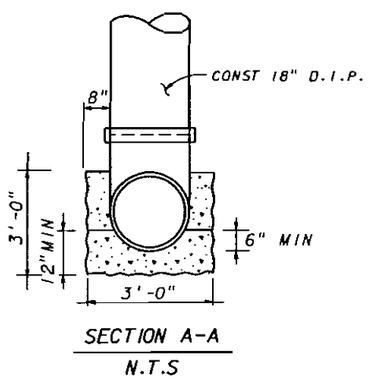
S-700 DETAIL

N.T.S.

STA. 125+00.00 (LT)

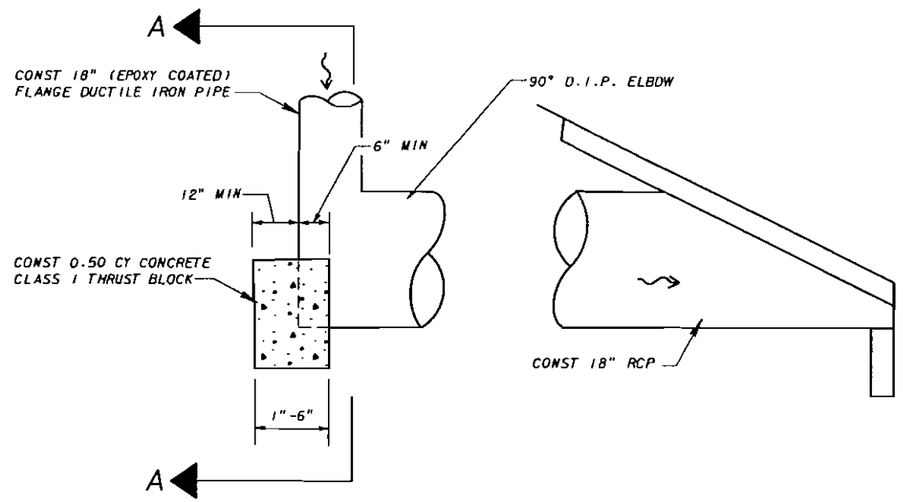


NOTE:
COST OF DUCTILE IRON PIPE & ELBOW, CONCRETE JACKET AND CONCRETE THRUST BLOCK TO BE INCLUDED IN THE COST OF DRAINAGE STRUCTURE S-702



SECTION A-A

N.T.S



THRUST BLOCK DETAILS

N.T.S.

DATE	BY	DESCRIPTION

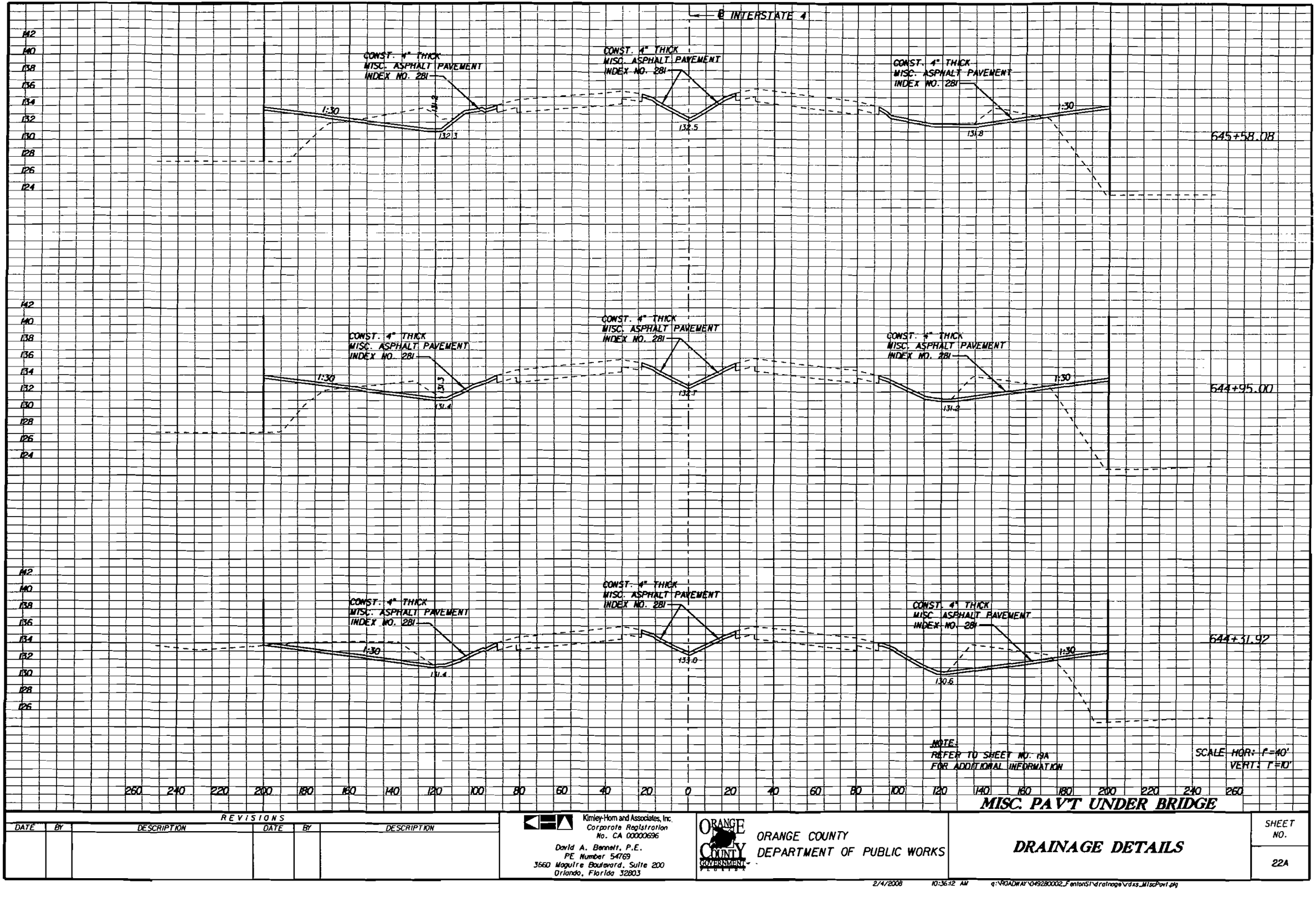
Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

SHEET NO. 22

jorge.ferrer 2/4/2008 10:57:04 AM Q:\ROADWAY\049280002_FentonSt\drainage\DRDTR003_N_V8.dgn



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
David A. Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

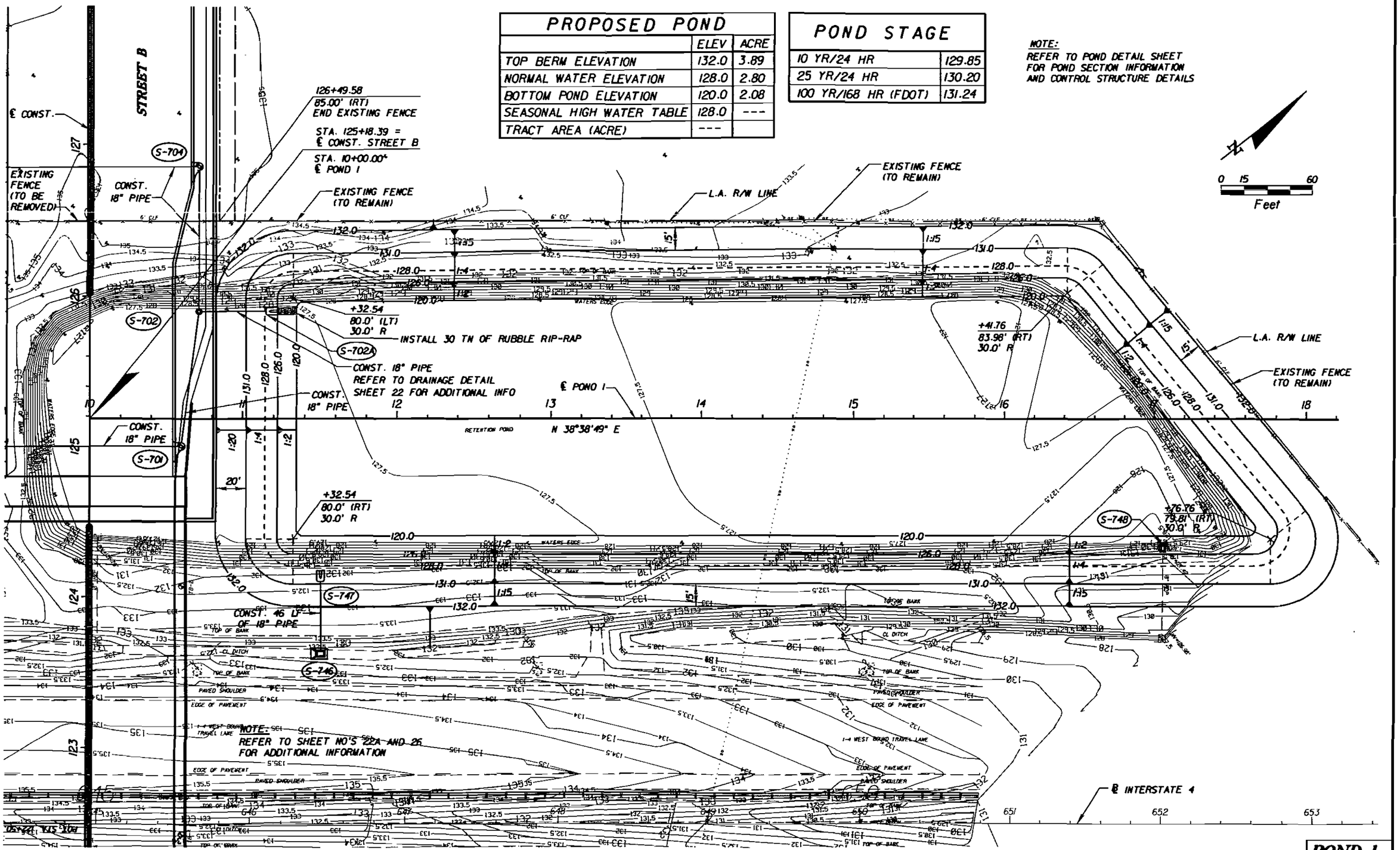
SHEET NO. 22A

2/4/2008 10:36:12 AM q:\ROADWAY\049280002_FentonSt\drainage\rdxs_MiscPavt.dgn

PROPOSED POND	ELEV	ACRE
TOP BERM ELEVATION	132.0	3.89
NORMAL WATER ELEVATION	128.0	2.80
BOTTOM POND ELEVATION	120.0	2.08
SEASONAL HIGH WATER TABLE	128.0	---
TRACT AREA (ACRE)	---	

POND STAGE	
10 YR/24 HR	129.85
25 YR/24 HR	130.20
100 YR/168 HR (FDOT)	131.24

NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS



POND 1

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

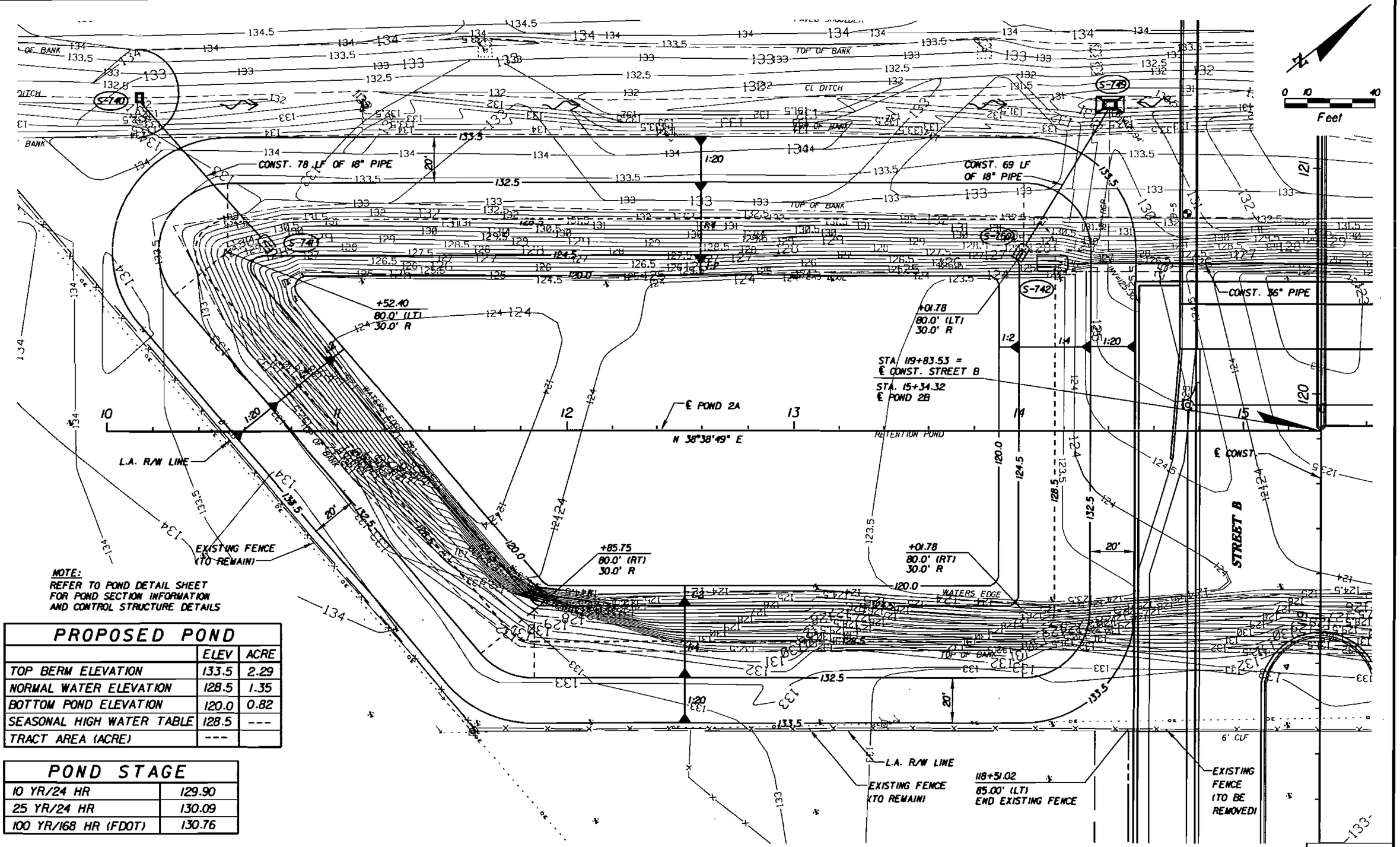
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PROPOSED RETENTION POND

SHEET NO. 23

3/20/2008 11:39:48 AM q:\ROADWAY\049280002_FentonSt\drainage\RETARD03_N.dgn



NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS

PROPOSED POND	ELEV	ACRE
TOP BERM ELEVATION	133.5	2.29
NORMAL WATER ELEVATION	128.5	1.35
BOTTOM POND ELEVATION	120.0	0.82
SEASONAL HIGH WATER TABLE	128.5	---
TRACT AREA (ACRE)	---	

POND STAGE	
10 YR/24 HR	129.90
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

POND 2A

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

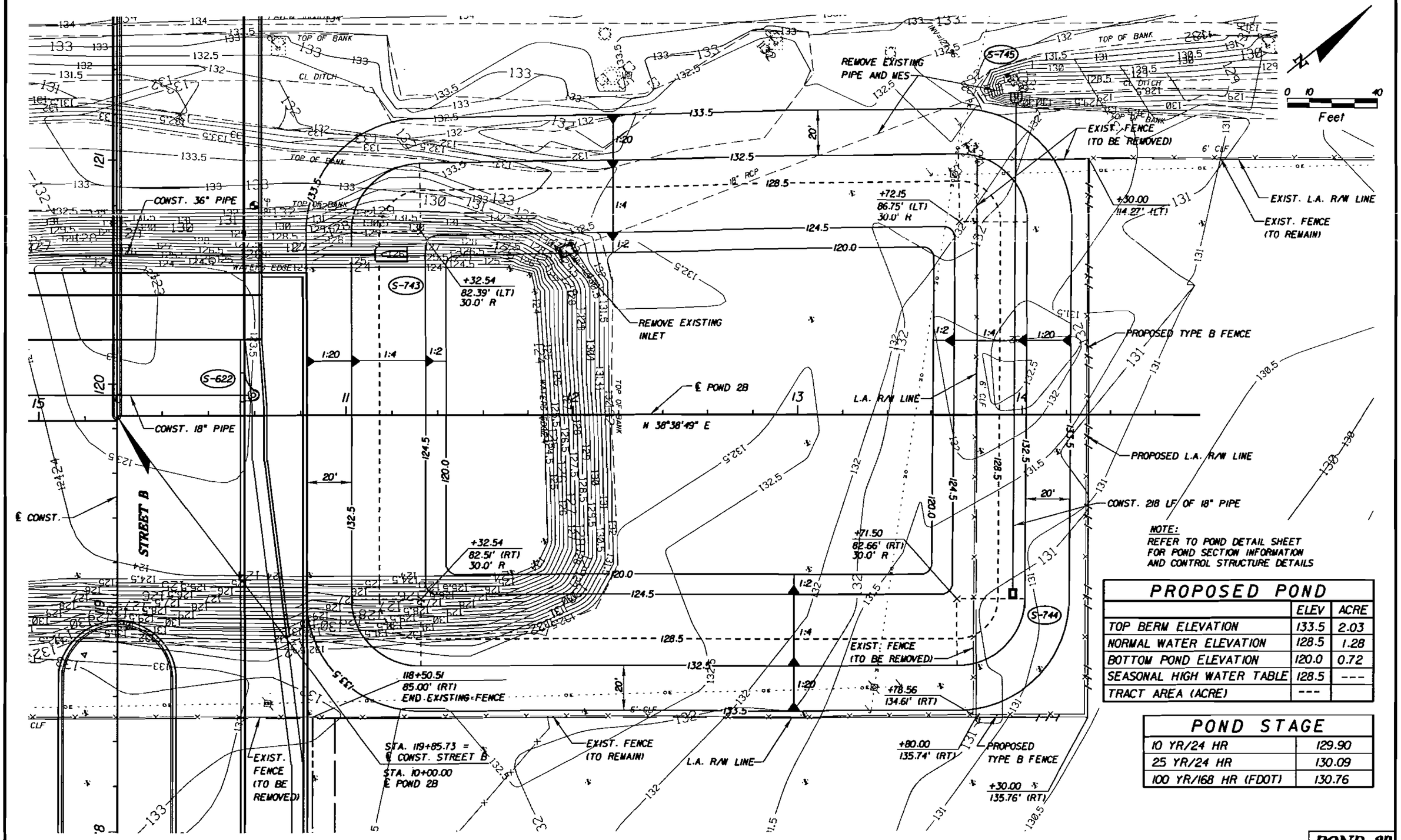
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PROPOSED RETENTION POND

SHEET NO. 24

5/20/2008 11:59:44 AM q:\ROADWAY\049280002_FentonSt\drainage\RETARD01_N.dgn



NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS

PROPOSED POND

	ELEV	ACRE
TOP BERM ELEVATION	133.5	2.03
NORMAL WATER ELEVATION	128.5	1.28
BOTTOM POND ELEVATION	120.0	0.72
SEASONAL HIGH WATER TABLE	128.5	---
TRACT AREA (ACRE)	---	

POND STAGE

10 YR/24 HR	129.90
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

POND 2B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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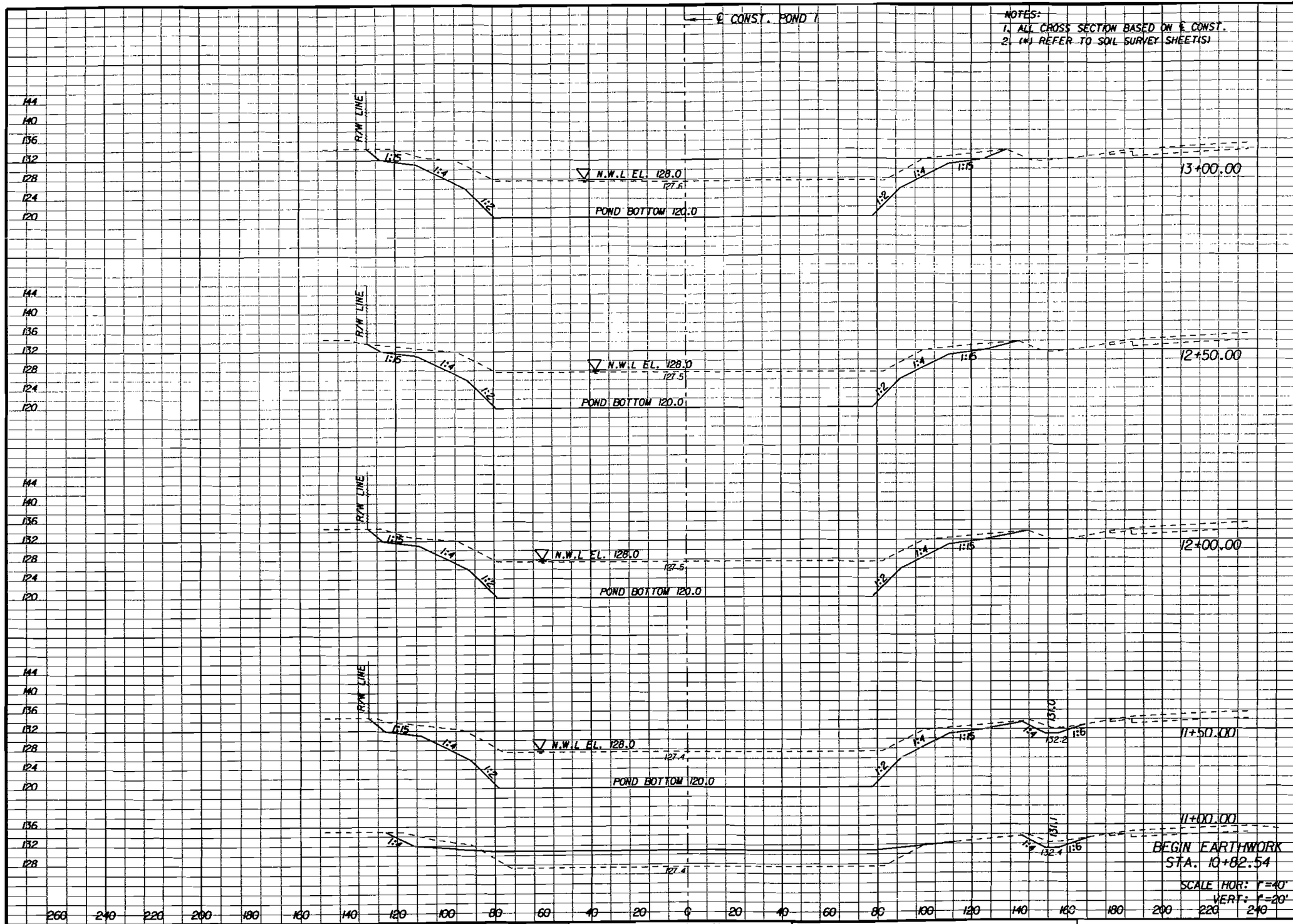
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PROPOSED RETENTION POND

SHEET NO. 25

1/31/2006 3:25:35 PM q:\ROADWAY\049280002_FentonSt\drainage\RETAR002_N.dgn



Regular Exc.		Embankment	
A	V	A	V
1528.2		0.0	
	2811		0
1508.0		0.0	
	2798		0
1514.0		0.0	
	2805		0
1515.8		0.0	
	1453		543
53.8		586.1	
	17		190

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
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3660 Maguire Boulevard, Suite 200
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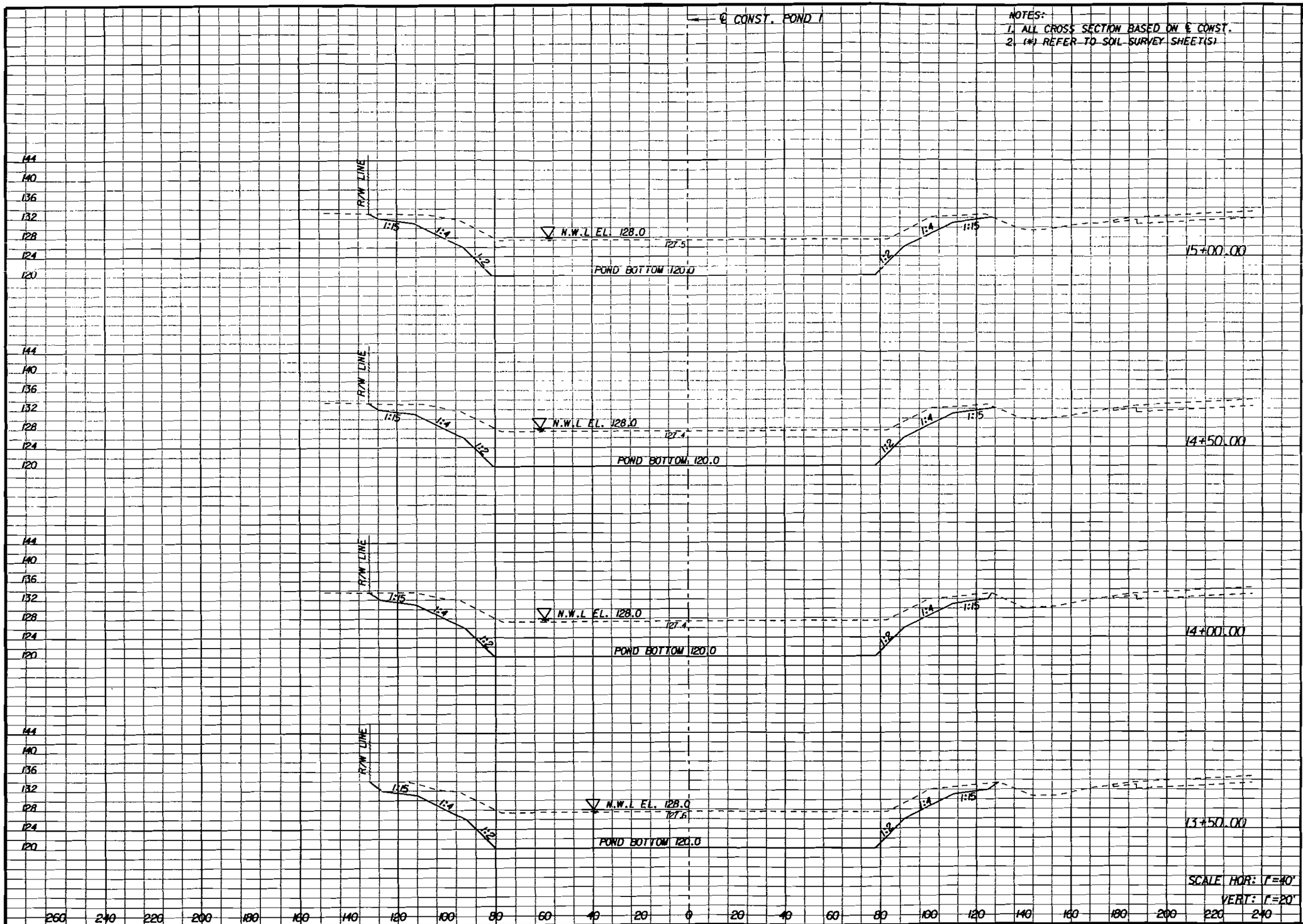
ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 1

SHEET NO.
26

1/17/2008 5:07:20 PM q:\ROADWAY\049280002_FentonSt\drainage\rdss_Pond1_40SCL.plg

NOTES:
1. ALL CROSS SECTION BASED ON ℄ CONST.
2. (*) REFER TO SOIL SURVEY SHEET(S)



SCALE HOR: 1"=40'
VERT: 1"=20'

Regular Exc.		Embankment	
A	V	A	V
1497.9		0.0	
	2774		0
1497.5		0.0	
	2781		0
1505.5		0.0	
	2805		0
1524.3		0.0	
	2826		0

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 1

SHEET NO. 27

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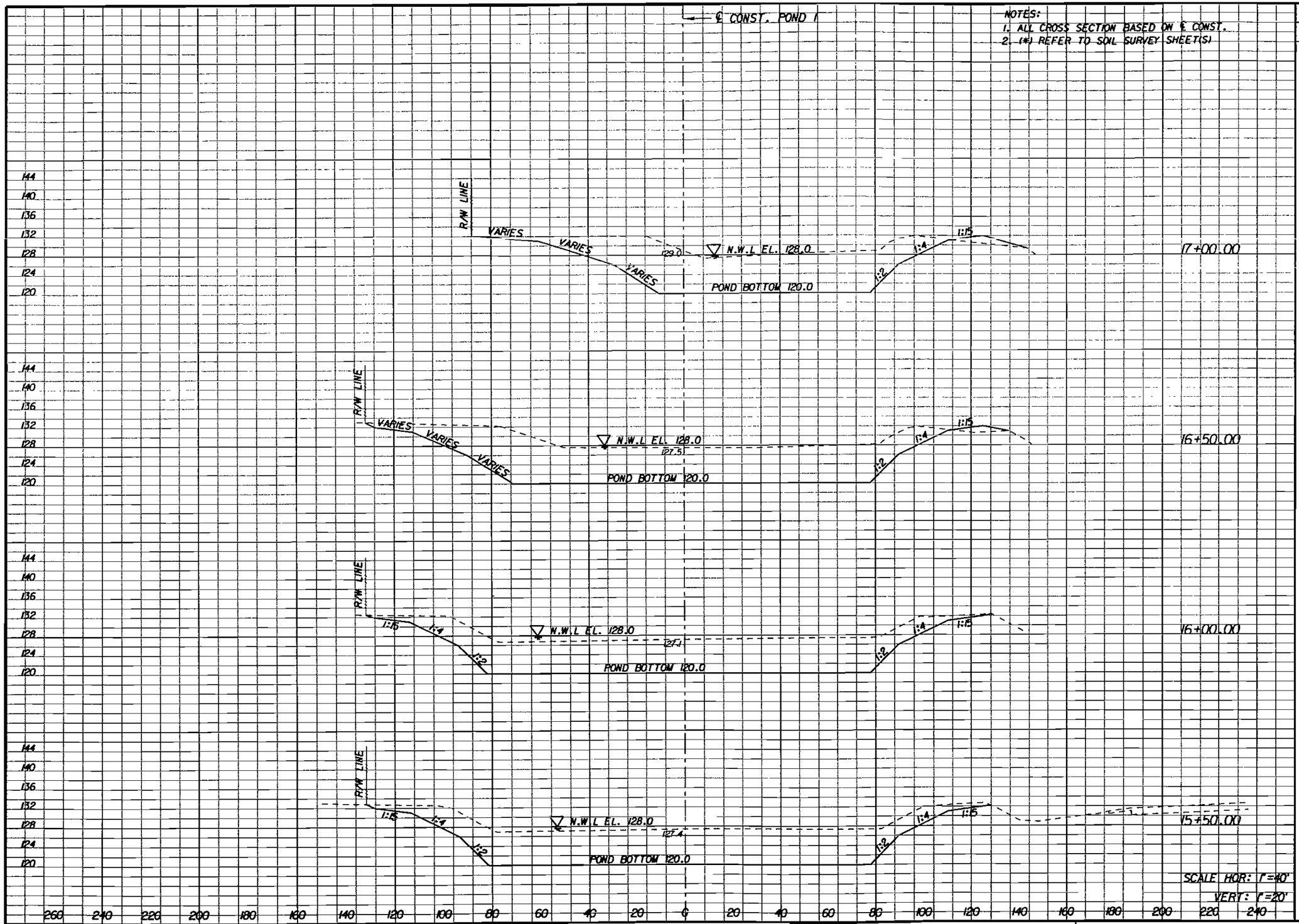
NOTES:
1. ALL CROSS SECTION BASED ON ℄ CONST.
2. (*) REFER TO SOIL SURVEY SHEET(S)



Regular Exc.		Embankment	
A	V	A	V
1161.9		26.7	
	2545		41
1586.2		17.4	
	2796		16
1433.1		0.0	
	2689		0
1471.2		0.0	
	2749		0

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
		- -			

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ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 1

SHEET NO. 28

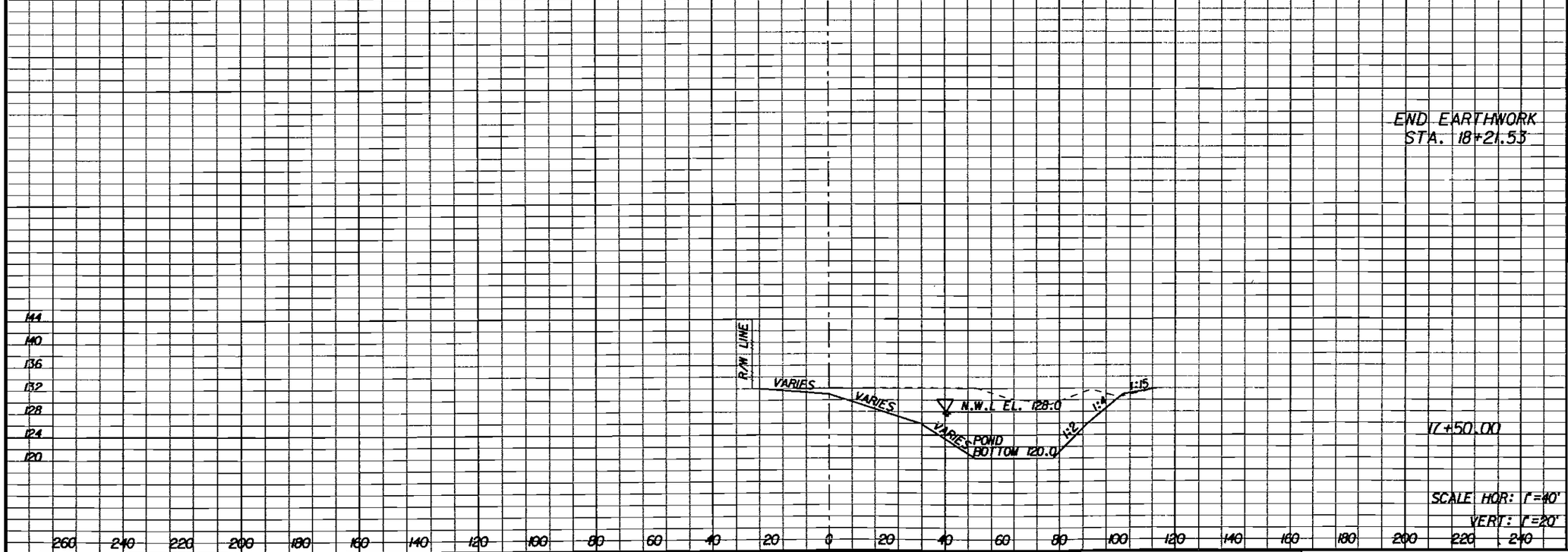
1/17/2008 5:07:51 PM q:\ROADWAY\049280002_FentonSt\drainage\xdss_Pond1_40SCL.plg

← ℄ CONST. POND 1

SUMMARY OF EARTHWORK
POND 1

SUBSOIL EXCAVATION	= 0 C.Y.
REGULAR EXCAVATION	= 34,507 C.Y.
EMBANKENT	= 815 C.Y.

NOTES:
1. ALL CROSS SECTION BASED ON ℄ CONST.
2. (*) REFER TO SOIL SURVEY SHEET(S)



END EARTHWORK
STA. 18+21.53

17+50.00

SCALE HOR: 1"=40'
VERT: 1"=20'

Regular Exc.		Embankment	
A	V	A	V
0.0		0.0	
	931		0
703.1		0.0	
	1727		25

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696

David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 1

SHEET NO. 29

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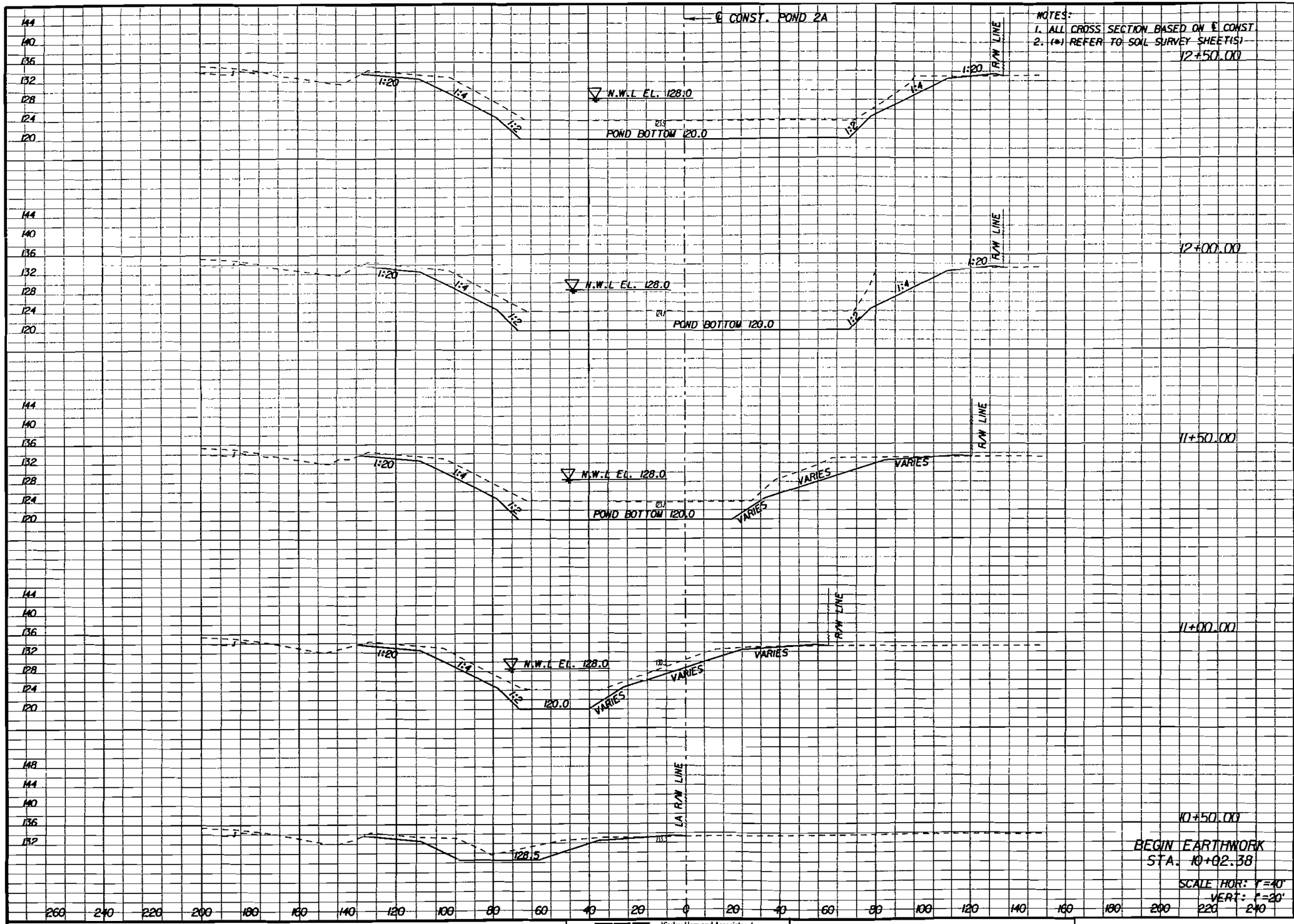

Regular Exc.		Embankment	
A	V	A	V
768.9		3.1	
	1523		5
875.5		2.4	
	1420		4
658.0		2.2	
	938		5
355.5		2.7	
	512		4
197.0		1.7	
	174		2
0.0		0.0	

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
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ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 2A

SHEET NO. 30

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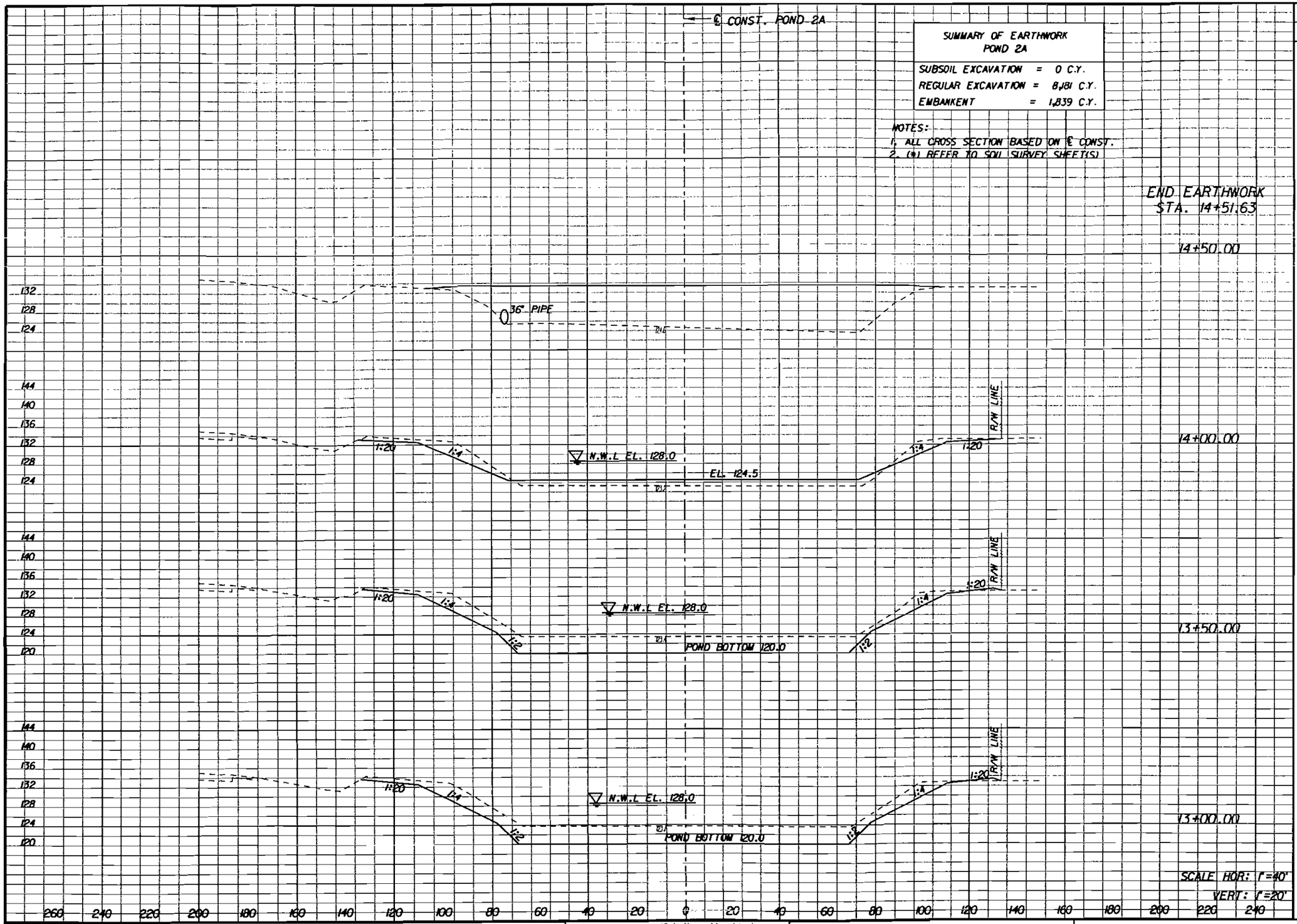

SUMMARY OF EARTHWORK
POND 2A

SUBSOIL EXCAVATION	= 0 C.Y.
REGULAR EXCAVATION	= 8,181 C.Y.
EMBANKENT	= 1,839 C.Y.

NOTES:
1. ALL CROSS SECTION BASED ON ℄ CONST.
2. (*) REFER TO SOIL SURVEY SHEET(S)

	Regular Exc.		Embankment	
	A	V	A	V
END EARTHWORK STA. 14+51.63	0.0		0.0	
14+50.00		0		46
	0.0		1510.1	
		128		1577
14+00.00	138.4		193.5	
		763		182
13+50.00	685.9		3.0	
		1323		7
13+00.00	742.9		4.4	
		1400		7

SCALE HOR: 1"=40'
VERT: 1"=20'

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
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3660 Maguire Boulevard, Suite 200
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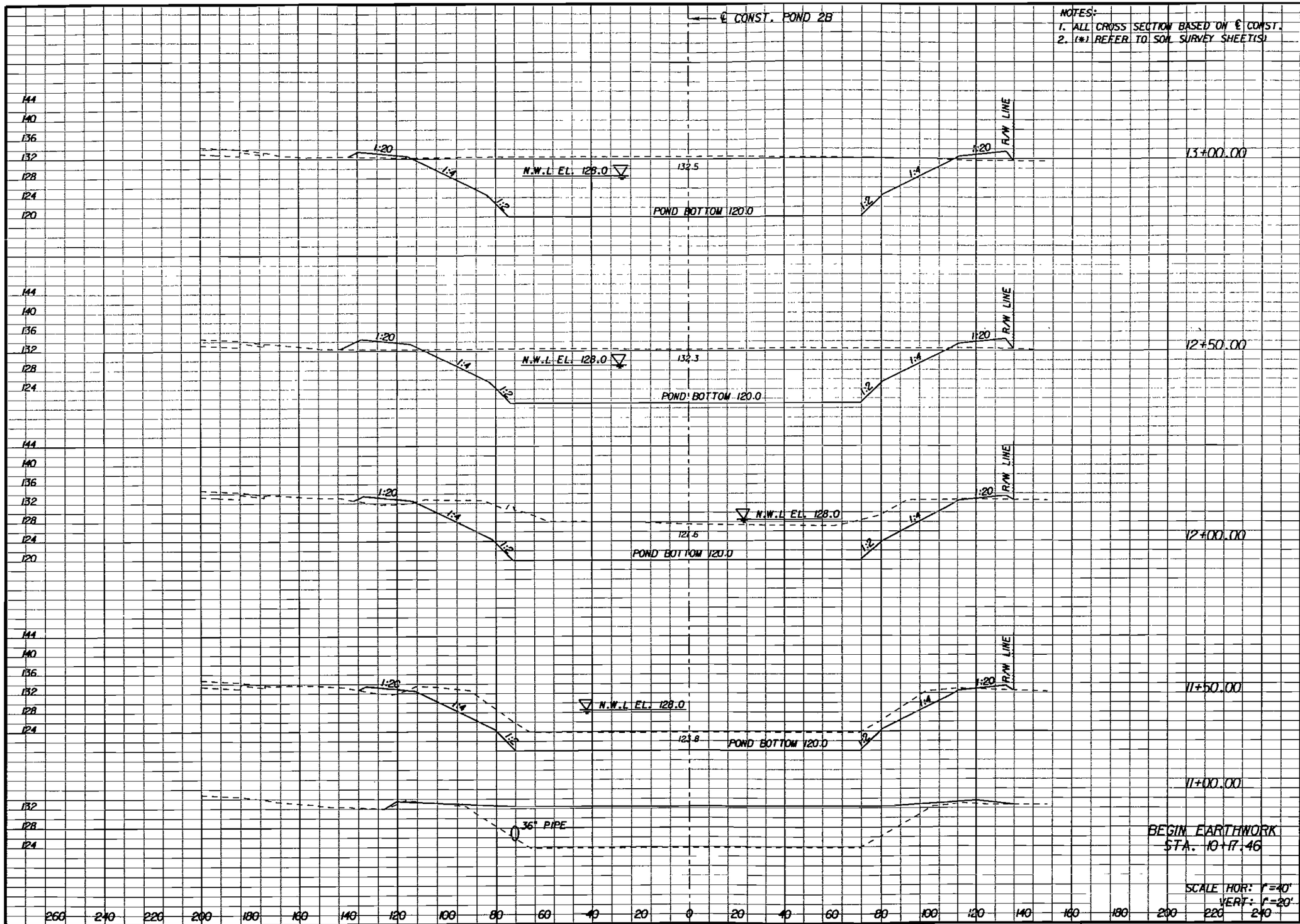
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 2A

SHEET NO. 31

1/17/2008 5:08:56 PM q:\ROADWAY\049280002_FentonSt\drainage\rdxs_Pond2A_40SCL.dgn



Regular Exc.		Embankment	
A	V	A	V
2226.0		48.4	
	3932		118
2020.2		78.8	
	3288		104
1531.0		33.0	
	2182		54
825.7		25.0	
	765		1337
0.0		1419.0	
	0		2169
0.0		0.0	

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
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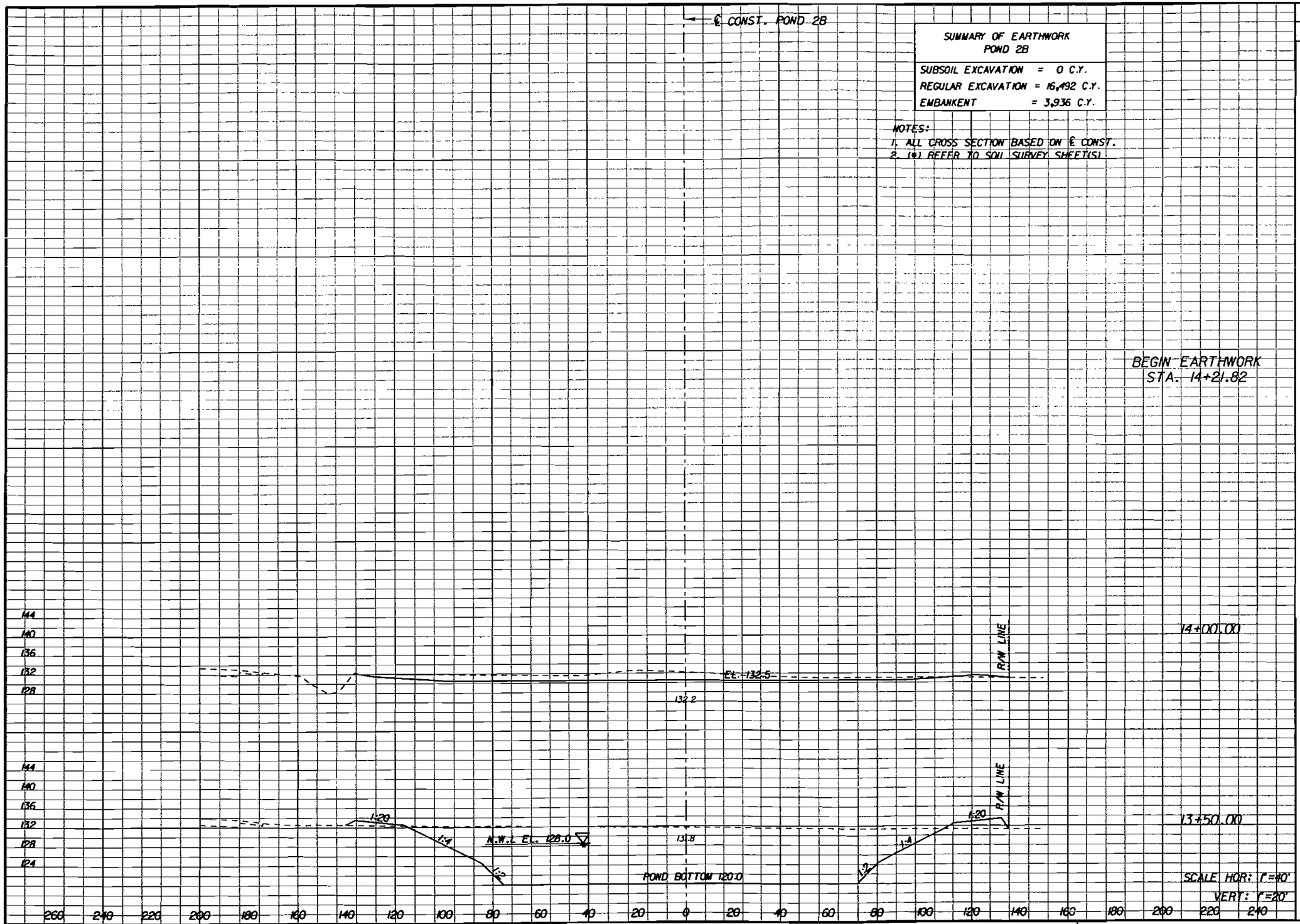
ORANGE COUNTY GOVERNMENT FLORIDA

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 2B

SHEET NO. 32

1/17/2008 5:09:25 PM q:\ROADWAY\049280002_FentonSt\drainage\rdxs_Pond2B_40SCL.dgn



SUMMARY OF EARTHWORK
POND 2B

SUBSOIL EXCAVATION	= 0 C.Y.
REGULAR EXCAVATION	= 16,492 C.Y.
EMBANKENT	= 3,936 C.Y.

NOTES:
1. ALL CROSS SECTION BASED ON ℄ CONST.
2. (*) REFER TO SOIL SURVEY SHEET(S)

BEGIN EARTHWORK
STA. 14+21.82

Regular Exc.		Embankment	
A	V	A	V
0.0		0.0	
	104		3
258.0		6.2	
	2199		56
2117.3		53.8	
	4022		95

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
			- -		

Kimley-Horn and Associates, Inc.
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PE Number 54769
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ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS
POND 2B

SHEET NO. 33

1/17/2008 5:09:39 PM q:\ROADWAY\049280002_FentonSt\drainage\rdxs_Pond2B_40SCL.dgn

ROAD No. STREETS "A" AND "B"
SUBMITTED BY: RICHARD G. ACREE, P.E.
ELIAS N. JAMMAL, P.E.

DATE OF SURVEY: SEPTEMBER–OCTOBER, DECEMBER 2004
MAY–JULY 2005
SURVEYED BY: NODARSE AND ASSOCIATES, INC.
SURVEY BEGINS: 77+00
SURVEY ENDS: 131+00
DATE REPORTED: DECEMBER 2007

							CONSTANTS MATERIAL PASS NO. 40 SIEVE											SUBSTRUCTURE ENVIRONMENTAL CLASSIFICATION	
STRATUM No.	LBR VALUE	% PASSING 10 MESH	% PASSING 40 MESH	% PASSING 60 MESH	% PASSING 100 MESH	% PASSING 200 MESH	LIQUID LIMIT	PLASTICITY INDEX	ORGANIC CONTENT	No. LBR TESTS	No. GRAD. TESTS	No. LL–PI TESTS	No. ORGANIC CONTENT TESTS	CLASS GROUP	MATERIAL DESCRIPTION	pH	RESISTIVITY OHM–CM	CHLORIDES PPM	SULFATES PPM	CONCRETE	STEEL
1	30–62	99–100	91–93	45–54	9–14	2–7	–	–	–	3	8	–	–	A–3	LIGHT GRAY TO BROWN FINE SAND TO FINE SAND WITH SILT	–	–	–	–	–	–
2	31	100	91–94	49–56	10–13	3–6	–	–	–	1	5	–	–	A–3	GRAYISH BROWN TO DARK REDDISH BROWN FINE SAND TO FINE SAND WITH SILT	–	–	–	–	–	–
3	–	100	89–94	46–61	17–25	11–20	–	–	–	–	3	–	–	A–2–4	DARK BROWN AND REDDISH–BROWN SILTY FINE SAND	–	–	–	–	–	–

NOTES:

1) STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH TEST HOLE LOCATION ONLY. ANY STRATUM CONNECTING LINES THAT ARE SHOWN ARE FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2–4 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2004). FOR FURTHER DETAILS SEE SECTION 120–3.

2) WATER TABLE SHOWN AS ⧗ WHERE ENCOUNTERED AT TIME OF SURVEY. ESTIMATED SEASONAL HIGH GROUNDWATER TABLE SHOW AS ▽ . GROUNDWATER NOT ENCOUNTERED SHOWN AS "GNE".

3) REMOVAL OF MUCK AND PLASTIC MATERIAL OCCURRING WITHIN ROADWAY SHALL BE ACCOMPLISHED IN ACCORDANCE WITH INDEX No. 500 OF FDOT DESIGN STANDARDS UNLESS OTHERWISE SHOWN ON PLANS. THE MATERIAL USED IN EMBANKMENT CONSTRUCTION SHALL BE IN ACCOROANCE WITH INDEX No. 505 OF FDOT DESIGN STANDARDS.

4) SOIL ANALYSIS INCLUDES DATA FROM ROADWAYS AND POND AREAS

5) THE SYMBOL "–" REPRESENTS AN UNMEASURED PARAMETER.

6) STRATA 1, 2, AND 3 SHALL BE TREATED AS SELECT (S) MATERIAL IN ACCORDANCE WITH INDEX No. 505.

7) STRATUM 3 MAY RETAIN EXCESS MOSTURE AND MAY BE DIFFICULT TO DRY AND COMPACT.

REVISIONS

Date	By	Description	Date	By	Description

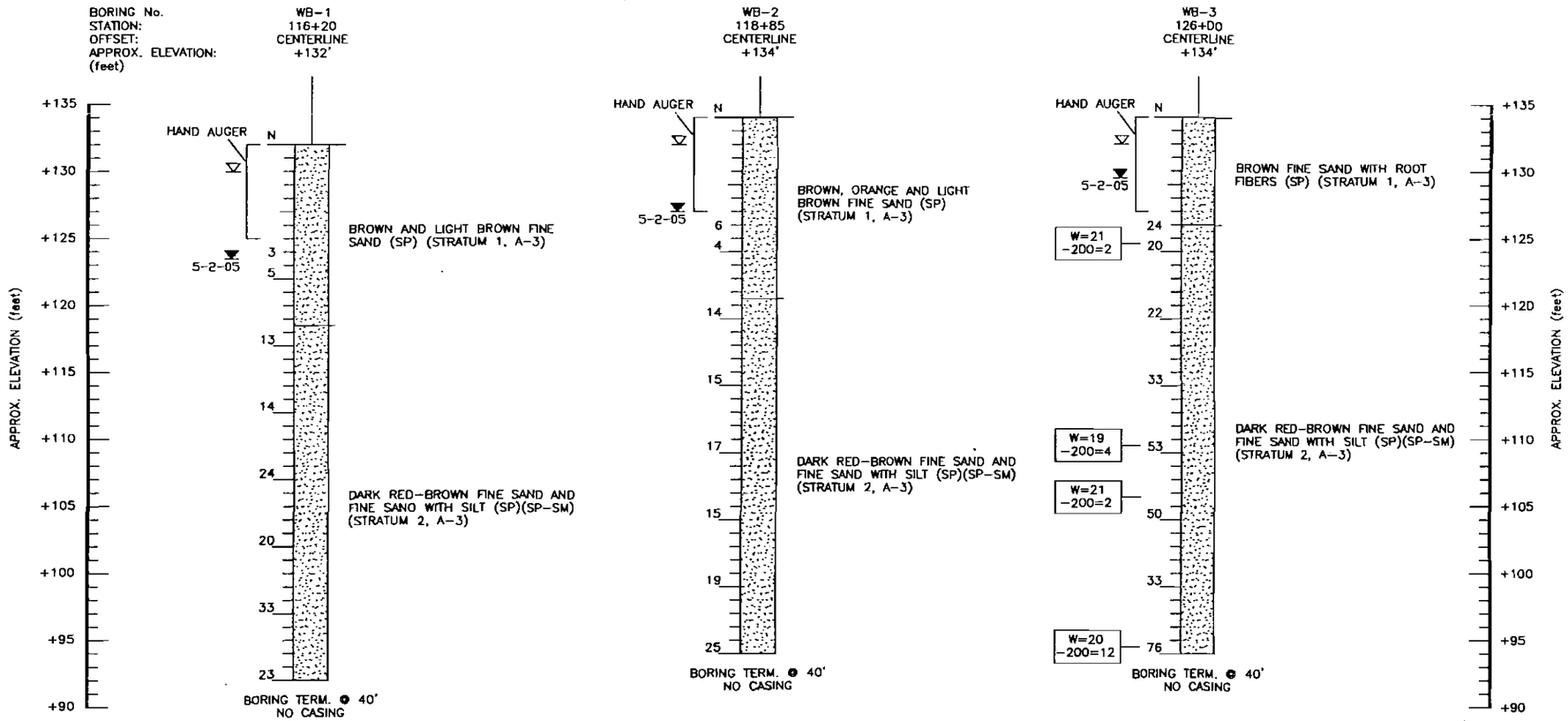
	Names	Dates
Drawn by	SW	12–5–07
Checked by	EJ	12–5–07
Designed by		
Checked by		
Approved by	RICHARD G. ACREE, P.E.	

1675 LEE ROAD
WINTER PARK, FLORIDA 32789
(407) 740–6110
CERTIFICATE OF AUTHORIZATION No. 6174
RICHARD G. ACREE, P.E. No. 53692
NODARSE & ASSOCIATES, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
–	ORANGE	–

SHEET TITLE: ROADWAY SOIL SURVEY
PROJECT NAME: STREETS "A" AND "B" AT INTERSTATE 4 ORANGE COUNTY, FLORIDA

SHEET No. 34



LEGEND

	SAND
1	LIGHT GRAY TO BROWN FINE SAND TO FINE SAND WITH SILT (A-3)
2	GRAYISH-BROWN TO DARK REDDISH-BROWN FINE SAND TO FINE SAND WITH SILT (A-3)
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL
(A-3)	A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
5-2-05	ENCOUNTERED GROUNDWATER LEVEL DATE NOTED
	ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL
W=0 -200=0	NATURAL MOISTURE CONTENT (%) FINES PASSING No. 200 SIEVE (%)
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FDOT

STANDARD PENETRATION TEST DATA

SPOON INSIDE DIA.	1 3/8 in.
SPOON OUTSIDE DIA.	2 in.
ASTM STANDARD DROP SAFETY HAMMER (ROPE-CATHEAD)	
AVG. HAMMER DROP	30 in.
HAMMER WEIGHT	140 lbs.

GRANULAR MATERIALS

RELATIVE DENSITY	SPT (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	GREATER THAN 50

SILTS AND CLAYS

CONSISTENCY	SPT (BLOWS/FOOT)
VERY SOFT	LESS THAN 2
SOFT	2-4
FIRM	4-8
STIFF	8-15
VERY STIFF	15-30
HARD	GREATER THAN 30

ENVIRONMENTAL CLASSIFICATION:

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SUBSTRUCTURE: CONCRETE: SLIGHTLY AGGRESSIVE
STEEL: SLIGHTLY AGGRESSIVE

NOTES:

1) SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN SECTION 2-4 OF THE STANDARD SPECIFICATIONS.

2) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLER. HOWEVER, BASED ON REVIEW OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT POTENTIOMETRIC MAPS OF THE FLORIDAN AQUIFER FOR THE PROJECT AREA, THE POTENTIAL ARTESIAN HEAD ELEVATION IS ESTIMATED TO BE +70 FEET (NGVD).

3) STATIONS AND OFFSETS REFERENCED FROM THE CENTERLINE OF CONSTRUCTION OF STREET B.

4) ESTIMATES OF ELEVATIONS BASED ON CROSS-SECTIONS BY KIMLEY-HORN AND ASSOC.

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	SW	12-5-07
Checked by	EJ	12-5-07
Designed by		
Checked by		
Approved by	RICHARD G. ACREE, P.E.	

1675 LEE ROAD
WINTER PARK, FLA. 32789
(407) 740-8110
CERTIFICATE OF AUTHORIZATION No. 6174
RICHARD G. ACREE, P.E. No. 53962
NODARSE & ASSOCIATES, INC.

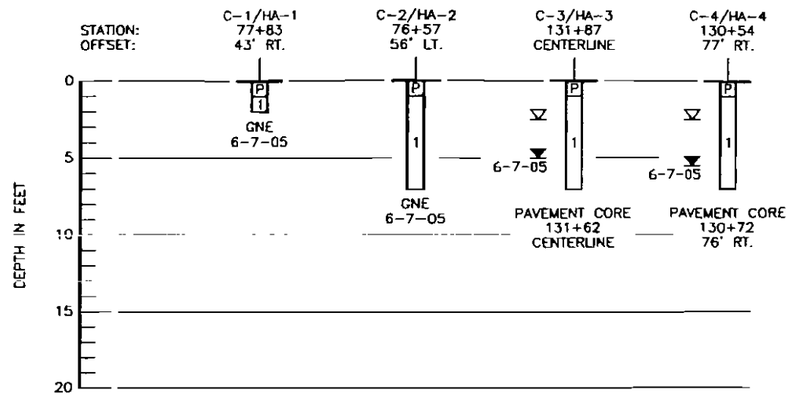
ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
-	ORANGE	-

SHEET TITLE: REPORT OF SPT BORINGS FOR ROADWAY

PROJECT NAME: STREETS "A" AND B" AT INTERSTATE 4
ORANGE COUNTY, FLORIOA

SHEET No. 35

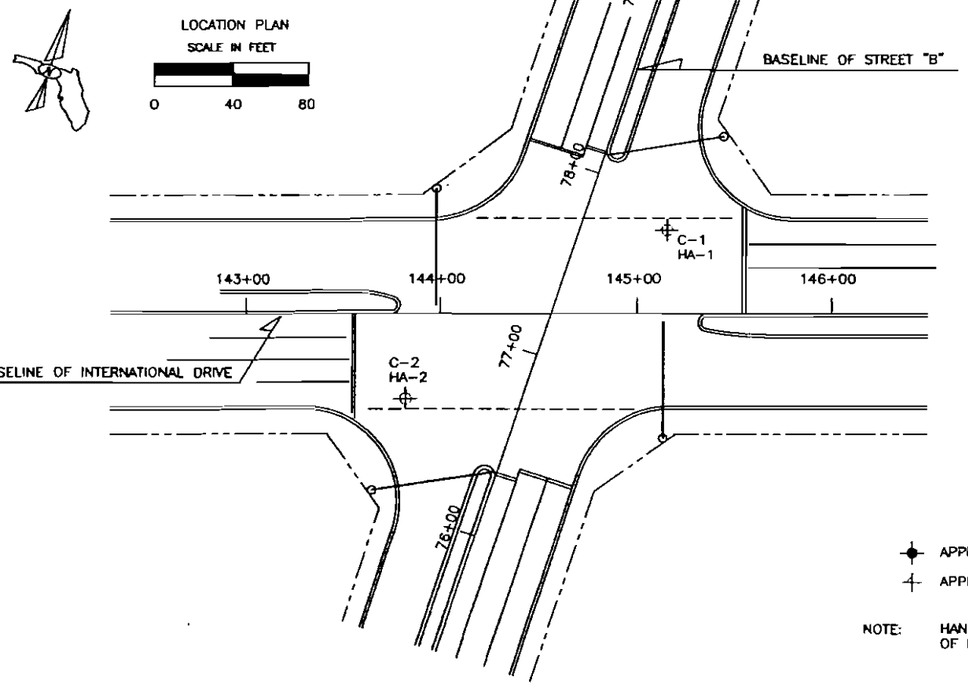
NODARSE and ASSOC. No. W02-G-258 FIGURE: 7



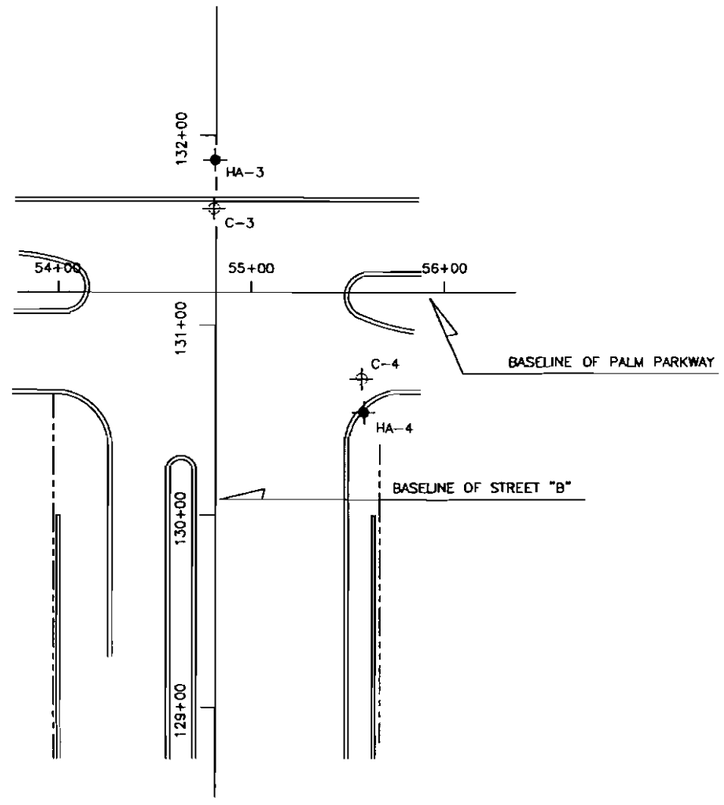
LEGEND

P	ASPHALT PAVEMENT OVER BASE MATERIAL
1	LIGHT GRAY TO BROWN FINE SAND TO FINE SAND WITH SILT (A-3)
(A-3)	A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
▼ 6-7-05	DEPTH TO GROUNDWATER LEVEL (feet) WITH DATE OF READING
▽	ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL
GNE	GROUNDWATER LEVEL NOT ENCOUNTERED TO DEPTH OF BORING

NOTE: STATIONS AND OFFSETS REFERENCE BASELINE OF STREET "B"







LEGEND

- APPROXIMATE LOCATION OF AUGER BORING
- APPROXIMATE LOCATION OF PAVEMENT CORE

NOTE: HAND AUGERS 1 AND 2 PERFORMED AT LOCTION OF PAVEMENT CORE

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	SW	12-5-07
Checked by	EJ	12-5-07
Designed by		
Checked by		
Approved by	RICHARD G. ACREE, P.E.	

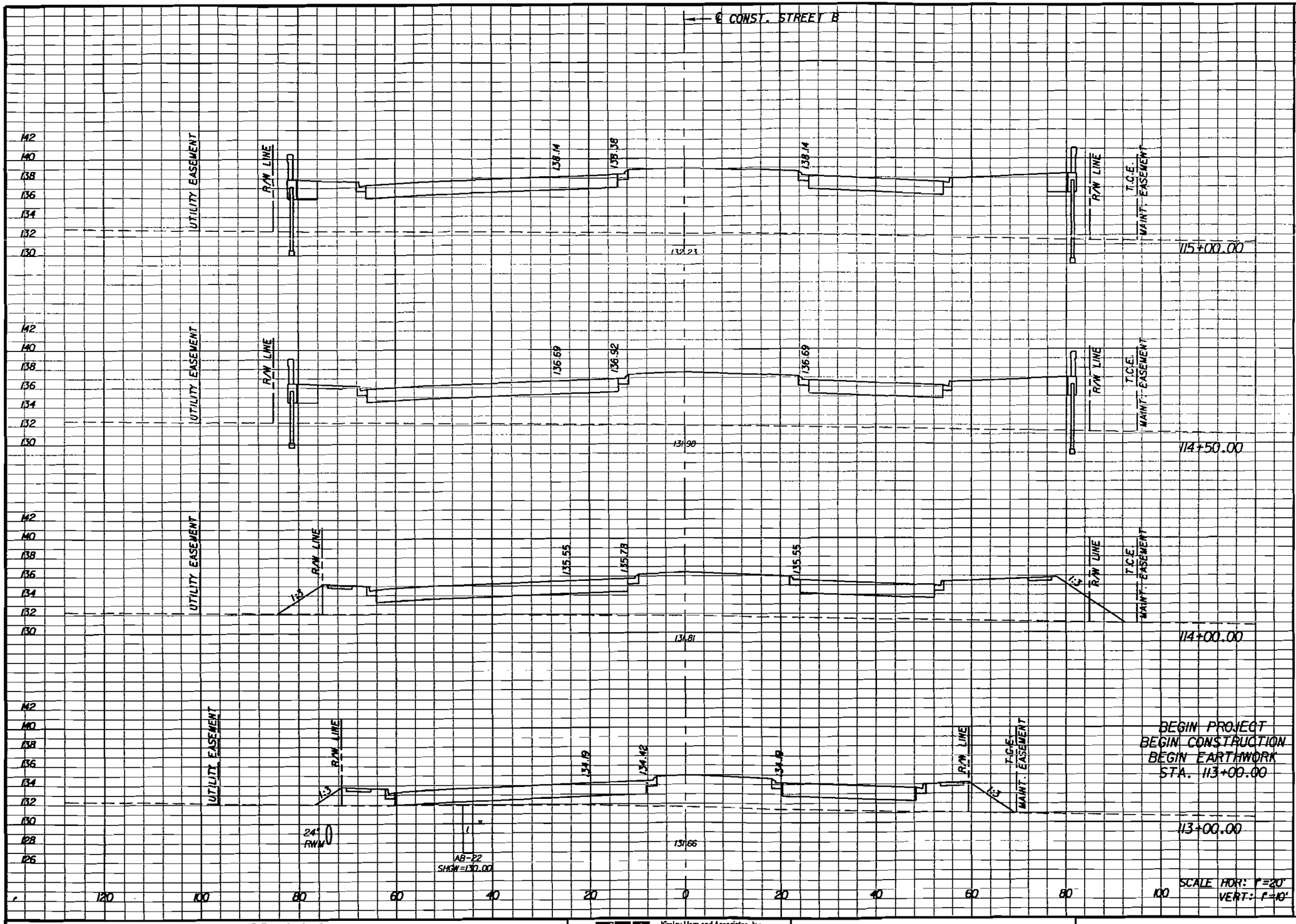
1675 LEE ROAD
WINTER PARK, FLORIDA 32789
(407) 740-8110
CERTIFICATE OF AUTHORIZATION No. 6174
RICHARD G. ACREE, P.E. No. 53962
NODARSE & ASSOCIATES, INC.

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
-	ORANGE	-

SHEET TITLE: PAVEMENT CORES/AUGER BORINGS FOR ROADWAY

PROJECT NAME: STREETS "A" AND "B" AT INTERSTATE 4
ORANGE COUNTY, FLORIDA

SHEET No. 36



Regular Exc.		Embankment	
A	V	A	V
3.3		834.4	
	6		1363
3.4		637.2	
	3		1067
0.0		515.2	
	0		1365
0.0		222.1	

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
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No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
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ORANGE COUNTY
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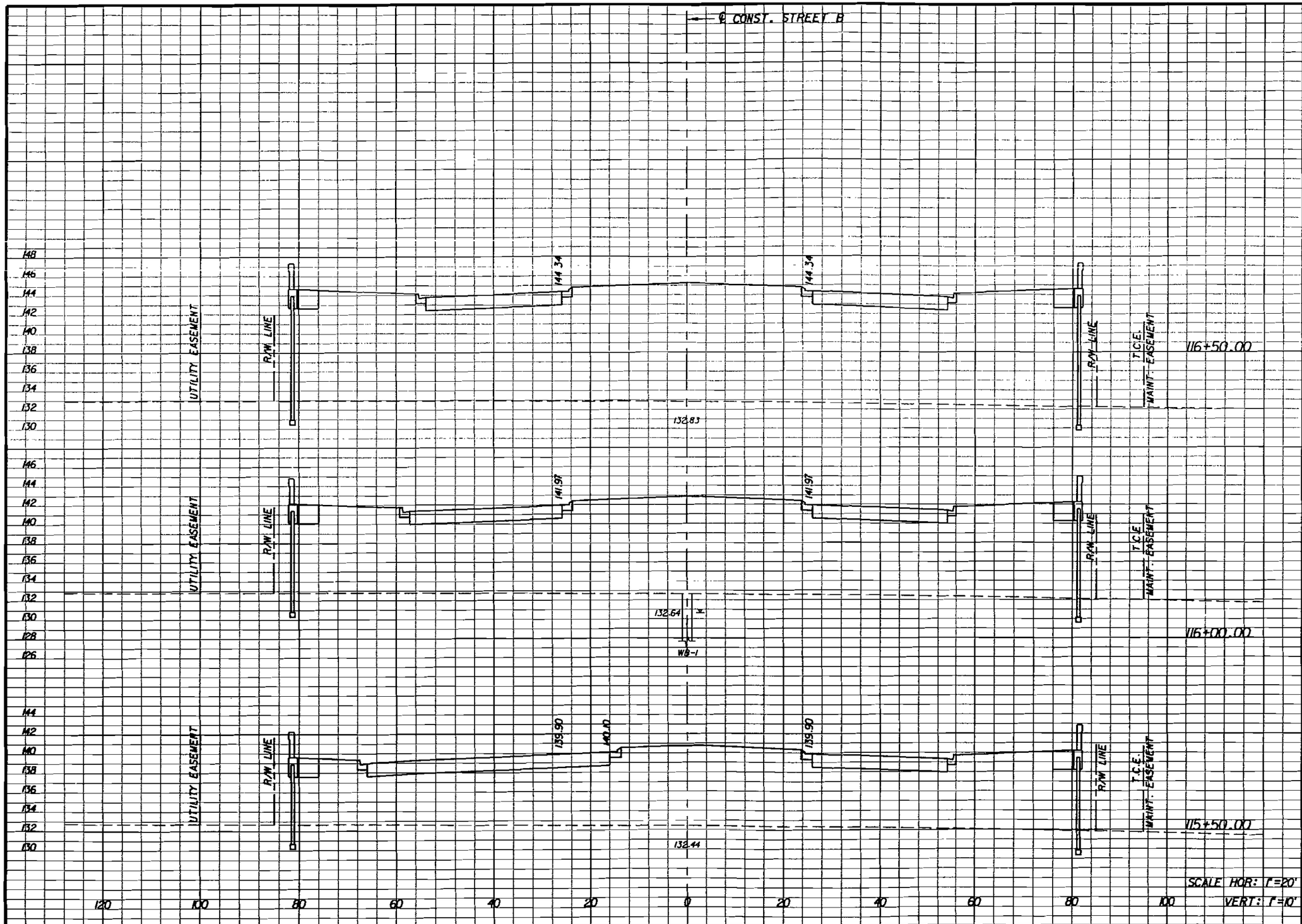
CROSS SECTIONS
STREET "B"

SHEET NO. 37

1/24/2008 2:51:00 PM q:\ROADWAY\049280002_FentonSt\roadway\rdxsrd01.plg



Regular Exc. A	Regular Exc. V	Embankment A	Embankment V
3.3		1796.8	
	6		2983
3.3		1425.0	
	6		2321
3.3		1081.4	
	6		1774

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CROSS SECTIONS STREET "B"

SHEET NO. 38

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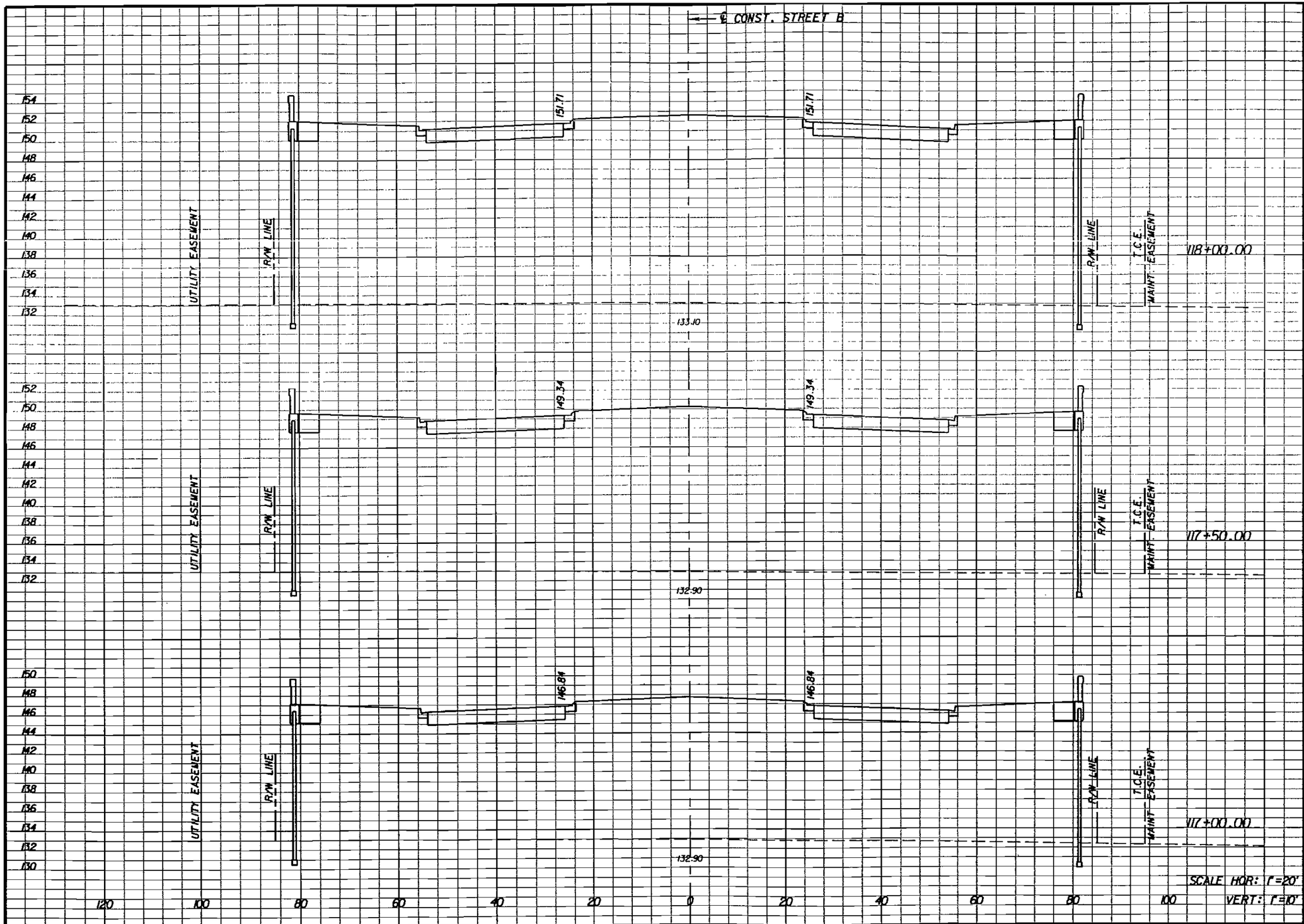

Regular Exc.		Embankment	
A	V	A	V
3.3		2942.6	
	6		5115
3.3		2581.9	
	6		4413
3.3		2183.9	
	6		3686

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CROSS SECTIONS STREET "B"

SHEET NO. 39

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SCALE HOR: 1"=20'
VERT: 1"=10'

Regular Exc.		Embankment	
A	V	A	V
3.3		4296.7	
	6		7009
3.3		3273.2	
	6		5755

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CROSS SECTIONS
STREET "B"

SHEET NO. 40

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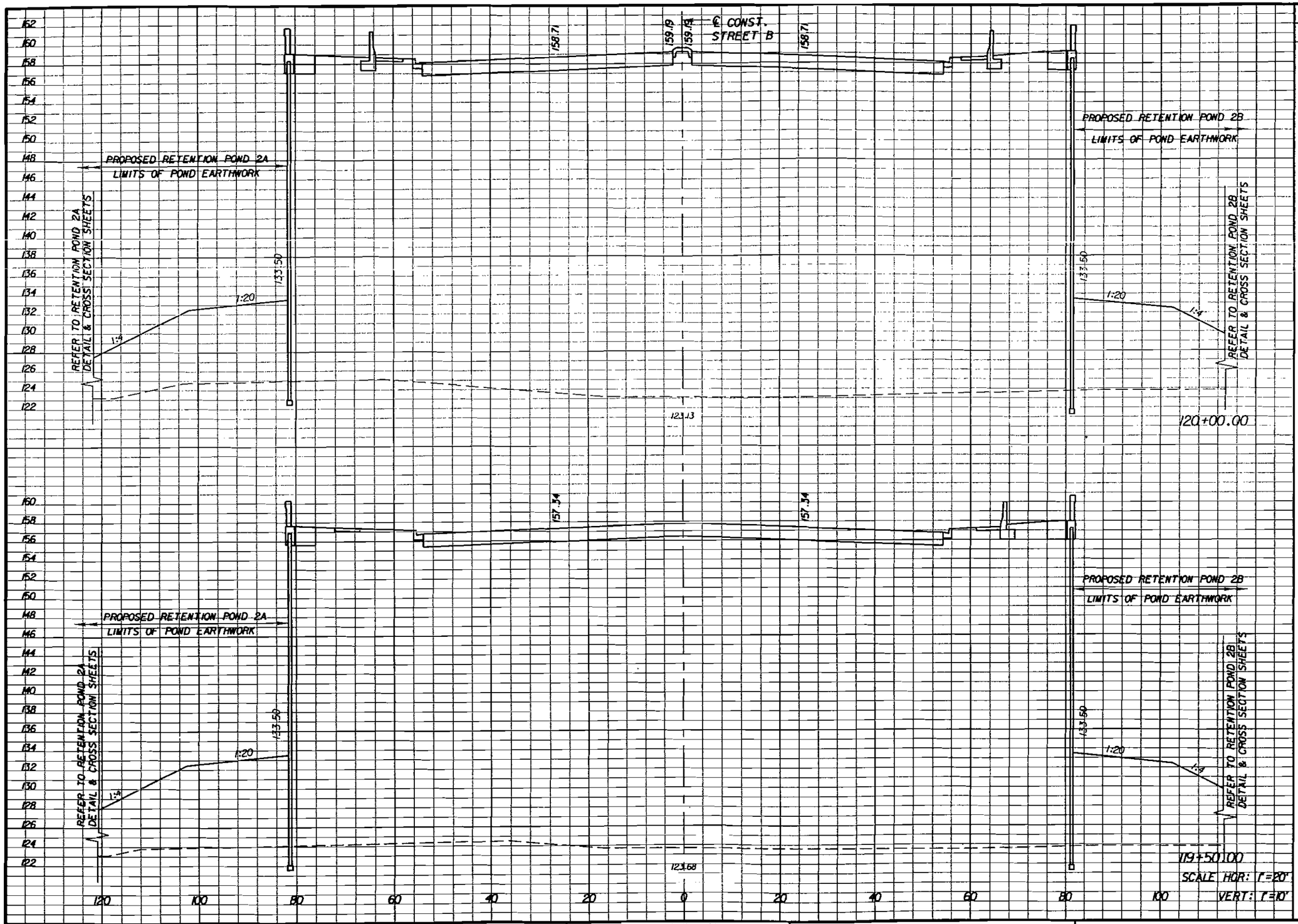

Regular Exc.		Embankment	
A	V	A	V
3.3		5491.4	
	6		9942
3.3		5246.2	
	6		8836

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CROSS SECTIONS STREET "B"

SHEET NO. 41

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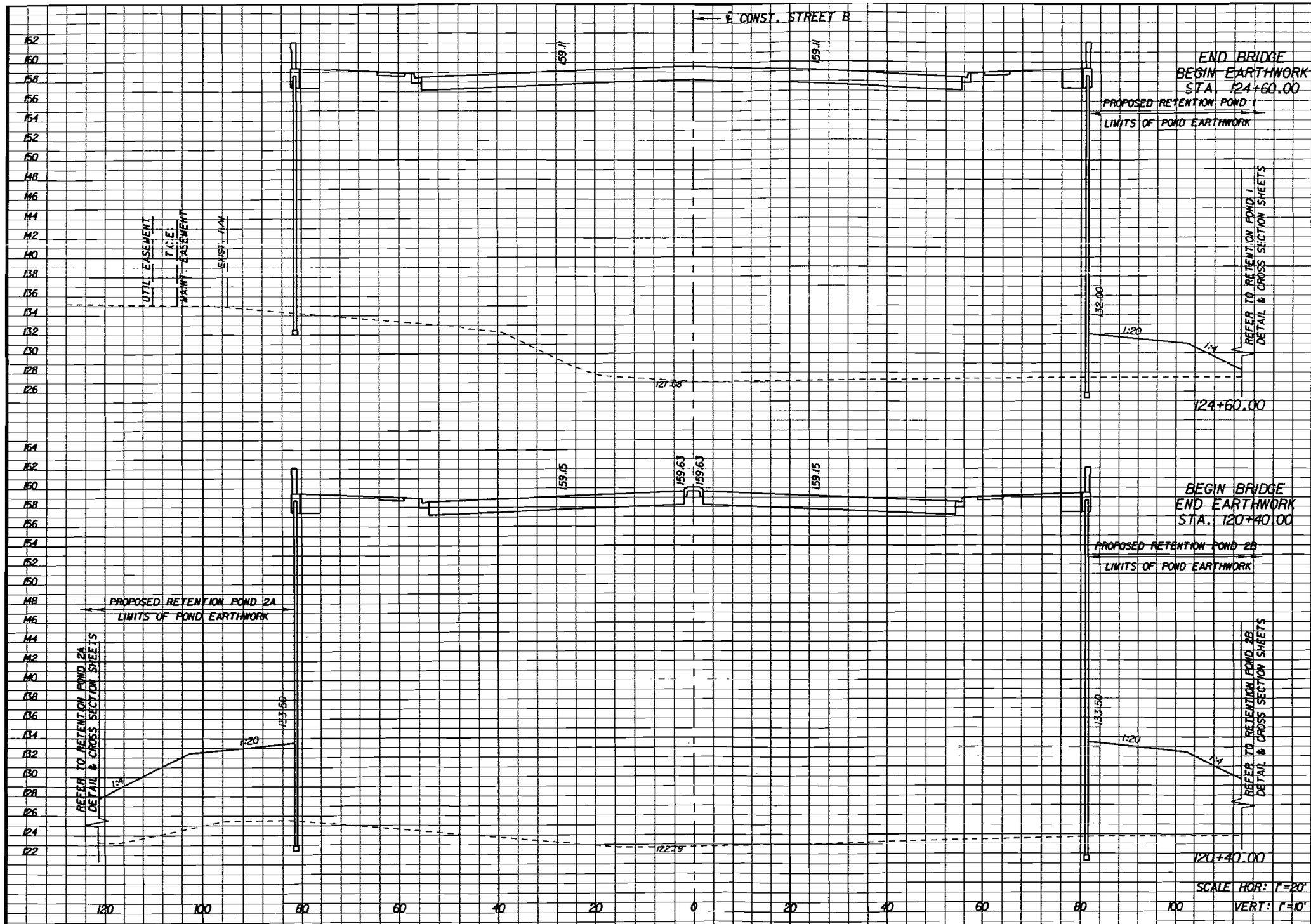

Regular Exc.		Embankment	
A	V	A	V
3.0		4666.6	
3.6		5596.0	
	5		8213

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CROSS SECTIONS
STREET "B"

SHEET NO. 42

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Regular Exc.		Embankment	
A	V	A	V
3.3		4383.7	
	6		8344
3.3		4627.4	
	5		6884

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CROSS SECTIONS STREET "B"

SHEET NO. - - 43

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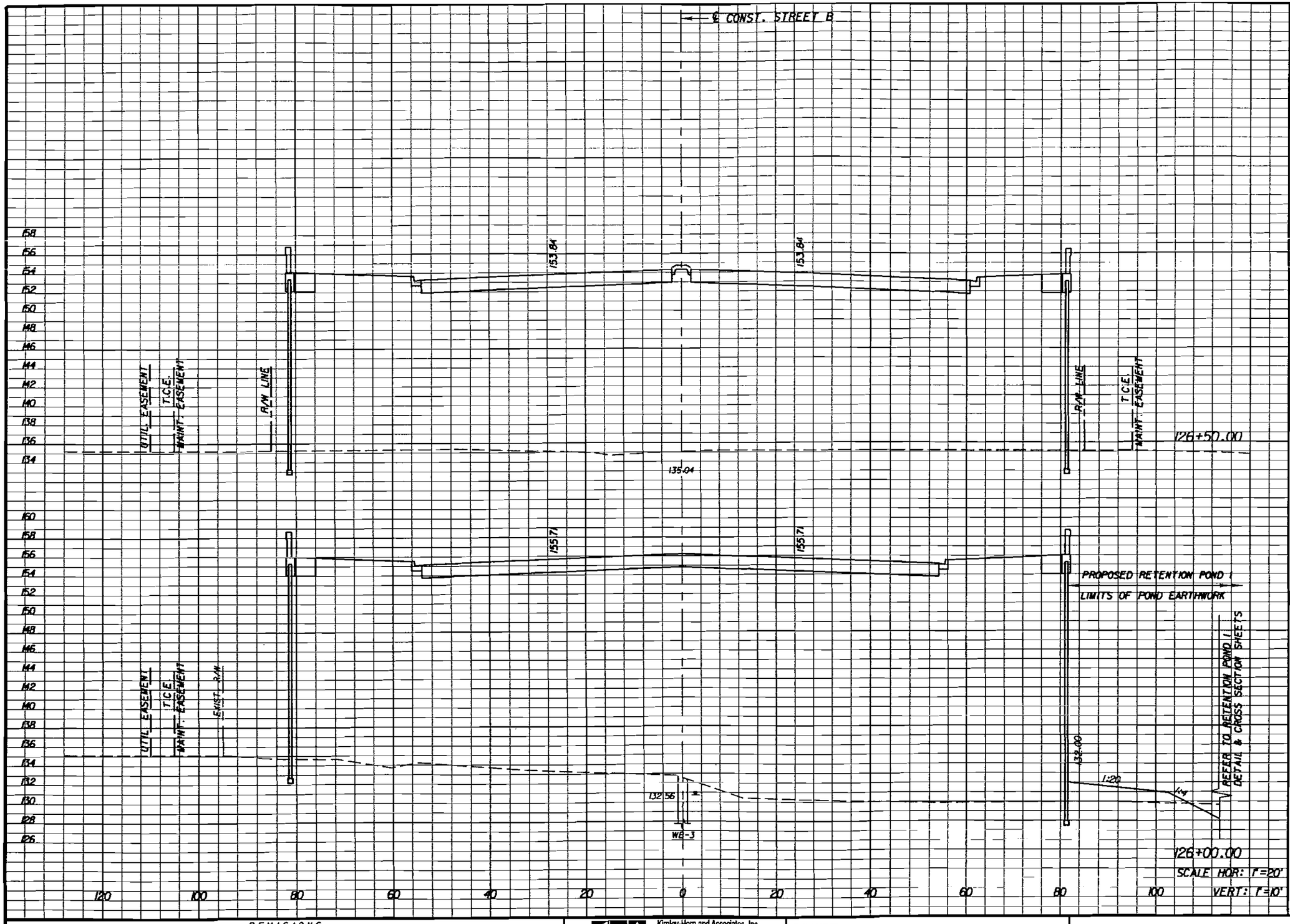

Regular Exc.		Embankment	
A	V	A	V
3.3		2841.2	
	6		6029
3.3		3670.1	
	6		7457

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CROSS SECTIONS STREET "B"

SHEET NO. 44

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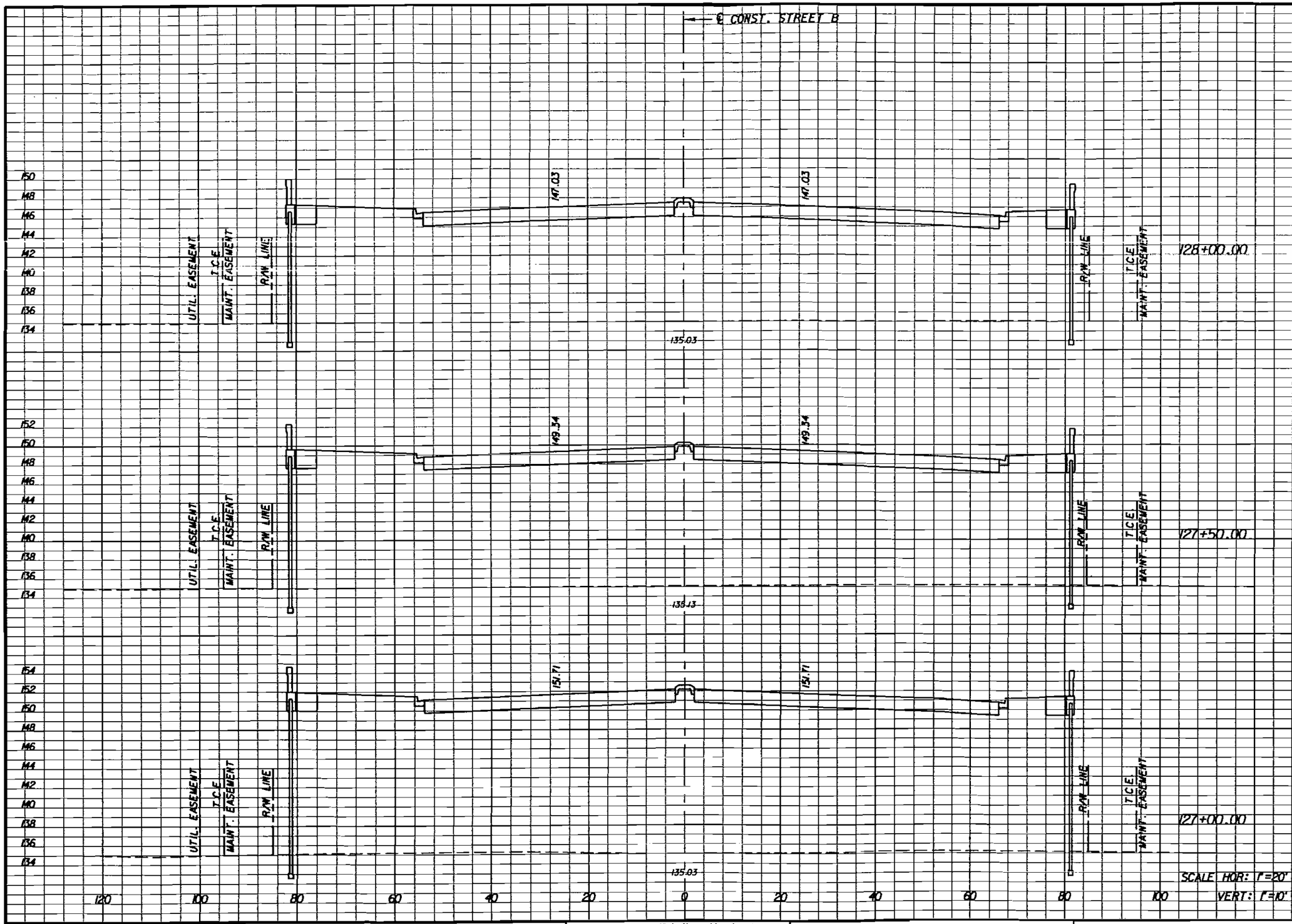

Regular Exc.		Embankment	
A	V	A	V
3.3		1745.1	
	6		3565
3.3		2105.5	
	6		4246
3.3		2480.0	
	6		4927

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CROSS SECTIONS STREET "B"

SHEET NO. 45

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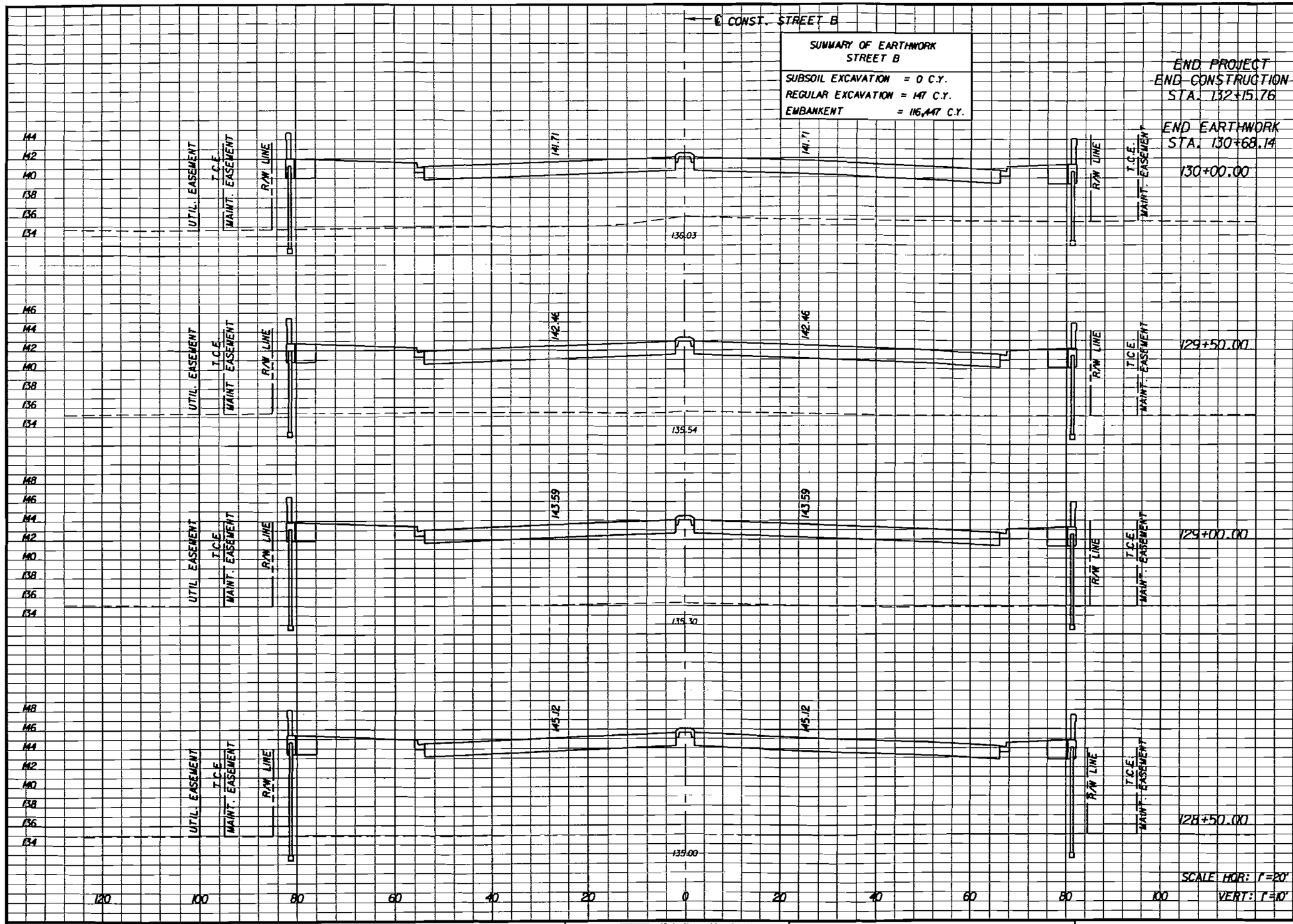

Regular Exc.		Embankment	
A	V	A	V
	8		2111
3.3		836.6	
	6		1664
3.3		961.0	
	6		1987
3.3		1184.8	
	6		2436
3.3		1445.9	
	6		2955

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
		- -			

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CROSS SECTIONS
STREET "B"

SHEET NO. 46

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Regular Exc.		Embankment	
A	V	A	V
23.6		0.0	
	44		0
24.1		0.0	
	44		0
23.3		0.0	
	24		0
3.0		0.0	

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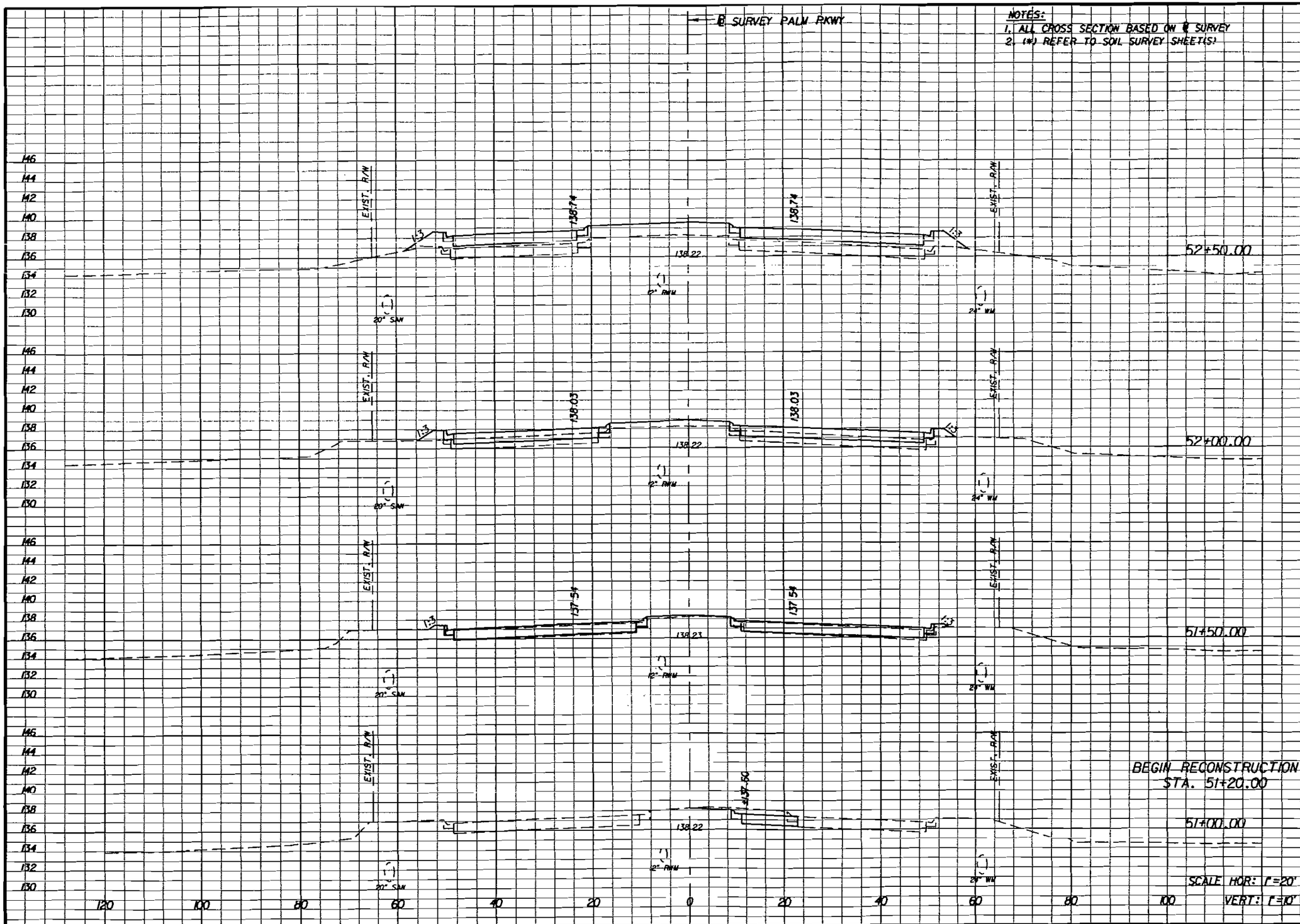
CROSS SECTIONS
PALM PARKWAY

SHEET NO. 47

12/19/2007 8:48:42 AM Q:\ROADWAY\049280002_FentonSt\roadway\rdxsrd04.plg



Regular Exc.		Embankment	
A	V	A	V
0.0		17.5	
	35		90
37.3		19.5	
	107		21
77.8		3.6	
	92		3
21.1		0.0	
	41		0

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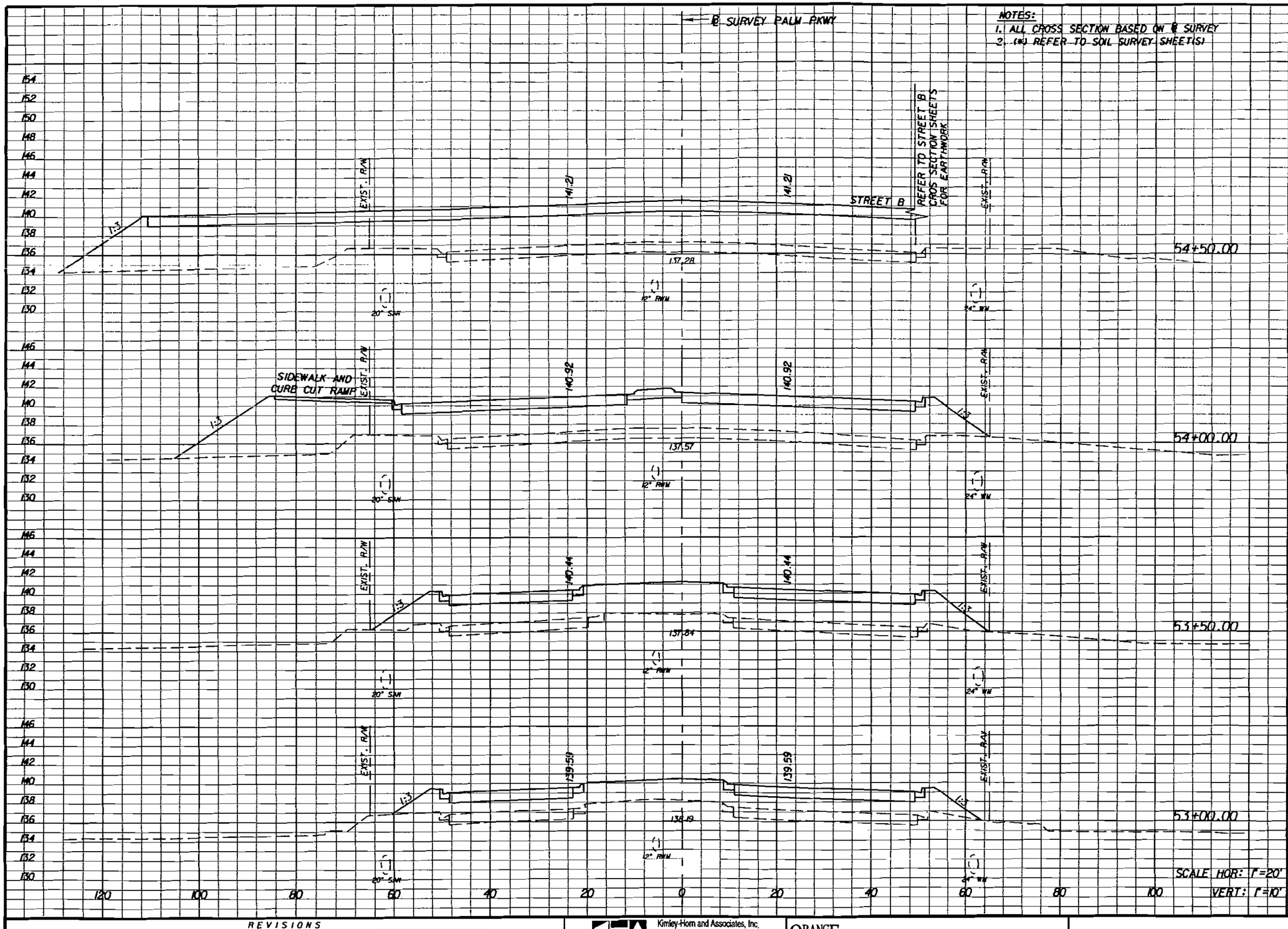
CROSS SECTIONS
PALM PARKWAY

SHEET NO. 48

12/19/2007 8:48:56 AM Q:\ROADWAY\049280002_FentonSt\roadway\rdxsrd04.plg

NOTES:
1. ALL CROSS SECTION BASED ON ℄ SURVEY
2. (*) REFER TO SOIL SURVEY SHEET(S)



SCALE HOR: 1"=20'
VERT: 1"=10'

Regular Exc.		Embankment	
A	V	A	V
0.0		642.4	
	0		1082
0.0		525.9	
	0		782
0.0		318.9	
	0		473
0.0		192.2	
	0		250

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CROSS SECTIONS PALM PARKWAY

SHEET NO. 49

12/19/2007 8:49:31 AM Q:\ROADWAY\049280002_FentonSt\roadway\rdxsrd04.plg



Regular Exc.		Embankment	
A	V	A	V
0.0		355.3	
	0		728
0.0		431.1	
	0		888
0.0		527.7	
	0		1112
0.0		672.9	
	0		1218

REVISIONS					
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CROSS SECTIONS
PALM PARKWAY

SHEET NO. 50

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Regular Exc.		Embankment	
A	V	A	V
54.8		18.9	
	57		69
6.4		55.4	
	6		195
0.0		155.0	
	0		377
0.0		251.7	
	0		562

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CROSS SECTIONS
PALM PARKWAY

SHEET NO. 51

12/19/2007 8:49:37 AM Q:\ROADWAY\049280002_FentonSt\roadway\rdxsrd04.plg



Regular Exc.		Embankment	
A	V	A	V
28.1		0.8	
	76		1
54.2		0.0	
	145		3
102.8		3.4	
	190		6
102.8		3.4	
	146		21

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CROSS SECTIONS
PALM PARKWAY

SHEET NO. 52

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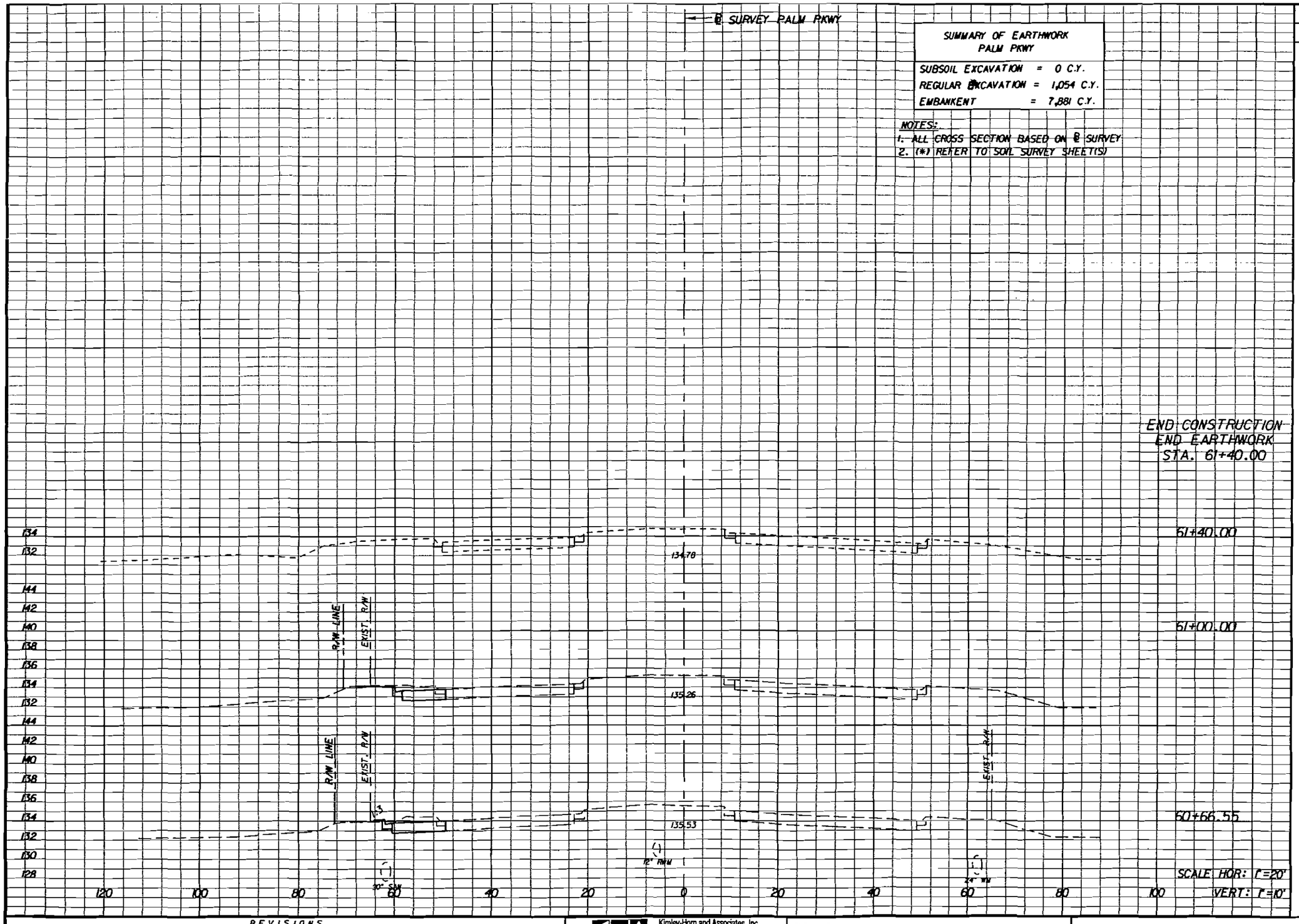

Regular Exc.		Embankment	
A	V	A	V
0.0		0.0	
	12		0
15.6		0.0	
	21		0
17.6		0.4	
	14		0

61+40.00
61+00.00
60+66.55

REVISIONS					
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CROSS SECTIONS
PALM PARKWAY

SHEET NO. 53

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TRAFFIC CONTROL NOTES

GENERAL:

1. PROJECT AREAS THAT ARE NOT ACTIVE CONSTRUCTION AREAS ARE TO BE KEPT FREE OF CONSTRUCTION DEBRIS AND ANY UNNECESSARY TRAFFIC CONTROL DEVICES AT THE DIRECTION OF THE ENGINEER.

2. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH CURRENT FDOT DESIGN STANDARDS, INDEX 600 SERIES, THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS A MINIMUM.

3. THE WORK ZONE SPEED LIMIT IS 65 MPH WILL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION EXCEPT DURING LANE CLOSURES AND PHASE III DIVERSION OPERATIONS, IN WHICH 55 MPH WILL BE USED.

4. I-4 TEMPORARY PAVEMENT SHALL CONSIST OF A MINIMUM OF OPTIONAL BASE GROUP 9 WITH TYPE SP STRUCTURAL COURSE (TRAFFIC C) (3").

5. TEMPORARY CONCRETE BARRIER WALL SYSTEM SHALL BE STAKED DOWN ROADWAY TYPE 'K' PER INDEX NO. 414

6. THE CONTRACTOR SHALL PROVIDE UNIFORMED OFF-DUTY LAW ENFORCEMENT OFFICERS TO BE USED DURING CERTAIN CONSTRUCTION OPERATIONS WHICH INCLUDE BUT NOT LIMITED TO: DIRECTING TRAFFIC DURING THE SETTING UP AND REMOVAL OF LANE CLOSURES AND PHASE CHANGEOVERS, LANE CLOSURES FOR OFF PEAK CONSTRUCTION, AND FOR TRAFFIC CONTROL SETUPS AND REMOVAL FOR LANE CLOSURES AS DIRECTED BY THE ENGINEER.

7. LANES MAY ONLY BE CLOSED DURING ACTIVE WORK PERIODS AND A MAXIMUM OF TWO LANES MAY BE CLOSED.
   ALLOWABLE NIGHT TIME/NON-PEAK HOURS FOR LANE CLOSURES ARE AS FOLLOWS:
   SINGLE LANE CLOSURES BETWEEN THE HOURS OF 10:00 P.M. THRU 6:00 A.M.
   DUAL LANE CLOSURES BETWEEN THE HOURS OF 12:30 A.M. THRU 5:30 A.M.
   WEEKDAYS AND WEEKENDS EXCEPT DURING HOLIDAY PERIODS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING A WORK ZONE SCHEDULE SO THAT ANY LOCATION UNDER CONSTRUCTION WILL NOT BE LEFT IN A HAZARDOUS CONDITION AT THE COMPLETION OF ANY WORK PERIOD.

9. ARROWS ON THE TRAFFIC CONTROL PLANS DENOTE THE DIRECTION OF TRAFFIC ONLY AND DO NOT REFLECT PAVEMENT MARKINGS UNLESS SPECIFICALLY NOTED.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER.

11. IN THE EVENT OF A HURRICANE OR OTHER EVACUATION NEED, THE CONTRACTOR, WHEN NOTIFIED BY THE ENGINEER, SHALL COORDINATE THE SECURING OF ALL LOOSE MATERIAL, OPEN CLOSED LANES AND RAMPS, BACKFILL EXCAVATIONS, REMOVE OBSTRUCTIONS TO DRAINAGE AND WATER FLOW, AND ANY OTHER MEASURES REQUIRED BY THE ENGINEER.

12. ALL JOINTS BETWEEN EXISTING PAVEMENT AND TEMPORARY SHALL BE SAW CUT.

13. ALL TRANSITIONAL TAPERS AND BUFFERS ON THE APPROACH ENDS OF TEMPORARY CONCRETE BARRIER WALLS SHALL CONFORM TO INDEX 600.

14. THE CONTRACTOR SHALL USE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) BEFORE AND DURING I-4 MAINLINE LANE CLOSURES IN THE EASTBOUND AND WESTBOUND DIRECTIONS.

    - TWO WEEKS PRIOR TO LANE CLOSURES, THE PCMS SHALL BE LOCATED APPROXIMATELY 1.5 MILES FROM THE WORK ZONE WITH THE FOLLOWING MESSAGES.

      MESSAGE 1: ROAD WORK TO BEGIN MESSAGE 2: "DATE OF BEGIN CONSTRUCTION"

    - REFER TO TRAFFIC CONTROL PLANS CONCERNING PCMS DURING LANE CLOSURES.

15. THE FDOT SHALL BE NOTIFIED AND ATTEND THE PRE-CONSTRUCTION MEETING. FDOT CONTACT PERSON, AMY SCALES, P.E., I-4 INTERSTATE RESIDENT ENGINEER. TELEPHONE NUMBER 386-943-5729. E-MAIL: AMY.SCALES@DOT.STATE.FL.US.

16. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY LIGHTING DURING THE REMOVAL OF EXISTING LIGHT POLES AND DURING ALL PHASES OF CONSTRUCTION. TEMPORARY LIGHTING SHALL BE INSTALLED OUTSIDE THE TEMPORARY CLEAR ZONE MEASURED FROM THE EDGE OF TEMPORARY PAVEMENT.

17. TYPE "B" FENCE REMOVAL WILL BE ALLOWED FOR ACCESSING THE PROJECT SITE. ANY TEMPORARY FENCE REMOVAL WILL BE IMMEDIATELY RESTORED DAILY DURING NON-ACCESSING PERIODS AT THE DIRECTION OF THE ENGINEER.

MARKINGS:

18. THE CONTRACTOR SHALL REMOVE ANY EXISTING OR TEMPORARY PAVEMENT MARKINGS THAT CONFLICT WITH THE TRAFFIC CONTROL PLANS. WHEN THE CONFLICT NO LONGER EXISTS THE CONTRACTOR SHALL RESTORE PAVEMENT MARKINGS TO THEIR ORIGINAL POSITION.

I-4 RESTORATION:

19. UPON COMPLETION OF THE BRIDGE, THE CONTRACTOR WILL RESTORE I-4, WHICH WILL INCLUDE THE FOLLOWING:

    - FILL AND REPAIR HOLES FROM THE TEMPORARY 'K' WALL INSTALLATION AND TEMPORARY BRIDGE SPLICE SUPPORTS.
    - SAW CUT AND REMOVE TEMPORARY PAVEMENT, RECONSTRUCT PAVED SHOULDER TO ORIGINAL WIDTH, CROSS SLOPE AND CONSTRUCT RUMBLE STRIP IN ACCORDANCE WITH INDEX NO. 518
    - REGRADE SHOULDERS AND ROAD SIDE CROSS SLOPE TO ORIGINAL CONDITION, SOD ALL DISTURBED AREAS
    - REINSTALL WESTBOUND DOUBLE FACE GUARDRAIL AND REPAIR MISCELLANEOUS ASPHALT
    - MILL MAINLINE TRAVEL LANES (3/4" THICK) AND RESURFACE WITH FRICTION COURSE FC-5 (3/4") (PG 76-22) WITHIN THE DIVERSION LIMITS, REFER TO DETAILS.
    - INSTALL PAINT PAVEMENT MARKING AND R.P.M.I.S). UPON COMPLETION OF 30 DAYS FRICTION COURSE CURE TIME, INSTALL FINAL THERMOPLASTIC PAVEMENT MARKINGS
    - INSTALL LIGHT POLES REMOVED FOR TRAFFIC CONTROL AND BRIDGE STAGING

GENERAL NOTES

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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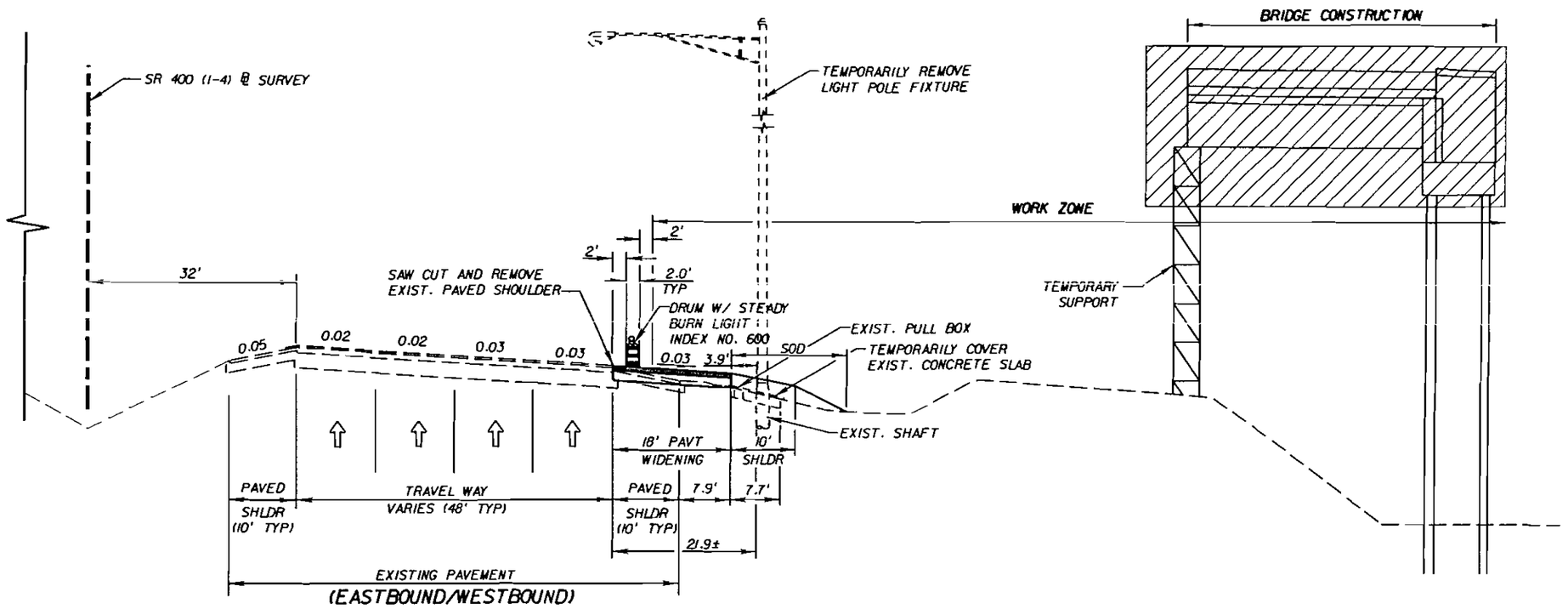
TRAFFIC CONTROL PLAN

SHEET NO. 54

3/13/2008 9:31:16 AM q:\ROADWAY\049280002_FentonSt\eplan\I-4\MOTGNNTS.DGN



NOTE: THE CONTRACTOR SHALL CONSTRUCT IN ONE DIRECTION DURING EACH STAGE ONLY.

PHASE I - BRIDGE CONSTRUCTION

STAGE I - EASTBOUND DIRECTION

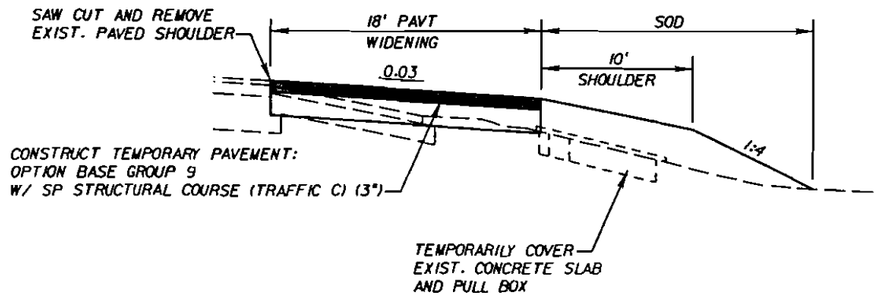
STAGE II - WESTBOUND DIRECTION CONTINUE RIGHT TO LEFT BRIDGE DECK CONSTRUCTION

STAGING NOTES:

1. PLACE ADVANCE WARNING SIGNS, BARRICADES, AND DEVICES AS SHOWN IN INDEX NO. 600 AND PHASE I - ADVANCED WARNING SIGNING DETAIL

2. USE TEMPORARY LANE CLOSURES DURING NON-PEAK HOURS PER FDOT INDEX 670 TO SAW CUT AND REMOVE EXISTING OUTSIDE PAVED SHOULDER. CONSTRUCT TEMPORARY PAVEMENT AND SHOULDER AS SHOWN.

3. CONSTRUCT OUTSIDE SECTIONS OF BRIDGE.



EXISTING SHOULDER REMOVAL DETAIL

N.T.S.

PHASE I - BRIDGE CONSTRUCTION TYPICAL SECTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

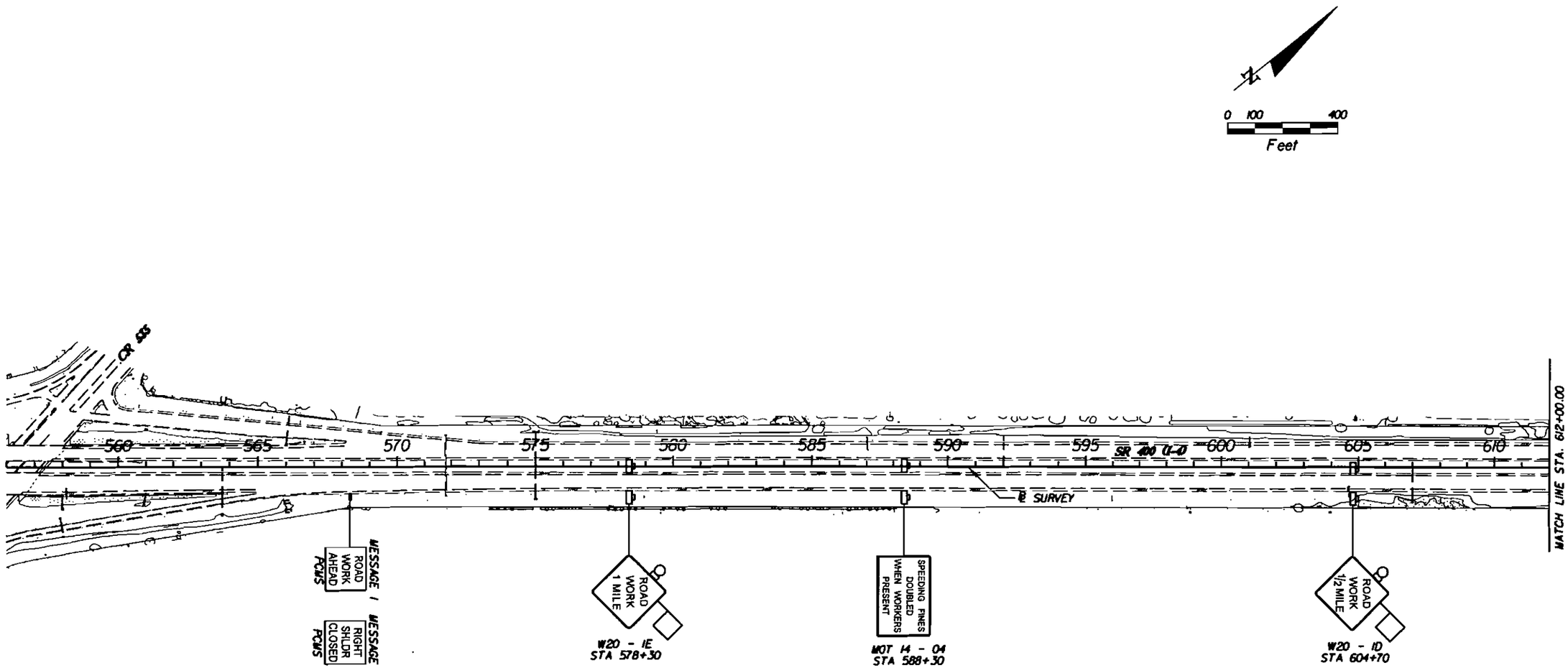
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN PHASE I

SHEET NO. 55

3/13/2008 9:23:17 AM q:\ROADWAY\049280002_FentonSt\main\I-4\PHI\cityrd01.dgn



NOTE:
REFER TO INDEX NO. 670 (MOTORIST AWARENESS SYSTEM) FOR LANE CLOSURE ADVANCE WARNING SIGNING AND DEVICES.

ADVANCED WARNING SIGNING DETAIL (DURING NON LANE CLOSURE PERIODS)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN PHASE I - -

SHEET NO. 56

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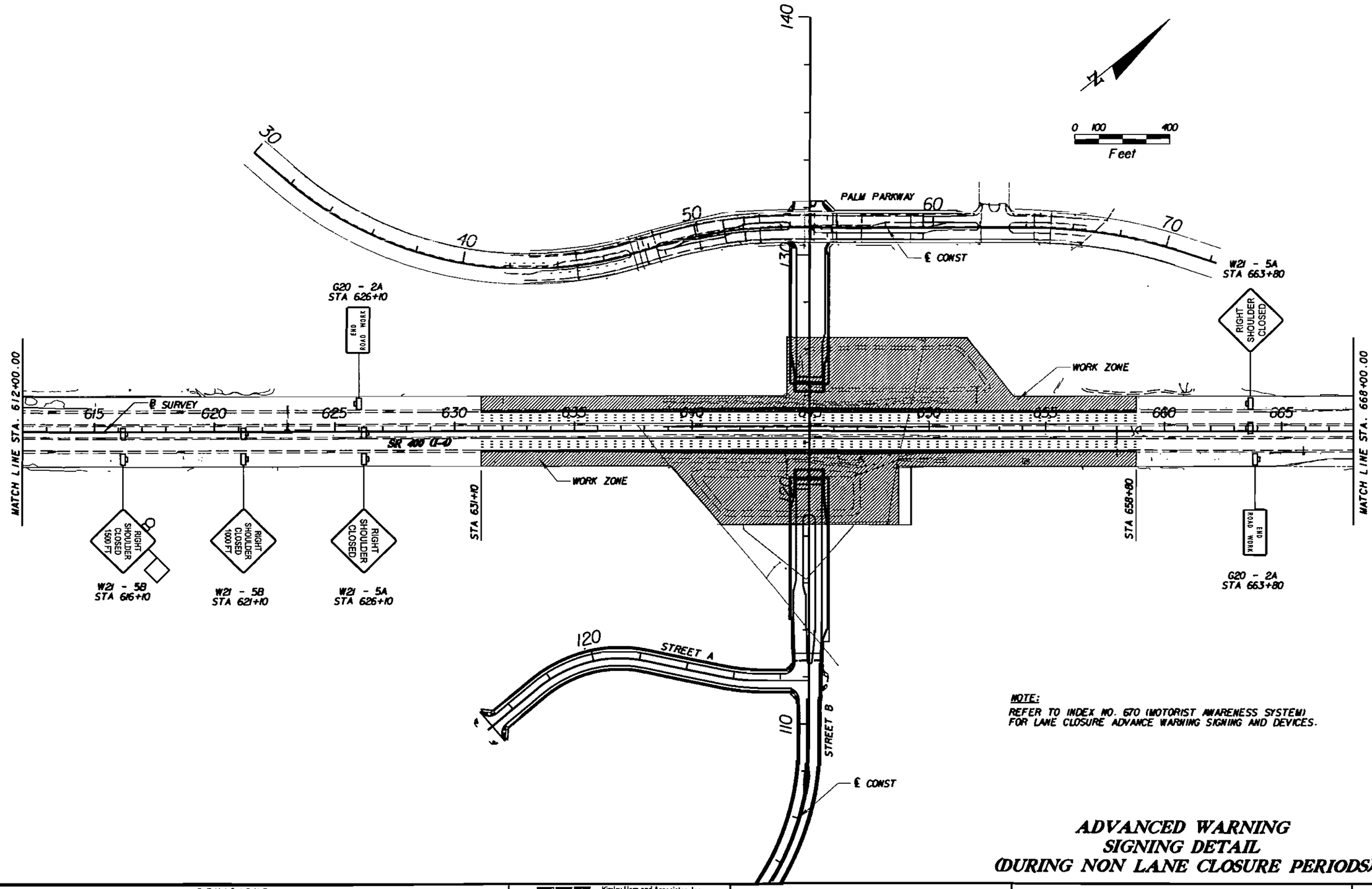

NOTE:
REFER TO INDEX NO. 670 (MOTORIST AWARENESS SYSTEM) FOR LANE CLOSURE ADVANCE WARNING SIGNING AND DEVICES.

ADVANCED WARNING SIGNING DETAIL (DURING NON LANE CLOSURE PERIODS)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
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TRAFFIC CONTROL PLAN PHASE I

SHEET NO. 57

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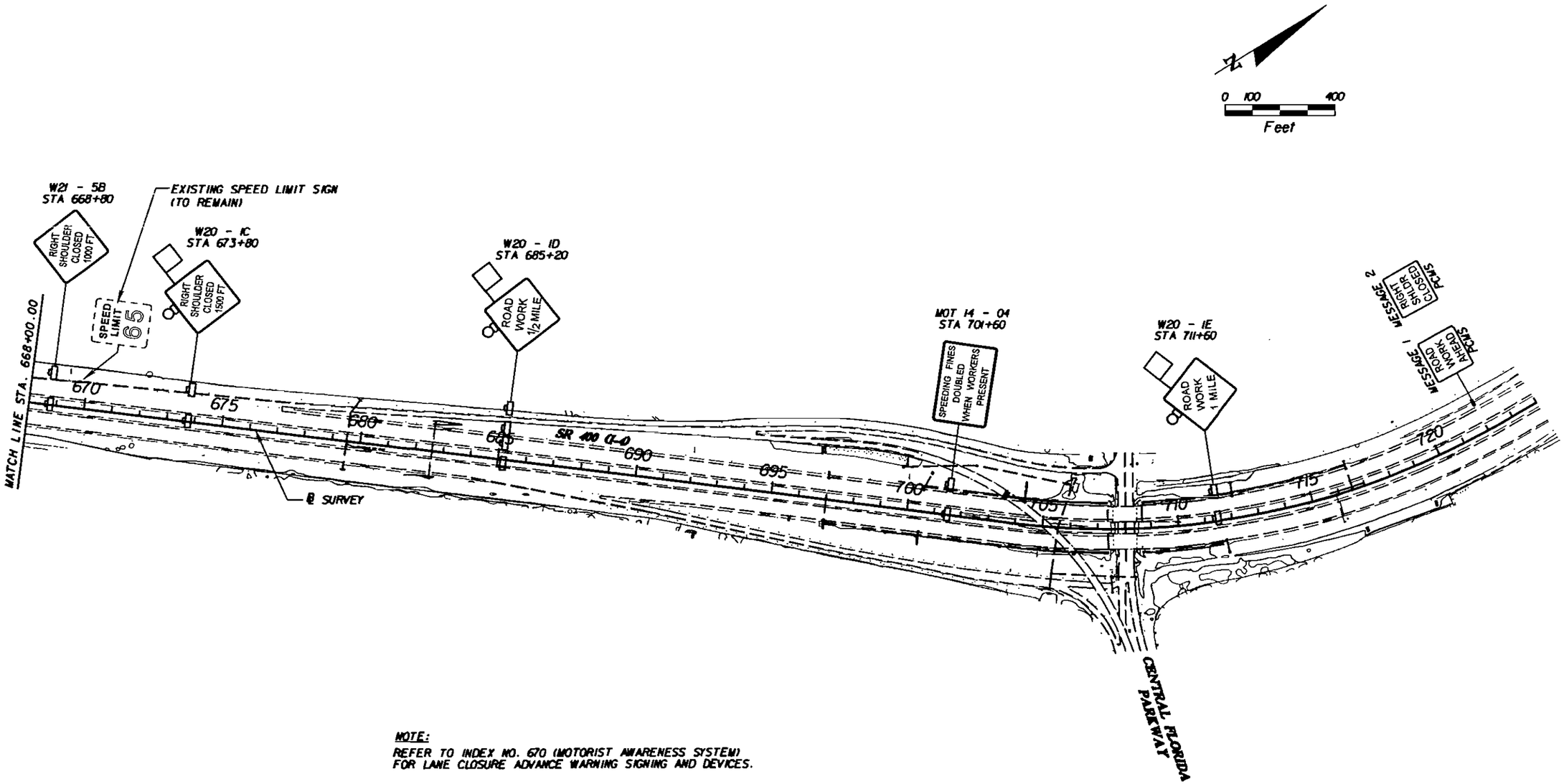

NOTE:
REFER TO INDEX NO. 670 (MOTORIST AWARENESS SYSTEM) FOR LANE CLOSURE ADVANCE WARNING SIGNING AND DEVICES.

ADVANCED WARNING SIGNING DETAIL (DURING NON LANE CLOSURE PERIODS)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
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TRAFFIC CONTROL PLAN
PHASE I

SHEET NO. 58

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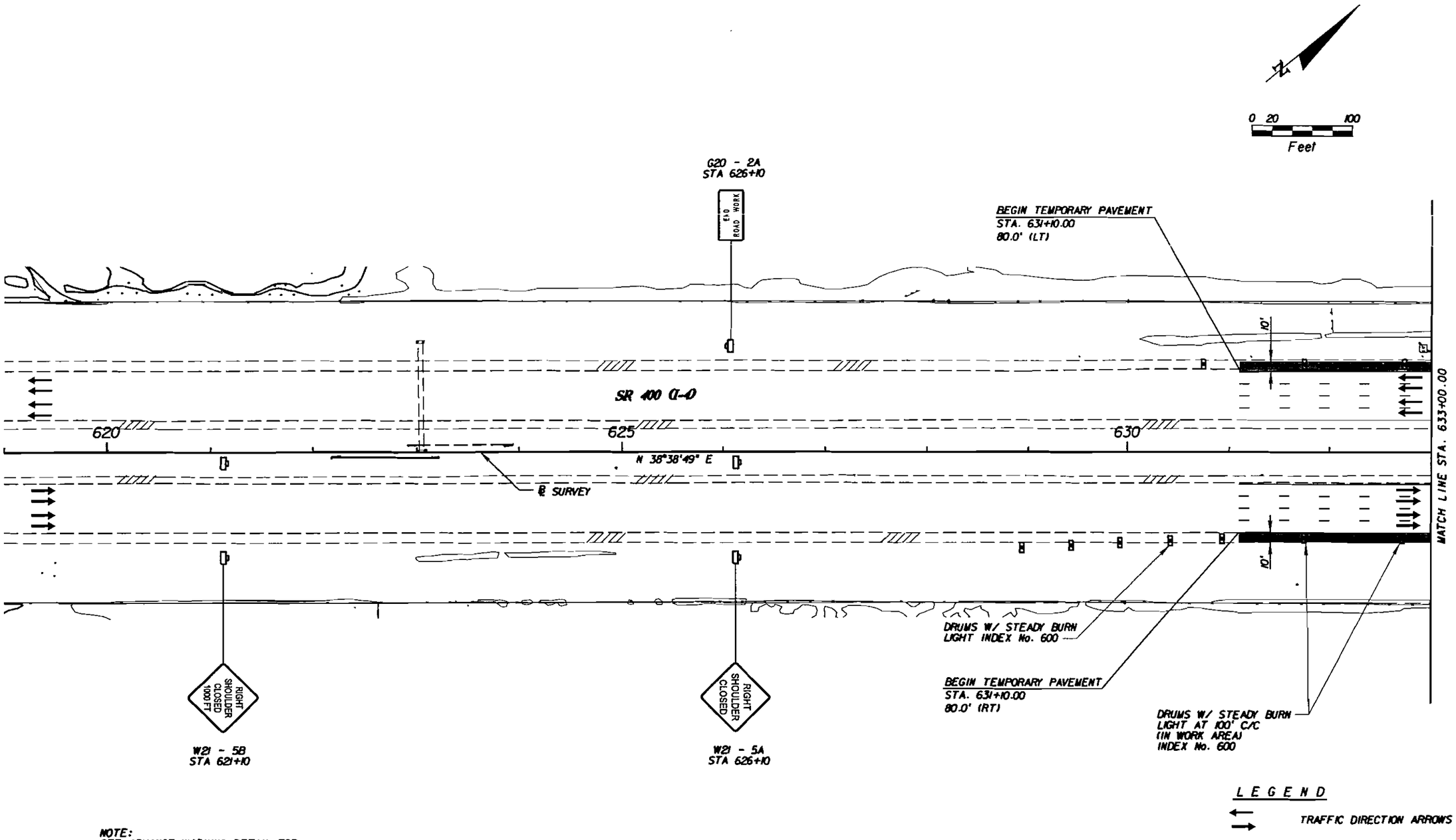

NOTE:
SEE ADVANCE WARNING DETAIL FOR
PLACEMENT OF ADVANCE WARNING SIGNS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Orlando, Florida 32803

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TRAFFIC CONTROL PLAN
PHASE I

SHEET NO. 59

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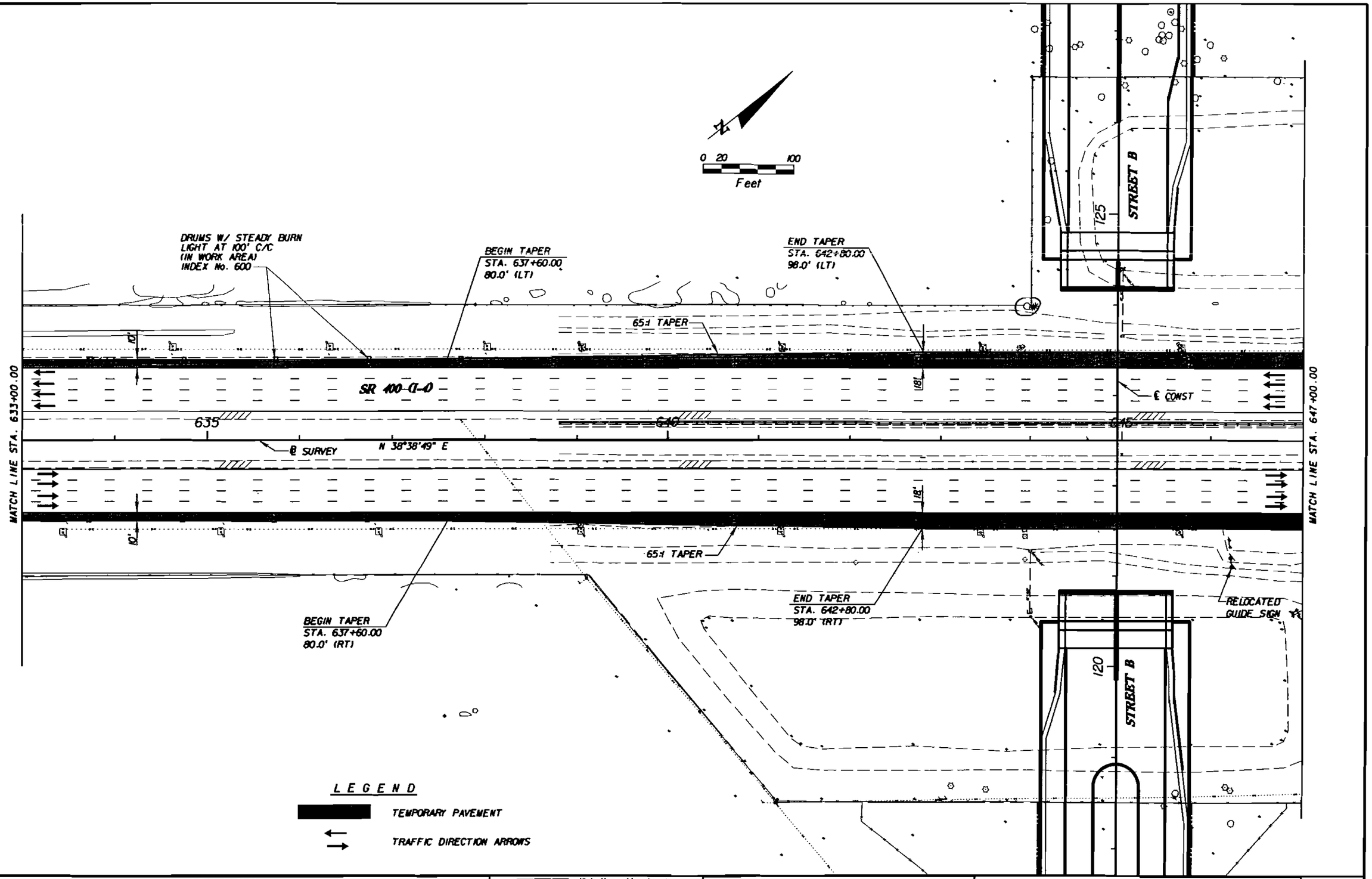

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Kim W. Elmer, P.E.
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TRAFFIC CONTROL PLAN - PHASE I

SHEET No. 60

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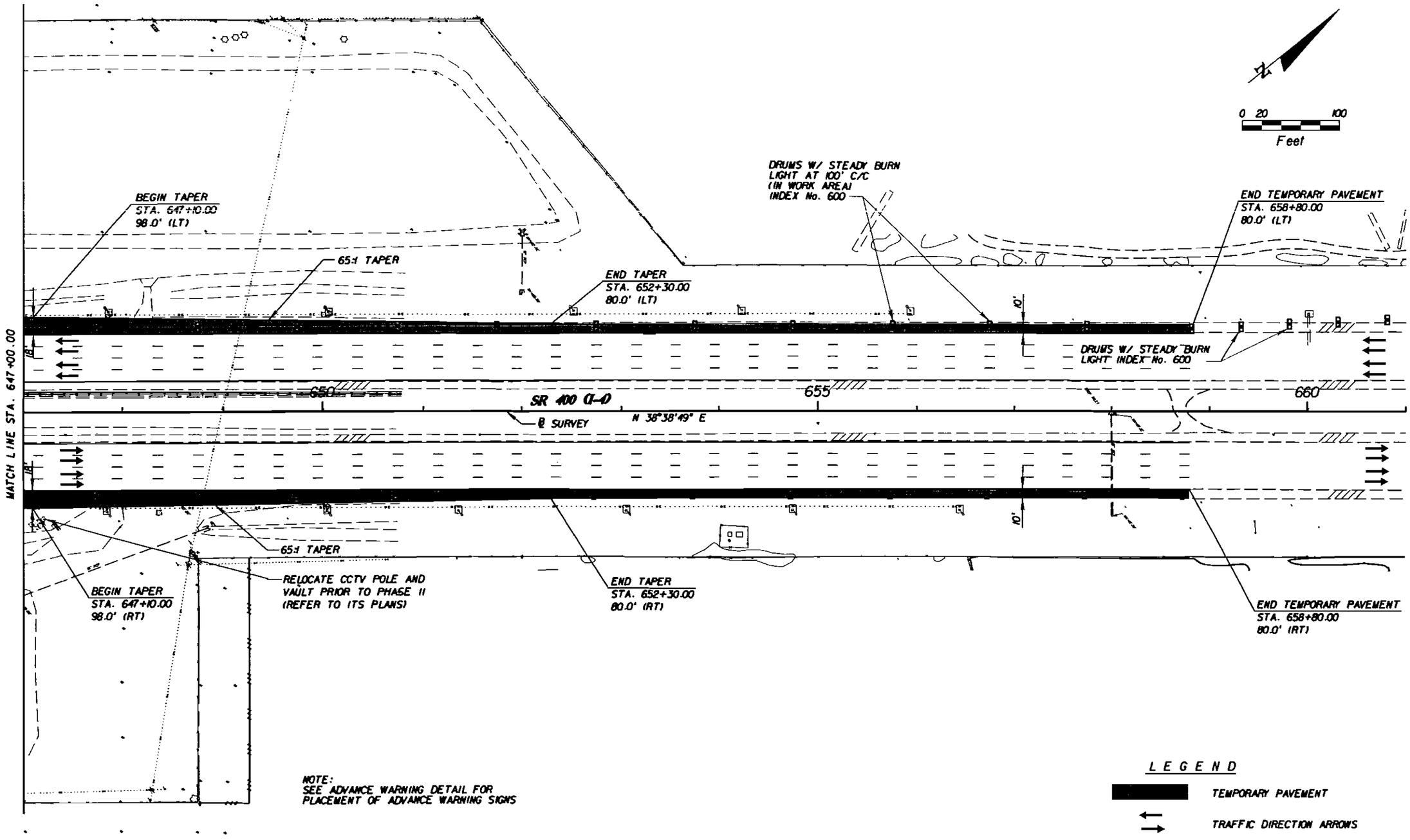

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Corporate Registration
No.. CA 00000696
Kim W. Elmer, P.E.
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TRAFFIC CONTROL PLAN
PHASE I

SHEET NO. 61

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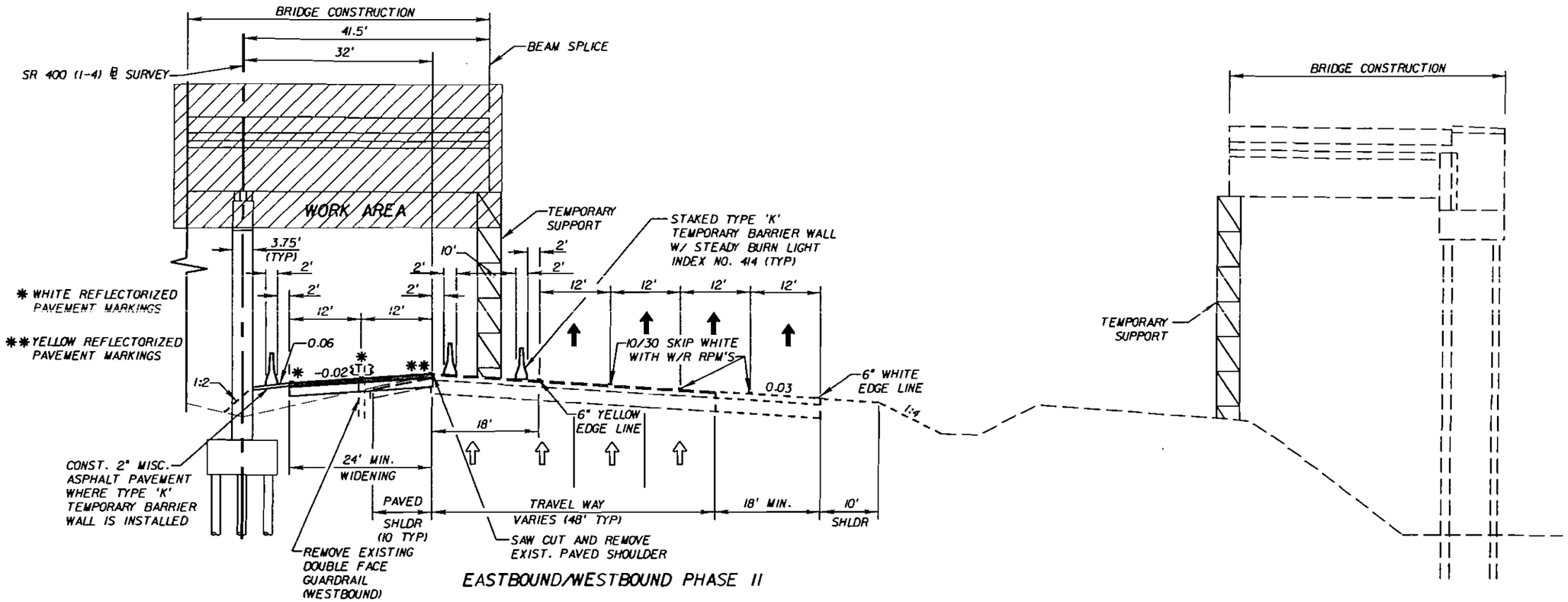

NOTE: THE CONTRACTOR SHALL CONSTRUCT IN ONE DIRECTION DURING EACH STAGE ONLY.

PHASE II - BRIDGE CONSTRUCTION

STAGE I - EASTBOUND DIRECTION
STAGE II - WESTBOUND DIRECTION CONTINUE RIGHT TO LEFT BRIDGE DECK CONSTRUCTION

STAGING NOTES:

1. PLACE ADVANCE WARNING SIGNS, BARRICADES, AND DEVICES AS SHOWN IN INDEX No. 600 AND PHASE II - ADVANCED WARNING SIGNING SHEETS.
2. SHIFT TRAFFIC ON TO OUTSIDE TEMPORARY PAVEMENT.
3. CLOSE INSIDE TRAVEL LANES AND MAINTAIN TRAFFIC USING THE OUTSIDE TRAVEL LANES AS SHOWN.
4. CONSTRUCT INTERIOR MEDIAN BRIDGE PILES, CAPS, PIERS, BEAMS AND DECK WITH TEMPORARY SUPPORT.
5. UPON COMPLETION OF INTERIOR BRIDGE, CONSTRUCT TEMPORARY PAVEMENT AS SHOWN.

PHASE II - BRIDGE CONSTRUCTION TYPICAL SECTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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TRAFFIC CONTROL PLAN PHASE II

SHEET NO. 62

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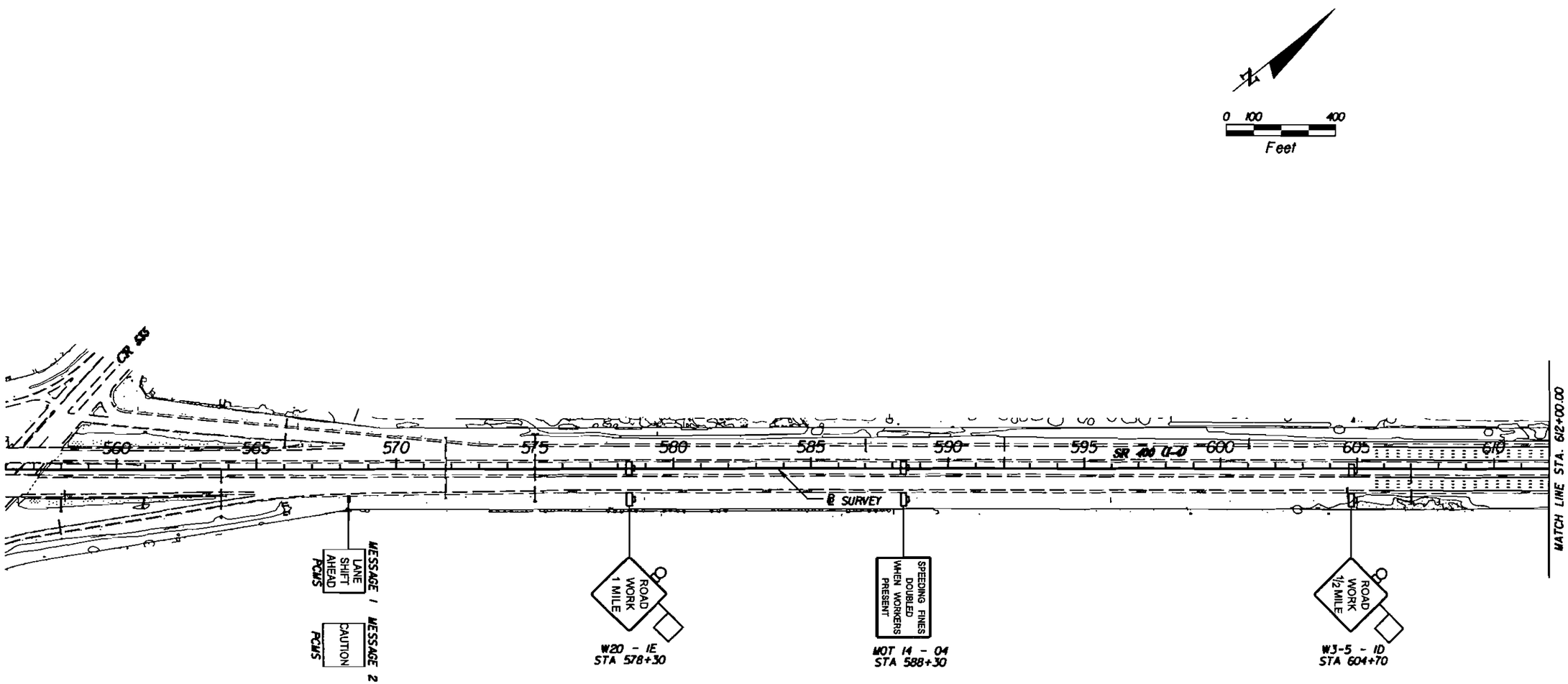

ADVANCED WARNING SIGNING DETAIL (NON-LANE CLOSURE PERIODS)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN PHASE II

SHEET NO. 63

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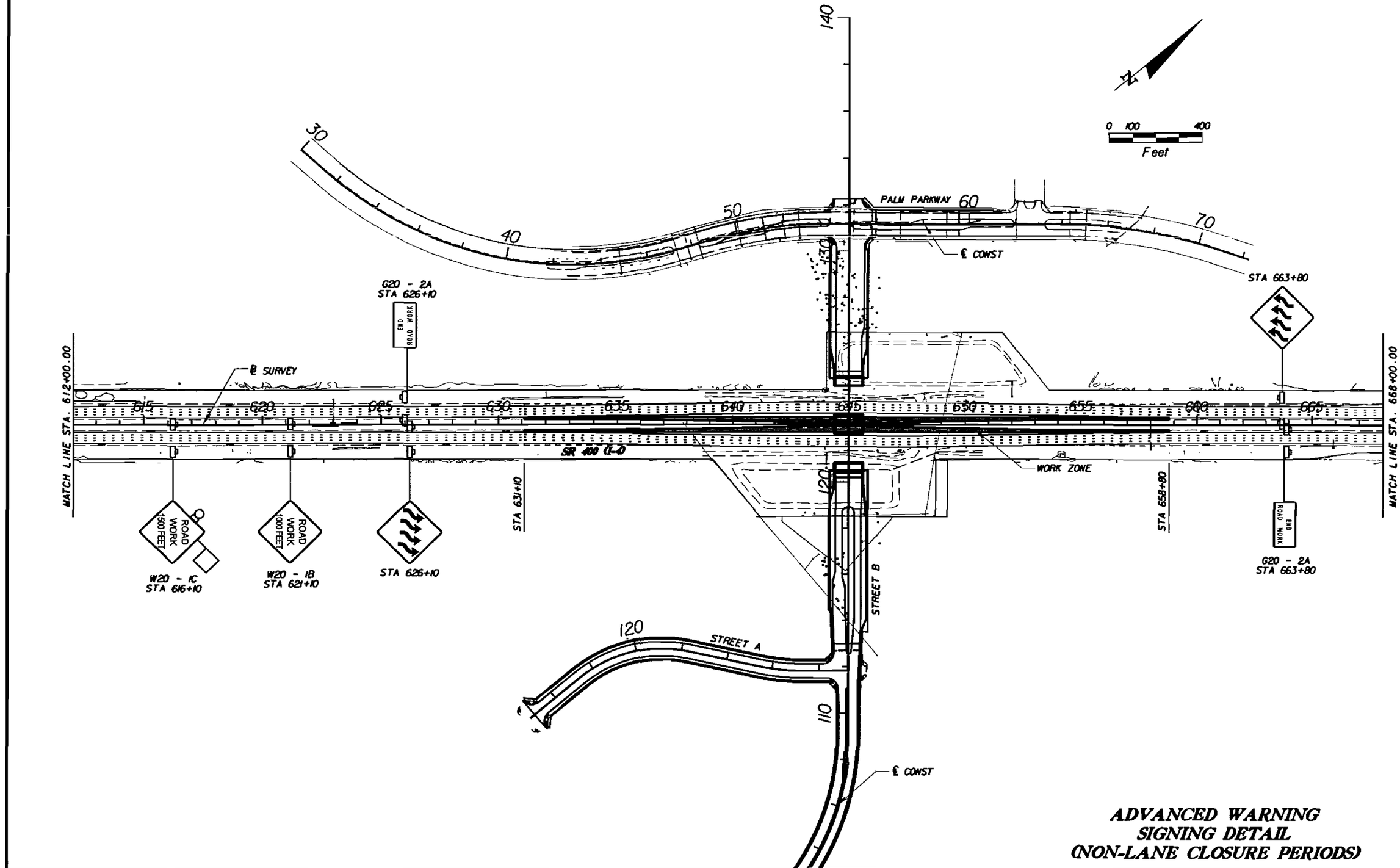

ADVANCED WARNING SIGNING DETAIL (NON-LANE CLOSURE PERIODS)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE II

SHEET NO. 64

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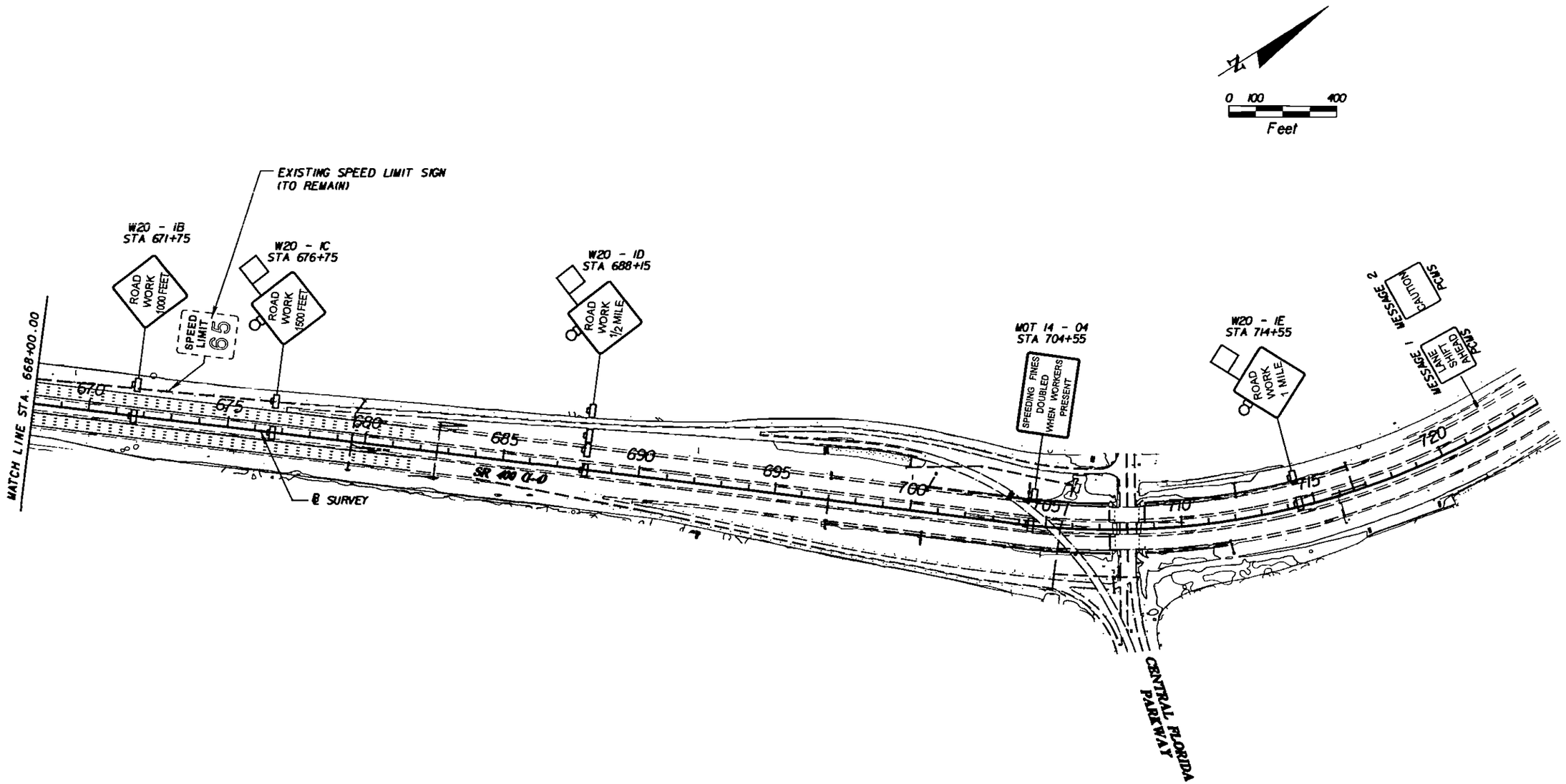

ADVANCED WARNING SIGNING DETAIL (NON-LANE CLOSURE PERIODS)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
				- -	

Kimley-Horn and Associates, Inc.
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Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN PHASE H

SHEET NO. 65

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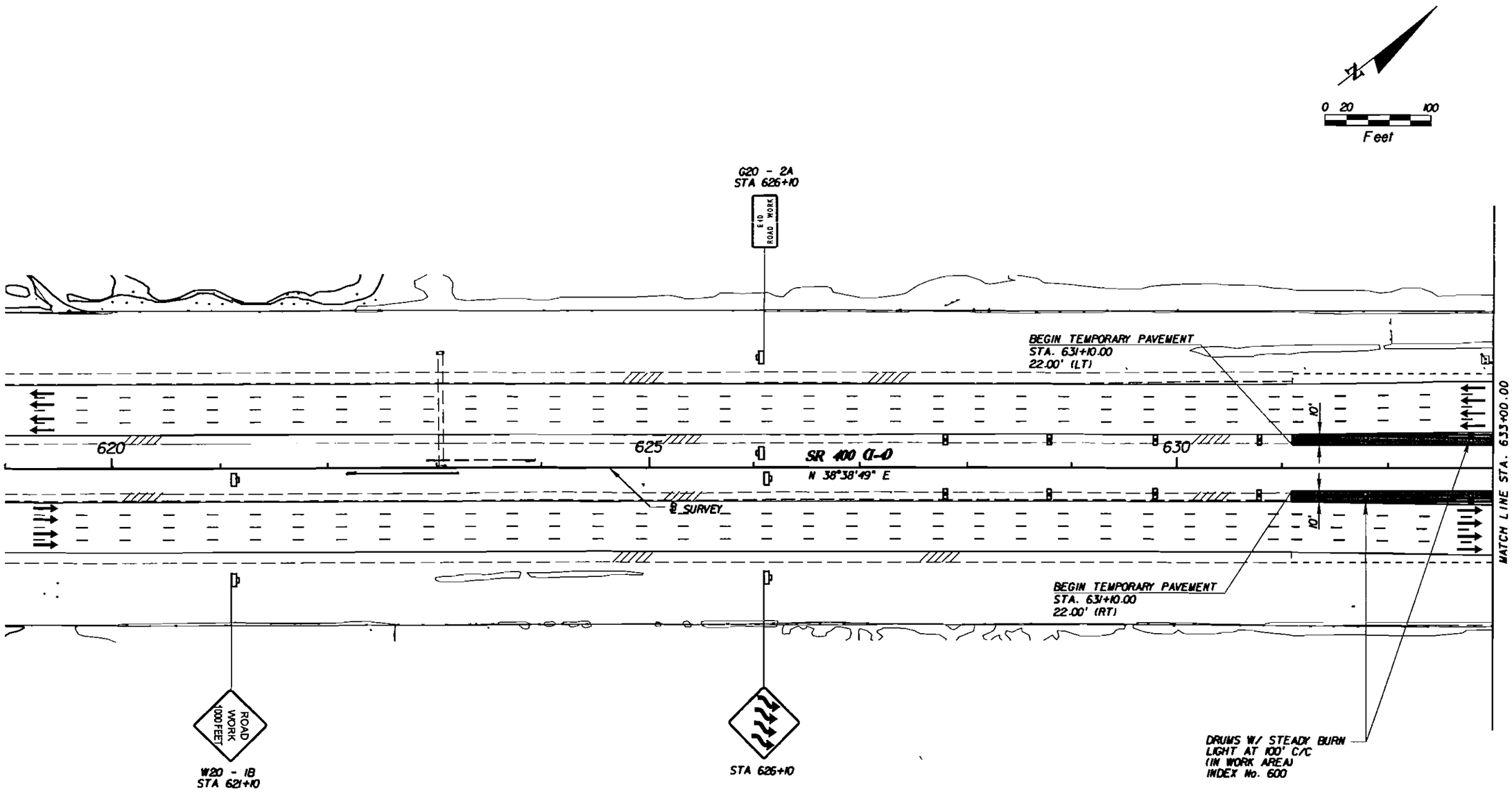

NOTE:

1. SEE ADVANCE WARNING DETAIL FOR PLACEMENT OF ADVANCE WARNING SIGNS
2. REMOVE DOUBLE FACE GAURDRAIL ALONG WESTBOUND LANE TO INSTALL TEMPORARY DIVERSION WITHIN MEDIAN. INSTALL TEMPORARY CRASH CUSHION AT THE END OF THE GUARDRAIL REMOVAL POINTS.

LEGEND

TEMPORARY PAVEMENT

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No.. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
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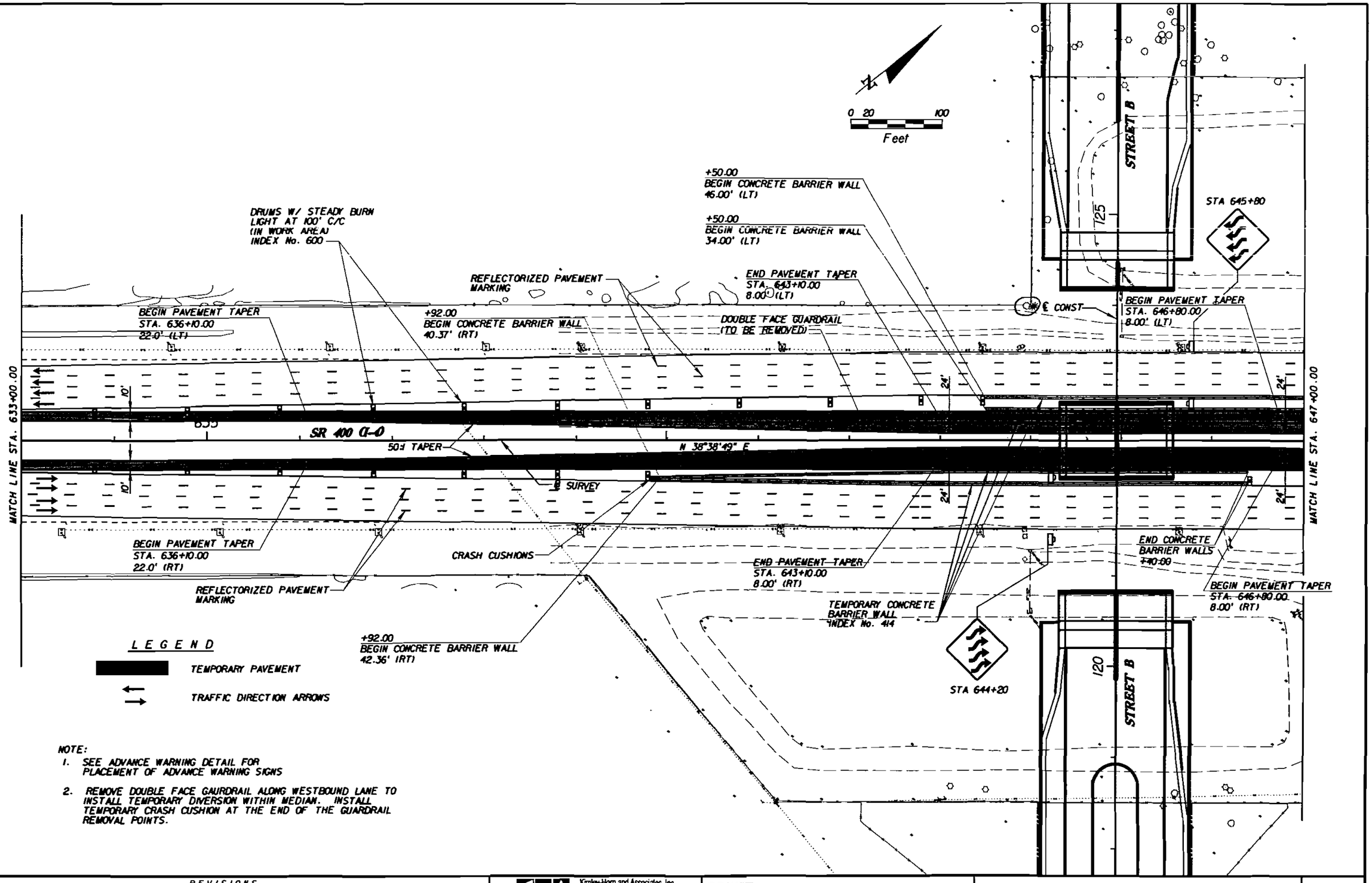
TRAFFIC CONTROL PLAN PHASE II

SHEET NO. 66

USER: jorge.ferrer 3/13/2008 9:18:59 AM q:\ROADWAY\049280002_FentonSt\maint\I-4\PH2\tcptrd02.dgn



NOTE:

1. SEE ADVANCE WARNING DETAIL FOR PLACEMENT OF ADVANCE WARNING SIGNS
2. REMOVE DOUBLE FACE GAURDRAIL ALONG WESTBOUND LANE TO INSTALL TEMPORARY DIVERSION WITHIN MEDIAN. INSTALL TEMPORARY CRASH CUSHION AT THE END OF THE GUARDRAIL REMOVAL POINTS.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No.. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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TRAFFIC CONTROL PLAN
PHASE II

SHEET No. 67

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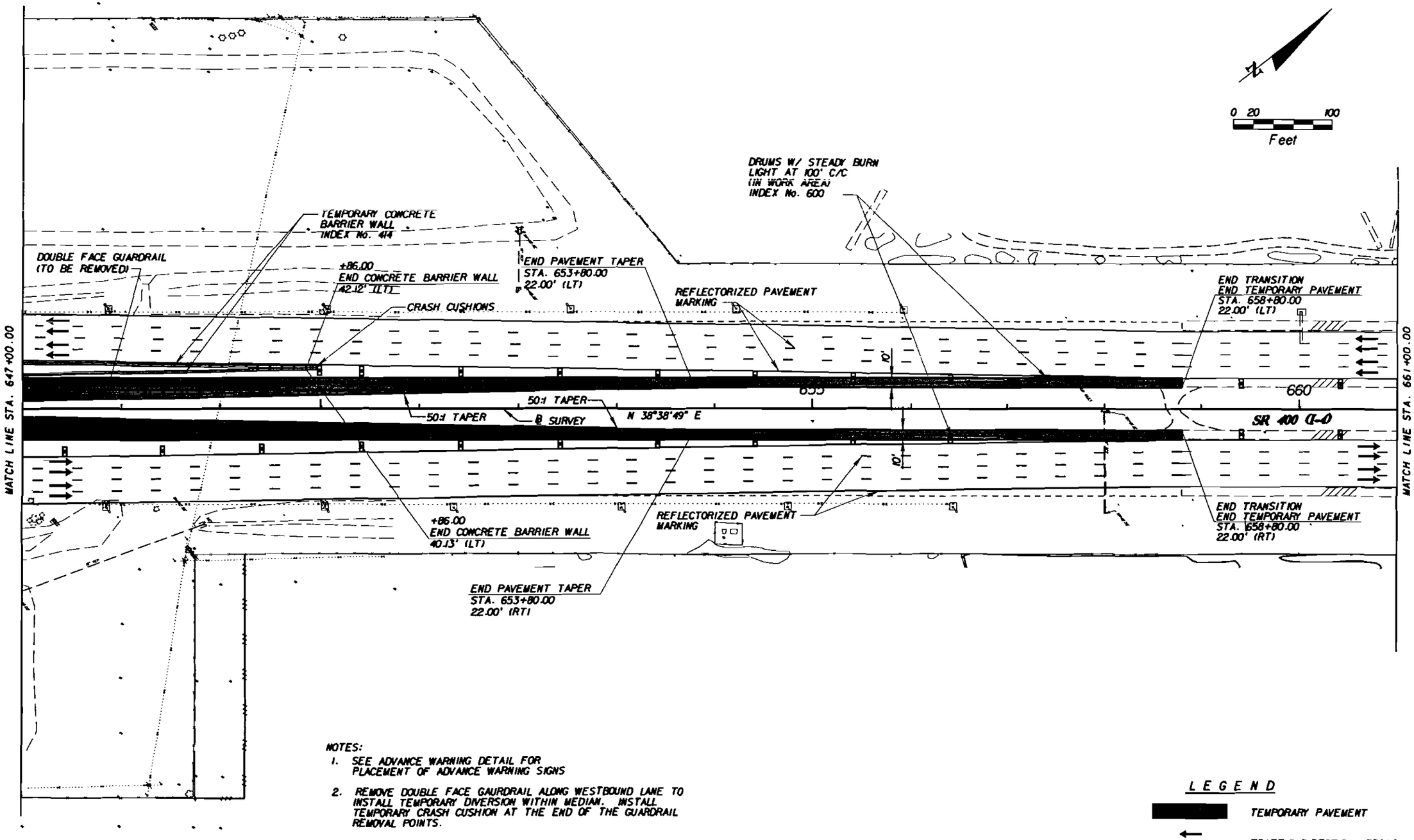

NOTES:

1. SEE ADVANCE WARNING DETAIL FOR PLACEMENT OF ADVANCE WARNING SIGNS
2. REMOVE DOUBLE FACE GAURDRAIL ALONG WESTBOUND LANE TO INSTALL TEMPORARY DIVERSION WITHIN MEDIAN. INSTALL TEMPORARY CRASH CUSHION AT THE END OF THE GUARDRAIL REMOVAL POINTS.

LEGEND

- TEMPORARY PAVEMENT
- TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
- -					

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PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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TRAFFIC CONTROL PLAN PHASE II

SHEET NO. 68

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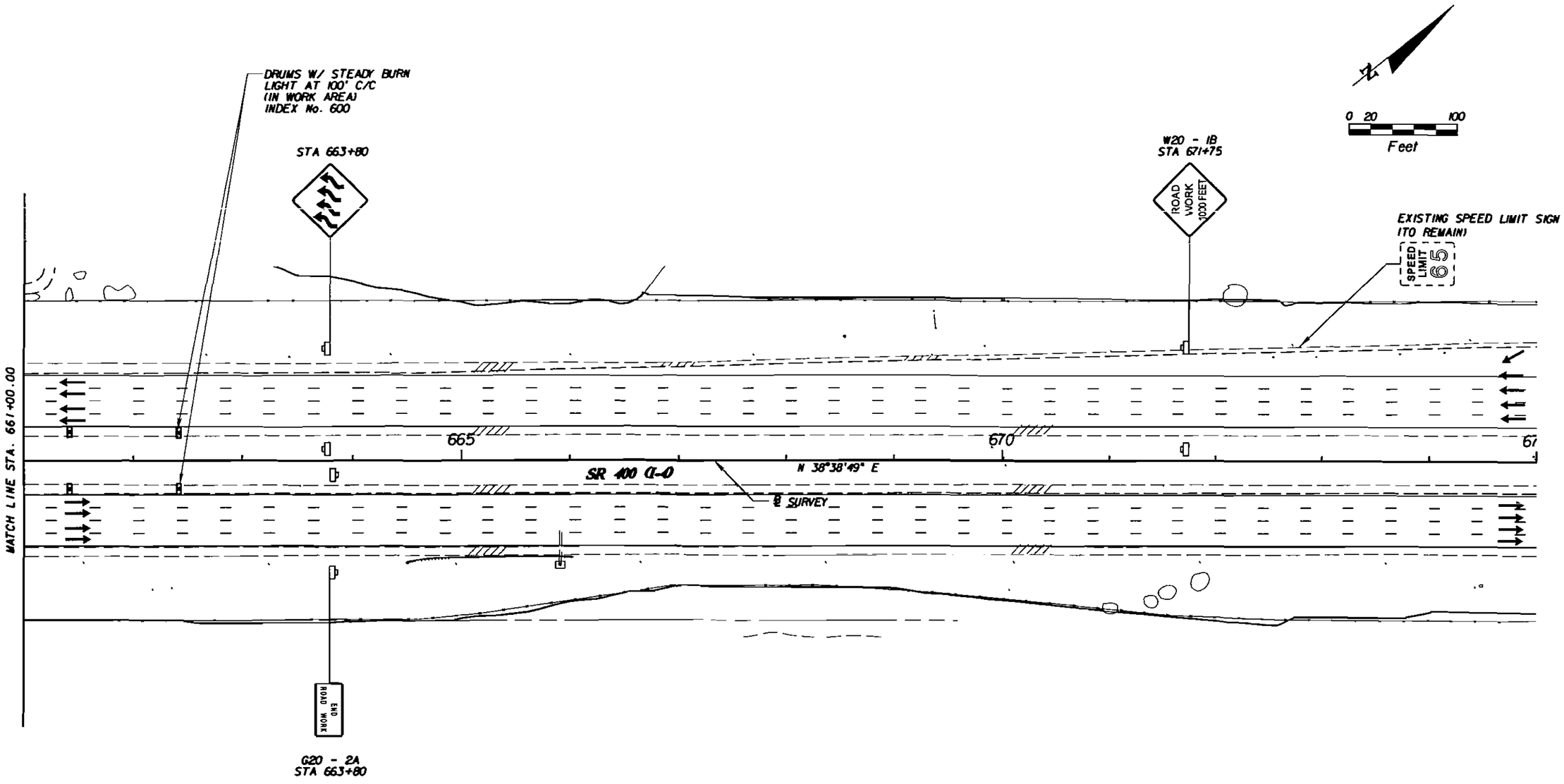

NOTE:

1. SEE ADVANCE WARNING DETAIL FOR PLACEMENT OF ADVANCE WARNING SIGNS
2. REMOVE DOUBLE FACE GAURDRAIL ALONG WESTBOUND LANE TO INSTALL TEMPORARY DIVERSION WITHIN MEDIAN. INSTALL TEMPORARY CRASH CUSHION AT THE END OF THE GUARDRAIL REMOVAL POINTS.

LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
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No.. CA 00000696
Kim W. Elmer, P.E.
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Orlando, Florida 32803

ORANGE COUNTY
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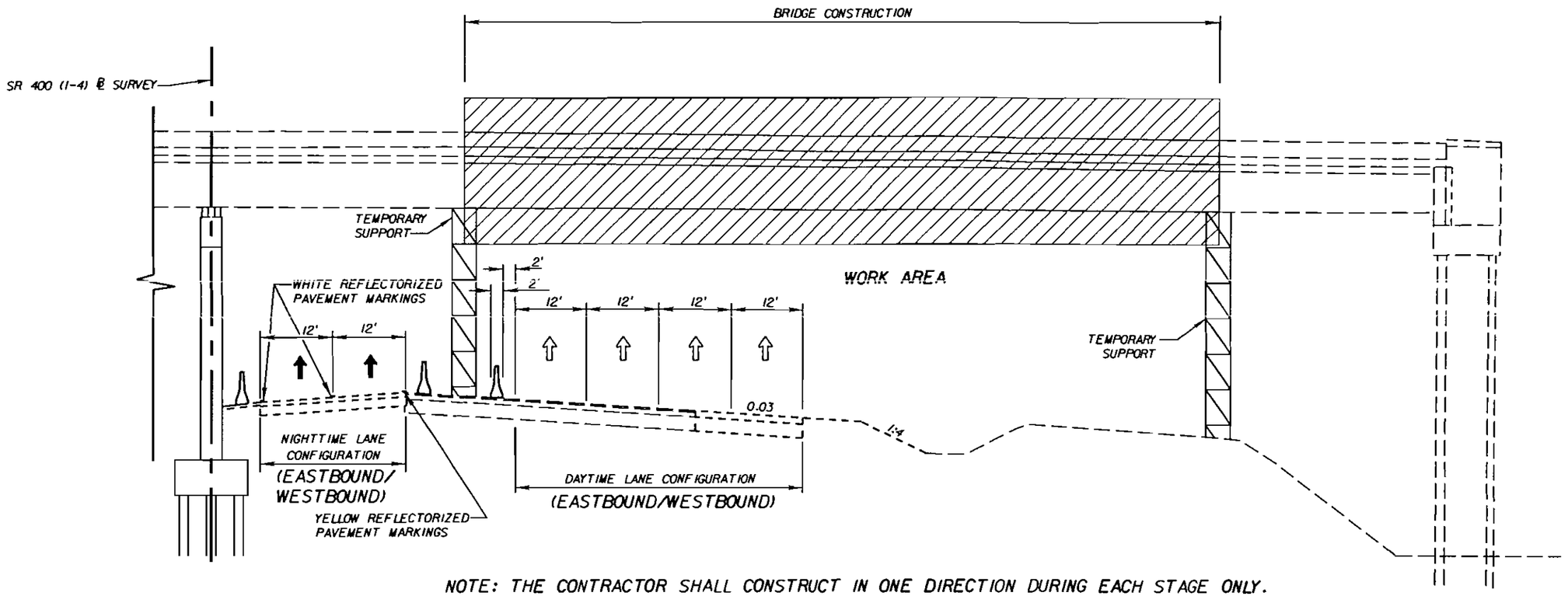
TRAFFIC CONTROL PLAN
PHASE II

SHEET NO. 69

USER: jorge.ferrer 3/13/2008 9:20:12 AM q:\ROADWAY\049280002_FentonSt\maint\I-4\PH2\tcpird05.dgn



NOTE: THE CONTRACTOR SHALL CONSTRUCT IN ONE DIRECTION DURING EACH STAGE ONLY.

PHASE III - BRIDGE CONSTRUCTION

STAGE I - EASTBOUND DIRECTION
STAGE II - WESTBOUND DIRECTION CONTINUE RIGHT TO LEFT BRIDGE DECK CONSTRUCTION

STAGING NOTES:

1. PLACE ADVANCE WARNING SIGNS, BARRICADES, VARIABLE MESSAGE SIGNS AND DEVICES AS SHOWN IN INDEX NO. 600 AND PHASE III - ADVANCED WARNING SIGNING DETAIL.

2. BEFORE SHIFTING TRAFFIC ONTO INSIDE TEMPORARY PAVEMENT, USE RIGHT LANE MERGES TO DROP TRAFFIC FROM FOUR (4) LANES TO TWO (2) LANES

3. CLOSE OUTSIDE TRAVEL LANES AND MAINTAIN TRAFFIC USING THE INSIDE TRAVEL LANES AS SHOWN

4. CONSTRUCT SECTIONS (SHOWN ABOVE) OF BRIDGE DURING NON-PEAK HOURS.

5. DURING NON-LANE CLOSURES USE PHASE II SIGNING AND DEVICES. USE PHASE III DURING NIGHT TIME ONLY.

PHASE III - BRIDGE CONSTRUCTION
TYPICAL SECTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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TRAFFIC CONTROL PLAN PHASE III

SHEET NO. 70

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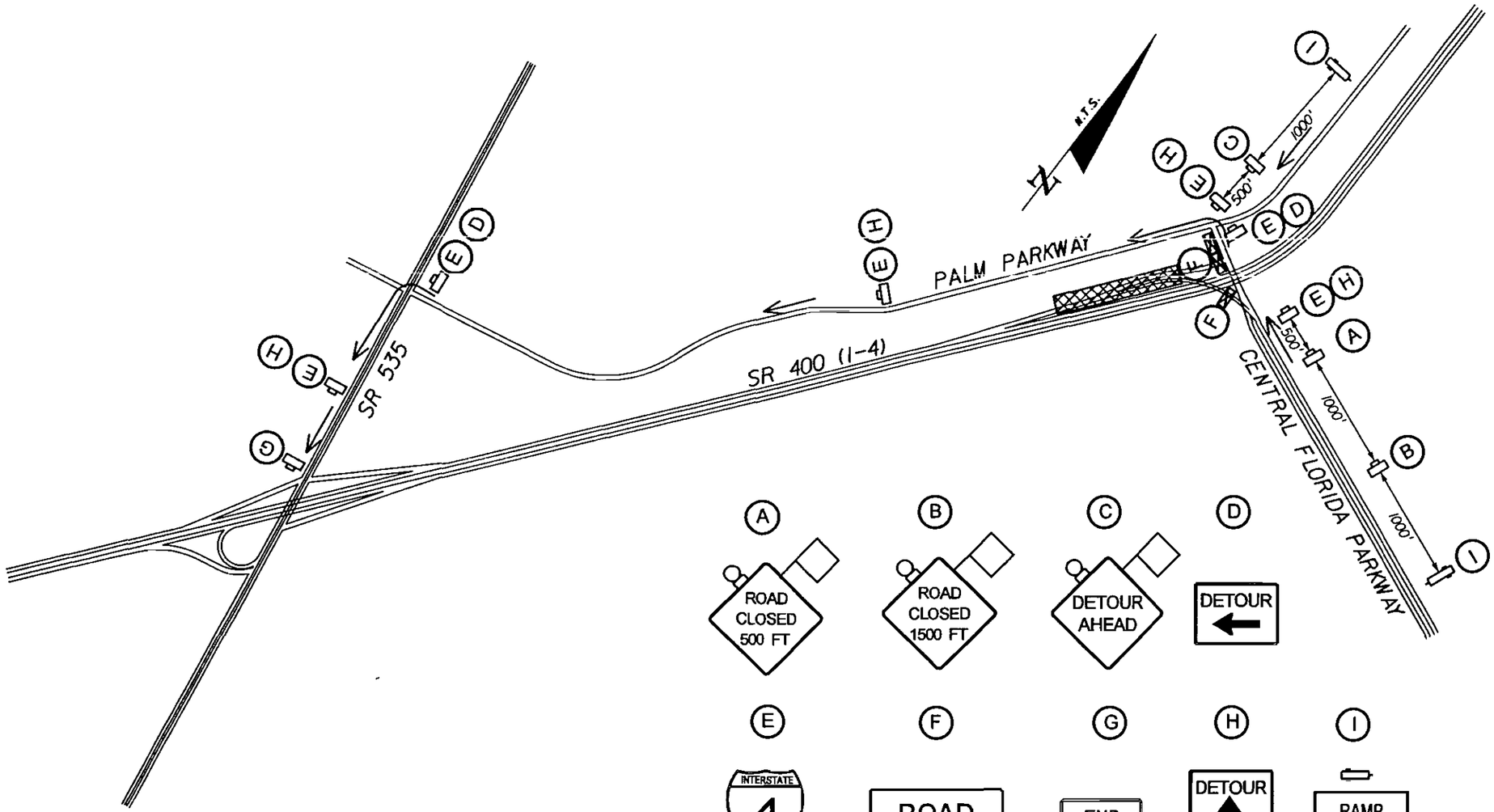
TRAFFIC CONTROL NOTES



LEGEND:

- VARIABLE MESSAGE SIGN
- SIGN
- TYPE III BARRICADE W/ TYPE B LIGHTS
- CLOSURE AREA
- DETOUR ROUTE

DETOUR DETAIL

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
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Kim W. Elmer, P.E.
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TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 71

3/13/2008 9:22:07 AM q:\ROADWAY\049280002_FentonSt\maint\I-4\PH3\tcdtrd01.dgn

NOTE:

PHASE III TCP SIGNING IS SHOWN FOR DUAL LANE CLOSURE.
FOR SINGLE LANE CLOSURE REFER TO INDEX NO. 670

0 20 100
Feet

SR 400 (I-4)

545 550 555

N 38°38'49" E

℄ SURVEY

MATCH LINE STA. 556+00.00

STA 547+75

MESSAGE 1
PCMS
WORKERS PRESENT AHEAD

MESSAGE 2
PCMS
SPEED REDUCED NEXT 3MI

LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696

Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO.
72

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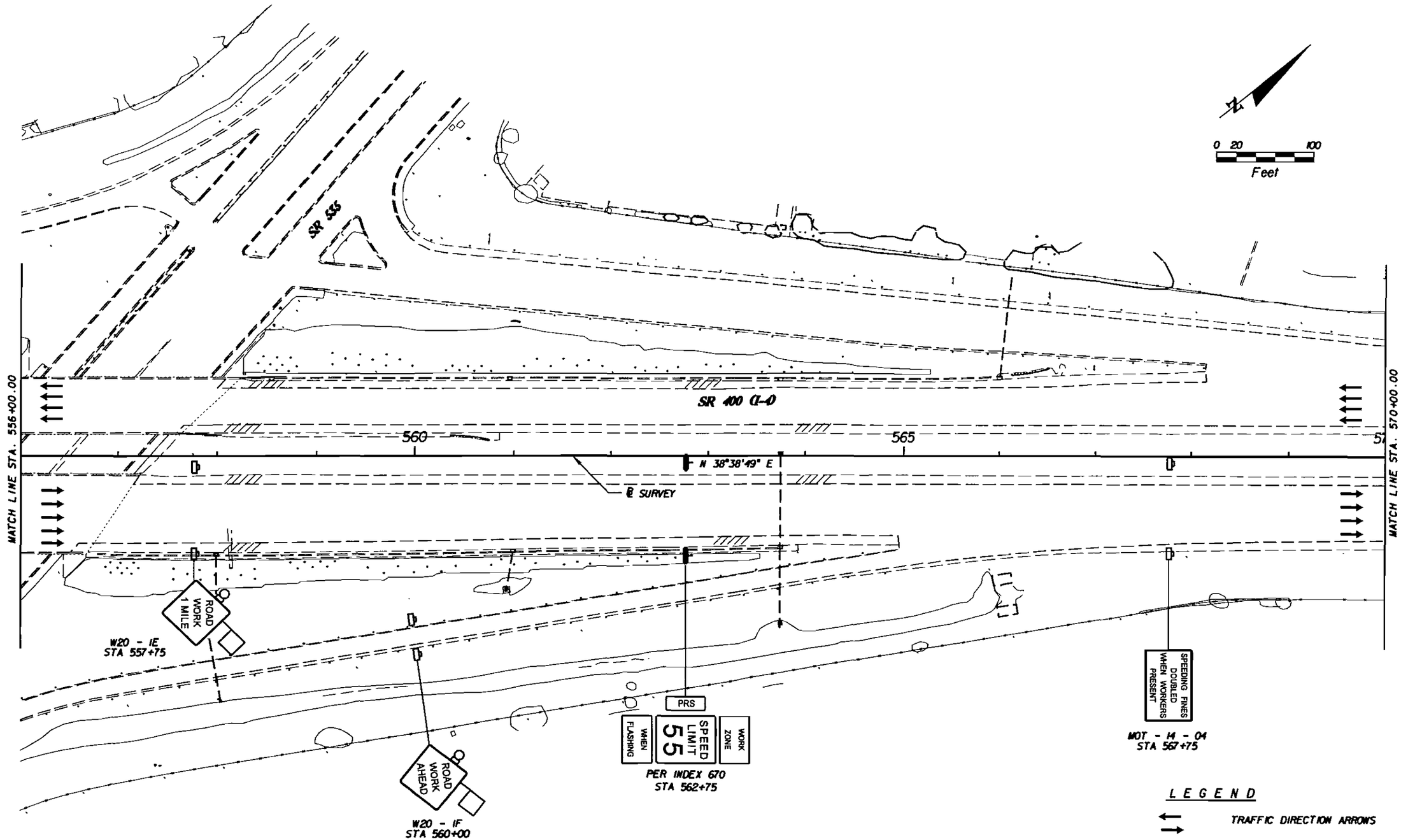

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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Corporate Registration No. CA 00000696
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TRAFFIC CONTROL PLAN PHASE III

SHEET NO. 73

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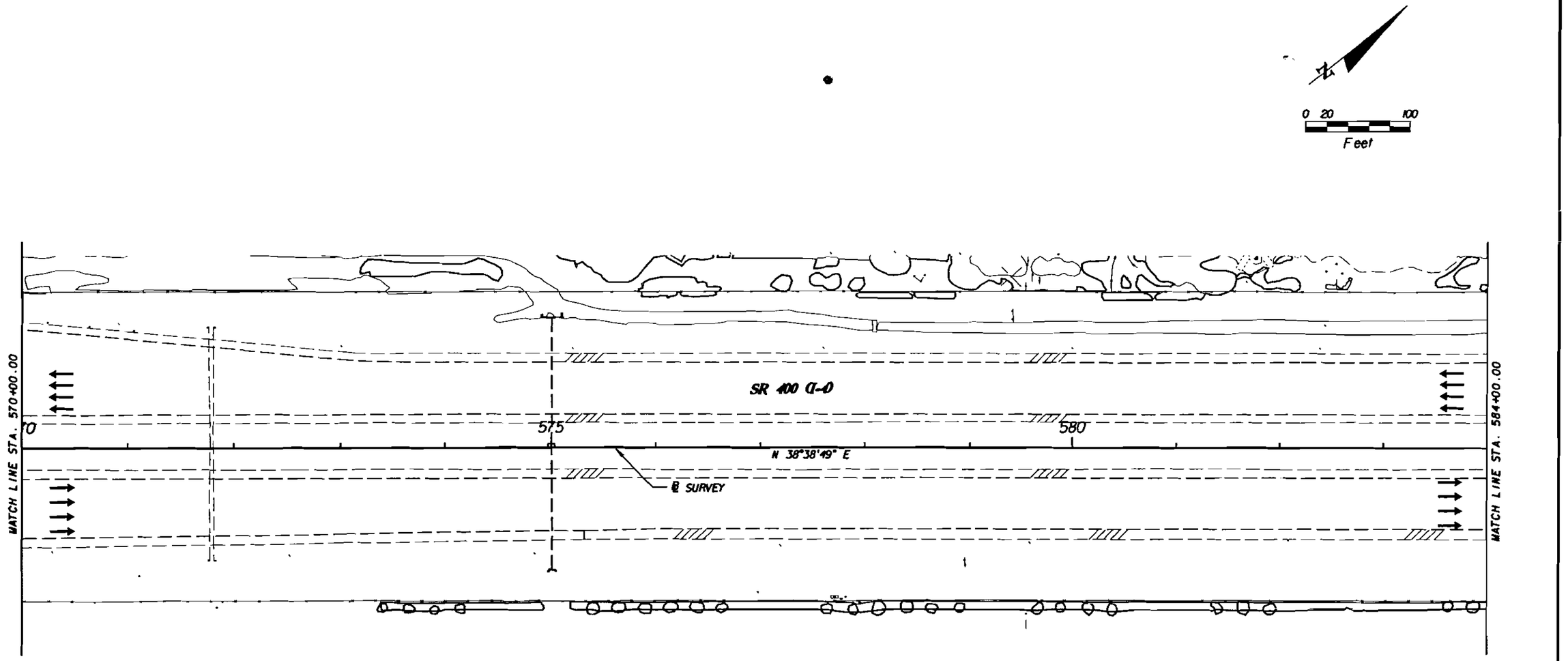

LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

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DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 74

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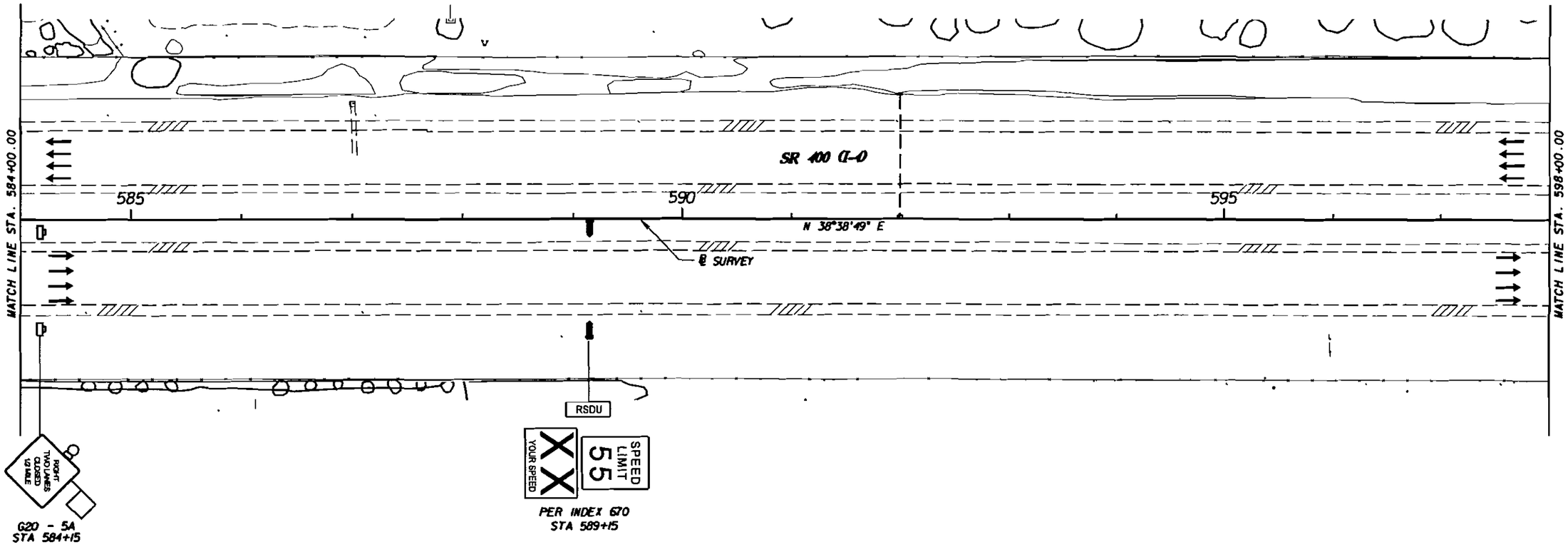
0 20 100
Feet



LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 75

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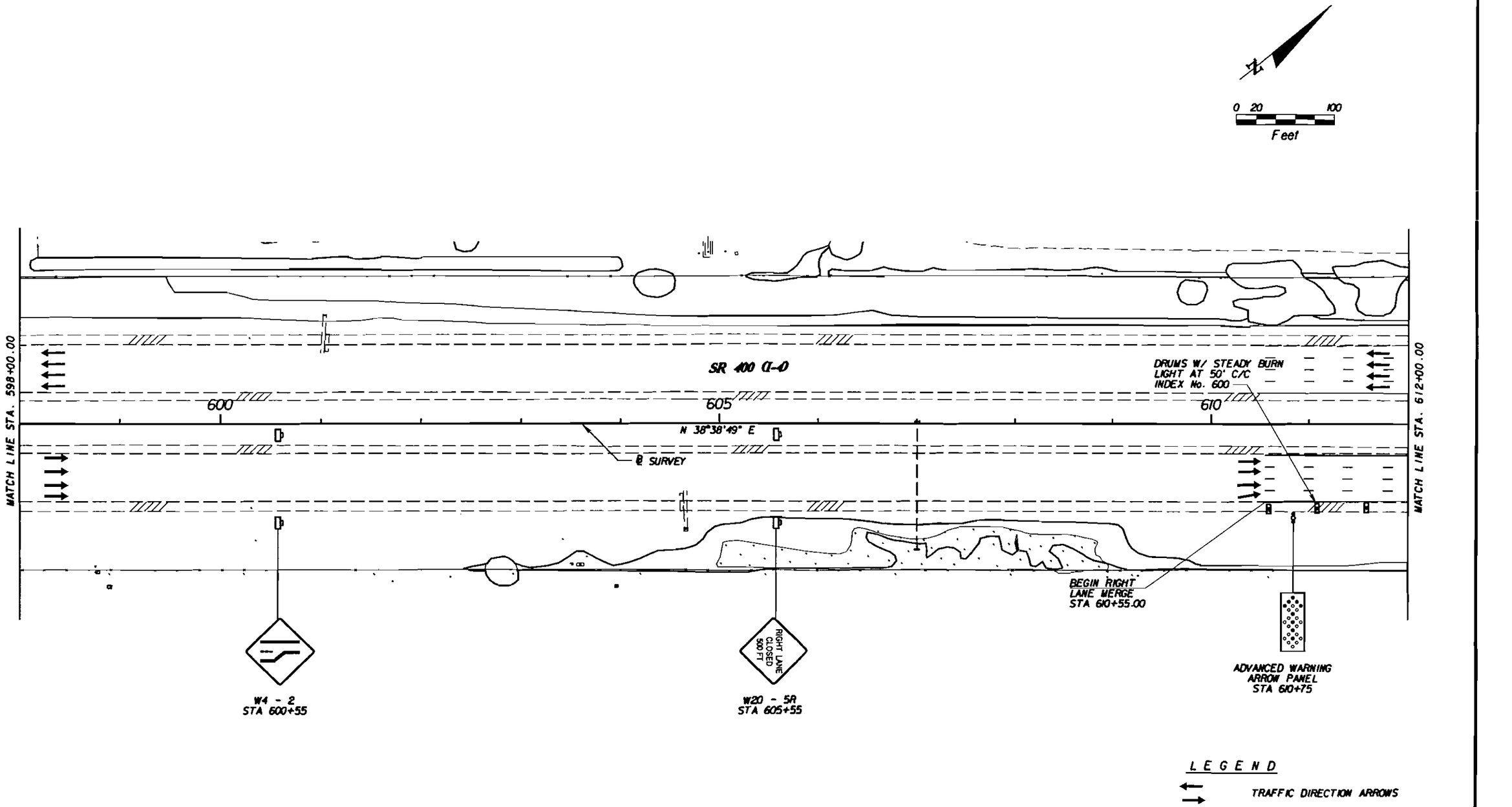

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 76

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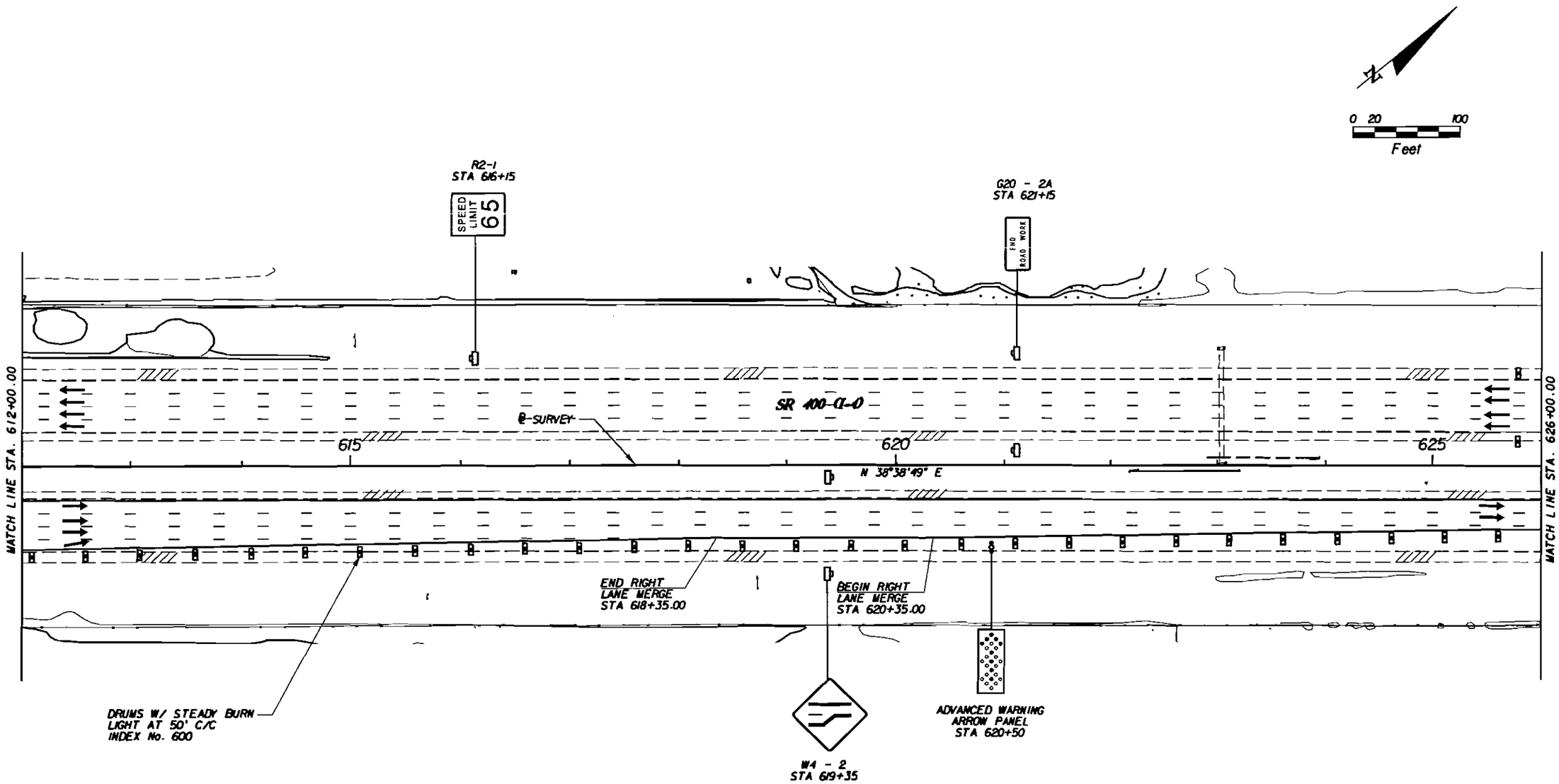

LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN PHASE III

SHEET NO. 77

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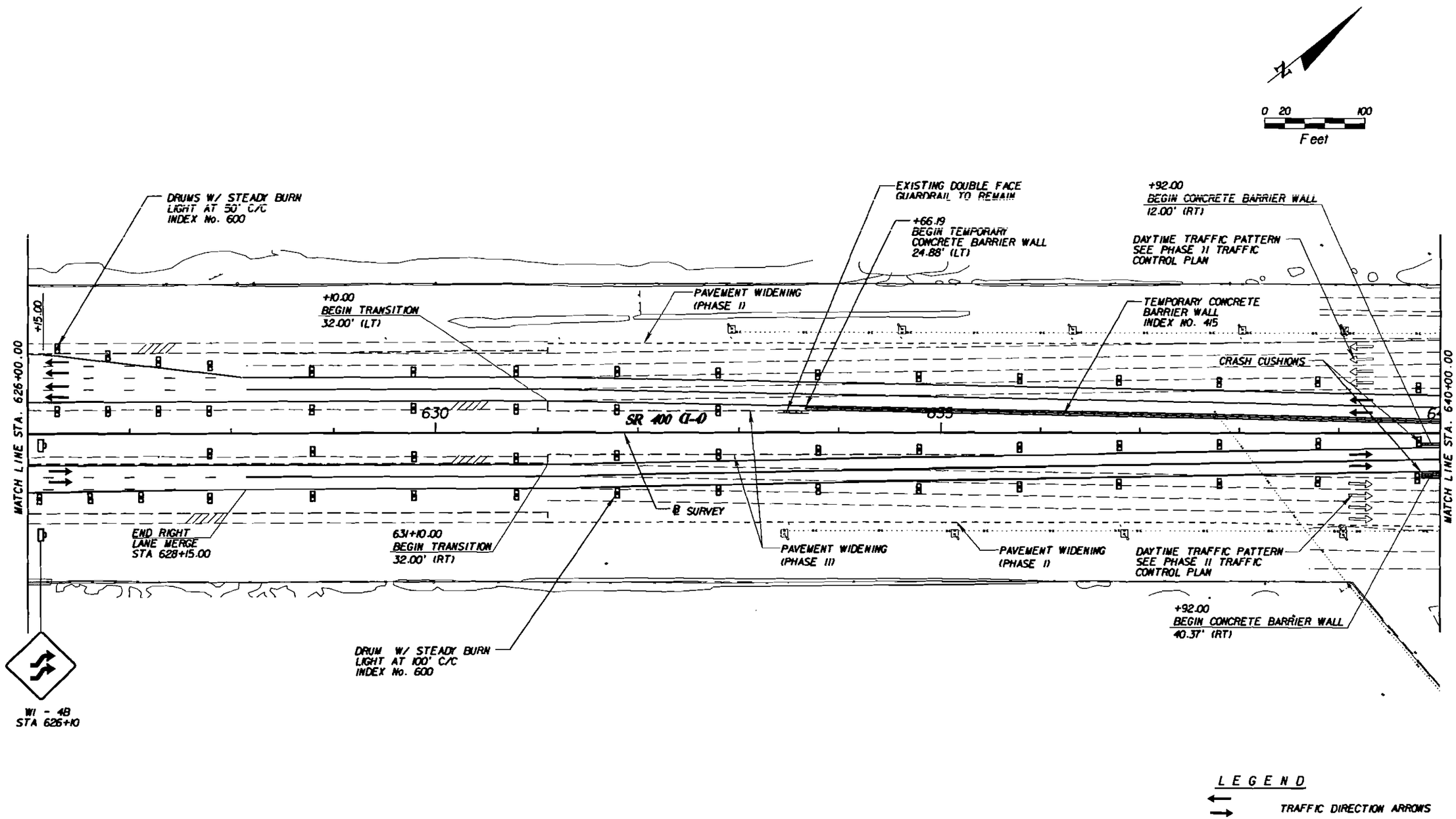

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO.
78

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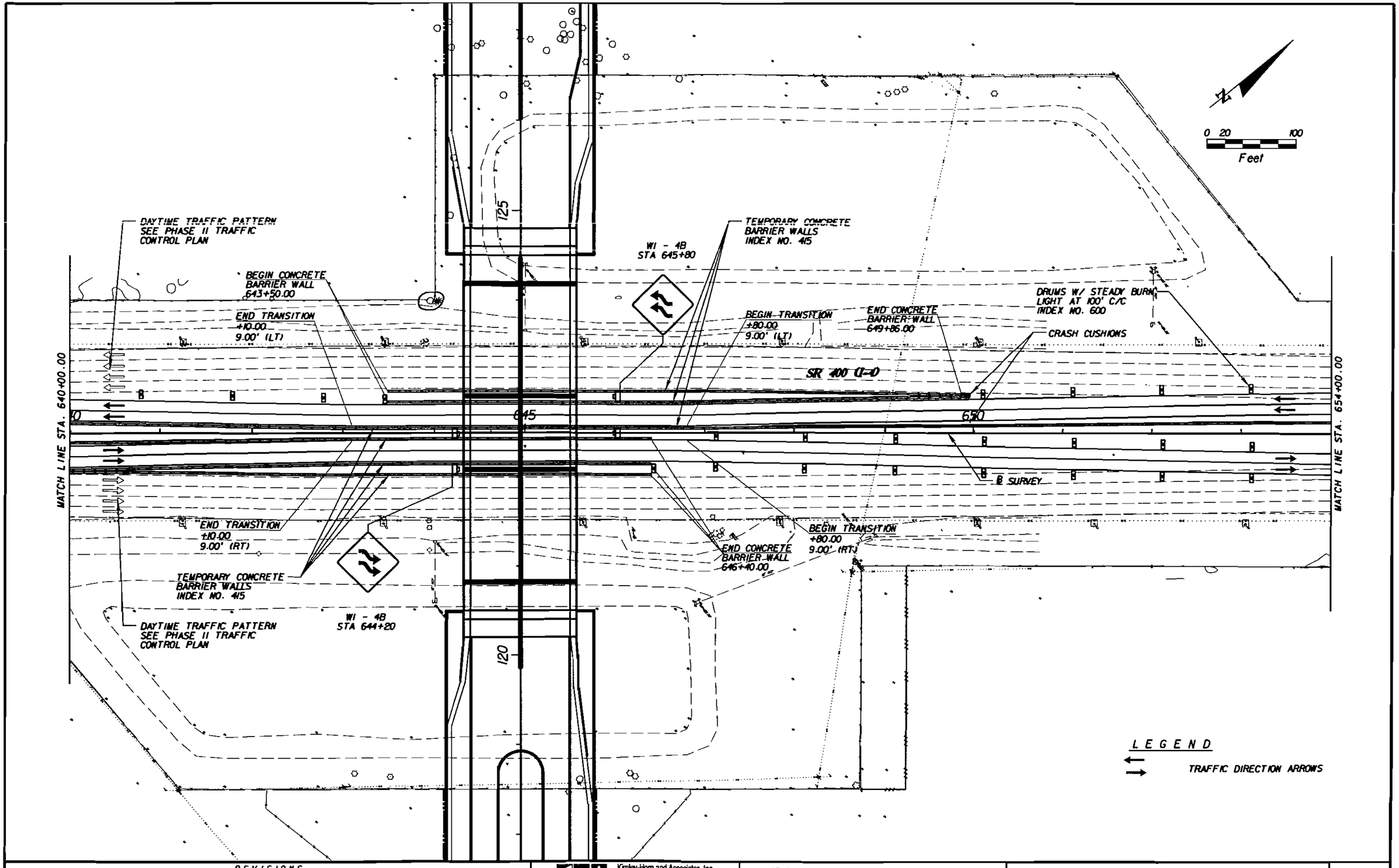

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 79

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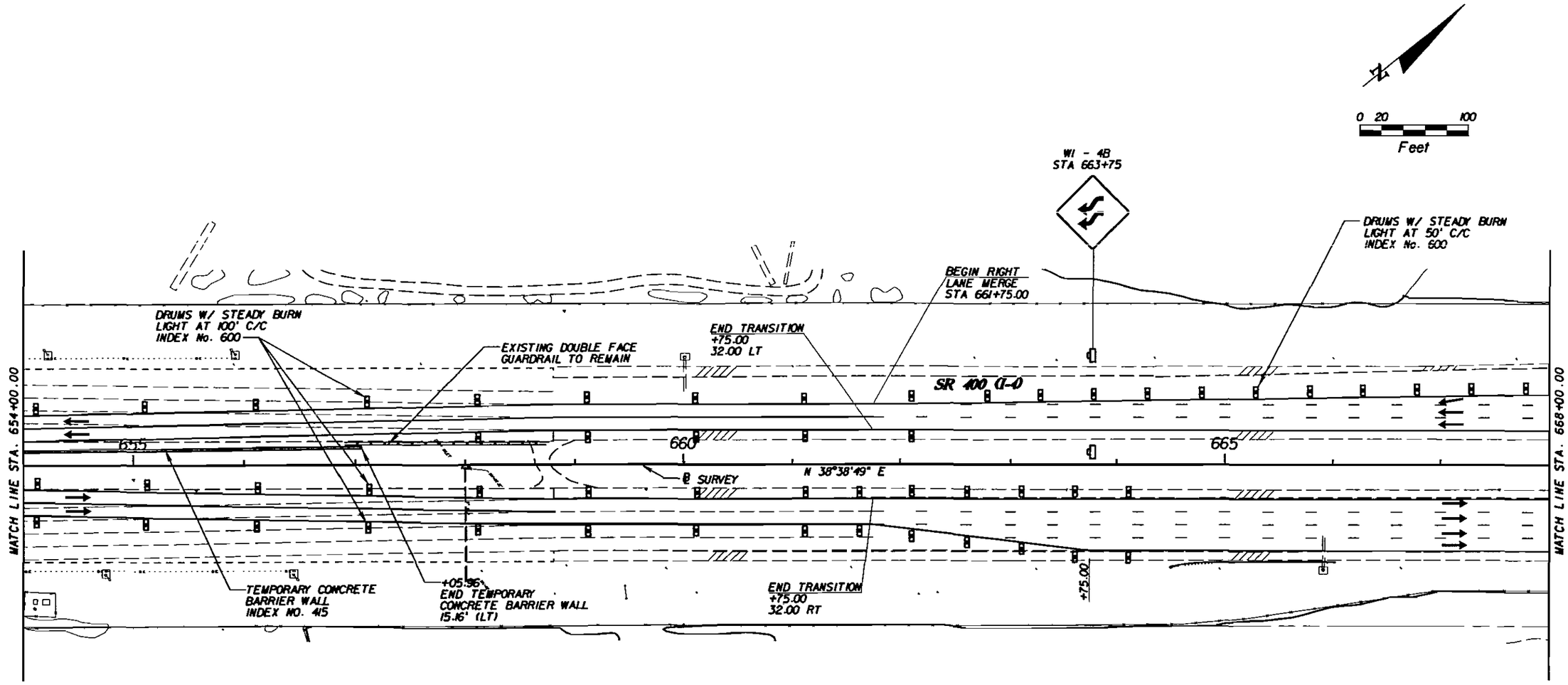


LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

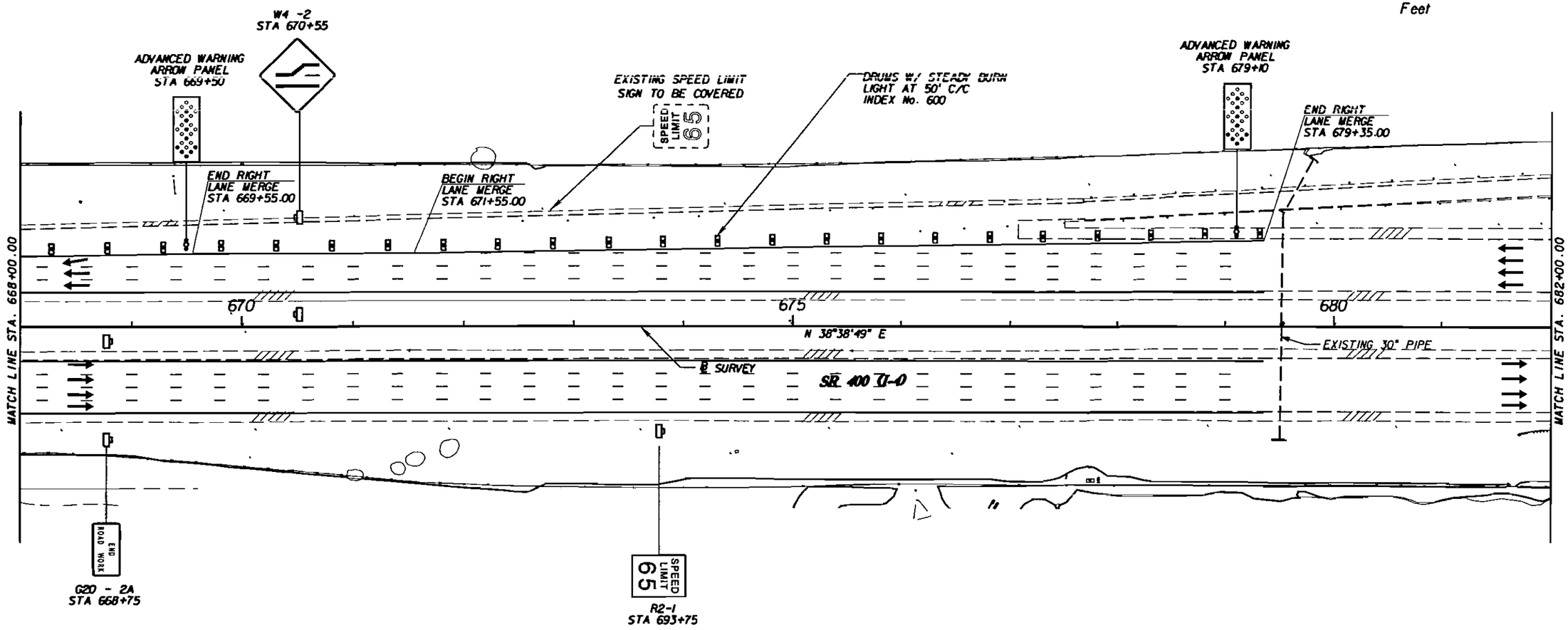
TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 80

USER: Jorge.ferrer 3/13/2008 9:27:29 AM q:\ROADWAY\049280002_FentonSt\mainl\I-4\PH3\tcplrd09.dgn

NOTE:
WESTBOUND RAMP CLOSED
DURNING PHASE III
SEE DETOUR DETAIL

0 20 100
Feet



LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 81

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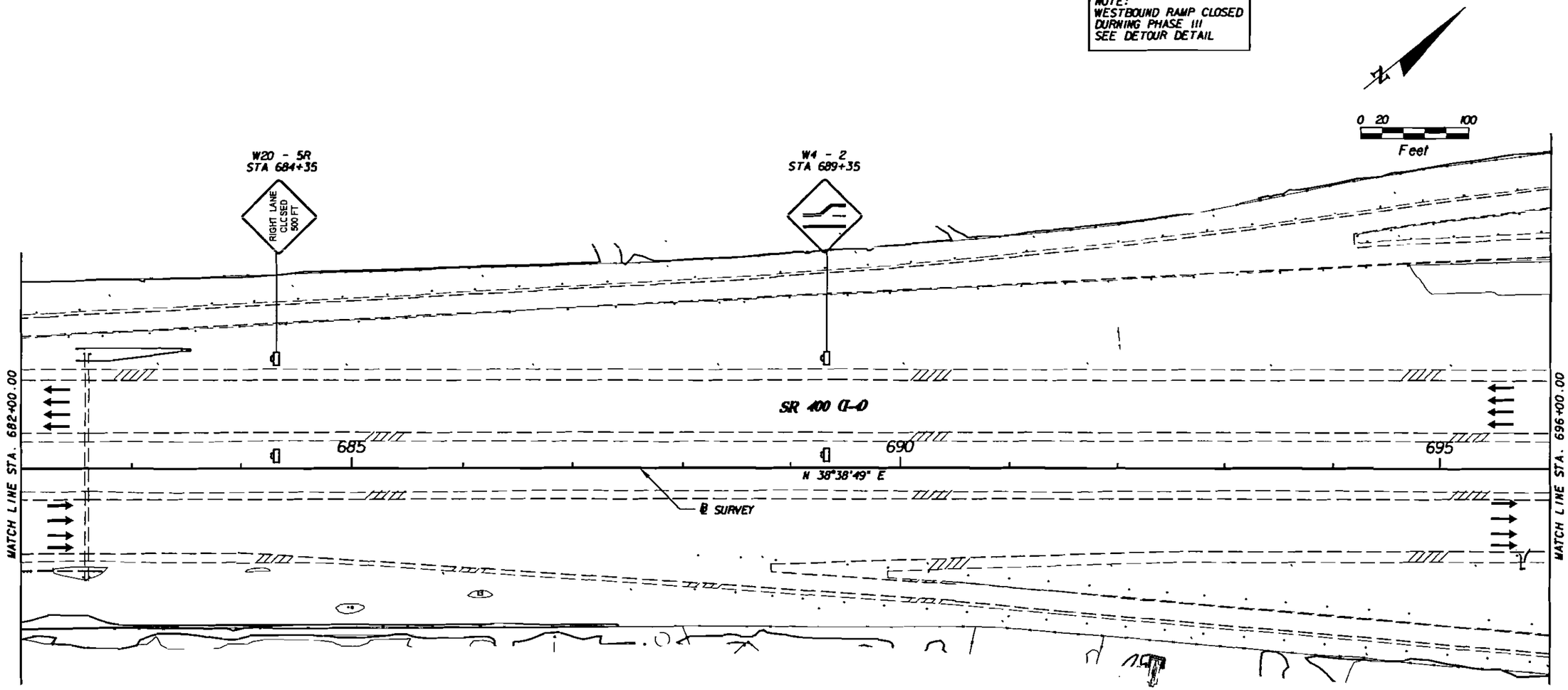
NOTE:
WESTBOUND RAMP CLOSED
DURNING PHASE III
SEE DETOUR DETAIL



LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696

Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 82

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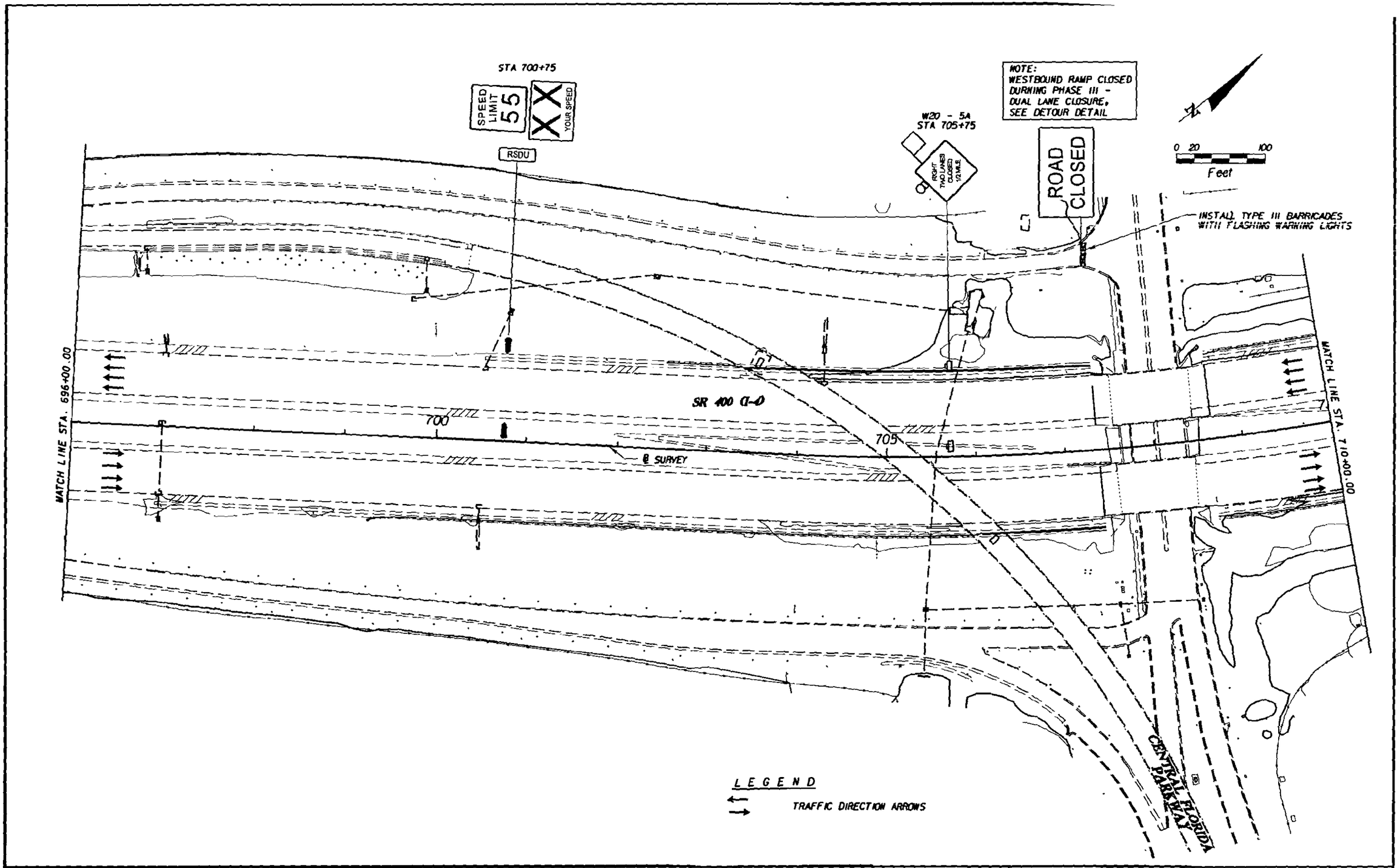

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
			-		

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 83

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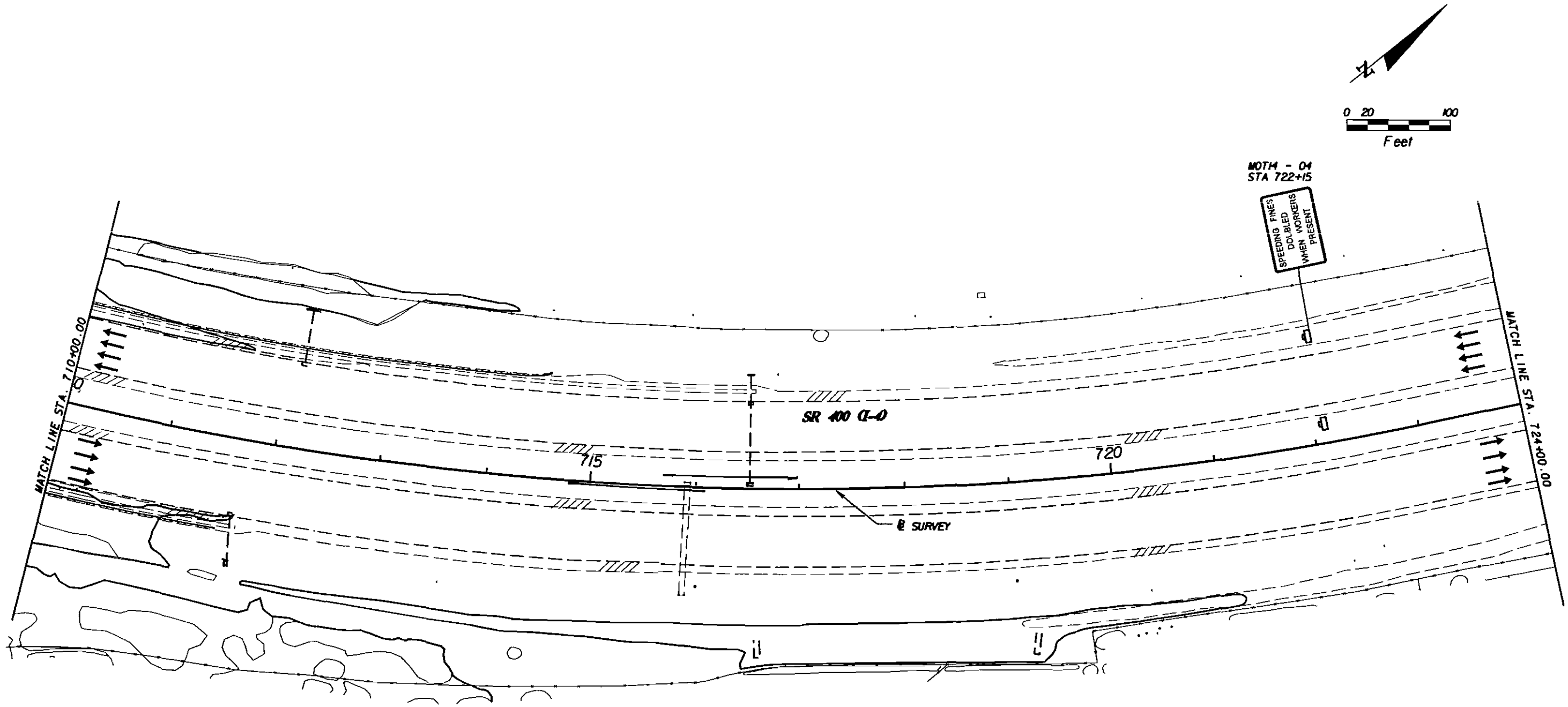

LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO.
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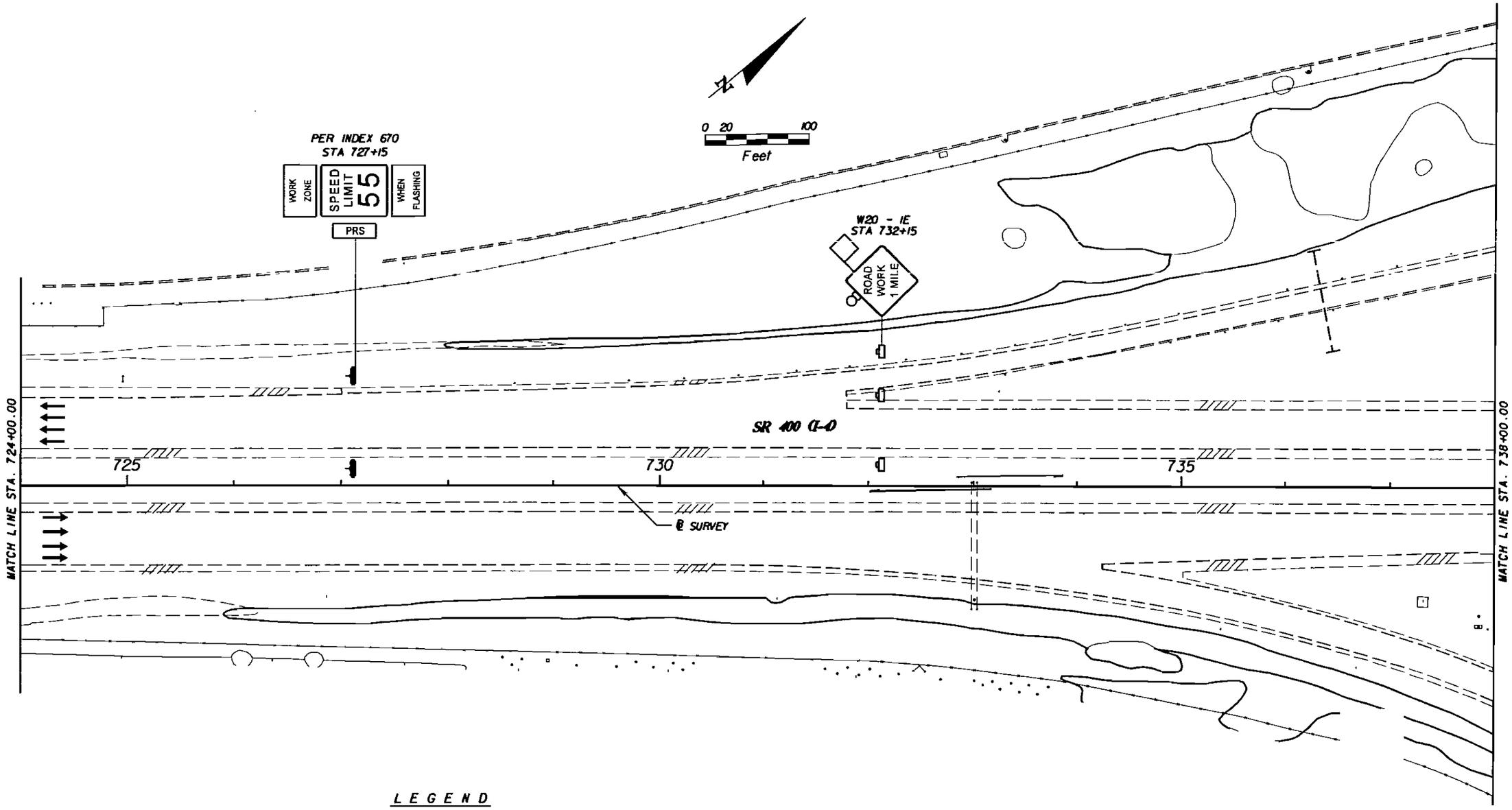

LEGEND

TRAFFIC DIRECTION ARROWS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO. 85

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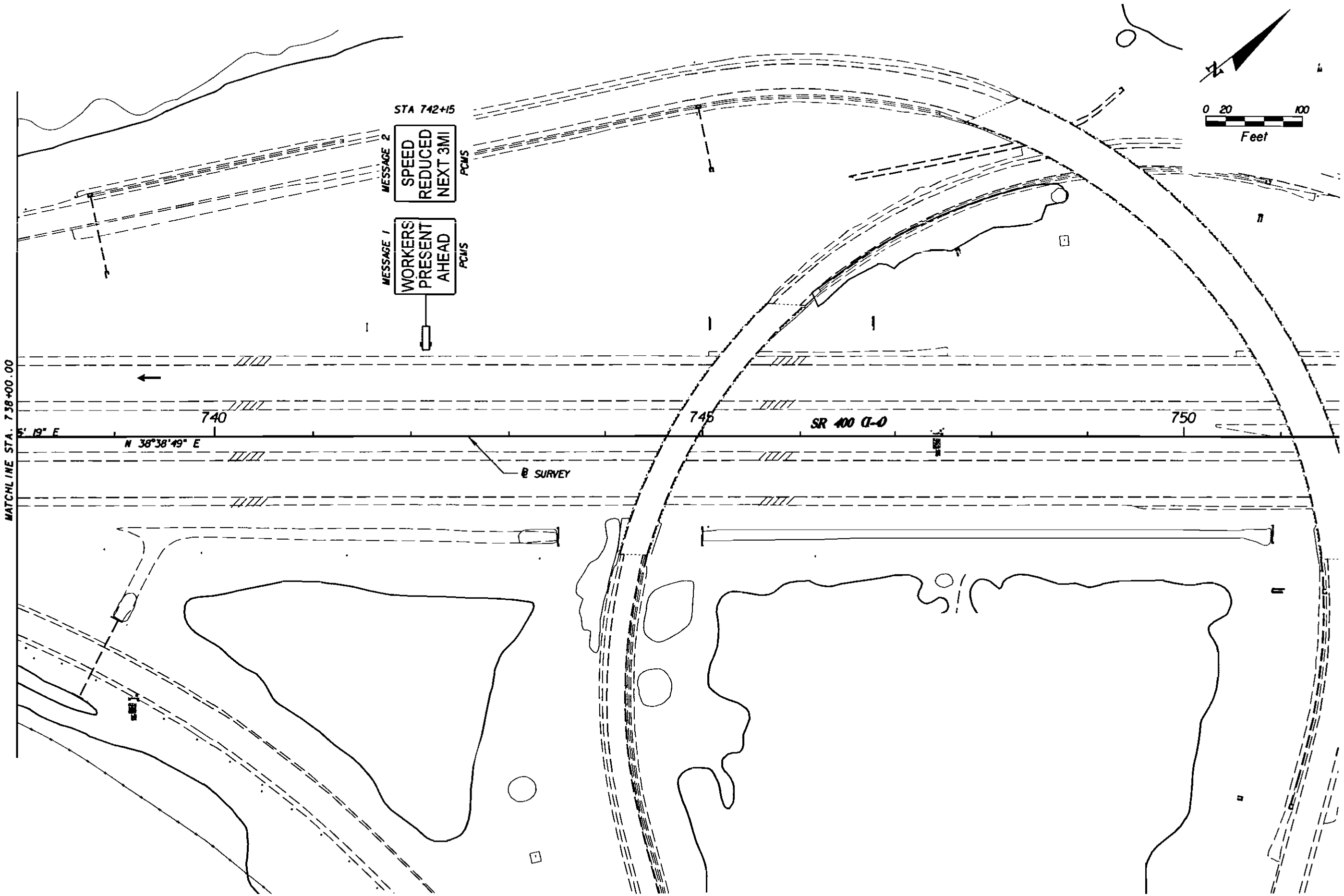

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE III

SHEET NO.
85A

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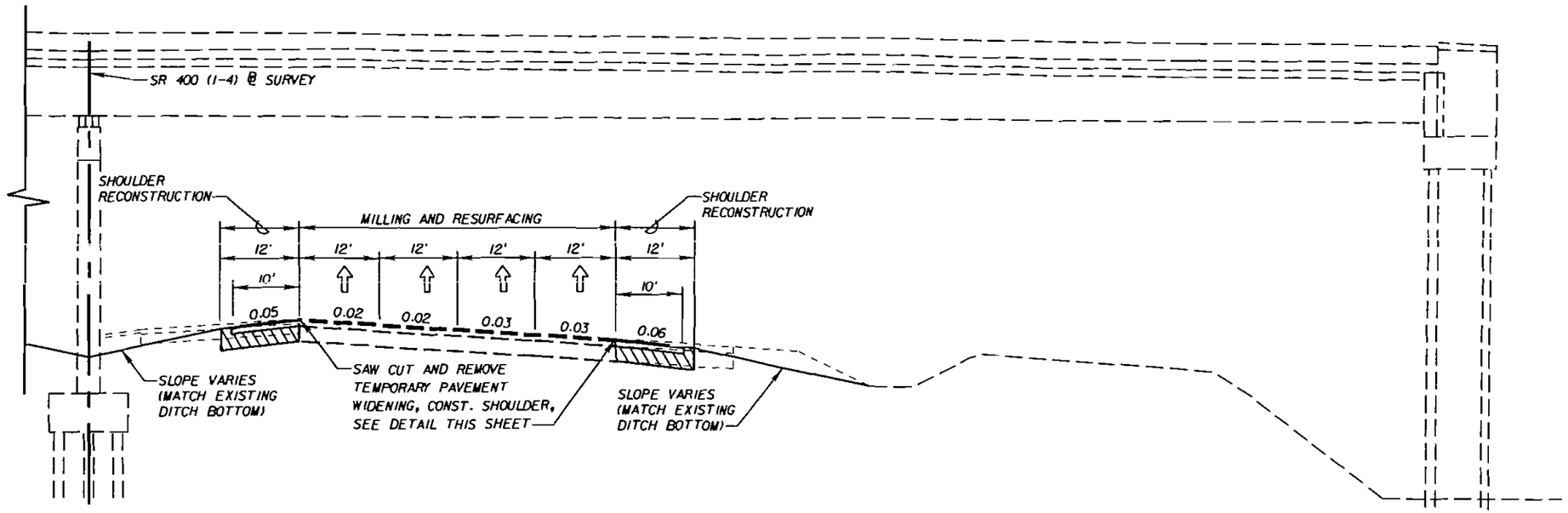
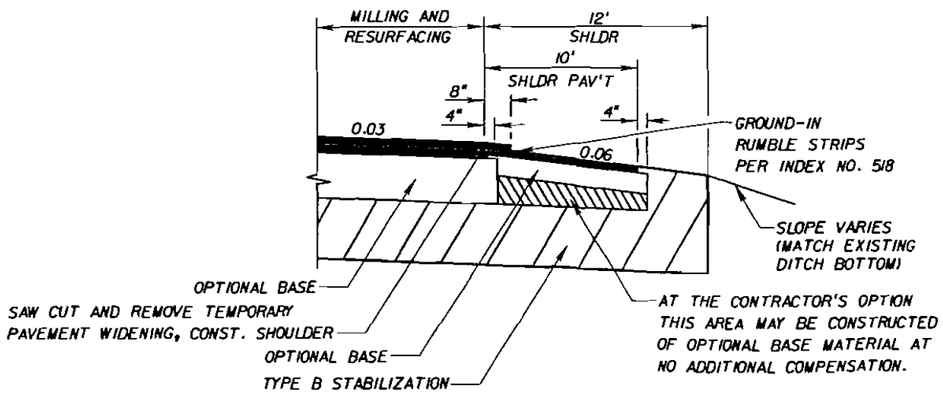


NOTE: THE CONTRACTOR SHALL CONSTRUCT IN ONE DIRECTION DURING EACH STAGE ONLY.

PHASE IV - I-4 RESTORATION

STA. 631+10.00 TO STA. 658+80.00



SHOULDER PAVEMENT DETAIL

N.T.S.

MILLING

MILL EXISTING ASPHALT PAVEMENT (3/4" AVG. DEPTH)

RESURFACING

FRICTION COURSE FC-5 (3/4") (PG 76-22)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP I WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC D) (1 ½") (PG 76-22)
FRICTION COURSE FC-5 (3/4") (PG 76-22)

NOTES:

1. SOD ALL DISTURBED AREAS

PHASE IV - I-4 RESTORATION
TYPICAL SECTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN
PHASE IV

SHEET NO. 858

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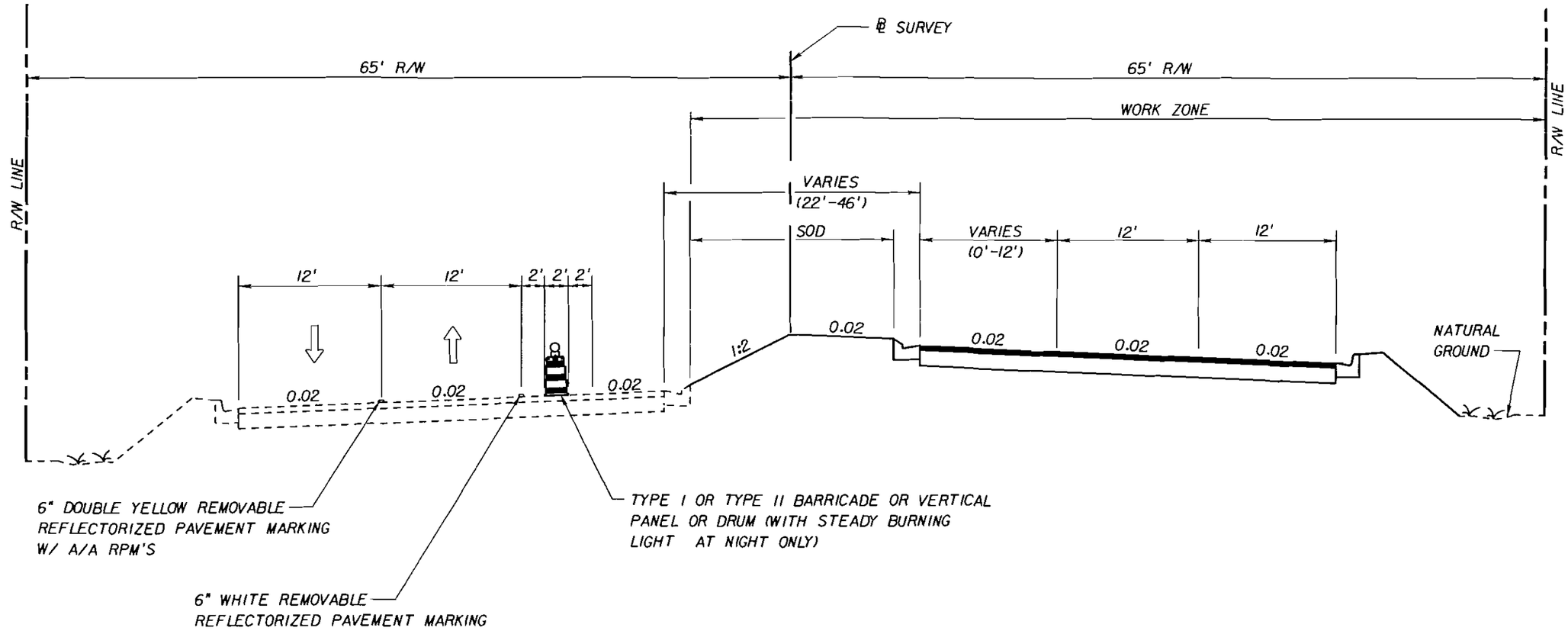


PHASE I TYPICAL SECTION

PALM PARKWAY

PHASE I TYPICAL SECTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Hao T. Chau. P.E.
PE Number 61640
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

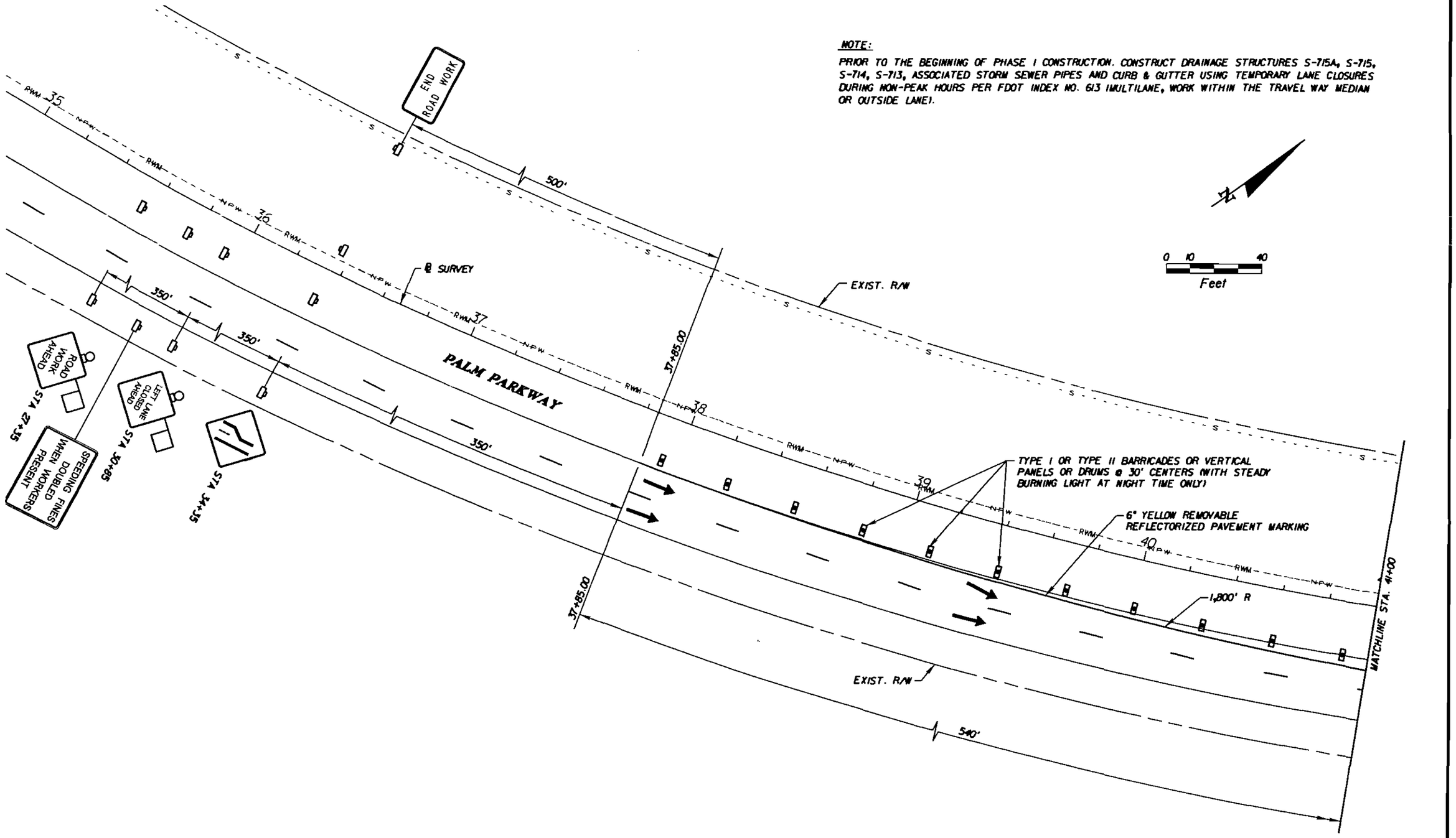
TRAFFIC CONTROL PLAN

SHEET NO.
86

3/18/2008 4:53:5 PM q:\ROADWAY\049280002_FentonSt\main\PALM_PKWY\PH1\MOTTRD01.dgn

NOTE:

PRIOR TO THE BEGINNING OF PHASE I CONSTRUCTION. CONSTRUCT DRAINAGE STRUCTURES S-715A, S-715, S-714, S-713, ASSOCIATED STORM SEWER PIPES AND CURB & GUTTER USING TEMPORARY LANE CLOSURES DURING NON-PEAK HOURS PER FDOT INDEX NO. 613 (MULTILANE, WORK WITHIN THE TRAVEL WAY MEDIAN OR OUTSIDE LANE).



PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 86A

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NOTE:

PRIOR TO THE BEGINNING OF PHASE I CONSTRUCTION. CONSTRUCT DRAINAGE STRUCTURES S-715A, S-715, S-714, S-713, ASSOCIATED STORM SEWER PIPES AND CURB & GUTTER USING TEMPORARY LANE CLOSURES DURING NON-PEAK HOURS PER FDOT INDEX NO. 613 (MULTILANE, WORK WITHIN THE TRAVEL WAY MEDIAN OR OUTSIDE LANE).

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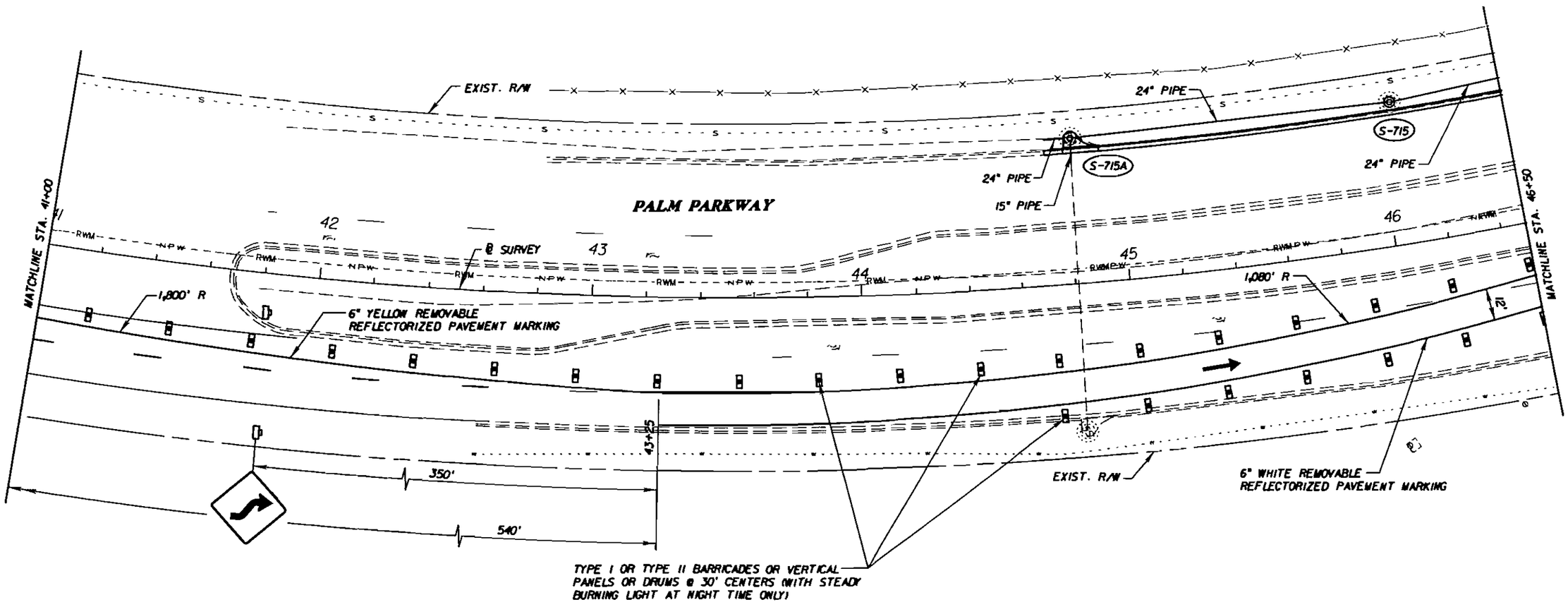
Feet



PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 87

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NOTE:

PRIOR TO THE BEGINNING OF PHASE I CONSTRUCTION. CONSTRUCT DRAINAGE STRUCTURES S-715A, S-715, S-714, S-713 AND ASSOCIATED STORM SEWER PIPES USING TEMPORARY LANE CLOSURES DURING NON-PEAK HOURS PER FDOT INDEX NO. 613 (MULTILANE, WORK WITHIN THE TRAVEL WAY MEDIAN OR OUTSIDE LANE).

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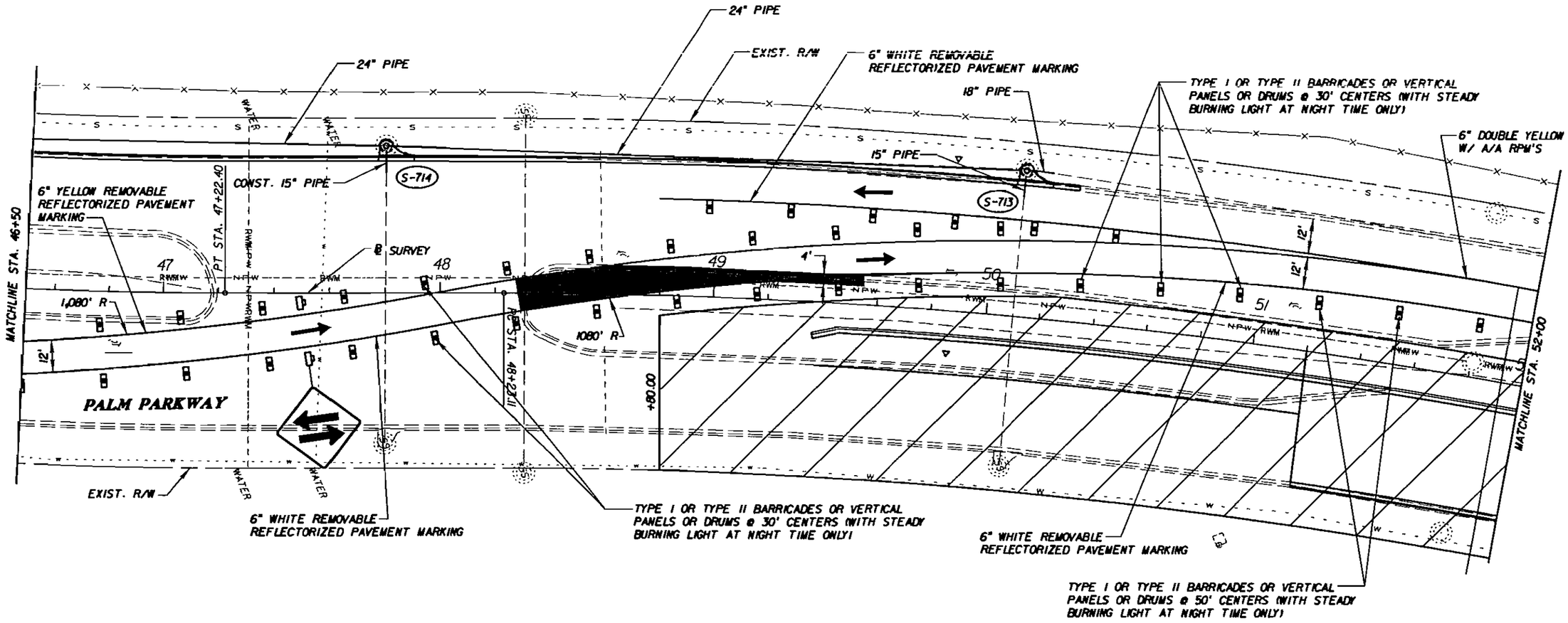
Feet



WORK ZONE

TEMPORARY PAVEMENT

PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
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3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 88

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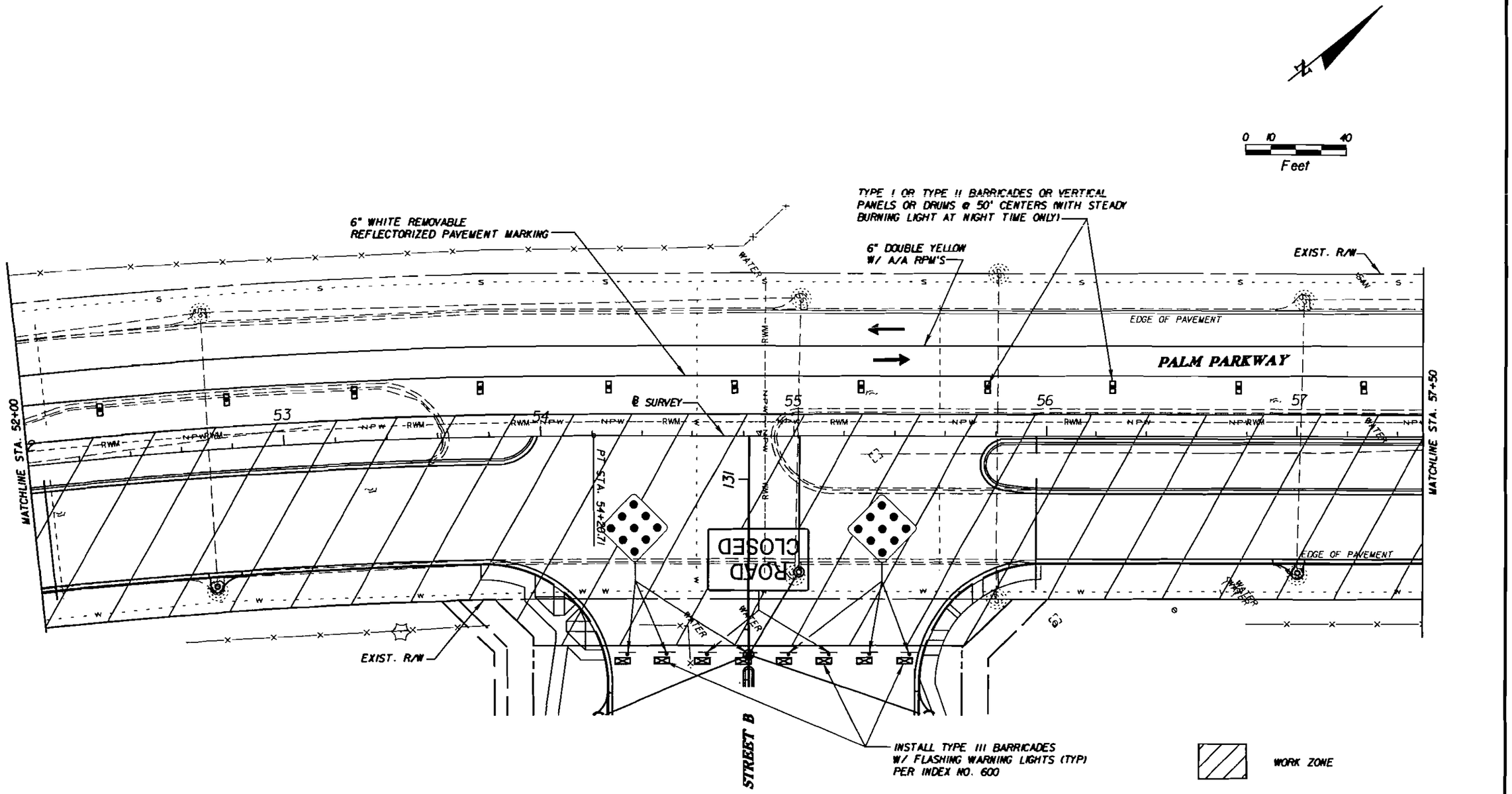

PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
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3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

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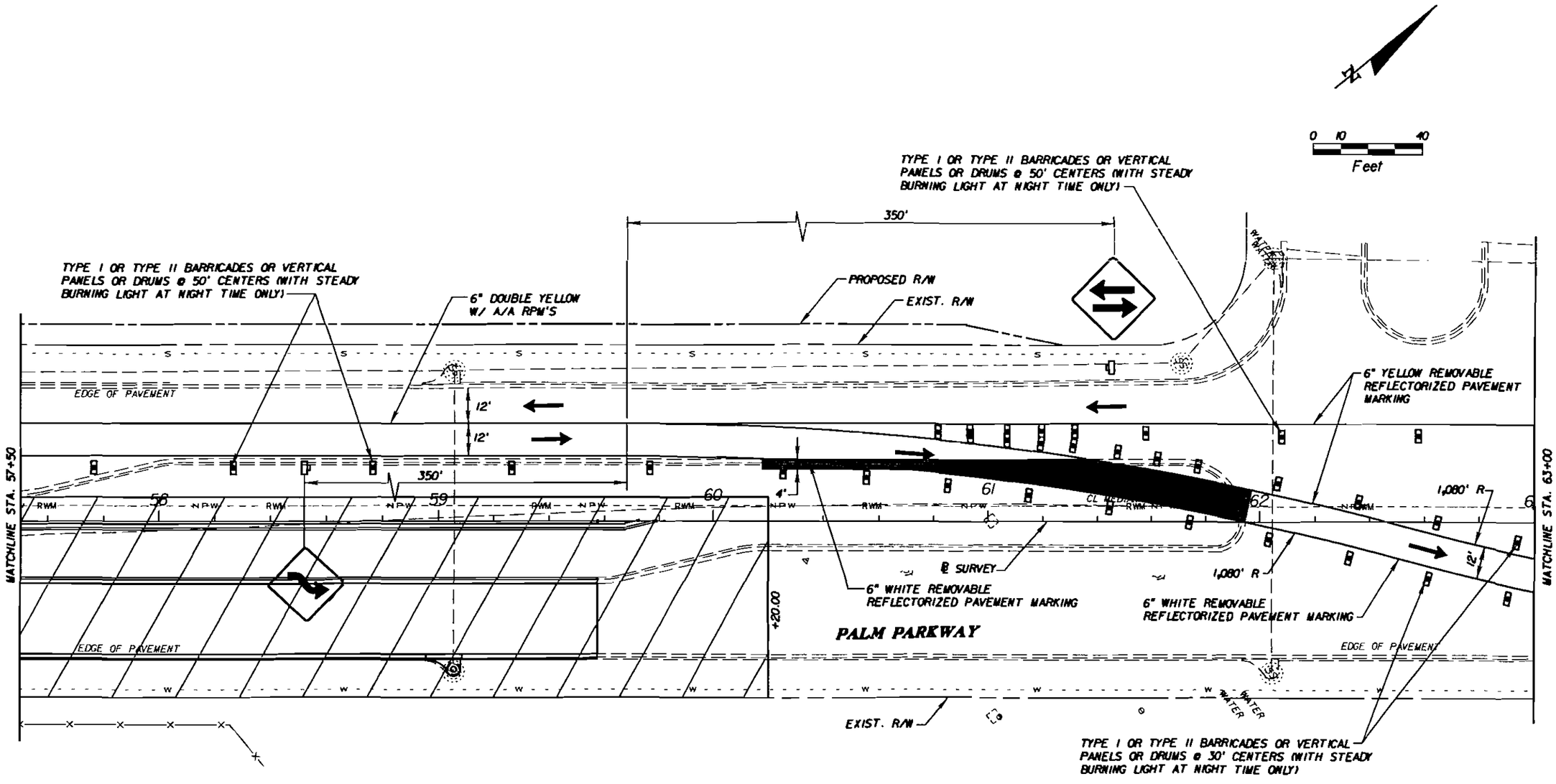

PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

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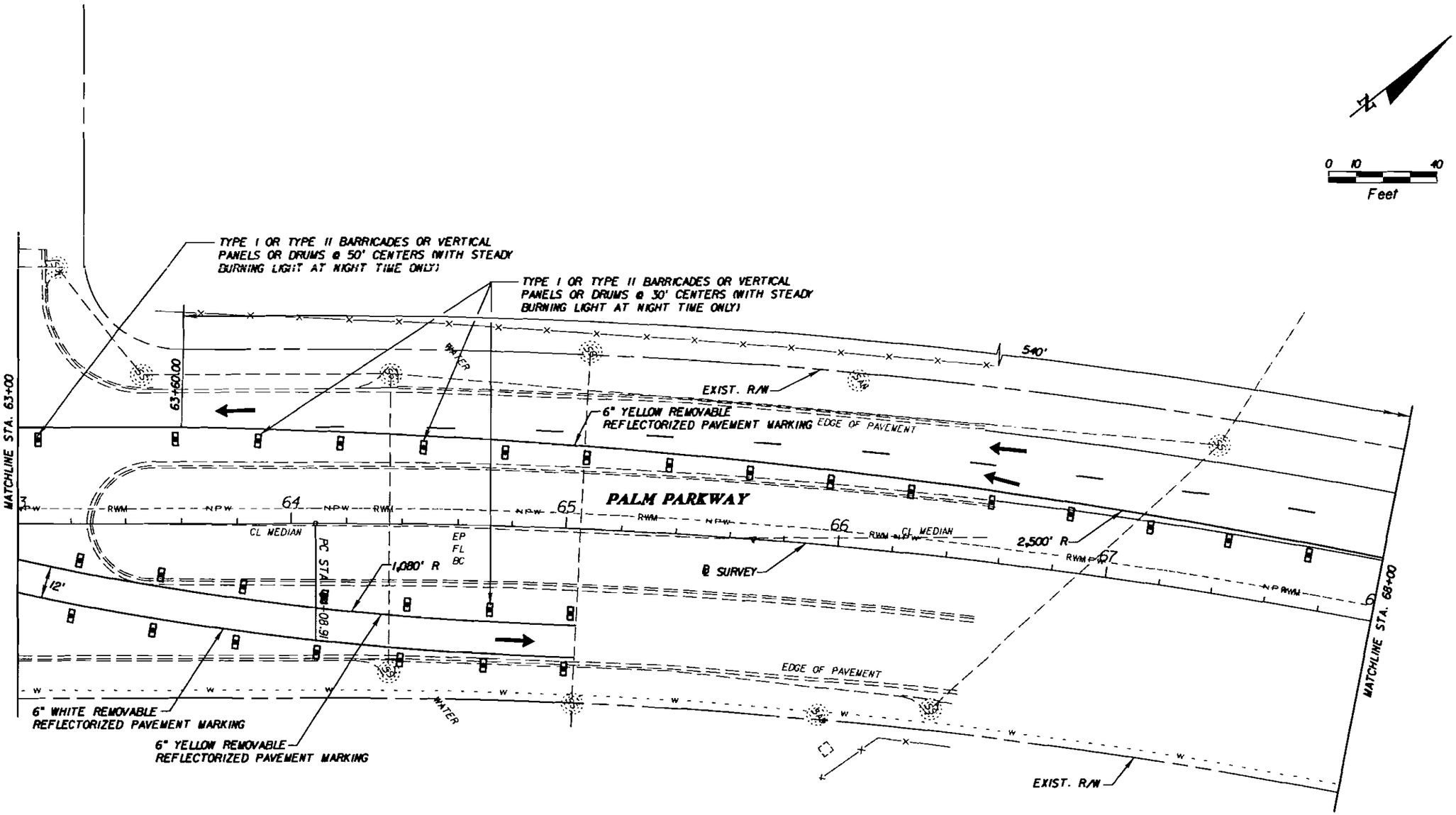

PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 91

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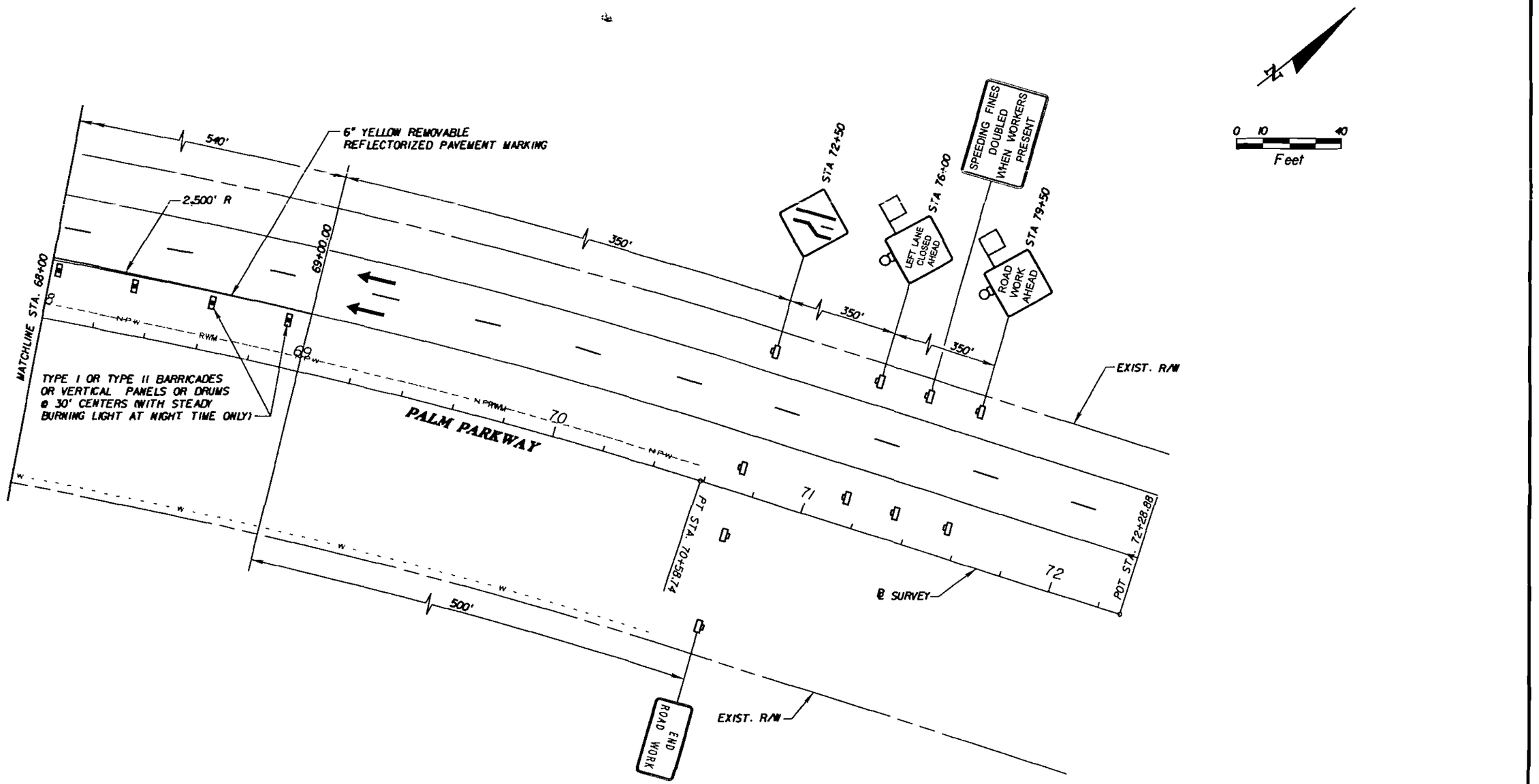

PALM PARKWAY - PHASE I

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 9/A

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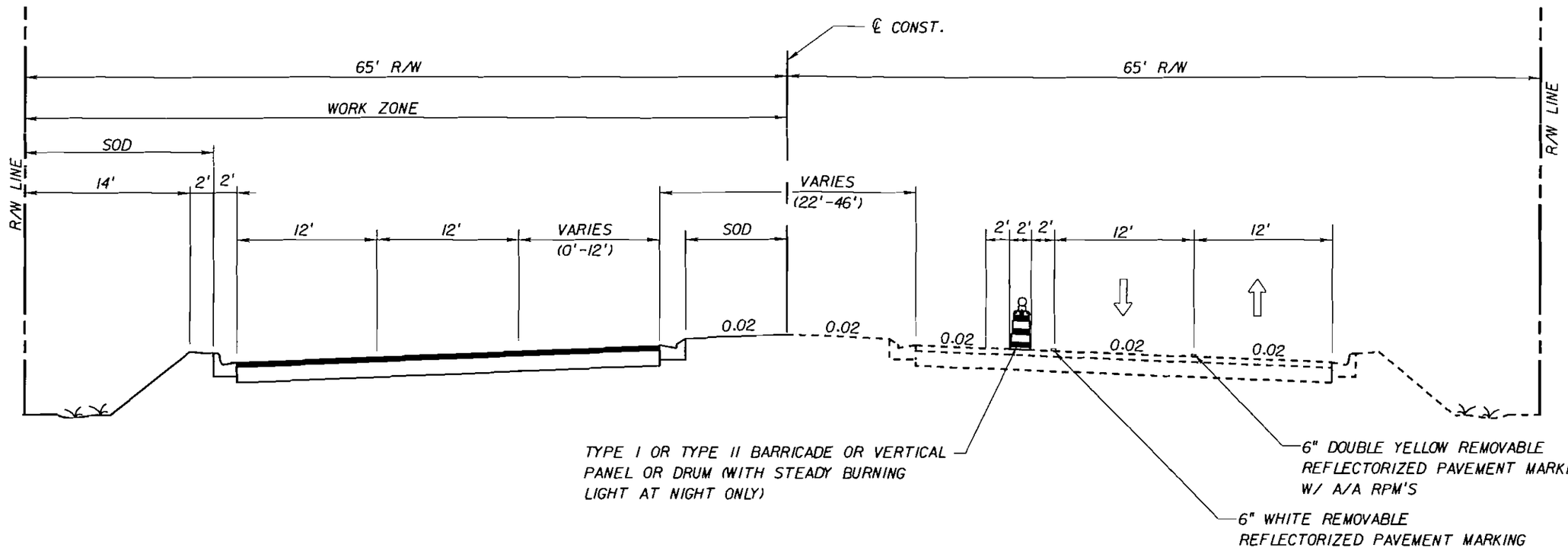

PHASE II TYPICAL SECTION

PALM PARKWAY

PHASE II TYPICAL SECTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 92

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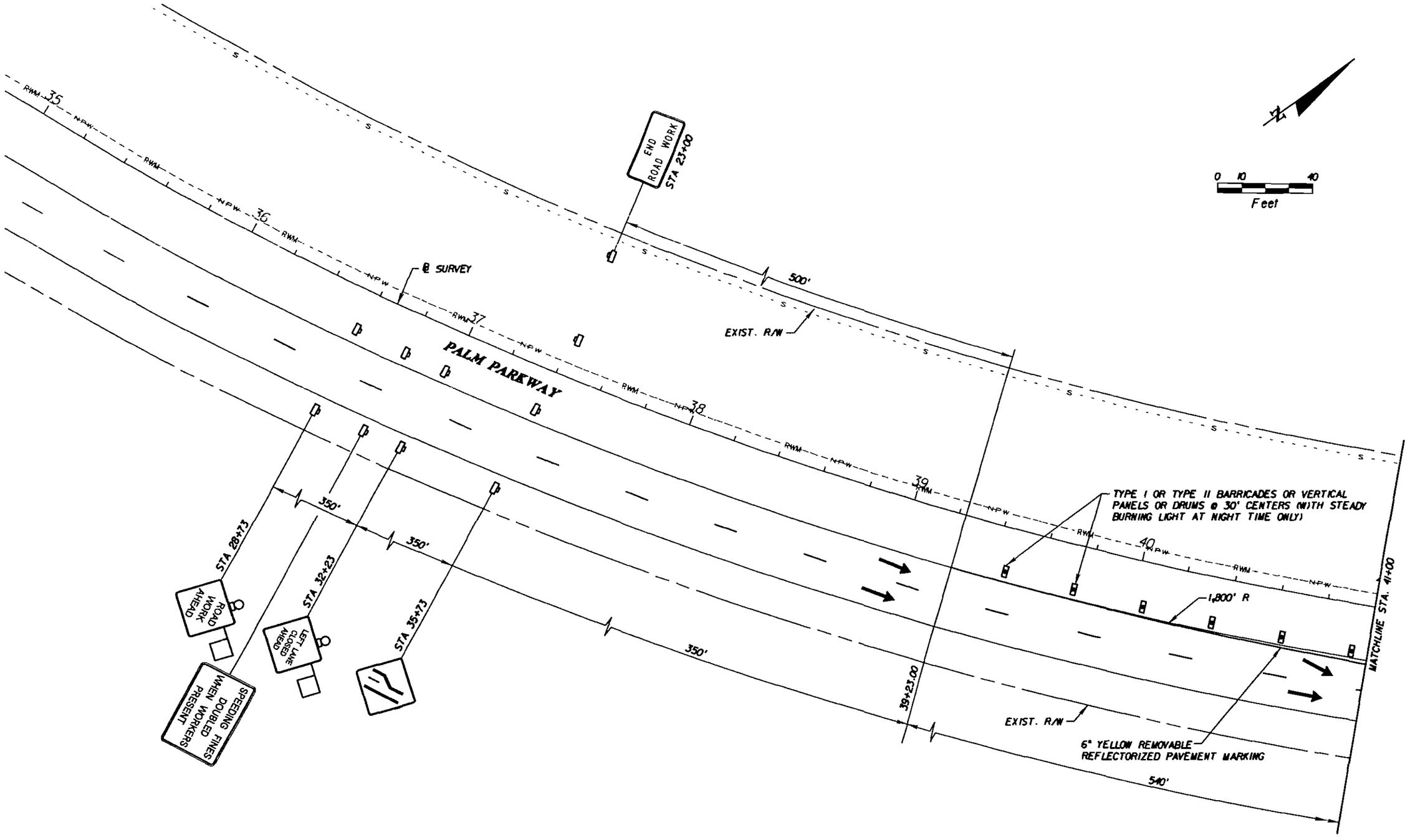

PALM PARKWAY - PHASE II

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
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3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 92A

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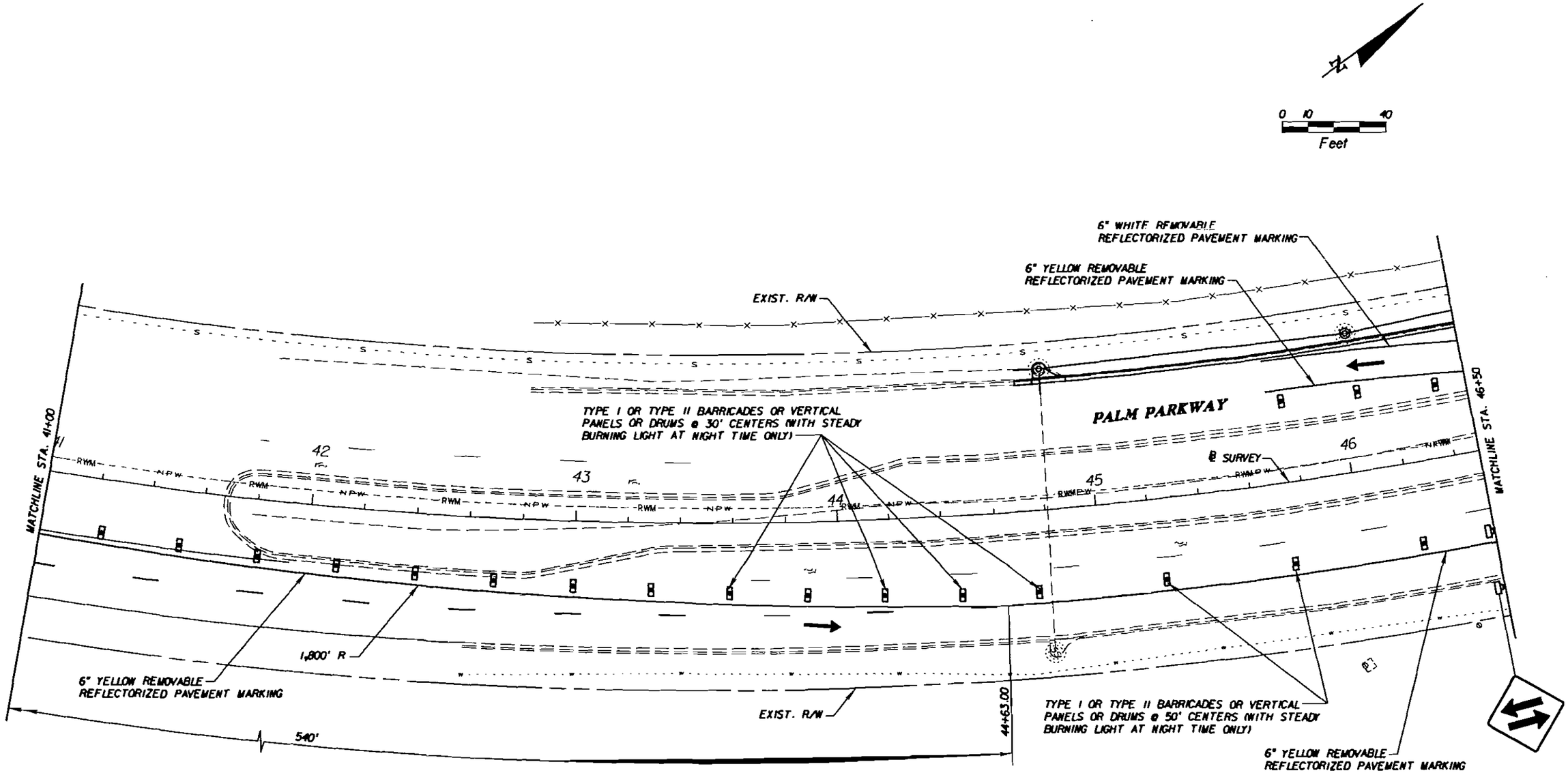

PALM PARKWAY - PHASE II

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

SHEET NO. 93

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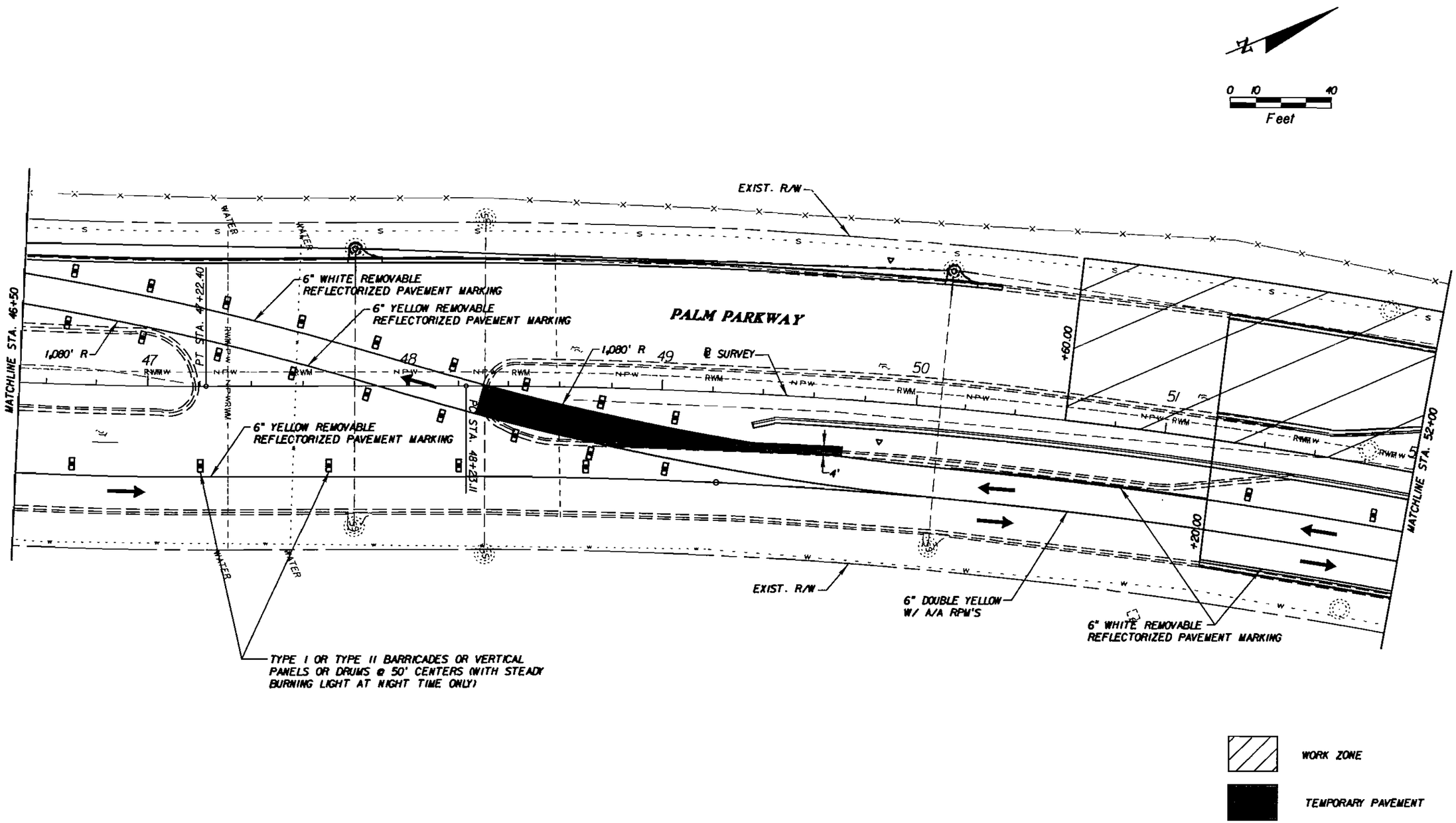

PALM PARKWAY - PHASE II

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

TRAFFIC CONTROL PLAN

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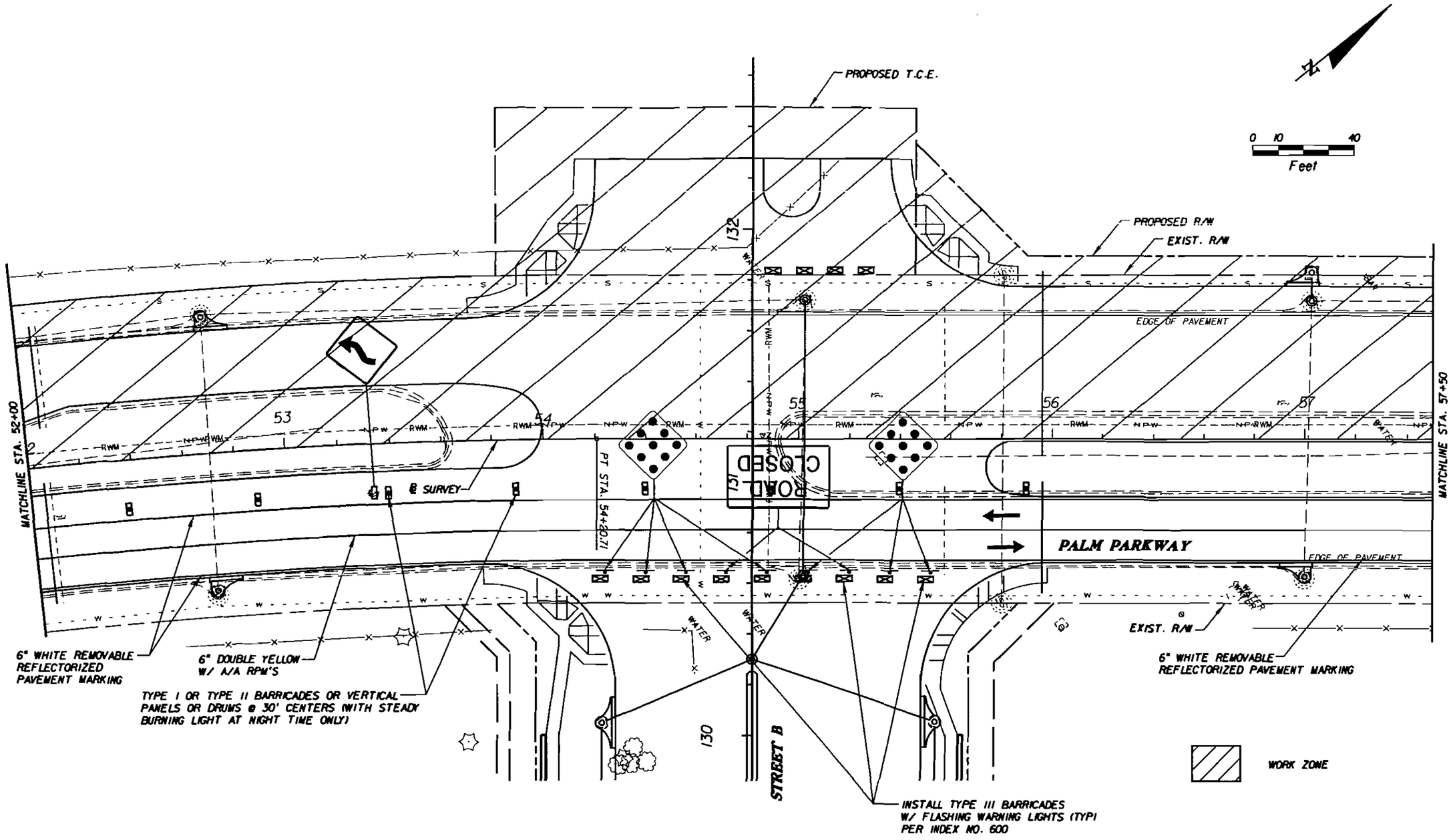

PALM PARKWAY - PHASE II

REVISIONS					
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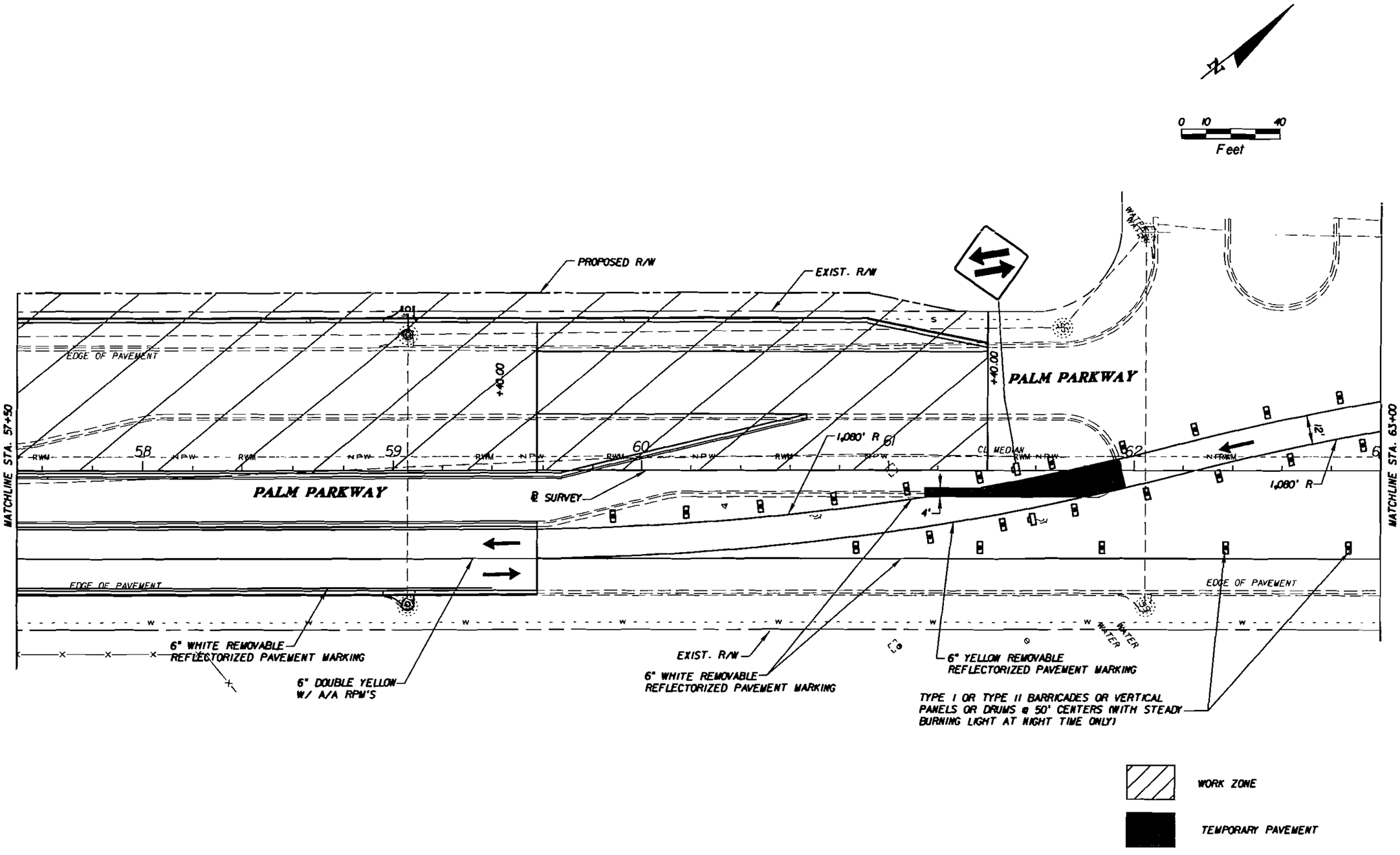

PALM PARKWAY - PHASE II

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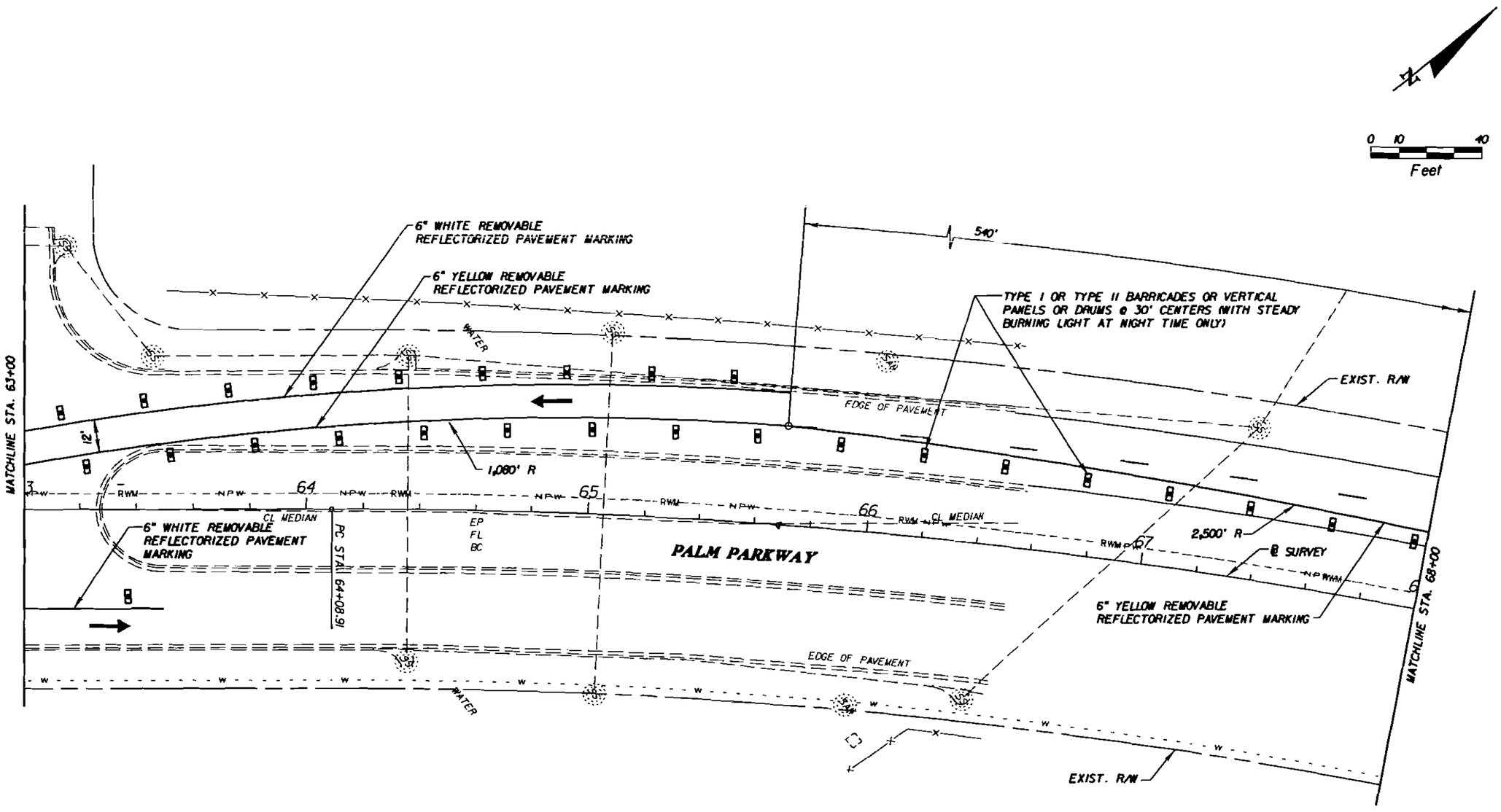

PALM PARKWAY - PHASE II

REVISIONS					
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Kimley-Horn and Associates, Inc.
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ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

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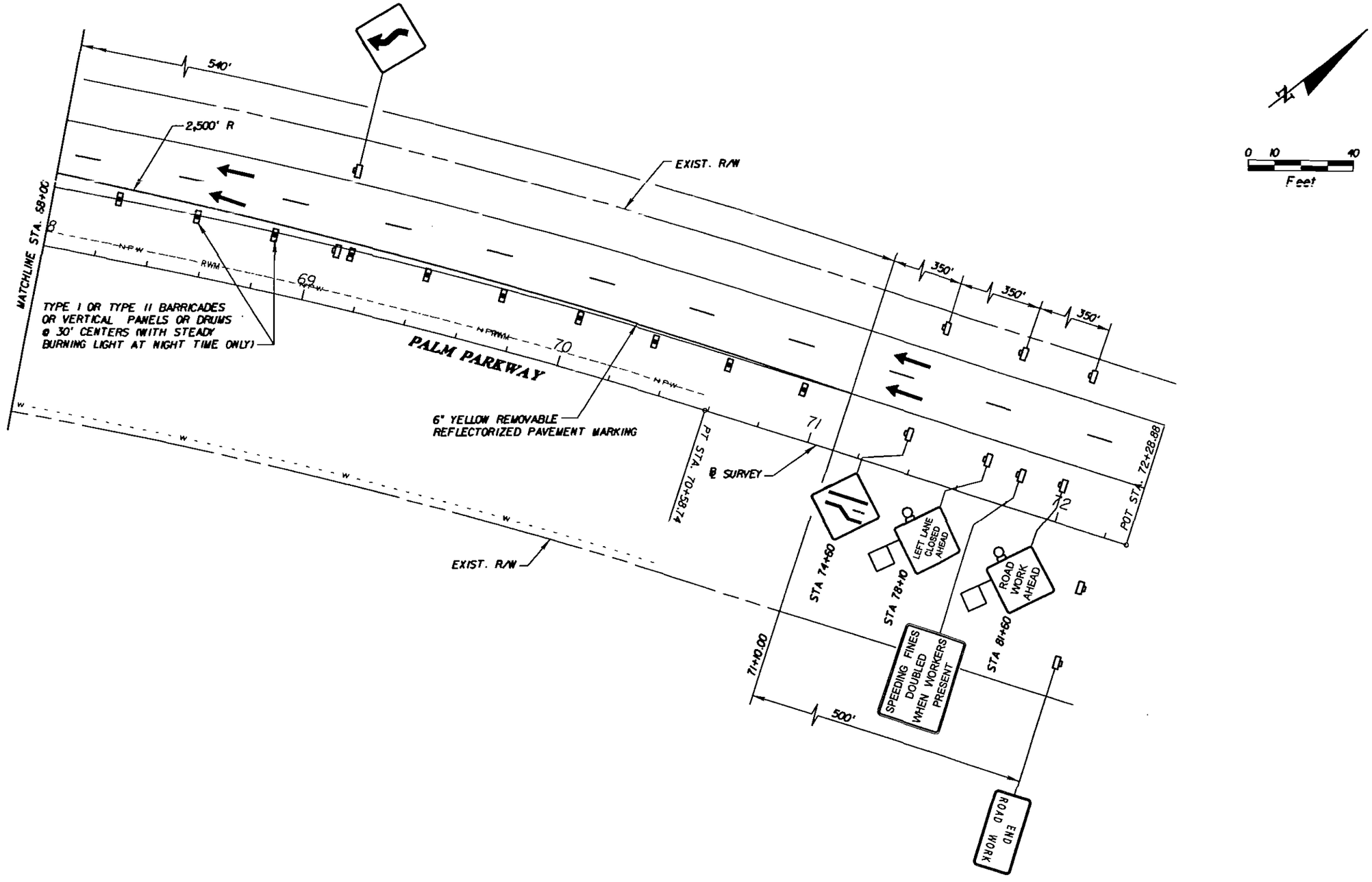

PALM PARKWAY - PHASE II

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
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ORANGE COUNTY
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TRAFFIC CONTROL PLAN

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ADDITIONAL INFORMATION ROUTING

Regulation Department

Application Number: 070307-6 **County:** Orange

Permit Number:48-01243-P

Project Name: WILDWOOD AREA ROADWAY NETWORK

Response Date :8/13/08 **30 Day Deadline:**9/12/2008

Processed By: CHE **Date:**8/13/2008

TRACKING SYSTEM UPDATED ☒ YES ☐ NO *
*SEE COMMENTS

APPLICATION TYPE

☒ ERP ☐ SWM ☐ WU ☐ D/F

☐ MIT ☐ FWD ☐ PERMIT TRANSFER

Reviewer: Alan Leavens
NRM Reviewer: Nicole Gough
Environmental Resource Compliance Division
Backup File

*COMMENTS:

Scanned by: Date:

APP# 070307-6

Kimley-Horn
and Associates, Inc.

ADDITIONAL INFORMATION

AUG 13 2008

ORLANDO SERVICE CENTER

3660 Maguire Boulevard
Suite 200
Orlando, FL 32803
Tel. 407 898-1511
Fax 407 894-4791

August 13, 2008

Alan Leavens
SFWMD
1707 Orlando Central Parkway, Suite 200
Orlando, Florida 32809

RE: Wildwood Area Roadway Network, Phase 2
Orange County, S14/T24S/R28E
Application No. 070307-6
Permit No. 48-01583-P

Dear Mr. Leavens,

Listed below are the responses to your RAI dated March 15, 2007.

1. This application needs to be revised to reflect the correct Permit No. 48-01583-P, which is the permit for the Wildwood Area Roadway Network. The acreage for the application will need to be revised to reflect the area of the roadway only up to the right-of-way of Palm Parkway. **The submitted application should be modified to reflect the correct Permit Number, 48-01583-P. The area totals should be revised to reflect the following:**

   Total applicant-owned area contiguous to the project - 34.38 ac
   Total project area for which a permit is sought - 6.42 ac
   Impervious area for which a permit is sought - 4.76 ac

   The project description should be revised to reflect the following: The project consists of the construction of a four lane facility beginning at station 113+00, just northwest of Street "A" and ending at station 132+15.76 at Palm Parkway. The project includes an overpass bridge to Interstate I-4. This project includes the stormsewer construction on Street "B", but does not include the modification of the stormsewer along Palm Parkway (Permit 48-00963-P). This project also does not include the modification to the two wet detention ponds that the storm sewer outfalls to. The modification to the ponds is being permit under a modification to permit 48-01243-P.

2. A second application for a permit modification to Permit No. 48-01243-P (I-4 Widening) will need to be submitted. This application will need to be from Florida Department of Transportation (FDOT), since the ponds being modified were permitted to FDOT. The application should reflect FDOT as the owner, and the entity to receive the permit even if Orange County will be performing the construction. The acreage of this modification will be limited to the area of the proposed pond construction only. The permit processing fee for this application will be $1000.00. **The application to modify permit 48-01243-P has been submitted to SFWMD.**

3. And finally a third application for a permit modification to Permit No. 48-00963-P (Palm Parkway) will need to be submitted. This application for the modification to a portion of existing Palm Parkway may be able to be processed as a letter

modification, since the revisions to the road and drainage system are limited to raising the road elevation and raising inlet tops with no changes proposed in the existing water management system. The acreage for this application will be limited to the area of the road revisions only. The permit processing fee for the letter modification if applicable will be $100.00. Please be advised that because of the inseparable nature of these applications all three modifications will be processed concurrently and neither application will be considered complete until all are complete and can be issued concurrently. **The modification to permit 48-00963-P has been issued.**

4. Based on the submitted information, it appears that dewatering operations may be performed as part of this project. Chapter 373 of the Florida Statutes requires that a Water Use Permit be obtained for dewatering activities. If the applicant is proposing dewatering activities under the District's "No-Notice" authorization, please address the following criteria, in addition to the Conditions of Issuance in Rule 40E-20.301, F.A.C., and the "No-Notice" requirements in Rule 40E20.302(3), F.A.C.
   a) Will retain all discharge on the project site. No off-site discharge is authorized under "No-Notice" dewatering. **All discharge will be retained "on-site"**
   b) Will not dewater to a depth below 0.0 feet NGVD within 1000 feet of saline water, except when dewatering saline water, as defined in Chapter 1 of the Basis of Review Volume III. **NA**
   c) Will not occur within 100 feet of wastewater treatment plant rapid-rate land application system permitted under Chapter 62-610, F.A.C. **NA**
   d) Will not occur within one mile of a known landfill or contamination. **NA**
   e) Will not occur within 1000 feet of a wetland. **NA**

   If the applicant is proposing dewatering that does not fit the "No-Notice" requirements, a Water Use Permit must be obtained for dewatering activities. Please submit a Water Use (dewatering) application for the activities proposed (if applicable).

   If a Water Use Permit is required, it will be handled concurrently with the ERP application. The ERP application will not be considered complete until the Water Use (dewatering) permit is deemed complete.

   This project will qualify for a "No-Notice" authorization.

5. Please amend the water quality calculations to clearly show the required water quality treatment for the I-4 contributing area and the required water quality for the Wildwood roadway drainage area as separate elements; and then the combined treatment volume provided in the modified ponds. **Please see attached calculations.**

6. The construction plans, drainage report, and land use tables should be divided to reflect only the construction and or other information associated with the respective permit modifications. **The final construction plans, drainage calculations and other information are enclosed.**

If you have any questions or need any additional information, please do not hesitate to contact me at (407) 898-1511. Otherwise we look forward to receiving the permit.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.



David A. Bennett, P.E.
Senior Drainage Engineer

Kimely-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Checked by: _____
DATE: August 5 2008 TIME: 9:46 AM

PROJECT: **I - 4 & Street 'B' Overpass**

APP# 070307-6

PROJECT AREA & WATER QUALITY CALCULATIONS

Pond 1 WB

EXISTING ROADWAY & OFFSITE AREA

Impervious areas (Dirt including R/W)	2.06 Ac.
Open Space (Grass cover 50% to 75%)	3.94 Ac.
Woods-grass combination (Fair cover)	3.00 Ac.
Pond Water Surface	2.75 Ac.
	11.75 Ac.

ADDITIONAL INFORMATION
AUG 13 2008
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Basin 1 WB	PROPOSED	EXISTING	DIFFERENCE
Impervious areas (Dirt including R/W)	3.21 Ac.	2.06 Ac.	1.15 Ac.
Open Space (Grass cover 50% to 75%)	3.00 Ac.	3.94 Ac.	-0.94 Ac.
Woods-grass combination (Fair cover)	3.00 Ac.	3.00 Ac.	0.00 Ac.
Pond Water Surface	2.91 Ac.	2.75 Ac.	0.16 Ac.
	12.12 Ac.	11.75 Ac.	0.37 Ac.

WET-DETENTION TREATMENT VOLUME: 2.5" x AREAimpervious or 1" x AREAtotal

	PROPOSED	EXISTING	DIFFERENCE
2.50 inch VOLUME =	0.67 ac.-ft.	0.43 ac.-ft.	0.24 Ac.
1 inch VOLUME =	1.01 ac.-ft.	0.98 ac.-ft.	0.03 Ac.
REQUIRED TREATMENT VOLUME =	1.01 ac.-ft.	0.98 ac.-ft.	0.03 Ac.
PROVIDED TREATMENT VOLUME =	1.03 ac.-ft.	0.98 ac.-ft.	0.05 Ac.
			EXCESS/SHORTFALL TREATMENT VOLUME

Pond 2 EB

EXISTING ROADWAY & OFFSITE AREA

Impervious areas (Dirt including R/W)	2.09 Ac.
Open Space (Grass cover 50% to 75%)	4.74 Ac.
Pond Water Surface	1.97 Ac.
	8.80 Ac.

Basin 2 EB	PROPOSED	EXISTING	DIFFERENCE
Impervious areas (Dirt including R/W)	2.09 Ac.	2.09 Ac.	0.00 Ac.
Open Space (Grass cover 50% to 75%)	3.48 Ac.	4.74 Ac.	-1.26 Ac.
Pond Water Surface	2.73 Ac.	1.97 Ac.	0.76 Ac.
	8.30 Ac.	8.80 Ac.	-0.50 Ac.

WET-DETENTION TREATMENT VOLUME: 2.5" x AREAimpervious or 1" x AREAtotal

	PROPOSED	EXISTING	DIFFERENCE
2.50 inch VOLUME =	0.44 ac.-ft.	0.44 ac.-ft.	0.00 Ac.
1 inch VOLUME =	0.69 ac.-ft.	0.73 ac.-ft.	-0.04 Ac.
REQUIRED TREATMENT VOLUME =	0.69 ac.-ft.	0.73 ac.-ft.	-0.04 Ac.
PROVIDED TREATMENT VOLUME =	0.69 ac.-ft.	0.73 ac.-ft.	-0.04 Ac.
			EXCESS/SHORTFALL TREATMENT VOLUME
PROVIDED TREATMENT VOLUME =	1.72 ac.-ft.	1.71 ac.-ft.	0.01 Ac.

Kimely-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Checked by: _____
DATE: August 5 2008 TIME: 9:46 AM

PROJECT: **I - 4 & Street 'B' Overpass**

PROJECT CONSTRUCTION AREA CALCULATIONS

Street 'B' - Phase II	PROPOSED	EXISTING	DIFFERENCE
Impervious areas (Dirt including R/W)	4.76 Ac.	0.40 Ac.	4.36 Ac.
Open Space (Grass cover 50% to 75%)	1.66 Ac.	4.78 Ac.	-3.12 Ac.
Pond Water Surface	0.00 Ac.	1.24 Ac.	-1.24 Ac.
	6.42 Ac.	6.42 Ac.	0.00 Ac.

FDOT - Street 'B' Overpass	PROPOSED	EXISTING	DIFFERENCE
Impervious areas (Dirt including R/W)	2.15 Ac.	0.40 Ac.	1.75 Ac.
Open Space (Grass cover 50% to 75%)	4.82 Ac.	7.10 Ac.	-2.28 Ac.
Pond Water Surface	5.43 Ac.	4.90 Ac.	0.53 Ac.
	12.40 Ac.	12.40 Ac.	0.00 Ac.

Palm Parkway	PROPOSED	EXISTING	DIFFERENCE
Impervious areas (Dirt including R/W)	3.09 Ac.	2.53 Ac.	0.56 Ac.
Open Space (Grass cover 50% to 75%)	1.25 Ac.	1.92 Ac.	-0.67 Ac.
Pond Water Surface	0.00 Ac.	0.00 Ac.	0.00 Ac.
	4.34 Ac.	4.45 Ac.	-0.11 Ac.

DRAINAGE REPORT

Wildwood Area Road Network

From East of I-4 to Palm Parkway

Orange County, Florida

APP# 070307-6

ADDITIONAL INFORMATION

AUG 13 2008

ORLANDO SERVICE CENTER

Prepared for:

ORANGE COUNTY GOVERNMENT
FLORIDA

Prepared by:

Kimley-Horn
and Associates, Inc.

Orlando, Florida

August 2008

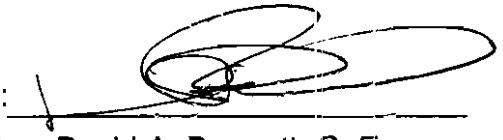
PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Kimley-Horn and Associates, Inc., a corporation authorized to operate as an engineering business, by the State of Florida, Department of Professional Regulation, and Board of Professional Engineers. I have reviewed and taken no exceptions to the evaluation, findings, opinions and conclusions as reported herein for the following project.

PROJECT: **Wildwood Area Roadway Network – Drainage Report From Street 'A" to Palm Parkway**

LOCATION: **Orange County, Florida**

The Drainage Report includes a summary of data collection efforts and design analysis for the Wildwood Area Roadway Network project. I acknowledge that the procedures and references used to develop the results contained in this report are consistent with the professional standard of care for civil engineering.

SIGNATURE: 

NAME: David A. Bennett, P. E.

P.E. NUMBER: 54769

DATE: 8/12/08

RECEIVED
AUG 19 2008
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APPENDIX 3 – PALM PARKWAY

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EXECUTIVE SUMMARY

The purpose of this report is to provide supporting drainage design parameters and calculations for the proposed stormwater detention facilities and the stormsewer system. The total length of the project is approximately 0.34 miles. The project location is shown in Exhibit 1 of Appendix 1 – Project Aerial & Vicinity Map. Specifically, the project is located within Section 14 of Township 24 South, Range 28 East in Orange County, Florida.

The proposed roadway typical section for Street 'B' consists of two (2) 12-foot lanes in each direction with a 4-foot bike lane separated by a 22-foot raised median as shown in Exhibit 5 of Appendix 1. There are 5-foot sidewalks in each direction along the roadway. Additionally as part of the project, the profile of Palm Parkway will need to be revised to accommodate the Street 'B' profile over I-4. A section of 500 feet +/- of Palm Parkway is raised from the existing grades approximately 3 feet or so requiring the replacement of pavement curb and gutters, and inlet tops.

The runoff from the existing undeveloped areas is sheet flowing toward Big Sand Lake or toward Ruby Lake. I-4 basin area has runoff from the existing ponds on I-4 draining to Big Sand Lake. Palm Parkway has runoff to the existing storm drain system on Palm Parkway eventually reaching a stormwater pond prior to discharging toward Ruby Lake.

The project is under the jurisdiction of the South Florida Water Management District (SFWMD), and Orange County for the roadway development plans. Ruby Lake is under the jurisdiction of the Reedy Creek Improvement District (RCID). This project is applying for a permit modification to the existing permits discharging across Palm Parkway and for I-4.

The stormwater runoff is collected into the existing and/or proposed stormwater ponds. Three ponds are located on the Florida Department of Transportation L-A R/W. No new pond is proposed for the section of Street 'B' and Palm Parkway. The ponds proposed on I-4 require the existing pond on the east side of I-4 to be divided, interconnected and expanded in order to maintain the existing volume capacity. The pond on the west side of I-4 requires expanding within the existing I-4 Limited Access Right-of-Way. Based on the previously permitted calculations for Palm Parkway, the existing stormwater pond has sufficient volume available to accommodate the proposed treatment volume for the improvements to Street 'B'.

Stormwater discharges are routed to Big Sand Lake for the portion of I-4 impacted by this project. The proposed cumulative discharge from the ponds on I-4 only slightly exceeds the existing discharge from I-4 towards Big Sand Lake for the Critical Duration Analysis. The Critical Duration Analysis was used based on Chapter 14-86 whereby a matrix of 54 storms are hydrographed and routed using ICPR for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year frequency; 1-hour, 2-hour, 4-hour, 8-hour, 24-hour, 72-hour, 168-hour, and 240-hour storm events. Table 2 indicates the peak pond discharge rates for the critical storm events for the I-4 basins.

1.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has been retained to design the improvements to a new arterial road known as Street 'B' from International Drive north past I-4 (SR 400) to Palm Parkway, formerly Turkey Lake Road. The purpose of this report is to provide supporting drainage design parameters and calculations for the proposed stormwater detention facilities and the stormsewer system. The total length of the project is approximately 0.34 miles. This project is in two parts with the first project from International Drive to just east of I-4. The second project is from the end of the first project west over I-4 to Palm Parkway. This Drainage Report is the second project, which is for the section of roadway from Street 'A' over I-4 to Palm Parkway. The project location is shown in Exhibit 2 of Appendix 1 – Project Aerial & Vicinity Map. Specifically, the project is located within Section 14 of Township 24 South, Range 28 East in Orange County, Florida.

2.0 PROJECT DESCRIPTION

The proposed multi-lane roadway is a development driven project whereby an agreement between the varying landowners and Orange County has been reached to dedicate the right-of-way needed to provide a four-lane urban roadway with a raised median with bike and pedestrian facilities.

The proposed roadway typical section for Street 'B' consists of two (2) 12-foot lanes in each direction with a 4-foot bike lane separated by a 22-foot raised median as shown in Exhibit 4 of Appendix 1. There are 5-foot sidewalks in each direction along the roadway. The total project begins on International Drive and extends west of I-4.

As part of the project, the profile of Palm Parkway will need to be revised to accommodate the Street 'B' profile over I-4. A section of 500 feet +/- of Palm Parkway is raised from the existing grades approximately 3 feet or so requiring the replacement of pavement, curb and gutters, and inlet tops.

3.0 SITE INFORMATION

3.1 Topography & Hydrologic Features

The topography of this portion of Orange County varies from relatively flat near the I-4 overpass to having well-defined relief in the surrounding areas. Elevations throughout the project corridor range from approximately 107 feet North American Vertical Datum (NAVD 1988) to approximately 133 feet. The project is located within the Shingle Creek drainage basin as shown in Exhibit 2 – Appendix 1. A reproduction of the USGS quadrangle maps for the project vicinity can be seen in the USGS Quadrangle Maps in Exhibit 3 of Appendix 1.

The adjacent land areas surrounding this project are undeveloped with portions having begun various phases of development in lieu of this project coming online.

The natural runoff discharges in two directions under the existing conditions. The runoff naturally flows toward Big Sand Lake from I-4 and to Ruby Lake from Palm Parkway. The movement of runoff is primarily overland flow with areas of concentrated flow through swales and roadway curb and gutters eventually reaching their respective ponds prior to discharge.

3.2 Soils Data & Geotechnical Investigations

The Soil Survey of Orange County, Florida, published by the United States Department of Agriculture (USDA) SCS has been reviewed for the project vicinity. The soil survey for the project vicinity is illustrated in Appendix 1- Exhibit 6 on the NRCS Soil Survey Map and Table 1 – USDA SCS Soil Survey Information of this report.

The USDA Soil Conservation Service Soil Survey for Orange County provides general descriptions of subsurface conditions for this county. In general, the surficial soils consist of poorly graded fine sands and muck. The average seasonal water table varies from 2 feet to 3.5 feet below the natural ground surface along the alignment. For the majority of the alignment, the seasonal high groundwater levels are within 1.5 to 2.0 feet below the natural ground surface.

Geotechnical field services were provided and attached to this report. The services included performing field reconnaissance, groundwater table measurements, standard penetration test (SPT) borings, and preliminary laboratory classification testing. Results of the borings are included in the geotechnical report prepared by Nodarse and Associates, Inc. for this project.

3.3 Flood Insurance Rate Maps

The FEMA Flood Insurance Study (FIS) for Orange County indicates that no floodplain areas are shown as **Exhibit 8** in **Appendix 1**.

Table 1 - USDA SCS Soil Survey Information

SOILS SURVEY INFORMATION							
Orange County USDA Soil Series	Seasonal High Groundwater Table		Hydrologic Soil Group	Permea-bility (in/hr)	Soil Classification		
	Depth (feet)	Duration (months)			Depth (inches)	Unified	AASHTO
Archbold Fine Sand (2)	3.5 – 6.0	Jun – Nov	A	>20	0 – 80	SP	A-3
Candler Fine Sand (4)	>6.0	---	A	6-20 6-20 6-20	0 –5 5-74 74-80	SP, SP-SM SP, SP-SM SP, SP-SM	A-3 A-3 A-3, A-2-4
Immokalee Fine Sand (20)	0.0 – 1.0	Jun – Nov	B/D	6-20 6-20 0.6-2.0 6-20	0 – 5 5 – 35 35 – 67 67-80	SP, SP-SM SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3 A-3, A-2-4 A-3
Pomello Fine Sand (34)	2.0 – 3.5	Jul –Nov	C	>20 2-6 6-20	0-40 40 – 55 55-80	SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3, A-2-4 A-3
St. Lucie Fine Sand (38)	>6.0	---	A	>20	0-80	SP	A-3
Smyrna Fine Sand (44)	0-1.0	Jul-Oct	B/D	6-20 0.6-6.0 6-20	0-18 18-28 28-80	SP, SP-SM SM, SP-SM SP, SP-SM	A-3, A-2-4 A-3, A-2-4 A-3
Zolfo Fine Sand (54)	2.0-3-5	Jun – Nov	C	6-20 6-20 0.6-2.0	0-5 5-55 55-80	SP-SM SP-SM, SM SP-SM, SM	A-3, A-2-4 A-3, A-2-4 A-3, A-2-4

4.0 STORMWATER MANAGEMENT PLAN

4.1 Existing Drainage Condition

Presently, the runoff from undeveloped areas is sheet flowing downstream in two distinct drainage basins. The I-4 basin has runoff from the existing ponds on I-4 draining toward Big Sand Lake to the north. The portion of the project west of I-4 and inclusive of Palm Parkway is the other basin and runoff drains into the existing storm drain system on Palm Parkway eventually reaching a stormwater pond prior to discharging toward Ruby Lake.

4.2 Regulatory Viewpoint

The project is under the jurisdiction of the South Florida Water Management District (SFWMD), and Orange County for the roadway development plans. Ruby Lake is under the jurisdiction of the Reedy Creek Improvement District (RCID). This project is applying for a permit modification to the existing and recent permit discharging across Palm Parkway and for I-4. The SFWMD Permit for the Palm Parkway, formerly Turkey Lake Road is a Standard General Permit under the application number 980316-5, dated March 26, 1998. The SFWMD rules allow the use of the Orange County 25-year/24-hour design storm event. The required treatment volume was calculated for each basin based on the wet-detention criteria of (1-inch over the basin area or 2.5-inches over directly connected impervious area).

The pond design is established using the FDOT, Orange County, RCID, and the SFWMD pond design criteria. The pond design includes:

- Chain link fences and gates for access as needed when sides slopes are greater than 1:4;
- Sodded side slopes;
- 15 to 20-foot maintenance areas at a 1:20 to 1:8 (maximum) side slope;
- 1:4 side slopes or flatter from the top of the bank to the littoral shelf;
- 1:2 side slopes from the littoral shelf to the pond bottom;
- 1-foot of freeboard for the 25-year/24-hour storm event;
- Control Elevation is the water surface elevation in the wet ponds;
- Oil skimmer is included on the discharge structures; and
- All proposed wet ponds designed take into the consideration the tailwater of the receiving facility.

The wet-detention ponds used are indicated in the Proposed Ponds '1', '2A', and '2B' in Exhibits 9, 10, and 11 of Appendix 1.

5.0 PROPOSED DRAINAGE CONDITION

5.1 Drainage Basins

There exist two drainage basins which are the FDOT portion of I-4 and the section of Street 'B' and Palm Parkway.

The ponds on I-4 are being impacted by the proposed roadway alignment of Street 'B'. The proposed roadway requires the existing pond on the east side of I-4 to be divided, interconnected and expanded in order to maintain the existing volume capacity. The pond on the west side of I-4 is partially impacted and requires expanding to the north within the existing I-4 Limited Access Right-of-Way (L-A R/W).

Based on the previously permitted calculations for Palm Parkway, the existing stormwater pond has sufficient volume available below the existing weir to accommodate the proposed treatment volume for the improvements to Street 'B'. Palm Parkway will require some revisions to the existing roadway conditions but no additional pavement is proposed for Palm Parkway.

The stormwater runoff is collected by closed stormwater collection systems into the existing and/or proposed stormsewer systems and discharging into stormwater ponds. Three ponds are located on the Florida Department of Transportation L-A R/W. No new pond is proposed for the section of Street 'B' and Palm Parkway.

Stormwater discharges are routed to Big Sand Lake for the portion of I-4 impacted by this project. The proposed cumulative discharge from the ponds on I-4 does not exceed the existing discharge from I-4 towards Big Sand Lake for the Critical Duration Analysis. The Critical Duration Analysis was used based on Chapter 14-86 whereby a matrix of 54 storms are hydrographed and routed using ICPR for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year frequency; 1-hour, 2-hour, 4-hour, 8-hour, 24-hour, 72-hour, 168-hour, and 240-hour storm events. The following table is for the peak pond discharge rates based on the most critical storm events for I-4 basins within the I-4 L-A R/W.

Table 2 – Big Sand Lake Discharge Rates

Design Storm Event	Discharge Rates (cfs) for Ponds '1 WB', & '2 EB'				Comments
	Q Existing (cfs)		Q Proposed (cfs)		
	'1 WB'	'2 EB'	'1 WB'	'2 EB'	
25-year/ 24-hour Orange County	0.54	0.53	0.35	0.50	OK!!!
100-year/ 168-hour FDOT Critical Storm	5.57	3.73	5.83	0.61	Pond '1WB' exceeds by 0.26 cfs.

The portion of Street 'B' and Palm Parkway draining into an existing stormwater pond is analyzed for volume only. The proposed improvements do not impact the pond enough to require a routing analysis. The existing pond for Palm Parkway provides 5.51 acre-feet of treatment volume however, the required treatment volume for the proposed improvements is 4.49 acre-feet. Therefore, the existing pond can readily handle the small contributing areas from Street 'B' without any revisions to the existing control structure.

6.0 CONCLUSION

SFWMD and Orange County require that the peak discharge from the site, in the post developed condition, does not exceed the permitted discharge rate. Post-development discharge rates were determined using Interconnected Channel & Pond Routing (ICPR Ver 3.02). For all practical purposes, this project meets this requirement as indicated by Table 2 shown above. The construction modification of the stormwater ponds for this project will not increase the peak discharge rates and improve the water quality. Please refer to supporting calculations located in Appendix 2, 3, 4 & 5

Appendix 1 – Exhibits

- Exhibit 1 – Project Aerial & Vicinity Map
- Exhibit 2 – SFWMD Drainage Map
- Exhibit 3 – Quadrangle Map – Lake Jessamine
- Exhibit 4 & 5 – Proposed Roadway Typicals
- Exhibit 6 – NRCS Soil Survey Map
- Exhibit 7 – Future Land Use Map
- Exhibit 8 – FEMA Map
- Exhibit 9 – Ponds '1'
- Exhibit 10 – Pond '2 A'
- Exhibit 11 – Pond '2 B'
- Exhibit 12 – Project Aerial Map



ORANGE COUNTY GOVERNMENT FLORIDA

PROJECT AREA & VICINITY MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit

1

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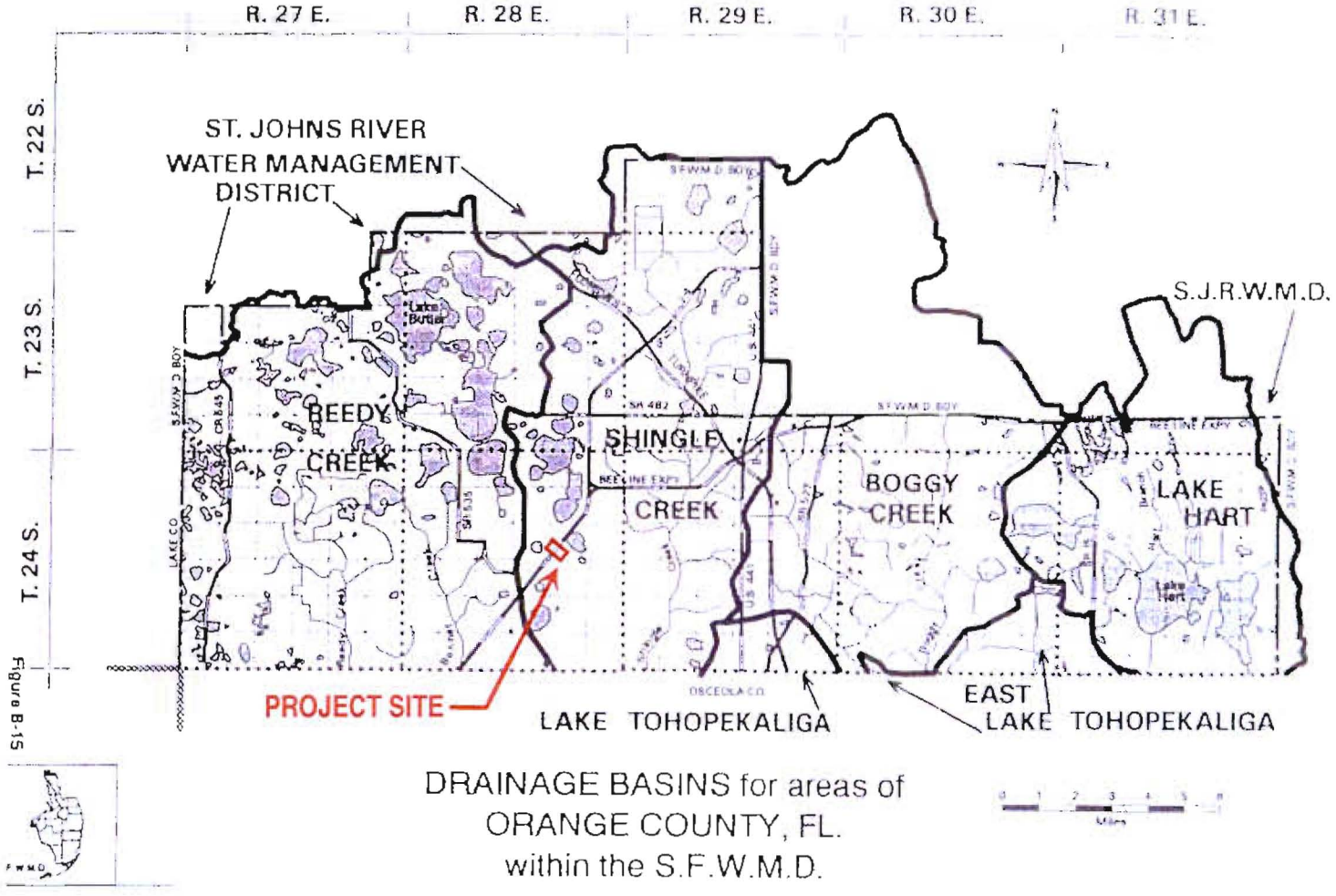

DRAINAGE BASINS for areas of
ORANGE COUNTY, FL.
within the S.F.W.M.D.

ORANGE COUNTY GOVERNMENT FLORIDA	**SFWMD DRAINAGE BASIN** **Orange County, Florida**	**Wildwood Area Roadway Network** Kimley-Horn and Associates, Inc.	**Exhibit** **2**

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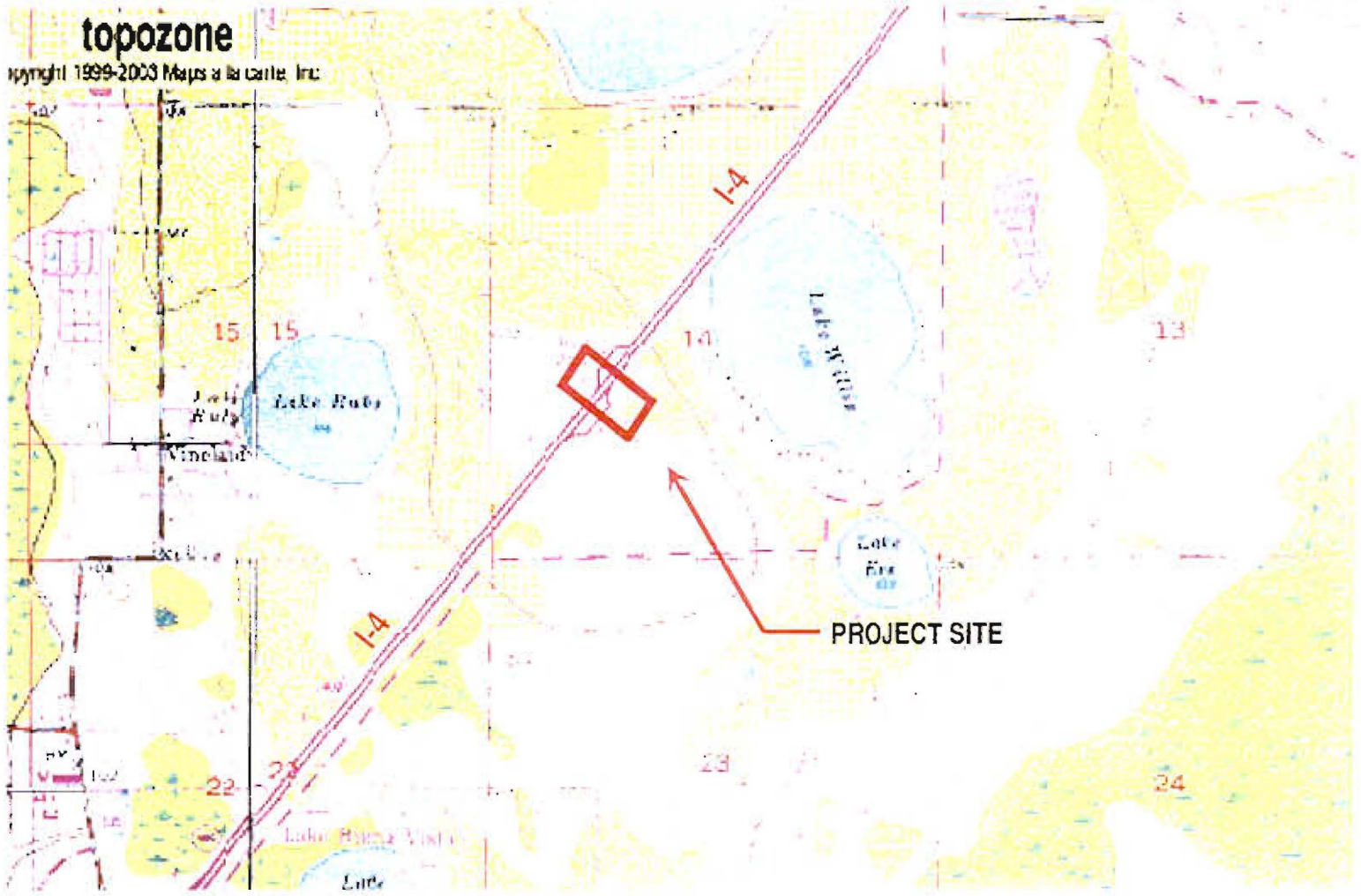

ORANGE COUNTY GOVERNMENT FLORIDA

QUADRANGLE MAP- LAKE JESSAMINE
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
3

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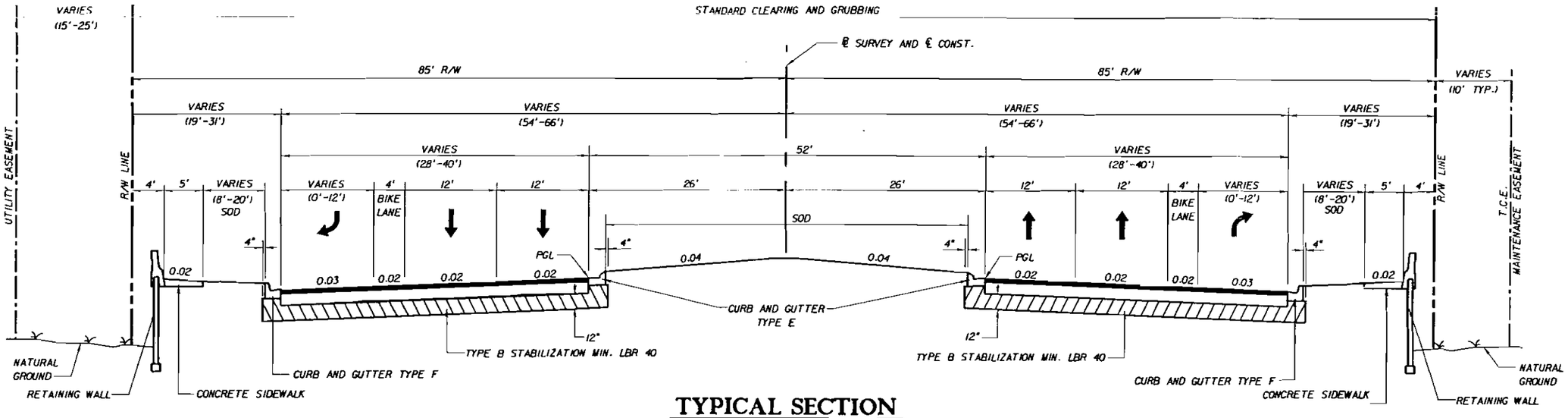

TYPICAL SECTION

STREET B

STA. 113+00.00 TO STA. 114+51.13 (℄ CONST.) (NOT TYPICAL - IN TRANSITION)
STA. 114+51.13 TO STA. 120+20.00 (℄ CONST.)
STA. 124+80.00 TO STA. 130+33.01 (℄ CONST.)
STA. 130+17.74 TO STA. 132+27.79 (NOT TYPICAL - IN INTERSECTION)
REFER TO PLAN & PROFILE SHEETS FOR LOCATIONS OF AUXILIARY LANES AND TRAFFIC SEPARATORS

NEW CONSTRUCTION

12" TYPE B STABILIZATION MIN. LBR 40
12" SOIL CEMENT BASE COURSE (MIN. 300 PSI)
3 1/2" TYPE S STRUCTURAL COURSE
AND 1" FRICTION COURSE FC-3 (RUBBER)
DESIGN SPEED = 40 MPH

STREET B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTIONS

SHEET NO. 4

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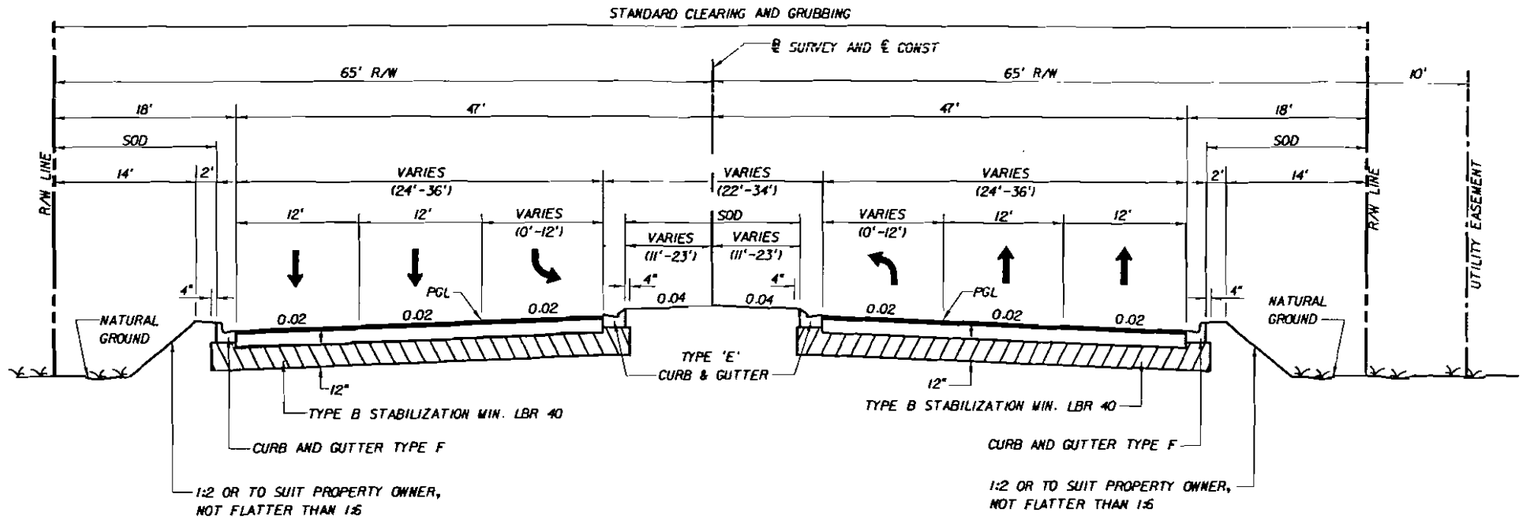

TYPICAL SECTION

PALM PARKWAY

STA. 51+20.00 TO STA. 59+57.50 (℄ SURVEY)
STA. 53+91.91 TO STA. 55+83.07 (NOT TYPICAL - IN INTERSECTION)
STA. 48+96.74 TO STA. 51+20.00 AND STA. 59+57.50 TO STA. 61+40.00 (REFER TO PLAN & PROFILE SHEETS FOR WIDENING TO EXTEND EXISTING AUXILIARY LANES.

NEW CONSTRUCTION

12" TYPE B STABILIZATION MIN. LBR 40
12" SOIL CEMENT BASE COURSE (MIN. 300 PSI)
3 ½" TYPE S STRUCTURAL COURSE
AND 1" FRICTION COURSE FC-3 (RUBBER)
DESIGN SPEED = 45 MPH

PALM PARKWAY

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
Kim W. Elmer, P.E.
PE Number 45203
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

TYPICAL SECTIONS

SHEET NO. 5

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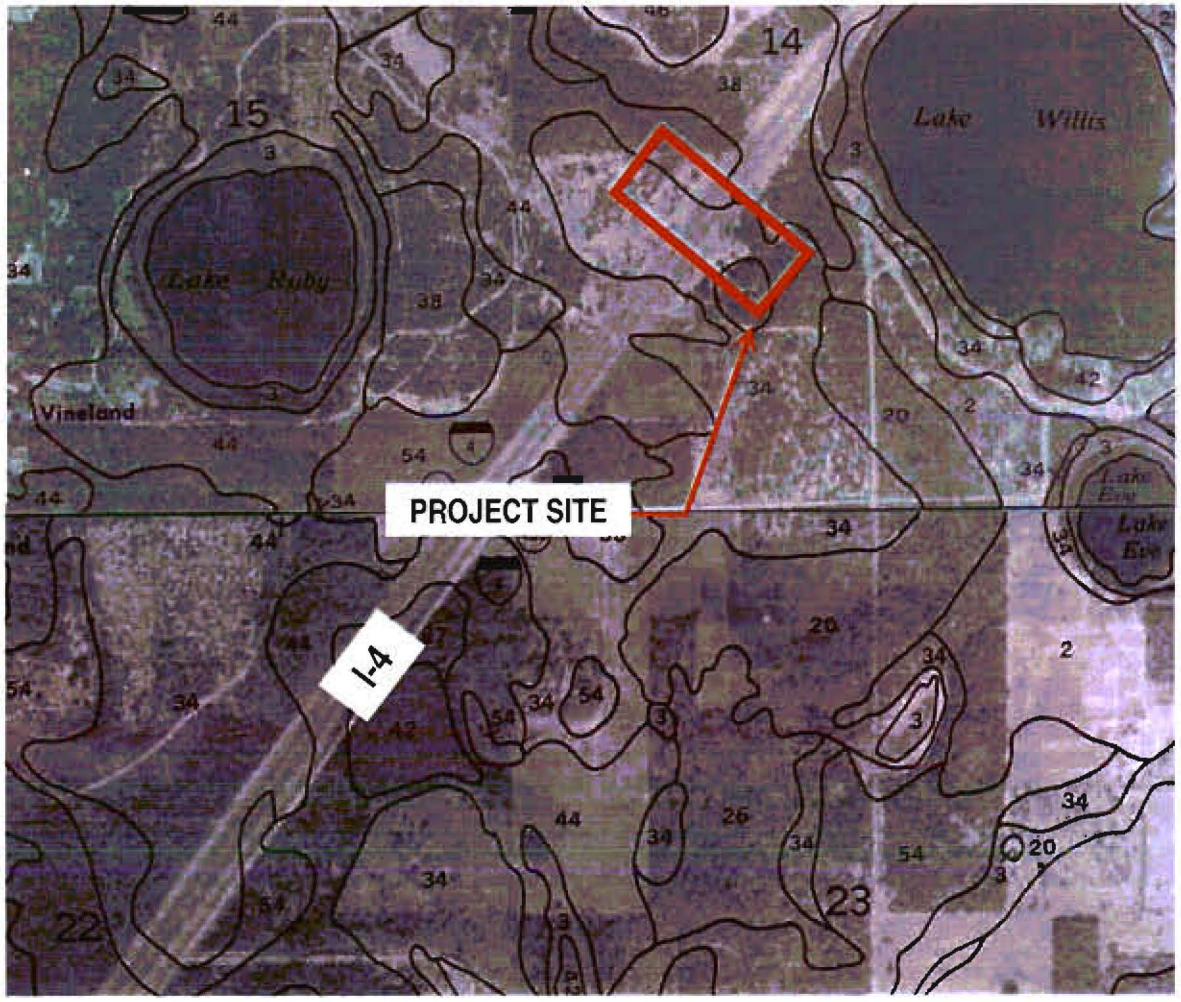

NORTH

N.T.S.

SOILS LEGEND

Soil Nu.	Soil Names	Hydrologic Group
2	Archbold	A
4	Candler	A
20	Immokalee	B/D
34	Pomello	C
38	St. Lucie	A
44	Smyrna	B/D
54	Zolfo	C

SOILS REPORT – PANEL 64 & 76

ORANGE COUNRTY, FLORIDA

ORANGE COUNTY GOVERNMENT FLORIDA

NRCS (formerly SCS) SOILS SURVEY MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit 6

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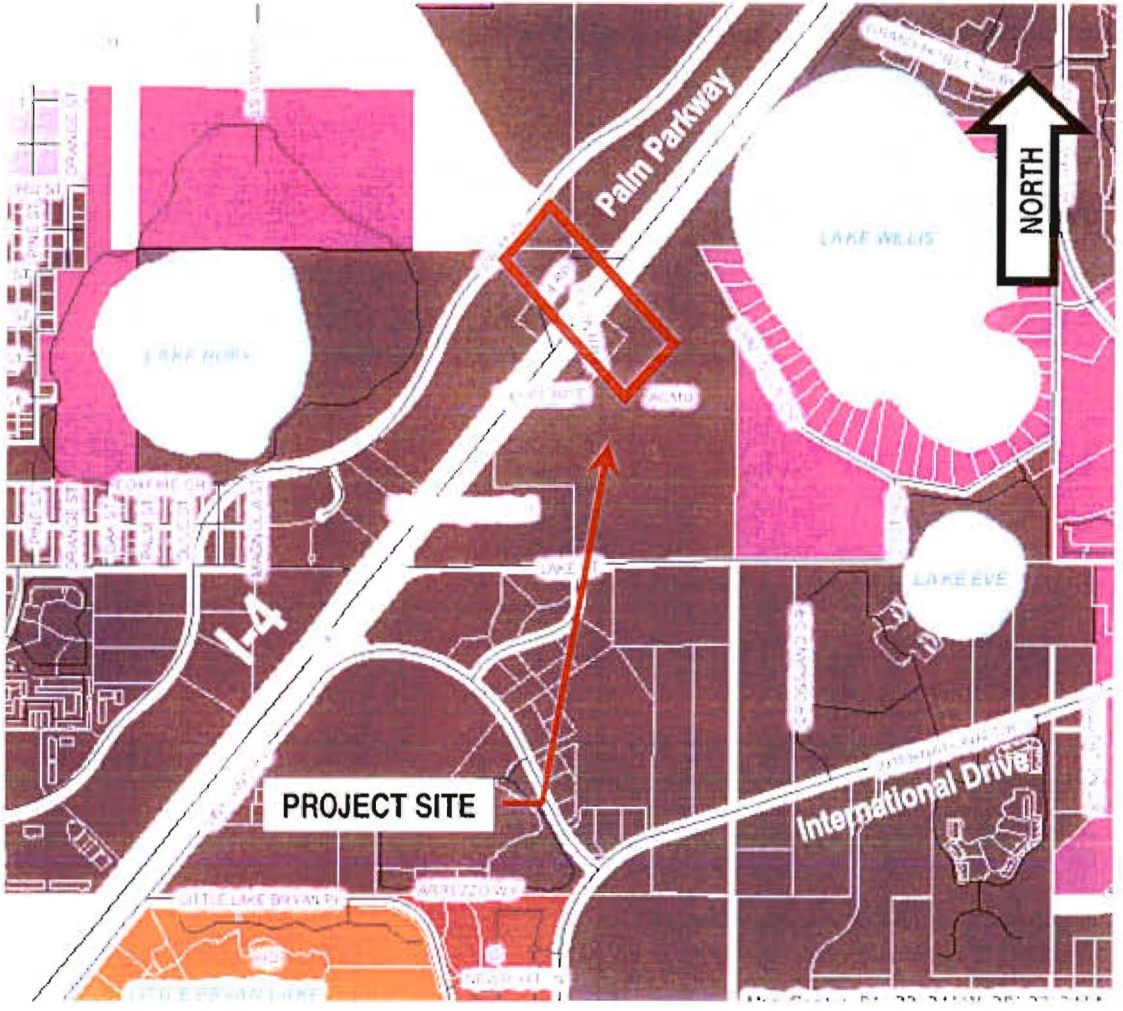
Map Legend

- Orange County Boundary
- Streets
- Parcels
- Named Lakes and Waterways
- Unnamed Lakes and Waterways
- City of Orlando Future Land Use
- Water Body (WB)
- Existing Land Use (1997)
- COMMERCIAL
- CONSERVATION
- INDUSTRIAL
- INSTITUTIONAL
- LOW DENSITY RESIDENTIAL
- LOW-MEDIUM DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- NO DESIGNATION
- PARKS AND RECREATION
- RURAL / AGRICULTURE
- WATER BODY
- Activity Center Mixed Use (ACMU)
- Activity Center Residential (ACR)
- High Density Residential (HD)



ORANGE COUNTY GOVERNMENT FLORIDA

Future Land Use Map
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
7

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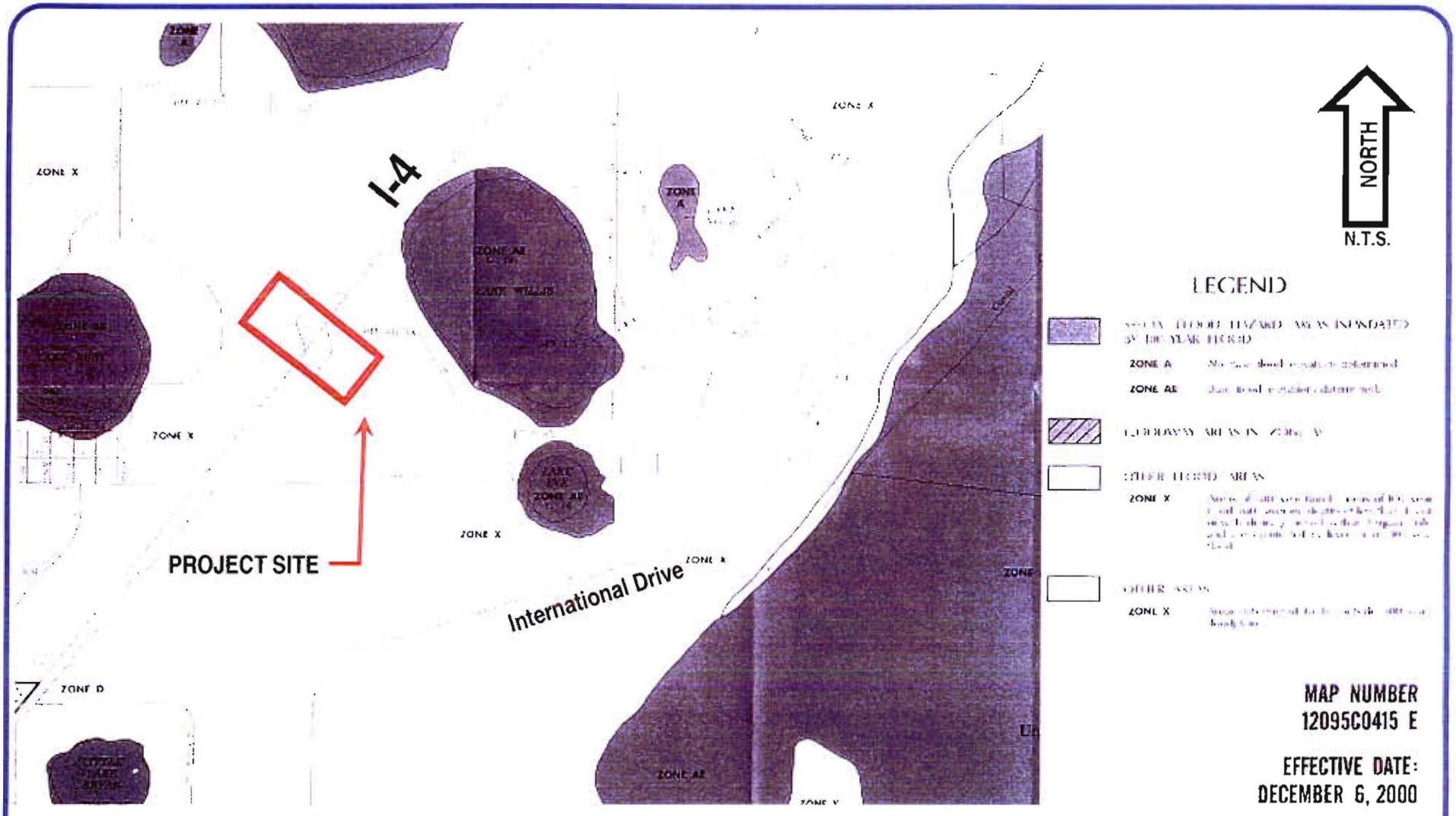

ORANGE COUNTY GOVERNMENT FLORIDA

FEMA MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
8

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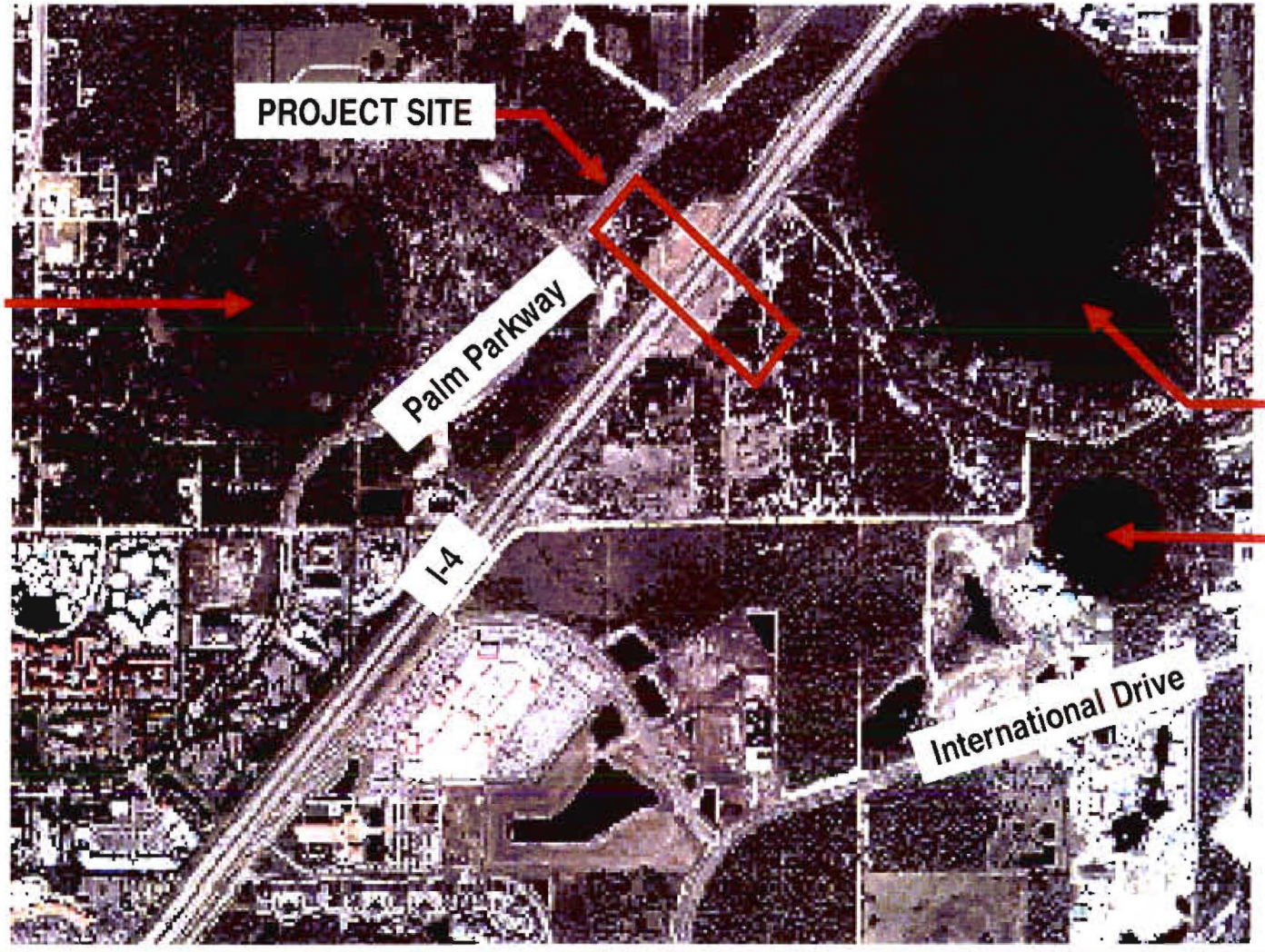

ORANGE COUNTY GOVERNMENT FLORIDA

PROJECT AERIAL MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
12

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Appendix 2 – I-4 Ponds

- **Pond '1 WB' Design**
- **Pond '2 EB' Design**
- **Existing Control Box Details**
- **ICPR Input & Output Data**

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd , Suite 200
Orlando, Florida 32803

Made by HDT Ch'd by
Date January 2 2008 Time 9 32 AM
KHA Project Number 049280002

PROJECT **Street 'B' & I-4 Overpass**
BASIN NAME **Basin 1 WB**
NODE NAME **Pond 1**

PRE - DEVELOPED CONDITION

AREA	BASIN DESCRIPTION	BASIN FLOWS TO
11.75 ac.	EXISTING ROADWAY & OFFSITE AREA	Ex Pond 1 WB
11.75 ac.	TOTAL BASIN AREAS	

EXISTING ROADWAY AREA

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
634+10.00	648+35.00	1,425.00 ft.	120.00 ft.			
AREA impervious =	2.06 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	6.94 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA POND =	2.75 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
AREA Total =	11.75 ac.		Paved Shoulder(s)	22.00 ft.	1	22.00 ft.
			Sidewalk(s)	6.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add' Pav't.	0.16 ac.

EXISTING ROADWAY & OFFSITE AREA

BASIN NAME **EXISTING ROADWAY & OFFSITE AREA**

NODE NAME	Ex Pond 1 WB	LAND USE DESCRIPTION	%Impervious	SOILS TYPE	Percent of Area
AREApervious	2.06 ac.	Impervious areas (Dirt including R/W)	100 00%	—	17 51%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		A	0 00%
AREApervious	3.94 ac.	Open Space (Grass cover 50% to 75%)		C	33.53%
AREApervious	3.00 ac.	Woods-grass combination (Fair cover)		C	25 55%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/D	0 00%
AREAwater surf	2.75 ac.	Pond Water Surface		—	23 40%
TOTAL AREA =	11.75 ac.				100.00%
Weighted CN =	80.30		Tc =	10.00	minutes.
RUNOFF VOLUME =	6.10 ac.-ft.	25YR-24HR			

POST - DEVELOPED CONDITION

PROPOSED AREA	BASIN BREAKDOWN	BASIN FLOWS TO
12.12 ac.	PROPOSED ROADWAY	Pond 1
12.12 ac.	Basin 1 WB	

BASIN NAME: Basin 1 WB
NODE NAME: Pond 1

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
634+10.00	648+35.00	1,425 00 ft	120.00 ft.			
AREA impervious =	3.21 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	6.28 ac.		Bike Lane	4.00 ft.	0	0.00 ft.
AREA POND =	2.63 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA Total =	12.12 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
			Paved Shoulder	22.00 ft.	1	22.00 ft.
			Sidewalk	5.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add' Pav't.	1.31 ac.

PROPOSED ROADWAY

BASIN NAME **Basin 1 WB**

NODE NAME	Pond 1	LAND USE	%Impervious	SOILS TYPE	Percent of Area
AREApervious	3.21 ac.	Impervious areas (Dirt including R/W)		—	26.46%
AREApervious	3.11 ac.	Open Space (Grass cover 50% to 75%)		C	25 70%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		B/D	0 00%
AREApervious	3.00 ac.	Woods-grass combination (Fair cover)		C	24 77%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/D	0 00%
AREAwater surf	2.80 ac.	Pond Water Surface		—	23 07%
TOTAL AREA =	12.12 ac.				100 00%
Weighted CN =	85 70		Tc =	10.00	minutes.
RUNOFF VOLUME =	6.95 ac.-ft.	25YR-24HR			

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
DATE: January 2 2008 TIME: 9.32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 1 WB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **EXISTING ROADWAY & OFFSITE AREA**
BASIN NAME: **EXISTING ROADWAY & OFFSITE AREA**
NODE NAME: **Ex Pond 1 WB**
BASIN SIZE: 11.75 acres
TYPE of EVALUATION: **PRE - DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH: **8.60** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		---	---	89 00	17 51%	15.58
Open Space (Grass cover 50% to 75%)		2, 4, 38	A	49.00	0 00%	0 00
Open Space (Grass cover 50% to 75%)		34, 54	C	79 00	33.53%	26 49
Woods-grass combination (Fair cover)		34, 54	C	76 00	25.56%	19 42
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00		
Pond Water Surface		---	----	100 00		
					76 60%	61 49

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 61 49 / 76 60% = 80 29

USE CN = 80.30

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 2.45 \text{ inches}$$

Determine Runoff: R
25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 6.23 \text{ inches}$$

Determine Runoff Volume, Vr
25YR-24HR Vr = R * AREA/12 = 6 10 acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i(10\text{-yr})^{0.4}) * (S^{0.3})} = To(hr's)$$

OVERLAND TERRAIN: **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0 05	BARE SOIL
0.20	POOR GRASS
0 40	AVE. GRASS or LAWNS
0 60	DENSE GRASS or WOODLANDS
0 80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(\text{minutes})$$ where:

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16 1345 x (S)^0 5; where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)
Vpaved = 20.3282 x (S)^0.5, where S = Slope in ft/ft. Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	0.20%	7.40 in./hr.	7.40 in./hr.	---	1.86
UNPAVED	400 ft.		0.50%			1.14 fps	5.85
PIPE FLOW	100 ft.					2.50 fps	0.67
					TOTAL TIME of CONCENTRATION =		8.38

USE TOTAL TIME of CONCENTRATION = 10.00

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd , Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 1 WB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **PROPOSED ROADWAY**
BASIN NAME: **Basin 1 WB**
NODE NAME: **Pond 1**
BASIN SIZE: 12.12 acres
TYPE of EVALUATION **POST - DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH **8.60** inches,(**25YR-24HR** EVENT)

Determine Basin Runoff Curve Number CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		---	---	89.00	26.46%	23 55
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	25 70%	20 30
Open Space (Grass cover 50% to 75%)		20, 26, 44	B/D	84 00	0 00%	0 00
Woods-grass combination (Fair cover)		34, 54	C	76 00	24.77%	18.83
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00	0 00%	0.00
Pond Water Surface		---	---	100.00	23 07%	23 07
					100 00%	85 75

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 85 75 / 100 00% = 85 75

USE CN = 85.70

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage S

$S = \frac{1000}{CN} - 10 =$ 1.67 inches

Determine Runoff R
25YR-24HR

$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} =$ 6 88 inches

Determine Runoff Volume; Vr
25YR-24HR $Vr = R * AREA/12 =$ 6.95 acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i^{0.4}) * (S^{0.3})}$ = To(hr 's)

OVERLAND TERRAIN **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0 05	BARE SOIL
0 20	POOR GRASS
0.40	AVE. GRASS or LAWNS
0.60	DENSE GRASS or WOODLANDS
0 80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$Tsh = \frac{Lsh}{60 \times V}$ = Tsh(minutes) where.

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16.1345 x (S)^0.5; where S = Slope in ft/ff. Vpipe = 2 5 fps (Established)
Vpaved = 20.3282 x (S)^0.5; where S = Slope in ft/ff Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (Iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	2.00%	7.40 in./hr.	7.40 in./hr.	---	0.93
PAVED	400 ft.		50.00%			14.37 fps	0.46
PIPE FLOW	10 ft.					2.50 fps	0.07
					TOTAL TIME of CONCENTRATION =		1.46

USE TOTAL TIME of CONCENTRATION = 10.00

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd . Suite 200
Orlando. Florida 32803

Made by: HDT Checked by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 1 WB**
NODE NAME. **Pond 1**

WATER QUALITY CALCULATIONS

AREA CALCULATIONS:

Basin Designation	AREA TOTAL	AREA Imperv.	AREA perv.	AREA ws
Basin 1 WB	12 12 ac.	3.21 ac.	6 12 ac	2 80 ac
POND SITE	0 00 ac	0.00 ac.	0.00 ac	0 00 ac.
AREA SITE	0 00 ac	0.00 ac.	0.00 ac	0 00 ac
TOTALS =	12 12 ac	3.21 ac.	6 12 ac.	2 80 ac
	% Impervious =	26 46%	% Pond R/W Area =	0 01%

WET-DETENTION TREATMENT VOLUME: 2.5" x AREAimpervious or 1" x AREAtotal
2.50 inch VOLUME = 0.67 ac -ft
1 inch VOLUME = 1 01 ac -ft

USE Vtreatment = 1.01 ac.-ft.

USE A WET-BOTTOM DETENTION POND FOR Pond 1

STORAGE VOLUME REQUIREMENTS

Actual Qpre = 89.06 cfs as per the **25YR-24HR** PRE-DEVELOPMENT HYDROGRAPH(S).
Qpre = **66.80 cfs** PRE-DEVELOPMENT HYDROGRAPH(S) USING 75% OF Qpre
Qpost = **127.95 cfs** as per the **25YR-24HR** POST-DEVELOPMENT HYDROGRAPH(S).
Qpre/Qpost = 0 52
Vs/Vr = 0.27 (for the TYPE II & III, TR-55, 1986)
Vr = 6 95 ac -ft
Vs = (Vs/Vr) * Vr = 1 86 ac -ft
USE Volume = 1.90 ac.-ft.

Permitted STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128 00	2.90	--	--	--	0 00
	128.75	3.03	2.97	0.75	2.22	2.22
	129.50	3 17	3.10	0 75	2.32	4 55
	130 25	3.30	3.23	0.75	2.42	6.97
BANK	131 00	3.43	3.36	0.75	2 52	9.50
TOP	131 80	4.18	3.81	0.80	3.04	12.54

POND DESIGN

USE A WET-BOTTOM DETENTION POND FOR Pond 1

RAINFALL DEPTH. 8.60 in. for the 25YR-24HR Orange County
Water Management District SFWMD (SJRWMD, SFWMD, SWFWMD)
Zone: 7

1	MAXIMUM STORAGE DEPTH =	2.00 ft.	
2	POND SIDE-SLOPE RATIO =	4.00 : 1	
3	MAINTENANCE AREA WIDTH =	15.00 ft.	@ 15: 1
4	MINIMUM FREEBOARD =	1.00 ft.	
5	POND TIE-IN WIDTH =	0.00 ft.	@ 2: 1
6	INITIAL STAGE ELEVATION =	128.00 ft.	
7	EXISTING GROUND ELEVATION =	132.00 ft.	
	PROPOSED POND SHAPE =	3	IRREGULAR POND SHAPE

Treatment Stage = 128.40 ft.
Required Treatment Volume = 1.01 ac.-ft.
Required Attenuation Volume = 2.00 ac.-ft.
Attenuation Stage = 128.70 ft.

STAGE	DESCRIPTION	AREA	DIMENSIONS Length	DIMENSIONS Width	STORAGE
132.00 ft.	POND R/W Area =	4.18 ac.			
132.00 ft.	Back of Maint. Berm =	3.89 ac.			12.66 ac.-ft.
131.00 ft.	Front of Maint. Berm =	3.26 ac.			9.09 ac.-ft.
130.00 ft.	Treat/Storage Stage =	3.11 ac.			5.90 ac.-ft.
128.00 ft.	Initial Water Area =	2.90 ac.			0.00 ac.-ft.
126.00 ft.		2.50 ac.			
122.00 ft.	Pond Bottom =	2.08 ac.			

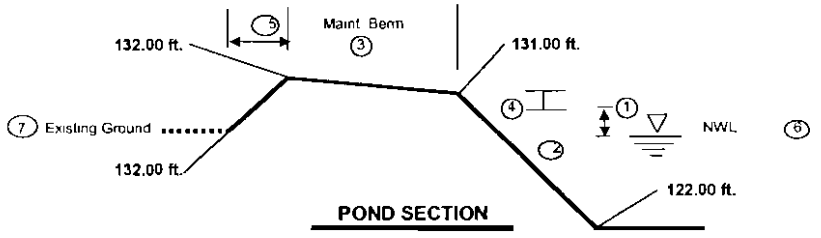
Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd , Suite 200
Orlando, Florida 32803

Made by: HDT Checked by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT. **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 1 WB**
NODE NAME: **Pond 1**



POND SECTION

STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.00	2.80	--	--	--	0.00
	128.67	2.90	2.85	0.67	1.90	1.90
	129.33	3.00	2.95	0.67	1.97	3.87
	130.00	3.11	3.05	0.67	2.04	5.90
BANK	131.00	3.26	3.18	1.00	3.18	9.09
TOP	132.00	3.89	3.58	1.00	3.58	12.66

REQUIRED TREATMENT VOLUME = 1.01 ac.-ft.
REQUIRED TREATMENT STAGE = 128.35 ft.
PROVIDED TREATMENT STAGE = 128.40 ft.
PROVIDED TREATMENT VOLUME = 1.14 ac.-ft.

REQUIRED ATTENUATION/TREATMENT VOLUME = 1.90 ac.-ft.
REQUIRED MAXIMUM STAGE = 128.67 ft. N.G.V.D.
PROVIDED MAXIMUM STAGE = 128.70 ft. N.G.V.D.
PROVIDED ATTENUATION/TREATMENT VOLUME = 2.00 ac.-ft.

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3660 Maguire Blvd , Suite 200
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Made by HDT Ch'd by
Date January 2 2008 Time 9 32 AM
KHA Project N umber 049280002

PROJECT **Street 'B' & I-4 Overpass**
BASIN NAME **Basin 2 EB**
NODE NAME **Pond 2**

PRE - DEVELOPED CONDITION

AREA	BASIN DESCRIPTION	BASIN FLOWS TO...
8.80 ac.	EXISTING ROADWAY & OFFSITE AREA	Ex Pond 2 EB
8.80 ac.	TOTAL BASIN AREAS	

EXISTING ROADWAY AREA

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
633+55.50	648+58.41	1,502.91 ft.	120.00 ft.			
AREA impervious =	2.09 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	4.74 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA POND =	1.97 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
AREA Total =	8.80 ac.		Paved Shoulder(s)	22.00 ft.	1	22.00 ft.
			Sidewalk(s)	6.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add'l Pav't.	0.09 ac.

EXISTING ROADWAY & OFFSITE AREA

BASIN NAME **EXISTING ROADWAY & OFFSITE AREA**
NODE NAME **Ex Pond 2 EB**

		LAND USE DESCRIPTION	% Impervious	SOILS TYPE	Percent of Area
AREApervious	2.09 ac.	Impervious areas (Dirt including R/W)	100 00%	—	23 76%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		A	0 00%
AREApervious	4.74 ac.	Open Space (Grass cover 50% to 75%)		C	53.85%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		C	0.00%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/C	0 00%
AREAwater surf	1.97 ac.	Pond Water Surface		—	22 39%
TOTAL AREA =	8.80 ac.				100.00%
Weighted CN =	86.10		Tc =	10.00	minutes.
RUNOFF VOLUME =	5.01 ac.-ft.	25YR-24HR			

POST - DEVELOPED CONDITION

PROPOSED AREA	BASIN BREAKDOWN	BASIN FLOWS TO
8.30 ac.	PROPOSED ROADWAY	Pond 2
8.30 ac.	Basin 2 EB	

BASIN NAME: Basin 2 EB
NODE NAME: Pond 2

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
633+55.50	649+20.98	1,565.48 ft.	120.00 ft.			
AREA impervious =	2.09 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	3.48 ac.		Bike Lane	4.00 ft.	0	0.00 ft.
AREA POND =	2.73 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA Total =	8.30 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
			Paved Shoulder	22.00 ft.	1	22.00 ft.
			Sidewalk	5.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add'l Pav't.	0.01 ac.

PROPOSED ROADWAY

BASIN NAME **Basin 2 EB**
NODE NAME **Pond 2**

		LAND USE	% Impervious	SOILS TYPE	Percent of Area
AREApervious	2.09 ac.	Impervious areas (Dirt including R/W)		—	25.23%
AREApervious	3.48 ac.	Open Space (Grass cover 50% to 75%)		C	41 92%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		B/D	0.00%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		C	0.00%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/C	0 00%
AREAwater surf	2.73 ac.	Pond Water Surface		---	32.84%
TOTAL AREA =	8.30 ac.				100.00%
Weighted CN =	88.40		Tc =	10.00	minutes.
RUNOFF VOLUME =	4.91 ac.-ft.	25YR-24HR			

Kimley-Horn
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Orlando, Florida 32803

Made by: HDT Ch'd by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 2 EB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **EXISTING ROADWAY & OFFSITE AREA**
BASIN NAME: **EXISTING ROADWAY & OFFSITE AREA**
NODE NAME: **Ex Pond 2 EB**
BASIN SIZE: 8.80 acres
TYPE of EVALUATION: **PRE -** **DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH **8.50** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		---	---	89.00	23.76%	21.15
Open Space (Grass cover 50% to 75%)		2, 4, 38	A	49.00	0.00%	0.00
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	53.85%	42.54
Woods-grass combination (Fair cover)		34, 54	C	76.00	0.00%	0.00
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00	0.00%	0.00
Pond Water Surface		---	---	100.00	22.39%	22.39
					100.00%	86.08

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 86.08 / 100.00% = 86.08

USE CN = 86.10

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 1.61 \text{ inches}$$

Determine Runoff: R
25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 6.83 \text{ inches}$$

Determine Runoff Volume; Vr
25YR-24HR

$$Vr = R * AREA/12 = 5.01 \text{ acre-feet}$$

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i(10\text{-yr})^{0.4}) * (S^{0.3})} = To(hr.'s)$$

OVERLAND TERRAIN **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0.05	BARE SOIL
0.20	POOR GRASS
0.40	AVE. GRASS or LAWNS
0.60	DENSE GRASS or WOODLANDS
0.80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(minutes)$$ where:

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16.1345 x (S)^0.5, where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)
Vpaved = 20.3282 x (S)^0.5; where S = Slope in ft/ft. Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (Iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	0.20%	7.40 in./hr.	7.40 in./hr.	---	1.86
UNPAVED	400 ft.		0.50%			1.14 fps	5.85
PIPE FLOW	100 ft.					2.50 fps	0.67
					TOTAL TIME of CONCENTRATION =		8.38

USE TOTAL TIME of CONCENTRATION = **10.00**

Kimley-Horn

AND ASSOCIATES, Inc.

3660 Maguire Blvd , Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 2 EB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **PROPOSED ROADWAY**
BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**
BASIN SIZE: 8 30 acres
TYPE of EVALUATION: **POST - DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH: **8.50** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		---	---	89.00	25.23%	22 46
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	41 92%	33.12
Open Space (Grass cover 50% to 75%)		20, 26, 44	B/D	84.00	0.00%	0 00
Woods-grass combination (Fair cover)		34, 54	C	76.00	0.00%	0 00
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00	0.00%	0 00
Pond Water Surface		---	---	100.00	32.84%	32 84
					100.00%	88.42

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 88 42 / 100 00% = 88 42 **USE CN = 88.40**

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 1.31 \text{ inches}$$

Determine Runoff: R

25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 7.11 \text{ inches}$$

Determine Runoff Volume, Vr

25YR-24HR $Vr = R * AREA/12 = 4.91$ acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(I^{0.4}) * (S^{0.3})} = To(hr's)$$

OVERLAND TERRAIN: **PAVEMENT**

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(minutes) \text{ where}$$

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16.1345 x (S)^0.5; where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)
Vpaved = 20 3282 x (S)^0 5; where S = Slope in ft/ft Vditch = 0.5 fps (Established)

"n"	LAND USE
0.015	PAVEMENT
0.05	BARE SOIL
0 20	POOR GRASS
0.40	AVE GRASS or LAWNS
0 60	DENSE GRASS or WOODLANDS
0.80	THICK FOREST

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (Iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	2.00%	7.40 in./hr.	7.40 in./hr.	---	0.93
PAVED	400 ft.		50.00%			14.37 fps	0.46
PIPE FLOW	10 ft.					2.50 fps	0.07
					TOTAL TIME of CONCENTRATION =		1.46
					USE TOTAL TIME of CONCENTRATION =		10.00

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3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Checked by:
DATE: January 2 2008 TIME: 9.32 AM
KHA Project Number: 049280002

PROJECT **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 2 EB**
NODE NAME. **Pond 2**

WATER QUALITY CALCULATIONS

AREA CALCULATIONS:

Basin Designation	AREA TOTAL	AREA Imperv.	AREA perv.	AREA ws
Basin 2 EB	8.30 ac.	2.09 ac.	3.48 ac.	2.73 ac.
POND SITE	0.00 ac.	0.00 ac	0.00 ac	0.00 ac
AREA SITE	0.00 ac.	0.00 ac.	0.00 ac.	0.00 ac
TOTALS =	8.30 ac	2.09 ac.	3.48 ac	2.73 ac.
	% Impervious =	25.23%	% Pond R/W Area =	0.01%

WET-DETENTION TREATMENT VOLUME: 2.5" x AREAimpervious or 1" x AREAtotal
2.50 inch VOLUME = 0.44 ac.-ft
1 inch VOLUME = 0.69 ac.-ft.

USE Vtreatment = 0.69 ac.-ft.

USE A WET-BOTTOM DETENTION POND FOR Pond 2

STORAGE VOLUME REQUIREMENTS

Actual Qpre =	**89.06 cfs**	as per the	25YR-24HR PRE-DEVELOPMENT HYDROGRAPH(S)
Qpre =	66.80 cfs	PRE-DEVELOPMENT HYDROGRAPH(S) USING 75% OF Qpre	
Qpost =	127.95 cfs	as per the	25YR-24HR POST-DEVELOPMENT HYDROGRAPH(S)
Qpre/Qpost =	0.52		
Vs/Vr =	0.27	(for the TYPE II & III, TR-55, 1986)	
Vr =	4.92 ac -ft.		
Vs = (Vs/Vr) * Vr =	1.32 ac -ft.		
USE Volume =	**1.35 ac.-ft.**		

Permitted STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.50	2.38	--	--	--	0.00
	129.25	2.50	2.44	0.75	1.83	1.83
	130.00	2.61	2.55	0.75	1.91	3.74
	130.75	2.73	2.67	0.75	2.00	5.74
BANK	131.50	2.84	2.78	0.75	2.09	7.83
TOP	132.50	3.50	3.17	1.00	3.17	11.00

POND DESIGN

USE A WET-BOTTOM DETENTION POND FOR Pond 2

RAINFALL DEPTH 8.60 in. for the 25YR-24HR Orange County
Water Management District SFWMD (SJRWMD, SFWMD, SWFWMD)
Zone: 7

1	MAXIMUM STORAGE DEPTH =	1.00 ft.	
2	POND SIDE-SLOPE RATIO =	4.00 : 1	
3	MAINTENANCE AREA WIDTH =	20.00 ft.	@ 10: 1
4	MINIMUM FREEBOARD =	1.00 ft.	
5	POND TIE-IN WIDTH =	1.00 ft.	@ 2: 1
6	INITIAL STAGE ELEVATION =	128.50 ft.	
7	EXISTING GROUND ELEVATION =	132.00 ft.	
	PROPOSED POND SHAPE =	3	IRREGULAR POND SHAPE

Treatment Stage =	128.80 ft.
Required Treatment Volume =	0.69 ac.-ft.
Required Attenuation Volume =	1.47 ac.-ft.
Attenuation Stage =	129.05 ft.

STAGE	DESCRIPTION	TOTAL POND AREA	AREA Pond 2A	AREA Pond 2B	STORAGE
132.00 ft	POND R/W Area =	4.35 ac.	2.32 ac.	2.03 ac.	
132.50 ft.	Back of Maint. Berm =	3.29 ac.	1.75 ac.	1.54 ac.	11.84 ac.-ft.
130.50 ft.	Front of Maint. Berm =	2.96 ac.	1.55 ac.	1.41 ac.	5.59 ac.-ft.
129.50 ft.	Treat/Storage Stage =	2.80 ac.	1.45 ac.	1.34 ac.	2.71 ac.-ft.
128.50 ft.	Initial Water Area =	2.63 ac.	1.35 ac.	1.28 ac.	0.00 ac.-ft.
124.50 ft.		1.88 ac.	1.00 ac.	0.88 ac.	
120.00 ft.	Pond Bottom =	1.54 ac.	0.82 ac.	0.72 ac.	

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AND ASSOCIATES, Inc.
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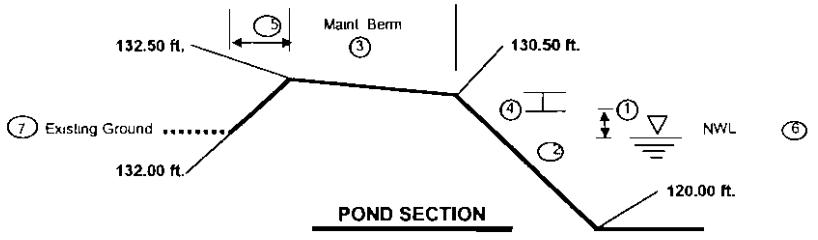
Orlando, Florida 32803

Made by: HDT | Checked by:
DATE: January 2 2008 | TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT. **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 2 EB**
NODE NAME. **Pond 2**



POND SECTION

STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.50	2.63	–	–	–	0 00
	128.83	2.69	2.66	0.33	0.89	0.89
	129.17	2.74	2 71	0.33	0.90	1.79
	129.50	2.80	2.77	0.33	0.92	2.71
BANK	130.50	2 96	2.88	1 00	2.88	5 59
TOP	132.50	3.29	3.13	2.00	6.25	11.84

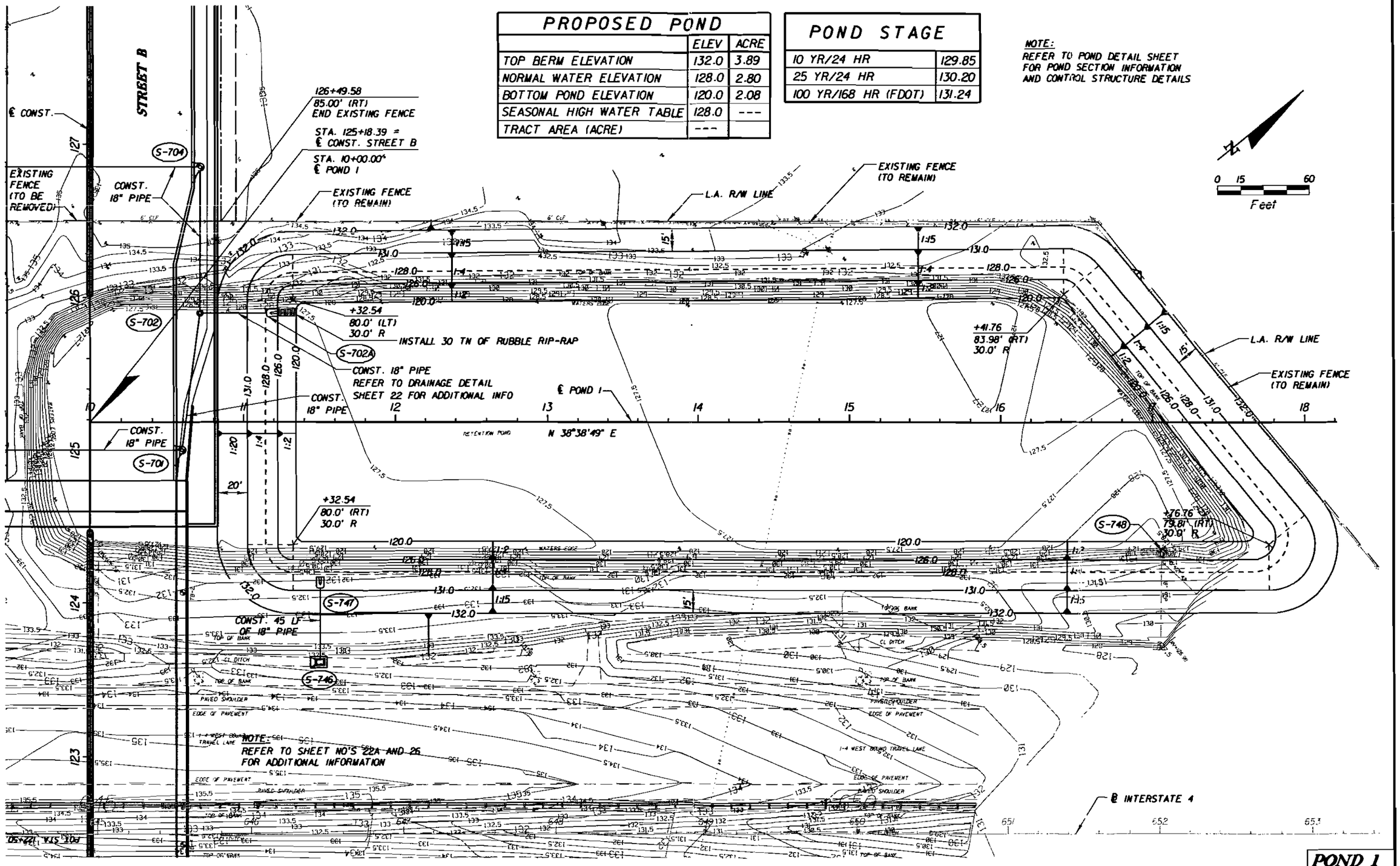
REQUIRED TREATMENT VOLUME = 0.69 ac.-ft.
REQUIRED TREATMENT STAGE = 128.76 ft.
PROVIDED TREATMENT STAGE = 128.80 ft.
PROVIDED TREATMENT VOLUME = 0.80 ac.-ft.

REQUIRED ATTENUATION/TREATMENT VOLUME = 1.35 ac.-ft.
REQUIRED MAXIMUM STAGE = 129.00 ft. N.G.V.D.
PROVIDED MAXIMUM STAGE = 129.05 ft. N.G.V.D.
PROVIDED ATTENUATION/TREATMENT VOLUME = 1.47 ac.-ft.

PROPOSED POND	ELEV	ACRE
TOP BERM ELEVATION	132.0	3.89
NORMAL WATER ELEVATION	128.0	2.80
BOTTOM POND ELEVATION	120.0	2.08
SEASONAL HIGH WATER TABLE	128.0	---
TRACT AREA (ACRE)	---	

POND STAGE	
10 YR/24 HR	129.85
25 YR/24 HR	130.20
100 YR/168 HR (FDOT)	131.24

NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS



POND 1

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PROPOSED RETENTION POND

SHEET NO. 23

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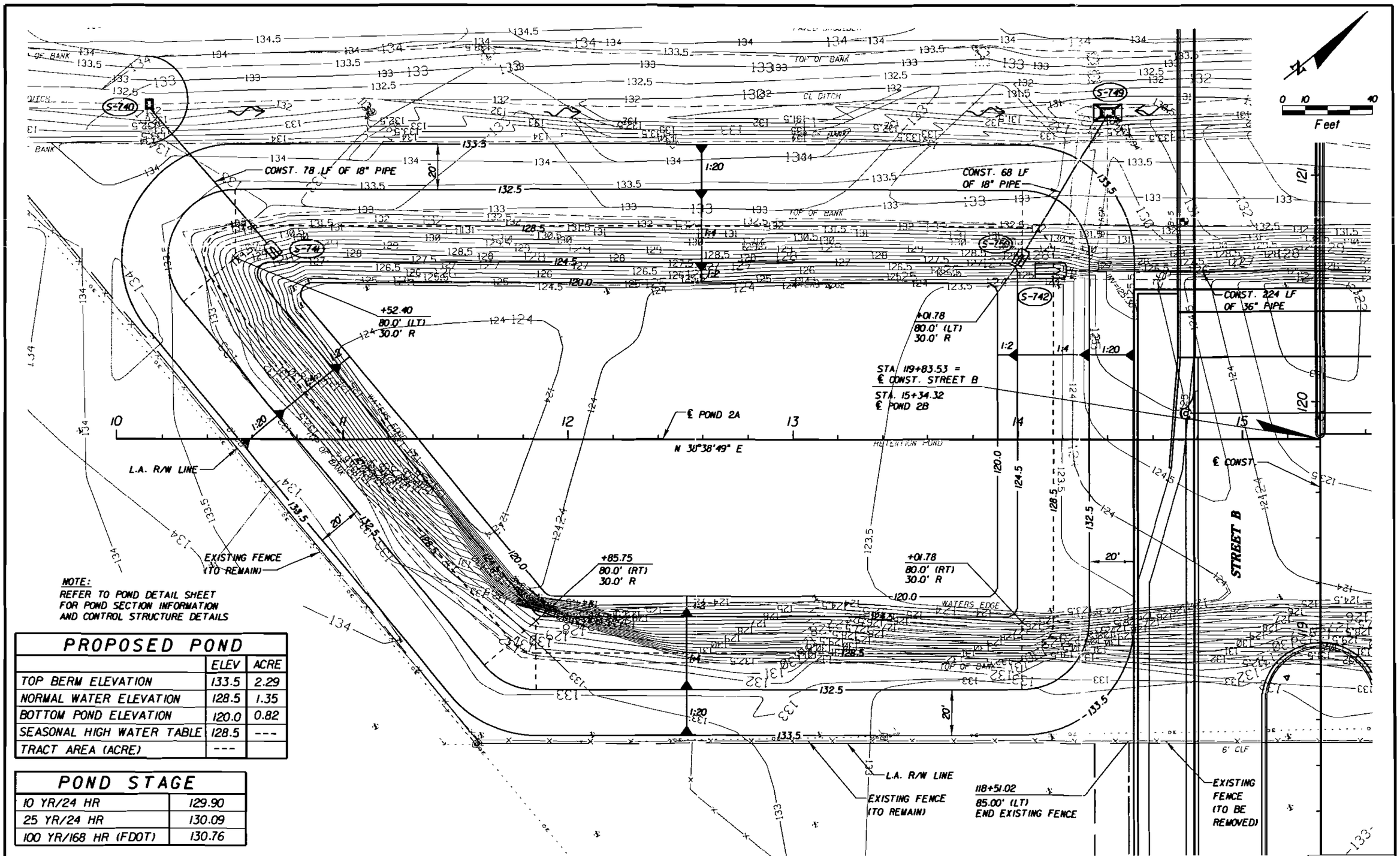


NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS

PROPOSED POND		
	ELEV	ACRE
TOP BERM ELEVATION	133.5	2.29
NORMAL WATER ELEVATION	128.5	1.35
BOTTOM POND ELEVATION	120.0	0.82
SEASONAL HIGH WATER TABLE	128.5	---
TRACT AREA (ACRE)	---	

POND STAGE	
10 YR/24 HR	129.90
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

POND 2A

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

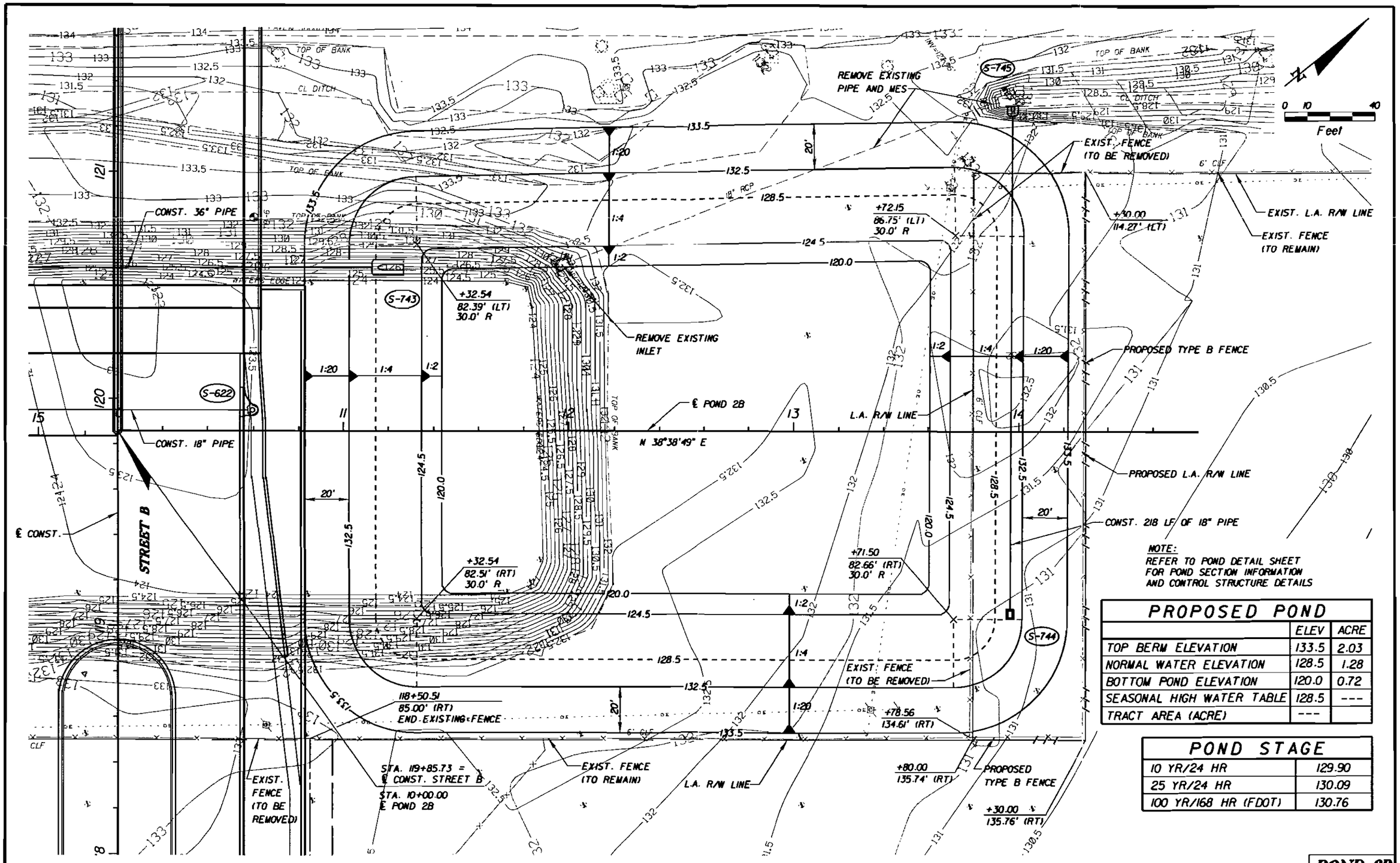
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

PROPOSED RETENTION POND

SHEET NO. 24

1/31/2008 3:25:13 PM q:\ROADWAY\049280002_FentonSt\drainage\RETARD01_N.dgn



NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS

PROPOSED POND		
	ELEV	ACRE
TOP BERM ELEVATION	133.5	2.03
NORMAL WATER ELEVATION	128.5	1.28
BOTTOM POND ELEVATION	120.0	0.72
SEASONAL HIGH WATER TABLE	128.5	---
TRACT AREA (ACRE)	---	

POND STAGE	
10 YR/24 HR	129.90
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

POND 2B

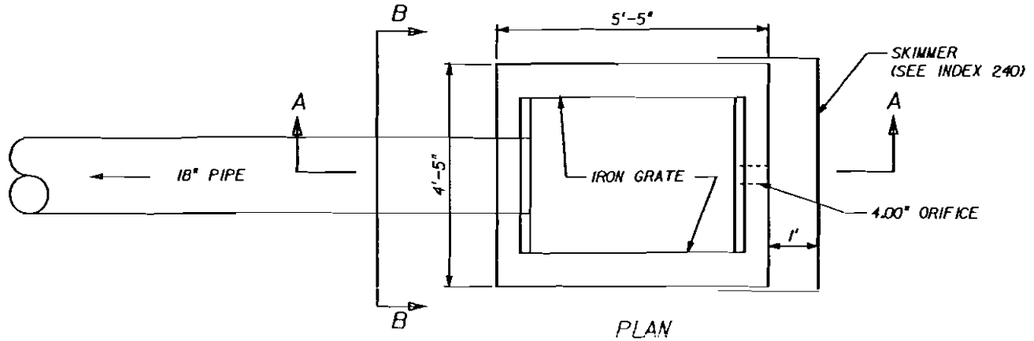
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

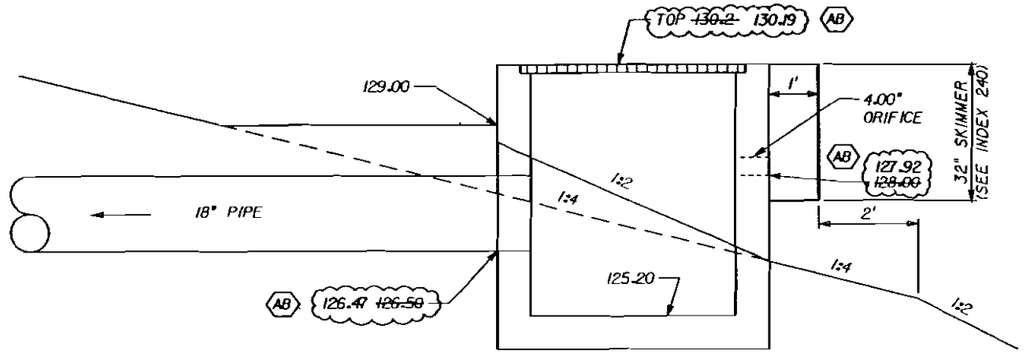
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

PROPOSED RETENTION POND

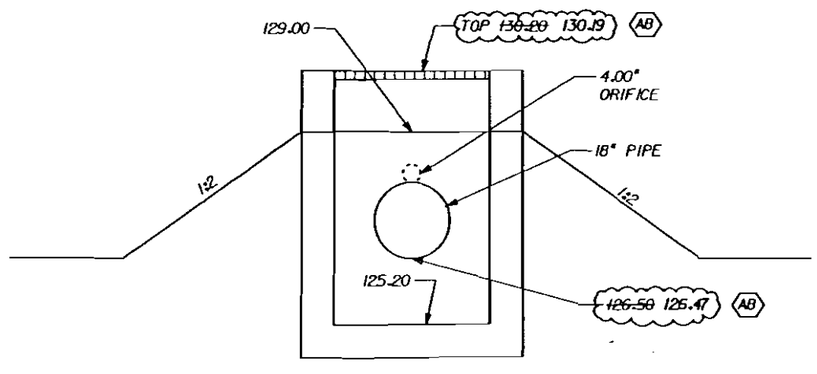
SHEET NO. 25



PLAN

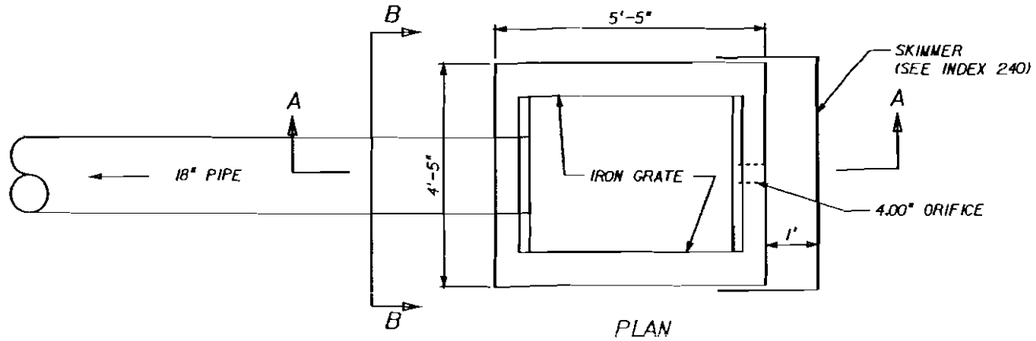


SECTION A-A

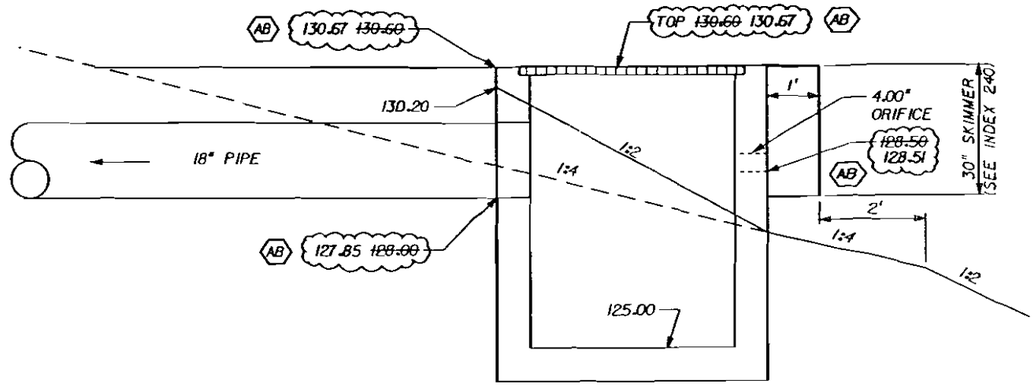


SECTION B-B

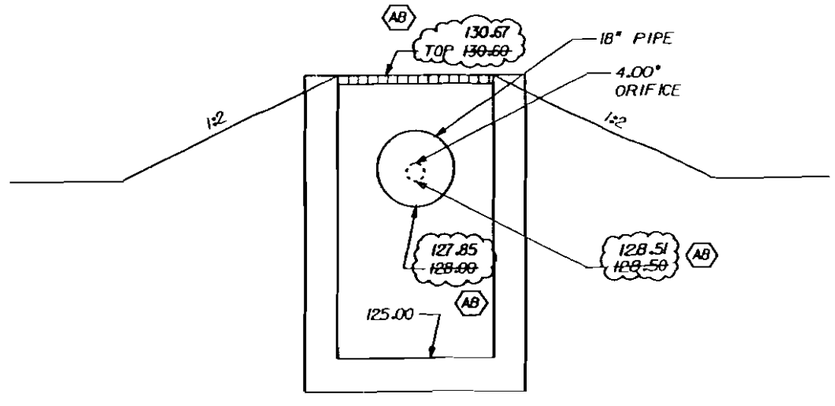
S-15
POND 1 CONTROL STRUCTURE
(TYPE D BOX)



PLAN



SECTION A-A



SECTION B-B

S-10
POND 2 CONTROL STRUCTURE
(TYPE D BOX)

TONY L. MELTON, P.E. #40398

AS-BUILT

REVISIONS		
DATE	BY	DESCRIPTION
11-1-02	TLM	(AB) AS-BUILT

HNTB CORPORATION
5850 T.G. LEE BLVD., SUITE 600
ORLANDO, FL 32822
PH. 407-859-8380
CA #6500

JONES BROS. | Ranger | HNTB

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 400	ORANGE	405515-1-52-01

I-4 AUXILIARY LANES
CONTROL STRUCTURE DETAILS

SHEET NO. 26

==== Basins ====

Name: BasinEB
Group: BASE
Node: Pond 2
Type: SCS Unit Hydrograph
Status. Onsite

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	8.300	Time Shift(hrs):	0.00
Curve Number:	88.40	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: BasinWB
Group: BASE
Node: Pond 1
Type: SCS Unit Hydrograph
Status: Onsite

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	12.120	Time Shift(hrs):	0.00
Curve Number:	85.70	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: ExBasinEB
Group: BASE
Node: ExPond2EB
Type: SCS Unit Hydrograph
Status: Onsite

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	8.800	Time Shift(hrs):	0.00
Curve Number:	86.10	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: ExBasinWB
Group: BASE
Node: ExPond1WB
Type: SCS Unit Hydrograph
Status: Onsite

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	11.750	Time Shift(hrs):	0.00
Curve Number:	80.30	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

==== Nodes ====

Name: ExPond1WB
Group: BASE
Type: Stage/Area
Base Flow(cfs): 0.000
Init Stage(ft): 128.000
Warn Stage(ft): 131.800

Stage(ft)	Area(ac)
128.000	2.9000
128.750	3.0300
129.500	3.1700
130.250	3.3000
131.000	3.4300
131.800	4.1800

Name: ExPond2EB
Group: BASE
Type: Stage/Area
Base Flow(cfs): 0.000
Init Stage(ft): 128.500
Warn Stage(ft): 132.500

Stage(ft)	Area(ac)

128.500	2.3800
129.250	2.5000
130.000	2.6100
130.750	2.7300
131.500	2.8400
132.500	3.5000

Name: ExSwaleEB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

Name: ExSwaleWB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

Name: Pond 1 Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 132.000
Type: Stage/Area

Stage(ft)	Area(ac)
128.000	2.8000
128.670	2.9000
129.330	3.0000
130.000	3.1100
131.000	3.2600
132.000	3.8900

Name: Pond 2 Base Flow(cfs): 0.000 Init Stage(ft): 128.500
Group: BASE Warn Stage(ft): 132.500
Type: Stage/Area

Stage(ft)	Area(ac)
128.500	2.6300
128.830	2.6900
129.170	2.7400
129.500	2.8000
130.500	2.9600
132.500	3.2900
133.500	4.3200

Name: SwaleEB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

Name: SwaleWB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000

Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
360.00	128.000

==== Drop Structures ==========

Name: ExS-10 From Node: ExPond2EB Length(ft): 200.00
Group: BASE To Node: ExSwaleEB Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	127.850	127.960	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete. Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 2 EB discharging into the I-4 EB Swale eventually to Big Sand Lake

*** Weir 1 of 2 for Drop Structure ExS-10 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600

Span(in): 4.00 Invert(ft): 128.510
Rise(in): 4.00 Control Elev(ft): 128.510

*** Weir 2 of 2 for Drop Structure ExS-10 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Horizontal Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 49.00 Invert(ft): 130.670
Rise(in): 37.00 Control Elev(ft): 130.670

Name: ExS-15 From Node: ExPond1WB Length(ft): 58.00
Group: BASE To Node: ExSwaleWB Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	126.470	126.980	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 1 WB discharging into the I-4 WB Swale to Big Sand Lake

*** Weir 1 of 2 for Drop Structure ExS-15 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600

```
              Span(in): 4.00                    Invert(ft): 127.920
              Rise(in): 4.00                 Control Elev(ft): 128.000

*** Weir 2 of 2 for Drop Structure ExS-15 ***
                                                                    TABLE
                 Count: 1                    Bottom Clip(in): 0.000
                  Type: Horizontal              Top Clip(in): 0.000
                  Flow: Both                  Weir Disc Coef: 3.200
              Geometry: Rectangular         Orifice Disc Coef: 0.600

              Span(in): 49.00                   Invert(ft): 130.190
              Rise(in): 37.00                Control Elev(ft): 130.200


------ ---------------------------------------- ----------------------------------------------------------
        Name: S-744              From Node: Pond 2            Length(ft): 219.00
       Group: BASE                 To Node: SwaleEB               Count: 1

              UPSTREAM       DOWNSTREAM              Friction Equation: Average Conveyance
    Geometry: Circular       Circular              Solution Algorithm: Automatic
    Span(in): 18.00          18.00                            Flow: Both
    Rise(in): 18.00          18.00                 Entrance Loss Coef: 0.500
  Invert(ft): 127.850        127.960                   Exit Loss Coef: 1.000
 Manning's N: 0.012000       0.012000                Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                    Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                      Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 2 EB discharging into the I-4 EB Swale eventually to Big Sand Lake

*** Weir 1 of 2 for Drop Structure S-744 ***
                                                                    TABLE
                 Count: 1                    Bottom Clip(in): 0.000
                  Type: Vertical: Mavis         Top Clip(in): 0.000
                  Flow: Both                  Weir Disc Coef: 3.200
              Geometry: Circular            Orifice Disc Coef: 0.600

              Span(in): 4.00                    Invert(ft): 128.500
              Rise(in): 4.00                 Control Elev(ft): 128.500

*** Weir 2 of 2 for Drop Structure S-744 ***
                                                                    TABLE
                 Count: 1                    Bottom Clip(in): 0.000
                  Type: Horizontal              Top Clip(in): 0.000
                  Flow: Both                  Weir Disc Coef: 3.200
              Geometry: Rectangular         Orifice Disc Coef: 0.600

              Span(in): 49.00                   Invert(ft): 131.500
              Rise(in): 37.00                Control Elev(ft): 131.500


---------- ---------------------------------------- ----------------------------------------------------------
        Name: S-748              From Node: Pond 1            Length(ft): 58.00
       Group: BASE                 To Node: SwaleWB               Count: 1

              UPSTREAM       DOWNSTREAM              Friction Equation: Average Conveyance
    Geometry: Circular       Circular              Solution Algorithm: Automatic
    Span(in): 18.00          18.00                            Flow: Both
    Rise(in): 18.00          18.00                 Entrance Loss Coef: 0.500
  Invert(ft): 126.470        126.980                   Exit Loss Coef: 1.000
 Manning's N: 0.012000       0.012000                Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000          0.000                    Inlet Ctrl Spec: Use dn
Bot Clip(in): 0.000          0.000                      Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 1 WB discharging into the I 4 WB Swale to Big Sand Lake
Revised Existing 4" Orifice to a 3" Orifice (6-1-2005)

*** Weir 1 of 2 for Drop Structure S-748 ***
                                                                    TABLE
                 Count: 1                    Bottom Clip(in): 0.000
                  Type: Vertical: Mavis         Top Clip(in): 0.000
                  Flow: Both                  Weir Disc Coef: 3.200
```

```
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 3.00                        Invert(ft): 127.920
              Rise(in): 3.00                 Control Elev(ft): 128.000

*** Weir 2 of 2 for Drop Structure S-748 ***
                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal               Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 49.00                       Invert(ft): 131.000
              Rise(in): 37.00                Control Elev(ft): 131.000


==========================================================================================
==== Hydrology Simulations ===============================================================
==========================================================================================

         Name: 002Y001H
     Filename: H:\049280002-Fenton Design\ICPR\002Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: FDOT-1
    Rainfall Amount(in): 2.40

Time(hrs)       Print Inc(min)
--------------- --------------
2.000           2.50

---------------------------------------------------------------------------------------------
         Name: 002Y002H
     Filename: H:\049280002 Fenton Design\ICPR\002Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: FDOT-2
    Rainfall Amount(in): 2.90

Time(hrs)       Print Inc(min)
--------------- --------------
4.000           2.50

---------------------------------------------------------------------------------------------
         Name: 002Y004H
     Filename: H:\049280002-Fenton Design\ICPR\002Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: FDOT-4
    Rainfall Amount(in): 3.30

Time(hrs)       Print Inc(min)
--------------- --------------
5.000           5.00

---------------------------------------------------------------------------------------------
         Name: 002Y008H
     Filename: H:\049280002-Fenton Design\ICPR\002Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: FDOT-8
    Rainfall Amount(in): 3.80

Time(hrs)       Print Inc(min)
--------------- --------------
9.000           5.00

---------------------------------------------------------------------------------------------
         Name: 002Y024H
     Filename: H:\049280002-Fenton Design\ICPR\002Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: FDOT 24
    Rainfall Amount(in): 4.80

Time(hrs)       Print Inc(min)
--------------- --------------
10.000          5.00
```

12.000	1.00
30.000	5.00

Name: 002Y072H
Filename: H:\049280002-Fenton Design\ICPR\002Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 5.90

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 002Y168H
Filename: H:\049280002-Fenton Design\ICPR\002Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 7.50

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 002Y240H
Filename: H:\049280002-Fenton Design\ICPR\002Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 8.40

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 005Y001H
Filename: H:\049280002-Fenton Design\ICPR\005Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 2.95

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 005Y002H
Filename: H:\049280002-Fenton Design\ICPR\005Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 3.50

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 005Y004H
Filename: H:\049280002-Fenton Design\ICPR\005Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 4.10

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 005Y008H
Filename: H:\049280002-Fenton Design\ICPR\005Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 4.85

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 005Y024H
Filename: H:\049280002-Fenton Design\ICPR\005Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT 24
Rainfall Amount(in): 6.25

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 005Y072H
Filename: H:\049280002-Fenton Design\ICPR\005Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 7.60

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 005Y168H
Filename: H:\049280002-Fenton Design\ICPR\005Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 9.50

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 005Y240H
Filename: H:\049280002-Fenton Design\ICPR\005Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 010Y001H
Filename: H:\049280002-Fenton Design\ICPR\010Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 3.25

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 010Y002H
Filename: H:\049280002-Fenton Design\ICPR\010Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 010Y004H
Filename: H:\049280002-Fenton Design\ICPR\010Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 4.70

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 010Y008H
Filename: H:\049280002-Fenton Design\ICPR\010Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 5.60

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 010Y024H
Filename: H:\049280002-Fenton Design\ICPR\010Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 7.40

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 010Y072H
Filename: H:\049280002-Fenton Design\ICPR\010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 9.00

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 010Y168H
Filename: H:\049280002-Fenton Design\ICPR\010Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 010Y240H
Filename: H:\049280002-Fenton Design\ICPR\010Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 025Y001H
Filename: H:\049280002-Fenton Design\ICPR\025Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 3.75

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 025Y002H
Filename: H:\049280002-Fenton Design\ICPR\025Y002H.R32

Override Defaults: Yes

Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 4.50

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 025Y004H
Filename: H:\049280002-Fenton Design\ICPR\025Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 5.40

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 025Y008H
Filename: H:\049280002-Fenton Design\ICPR\025Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 6.55

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 025Y024H
Filename: H:\049280002-Fenton Design\ICPR\025Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 025Y072H
Filename: H:\049280002-Fenton Design\ICPR\025Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 10.50

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 025Y168H
Filename: H:\049280002-Fenton Design\ICPR\025Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 13.20

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00

152.000	1.00
166.000	5.00
192.000	5.00

Name: 025Y240H
Filename: H:\049280002-Fenton Design\ICPR\025Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 050Y001H
Filename: H:\049280002 Fenton Design\ICPR\050Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 4.10

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 050Y002H
Filename: H:\049280002-Fenton Design\ICPR\050Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 5.00

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 050Y004H
Filename: H:\049280002-Fenton Design\ICPR\050Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 6.05

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 050Y008H
Filename: H:\049280002-Fenton Design\ICPR\050Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 7.30

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 050Y024H
Filename: H:\049280002-Fenton Design\ICPR\050Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00

Rainfall File: FDOT-24
Rainfall Amount(in): 9.60

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 050Y072H
Filename: H:\049280002-Fenton Design\ICPR\050Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT 72
Rainfall Amount(in): 12.30

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1 00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 050Y168H
Filename: H:\049280002-Fenton Design\ICPR\050Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5 00
192.000	5.00

Name: 050Y240H
Filename: H:\049280002-Fenton Design\ICPR\050Y240H R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 17.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160 000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 100Y001H
Filename: H:\049280002-Fenton Design\ICPR\100Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 4.50

Time(hrs)	Print Inc(min)
2.000	2 50

Name: 100Y002H

Filename: H:\049280002-Fenton Design\ICPR\100Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 5.50

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 100Y004H
Filename: H:\049280002-Fenton Design\ICPR\100Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 6.60

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 100Y008H
Filename: H:\049280002-Fenton Design\ICPR\100Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 100Y024H
Filename: H:\049280002-Fenton Design\ICPR\100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 100Y072H
Filename: H:\049280002-Fenton Design\ICPR\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT 72
Rainfall Amount(in): 13.90

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 100Y168H
Filename: H:\049280002-Fenton Design\ICPR\100Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 17.00

Time(hrs)	Print Inc(min)

9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 100Y240H
Filename: H:\049280002-Fenton Design\ICPR\100Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 18.80

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: I-410024
Filename: H:\049280002-Fenton Design\ICPR\I-410024.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
6.000	15.00
8.000	10.00
15.000	5.00
18.000	10.00
24.000	15.00
36.000	15.00

Name: I-410072
Filename: H:\049280002 Fenton Design\ICPR\I-410072.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
50.000	15.00
55.000	10.00
62.000	5.00
72.000	10.00
80.000	15.00
100.000	15.00

Name: I-42524
Filename: H:\049280002-Fenton Design\ICPR\I-42524.R32

Override Defaults: No

Time(hrs)	Print Inc(min)
6.000	15.00
8.000	10.00
15.000	5.00
18.000	10.00
24.000	15.00
36.000	15.00

Name: I 42572
Filename: H:\049280002-Fenton Design\ICPR\I-42572.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 9.90

Time(hrs)       Print Inc(min)
--------------- --------------
50.000          15.00
55.000          10.00
62.000          5.00
72.000          10.00
80.000          15.00
100.000         15.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 002Y001R            Hydrology Sim: 002Y001H
     Filename: H:\049280002-Fenton Design\ICPR\002Y001R.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 2.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- --------------
2.000           1.000
4.000           5.000

Group           Run
--------------- -----
BASE            Yes

--------------------------------------------------------------------------------
         Name: 002Y002R            Hydrology Sim: 002Y002H
     Filename: H:\049280002-FENTON DESIGN\ICPR\002Y002R.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 4.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- --------------
4.000           1.000
8.000           5.000

Group           Run
--------------- -----
BASE            Yes

--------------------------------------------------------------------------------
         Name: 002Y004H            Hydrology Sim: 002Y004H
     Filename: H:\049280002-Fenton Design\ICPR\002Y004R.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 8.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
```

8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 002Y008H Hydrology Sim: 002Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\002Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 002Y024H Hydrology Sim: 002Y024H
Filename: H:\049280002-Penton Design\ICPR\002Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10 0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 002Y072H Hydrology Sim: 002Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\002Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000

68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 002Y168H Hydrology Sim: 002Y168H
Filename: H:\049280002 Fenton Design\ICPR\002Y168H.I32

Execute: Yes Restart: No Patch No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 002Y240H Hydrology Sim: 002Y240H
Filename: H:\049280002-Fenton Design\ICPR\002Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 005Y001R Hydrology Sim: 005Y001H
Filename: H:\049280002-Fenton Design\ICPR\005Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 005Y002H Hydrology Sim: 005Y002H
Filename: H:\049280002-Fenton Design\ICPR\005Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 005Y004H Hydrology Sim: 005Y004H
Filename: H:\049280002-Fenton Design\ICPR\005Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 005Y008H Hydrology Sim: 005Y008H
Filename: H:\049280002-PENTON DESIGN\ICPR\005Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run

BASE Yes

Name: 005Y024H Hydrology Sim: 005Y024H
Filename: H:\049280002-Fenton Design\ICPR\005Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 005Y072H Hydrology Sim: 005Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\005Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 005Y168H Hydrology Sim: 005Y168H
Filename: H:\049280002-Fenton Design\ICPR\005Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000

192.000 5.000

Group	Run
BASE	Yes

Name: 005Y240H Hydrology Sim: 005Y240H
Filename: H:\049280002-Fenton Design\ICPR\005Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 010Y001R Hydrology Sim: 010Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\010Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 010Y002H Hydrology Sim: 010Y002H
Filename: H:\049280002-Fenton Design\ICPR\010Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 010Y004H Hydrology Sim: 010Y004H
Filename: H:\049280002-Fenton Design\ICPR\010Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 010Y008H Hydrology Sim: 010Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\010Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 010Y024H Hydrology Sim: 010Y024H
Filename: H:\049280002-Fenton Design\ICPR\010Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 010Y072H Hydrology Sim: 010Y072H
Filename: H:\049280002 FENTON DESIGN\ICPR\010Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 010Y168H Hydrology Sim: 010Y168H
Filename: H:\049280002-Fenton Design\ICPR\010Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 010Y240H Hydrology Sim: 010Y240H
Filename: H:\049280002-Fenton Design\ICPR\010Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000

208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name 025Y001R Hydrology Sim: 025Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 025Y002H Hydrology Sim: 025Y002H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 025Y004H Hydrology Sim 025Y004H
Filename: H:\049280002-Fenton Design\ICPR\025Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 025Y008H Hydrology Sim: 025Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 025Y024H Hydrology Sim: 025Y024H
Filename: H:\049280002-Fenton Design\ICPR\025Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 025Y072H Hydrology Sim: 025Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 025Y168H Hydrology Sim: 025Y168H
Filename: H:\049280002 Fenton Design\ICPR\025Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 025Y240H Hydrology Sim: 025Y240H
Filename: H:\049280002-Fenton Design\ICPR\025Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 050Y001R Hydrology Sim: 050Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\050Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run

BASE	Yes

Name: 050Y002H Hydrology Sim: 050Y002H
Filename: H:\049280002-FENTON DESIGN\ICPR\050Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 050Y004H Hydrology Sim: 050Y004H
Filename: H:\049280002-Fenton Design\ICPR\050Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 050Y008H Hydrology Sim: 050Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\050Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 050Y024H Hydrology Sim: 050Y024H
Filename: H:\049280002-Fenton Design\ICPR\050Y024H.I32

```
      Execute: Yes          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                      Delta Z Factor: 1.00000
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                      End Time(hrs): 30.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
        Boundary Stages:                           Boundary Flows:


Time(hrs)        Print Inc(min)
--------------- ------- -------
10.000           5.000
12.000           1.000
30.000           5.000

Group            Run
--------------- -----
BASE             Yes


------------------------------------------------------------------------------------------
         Name: 050Y072H            Hydrology Sim: 050Y072H
     Filename: H:\049280002-FENTON DESIGN\ICPR\050Y072H.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                      Delta Z Factor: 1.00000
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                      End Time(hrs): 80.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
        Boundary Stages:                           Boundary Flows:


Time(hrs)        Print Inc(min)
--------------- ---------------
8.000            5.000
9.000            1.000
16.000           5.000
33.000           1.000
41.000           5.000
56.000           1.000
68.000           5.000
100.000          5.000

Group            Run
--------------- -----
BASE             Yes


------------------------------------------------------------------------------------------
         Name: 050Y168H            Hydrology Sim: 050Y168H
     Filename: H:\049280002-Fenton Design\ICPR\050Y168H.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                      Delta Z Factor: 1.00000
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                      End Time(hrs): 192.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
        Boundary Stages:                           Boundary Flows:


Time(hrs)        Print Inc(min)
--------------- ---------------
9.000            5.000
24.000           1.000
48.000           5.000
152.000          1.000
166.000          5.000
192.000          5.000

Group            Run
------------- -- -----
BASE             Yes
```

Name: 050Y240H Hydrology Sim: 050Y240H
Filename: H:\049280002-Fenton Design\ICPR\050Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 100Y001R Hydrology Sim: 100Y001R
Filename: H:\049280002-FENTON DESIGN\ICPR\100Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 100Y002H Hydrology Sim: 100Y002H
Filename: H:\049280002-FENTON DESIGN\ICPR\100Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

```
        Name: 100Y004H            Hydrology Sim: 100Y004H
    Filename: H:\049280002-Fenton Design\ICPR\100Y004R.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 8.00
    Min Calc Time(sec): 10.0000               Max Calc Time(sec): 300.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------- ---- -------------- --
8.000           1.000
12.000          5.000

Group           Run
------------ - -----
BASE            Yes
```

```
        Name: 100Y008H            Hydrology Sim: 100Y008H
    Filename: H:\049280002-FENTON DESIGN\ICPR\100Y008R.I32

     Execnte: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 16.00
    Min Calc Time(sec): 10.0000               Max Calc Time(sec): 300.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
------------ ------ --------
12.000          1.000
18.000          5.000

Group           Run
-- ----- ------  ----
BASE            Yes
```

```
        Name: 100Y024H            Hydrology Sim: 100Y024H
    Filename: H:\049280002-Fenton Design\ICPR\100Y024H.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 10.0000               Max Calc Time(sec): 300.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
---------- ---- -------------
10.000          5.000
12.000          1.000
30.000          5.000

Group           Run
------------ -----
BASE            Yes
```

```
        Name: 100Y072H            Hydrology Sim: 100Y072H
    Filename: H:\049280002-FENTON DESIGN\ICPR\100Y072H.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No
```

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 100Y168H Hydrology Sim: 100Y168H
Filename: H:\049280002-Fenton Design\ICPR\100Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 100Y240H Hydrology Sim: 100Y240H
Filename: H:\049280002-Fenton Design\ICPR\100Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: I-410024 Hydrology Sim: I-410024
Filename: H:\049280002-Fenton Design\ICPR\I-410024.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
6.000	15.000
8.000	10.000
15.000	5.000
18.000	10.000
24.000	15.000
48.000	15.000

Group	Run
BASE	Yes

Name: I-410072 Hydrology Sim: I-410072
Filename: H:\049280002-Fenton Design\ICPR\I-410072.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 96.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000
55.000	10.000
62.000	5.000
72.000	10.000
80.000	15.000
100.000	15.000

Group	Run
BASE	Yes

Name: I-42524 Hydrology Sim: I 42524
Filename: H:\049280002-Fenton Design\ICPR\I-42524.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
6.000	15.000
8.000	10.000
15.000	5.000
18.000	10.000
24.000	15.000
48.000	15.000

Group	Run
BASE	Yes

Name: I 42572 Hydrology Sim: I-42572
Filename: H:\049280002-Fenton Design\ICPR\I-42572.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 96.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000
55.000	10.000
62.000	5.000
72.000	10.000
80.000	15.000
100.000	15.000

Group	Run
BASE	Yes

==== Boundary Conditions ====

```
            Basin Name: BasinEB
            Group Name: BASE
            Simulation: I-42524
             Node Name: Pond2EB
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh323
          Peaking Fator: 323.0
   Spec Time Inc (min): 1.33
   Comp Time Inc (min): 1.33
          Rainfall File: Orange
  Rainfall Amount (in): 8.600
  Storm Duration (hrs): 24.00
                Status: Onsite
    Time of Conc (min): 10.00
      Time Shift (hrs): 0.00
              Area (ac): 8.300
  Vol of Unit Hyd (in): 1.001
          Curve Number: 88.400
               DCIA (%): 0.000

         Time Max (hrs): 9.00
        Flow Max (cfs): 13.961
    Runoff Volume (in): 7.207
   Runoff Volume (ft3): 217136.278
```

```
            Basin Name: BasinWB
            Group Name: BASE
            Simulation: I-42524
             Node Name: Pond1WB
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh323
          Peaking Fator: 323.0
   Spec Time Inc (min): 1.33
   Comp Time Inc (min): 1.33
          Rainfall File: Orange
  Rainfall Amount (in): 8.600
  Storm Duration (hrs): 24.00
                Status: Onsite
    Time of Conc (min): 10.00
      Time Shift (hrs): 0.00
              Area (ac): 12.120
  Vol of Unit Hyd (in): 1.000
          Curve Number: 85.500
               DCIA (%): 0.000

         Time Max (hrs): 9.00
        Flow Max (cfs): 19.824
    Runoff Volume (in): 6.857
   Runoff Volume (ft3): 301665.817
```

```
            Basin Name: ExBasinEB
            Group Name: BASE
            Simulation: I-42524
             Node Name: ExPond2EB
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh323
          Peaking Fator: 323.0
   Spec Time Inc (min): 1.33
   Comp Time Inc (min): 1.33
          Rainfall File: Orange
  Rainfall Amount (in): 8.600
  Storm Duration (hrs): 24.00
                Status: Onsite
    Time of Conc (min): 10.00
      Time Shift (hrs): 0.00
              Area (ac): 8.800
  Vol of Unit Hyd (in): 1.000
          Curve Number: 86.100
               DCIA (%): 0.000

         Time Max (hrs): 9.00
        Flow Max (cfs): 14.484
    Runoff Volume (in): 6.929
   Runoff Volume (ft3): 221346.093
```

Basin Name:	ExBasinWB
Group Name:	BASE
Simulation:	I-42524
Node Name:	ExPond1WB
Basin Type:	SCS Unit Hydrograph
Unit Hydrograph:	Uh323
Peaking Fator:	323.0
Spec Time Inc (min):	1.33
Comp Time Inc (min):	1.33
Rainfall File:	Orange
Rainfall Amount (in):	8.600
Storm Duration (hrs):	24.00
Status:	Onsite
Time of Conc (min):	10.00
Time Shift (hrs):	0.00
Area (ac):	11.750
Vol of Unit Hyd (in):	1.000
Curve Number:	80.300
DCIA (%):	0.000
Time Max (hrs):	9.00
Flow Max (cfs):	18.034
Runoff Volume (in):	6.229
Runoff Volume (ft3):	265662.449

Street 'B'
5-24-2005
Rest Area Ponds Modified (5-26-05)

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond1WB	BASE	I-42524	20.23	129.808	131.800	0.0398	140414	8.98	18.006	23.98	0.527
ExPond2EB	BASE	I-42524	19.15	130.278	132.500	0.0384	115627	8.98	14.472	19.15	0.531
ExSwaleEB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	19.15	0.531	0.00	0.000
ExSwaleWB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	23.98	0.527	0.00	0.000
Pond1WB	BASE	I-42524	20.15	130.211	132.000	0.0471	131896	8.98	19.806	20.15	0.683
Pond2EB	BASE	I-42524	20.15	130.006	132.500	0.0319	137292	8.98	13.953	20.15	0.486
SwaleEB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	20.15	0.486	0.00	0.000
SwaleWB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	20.15	0.683	0.00	0.000

1.06 CFS

1.17 CFS

Street "B" over I-4
Existing and Revised Ponds on I-4
January 2, 2008

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond1WB	BASE	002Y001R	1.47	128.276	131.800	0.0309	128410	0.69	20.617	1.47	0.166
ExPond1WB	BASE	002Y002R	2.47	128.389	131.800	0.0270	129263	0.85	18.287	2.47	0.231
ExPond1WB	BASE	002Y004H	4.31	128.484	131.800	0.0253	129981	2.47	11.038	4.31	0.265
ExPond1WB	BASE	002Y008H	8.31	128.596	131.800	0.0286	130821	3.97	12.541	8.31	0.300
ExPond1WB	BASE	002Y024H	24.14	128.793	131.800	0.0088	132333	11.97	3.950	24.14	0.353
ExPond1WB	BASE	002Y072H	68.22	128.915	131.800	0.0061	133332	59.97	3.011	68.22	0.382
ExPond1WB	BASE	002Y168H	168.06	128.991	131.800	0.0047	133945	159.89	2.421	168.06	0.399
ExPond1WB	BASE	002Y240H	192.47	128.996	131.800	0.0063	133986	183.89	3.153	192.47	0.400
ExPond1WB	BASE	005Y001R	1.47	128.405	131.800	0.0448	129385	0.69	29.906	1.47	0.237
ExPond1WB	BASE	005Y002R	2.44	128.539	131.800	0.0375	130394	0.85	25.513	2.44	0.282
ExPond1WB	BASE	005Y004H	4.31	128.692	131.800	0.0350	131546	2.47	15.229	4.31	0.327
ExPond1WB	BASE	005Y008H	8.31	128.873	131.800	0.0407	132988	3.97	17.960	8.31	0.372
ExPond1WB	BASE	005Y024H	24.14	129.171	131.800	0.0127	135409	11.97	5.748	24.14	0.436
ExPond1WB	BASE	005Y072H	68.31	129.310	131.800	0.0082	136541	59.97	4.060	68.31	0.463
ExPond1WB	BASE	005Y168H	168.06	129.350	131.800	0.0061	136868	159.89	3.143	168.06	0.470
ExPond1WB	BASE	005Y240H	216.06	129.408	131.800	0.0087	137339	183.89	4.254	216.06	0.481
ExPond1WB	BASE	010Y001R	1.52	128.480	131.800	0.0528	129949	0.69	35.207	1.52	0.263
ExPond1WB	BASE	010Y002H	2.44	128.670	131.800	0.0468	131381	0.85	31.788	2.44	0.321
ExPond1WB	BASE	010Y004H	4.31	128.853	131.800	0.0431	132827	2.06	18.759	4.31	0.368
ExPond1WB	BASE	010Y008H	8.31	129.078	131.800	0.0494	134655	3.97	21.884	8.31	0.417
ExPond1WB	BASE	010Y024H	24.14	129.478	131.800	0.0157	137908	11.97	7.187	24.14	0.493
ExPond1WB	BASE	010Y072H	68.39	129.643	131.800	0.0099	139163	59.97	4.918	68.39	0.521
ExPond1WB	BASE	010Y168H	168.06	129.644	131.800	0.0072	139173	159.89	3.681	168.06	0.522
ExPond1WB	BASE	010Y240H	216.06	129.739	131.800	0.0105	139890	183.89	5.095	216.06	0.537
ExPond1WB	BASE	025Y001R	1.50	128.609	131.800	0.0666	130926	0.69	44.299	1.50	0.304
ExPond1WB	BASE	025Y002H	2.52	128.804	131.800	0.0563	132429	0.85	38.219	2.52	0.356
ExPond1WB	BASE	025Y004H	4.31	129.046	131.800	0.0526	134396	2.06	23.056	4.31	0.411
ExPond1WB	BASE	025Y008H	8.31	129.342	131.800	0.0603	136798	3.97	26.878	8.31	0.469
ExPond1WB	BASE	025Y024H	24.14	129.802	131.800	0.0189	140363	11.97	8.690	24.14	0.547
ExPond1WB	BASE	025Y072H	68.47	130.002	131.800	0.0116	141876	59.97	5.831	68.47	0.578
ExPond1WB	BASE	025Y168H	168.14	130.092	131.800	0.0087	142552	159.89	4.465	168.14	0.591
ExPond1WB	BASE	025Y240H	216.14	130.096	131.800	0.0122	142585	183.89	5.931	216.14	0.592
ExPond1WB	BASE	050Y001R	1.50	128.703	131.800	0.0764	131630	0.69	50.809	1.50	0.330
ExPond1WB	BASE	050Y002H	2.46	128.942	131.800	0.0659	133545	0.85	44.761	2.46	0.388
ExPond1WB	BASE	050Y004H	4.36	129.229	131.800	0.0502	135878	2.07	27.127	4.36	0.447
ExPond1WB	BASE	050Y008H	8.31	129.551	131.800	0.0688	138473	3.97	30.822	8.31	0.506
ExPond1WB	BASE	050Y024H	24.14	130.072	131.800	0.0215	142402	11.97	9.940	24.14	0.588
ExPond1WB	BASE	050Y072H	64.22	130.310	131.800	0.0137	144199	59.89	6.920	64.22	2.490
ExPond1WB	BASE	050Y168H	160.14	130.338	131.800	0.0098	144410	159.89	5.104	160.14	3.191
ExPond1WB	BASE	050Y240H	191.97	130.250	131.800	0.0139	143747	183.89	6.764	191.97	1.260
ExPond1WB	BASE	100Y001R	1.52	128.813	131.800	0.0743	132500	0.67	59.439	1.52	0.358
ExPond1WB	BASE	100Y002H	2.51	129.081	131.800	0.0756	134677	0.85	51.380	2.51	0.418
ExPond1WB	BASE	100Y004H	4.31	129.383	131.800	0.0564	137133	2.07	30.545	4.31	0.476
ExPond1WB	BASE	100Y008H	8.31	129.747	131.800	0.0766	139954	3.97	34.500	8.31	0.538
ExPond1WB	BASE	100Y024H	22.14	130.278	131.800	0.0240	143960	11.97	11.187	22.14	1.787
ExPond1WB	BASE	100Y072H	63.97	130.382	131.800	0.0155	144744	59.89	7.885	63.97	4.419
ExPond1WB	BASE	100Y168H	159.97	130.420	131.800	0.0111	145028	159.89	5.812	159.97	5.574
ExPond1WB	BASE	100Y240H	184.14	130.400	131.800	0.0153	144881	183.89	7.512	184.14	4.962
ExPond1WB	BASE	I-410024	15.23	130.248	131.800	0.0503	143733	8.98	23.109	15.23	1.230
ExPond1WB	BASE	I-410072	68.17	130.254	131.800	0.0877	143777	59.97	56.308	68.17	1.328
ExPond1WB	BASE	I-42524	20.23	129.781	131.800	0.0308	140200	8.00	18.006	20.23	0.544
ExPond1WB	BASE	I-42572	72.18	130.055	131.800	0.0875	142278	60.00	50.751	72.18	0.586
ExPond2EB	BASE	002Y001R	1.47	128.852	132.500	0.0385	106126	0.69	20.899	1.47	0.159
ExPond2EB	BASE	002Y002R	2.47	129.070	132.500	0.0330	106948	0.85	18.241	2.47	0.227
ExPond2EB	BASE	002Y004H	4.31	129.067	132.500	0.0287	107622	2.06	10.194	4.31	0.262
ExPond2EB	BASE	002Y008H	8.22	129.174	132.500	0.0312	108373	3.97	11.237	8.22	0.296
ExPond2EB	BASE	002Y024H	24.06	129.353	132.500	0.0093	109558	11.97	3.477	24.06	0.345

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond2EB	BASE	002Y072H	68.14	129.444	132.500	0.0058	110142	59.97	2.413	68.14	0.368
ExPond2EB	BASE	002Y168H	160.64	129.462	132.500	0.0044	110256	159.89	1.884	160.64	0.372
ExPond2EB	BASE	002Y240H	192.22	129.487	132.500	0.0061	110416	183.89	2.462	192.22	0.378
ExPond2EB	BASE	005Y001R	1.47	128.987	132.500	0.0528	107069	0.64	28.662	1.47	0.234
ExPond2EB	BASE	005Y002H	2.44	129.122	132.500	0.0436	108009	0.85	24.136	2.44	0.280
ExPond2EB	BASE	005Y004H	4.31	129.272	132.500	0.0389	109042	2.06	13.907	4.31	0.324
ExPond2EB	BASE	005Y008H	8.22	129.444	132.500	0.0422	110139	3.97	15.372	8.22	0.368
ExPond2EB	BASE	005Y024H	24.06	129.708	132.500	0.0128	111823	11.97	4.836	24.06	0.426
ExPond2EB	BASE	005Y072H	68.22	129.797	132.500	0.0077	112393	59.97	3.187	68.22	0.444
ExPond2EB	BASE	005Y168H	167.97	129.753	132.500	0.0057	112111	159.89	2.417	167.97	0.436
ExPond2EB	BASE	005Y240H	192.31	129.814	132.500	0.0082	112506	183.89	3.276	192.31	0.448
ExPond2EB	BASE	010Y001R	1.46	129.063	132.500	0.0607	107600	0.64	33.140	1.46	0.261
ExPond2EB	BASE	010Y002H	2.44	129.252	132.500	0.0526	108911	0.85	29.131	2.44	0.318
ExPond2EB	BASE	010Y004H	4.31	129.430	132.500	0.0466	110048	2.06	16.719	4.31	0.364
ExPond2EB	BASE	010Y008H	8.22	129.640	132.500	0.0500	111389	3.97	18.322	8.22	0.412
ExPond2EB	BASE	010Y024H	24.06	129.993	132.500	0.0155	113644	11.97	5.909	24.06	0.482
ExPond2EB	BASE	010Y072H	68.22	130.092	132.500	0.0092	114333	59.89	3.820	68.22	0.500
ExPond2EB	BASE	010Y168H	168.06	129.996	132.500	0.0066	113665	159.89	2.815	168.06	0.482
ExPond2EB	BASE	010Y240H	192.39	130.072	132.500	0.0098	114191	183.89	3.897	192.39	0.496
ExPond2EB	BASE	025Y001R	1.50	129.193	132.500	0.0740	108504	0.64	40.727	1.50	0.302
ExPond2EB	BASE	025Y002H	2.43	129.383	132.500	0.0616	109752	0.85	34.168	2.43	0.353
ExPond2EB	BASE	025Y004H	4.31	129.615	132.500	0.0556	111231	2.06	20.011	4.31	0.407
ExPond2EB	BASE	025Y008H	8.31	129.889	132.500	0.0598	112980	3.97	22.043	8.31	0.462
ExPond2EB	BASE	025Y024H	24.14	130.291	132.500	0.0183	115716	11.97	7.023	24.14	0.533
ExPond2EB	BASE	025Y072H	68.22	130.411	132.500	0.0108	116556	59.89	4.494	68.22	0.553
ExPond2EB	BASE	025Y168H	168.06	130.370	132.500	0.0079	116271	159.89	3.396	168.06	0.546
ExPond2EB	BASE	025Y240H	215.97	130.339	132.500	0.0113	116055	183.89	4.517	215.97	0.541
ExPond2EB	BASE	050Y001R	1.50	129.285	132.500	0.0833	109126	0.64	46.103	1.50	0.328
ExPond2EB	BASE	050Y002H	2.46	129.516	132.500	0.0705	110599	0.85	39.229	2.46	0.385
ExPond2EB	BASE	050Y004H	4.28	129.788	132.500	0.0517	112338	2.01	23.160	4.28	0.443
ExPond2EB	BASE	050Y008H	8.31	130.085	132.500	0.0673	114286	3.97	24.968	8.31	0.498
ExPond2EB	BASE	050Y024H	24.14	130.538	132.500	0.0206	117441	11.97	7.946	24.14	0.573
ExPond2EB	BASE	050Y072H	64.47	130.730	132.500	0.0127	118777	59.89	5.300	64.47	1.253
ExPond2EB	BASE	050Y168H	168.06	130.682	132.500	0.0090	118446	159.89	3.871	168.06	0.655
ExPond2EB	BASE	050Y240H	216.06	130.640	132.500	0.0128	118151	183.89	5.135	216.06	0.588
ExPond2EB	BASE	100Y001R	1.46	129.393	132.500	0.0849	109814	0.67	52.406	1.46	0.355
ExPond2EB	BASE	100Y002H	2.43	129.649	132.500	0.0794	111451	0.85	44.303	2.43	0.414
ExPond2EB	BASE	100Y004H	4.31	129.934	132.500	0.0573	113270	2.01	25.784	4.31	0.471
ExPond2EB	BASE	100Y008H	8.31	130.268	132.500	0.0742	115562	3.97	27.688	8.31	0.530
ExPond2EB	BASE	100Y024H	22.14	130.738	132.500	0.0228	118837	11.97	8.866	22.14	1.397
ExPond2EB	BASE	100Y072H	64.06	130.825	132.500	0.0142	119400	59.89	6.014	64.06	3.292
ExPond2EB	BASE	100Y168H	160.06	130.842	132.500	0.0101	119505	159.89	4.397	160.06	3.726
ExPond2EB	BASE	100Y240H	184.39	130.748	132.500	0.0142	118904	183.89	5.690	184.39	1.569
ExPond2EB	BASE	I-410024	15.06	130.720	132.500	0.0478	118710	8.98	18.237	15.06	1.105
ExPond2EB	BASE	I-410072	68.25	130.710	132.500	0.0830	118643	59.97	43.855	68.25	0.966
ExPond2EB	BASE	I-42524	19.15	130.275	132.500	0.0384	115609	8.98	14.472	19.15	0.531
ExPond2EB	BASE	I-42572	72.10	130.504	132.500	0.0828	117201	60.00	39.749	72.10	0.567
ExSwaleEB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.159	0.00	0.000
ExSwaleEB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.47	0.227	0.00	0.000
ExSwaleEB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.262	0.00	0.000
ExSwaleEB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.296	0.00	0.000
ExSwaleEB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.345	0.00	0.000
ExSwaleEB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	68.14	0.368	0.00	0.000
ExSwaleEB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	160.64	0.372	0.00	0.000
ExSwaleEB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	192.22	0.378	0.00	0.000
ExSwaleEB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.234	0.00	0.000
ExSwaleEB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.280	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExSwaleEB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.324	0.00	0.000
ExSwaleEB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.368	0.00	0.000
ExSwaleEB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.426	0.00	0.000
ExSwaleEB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.444	0.00	0.000
ExSwaleEB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	167.97	0.436	0.00	0.000
ExSwaleEB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	192.31	0.448	0.00	0.000
ExSwaleEB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.261	0.00	0.000
ExSwaleEB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.318	0.00	0.000
ExSwaleEB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.364	0.00	0.000
ExSwaleEB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.412	0.00	0.000
ExSwaleEB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.482	0.00	0.000
ExSwaleEB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.500	0.00	0.000
ExSwaleEB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.482	0.00	0.000
ExSwaleEB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	192.39	0.496	0.00	0.000
ExSwaleEB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.302	0.00	0.000
ExSwaleEB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.353	0.00	0.000
ExSwaleEB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.407	0.00	0.000
ExSwaleEB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.462	0.00	0.000
ExSwaleEB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.533	0.00	0.000
ExSwaleEB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.553	0.00	0.000
ExSwaleEB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.546	0.00	0.000
ExSwaleEB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	215.97	0.541	0.00	0.000
ExSwaleEB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.328	0.00	0.000
ExSwaleEB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.46	0.385	0.00	0.000
ExSwaleEB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.28	0.443	0.00	0.000
ExSwaleEB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.498	0.00	0.000
ExSwaleEB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.573	0.00	0.000
ExSwaleEB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	64.47	1.253	0.00	0.000
ExSwaleEB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.655	0.00	0.000
ExSwaleEB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.588	0.00	0.000
ExSwaleEB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.355	0.00	0.000
ExSwaleEB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.414	0.00	0.000
ExSwaleEB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.471	0.00	0.000
ExSwaleEB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.530	0.00	0.000
ExSwaleEB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	22.14	1.397	0.00	0.000
ExSwaleEB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	64.06	3.292	0.00	0.000
ExSwaleEB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	160.06	3.726	0.00	0.000
ExSwaleEB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	184.39	1.569	0.00	0.000
ExSwaleEB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	15.06	1.105	0.00	0.000
ExSwaleEB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	68.25	0.966	0.00	0.000
ExSwaleEB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	19.15	0.531	0.00	0.000
ExSwaleEB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.10	0.567	0.00	0.000
ExSwaleWB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.166	0.00	0.000
ExSwaleWB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.47	0.231	0.00	0.000
ExSwaleWB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.265	0.00	0.000
ExSwaleWB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.300	0.00	0.000
ExSwaleWB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.353	0.00	0.000
ExSwaleWB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.382	0.00	0.000
ExSwaleWB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.399	0.00	0.000
ExSwaleWB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	192.47	0.400	0.00	0.000
ExSwaleWB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.257	0.00	0.000
ExSwaleWB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.282	0.00	0.000
ExSwaleWB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.327	0.00	0.000
ExSwaleWB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.372	0.00	0.000
ExSwaleWB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.436	0.00	0.000
ExSwaleWB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	68.31	0.463	0.00	0.000
ExSwaleWB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.470	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExSwaleWB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.481	0.00	0.000
ExSwaleWB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.263	0.00	0.000
ExSwaleWB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.321	0.00	0.000
ExSwaleWB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.368	0.00	0.000
ExSwaleWB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.417	0.00	0.000
ExSwaleWB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.493	0.00	0.000
ExSwaleWB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	68.39	0.521	0.00	0.000
ExSwaleWB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.522	0.00	0.000
ExSwaleWB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.537	0.00	0.000
ExSwaleWB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.304	0.00	0.000
ExSwaleWB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.52	0.356	0.00	0.000
ExSwaleWB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.411	0.00	0.000
ExSwaleWB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.469	0.00	0.000
ExSwaleWB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.547	0.00	0.000
ExSwaleWB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	68.47	0.578	0.00	0.000
ExSwaleWB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.591	0.00	0.000
ExSwaleWB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	216.14	0.592	0.00	0.000
ExSwaleWB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.330	0.00	0.000
ExSwaleWB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.46	0.388	0.00	0.000
ExSwaleWB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.36	0.447	0.00	0.000
ExSwaleWB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.506	0.00	0.000
ExSwaleWB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.588	0.00	0.000
ExSwaleWB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	64.22	2.490	0.00	0.000
ExSwaleWB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	160.14	3.191	0.00	0.000
ExSwaleWB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	191.97	1.260	0.00	0.000
ExSwaleWB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.358	0.00	0.000
ExSwaleWB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.51	0.418	0.00	0.000
ExSwaleWB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.476	0.00	0.000
ExSwaleWB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.538	0.00	0.000
ExSwaleWB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	22.14	1.787	0.00	0.000
ExSwaleWB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	63.97	4.419	0.00	0.000
ExSwaleWB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	159.97	5.574	0.00	0.000
ExSwaleWB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	184.14	4.962	0.00	0.000
ExSwaleWB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	15.23	1.230	0.00	0.000
ExSwaleWB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	68.17	1.328	0.00	0.000
ExSwaleWB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	20.23	0.544	0.00	0.000
ExSwaleWB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.18	0.586	0.00	0.000
Pond 1	BASE	002Y001R	1.54	128.404	132.000	0.0441	124597	0.69	28.231	1.54	0.142
Pond 1	BASE	002Y002R	2.56	128.545	132.000	0.0378	125512	0.85	24.670	2.56	0.167
Pond 1	BASE	002Y004H	4.39	128.661	132.000	0.0331	126265	2.06	13.811	4.39	0.185
Pond 1	BASE	002Y008H	8.39	128.800	132.000	0.0362	127182	3.97	15.306	8.39	0.205
Pond 1	BASE	002Y024H	24.22	129.055	132.000	0.0110	128868	11.97	4.741	24.22	0.237
Pond 1	BASE	002Y072H	72.06	129.242	132.000	0.0072	130097	59.97	3.311	72.06	0.257
Pond 1	BASE	002Y168H	168.14	129.400	132.000	0.0055	131180	159.89	2.589	168.14	0.274
Pond 1	BASE	002Y240H	216.22	129.405	132.000	0.0074	131215	183.89	3.383	216.22	0.274
Pond 1	BASE	005Y001R	1.54	128.563	132.000	0.0608	125630	0.64	38.785	1.54	0.170
Pond 1	BASE	005Y002H	2.53	128.725	132.000	0.0503	126685	0.85	32.753	2.53	0.194
Pond 1	BASE	005Y004H	4.39	128.905	132.000	0.0451	127873	2.06	18.911	4.39	0.218
Pond 1	BASE	005Y008H	8.39	129.123	132.000	0.0495	129313	3.97	21.000	8.39	0.244
Pond 1	BASE	005Y024H	24.22	129.495	132.000	0.0153	131862	11.97	6.613	24.22	0.283
Pond 1	BASE	005Y072H	72.06	129.720	132.000	0.0095	133479	59.97	4.377	72.06	0.304
Pond 1	BASE	005Y168H	168.14	129.906	132.000	0.0070	134796	159.89	3.324	168.14	0.321
Pond 1	BASE	005Y240H	216.22	129.999	132.000	0.0098	135464	183.89	4.504	216.22	0.329
Pond 1	BASE	010Y001R	1.52	128.653	132.000	0.0701	126212	0.64	44.921	1.52	0.184
Pond 1	BASE	010Y002H	2.52	128.878	132.000	0.0608	127695	0.85	39.613	2.52	0.215
Pond 1	BASE	010Y004H	4.39	129.091	132.000	0.0542	129103	2.06	22.780	4.39	0.241
Pond 1	BASE	010Y008H	8.39	129.356	132.000	0.0588	130869	3.97	25.064	8.39	0.269

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Pond 1	BASE	010Y024H	24.22	129.845	132.000	0.0186	134366	11.97	8.093	24.22	0.316
Pond 1	BASE	010Y072H	72.14	130.119	132.000	0.0113	136250	59.89	5.250	72.14	0.339
Pond 1	BASE	010Y168H	168.14	130.290	132.000	0.0081	137365	159.89	3.872	168.14	0.352
Pond 1	BASE	010Y240H	216.31	130.466	132.000	0.0116	138519	183.89	5.361	216.31	0.366
Pond 1	BASE	025Y001R	1.56	128.805	132.000	0.0857	127215	0.64	55.328	1.56	0.205
Pond 1	BASE	025Y002H	2.52	129.033	132.000	0.0714	128719	0.85	46.538	2.52	0.234
Pond 1	BASE	025Y004H	4.39	129.310	132.000	0.0648	130550	2.06	27.311	4.39	0.265
Pond 1	BASE	025Y008H	8.39	129.653	132.000	0.0703	132990	3.97	30.194	8.39	0.298
Pond 1	BASE	025Y024H	24.22	130.209	132.000	0.0219	136838	11.97	9.629	24.22	0.346
Pond 1	BASE	025Y072H	72.14	130.546	132.000	0.0132	139040	59.89	6.179	72.14	0.372
Pond 1	BASE	025Y168H	168.22	130.856	132.000	0.0096	141062	159.89	4.674	168.22	0.394
Pond 1	BASE	025Y240H	216.31	130.937	132.000	0.0134	141597	183.89	6.215	216.31	0.400
Pond 1	BASE	050Y001R	1.56	128.913	132.000	0.0967	127930	0.64	62.709	1.56	0.219
Pond 1	BASE	050Y002H	2.54	129.189	132.000	0.0820	129752	0.85	53.500	2.54	0.252
Pond 1	BASE	050Y004H	4.45	129.515	132.000	0.0605	132004	2.01	31.634	4.45	0.285
Pond 1	BASE	050Y008H	8.39	129.887	132.000	0.0792	134661	3.97	34.228	8.39	0.319
Pond 1	BASE	050Y024H	24.22	130.510	132.000	0.0247	138805	11.97	10.902	24.22	0.369
Pond 1	BASE	050Y072H	71.97	131.030	132.000	0.0153	142842	59.89	7.290	71.97	0.649
Pond 1	BASE	050Y168H	160.22	131.145	132.000	0.0108	145978	159.89	5.327	160.22	2.928
Pond 1	BASE	050Y240H	192.06	131.069	132.000	0.0151	143899	183.89	7.066	192.06	1.236
Pond 1	BASE	100Y001R	1.52	129.040	132.000	0.0980	128765	0.67	71.432	1.52	0.235
Pond 1	BASE	100Y002H	2.51	129.347	132.000	0.0926	130798	0.85	60.484	2.51	0.268
Pond 1	BASE	100Y004H	4.40	129.687	132.000	0.0671	133236	2.01	35.249	4.40	0.301
Pond 1	BASE	100Y008H	8.39	130.104	132.000	0.0874	136149	3.97	37.979	8.39	0.337
Pond 1	BASE	100Y024H	24.22	130.809	132.000	0.0274	140758	11.97	12.171	24.22	0.391
Pond 1	BASE	100Y072H	64.06	131.181	132.000	0.0172	146986	59.89	8.274	64.06	3.943
Pond 1	BASE	100Y168H	159.97	131.242	132.000	0.0121	148646	159.89	6.052	159.97	5.831
Pond 1	BASE	100Y240H	184.14	131.214	132.000	0.0165	147885	183.89	7.831	184.14	4.934
Pond 1	BASE	I-410024	23.31	130.795	132.000	0.0566	140668	8.98	25.040	23.31	0.390
Pond 1	BASE	I-410072	72.25	130.825	132.000	0.0974	140863	59.97	60.264	72.25	0.392
Pond 1	BASE	I-42524	23.23	130.195	132.000	0.0455	136747	8.98	19.848	23.23	0.345
Pond 1	BASE	I-42572	72.26	130.508	132.000	0.0973	138792	60.00	54.603	72.26	0.369
Pond 2	BASE	002Y001R	1.47	128.841	132.500	0.0368	117245	0.64	22.003	1.47	0.158
Pond 2	BASE	002Y002R	2.47	128.947	132.500	0.0312	117924	0.85	19.020	2.47	0.222
Pond 2	BASE	002Y004H	4.31	129.033	132.500	0.0268	118475	2.06	10.518	4.31	0.254
Pond 2	BASE	002Y008H	8.22	129.129	132.500	0.0283	119089	3.97	11.257	8.22	0.285
Pond 2	BASE	002Y024H	24.06	129.286	132.500	0.0084	120270	11.97	3.460	24.06	0.330
Pond 2	BASE	002Y072H	68.14	129.361	132.500	0.0051	120868	59.97	2.325	68.14	0.350
Pond 2	BASE	002Y168H	160.72	129.368	132.500	0.0038	120925	159.89	1.798	160.72	0.352
Pond 2	BASE	002Y240H	192.22	129.385	132.500	0.0053	121058	183.89	2.352	192.22	0.356
Pond 2	BASE	005Y001R	1.47	128.962	132.500	0.0494	118023	0.64	29.810	1.47	0.228
Pond 2	BASE	005Y002H	2.44	129.082	132.500	0.0405	118792	0.85	24.693	2.44	0.271
Pond 2	BASE	005Y004H	4.31	129.215	132.500	0.0357	119711	2.06	14.058	4.31	0.311
Pond 2	BASE	005Y008H	8.22	129.366	132.500	0.0378	120909	3.97	15.149	8.22	0.351
Pond 2	BASE	005Y024H	24.06	129.597	132.500	0.0114	122641	11.97	4.736	24.06	0.405
Pond 2	BASE	005Y072H	68.22	129.670	132.500	0.0068	123150	59.89	3.049	68.22	0.421
Pond 2	BASE	005Y168H	167.97	129.624	132.500	0.0049	122830	159.89	2.298	167.97	0.411
Pond 2	BASE	005Y240H	192.31	129.670	132.500	0.0071	123156	183.89	3.114	192.31	0.421
Pond 2	BASE	010Y001R	1.46	129.030	132.500	0.0563	118458	0.64	34.145	1.46	0.253
Pond 2	BASE	010Y002H	2.44	129.197	132.500	0.0483	119568	0.85	29.462	2.44	0.306
Pond 2	BASE	010Y004H	4.31	129.354	132.500	0.0423	120609	2.06	16.719	4.31	0.348
Pond 2	BASE	010Y008H	8.22	129.538	132.500	0.0445	122231	3.97	17.915	8.22	0.392
Pond 2	BASE	010Y024H	24.06	129.846	132.500	0.0137	124377	11.97	5.741	24.06	0.456
Pond 2	BASE	010Y072H	68.22	129.928	132.500	0.0080	124950	59.89	3.642	68.22	0.472
Pond 2	BASE	010Y168H	168.06	129.836	132.500	0.0057	124309	159.89	2.671	168.06	0.454
Pond 2	BASE	010Y240H	192.47	129.896	132.500	0.0085	124730	183.89	3.698	192.47	0.466
Pond 2	BASE	025Y001R	1.50	129.145	132.500	0.0678	119196	0.64	41.442	1.50	0.290

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Pond 2	BASE	025Y002H	2.43	129.313	132.500	0.0560	120487	0.85	34.247	2.43	0.338
Pond 2	BASE	025Y004H	4.31	129.516	132.500	0.0500	122080	2.06	19.821	4.31	0.387
Pond 2	BASE	025Y008H	8.31	129.755	132.500	0.0529	123748	3.97	21.400	8.31	0.438
Pond 2	BASE	025Y024H	24.14	130.106	132.500	0.0161	126190	11.97	6.783	24.14	0.504
Pond 2	BASE	025Y072H	68.31	130.207	132.500	0.0094	126898	59.89	4.275	68.31	0.521
Pond 2	BASE	025Y168H	168.06	130.164	132.500	0.0069	126598	159.89	3.217	168.06	0.514
Pond 2	BASE	025Y240H	215.97	130.133	132.500	0.0098	126379	183.89	4.280	215.97	0.508
Pond 2	BASE	050Y001R	1.50	129.227	132.500	0.0759	119803	0.64	46.587	1.50	0.314
Pond 2	BASE	050Y002H	2.46	129.430	132.500	0.0638	121410	0.85	39.037	2.46	0.367
Pond 2	BASE	050Y004H	4.28	129.668	132.500	0.0462	123136	2.01	22.844	4.28	0.420
Pond 2	BASE	050Y008H	8.31	129.927	132.500	0.0593	124945	3.97	24.138	8.31	0.471
Pond 2	BASE	050Y024H	24.14	130.322	132.500	0.0181	127698	11.97	7.648	24.14	0.540
Pond 2	BASE	050Y072H	68.31	130.544	132.500	0.0110	129253	59.89	5.031	68.31	0.575
Pond 2	BASE	050Y168H	168.06	130.442	132.500	0.0078	128531	159.89	3.663	168.06	0.559
Pond 2	BASE	050Y240H	216.06	130.397	132.500	0.0111	128218	183.89	4.861	216.06	0.552
Pond 2	BASE	100Y001R	1.46	129.321	132.500	0.0786	120554	0.62	52.529	1.46	0.340
Pond 2	BASE	100Y002H	2.43	129.546	132.500	0.0715	122290	0.85	43.827	2.43	0.394
Pond 2	BASE	100Y004H	4.31	129.795	132.500	0.0510	124024	2.01	25.307	4.31	0.446
Pond 2	BASE	100Y008H	8.31	130.087	132.500	0.0652	126058	3.97	26.684	8.31	0.500
Pond 2	BASE	100Y024H	24.14	130.538	132.500	0.0200	129208	11.97	8.509	24.14	0.574
Pond 2	BASE	100Y072H	68.39	130.847	132.500	0.0124	131432	59.89	5.702	68.39	0.618
Pond 2	BASE	100Y168H	168.06	130.756	132.500	0.0088	130776	159.89	4.158	168.06	0.606
Pond 2	BASE	100Y240H	216.06	130.642	132.500	0.0123	129960	183.89	5.383	216.06	0.589
Pond 2	BASE	I-410024	20.15	130.524	132.500	0.0419	129112	8.98	17.477	20.15	0.572
Pond 2	BASE	I-410072	72.09	130.506	132.500	0.0723	128981	59.97	41.850	72.09	0.569
Pond 2	BASE	I-42524	19.15	130.093	132.500	0.0338	126102	8.98	13.953	19.15	0.502
Pond 2	BASE	I-42572	72.10	130.287	132.500	0.0723	127453	60.00	38.000	72.10	0.534
SwaleEB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.158	0.00	0.000
SwaleEB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.47	0.222	0.00	0.000
SwaleEB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.254	0.00	0.000
SwaleEB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.285	0.00	0.000
SwaleEB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.330	0.00	0.000
SwaleEB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	68.14	0.350	0.00	0.000
SwaleEB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	160.72	0.352	0.00	0.000
SwaleEB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	192.22	0.356	0.00	0.000
SwaleEB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.228	0.00	0.000
SwaleEB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.271	0.00	0.000
SwaleEB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.311	0.00	0.000
SwaleEB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.351	0.00	0.000
SwaleEB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.405	0.00	0.000
SwaleEB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.421	0.00	0.000
SwaleEB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	167.97	0.411	0.00	0.000
SwaleEB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	192.31	0.421	0.00	0.000
SwaleEB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.253	0.00	0.000
SwaleEB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.306	0.00	0.000
SwaleEB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.348	0.00	0.000
SwaleEB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.392	0.00	0.000
SwaleEB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.456	0.00	0.000
SwaleEB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.472	0.00	0.000
SwaleEB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.454	0.00	0.000
SwaleEB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	192.47	0.466	0.00	0.000
SwaleEB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.290	0.00	0.000
SwaleEB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.338	0.00	0.000
SwaleEB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.387	0.00	0.000
SwaleEB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.438	0.00	0.000
SwaleEB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.504	0.00	0.000
SwaleEB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	68.31	0.521	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SwaleEB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.514	0.00	0.000
SwaleEB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	215.97	0.508	0.00	0.000
SwaleEB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.314	0.00	0.000
SwaleEB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.46	0.367	0.00	0.000
SwaleEB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.28	0.420	0.00	0.000
SwaleEB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.471	0.00	0.000
SwaleEB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.540	0.00	0.000
SwaleEB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	68.31	0.575	0.00	0.000
SwaleEB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.559	0.00	0.000
SwaleEB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.552	0.00	0.000
SwaleEB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.340	0.00	0.000
SwaleEB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.394	0.00	0.000
SwaleEB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.446	0.00	0.000
SwaleEB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.500	0.00	0.000
SwaleEB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.574	0.00	0.000
SwaleEB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	68.39	0.618	0.00	0.000
SwaleEB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.606	0.00	0.000
SwaleEB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.589	0.00	0.000
SwaleEB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	20.15	0.572	0.00	0.000
SwaleEB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	72.09	0.569	0.00	0.000
SwaleEB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	19.15	0.502	0.00	0.000
SwaleEB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.10	0.534	0.00	0.000
SwaleWB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.54	0.142	0.00	0.000
SwaleWB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.56	0.167	0.00	0.000
SwaleWB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.185	0.00	0.000
SwaleWB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.205	0.00	0.000
SwaleWB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.237	0.00	0.000
SwaleWB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	72.06	0.257	0.00	0.000
SwaleWB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.274	0.00	0.000
SwaleWB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	216.22	0.274	0.00	0.000
SwaleWB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.54	0.170	0.00	0.000
SwaleWB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.53	0.194	0.00	0.000
SwaleWB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.218	0.00	0.000
SwaleWB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.244	0.00	0.000
SwaleWB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.283	0.00	0.000
SwaleWB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	72.06	0.304	0.00	0.000
SwaleWB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.321	0.00	0.000
SwaleWB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	216.22	0.329	0.00	0.000
SwaleWB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.184	0.00	0.000
SwaleWB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.52	0.215	0.00	0.000
SwaleWB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.241	0.00	0.000
SwaleWB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.269	0.00	0.000
SwaleWB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.316	0.00	0.000
SwaleWB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	72.14	0.339	0.00	0.000
SwaleWB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.352	0.00	0.000
SwaleWB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	216.31	0.366	0.00	0.000
SwaleWB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.56	0.205	0.00	0.000
SwaleWB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.52	0.234	0.00	0.000
SwaleWB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.265	0.00	0.000
SwaleWB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.298	0.00	0.000
SwaleWB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.346	0.00	0.000
SwaleWB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	72.14	0.372	0.00	0.000
SwaleWB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.22	0.394	0.00	0.000
SwaleWB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	216.31	0.400	0.00	0.000
SwaleWB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.56	0.219	0.00	0.000
SwaleWB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.54	0.252	0.00	0.000
SwaleWB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.45	0.285	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SwaleWB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.319	0.00	0.000
SwaleWB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.369	0.00	0.000
SwaleWB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	71.97	0.649	0.00	0.000
SwaleWB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	160.22	2.928	0.00	0.000
SwaleWB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	192.06	1.236	0.00	0.000
SwaleWB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.235	0.00	0.000
SwaleWB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.51	0.268	0.00	0.000
SwaleWB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.40	0.301	0.00	0.000
SwaleWB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.337	0.00	0.000
SwaleWB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.391	0.00	0.000
SwaleWB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	64.06	3.943	0.00	0.000
SwaleWB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	159.97	5.831	0.00	0.000
SwaleWB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	184.14	4.934	0.00	0.000
SwaleWB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	23.31	0.390	0.00	0.000
SwaleWB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	72.25	0.392	0.00	0.000
SwaleWB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	23.23	0.345	0.00	0.000
SwaleWB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.26	0.369	0.00	0.000

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Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond1WB	002Y001R	1.47	128.276	0.69	20.617	1.47	0.166
ExPond1WB	002Y002R	2.47	128.389	0.85	18.287	2.47	0.231
ExPond1WB	002Y004H	4.31	128.484	2.47	11.038	4.31	0.265
ExPond1WB	002Y008H	8.31	128.596	3.97	12.541	8.31	0.300
ExPond1WB	002Y024H	24.14	128.793	11.97	3.95	24.14	0.353
ExPond1WB	002Y072H	68.22	128.915	59.97	3.011	68.22	0.382
ExPond1WB	002Y168H	168.06	128.991	159.89	2.421	168.06	0.399
ExPond1WB	002Y240H	192.47	128.996	183.97	3.153	192.47	0.400
ExPond1WB	005Y001R	1.47	128.405	0.69	29.906	1.47	0.237
ExPond1WB	005Y002H	2.44	128.539	0.85	25.513	2.44	0.282
ExPond1WB	005Y004H	4.31	128.692	2.47	15.229	4.31	0.327
ExPond1WB	005Y008H	8.31	128.873	3.97	17.96	8.31	0.372
ExPond1WB	005Y024H	24.14	129.171	11.97	5.748	24.14	0.436
ExPond1WB	005Y072H	68.31	129.31	59.97	4.06	68.31	0.463
ExPond1WB	005Y168H	168.06	129.35	159.89	3.143	168.06	0.470
ExPond1WB	005Y240H	216.06	129.408	183.97	4.252	216.06	0.481
ExPond1WB	010Y001R	1.52	128.48	0.69	35.207	1.52	0.263
ExPond1WB	010Y002H	2.44	128.67	0.85	31.788	2.44	0.321
ExPond1WB	010Y004H	4.31	128.853	2.06	18.759	4.31	0.368
ExPond1WB	010Y008H	8.31	129.078	3.97	21.884	8.31	0.417
ExPond1WB	010Y024H	24.14	129.478	11.97	7.187	24.14	0.493
ExPond1WB	010Y072H	68.39	129.643	59.97	4.918	68.39	0.521
ExPond1WB	010Y168H	168.06	129.644	159.89	3.681	168.06	0.522
ExPond1WB	010Y240H	216.06	129.739	183.81	5.095	216.06	0.537
ExPond1WB	025Y001R	1.5	128.609	0.69	44.299	1.5	0.304
ExPond1WB	025Y002H	2.52	128.804	0.85	38.219	2.52	0.356
ExPond1WB	025Y004H	4.31	129.046	2.06	23.056	4.31	0.411
ExPond1WB	025Y008H	8.31	129.342	3.97	26.878	8.31	0.469
ExPond1WB	025Y024H	24.14	129.802	11.97	8.69	24.14	0.547
ExPond1WB	025Y072H	68.47	130.002	59.97	5.831	68.47	0.578
ExPond1WB	025Y168H	168.14	130.092	159.89	4.465	168.14	0.591
ExPond1WB	025Y240H	216.14	130.096	183.81	5.931	216.14	0.592
ExPond1WB	050Y001R	1.5	128.703	0.69	50.809	1.5	0.330
ExPond1WB	050Y002H	2.49	128.942	0.85	44.761	2.49	0.388
ExPond1WB	050Y004H	4.36	129.229	2.07	27.127	4.36	0.447
ExPond1WB	050Y008H	8.31	129.551	3.97	30.823	8.31	0.506
ExPond1WB	050Y024H	24.14	130.072	11.97	9.94	24.14	0.588
ExPond1WB	050Y072H	64.22	130.31	59.89	6.92	64.22	2.490
ExPond1WB	050Y168H	160.14	130.338	159.89	5.104	160.14	3.191
ExPond1WB	050Y240H	191.97	130.25	183.72	6.764	191.97	1.259
ExPond1WB	100Y001R	1.52	128.813	0.67	59.439	1.52	0.358
ExPond1WB	100Y002H	2.51	129.081	0.85	51.38	2.51	0.418
ExPond1WB	100Y004H	4.31	129.383	2.07	30.545	4.31	0.476
ExPond1WB	100Y008H	8.31	129.747	3.97	34.5	8.31	0.538
ExPond1WB	100Y024H	22.14	130.278	11.97	11.187	22.14	1.787
ExPond1WB	100Y072H	63.97	130.382	59.89	7.885	63.97	4.419
ExPond1WB	100Y168H	159.97	130.42	159.89	5.812	159.97	5.574
ExPond1WB	100Y240H	184.14	130.399	183.72	7.51	184.14	4.923
ExPond1WB	I-410024	15.23	130.248	8.98	23.109	15.23	1.230

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Name	Simulation	Max Time Stage	Max Stage	Max Time Inflow	Max Inflow	Max Time Outflow	Max Outflow
		hrs	ft	hrs	cfs	hrs	cfs
ExPond1WB	I-410072	68.17	130.254	59.97	56.308	68.17	1.328
ExPond1WB	I-42524	20.23	129.781	8.98	18.006	20.23	0.544
ExPond1WB	I-42572	72.18	130.055	60	50.751	72.18	0.586
ExPond2EB	002Y001R	1.47	128.852	0.69	20.899	1.47	0.159
ExPond2EB	002Y002R	2.47	128.97	0.85	18.241	2.47	0.227
ExPond2EB	002Y004H	4.31	129.067	2.06	10.194	4.31	0.262
ExPond2EB	002Y008H	8.22	129.174	3.97	11.237	8.22	0.296
ExPond2EB	002Y024H	24.06	129.353	11.97	3.477	24.06	0.345
ExPond2EB	002Y072H	68.14	129.444	59.97	2.413	68.14	0.368
ExPond2EB	002Y168H	160.64	129.462	159.89	1.884	160.64	0.372
ExPond2EB	002Y240H	192.22	129.487	183.81	2.462	192.22	0.378
ExPond2EB	005Y001R	1.47	128.987	0.64	28.662	1.47	0.234
ExPond2EB	005Y002H	2.44	129.122	0.85	24.136	2.44	0.280
ExPond2EB	005Y004H	4.31	129.272	2.06	13.907	4.31	0.324
ExPond2EB	005Y008H	8.22	129.444	3.97	15.372	8.22	0.368
ExPond2EB	005Y024H	24.06	129.708	11.97	4.836	24.06	0.426
ExPond2EB	005Y072H	68.22	129.797	59.97	3.187	68.22	0.444
ExPond2EB	005Y168H	167.97	129.753	159.89	2.417	167.97	0.436
ExPond2EB	005Y240H	192.31	129.814	183.89	3.274	192.31	0.448
ExPond2EB	010Y001R	1.46	129.063	0.64	33.14	1.46	0.261
ExPond2EB	010Y002H	2.44	129.252	0.85	29.131	2.44	0.318
ExPond2EB	010Y004H	4.31	129.43	2.06	16.719	4.31	0.364
ExPond2EB	010Y008H	8.22	129.64	3.97	18.322	8.22	0.412
ExPond2EB	010Y024H	24.06	129.993	11.97	5.909	24.06	0.482
ExPond2EB	010Y072H	68.22	130.092	59.89	3.82	68.22	0.500
ExPond2EB	010Y168H	168.06	129.996	159.89	2.815	168.06	0.482
ExPond2EB	010Y240H	192.39	130.072	183.89	3.896	192.39	0.496
ExPond2EB	025Y001R	1.5	129.193	0.64	40.727	1.5	0.302
ExPond2EB	025Y002H	2.43	129.383	0.85	34.168	2.43	0.353
ExPond2EB	025Y004H	4.31	129.615	2.06	20.011	4.31	0.407
ExPond2EB	025Y008H	8.31	129.889	3.97	22.043	8.31	0.462
ExPond2EB	025Y024H	24.14	130.291	11.97	7.023	24.14	0.533
ExPond2EB	025Y072H	68.22	130.411	59.89	4.494	68.22	0.553
ExPond2EB	025Y168H	168.06	130.37	159.89	3.396	168.06	0.546
ExPond2EB	025Y240H	215.97	130.339	183.72	4.517	215.97	0.541
ExPond2EB	050Y001R	1.5	129.285	0.64	46.103	1.5	0.328
ExPond2EB	050Y002H	2.49	129.516	0.85	39.229	2.49	0.385
ExPond2EB	050Y004H	4.28	129.788	2.01	23.16	4.28	0.443
ExPond2EB	050Y008H	8.31	130.085	3.97	24.968	8.31	0.498
ExPond2EB	050Y024H	24.14	130.538	11.97	7.946	24.14	0.573
ExPond2EB	050Y072H	64.47	130.73	59.89	5.3	64.47	1.253
ExPond2EB	050Y168H	168.06	130.682	159.89	3.871	168.06	0.655
ExPond2EB	050Y240H	216.06	130.64	183.89	5.135	216.06	0.588
ExPond2EB	100Y001R	1.46	129.393	0.67	52.406	1.46	0.355
ExPond2EB	100Y002H	2.43	129.649	0.85	44.303	2.43	0.414
ExPond2EB	100Y004H	4.31	129.934	2.01	25.784	4.31	0.471
ExPond2EB	100Y008H	8.31	130.268	3.97	27.688	8.31	0.530
ExPond2EB	100Y024H	22.14	130.738	11.97	8.866	22.14	1.397

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Name	Simulation	Max Time Stage	Max Stage	Max Time Inflow	Max Inflow	Max Time Outflow	Max Outflow
		hrs	ft	hrs	cfs	hrs	cfs
ExPond2EB	100Y072H	64.06	130.825	59.89	6.014	64.06	3.292
ExPond2EB	100Y168H	160.06	130.842	159.89	4.397	160.06	3.726
ExPond2EB	100Y240H	184.39	130.748	183.72	5.689	184.39	1.569
ExPond2EB	I-410024	15.06	130.72	8.98	18.237	15.06	1.105
ExPond2EB	I-410072	68.25	130.71	59.97	43.855	68.25	0.966
ExPond2EB	I-42524	19.15	130.275	8.98	14.472	19.15	0.531
ExPond2EB	I-42572	72.1	130.504	60	39.749	72.1	0.567

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Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs	Qpre	Δ Q	Remarks
Pond1WB	002Y001R	1.54	128.40	0.69	28.231	1.54	0.142	0.166	0.02	OK!!!
Pond1WB	002Y002R	2.56	128.55	0.85	24.67	2.56	0.167	0.231	0.06	OK!!!
Pond1WB	002Y004H	4.39	128.66	2.06	13.811	4.39	0.185	0.265	0.08	OK!!!
Pond1WB	002Y008H	8.39	128.80	3.97	15.306	8.39	0.205	0.300	0.10	OK!!!
Pond1WB	002Y024H	24.22	129.06	11.97	4.741	24.22	0.237	0.353	0.12	OK!!!
Pond1WB	002Y072H	72.06	129.24	59.97	3.311	72.06	0.257	0.382	0.13	OK!!!
Pond1WB	002Y168H	168.14	129.40	159.89	2.589	168.14	0.274	0.399	0.13	OK!!!
Pond1WB	002Y240H	216.22	129.41	183.81	3.383	216.22	0.274	0.400	0.13	OK!!!
Pond1WB	005Y001R	1.55	128.56	0.64	38.785	1.55	0.170	0.237	0.07	OK!!!
Pond1WB	005Y002H	2.56	128.73	0.85	32.753	2.56	0.194	0.282	0.09	OK!!!
Pond1WB	005Y004H	4.39	128.91	2.06	18.911	4.39	0.218	0.327	0.11	OK!!!
Pond1WB	005Y008H	8.39	129.12	3.97	21	8.39	0.244	0.372	0.13	OK!!!
Pond1WB	005Y024H	24.22	129.50	11.97	6.613	24.22	0.283	0.436	0.15	OK!!!
Pond1WB	005Y072H	72.06	129.72	59.97	4.377	72.06	0.304	0.463	0.16	OK!!!
Pond1WB	005Y168H	168.14	129.91	159.89	3.324	168.14	0.321	0.470	0.15	OK!!!
Pond1WB	005Y240H	216.22	130.00	183.72	4.504	216.22	0.329	0.481	0.15	OK!!!
Pond1WB	010Y001R	1.52	128.65	0.64	44.921	1.52	0.184	0.263	0.08	OK!!!
Pond1WB	010Y002H	2.52	128.88	0.85	39.613	2.52	0.215	0.321	0.11	OK!!!
Pond1WB	010Y004H	4.39	129.09	2.06	22.78	4.39	0.241	0.368	0.13	OK!!!
Pond1WB	010Y008H	8.39	129.36	3.97	25.064	8.39	0.269	0.417	0.15	OK!!!
Pond1WB	010Y024H	24.22	129.85	11.97	8.093	24.22	0.316	0.493	0.18	OK!!!
Pond1WB	010Y072H	72.14	130.12	59.89	5.25	72.14	0.339	0.521	0.18	OK!!!
Pond1WB	010Y168H	168.14	130.29	159.89	3.872	168.14	0.352	0.522	0.17	OK!!!
Pond1WB	010Y240H	216.31	130.47	183.89	5.361	216.31	0.366	0.537	0.17	OK!!!
Pond1WB	025Y001R	1.56	128.81	0.64	55.328	1.56	0.205	0.304	0.10	OK!!!
Pond1WB	025Y002H	2.52	129.03	0.85	46.538	2.52	0.234	0.356	0.12	OK!!!
Pond1WB	025Y004H	4.39	129.31	2.06	27.311	4.39	0.265	0.411	0.15	OK!!!
Pond1WB	025Y008H	8.39	129.65	3.97	30.194	8.39	0.298	0.469	0.17	OK!!!
Pond1WB	025Y024H	24.22	130.21	11.97	9.629	24.22	0.346	0.547	0.20	OK!!!
Pond1WB	025Y072H	72.14	130.55	59.89	6.179	72.14	0.372	0.578	0.21	OK!!!
Pond1WB	025Y168H	168.22	130.86	159.89	4.674	168.22	0.394	0.591	0.20	OK!!!
Pond1WB	025Y240H	216.31	130.94	183.72	6.215	216.31	0.400	0.592	0.19	OK!!!
Pond1WB	050Y001R	1.56	128.91	0.64	62.709	1.56	0.219	0.330	0.11	OK!!!
Pond1WB	050Y002H	2.54	129.19	0.85	53.5	2.54	0.252	0.388	0.14	OK!!!
Pond1WB	050Y004H	4.45	129.52	2.01	31.634	4.45	0.285	0.447	0.16	OK!!!
Pond1WB	050Y008H	8.39	129.89	3.97	34.228	8.39	0.319	0.506	0.19	OK!!!
Pond1WB	050Y024H	24.22	130.51	11.97	10.902	24.22	0.369	0.588	0.22	OK!!!
Pond1WB	050Y072H	71.97	131.03	59.89	7.29	71.97	0.649	2.490	1.84	OK!!!
Pond1WB	050Y168H	160.22	131.15	159.89	5.327	160.22	2.928	3.191	0.26	OK!!!
Pond1WB	050Y240H	192.06	131.07	183.89	7.066	192.06	1.236	1.259	0.02	OK!!!
Pond1WB	100Y001R	1.52	129.04	0.67	71.432	1.52	0.235	0.358	0.12	OK!!!
Pond1WB	100Y002H	2.51	129.35	0.85	60.484	2.51	0.268	0.418	0.15	OK!!!
Pond1WB	100Y004H	4.4	129.69	2.01	35.249	4.4	0.301	0.476	0.18	OK!!!
Pond1WB	100Y008H	8.39	130.10	3.97	37.979	8.39	0.337	0.538	0.20	OK!!!
Pond1WB	100Y024H	24.22	130.81	11.97	12.171	24.22	0.391	1.787	1.40	OK!!!
Pond1WB	100Y072H	64.06	131.18	59.89	8.274	64.06	3.943	4.419	0.48	OK!!!
Pond1WB	100Y168H	159.97	131.24	159.89	6.052	159.97	5.831	5.574	-0.26	Qpre is exceeded!!!
Pond1WB	100Y240H	184.14	131.21	183.89	7.831	184.14	4.934	4.923	-0.01	Qpre is exceeded!!!

Street 'B' I-[illegible] Overpass

2008
2:30 PM

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs			
Pond1WB	I-410024	23.31	130.80	8.98	25.04	23.31	0.390	1.230	0.84	OK!!!
Pond1WB	I-410072	72.25	130.83	59.97	60.264	72.25	0.392	1.328	0.94	OK!!!
Pond1WB	I-42524	23.23	130.20	8.98	19.848	23.23	0.345	0.544	0.20	OK!!!
Pond1WB	I-42572	72.26	130.51	60	54.603	72.26	0.369	0.586	0.22	OK!!!
								Qpre	Δ Q	Remarks
Pond2EB	002Y001R	1.47	128.84	0.64	22.003	1.47	0.158	0.159	0.00	OK!!!
Pond2EB	002Y002R	2.47	128.95	0.85	19.02	2.47	0.222	0.227	0.01	OK!!!
Pond2EB	002Y004H	4.31	129.03	2.06	10.518	4.31	0.254	0.262	0.01	OK!!!
Pond2EB	002Y008H	8.22	129.13	3.97	11.257	8.22	0.285	0.296	0.01	OK!!!
Pond2EB	002Y024H	24.06	129.29	11.97	3.46	24.06	0.330	0.345	0.02	OK!!!
Pond2EB	002Y072H	68.14	129.36	59.97	2.325	68.14	0.350	0.368	0.02	OK!!!
Pond2EB	002Y168H	160.72	129.37	159.89	1.798	160.72	0.352	0.372	0.02	OK!!!
Pond2EB	002Y240H	192.22	129.39	183.89	2.352	192.22	0.356	0.378	0.02	OK!!!
Pond2EB	005Y001R	1.47	128.96	0.64	29.81	1.47	0.228	0.234	0.01	OK!!!
Pond2EB	005Y002H	2.44	129.08	0.85	24.693	2.44	0.271	0.280	0.01	OK!!!
Pond2EB	005Y004H	4.31	129.22	2.06	14.058	4.31	0.311	0.324	0.01	OK!!!
Pond2EB	005Y008H	8.22	129.37	3.97	15.149	8.22	0.351	0.368	0.02	OK!!!
Pond2EB	005Y024H	24.06	129.60	11.97	4.736	24.06	0.405	0.426	0.02	OK!!!
Pond2EB	005Y072H	68.22	129.67	59.89	3.049	68.22	0.421	0.444	0.02	OK!!!
Pond2EB	005Y168H	167.97	129.62	159.89	2.298	167.97	0.411	0.436	0.03	OK!!!
Pond2EB	005Y240H	192.31	129.67	183.89	3.114	192.31	0.421	0.448	0.03	OK!!!
Pond2EB	010Y001R	1.46	129.03	0.64	34.145	1.46	0.253	0.261	0.01	OK!!!
Pond2EB	010Y002H	2.44	129.20	0.85	29.462	2.44	0.306	0.318	0.01	OK!!!
Pond2EB	010Y004H	4.31	129.35	2.06	16.719	4.31	0.348	0.364	0.02	OK!!!
Pond2EB	010Y008H	8.22	129.54	3.97	17.915	8.22	0.392	0.412	0.02	OK!!!
Pond2EB	010Y024H	24.06	129.85	11.97	5.741	24.06	0.456	0.482	0.03	OK!!!
Pond2EB	010Y072H	68.22	129.93	59.89	3.642	68.22	0.472	0.500	0.03	OK!!!
Pond2EB	010Y168H	168.06	129.84	159.89	2.671	168.06	0.454	0.482	0.03	OK!!!
Pond2EB	010Y240H	192.47	129.90	183.89	3.698	192.47	0.466	0.496	0.03	OK!!!
Pond2EB	025Y001R	1.5	129.15	0.64	41.442	1.5	0.290	0.302	0.01	OK!!!
Pond2EB	025Y002H	2.43	129.31	0.85	34.247	2.43	0.338	0.353	0.02	OK!!!
Pond2EB	025Y004H	4.31	129.52	2.06	19.821	4.31	0.387	0.407	0.02	OK!!!
Pond2EB	025Y008H	8.31	129.76	3.97	21.4	8.31	0.438	0.462	0.02	OK!!!
Pond2EB	025Y024H	24.14	130.11	11.97	6.783	24.14	0.504	0.533	0.03	OK!!!
Pond2EB	025Y072H	68.31	130.21	59.89	4.275	68.31	0.521	0.553	0.03	OK!!!
Pond2EB	025Y168H	168.06	130.16	159.89	3.217	168.06	0.514	0.546	0.03	OK!!!
Pond2EB	025Y240H	215.97	130.13	183.89	4.28	215.97	0.508	0.541	0.03	OK!!!
Pond2EB	050Y001R	1.5	129.23	0.64	46.587	1.5	0.314	0.328	0.01	OK!!!
Pond2EB	050Y002H	2.46	129.43	0.85	39.037	2.46	0.367	0.385	0.02	OK!!!
Pond2EB	050Y004H	4.28	129.668	2.01	22.844	4.28	0.420	0.443	0.02	OK!!!
Pond2EB	050Y008H	8.31	129.927	3.97	24.138	8.31	0.471	0.498	0.03	OK!!!
Pond2EB	050Y024H	24.14	130.322	11.97	7.648	24.14	0.540	0.573	0.03	OK!!!
Pond2EB	050Y072H	68.31	130.544	59.89	5.031	68.31	0.575	1.253	0.68	OK!!!
Pond2EB	050Y168H	168.06	130.442	159.89	3.663	168.06	0.559	0.655	0.10	OK!!!
Pond2EB	050Y240H	216.06	130.397	183.89	4.861	216.06	0.552	0.588	0.04	OK!!!
Pond2EB	100Y001R	1.46	129.321	0.62	52.529	1.46	0.340	0.355	0.02	OK!!!
Pond2EB	100Y002H	2.43	129.546	0.85	43.827	2.43	0.394	0.414	0.02	OK!!!
Pond2EB	100Y004H	4.31	129.795	2.01	25.307	4.31	0.446	0.471	0.03	OK!!!
Pond2EB	100Y008H	8.31	130.087	3.97	26.684	8.31	0.500	0.530	0.03	OK!!!

Street 'B' I-[illegible] Overpass

2008
2:30 PM

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs			
Pond2EB	100Y024H	24.14	130.538	11.97	8.509	24.14	0.574	1.397	0.82	OK!!!
Pond2EB	100Y072H	68.39	130.847	59.89	5.702	68.39	0.618	3.292	2.67	OK!!!
Pond2EB	100Y168H	168.06	130.756	159.89	4.158	168.06	0.606	3.726	3.12	OK!!!
Pond2EB	100Y240H	216.06	130.642	183.89	5.383	216.06	0.589	1.569	0.98	OK!!!
Pond2EB	I-410024	20.15	130.524	8.98	17.477	20.15	0.572	1.105	0.53	OK!!!
Pond2EB	I-410072	72.09	130.506	59.97	41.85	72.09	0.569	0.966	0.40	OK!!!
Pond2EB	I-42524	19.15	130.093	8.98	13.953	19.15	0.502	0.531	0.03	OK!!!
Pond2EB	I-42572	72.1	130.287	60	38	72.1	0.534	0.567	0.03	OK!!!

Street 'B' I-. Overpass

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs

Design Storm	Pond1WB Δ Q	Pond2EB Δ Q	Total Discharge	Remark
002Y001R	0.02	0.00	0.03	Total discharge < Qpre & OK!
002Y002R	0.06	0.01	0.07	Total discharge < Qpre & OK!
002Y004H	0.08	0.01	0.09	Total discharge < Qpre & OK!
002Y008H	0.10	0.01	0.11	Total discharge < Qpre & OK!
002Y024H	0.12	0.02	0.13	Total discharge < Qpre & OK!
002Y072H	0.13	0.02	0.14	Total discharge < Qpre & OK!
002Y168H	0.13	0.02	0.15	Total discharge < Qpre & OK!
002Y240H	0.13	0.02	0.15	Total discharge < Qpre & OK!
005Y001R	0.07	0.01	0.07	Total discharge < Qpre & OK!
005Y002H	0.09	0.01	0.10	Total discharge < Qpre & OK!
005Y004H	0.11	0.01	0.12	Total discharge < Qpre & OK!
005Y008H	0.13	0.02	0.15	Total discharge < Qpre & OK!
005Y024H	0.15	0.02	0.17	Total discharge < Qpre & OK!
005Y072H	0.16	0.02	0.18	Total discharge < Qpre & OK!
005Y168H	0.15	0.03	0.17	Total discharge < Qpre & OK!
005Y240H	0.15	0.03	0.18	Total discharge < Qpre & OK!
010Y001R	0.08	0.01	0.09	Total discharge < Qpre & OK!
010Y002H	0.11	0.01	0.12	Total discharge < Qpre & OK!
010Y004H	0.13	0.02	0.14	Total discharge < Qpre & OK!
010Y008H	0.15	0.02	0.17	Total discharge < Qpre & OK!
010Y024H	0.18	0.03	0.20	Total discharge < Qpre & OK!
010Y072H	0.18	0.03	0.21	Total discharge < Qpre & OK!
010Y168H	0.17	0.03	0.20	Total discharge < Qpre & OK!
010Y240H	0.17	0.03	0.20	Total discharge < Qpre & OK!
025Y001R	0.10	0.01	0.11	Total discharge < Qpre & OK!
025Y002H	0.12	0.02	0.14	Total discharge < Qpre & OK!
025Y004H	0.15	0.02	0.17	Total discharge < Qpre & OK!
025Y008H	0.17	0.02	0.20	Total discharge < Qpre & OK!
025Y024H	0.20	0.03	0.23	Total discharge < Qpre & OK!
025Y072H	0.21	0.03	0.24	Total discharge < Qpre & OK!
025Y168H	0.20	0.03	0.23	Total discharge < Qpre & OK!
025Y240H	0.19	0.03	0.23	Total discharge < Qpre & OK!
050Y001R	0.11	0.01	0.13	Total discharge < Qpre & OK!
050Y002H	0.14	0.02	0.15	Total discharge < Qpre & OK!
050Y004H	0.16	0.02	0.19	Total discharge < Qpre & OK!
050Y008H	0.19	0.03	0.21	Total discharge < Qpre & OK!
050Y024H	0.22	0.03	0.25	Total discharge < Qpre & OK!
050Y072H	1.84	0.68	2.52	Total discharge < Qpre & OK!
050Y168H	0.26	0.10	0.36	Total discharge < Qpre & OK!
050Y240H	0.02	0.04	0.06	Total discharge < Qpre & OK!
100Y001R	0.12	0.02	0.14	Total discharge < Qpre & OK!
100Y002H	0.15	0.02	0.17	Total discharge < Qpre & OK!
100Y004H	0.18	0.03	0.20	Total discharge < Qpre & OK!
100Y008H	0.20	0.03	0.23	Total discharge < Qpre & OK!

Street 'B' I-4 Overpass

2008
2:30 PM

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
100Y024H	1.40	0.82	2.22	Total discharge < Qpre & OK!			
100Y072H	0.48	2.67	3.15	Total discharge < Qpre & OK!			
100Y168H	(0.26)	3.12	2.86	Total discharge < Qpre & OK!			
100Y240H	(0.01)	0.98	0.97	Total discharge < Qpre & OK!			
I-410024	0.84	0.53	1.37	Total discharge < Qpre & OK!			
I-410072	0.94	0.40	1.33	Total discharge < Qpre & OK!			
I-42524	0.20	0.03	0.23	Total discharge < Qpre & OK!			
I-42572	0.22	0.03	0.25	Total discharge < Qpre & OK!			

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by HDT Ch'd by:
Date: January 2 2008 Time: 4.22 PM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**

Design Storm	ExPond1WB	Pond 1	Remarks		
002Y001R	128.276	128.404	1.54	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y002R	128.389	128.545	1.87	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y004H	128.484	128.661	2.12	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y008H	128.596	128.800	2.45	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y024H	128.793	129.055	3.14	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System
002Y072H	128.915	129.242	3.92	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y168H	128.991	129.400	4.91	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y240H	128.996	129.405	4.91	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y001R	128.405	128.563	1.90	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y002H	128.539	128.725	2.23	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y004H	128.692	128.905	2.56	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y008H	128.873	129.123	3.00	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y024H	129.171	129.495	3.89	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y072H	129.310	129.720	4.92	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y168H	129.350	129.906	6.67	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y240H	129.408	129.999	7.09	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y001R	128.480	128.653	2.08	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y002H	128.670	128.878	2.50	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y004H	128.853	129.091	2.86	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y008H	129.078	129.356	3.34	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y024H	129.478	129.845	4.40	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y072H	129.643	130.119	5.71	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y168H	129.644	130.290	7.75	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y240H	129.739	130.466	8.72	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y001R	128.609	128.805	2.35	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y002H	128.804	129.033	2.75	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y004H	129.046	129.310	3.17	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y008H	129.342	129.653	3.73	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System
025Y024H	129.802	130.209	4.88	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y072H	130.002	130.546	6.53	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y168H	130.092	130.856	9.17	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y240H	130.096	130.937	10.09	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y001R	128.703	128.913	2.52	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y002H	128.942	129.189	2.96	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y004H	129.229	129.515	3.43	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y008H	129.551	129.887	4.03	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y024H	130.072	130.510	5.26	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y072H	130.310	131.030	8.64	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y168H	130.338	131.145	9.68	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y240H	130.250	131.069	9.83	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y001R	128.813	129.040	2.72	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y002H	129.081	129.347	3.19	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y004H	129.383	129.687	3.65	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y008H	129.747	130.104	4.28	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y024H	130.278	130.809	6.37	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y072H	130.382	131.181	9.59	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y168H	130.420	131.242	9.86	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y240H	130.400	131.214	9.77	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410024	130.248	130.795	6.56	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410072	130.254	130.825	6.85	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42524	129.781	130.195	4.97	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42572	130.055	130.508	5.44	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.

MAXIMUM STAGE = 131.24 ft. in Pond 1.
Design Storm = 100Y168H
Maximum Stage difference between Pre-Stage and Post-Stage in the Pond 1 = 10.09 inches.

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
Date: January 2 2008 Time: 4.22 PM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**

Design Storm	ExPond2EB	Pond 2	Remarks	
002Y001R	128.852	128.841	(0.13) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y002R	128.970	128.947	(0.28) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y004H	129.067	129.033	(0.41) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y008H	129.174	129.129	(0.54) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y024H	129.353	129.286	(0.80) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y072H	129.444	129.361	(1.00) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y168H	129.462	129.368	(1.13) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y240H	129.487	129.385	(1.22) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y001R	128.987	128.962	(0.30) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y002H	129.122	129.082	(0.48) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y004H	129.272	129.215	(0.68) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y008H	129.444	129.366	(0.94) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y024H	129.708	129.597	(1.33) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y072H	129.797	129.670	(1.52) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y168H	129.753	129.624	(1.55) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y240H	129.814	129.670	(1.73) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y001R	129.063	129.030	(0.40) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y002H	129.252	129.197	(0.66) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y004H	129.430	129.354	(0.91) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y008H	129.640	129.538	(1.22) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y024H	129.993	129.846	(1.76) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y072H	130.092	129.928	(1.97) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y168H	129.996	129.836	(1.92) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y240H	130.072	129.896	(2.11) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y001R	129.193	129.145	(0.58) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y002H	129.383	129.313	(0.84) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y004H	129.615	129.516	(1.19) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y008H	129.889	129.755	(1.61) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y024H	130.291	130.106	(2.22) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y072H	130.411	130.207	(2.45) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y168H	130.370	130.164	(2.47) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y240H	130.339	130.133	(2.47) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y001R	129.285	129.227	(0.70) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y002H	129.516	129.430	(1.03) inches LOWER than Max. Pre Stage	No Net Impact to I-4 Travel Lanes or Swale System.
050Y004H	129.788	129.668	(1.44) inches LOWER than Max. Pre Stage	No Net Impact to I-4 Travel Lanes or Swale System.
050Y008H	130.085	129.927	(1.90) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y024H	130.538	130.322	(2.59) inches LOWER than Max. Pre Stage	No Net Impact to I-4 Travel Lanes or Swale System.
050Y072H	130.730	130.544	(2.23) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y168H	130.682	130.442	(2.88) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y240H	130.640	130.397	(2.92) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y001R	129.393	129.321	(0.86) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y002H	129.649	129.546	(1.24) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y004H	129.934	129.795	(1.67) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y008H	130.268	130.087	(2.17) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y024H	130.738	130.538	(2.40) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y072H	130.825	130.847	0.26 inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y168H	130.842	130.756	(1.03) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y240H	130.748	130.642	(1.27) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410024	130.720	130.524	(2.35) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410072	130.710	130.506	(2.45) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42524	130.275	130.093	(2.18) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42572	130.504	130.287	(2.60) inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.

MAXIMUM STAGE = 130.85 ft. in Pond 2.
Design Storm = 100Y168H
Maximum Stage difference between Pre-Stage and Post-Stage in the Pond 2 = 0.26 inches.

STRUCTURE NUMBER	AREA (AC)	STRUCTURE NUMBER	AREA (AC)
S-619	0.63	S-709A	0.00
S-620	0.66	S-710	0.00
S-621	0.50	S-711	0.14
S-622	0.50	S-712	0.14
S-700	0.49	S-713	0.26
S-701	0.49	S-714	0.34
S-702	0.00	S-715	0.00
S-703	0.36	S-716	0.00
S-704	0.36	S-716A	0.46
S-705	0.53	S-717	0.37
S-706	0.53	S-718	0.00
S-707	0.22	S-718A	0.35
S-708	0.22	S-719	0.30
S-709	0.00		

BEGIN CONSTRUCTION
STA. 44+82.29
℄ SURVEY PALM PKWY
(MATCH EXISTING)

END PROJECT
END CONSTRUCTION
STA. 132+15.76
℄ CONST. STREET B

STA. 131+17.24
℄ CONST. STREET B=
STA. 54+82.11
℄ SURVEY PALM PKWY

END CONSTRUCTION
STA. 61+40.00
℄ SURVEY PALM PKWY
(MATCH EXISTING)

BEGIN PROJECT
BEGIN CONST.
STA. 113+00.00
℄ CONST. STREET B
REFER TO PHASE I PLANS FOR THE CONTINUATION OF STREET B

0 100 300
Feet

NOTES:
1. REFER TO POND DETAIL SHEETS FOR POND LAYOUT, SECTION INFORMATION AND CONTROL STRUCTURE DETAILS
2. (*) REFER TO NEXT SHEET FOR EXISTING DRAINAGE STRUCTURE CALL OUTS

DO NOT USE THE INFORMATION ON THIS SHEET FOR CONSTRUCTION PURPOSES.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

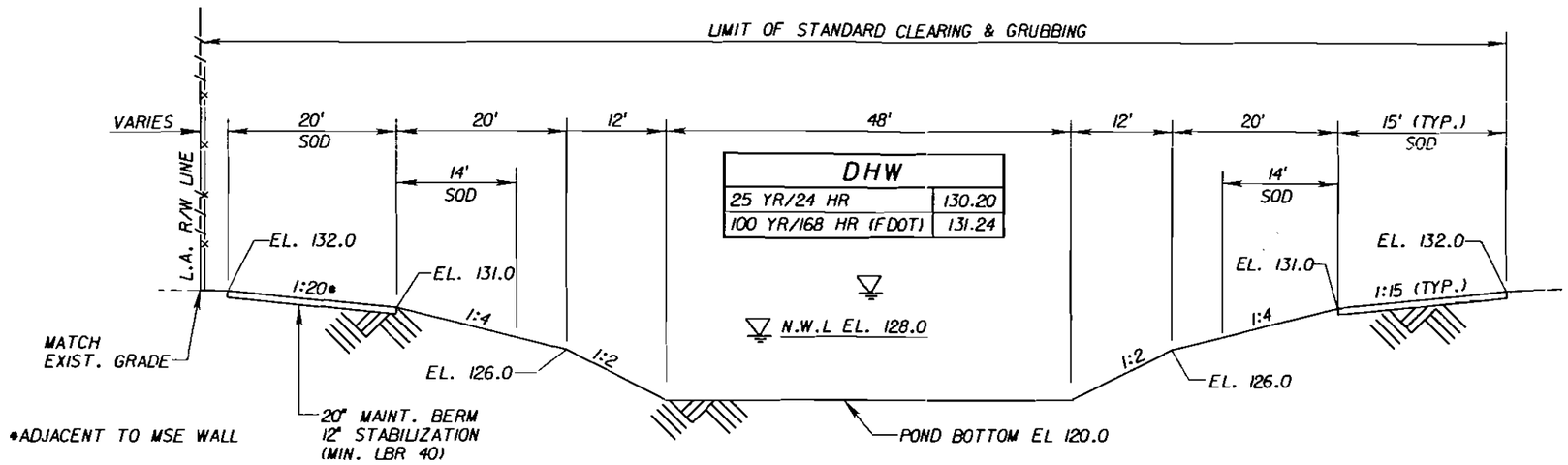
DRAINAGE MAP

SHEET NO. 2

NOTES:

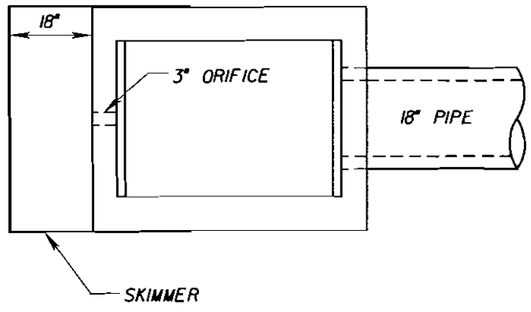
1. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL, AND SHALL BE INCLUDED IN THE UNIT PRICE BID "INLET" (TYPE 'C')

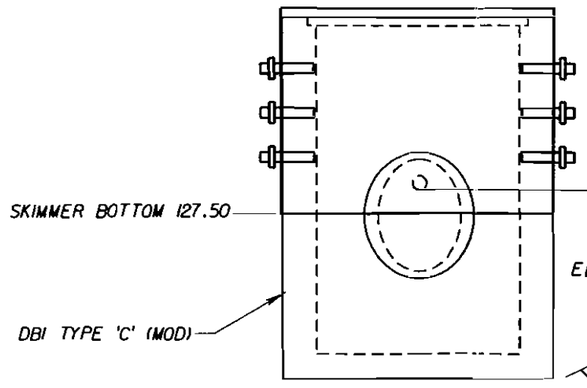
2. ALL STATION AND OFFSETS ARE REFERENCED FROM CENTER LINE CONSTRUCTION STREET 'B', UNLESS OTHERWISE NOTED.

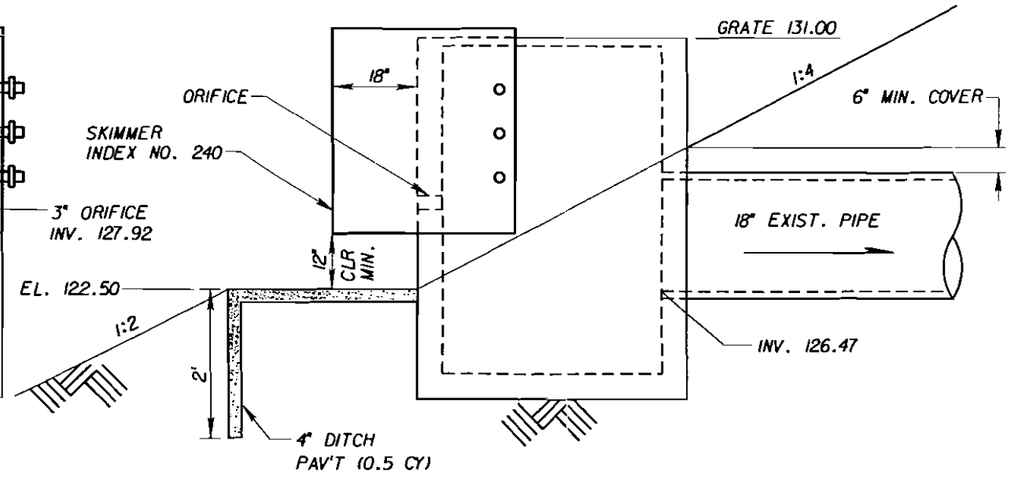


POND TYPICAL SECTION

N.T.S.







NOTE:

THE PRECAST CONCRETE MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND DESIGN COMPUTATIONS PREPARED BY A STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE ENGINEER PRIOR TO CASTING ANY OF PRECAST UNITS NOT COVERED BY THE FL. STD. DETAILS

POND CONTROL STRUCTURE DETAIL

N.T.S.

S-748

POND 1

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

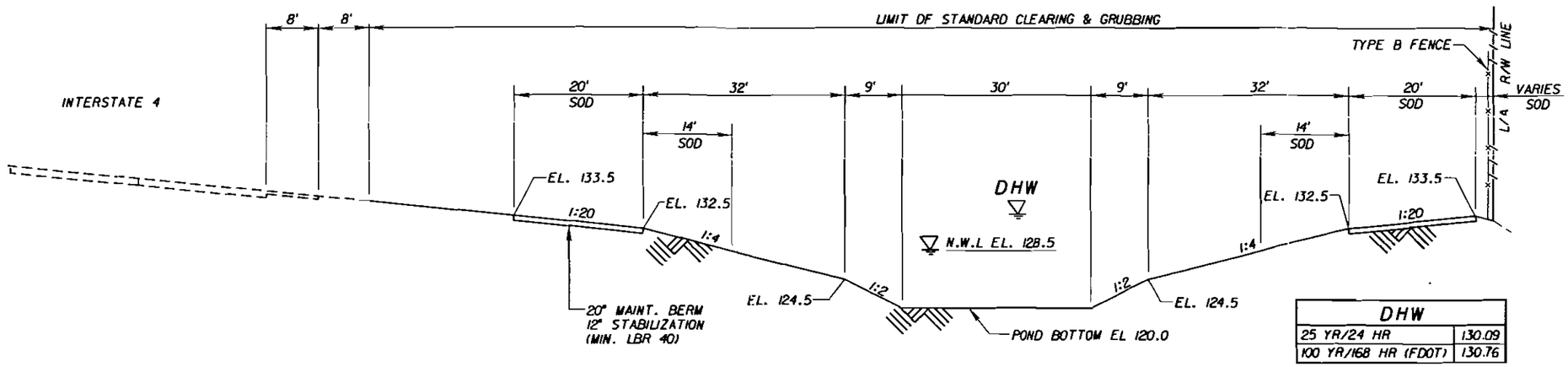
SHEET NO. 20

1/31/2008 3:23:23 PM Q:\ROADWAY\049280002_FentonSt\drainage\DRDTR002_N_V8.dgn

NOTES:

1. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL, AND SHALL BE INCLUDED IN THE UNIT PRICE BID "INLET" (TYPE 'C')

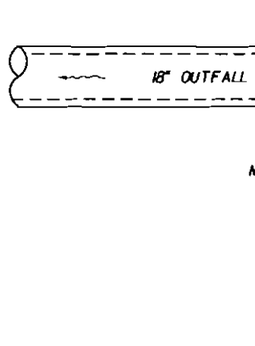
2. ALL STATION AND OFFSETS ARE REFERENCED FROM CENTER LINE CONSTRUCTION STREET 'B', UNLESS OTHERWISE NOTED.



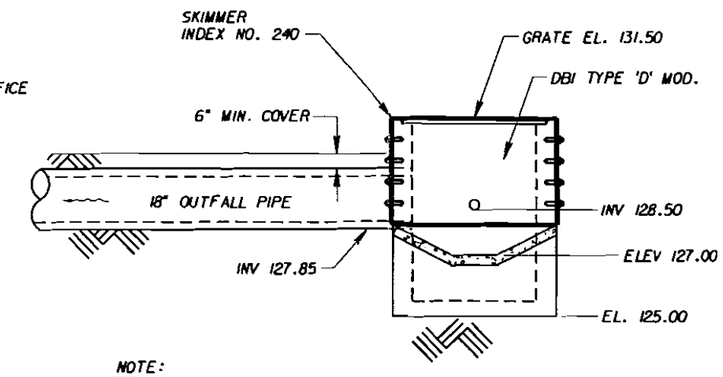
DHW	
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

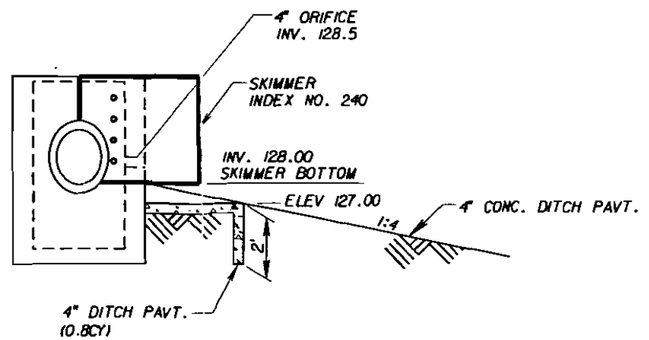
POND TYPICAL SECTION

N.T.S.



TOP VIEW
N.T.S.





NOTE:

THE PRECAST CONCRETE MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND DESIGN COMPUTATIONS PREPARED BY A STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE ENGINEER PRIOR TO CASTING ANY OF PRECAST UNITS NOT COVERED BY THE FL. STD. DETAILS

POND CONTROL STRUCTURE DETAIL

N.T.S.

S-744

PONDS 2A & 2B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

SHEET NO. 21

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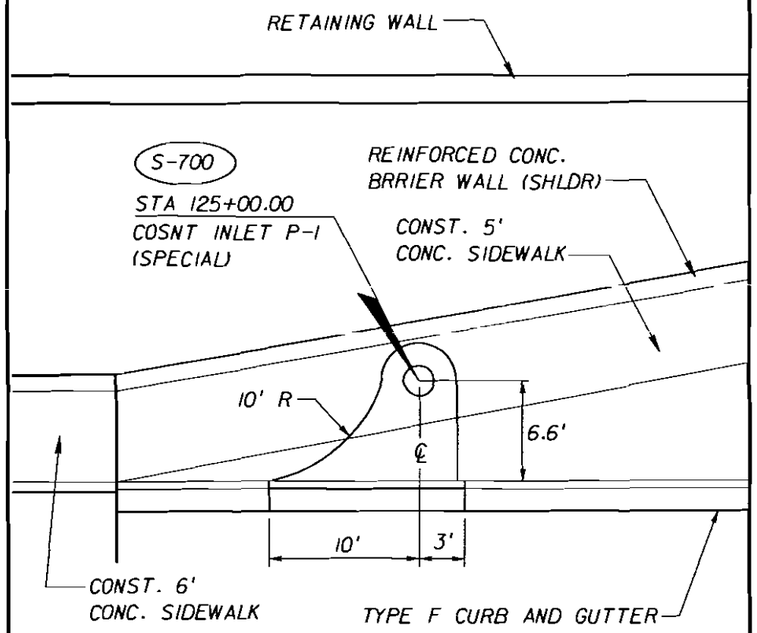
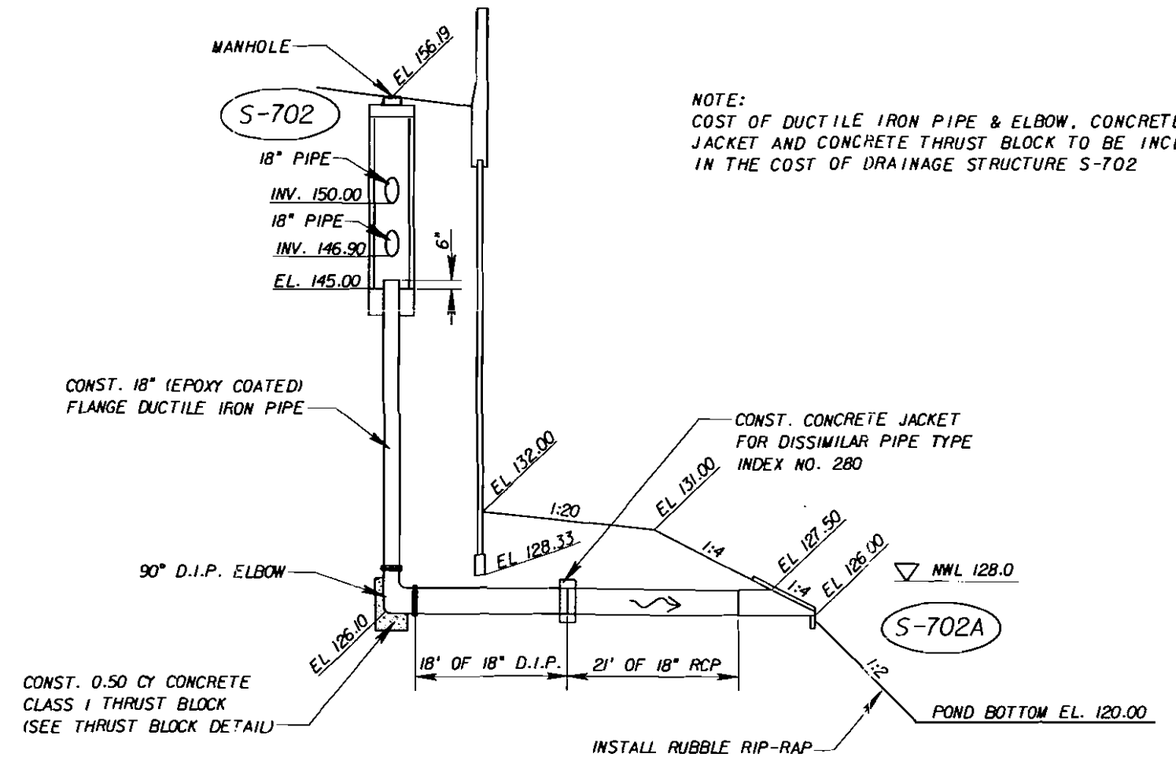


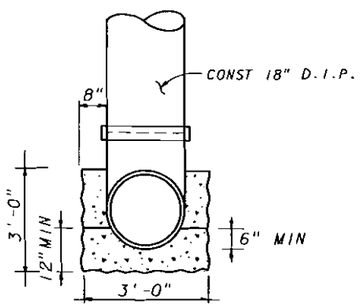
S-700 DETAIL

N.T.S.

STA. 125+00.00 (LT)

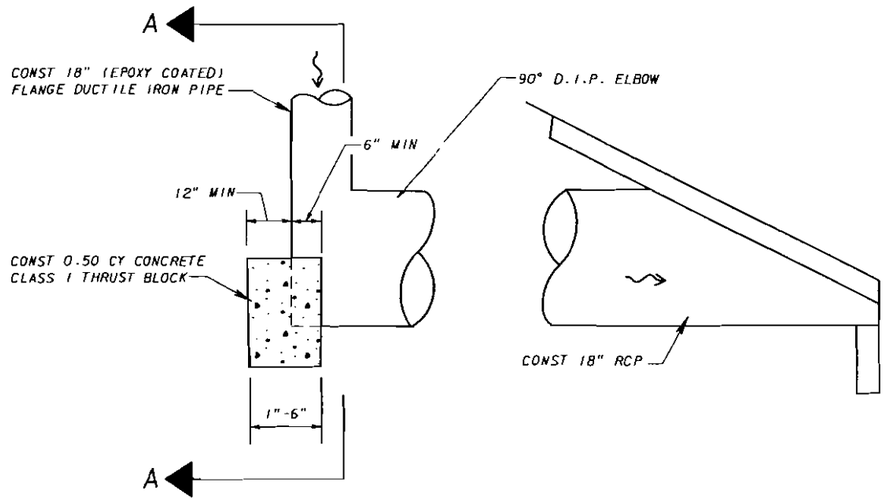


NOTE:
COST OF DUCTILE IRON PIPE & ELBOW, CONCRETE JACKET AND CONCRETE THRUST BLOCK TO BE INCLUDED IN THE COST OF DRAINAGE STRUCTURE S-702



SECTION A-A

N.T.S



THRUST BLOCK DETAILS

N.T.S.

DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration
No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT FLORIDA

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

SHEET NO. 22

jorge.ferrer 1/31/2008 3:51:09 PM Q:\ROADWAY\049280002_FentonSt\drainage\DRDTR003 N_V8.dgn

Appendix 3 – Palm Parkway

- Existing Permit Information
- SFWMD Permit # 48-00963-P
- Existing Roadway Plan Sheets
- Basin Analysis for Palm Parkway
- ICPR Input & Output Information

ADDITIONAL INFORMATION
MAY 13 1998
ORLANDO SERVICE CENTER

PROJECT SUMMARY

Turkey Lake Road Extension Modification to Permit No. 48-00963-P

This application is for the modification to the previously permitted Turkey Lake Road Extension (Permit No. 48-00963-P). The scope of this modification includes the removal of Pond 1 as previously permitted. The stormwater runoff will be accommodated in two offsite ponds, Pond 1A and Pond 1B, which will be permitted and constructed along with the Ruby Lake Ranch Phase 1 project as directed by District staff.

The modifications proposed occur within the Lake Ruby Drainage Basin Treated runoff from this portion of the roadway shall outfall to Lake Ruby via control structures and outfall pipes from ponds 1A & 1B. Both ponds have been designed as wet detention ponds and are in accordance with the South Florida Water Management District (SFWMD), Orange County, and Reedy Creek Improvement District (RCID) criteria. Please see the application for Ruby Lake Ranch Phase 1 for water quality calculations. In addition to meeting the water quality criteria, the detention ponds have been designed to attenuate the post development peak discharge rate to the pre-development discharge rates for the 25 year, 24 hour and 50 year 72 hour storm events.

The secondary system has been designed in accordance with Orange County criteria. The system has been designed to accommodate the 10 year/24 hour storm event while maintaining one (1) foot of separation between the curb flowline and the hydraulic grade line along Turkey Lake Road and one-half (1/2) foot of separation at the future inlets to be placed along the future private cul-de-sac associated with Ruby Lake Ranch Phase 1.

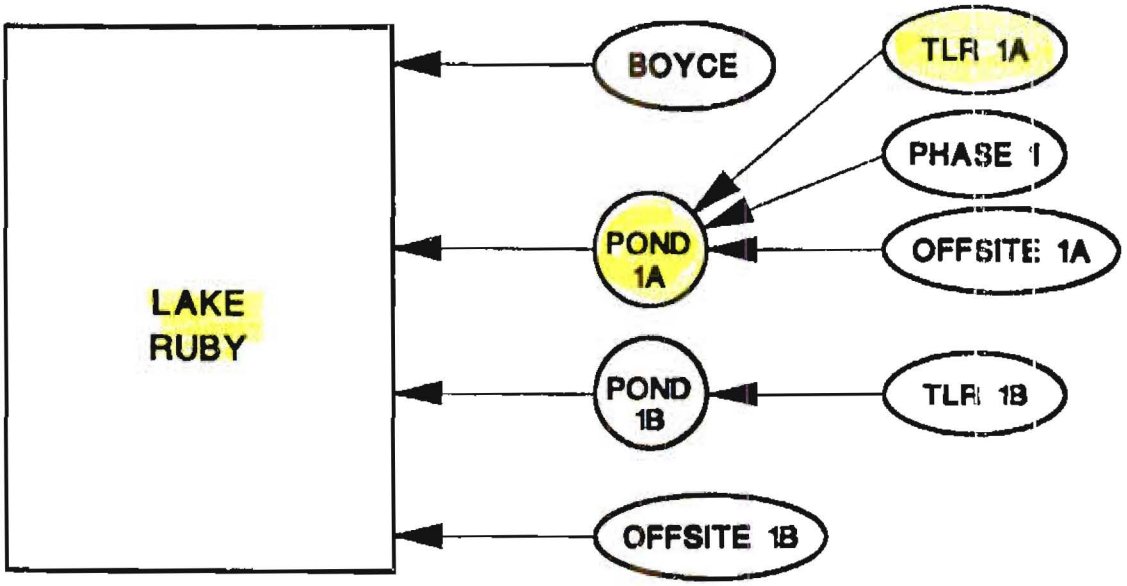
App # 980316-5

ADDITIONAL INFORMATION

MAR 26 1998

ORLANDO SERVICE CENTER

APP # 980316-5



LEGEND

PHASE 1 — BASIN

POND 1B — NODE (POND)

LAKE RUBY — TAILWATER NODE

Miller Sellen

Miller Sellen Conner & Walsh

214 E. Lucerne Circle ■ Orlando, Florida 32801

TURKEY LAKE ROAD EXTENSION MODIFICATION

ORANGE COUNTY, FLORIDA

POST-DEVELOPMENT NODAL DIAGRAM

FIGURE #6

MSCW No. 96102.44
March 20, 1998

ADDITIONAL INFORMATION

MAR 26 1998

ORLANDO SERVICE CENTER

TABLE 4

TURKEY LAKE ROAD EXTENSION MODIFICATION STAGE / STORAGE INFORMATION

Node Number	Stage (ft.)	Area (Ac.)	Cumulative Storage (ac.-ft.)
Pond 1A	116.5	1.72	0.00
	123.1	2.87	15.15
Pond 1B	117.0	0.75	0.00
	119.0	0.99	1.74
	120.0	1.21	2.84

APP # 980316-5

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)
Copyright 1989, Streamline Technologies, Inc.

10 YEAR 24 HOUR STORM - RUBY LAKE RANCH PHASE 1
2/11/98

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
POND1A	AREA	117.430	.000	.000	.000	116.500	1.720
						123.100	2.870
RUBY	TIME	115.500	.000	.000	.000	116.000	.000
						117.400	12.000
						117.400	30.000
POND1B	AREA	117.400	.000	.000	.000	117.000	.750
						119.000	.990
						120.000	1.210

ADDITIONAL INFORMATION
MAR 26 1998
ORLANDO SERVICE CENTER

APP # 980316-5

3/20/98
MSCW No 96102 44

Table 6
Turkey Lake Road Extension
Modification
Post Development Hydrologic Data

Basin ID	Total Drainage Area (ac)	Roadway * / Parcel * area (ac) 98	NCL area (ac) 98	Improved Area SCS Soil Type A Area (ac) 39	C Area (ac) 74	B/D Area (ac) 61	Weighted Runoff CN	Time of Conc (min)
TLR 1A	10 06	4 91	1 72	0 53	2 53	0 37	88	27
TLR 1B	5 03	3 36	0 75	0 37	0 07	1 48	85	25
Phase 1	18 57	12 93	0	0 72	4 77	0 15	90	20
Off 1A	3 82	2 67	0	0 22	0 9	0 03	89	35
Total	**38.48**							

* Roadway impervious includes median breaks, sidewalk, curb and pavement based on the 6 lane ultimate buildout of the project.

* Parcel Impervious includes 70% of lot area

Miller Sellen Conner & Walsh
COMMUNITY PLANNERS, LANDSCAPE ARCHITECTS, ENGINEERS

ADDITIONAL INFORMATION
MAR 2 6 1998
ORLANDO SERVICE CENTER

APP # 980316-5[redacted]

j:\server\jobs\96102\ruby\eng\96102 44 - TLR Modification Hydrologic data.xls

MSCW No. 96102.44
March 20, 1998

TABLE 8

TURKEY LAKE ROAD EXTENSION MODIFICATION WATER QUALITY DATA

Basin #	Total Drainage Area (ac.)	Total Impervious Area (ac.)	Pervious Area (ac.)	Water Management Area (ac.)	2.5" x Impervious Area (ac.-ft.)	1" x Drainage Area (ac.-ft.)	Water Quality % Required	Required Retention Volume (ac.-ft.)	Retention Volume Provided (ac.-ft.)
Pond 1A									
TLR 1A	10.06	4.91	3.43	1.72	1.02	0.84	100	1.02	---
Phase 1[1]	18.57	12.93	5.64	0.00	2.69	1.55	100	2.69	---
Off 1A	3.82	2.67	1.15	0.00	0.56	0.32	100	0.56	---
Totals	**32.45**	**20.51**	**10.11**	**1.83**	**4.27**	**2.71**	**100**	**4.27**	**5.51**
Pond 1B									
TLR 1B	6.03	3.36	1.92	0.75	0.7	0.50	100	0.70	0.70

[1] Includes 0.93 acres from Basin Phase 1 Cul-de-Sac

ADDITIONAL INFORMATION
MAR 26 1998
ORLANDO SERVICE CENTER

&SERVER\JOBS\96102 turkey\WP\96102.14 Turkey Lk. Rd. Extn. Mod. Tables.doc

APP # 980316-5

Miller, Sellers, Connor & Walsh
COMMUNITY PLANNERS, DESIGNERS, & ENGINEERS

MSCW No. 96102.44
March 20, 1998

ADDITIONAL INFORMATION
MAR 26 1998
ORLANDO SERVICE CENTER

TABLE 9

TURKEY LAKE ROAD EXTENSION

DISCHARGE STRUCTURE TABLE

	Basin TLR 1A
Structure No:	R1
Overflow Device:	Drop Structure w/Circular Culvert
Overflow Weir:	Rectangular Riser Slot
'C' Value:	3.0
Length:	2.25 Ft.
Height:	3.5 Ft.
Weir Elevation:	118.9 Ft.
Structure Top:	122.4 Ft.
Bleeddown Device:	V-Notch
'C' Value:	2.8
Crest Angle:	25°
Height:	1.75 Ft.
Invert:	116.5 Ft.
Outfall Culvert:	Yes
Length:	690 Ft.
Size and Material:	54" RCP
Upstream Invert Elevation:	108.76 Ft.
Downstream Invert Elevation:	108.35 Ft.

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TABLE 9

TURKEY LAKE ROAD EXTENSION

DISCHARGE STRUCTURE TABLE

ADDITIONAL INFORMATION
MAR 2 6 1998
ORLANDO SERVICE CENTER

Basin TLR 1B	
Structure No:	**R2**
Overflow Device:	Drop Structure w/Circular Culvert
Overflow Weir:	Rectangular Riser Slot
'C' Value:	3.0
Length:	1.25 Ft.
Height:	N/A
Weir Elevation:	117.8 Ft.
Bleeddown Device:	V-Notch
'C' Value:	2.8
Crest Angle:	30°
Height:	0.6 Ft.
Invert:	117.0Ft.
Outfall Culvert:	Yes
Length:	79 Ft.
Size and Material:	30" RCP
Upstream Invert Elevation:	111.79 Ft.
Downstream Invert Elevation:	111.69 Ft.

APP # 980316-5

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ADDITIONAL INFORMATION

25/24 STORM PHASE 1 RUBY LAKE RANCH
2/11/98

MAR 23 1998

ORLANDO SERVICE CENTER

BASIN NAME	TLR1A	PHASE1	TLR1B	OFF1A
NODE NAME	POND1A	POND1A	POND1B	POND1A
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.
RAINFALL FILE	ORANGE	ORANGE	ORANGE	ORANGE
RAIN AMOUNT (in)	8.60	8.60	8.60	8.60
STORM DURATION (hrs)	24.00	24.00	24.00	24.00
AREA (ac)	10.06	18.57	6.03	3.82
CURVE NUMBER	88.00	90.00	85.00	89.00
DCIA (%)	.00	.00	.00	.00
TC (mins)	27.00	20.00	25.00	35.00
LAG TIME (hrs)	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	OFFSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
TLR1A	16.19	9.06	7.16	ROADWAY BASIN 1A
PHASE1	31.19	9.02	7.40	PHASE 1
TLR1B	9.44	9.06	6.80	ROADWAY BASIN 1B
OFF1A	6.00	9.10	7.28	

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10 YEAR 24 HOUR STORM - RUBY LAKE RANCH PHASE 1
2/11/98

```
>>REACH NAME       : R1
  FROM NODE        : POND1A
  TO NODE          : RUBY
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  54.000       RISE (in):  54.000     LENGTH (ft): 690.000
   U/S INVERT (ft): 108.760 D/S INVERT (ft): 108.350       MANNING N:    .011
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 118.900  CREST LN. (ft):   2.250    OPENING (ft): 999.000
       WEIR COEF.:   3.000       GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : TRIANGULAR RISER SLOT
    CREST EL. (ft): 116.500  CREST ANG (dg):  25.000    OPENING (ft):   1.750
       WEIR COEF.:   2.800       GATE COEF.:    .600        RESERVED:********

            NOTE:
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ADDITIONAL INFORMATION

APP # 980316-5

MAR 26 1998

ORLANDO SERVICE CENTER

```
>>REACH NAME       : R2
  FROM NODE        : POND1B
  TO NODE          : RUBY
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  30.000       RISE (in):  30.000     LENGTH (ft):  79.000
   U/S INVERT (ft): 111.790 D/S INVERT (ft): 111.690       MANNING N:    .012
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 117.800  CREST LN. (ft):   1.250    OPENING (ft): 999.000
       WEIR COEF.:   3.000       GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : TRIANGULAR RISER SLOT
    CREST EL. (ft): 117.000  CREST ANG (dg):  30.000    OPENING (ft):    .600
       WEIR COEF.:   2.800       GATE COEF.:    .600        RESERVED:********

            NOTE:
```

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25/24 STORM PHASE 1 RUBY LAKE RANCH APP # 980316-5
2/11/98

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
POND1A	AREA	117.430	.000	.000	.000	116.500	2.720
						123.100	2.870
RUBY	TIME	116.000	.000	.000	.000	116.000	.000
						117.700	10.000
						117.700	30.000
POND1B	AREA	117.400	.000	.000	.000	117.000	.750
						119.000	.990
						120.000	1.210

ADDITIONAL INFORMATION
MAR 25 1998
ORLANDO SERVICE CENTER

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50/72 STORM POST DEVELOPMENT - PHASE 1
3/2/98

APP # 980316-5

```
>>REACH NAME       : BLEED1A
  FROM NODE        : POND1A
  TO NODE          : RUBY
  REACH TYPE       : TRIANGULAR WEIR/GATE/ORIFICE, VILLEMONTE EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 116.500 VERTX ANG (deg):  25.000    OPENING (ft):   1.750
        WEIR COEF.:   2.800      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000
              NOTE:
```

ADDITIONAL INFORMATION

MAR 25 1998

ORLANDO SERVICE CENTER

APP # 980316-5

Page 1

SECONDARY STORM SEWER CALCULATIONS FOR
DESIGN STORM 10 YEAR

Turkey Lake Road Extension Modification
MBA JOB NO 96102.40
RAIN

23-Mar-98

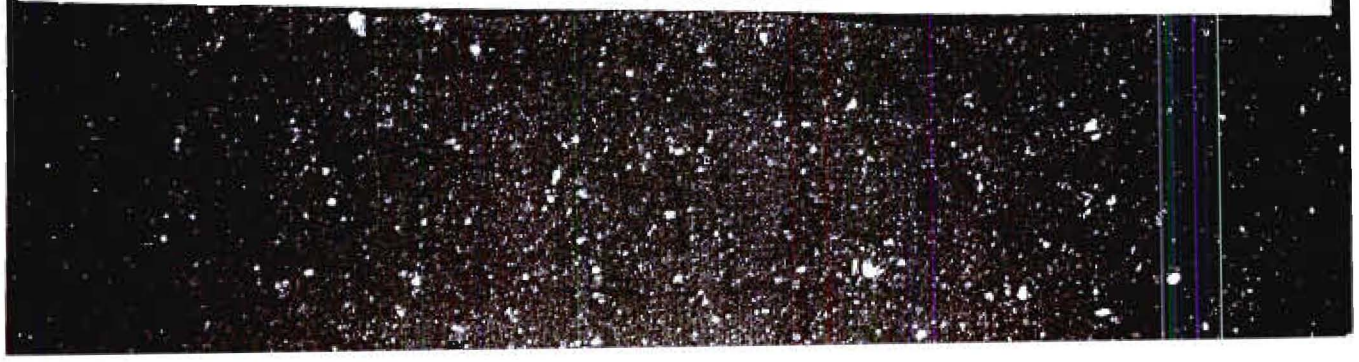
STRUCTURE	TO	LEN	DRAIN AREA C1 = 0.71 C2 = 0.20 C3 = 0.90 INCREMENT	SUB TOT	TOTAL C×A	INC TC	TOTAL RUNOFF (CFS)	STRUCT ELEV PGL EL TOP EL CURB EL	HGL ELEV PIPE CROWN EL PIPE INV EL UPPER END	LOWER END	HGL FALL PIPE FALL (FT)	PIPE DIA (IN)	HGL SLOPE PIPE SLOPE (%)	ACT VEL DES VEL (FPS)	ACT FLOW DES CAP (CFS)	BEND COEFF 3/10 VEL (FPS)
1	2	105	0.429	0.429	0.305	6.4	1.95	121.04	118.98	118.89	0.10	15	0.09	1.58	2.0	0.60
CI			0.000	0.000		15.0		120.73	116.38	115.98				3.23	4.0	2.5
RCP			0.000	0.000		15.0		120.23	115.13	114.73	0.40		0.38	BEND LOSS=		0.03
2	4	45	0.429	0.858	0.609	6.2	3.80	121.04	118.98	118.83 *	0.02	24	0.03	1.21	3.8	0.60
CI			0.000	0.000		15.0		120.73	115.98	115.81				3.21	10.1	2.47
RCP			0.000	0.000		16.1		120.23	114.73	114.56	0.17		0.20	BEND LOSS=		0.01
3	4	105	0.242	0.242	0.172	6.4	1.10	120.87	118.83	118.82	0.01	18	0.01	0.62	1.1	0.60
CI			0.000	0.000		15.0		120.56	116.48	116.15				3.25	5.7	2.8
RCP			0.000	0.000		15.0		120.06	114.96	114.65	0.32		0.30	BEND LOSS=		0.00
4	6	86	0.242	1.342	0.953	6.0	5.70	120.87	118.82	118.81 *	0.01	30	0.02	1.16	5.7	0.60
CI			0.000	0.000		15.0		120.56	115.81	115.70		(24X34)		3.26	16.0	2.51
RCP			0.000	0.000		17.8		120.06	114.56	114.45	0.11		0.13	BEND LOSS=		0.01
5	6	105	0.180	0.180	0.126	6.4	0.82	121.01	118.81	118.80	0.02	15	0.02	0.87	0.8	0.60
CI			0.000	0.000		15.0		120.70	116.35	115.95				3.23	4.0	2.5
RCP			0.000	0.000		15.0		120.20	115.10	114.70	0.40		0.38	BEND LOSS=		0.00
6	6A	124	0.180	1.702	1.208	5.8	7.04	121.01	118.79	118.76	0.03	30	0.03	1.43	7.0	0.60
CI			0.000	0.000		15.0		120.70	115.70	115.54		(24X38)		3.28	16.0	2.51
RCP			0.000	0.000		19.0		120.20	114.45	114.26	0.18		0.13	BEND LOSS=		0.02
6A	8	176	0.000	1.702	1.208	5.6	6.83	121.29	118.74	118.70 *	0.04	30	0.02	1.38	6.8	0.60
MH			0.000	0.000		0.0		121.97	115.54	115.31		(24X38)		3.26	16.0	2.5
RCP			0.000	0.000		20.5		121.87	114.26	114.06	0.23		0.13	BEND LOSS=		0.02
7	8	108	0.239	0.239	0.170	6.4	1.09	120.92	118.72	118.68	0.03	15	0.03	0.89	1.1	0.60
CI			0.000	0.000		15.0		120.61	116.26	115.85				3.23	4.0	2.48
RCP			0.000	0.000		15.0		120.11	115.01	114.60	0.41		0.38	BEND LOSS=		0.01
8	10	86	0.239	2.180	1.548	5.4	8.36	120.92	118.68	118.65	0.03	30	0.04	1.71	8.4	0.60
CI			0.000	0.000		15.0		120.61	116.56	116.45				3.26	16.0	2.51
RCP			0.000	0.000		22.6		120.11	114.06	113.95	0.11		0.13	BEND LOSS=		0.03
9	10	109	0.239	0.239	0.170	6.4	1.09	120.73	118.66	118.63	0.03	15	0.03	0.89	1.09	0.60
CI			0.000	0.000		15.0		120.42	116.07	115.84				3.23	3.97	2.48
RCP			0.000	0.000		15.0		119.92	114.82	114.41	0.41		0.38	BEND LOSS=		0.01
10	12	98	0.239	2.658	1.887	5.33	10.05	120.73	118.63	118.61 *	0.02	36	0.02	1.42	10.05	0.60
CI			0.000	0.000		15.0		120.42	116.95	116.87				3.23	22.63	2.48
RCP			0.000	0.000		23.4		120.42	113.95	113.87	0.09		0.10	BEND LOSS=		0.02
11	12	109	0.306	0.306	0.217	6.4	1.39	121.09	118.65	118.60	0.05	15	0.05	1.13	1.39	0.60
CI			0.000	0.000		15.0		120.75	116.40	115.98				3.23	1.97	2.48
RCP			0.000	0.000		15.0		120.25	115.15	114.74	0.41		0.38	BEND LOSS=		0.01
12	14	218	0.306	3.270	2.322	5.23	12.14	121.06	118.59	118.53 *	0.06	36	0.03	1.72	12.14	0.60
CI			0.000	0.000		15.0		120.75	116.87	116.65				3.23	22.63	2.48
RCP			0.000	0.000		24.4		120.25	113.87	113.65	0.22		0.10	BEND LOSS=		0.03
13	14	109	0.306	0.306	0.217	6.41	1.39	121.91	118.56	118.51 *	0.05	15	0.05	1.13	1.39	0.60
CI			0.000	0.000		15.0		121.80	117.25	116.84				3.23	3.87	2.48
RCP			0.000	0.000		15.0		121.10	116.00	115.59	0.41		0.38	BEND LOSS=		0.01
14	Pond	98	0.306	3.882	2.756	5.03	13.87	121.91	118.50	118.48 *	0.03	36	0.04	1.96	13.87	0.60
CI			0.000	0.000		15.0		121.60	115.44	115.37				3.23	22.63	2.48
RCP			0.000	0.000		28.5		121.10	112.44	112.37	0.07		0.10	BEND LOSS=		0.04
14A	14B	108	0.298	0.298	0.212	8.41	1.38	122.83	118.62	118.57 *	0.05	15	0.04	1.10	1.36	0.60
CI			0.000	0.000		15.0		122.52	118.17	117.76				3.23	3.97	2.48
RCP			0.000	0.000		18.0		122.02	116.82	116.51	0.41		0.38	BEND LOSS=		0.01
14B	Pnd 10	66	0.298	0.596	0.423	5.0	2.11	122.83	118.56	118.49 *	0.07	15	0.11	1.72	2.11	1.00
CI			0.000	0.000		15.0		122.52	115.71	115.46				3.23	3.97	2.48
RCP			0.000	0.000		27.1		122.02	114.46	114.20	0.26		0.38	BEND LOSS=		0.08

DESIGN STORM ELEV = 118.44 10 yr stage at peak inflow

ADDITIONAL INFORMATION

MAR 26 1998

ORLANDO SERVICE CENTER



APP # 980316-5 ADDITIONAL INFORMATION

MAR 26 1998

ORLANDO SERVICE CENTER

SECONDARY STORM SEWER CALCULATIONS FOR — Turkey Lake Road Extension (Section 1) — Page 2

DESIGN STORM 10 YEAR — MBA JOB NO 95102.40 — 23-Mar-98

RAIN — STRUCT ELEV — HGL ELEV — HGL FALL — HGL SLOPE — HGL VEL — HGL FLOW — BEND COEFF

DRAIN AREA: C1 = 0.71; C2 = 0.20; C3 = 0.90 — inlC — PIPE INV EL — PIPE DIA — PIPE SLOPE — PIPE DES VEL — PIPE DES CAP — PIPE DES VEL

STRUCT	TO STR	LENGTH	INCREMENT	SUB TOT	TOTAL C1A	T C	TOTAL RUNOFF (CFS)	PGL EL TOP EL CURB FL	UPPER END	LOWER END	PIPE FALL (FT)	PIPE DIA (IN)	PIPE SLOPE (%)	PIPE DES VEL (FPS)	PIPE DES CAP (CFS)	PIPE DES VEL (FPS)
16	18	109	0.343	0.343	0.244	6.4	1.56	138.77	133.79	133.65	0.08	15	0.08	1.27	1.6	0.60
CI			0.000	0.000		15.0		138.46	132.11	131.70				3.23	4.0	2.5
RCP			0.000	0.000		15.0		135.96	130.36	130.65	0.41		0.38	BEND LOSS=		0.02
18	18	234	0.349	0.686	0.487	6.2	3.01	138.77	133.64	133.65 *	0.10	18	0.09	1.70	3.0	0.60
CI			0.000	0.000		15.0		138.46	131.94	131.24				3.25	5.7	2.50
RCP			0.000	0.000		16.4		135.96	130.44	129.74	0.70		0.30	BEND LOSS=		0.03
17	18	109	0.134	0.134	0.095	6.4	0.61	137.46	133.43	133.42	0.01	15	0.01	0.50	0.8	0.60
CI			0.000	0.000		15.0		137.15	132.66	132.36				3.23	4.0	2.5
RCP			0.000	0.000		15.0		136.65	131.55	131.14	0.41		0.36	BEND LOSS=		0.00
19	20	267	0.134	0.954	0.677	5.8	3.97	137.46	133.42	133.04 *	0.38	18	0.14	2.25	4.0	0.60
CI			0.000	0.000		15.0		137.15	131.24	130.44				3.25	5.7	2.50
RCP			0.000	0.000		18.7		136.65	129.74	128.84	0.90		0.30	BEND LOSS=		0.09
20	20	109	0.254	0.254	0.180	6.4	1.16	137.22	PARTIAL #	134.14	0.04	15	0.03	0.64	1.2	0.60
CI			0.000	0.000		15.0		136.91	134.55	134.14				3.23	4.0	2.5
RCP			0.000	0.000		15.0		136.41	133.30	132.89	0.41		0.36	BEND LOSS=		0.01
20	22	235	0.254	1.462	1.038	5.6	5.84	137.22	132.88	132.28 *	0.73	18	0.31	3.33	5.8	0.60
CI			0.000	0.000		15.0		136.91	130.44	129.73				3.25	5.7	2.50
RCP			0.000	0.000		20.7		136.41	129.84	129.23	0.71		0.30	BEND LOSS=		0.10
21	22	109	0.343	0.343	0.244	6.4	1.56	136.53	PARTIAL #	133.45	0.09	15	0.08	1.27	1.6	0.60
CI			0.000	0.000		15.0		136.22	133.86	133.45				3.23	4.0	2.5
RCP			0.000	0.000		15.0		135.72	132.61	132.20	0.41		0.36	BEND LOSS=		0.02
22	22A	171	0.343	2.148	1.525	5.5	8.37	136.53	132.16	131.06 *	1.08	18	0.64	4.74	8.4	0.60
CI			0.000	0.000		15.0		136.22	129.73	129.22				3.25	5.7	2.50
RCP			0.000	0.000		21.9		135.72	129.23	127.72	0.51		0.30	BEND LOSS=		0.21
22A	24	121	0.000	2.148	1.525	5.4	8.27	135.65	130.66	130.10 *	0.76	18	0.62	4.68	8.3	0.60
MH			0.000	0.000		15.0		135.60	129.22	128.88				3.25	5.7	2.50
RCP			0.000	0.000		22.5		135.60	127.72	127.36	0.36		0.30	BEND LOSS=		0.22
23	24	109	0.448	0.448	0.318	6.4	2.04	135.22	130.03	129.92	0.11	15	0.10	1.66	2.0	0.60
CI			0.000	0.000		15.0		134.91	129.03	128.62				3.23	4.0	2.49
RCP			0.000	0.000		15.0		134.41	127.78	127.37	0.41		0.36	BEND LOSS=		0.03
24	24A	145	0.448	3.044	2.161	9.4	13.45	135.22	129.80	129.35	0.55	24	0.38	4.41	13.8	0.60
CI			0.000	0.000		15.0		134.91	129.38	129.07				3.21	10.1	2.47
RCP			0.000	0.000		15.0		134.41	127.38	127.07	0.29		0.20	BEND LOSS=		0.10
24A	26	145	0.000	3.044	2.161	5.4	11.72	134.47	129.17	128.78 *	0.39	24	0.27	3.73	11.72	0.60
MH			0.000	0.000		15.0		134.22	129.07	128.78				3.21	10.09	2.47
RCP			0.000	0.000		22.5		134.22	127.07	128.78	0.29		0.20	BEND LOSS=		0.19
25	26	109	0.448	0.448	0.318	5.36	1.70	133.58	PARTIAL #	129.51	0.06	15	0.07	1.36	1.70	0.60
CI			0.000	0.000		15.0		133.27	129.02	129.31				3.23	3.97	2.49
RCP			0.000	0.000		23.1		132.77	127.87	127.36	0.41		0.36	BEND LOSS=		0.02
26	27	216	0.448	3.940	2.797	5.2	14.62	133.58	PARTIAL #	127.80	0.91	24	0.42	4.68	14.62	0.60
CI			0.000	0.000		23.7		133.27	128.78	127.90				5.30	19.66	4.08
RCP			0.000	0.000		24.4		132.77	5.78	125.60	1.16		0.55	BEND LOSS=		0.17
27A	27	129	0.000	0.000	2.633	5.23	13.78	131.11	126.92	126.44	0.48	24	0.37	4.39	15.76	0.60
MH			1.150	1.150		20.0		131.11	126.70	126.44				3.21	10.06	2.47
RCP			2.670	2.670		24.4		131.11	124.70	124.44	0.26		0.20	BEND LOSS=		0.16
27	28	267	0.000	3.940	5.430	5.15	27.69	131.11	PARTIAL #	124.66 *	0.62	30	0.40	5.70	27.90	0.60
MH			0.000	1.150		0.0		131.11	126.64	124.66				5.08	44.66	6.99
RCP			0.000	2.670		25.2		131.11	124.44	122.35	2.09		1.01	BEND LOSS=		0.30
28	28	109	0.657	0.657	0.466	5.1	2.26	128.78	PARTIAL #	123.75	0.13	15	0.14	1.84	2.26	0.60
CI			0.000	0.000		23.7		128.45	124.10	123.69				3.23	3.97	3.48
RCP			0.000	0.000		25.6		127.95	122.65	122.44	0.41		0.36	BEND LOSS=		0.03
29	30	178	0.657	5.254	6.383	5.01	31.91	128.78	123.71	123.35	0.35	36	0.20	4.51	31.91	0.60
CI			0.000	1.150		23.7		128.45	123.69	122.03				9.46	66.51	7.98
RCP			0.000	2.670		28.8		127.95	120.66	119.03	1.66		0.93	BEND LOSS=		0.16
30	32	178	0.000	5.254	5.383	5.0	31.54	128.73	123.31	122.87	0.34	36	0.19	4.46	31.34	1.00
MH			0.000	1.150		0.0		128.48	122.03	120.82				9.42	58.53	11.48
RCP			0.000	2.670		27.4		128.48	119.03	117.82	1.21		0.68	BEND LOSS=		0.31
32	31	109	9.852	5.826	6.756	4.90	32.11	124.71	122.58	122.48	0.10	42	0.09	3.44	33.11	1.00
CI			0.000	1.150		23.7		124.40	118.03	118.54				3.20	30.91	3.47
RCP			0.000	2.670		25.1		123.90	116.13	116.04	0.09		0.08	BEND LOSS=		0.19

ADDITIONAL INFORMATION

Page 3

APP # 980316-5

MAR 26 1998

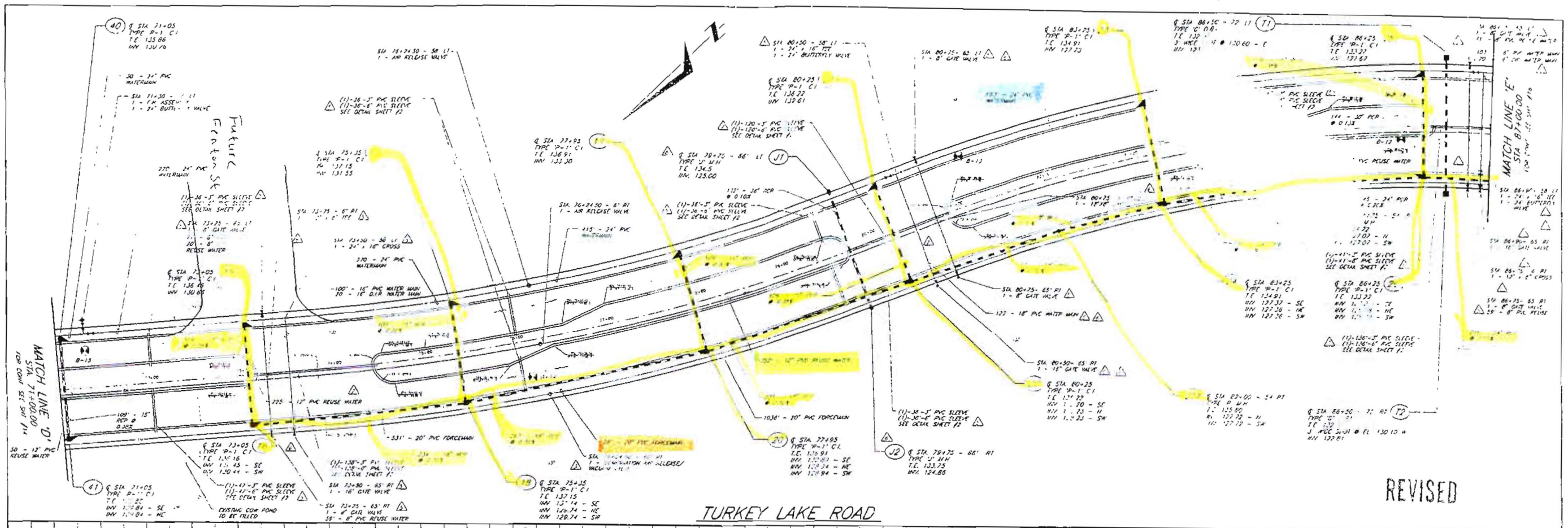
ORLANDO SERVICE CENTER

SECONDARY STORM SEWER CALCULATIONS FOR Turkey Lake Road Extension Mo[illegible]

DESIGN STORM 10 YEAR MSA JOB NO 96102 40 23-Mar-98

STRUCT	TO STR	LENGTH	DRAIN AREA C1 = 0.71 C2 = 0.20 C3 = 0.90 INC-MENT	SUB TOT	TOTAL CxA	RAIN INC T.C T C	TOTAL RUNOFF (CFS)	STRUCT ELEV PGL EL TOP EL CURB FL	HGL ELEV PIPE CROWN EL PIPE INV. EL UPPER END	LOWER END	HGL FALL PIPE FALL (FT)	PIPE DIA (IN)	HGL SLOPE PIPE SLOPE (%)	VEL VEL (FPS)	FLOW CAP (CFS)	BEND COEFF VEL (FPS)
31	R1	79	0.000	5.806	6.851	4.8	33.29	124.71	122.27	122.20 *	0.07	42	0.08	3.46	33.29	0.50
CI			0.030	1.180		23.7		124.40	118.25	118.18				3.20	30.81	2.47
RCP			0.100	2.770		28.8		123.90	114.75	114.69	0.06		0.08	BEND LOSS=		0.09
R2	R1	66	0.000	0.000	3.422	4.83	16.52	126.00	124.54	122.92	1.62	18	2.46	9.36	16.52	0.60
MH			1.540	1.540		20		126.00	116.38	116.19				3.25	5.73	2.80
RCP			3.460	3.460		29.0		126.00	116.66	116.69	0.20		0.30	BEND LOSS=		0.81
R1	R3	214	0.000	5.806	10.389	4.8	49.98	126.00	122.11	121.96	0.45	42	0.21	5.19	48.56	0.60
CI			0.120	2.840		25.0		125.69	118.19	119.02				3.20	30.81	2.47
RCP			0.080	6.310		29.1		125.19	114.69	114.52	0.17		0.08	BEND LOSS=		0.26
R3	R5	78	0.000	5.806	10.389	4.78	49.40	126.00	121.40	121.24 *	0.16	42	0.21	5.13	48.40	0.50
MH			0.[illegible]	2.840		0		126.00	119.02	117.95				3.20	30.81	2.47
RCP			0.000	6.310		29.8		126.00	114.52	114.45	0.06		0.08	BEND LOSS=		0.20
R4	R5	66	0.000	0.000	2.488	4.1	10.24	125.50	122.18	121.56	0.62	18	0.69	5.80	10.24	1.00
CI			1.150	1.150		40.0		125.25	118.16	117.56				3.25	5.73	2.80
RCP			2.520	2.520		40.0		125.25	116.69	118.46	0.20		0.30	BEND LOSS=		0.62
R5	R6	286	0.000	5.806	14.003	4.08	57.27	125.50	121.04	120.66	0.38	48	0.14	4.56	57.27	1.00
MH			0.640	4.630		15		125.50	117.95	117.77				3.28	41.17	2.62
RCP			1.120	9.950		40.2		125.50	113.95	113.77	0.19		0.07	BEND LOSS=		0.32
R6	Pnd 1A	77	0.000	5.806	14.003	4.0	56.54	123.00	120.38	120.25	0.10	48	0.13	4.50	56.54	1.00
MH			0.000	4.630		0.0		123.00	115.20	115.15				3.28	41.17	2.62
RCP			0.000	9.950		41.2		123.00	111.20	111.15	0.06		0.07	BEND LOSS=		0.31

DESIGN STORM ELEV = 119.94 10 year stage at peak inflow


MATCH LINE "D"
STA 71+00.00
MATCH LINE "E"
STA 87+00.00
Future Fraston St
TURKEY LAKE ROAD
REVISED
ESTIMATED SEASONAL HIGH GROUND WATER ELEV. (TYP.)
EXISTING
PROPOSED P.G.
PVI STA = 76+24.50
PVI ELEV = 137.73
PVI STA = 87+19
PVI ELEV = 116.25
PVI STA = 86+00
PVI ELEV = 133.83
A=0.16
50mph
A=0.59
50mph
0.30%
-0.50%
-0.50%
-1.09%
DEFLECT REUSE WATER MAIN BELOW WATERMAIN. SEE NOTE 13 ON REUSE WATER NOTES SHEET 12
DEFLECT REUSE WATER AND FORCEMAIN IN ACCORDANCE W/ MANUFACTURER'S SPECIFICATIONS PROVIDE 18" VERTICAL SEPARATION BETWEEN TOP OF REUSE WATER AND FORCEMAIN AND BOTTOM OF WATERMAIN
DEFLECT REUSE WATER MAIN ABOVE STORM PROVIDE 12" VERTICAL SEPARATION
DEFLECT REUSE WATER MAIN ABOVE P/C FORCEMAIN PROVIDE 12" VERTICAL SEPARATION
15" PVC REUSE WATER
10" PVC FORCEMAIN
15" RCP
18" RCP
24" RCP
30" RCP
36" RCP
42" RCP
48" RCP
EXISTING COW POND TO BE FILLED
50' - 12" PVC REUSE WATER
270' - 24" PVC WATERMAIN
415' - 24" PVC WATERMAIN
1036' - 20" PVC FORCEMAIN
531' - 20" PVC FORCEMAIN
100' - 16" DIA WATER MAIN
70' - 16" DIA WATER MAIN
123' - 16" PVC WATER MAIN
STA 71+00 - 24" BUTTERFLY VALVE
STA 76+24.50 - 8" AIR RELEASE VALVE
STA 80+25 - 8" GATE VALVE
STA 80+50 - 8" GATE VALVE
STA 73+25 - 6" GATE VALVE
STA 73+50 - 8" GATE VALVE
STA 73+50 - 16" CROSS
STA 86+25 - 8" GATE VALVE
STA 86+50 - 16" GATE VALVE
STA 86+75 - 16" GATE VALVE
STA 86+75 - 16" x 6" CROSS
STA 86+25 - 6" GATE VALVE
STA 86+50 - 6" GATE VALVE
STA 86+50 - 6" PVC REUSE
STA 86+50 - 6" DIP WATER MAIN
STA 86+50 - 12" DIP WATER MAIN
STA 86+50 - 16" DIP WATER MAIN
STA 86+50 - 24" DIP WATER MAIN
STA 86+50 - 24" BUTTERFLY VALVE
STA 86+50 - 16" GATE VALVE
STA 86+50 - 12" GATE VALVE
STA 86+50 - 6" GATE VALVE
STA 86+50 - 16" x 12" REDUCER
STA 86+50 - 16" x 6" CROSS
STA 86+50 - 12" x 6" CROSS

REVISED

TURKEY LAKE ROAD

MATCH LINE "E" STA 87+00.00 FOR CONT SEE SHT #15

MATCH LINE "F" STA 100+00.00 FOR CONT SEE SHT #17

POND #18
N.C.L. 117.0
10 YR./24 HR. 118.3
25 YR./24 HR. 119.0
50 YR./72 HR. 119.9
100 YR./24 HR. 119.3
(TO BE PERMITTED BY S.F.W.M.D. UNDER SEPARATE APPLICATION)

PVI STA. = 96+00
PVI ELEV. = 122.98
A.D. = 0.68
K = 293.40
200.00' VC

ESTIMATED SEASONAL HIGH GROUND WATER ELEV. (TYP.)

DEFLECT REUSE WATERMAIN ABOVE STORM PROVIDE 6" MIN. VERTICAL SEPARATION

DEFLECT REUSE WATER MAIN BELOW WATERMAIN. SEE NOTE #3 ON REUSE WATER NOTES SHEET #3

DEFLECT REUSE WATERMAIN AND FORCEMAIN IN ACCORDANCE W/ MANUFACTURER'S SPECIFICATIONS. MINIMUM 18" VERTICAL SEPARATION BETWEEN TOP OF REUSE WATER AND FORCEMAIN AND BOTTOM OF WATERMAIN

No.	DATE	DESCRIPTION
8	12/22/98	ADDED MEDIAN OPENING
7	7/29/98	REVISED MEDIAN OPENINGS AND UTILITY STUBOUTS
6	5/27/98	REVISED PER UTILITY STUBOUT LOCATIONS, MEDIAN OPENINGS AND SLEEVES
5	5/11/98	REVISED PER S.F.W.M.D. COMMENTS
4	3/16/98	REVISED PLANS PER POND #1 MODIFICATION
3	1/8/98	REVISED PLANS PER ORANGE COUNTY UTILITIES COMMENTS
2	10/13/97	REVISED PLANS PER ORANGE COUNTY COMMENTS
1	7/25/97	SUBMIT TO S.F.W.M.D., R.C.I.D. & ORANGE COUNTY

REVISIONS

DES. RLB/SME
DWN JLD
CHK'D RLB
APP'D KTW
FILE: TLR-PPR.DWG

MILLER - SELLEN ASSOCIATES, INC.
214 East Lucerne Circle - Orlando, Florida 32801 (407) 422-3330
URBAN PLANNERS & ENGINEERS

PLAN & PROFILE
TURKEY LAKE ROAD EXTENSION
ORANGE COUNTY, FLORIDA

JOB NO. 96102.30
DATE JUL.97
SCALE 1"= 50' HORIZ, 1"= 5' VERT
SHEET 16 OF 28

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
Date: October 27 2005 Time: 1:00 PM
KHA Project Number: 049280002

PROJECT: **Wildwood Area Roadway Network**
BASIN NAME: **Palm Parkway**
NODE NAME: **Pond '1A'**

BASIN ANALYSIS

EXISTING PERMITTED CONDITION FOR PALM PARKWAY

Basin	TRL1A	Phase 1	Offsite 1A	TOTAL
Area	10.06 ac.	18.57 ac.	3.82 ac.	32.45 ac.
CN	88	90	89	
Tc	27	20	35	
Aimp	4.91 ac.	12.93 ac.	2.67 ac.	20.51 ac.
2.5"Aimp	1.02 Ac-Ft.	2.69 Ac-Ft.	0.56 Ac-Ft.	4.27 Ac-Ft.
1"Atotal	0.84 Ac-Ft.	1.55 Ac-Ft.	0.32 Ac-Ft.	2.71 Ac-Ft.
Water Quality Provided				5.51 Ac-Ft.

Pond 1A Stage - Storage

Stage	Area	Average A	Incre. Depth	Volume
116.50 ft.	1.72 ac.	---	---	0.00 Ac-Ft.
123.10 ft.	2.87 ac.	2.30 ac.	6.60	15.15 Ac-Ft.

Permitted Discharge Structure

Drop Structure with Pipe

Bleed-down Weir Device	
Invert:	116.50 ft.
Type:	V-Notch
Height:	1.75 ft.
Angle:	25°

Outfall Culvert Data	
Length:	690.00 ft.
Size:	54 in.
Material:	RCP
Inv Upstrm	108.76 ft.
Inv DnStrm	108.35 ft.

Overflow Vertical Weir		
Invert	118.90 ft.	Treatment Stage Elevation
Type:	Rectangular	
C:	3.0	
Length	2.25 ft.	
Height:	3.50 ft.	
Top Elev:	122.40 ft.	

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
Date: October 27 2005 Time: 1:00 PM
KHA Project Number: 049280002

PROJECT: **Wildwood Area Roadway Network**
BASIN NAME: **Palm Parkway**
NODE NAME: **Pond '1A'**

BASIN ANALYSIS

PROPOSED Street 'B' Additional Roadway Contributing to Palm Parkway

Street 'B' additional roadway contributing to Palm Parkway

Basin	Street 'B'
Area	1.36 ac.
Aimp	1.05 ac.
Aimp	0.31 ac.

Basin	TRL1A	Phase 1	Offsite 1A	TOTAL
Area	11.42 ac.	18.57 ac.	3.82 ac.	33.81 ac.
CN	88.7	90	89	
Tc	27	20	35	
Aimp	5.96 ac.	12.93 ac.	2.67 ac.	21.56 ac.
2.5"Aimp	1.24 Ac-Ft.	2.69 Ac-Ft.	0.56 Ac-Ft.	4.49 Ac-Ft.
1"Atotal	0.95 Ac-Ft.	1.55 Ac-Ft.	0.32 Ac-Ft.	2.82 Ac-Ft.
Water Quality Provided				5.51 Ac-Ft.

Pond 1A Stage - Storage

Stage	Volume		
116.50 ft.	0.00 Ac-Ft.		
118.90 ft.	---	Water Quality Provided	5.51 Ac-Ft.
123.10 ft.	15.15 Ac-Ft.	REMAINS UNCHANGED!!	

==========
==== Basins ====
==========

Name: ExOffSite1A Node: ExPond 1A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 35.00
Area(ac): 3.820 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Off Site Area (based on MSA Permitted Calculations)

Name: ExPalmPky Node: ExPond 1A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 27.00
Area(ac): 10.060 Time Shift(hrs): 0.00
Curve Number: 88.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Palm Parkway (based on the MSA Permitted Calculations)

Name: ExPhase 1 Node: ExPond 1A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 20.00
Area(ac): 18.570 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Offsite Area Phase 1 (based on the MSA Permitted Calculations)

Name: OffSite1A Node: Pond 1A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 35.00
Area(ac): 3.820 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Off Site Area (based on MSA Permitted Calculations)

Name: PalmPky Node: Pond 1A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 27.00
Area(ac): 11.420 Time Shift(hrs): 0.00
Curve Number: 88.70 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Palm Parkway (based on the MSA Permitted Calculations) REVISED TO INCLUDE ST. 'B'

Name: Phase 1 Node: Pond 1A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 20.00
Area(ac): 18.570 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Offsite Area Phase 1 (based on the MSA Permitted Calculations)

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==== Nodes ====

Name: ExPond 1A Base Flow(cfs): 0.000 Init Stage(ft): 117.430
Group: BASE Warn Stage(ft): 123.100
Type: Stage/Area

Proposed Fenton Street South Roadway Stormwater Pond

Stage(ft)	Area(ac)
116.500	1.7200
123.100	2.8700

Name: ExRuby Lake Base Flow(cfs): 0.000 Init Stage(ft): 115.500
Group: BASE Warn Stage(ft): 117.400
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	116.000
12.00	117.400
30.00	117.400

Name: Pond 1A Base Flow(cfs): 0.000 Init Stage(ft): 117.430
Group: BASE Warn Stage(ft): 123.100
Type: Stage/Area

Proposed Fenton Street South Roadway Stormwater Pond

Stage(ft)	Area(ac)
116.500	1.7200
123.100	2.8700

Name: Ruby Lake Base Flow(cfs): 0.000 Init Stage(ft): 115.500
Group: BASE Warn Stage(ft): 117.400
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	116.000
12.00	117.400
30.00	117.400

==== Cross Sections ====

==== Operating Tables ====

==== Pipes ====

==== Channels ====

==== Drop Strcutures ====

Name: R1-Box From Node: ExPond 1A Length(ft): 690.00
Group: BASE To Node: ExRuby Lake Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	54.00	54.00
Rise(in):	54.00	54.00

Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.500

Invert(ft):	108.760	108.350	Exit Loss Coef: 1.000
Manning's N:	0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing Outfall Control Box

*** Weir 1 of 2 for Drop Structure R1-Box ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.000
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	27.00	Invert(ft):	118.900
Rise(in):	999.00	Control Elev(ft):	118.900

*** Weir 2 of 2 for Drop Structure R1-Box ***

TABLE

Count:	1	Bottom Clip(ft):	0.000
Type:	Vertical: Mavis	Top Clip(ft):	0.000
Flow:	Both	Weir Disc Coef:	2.800
Geometry:	Trapezoidal	Orifice Disc Coef:	0.600
Bottom Width(ft):	0.00	Invert(ft):	116.500
Left Sd Slp(h/v):	0.22	Control Elev(ft):	116.500
Right Sd Slp(h/v):	0.22	Struct Opening Dim(ft):	1.75

Name:	R1-CBox	From Node: Pond 1A	Length(ft): 690.00
Group:	BASE	To Node: Ruby Lake	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	54.00	54.00	Solution Algorithm:	Automatic
Rise(in):	54.00	54.00	Flow:	Both
Invert(ft):	108.760	108.350	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing Outfall Control Box

*** Weir 1 of 2 for Drop Structure R1-CBox ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.000
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	19.00	Invert(ft):	118.900
Rise(in):	42.00	Control Elev(ft):	118.900

*** Weir 2 of 2 for Drop Structure R1-CBox ***

TABLE

Count:	1	Bottom Clip(ft):	0.000
Type:	Vertical: Mavis	Top Clip(ft):	0.000
Flow:	Both	Weir Disc Coef:	2.800
Geometry:	Trapezoidal	Orifice Disc Coef:	0.600
Bottom Width(ft):	0.00	Invert(ft):	116.500
Left Sd Slp(h/v):	0.22	Control Elev(ft):	116.500
Right Sd Slp(h/v):	0.22	Struct Opening Dim(ft):	1.75

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==== Weirs ==========
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==== Bridges ==========
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==== Breaches ==========
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==== Rating Curves ==========
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==== Hydrology Simulations ==========
==========

Name: 100y-24Pky
Filename: H:\049280002-Fenton Design\ICPR\100y-24Pky.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	10.00
14.000	5.00
20.000	10.00
24.000	15.00
36.000	30.00
72.000	60.00

Name: 10yr-24Pky
Filename: H:\049280002-Fenton Design\ICPR\10yr-24hrPky.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 7.50

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	10.00
14.000	5.00
20.000	10.00
24.000	15.00
36.000	30.00
72.000	60.00

Name: 25yr-24Pky
Filename: H:\049280002-Fenton Design\ICPR\25yr-24Pky.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
8.000	15.00
10.000	10.00
14.000	5.00
20.000	10.00
24.000	15.00
36.000	30.00
72.000	60.00

==========
==== Routing Simulations ==========
==========

Name: 100y24Pky Hydrology Sim: 100y-24Pky
Filename: H:\049280002-Fenton Design\ICPR\100y24Pky.I32

Execute: Yes Restart: No Patch: No

Alternative: No

Max Delta Z(ft):	1.00	Delta Z Factor:	0.01000
Time Step Optimizer:	10.000		
Start Time(hrs):	0.000	End Time(hrs):	50.00
Min Calc Time(sec):	1.0000	Max Calc Time(sec):	300.0000
Boundary Stages:		Boundary Flows:	

Time(hrs)	Print Inc(min)
8.000	15.000
10.000	10.000
14.000	5.000
20.000	10.000
24.000	15.000
36.000	30.000
72.000	60.000

Group	Run
BASE	Yes

Name: 10y24Pky Hydrology Sim: 10yr-24Pky
Filename: H:\049280002-Fenton Design\ICPR\10y24Pky.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft):	1.00	Delta Z Factor:	0.01000
Time Step Optimizer:	10.000		
Start Time(hrs):	0.000	End Time(hrs):	50.00
Min Calc Time(sec):	1.0000	Max Calc Time(sec):	300.0000
Boundary Stages:		Boundary Flows:	

Time(hrs)	Print Inc(min)
8.000	15.000
10.000	10.000
14.000	5.000
20.000	10.000
24.000	15.000
36.000	30.000
72.000	60.000

Group	Run
BASE	Yes

Name: 25y24Pky Hydrology Sim: 25yr-24Pky
Filename: H:\049280002-Fenton Design\ICPR\25y24Pky.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft):	1.00	Delta Z Factor:	0.01000
Time Step Optimizer:	10.000		
Start Time(hrs):	0.000	End Time(hrs):	50.00
Min Calc Time(sec):	1.0000	Max Calc Time(sec):	300.0000
Boundary Stages:		Boundary Flows:	

Time(hrs)	Print Inc(min)
8.000	15.000
10.000	10.000
14.000	5.000
20.000	10.000
24.000	15.000
36.000	30.000
72.000	60.000

Group	Run
BASE	Yes

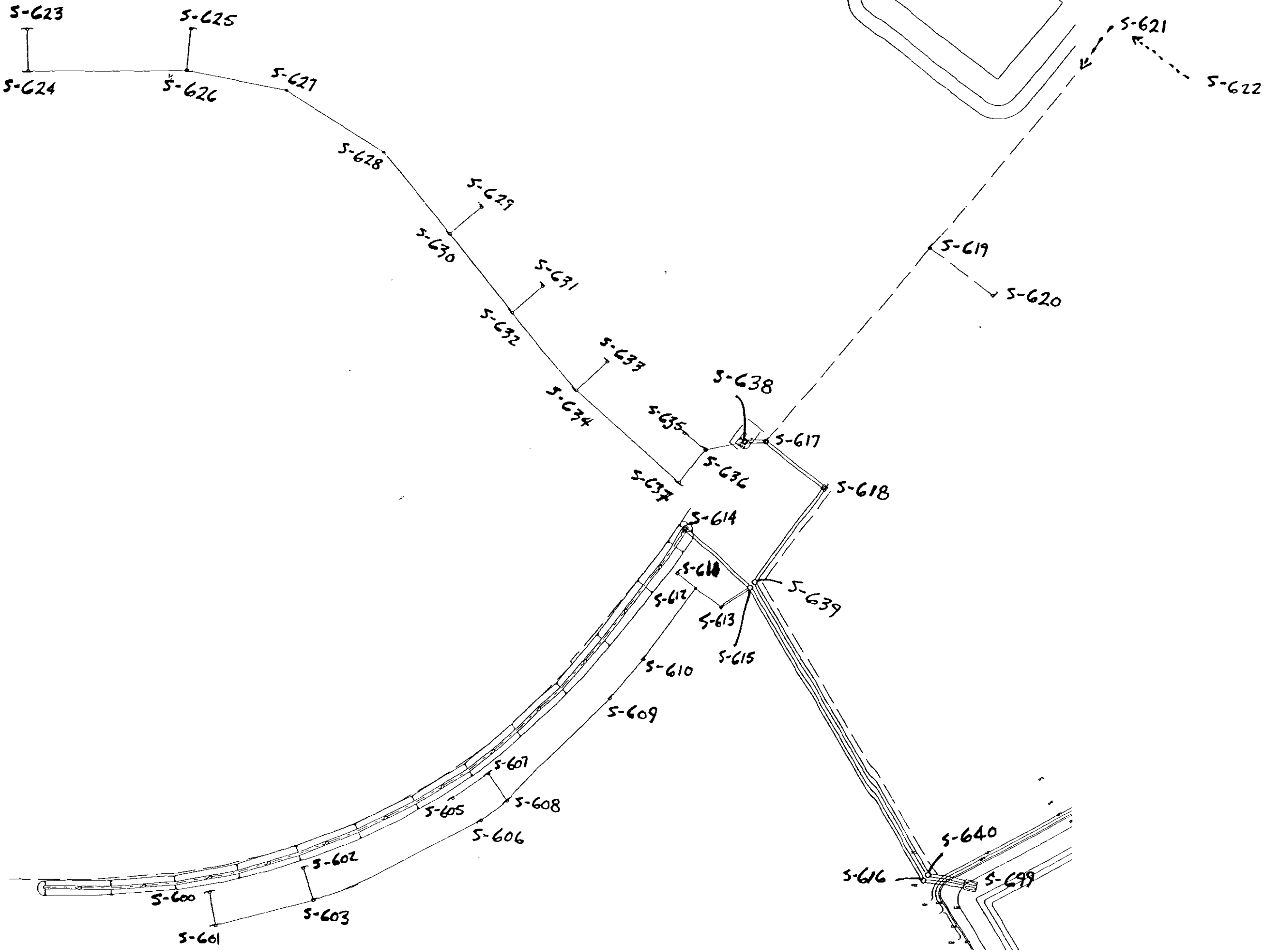
Street 'B' - from I-4 toward Palm Parkway
Existing Pond '1A' Outfall to Ruby Lake
July 11, 2005 (HDT)

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond 1A	BASE	100y24Pky	10.26	121.903	123.100	-0.0099	115931	9.00	66.775	10.25	41.864
ExRuby Lake	BASE	100y24Pky	12.00	117.400	117.400	0.5000	0	10.25	41.864	0.00	0.000
Pond 1A	BASE	100y24Pky	10.38	122.417	123.100	0.0100	119836	9.00	69.652	10.38	38.465
Ruby Lake	BASE	100y24Pky	12.00	117.400	117.400	0.5000	0	10.38	38.465	0.00	0.000
ExPond 1A	BASE	10y24Pky	10.41	120.899	123.100	-0.0100	108313	9.00	45.781	10.41	24.970
ExRuby Lake	BASE	10y24Pky	12.00	117.400	117.400	0.5000	0	10.41	24.970	0.00	0.000
Pond 1A	BASE	10y24Pky	10.60	121.222	123.100	0.0100	110763	9.00	47.798	10.60	22.984
Ruby Lake	BASE	10y24Pky	12.00	117.400	117.400	0.5000	0	10.60	22.984	0.00	0.000
ExPond 1A	BASE	25y24Pky	10.33	121.278	123.100	-0.0099	111187	9.00	53.255	10.33	30.974
ExRuby Lake	BASE	25y24Pky	12.02	117.400	117.400	0.5000	0	10.33	30.974	0.00	0.000
Pond 1A	BASE	25y24Pky	10.49	121.669	123.100	0.0100	114153	9.00	55.578	10.47	28.435
Ruby Lake	BASE	25y24Pky	12.02	117.400	117.400	0.5000	0	10.47	28.435	0.00	0.000

Appendix 4 –Stormsewer Design for I-4

- **ASAD Schematic**
- **ASAD Output for Stormsewer**
- **ASAD Output for Spread**

al 'C' Storm Sewer Layouts



STORM SEWER HYDRAULICS

System: **PondC**

PROJECT			
Number:	049280002	Organization:	Kimley, Horn and Associates
Description:	Street 'B' - w/ Superelevatio	Designed by:	HDT
County:	Orange	Checked by:	

Outfall Tailwater El:	118.00	Storm Event - IDF Curve	
Exit Loss at Outfall:	1.14	Zone	Frequency
Storm Sewer Control El	119.14	7	10

CONDITIONS

Runoff Coefficients		
Area 1	Area 2	Area 3
0.95	0.25	0.90

FROM Station / Type	TO Offset / Brls	Len	Drainage Areas Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs) Qb / Qfd / Qdw	S-Qb / S-Qfd / S-Qdw	CIA / TOTAL	Inlet Elevations Inlet / Clear.	HGL / Min HGL / Jnc Loss	Pipe Elevations HGL / Crown Line / Flow Line		Fall (ft)	Pipe Height / Width (in)	HGL (%) / FL (%)	Flow Type	Velocity Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
S-622		**S-621**	0.40	0.40	0.38					0.00	0.00		158.03	154.43	154.36	154.16	0.200	18	0.1739	Partial	2.84		
119+95		59.50	0.10	0.10	0.02	10.00	0.67	7.41	0.40	0.00	0.00	3.00		0.00	155.00	154.80				super		4.75	0.0120
P-5	1	115.00	0.00	0.00	0.00					0.00	0.00	**3.00**	3.60	0.06	153.50	153.30	0.200	18	0.1739		2.69		
S-621		**S-619**	0.40	0.80	0.76					0.00	0.00		158.03	146.55	145.52	136.52	9.000	24	2.6706	Partial	9.14		
119+95		-59.50	0.10	0.19	0.05	10.67	0.61	7.25	0.81	0.00	0.00	5.86		0.00	147.00	138.00				sub		40.05	0.0120
P-5	1	337.00	0.00	0.00	0.00					0.00	0.00	**5.86**	11.48	1.04	145.00	136.00	9.000	24	2.6706		12.75		
S-620		**S-619**	0.43	0.43	0.41					0.00	0.00		143.96	140.94	140.91	140.80	0.110	18	0.0931	Full	1.97		
116+55		61.66	0.23	0.23	0.06	10.00	0.98	7.41	0.47	0.00	0.00	3.47		0.00	140.90	140.80						3.31	0.0120
P-5	1	118.00	0.00	0.00	0.00					0.00	0.00	**3.47**	3.02	0.03	139.40	139.30	0.100	18	0.0847		1.87		
S-619		**S-617**	0.37	1.61	1.53					0.00	0.00		144.03	132.78	132.06	127.96	4.100	24	1.1111	Partial	8.11		
116+55		-55.25	0.29	0.72	0.18	11.29	0.76	7.11	1.70	0.00	0.00	12.12		0.00	133.10	129.00				sub		25.83	0.0120
P-5	1	369.00	0.00	0.00	0.00					0.00	0.00	**12.12**	11.25	0.72	131.10	127.00	4.100	24	1.1111		8.22		
S-623		**S-624**	0.27	0.27	0.25					0.00	0.00		132.18	131.57	131.56	131.54	0.022	18	0.0321	Full	1.15		
115+62		-35.50	0.08	0.08	0.02	10.00	0.57	7.41	0.27	0.00	0.00	2.04		0.00	129.50	129.40						4.36	0.0120
P-2	1	68.00	0.00	0.00	0.00					0.00	0.00	**2.04**	0.61	0.01	128.00	127.90	0.100	18	0.1471		2.47		
S-624		**S-626**	0.27	0.53	0.51					0.00	0.00		132.18	131.54	131.48	131.20	0.285	18	0.1235	Full	2.26		
115+62		35.50	0.08	0.17	0.04	10.57	1.70	7.27	0.55	0.00	0.00	4.00		0.00	129.40	129.10						4.11	0.0120
P-2	1	230.48	0.00	0.00	0.00					0.00	0.00	**4.00**	0.64	0.06	127.90	127.60	0.300	18	0.1302		2.32		
S-625		**S-626**	0.25	0.25	0.24					0.00	0.00		133.18	131.23	131.22	131.20	0.020	18	0.0296	Full	1.11		
118+00		-35.50	0.09	0.09	0.02	10.00	0.57	7.41	0.26	0.00	0.00	1.96		0.00	130.70	130.60						4.36	0.0120
P-1	1	68.00	0.00	0.00	0.00					0.00	0.00	**1.96**	1.95	0.01	129.20	129.10	0.100	18	0.1470		2.47		
S-626		**S-627**	0.25	1.04	0.99					0.00	0.00		133.18	131.20	131.06	130.43	0.624	18	0.4284	Full	4.21		
118+00		35.50	0.09	0.35	0.09	12.26	0.58	6.90	1.08	0.00	0.00	7.45		0.00	129.10	128.90						4.22	0.0120
P-1	1	145.72	0.00	0.00	0.00					0.00	0.00	**7.45**	1.98	0.14	127.60	127.40	0.200	18	0.1372		2.39		
S-627		**S-628**	0.00	1.04	0.99					0.00	0.00		133.97	130.43	130.30	129.62	0.679	18	0.4144	Full	4.15		
119+60		37.00	0.00	0.35	0.09	12.84	0.66	6.79	1.08	0.00	0.00	7.33		0.00	128.90	128.70						3.98	0.0120
MHP-8	1	163.89	0.00	0.00	0.00					0.00	0.00	**7.33**	3.53	0.13	127.40	127.20	0.200	18	0.1220		2.25		
S-628		**S-630**	0.00	1.04	0.99					0.00	0.00		134.44	129.62	129.58	129.45	0.130	24	0.0861	Full	2.29		
121+40		37.00	0.00	0.35	0.09	13.50	1.10	6.67	1.08	0.00	0.00	7.19		0.00	129.20	129.10						6.30	0.0120
MHP-8	1	151.38	0.00	0.00	0.00					0.00	0.00	**7.19**	4.82	0.04	127.20	127.10	0.100	24	0.0661		2.00		
S-630		**S-632**	0.17	1.38	1.31					0.00	0.00		133.84	129.45	129.34	129.13	0.210	24	0.1430	Full	2.95		
123+00.00		35.50	0.06	0.47	0.12	14.60	0.83	6.47	1.43	0.00	0.00	9.27		0.00	129.10	128.90						9.04	0.0120
P-1	1	147.00	0.00	0.00	0.00					0.00	0.00	**9.27**	4.39	0.11	127.10	126.90	0.200	24	0.1361		2.88		
S-629		**S-630**	0.17	0.17	0.16					0.00	0.00		133.84	130.70	130.66	130.56	0.100	18	0.1471	Partial	2.16		
123+00.00		-35.50	0.06	0.06	0.01	10.00	0.53	7.41	0.18	0.00	0.00	1.31		0.00	131.60	131.50				super		4.36	0.0120
P-1	1	68.00	0.00	0.00	0.00					0.00	0.00	**1.31**	3.14	0.04	130.10	130.00	0.100	18	0.1471		2.47		

Units: ENGLISH

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Portions of ASAD were developed by Kenneth J. Leeming, P.E. at International Engineering Consultants, Inc.

STORM SEWER HYDRAULICS

System: **PondC**

PROJECT			
Number:	049280002	Organization:	Kimley, Horn and Associates
Description:	Street 'B' - w/ Superelevatio	Designed by:	HDT
County:	Orange	Checked by:	

CONDITIONS					
Outfall Tailwater El:	118.00	Storm Event - IDF Curve		Runoff Coefficients	
Exit Loss at Outfall:	1.14	Zone	Frequency	Area 1	Area 2	Area 3
Storm Sewer Control El	119.14	7	10	0.95	0.25	0.90

FROM / TO	Drainage Areas			Tc	Travel	Inten.	Total	Flow (cfs)			Inlet Elevations		Pipe Elevations		Fall	Pipe	HGL	Flow	Velocity	Capacity	Mann'g
Station / Type / Brls / Offset / Len	Inc.	Sub-Total	Sub-Total CA	(min)	Time (min)	(in/hr)	CA (ac)	Qb / Qfd / Qdw	S-Qb / S-Qfd / S-Qdw	CIA / TOTAL	Inlet / Clear.	HGL / Min HGL / Jnc Loss	HGL / Crown Line / Flow Line		(ft)	Height / Width (in)	(%) / FL (%)	Type	Actual / Physical (fps)	(cfs)	'N'
S-632	0.13	1.64	1.56					0.00	0.00		133.39	129.13	128.99	128.70	0.286	24	0.1923	Full	3.42		
124+50	0.04	0.56	0.14	15.43	0.73	6.34	1.70	0.00	0.00	10.75		0.00	128.90	128.70						8.98	0.0120
P-1 1 148.92	0.00	0.00	0.00					0.00	0.00	**10.75**	4.25	0.15	126.90	126.70	0.200	24	0.1343		2.86		
S-631	0.13	0.13	0.12					0.00	0.00		133.39	129.14	129.14	129.13	0.005	18	0.0074	Full	0.55		
124+50 -35.50	0.04	0.04	0.01	10.00	0.57	7.41	0.13	0.00	0.00	0.98		0.00	130.00	128.40						17.46	0.0120
P-1 1 68.00	0.00	0.00	0.00					0.00	0.00	**0.98**	4.25	0.00	128.50	126.90	1.600	18	2.3529		9.88		
S-634	0.13	1.89	1.80					0.00	0.00		132.94	128.50	128.33	127.83	0.501	24	0.2479	Full	3.88		
126+00 35.50	0.04	0.65	0.16	16.16	0.87	6.22	1.96	0.00	0.00	12.20		0.00	128.70	127.60						18.09	0.0120
P-1 1 201.96	0.00	0.00	0.00					0.00	0.00	**12.20**	4.44	0.16	126.70	125.60	1.100	24	0.5447		5.76		
S-633	0.13	0.13	0.12					0.00	0.00		132.94	128.71	128.68	128.58	0.100	18	0.1470	Partial	1.99		
126+00 -35.50	0.04	0.04	0.01	10.00	0.57	7.41	0.13	0.00	0.00	0.98		0.00	129.70	129.60				super		4.36	0.0120
P-1 1 68.00	0.00	0.00	0.00					0.00	0.00	**0.98**	4.22	0.03	128.20	128.10	0.100	18	0.1470		2.47		
S-637	0.27	2.16	2.05					0.00	0.00		132.34	127.83	127.63	127.42	0.210	24	0.3087	Full	4.33		
128+00 35.50	0.08	0.72	0.18	17.02	0.26	6.10	2.23	0.00	0.00	13.62		0.00	127.60	127.40						13.29	0.0120
P-2 1 68.00	0.00	0.00	0.00					0.00	0.00	**13.62**	4.50	0.20	125.60	125.40	0.200	24	0.2941		4.23		
S-635	0.14	0.14	0.13					0.00	0.00		132.46	128.11	128.10	128.10	0.003	18	0.0085	Full	0.59		
127+60 -35.50	0.05	0.05	0.01	10.00	0.31	7.41	0.14	0.00	0.00	1.05		0.00	128.20	128.10						5.92	0.0120
P-2 1 37.00	0.00	0.00	0.00					0.00	0.00	**1.05**	4.35	0.00	126.70	126.60	0.100	18	0.2703		3.35		
S-636	0.23	2.53	2.40					0.00	0.00		132.34	127.42	127.22	127.00	0.223	24	0.4118	Full	5.01		
128+00 -35.50	0.01	0.78	0.20	17.29	0.18	6.06	2.60	0.00	0.00	15.73		0.00	127.40	127.00						21.07	0.0120
P-1 1 54.12	0.00	0.00	0.00					0.00	0.00	**15.73**	4.92	0.19	125.40	125.00	0.400	24	0.7391		6.71		
S-638	13.03	15.56	14.78					0.00	0.00		131.00	126.89	126.44	126.36	0.085	48	0.3749	Full	7.58		
112+60 -83.36	3.26	4.04	1.01	17.47	0.05	6.03	15.79	0.00	0.00	95.28		0.00	127.10	126.30						292.46	0.0120
DBI-E(J) 1 22.65	0.00	0.00	0.00					0.00	0.00	**95.28**	4.11	0.45	123.10	122.30	0.800	48	3.5321		23.27		
S-617	0.42	17.58	16.70					0.00	0.00		133.05	126.36	125.55	125.00	0.547	48	0.4840	Full	8.62		
112+80 -65.00	0.29	5.05	1.26	17.52	0.22	6.03	17.96	0.00	0.00	108.27		0.00	126.30	125.00						166.85	0.0120
J-1 1 113.08	0.00	0.00	0.00					0.00	0.00	**108.27**	6.70	0.81	122.30	121.00	1.300	48	1.1496		13.28		
S-618	0.42	18.00	17.10					0.00	0.00		133.29	124.98	124.38	123.53	0.847	48	0.5043	Full	8.79		
112+80 53.08	0.27	5.32	1.33	17.73	0.32	6.00	18.43	0.00	0.00	110.51		0.00	125.30	123.30						169.76	0.0120
J-1 1 168.05	0.00	0.00	0.00					0.00	0.00	**110.51**	8.31	0.60	121.30	119.30	2.000	48	1.1901		13.51		
S-639	0.00	18.00	17.10					0.00	0.00		132.00	123.53	122.71	120.24	2.460	48	0.4970	Full	8.73		
111+07 57.10	0.00	5.32	1.33	18.05	0.95	5.95	18.43	0.00	0.00	109.71		0.00	123.30	120.20						123.14	0.0120
MHJ-7T 1 495.02	0.00	0.00	0.00					0.00	0.00	**109.71**	8.47	0.83	119.30	116.20	3.100	48	0.6262		9.80		
S-640	0.00	18.00	17.10					0.00	0.00		124.00	120.24	119.45	119.14	0.313	48	0.4766	Full	8.55		
109+30.06 524.77	0.00	5.32	1.33	19.00	0.00	5.83	18.43	0.00	0.00	107.43		0.00	120.20	119.00						210.26	0.0120
MHJ-8 1 65.73	0.00	0.00	0.00					0.00	0.00	**107.43**	3.76	0.80	116.20	115.00	1.200	48	1.8256		16.73		

Units: ENGLISH

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ROADWAY SPREAD ANALYSIS
(HEC-12 Method)

Node	Station	Offset	Drain Area	Rfall Inten.	Flow Rate	Sag Inlet	Manning Coeff.	Long. Slope	Rdwy X-Slope	Gutter X-Slope	Gutter Width	Spread Width	Velocity
			(ac)	(in/hr)	(cf/s)			(ft/ft)	(ft/ft)	(ft/ft)	(ft)	(ft)	(ft/s)
S-619	116+55	55.25	0.43	4.00	1.71		0.0160	0.0500	0.0200	0.0833	1.50	5.47	4.61
S-620	116+55	61.66	0.47	4.00	1.87		0.0160	0.0500	0.0200	0.0833	1.50	5.75	4.67
S-621	119+95	59.50	0.40	4.00	1.62		0.0160	0.0255	0.0200	0.0833	1.50	6.32	3.44
S-622	119+95	59.50	0.40	4.00	1.62		0.0160	0.0255	0.0200	0.0833	1.50	6.32	3.44
S-637	128+00	35.50	0.27	4.00	0.55*	Yes	0.0160	0.0030	0.0200	0.0833	1.50	6.26	1.18

** - Sag inlet. 'Flow Rate' value is one half the actual Q entering the inlet. 'Spread Width' and 'Velocity' are computed using the 'Flow Rate'.*

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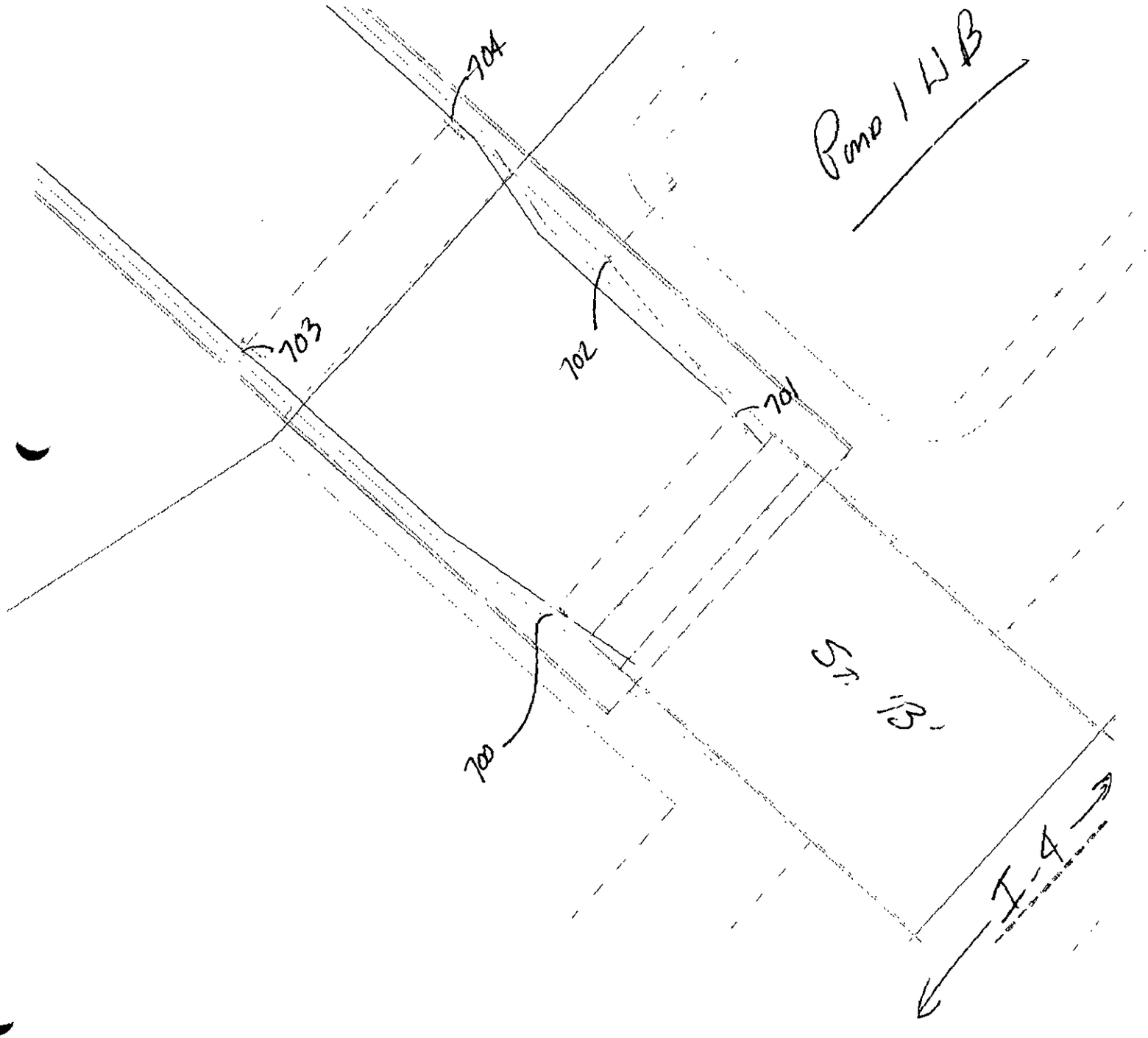

704
703
702
701
700
Pond 1 WB
St. 13
I-4

STORM SEWER HYDRAULICS

System: **Pond1WB**

PROJECT			
Number:	049280002	Organization:	Kimley, Horn and Associates
Description:	Street 'B' - w/ Superelevatio	Designed by:	HDT
County:	Orange	Checked by:	

		CONDITIONS				
Outfall Tailwater El:	120.00	Storm Event - IDF Curve		Runoff Coefficients		
Exit Loss at Outfall:	0.42	Zone	Frequency	Area 1	Area 2	Area 3
Storm Sewer Control El	120.50	7	10	0.95	0.25	0.45

FROM Station / Type	Brls	TO Offset / Len	Drainage Areas Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs) Qb / Qfd / Qdw	S-Qb / S-Qfd / S-Qdw	CIA / TOTAL	Inlet Elevations Inlet / Clear	HGL / Min HGL / Jnc Loss	Pipe Elevations HGL / Crown Line / Flow Line		Fall (ft)	Pipe Height / Width (in)	HGL (%) / FL (%)	Flow Type	Velocity Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
S-700		**S-701**	0.43	0.43	0.41					0.00	0.00		158.06	154.90	154.87	154.77	0.100	18	0.0840	Partial	2.13		
125+00		-62.50	0.06	0.06	0.01	10.00	0.93	7.41	0.42	0.00	0.00	3.14		0.00	155.20	155.10				super		3.30	0.0120
P-1	1	119.00	0.00	0.00	0.00					0.00	0.00	**3.14**	3.16	0.04	153.70	153.60	0.100	18	0.0840		1.87		
S-701		**S-702**	0.45	0.88	0.83					0.00	0.00		158.15	151.64	151.44	151.14	0.300	18	0.3417	Partial	4.28		
125+00		59.50	0.04	0.10	0.02	10.93	0.34	7.19	0.86	0.00	0.00	6.17		0.00	151.80	151.50				super		6.65	0.0120
P-1	1	87.80	0.00	0.00	0.00					0.00	0.00	**6.17**	6.51	0.20	150.30	150.00	0.300	18	0.3417		3.76		
S-702		**S-799**	0.00	1.27	1.21					0.00	0.00		156.19	121.19	120.80	120.50	0.303	18	0.6590	Full	5.23		
125+90		71.50	0.00	0.43	0.11	11.65	0.00	7.03	1.31	0.00	0.00	9.24		0.00	121.50	120.50						16.78	0.0120
MHP-8	1	46.00	0.00	0.00	0.00					0.00	0.00	**9.24**	35.00	0.38	120.00	119.00	1.000	18	2.1739		9.49		
S-703		**S-704**	0.09	0.09	0.09					0.00	0.00		151.45	148.62	148.61	148.60	0.014	18	0.0101	Full	0.65		
126+85.00		-71.50	0.27	0.27	0.07	10.00	1.17	7.41	0.15	0.00	0.00	1.15		0.00	148.80	148.60						4.30	0.0120
P-1	1	140.00	0.00	0.00	0.00					0.00	0.00	**1.15**	2.83	0.00	147.30	147.10	0.200	18	0.1429		2.43		
S-704		**S-702**	0.30	0.39	0.37					0.00	0.00		151.45	148.06	147.95	147.75	0.200	18	0.2174	Partial	3.16		
126+85.20		71.50	0.06	0.33	0.08	11.17	0.48	7.14	0.46	0.00	0.00	3.25		0.00	148.60	148.40				super		5.31	0.0120
P-1	1	92.00	0.00	0.00	0.00					0.00	0.00	**3.25**	3.39	0.11	147.10	146.90	0.200	18	0.2174		3.00		

Units: ENGLISH

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ROADWAY SPREAD ANALYSIS
(HEC-12 Method)

Node	Station	Offset	Drain Area (ac)	Rfall Inten. (in/hr)	Flow Rate (cf/s)	Sag Inlet	Manning Coeff.	Long. Slope (ft/ft)	Rdwy X-Slope (ft/ft)	Gutter X-Slope (ft/ft)	Gutter Width (ft)	Spread Width (ft)	Velocity (ft/s)
S-700	125+00	62.50	0.42	4.00	1.69		0.0160	0.0250	0.0300	0.0833	1.50	5.12	3.73
S-701	125+00	59.50	0.43	4.00	1.74		0.0160	0.0250	0.0200	0.0833	1.50	6.58	3.45
S-703	126+85.00	71.50	0.15	4.00	0.62		0.0160	0.0435	0.0200	0.0833	1.50	2.95	3.91
S-704	126+85.20	71.50	0.30	4.00	1.20		0.0160	0.0435	0.0200	0.0833	1.50	4.68	4.15

- Sag inlet. 'Flow Rate' value is one half the actual Q entering the inlet. 'Spread Width' and 'Velocity' are computed using the 'Flow Rate'.

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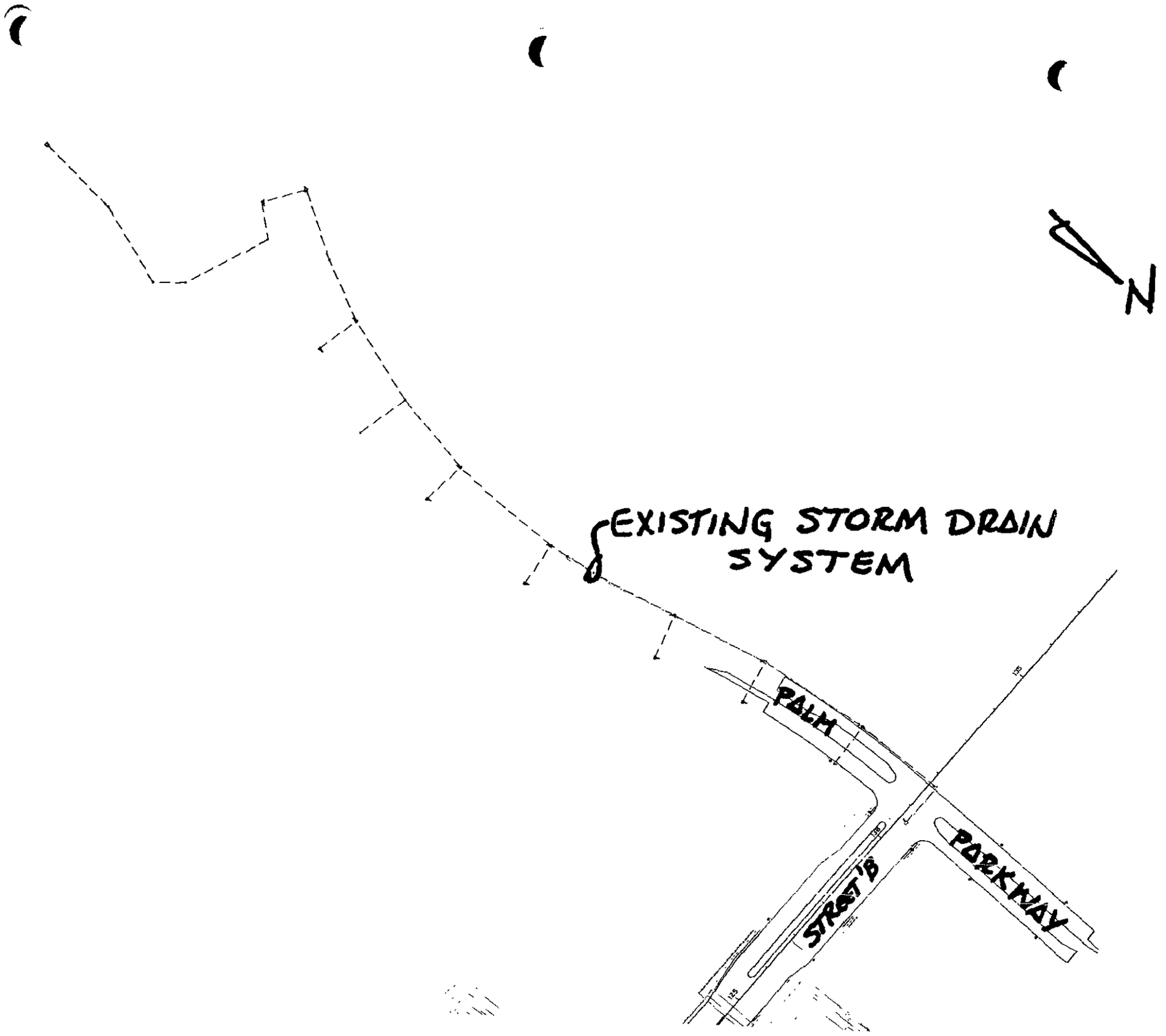
Appendix 5 – Stormsewer Design for Palm Parkway

- ASAD Schematic of Existing System
- ASAD Output for Existing System
- ASAD Schematic of Proposed System
- ICPR Output of Existing Pond
- ASAD - Output for Proposed System
- ASAD – Output for Spread


EXISTING STORM DRAIN SYSTEM
N
PALM
STREET 'B'
PARKWAY

STORM SEWER HYDRAULICS

System: ExPond1A

PROJECT			
Number:	049280002	Organization:	Kimley-Horn and Associates, Inc.
Description:	Street 'B' - w/ Superelevation	Designed by:	HDT
County:	Orange	Checked by:	

CONDITIONS					
Outfall Tailwater Elevation:	120.80	Storm Event		Runoff Coefficients	
Exit Loss at Outfall:	0.37	Zone	Freq	Area 1	Area 2	Area 3
Storm Sewer Control Elevatio	121.17	7	10	0.95	0.25	0.50

FROM / Station / Type	TO / Offset / Brls / Len	Drainage Areas Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs) (Qb)	Sum(Qb) CIA TOTAL	Inlet Elevations Inlet Clear.	HGL Jnc Loss	Pipe Elevations HGL Crown Line	HGL Flow Line	Fall (ft)	Pipe Height Width (in)	HGL (%) FL (%)	Flow Type	Velocity Actual Physical (fps)	Capacity (cfs)	Mann'g 'N'
ExS-115	ExS-116	0.25	0.25	0.24					0.00	0.00	136.46	133.79	133.78	133.72	0.062	15	0.0570	Full	1.36		
55+00.88	54.50	0.09	0.09	0.02	15.00	0.91	6.41	0.26		1.67			132.11	131.70						4.29	0.0120
P-1	1 109.00	0.00	0.00	0.00						**1.67**	2.67	0.01	130.86	130.45	0.410	15	0.3762		3.50		
ExS-116	ExS-118	0.25	0.50	0.47					0.00	0.00	136.46	133.72	133.67	133.48	0.193	18	0.0824	Full	1.85		
55+00.88	-54.50	0.09	0.19	0.05	15.91	1.95	6.26	0.52		3.27			131.94	131.24						6.22	0.0120
P-1	1 234.00	0.00	0.00	0.00						3.27	2.74	0.04	130.44	129.74	0.700	18	0.2991		3.52		
ExS-117	ExS-118	0.10	0.10	0.09					0.00	0.00	137.15	133.49	133.49	133.48	0.010	15	0.0088	Full	0.53		
52+82.34	54.50	0.04	0.04	0.01	15.00	0.91	6.41	0.10		0.66			132.80	132.39						4.29	0.0120
P-1	1 109.00	0.00	0.00	0.00						**0.66**	3.66	0.00	131.55	131.14	0.410	15	0.3762		3.50		
ExS-118	ExS-120	0.10	0.70	0.66					0.00	0.00	137.15	133.48	133.42	133.04	0.389	18	0.1456	Full	2.46		
52+82.34	-54.50	0.04	0.26	0.06	17.86	1.81	5.98	0.73		4.34			131.24	130.44						6.23	0.0120
P-1	1 267.00	0.00	0.00	0.00						**4.34**	3.67	0.06	129.74	128.94	0.800	18	0.2996		3.52		
ExS-119	ExS-120	0.19	0.19	0.18					0.00	0.00	136.91	133.83	133.76	133.35	0.410	15	0.3762	Partial	3.03		
50+15.00	54.50	0.07	0.07	0.02	15.00	0.60	6.41	0.19		1.24			134.55	134.14				critical		4.29	0.0120
P-1	1 109.00	0.00	0.00	0.00						**1.24**	3.08	0.07	133.30	132.89	0.410	15	0.3762		3.50		
ExS-120	ExS-122	0.19	1.07	1.01					0.00	0.00	136.91	133.04	132.91	132.17	0.741	18	0.3154	Full	3.62		
50+15	-54.50	0.07	0.40	0.10	19.67	1.08	5.75	1.11		6.39			130.44	129.73						6.26	0.0120
P-1	1 235.00	0.00	0.00	0.00						**6.39**	3.87	0.12	128.94	128.23	0.710	18	0.3021		3.54		
ExS-121	ExS-122	0.25	0.25	0.24					0.00	0.00	136.22	133.24	133.15	132.74	0.410	15	0.3762	Partial	3.27		
47+80.20	54.50	0.09	0.09	0.02	15.00	0.55	6.41	0.26		1.67			133.86	133.45				critical		4.29	0.0120
P-1	1 109.00	0.00	0.00	0.00						**1.67**	2.98	0.08	132.61	132.20	0.410	15	0.3762		3.50		
ExS-122	ExS-122A	0.25	1.57	1.49					0.00	0.00	136.22	132.17	131.92	130.81	1.112	18	0.6503	Full	5.19		
47+80.2	-54.50	0.09	0.58	0.15	20.75	0.55	5.62	1.63		9.18			129.73	129.22						6.21	0.0120
P-1	1 171.00	0.00	0.00	0.00						**9.18**	4.05	0.25	128.23	127.72	0.510	18	0.2982		3.52		
ExS-122A	ExS-124	0.00	1.57	1.49					0.00	0.00	135.60	130.81	130.60	129.83	0.769	18	0.6358	Full	5.13		
45+55.45	-54.50	0.00	0.58	0.15	21.30	0.39	5.55	1.63		9.07			129.22	128.86						6.21	0.0120
MHJ-8	1 121.00	0.00	0.00	0.00						**9.07**	4.79	0.20	127.72	127.36	0.360	18	0.2975		3.51		
ExS-123	ExS-124	0.33	0.33	0.31					0.00	0.00	134.91	129.97	129.94	129.83	0.106	15	0.0970	Full	1.78		
44+35	54.50	0.12	0.12	0.03	15.00	0.91	6.41	0.34		2.18			129.03	128.61						4.34	0.0120
P-1	1 109.00	0.00	0.00	0.00						**2.18**	4.94	0.02	127.78	127.36	0.420	15	0.3853		3.54		
ExS-124	ExS-124A	0.33	2.22	2.11					0.00	0.00	134.91	129.83	129.68	129.29	0.393	24	0.2707	Full	4.06		
44+35	-54.50	0.12	0.83	0.21	21.69	0.60	5.51	2.31		12.75			129.36	129.07						10.96	0.0120
P-1	1 145.00	0.00	0.00	0.00						12.75	5.08	0.15	127.36	127.07	0.290	24	0.2000		3.49		
ExS-124A	ExS-126	0.00	2.22	2.11					0.00	0.00	134.22	129.29	129.16	128.78	0.383	24	0.2644	Full	4.01		
42+88.55	54.50	0.00	0.83	0.21	22.29	0.60	5.45	2.31		12.60			129.07	128.78						10.96	0.0120
MHP-8	1 145.00	0.00	0.00	0.00						**12.60**	4.93	0.13	127.07	126.78	0.290	24	0.2000		3.49		

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STORM SEWER HYDRAULICS

System: **ExPond1A**

PROJECT			
Number:	049280002	Organization:	Kimley-Horn and Associates, Inc.
Description:	Street 'B' - w/ Superelevation	Designed by:	HDT
County:	Orange	Checked by:	

		CONDITIONS				
Outfall Tailwater Elevation:	120.80	Storm Event		Runoff Coefficients		
Exit Loss at Outfall:	0.37	Zone	Freq	Area 1	Area 2	Area 3
Storm Sewer Control Elevatio	121.17	7	10	0.95	0.25	0.50

FROM / Station / Type	TO / Brls	Offset / Len	Drainage Areas: Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs): (Qb)	Sum(Qb) CIA TOTAL	Inlet Elevations: Inlet Clear.	HGL Jnc Loss	Pipe Elevations: HGL / Crown Line / Flow Line		Fall (ft)	Pipe Height / Width (in)	HGL (%) FL (%)	Flow Type	Velocity: Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
ExS-125	**ExS-126**	0.33	0.33	0.31						0.00	0.00	133.27	128.77	128.75	128.64	0.106	15	0.0970	Full	1.78		
41+40.75	54.50	0.12	0.12	0.03	15.00	0.91	6.41	0.34			2.18			128.92	128.50						4.34	0.0120
P-1	1 109.00	0.00	0.00	0.00							**2.18**	4.50	0.02	127.67	127.25	0.420	15	0.3853		3.54		
ExS-126	**ExS-127**	0.33	2.87	2.73						0.00	0.00	133.27	128.64	128.25	127.07	1.180	24	0.5463	Partial	6.53		
41+40.75	-54.50	0.12	1.07	0.27	22.89	0.55	5.38	2.99			16.12			128.78	127.60				critical		18.11	0.0120
P-1	1 216.00	0.00	0.00	0.00							**16.12**	4.63	0.40	126.78	125.60	1.180	24	0.5463		5.77		
ExS-127	**ExS-129**	0.00	5.54	5.26						0.00	0.00	130.88	126.56	126.13	125.12	1.007	30	0.4863	Full	6.31		
39+30.80	-54.50	0.00	2.22	0.56	23.44	0.55	5.33	5.82			30.99			125.50	124.85						24.90	0.0120
MHP-8	1 207.00	0.00	0.00	0.00							**30.99**	4.32	0.43	123.00	122.35	0.650	30	0.3140		5.07		
ExS-127A	**ExS-127**	2.67	2.67	2.54						0.00	0.00	130.85	127.32	127.12	126.56	0.558	24	0.4323	Full	5.13		
39+30.80	75.00	1.15	1.15	0.29	20.00	0.42	5.71	2.82			16.11			125.26	125.00						11.00	0.0120
MHP-8	1 129.00	0.00	0.00	0.00							**16.11**	3.53	0.20	123.26	123.00	0.260	24	0.2016		3.50		
ExS-128	**ExS-129**	0.48	0.48	0.46						0.00	0.00	128.45	125.40	125.35	125.12	0.229	15	0.2098	Full	2.61		
37+22.00	54.50	0.18	0.18	0.04	15.00	0.70	6.41	0.50			3.21			124.10	123.69						4.29	0.0120
P-1	1 109.00	0.00	0.00	0.00							**3.21**	3.05	0.05	122.85	122.44	0.410	15	0.3761		3.50		
ExS-129	**ExS-130**	0.48	6.50	6.17						0.00	0.00	128.45	125.12	124.84	124.40	0.440	36	0.2474	Full	5.08		
37+07.05	-54.50	0.18	2.58	0.64	23.99	0.58	5.27	6.82			35.94			123.69	122.03						69.78	0.0120
P-1	1 178.00	0.00	0.00	0.00							**35.94**	3.33	0.28	120.69	119.03	1.660	36	0.9326		9.87		
ExS-130	**ExS-132**	0.00	6.50	6.17						0.00	0.00	126.48	124.40	124.16	123.73	0.431	36	0.2421	Full	5.03		
35+43.10	-54.50	0.00	2.58	0.64	24.57	0.59	5.21	6.82			35.55			122.03	120.82						59.57	0.0120
MHJ-8	1 178.00	0.00	0.00	0.00							**35.55**	2.08	0.24	119.03	117.82	1.210	36	0.6798		8.43		
ExS-131	**ExS-133**	0.10	6.96	6.61						0.00	0.00	124.40	123.42	123.23	123.14	0.093	42	0.1178	Full	3.89		
33+65.10	54.50	0.03	2.79	0.70	25.63	0.34	5.11	7.31			37.41			118.25	118.19						30.04	0.0120
J-1	1 79.00	0.00	0.00	0.00							**37.41**	0.98	0.19	114.75	114.69	0.060	42	0.0759		3.12		
ExS-132	**ExS-131**	0.36	6.86	6.52						0.00	0.00	124.40	123.73	123.54	123.42	0.127	42	0.1165	Full	3.87		
33+65.10	-54.50	0.19	2.76	0.69	25.16	0.47	5.16	7.21			37.20			119.63	119.54						31.32	0.0120
P-1	1 109.00	0.00	0.00	0.00							**37.20**	0.67	0.19	116.13	116.04	0.090	42	0.0826		3.26		
ExS-133	**ExS-134**	0.08	7.04	6.69						0.00	0.00	125.19	123.14	122.97	122.71	0.256	42	0.1198	Full	3.92		
34+50	65.00	0.12	2.91	0.73	25.97	0.91	5.08	7.42			37.72			118.19	118.02						30.72	0.0120
MHJ-8	1 214.00	0.00	0.00	0.00							**37.72**	2.05	0.17	114.69	114.52	0.170	42	0.0794		3.19		
ExS-134	**ExS-135**	3.46	10.50	9.98						0.00	0.00	124.46	122.71	122.35	122.15	0.202	42	0.2592	Full	5.77		
34+81.18	280.36	1.54	4.45	1.11	26.88	0.23	5.00	11.09			55.49			118.02	117.95						32.65	0.0120
MHJ-8	1 78.00	0.00	0.00	0.00							**55.49**	1.75	0.36	114.52	114.45	0.070	42	0.0897		3.39		
ExS-135	**ExS-136**	2.52	13.02	12.37						0.00	0.00	123.69	122.15	121.93	121.70	0.230	48	0.1317	Full	4.49		
34+59.50	350.73	1.15	5.61	1.40	40.00	0.65	4.10	13.77			56.47			114.48	114.36						40.75	0.0120
MHJ-8	1 175.00	0.00	0.00	0.00							**56.47**	1.54	0.22	110.48	110.36	0.120	48	0.0686		3.24		

Units: ENGLISH

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Portions of ASAD were developed by Kenneth J. Leeming, P.E. at International Engineering Consultants, Inc.

STORM SEWER HYDRAULICS

System: **ExPond1A**

PROJECT			
Number:	049280002	Organization:	Kimley-Horn and Associates, Inc.
Description:	Street 'B' - w/ Superelevation	Designed by:	HDT
County:	Orange	Checked by:	

CONDITIONS					
		Storm Event		Runoff Coefficients		
Outfall Tailwater Elevation:	120.80	Zone	Freq	Area 1	Area 2	Area 3
Exit Loss at Outfall:	0.37	7	10	0.95	0.25	0.50
Storm Sewer Control Elevatio	121.17					

FROM / Station / Type	TO / Offset / Brls / Len	Drainage Areas: Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs): (Qb)	Sum(Qb) CIA TOTAL	Inlet Elevations: Inlet Clear.	HGL Jnc Loss	Pipe Elevations: HGL Crown Line	HGL Flow Line	Fall (ft)	Pipe Height / Width (in)	HGL (%) / FL (%)	Flow Type	Velocity Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
ExS-136	**ExS-999**	1.12	14.14	13.44					0.00	0.00	123.04	121.70	121.44	121.17	0.276	48	0.1535	Full	4.85		
33+00	405.33	0.64	6.24	1.56	40.65	0.00	4.06	15.00		60.96			114.36	114.22						43.40	0.0120
MHJ-8	1 180.00	0.00	0.00	0.00						**60.96**	1.34	0.26	110.36	110.22	0.140	48	0.0778		3.45		

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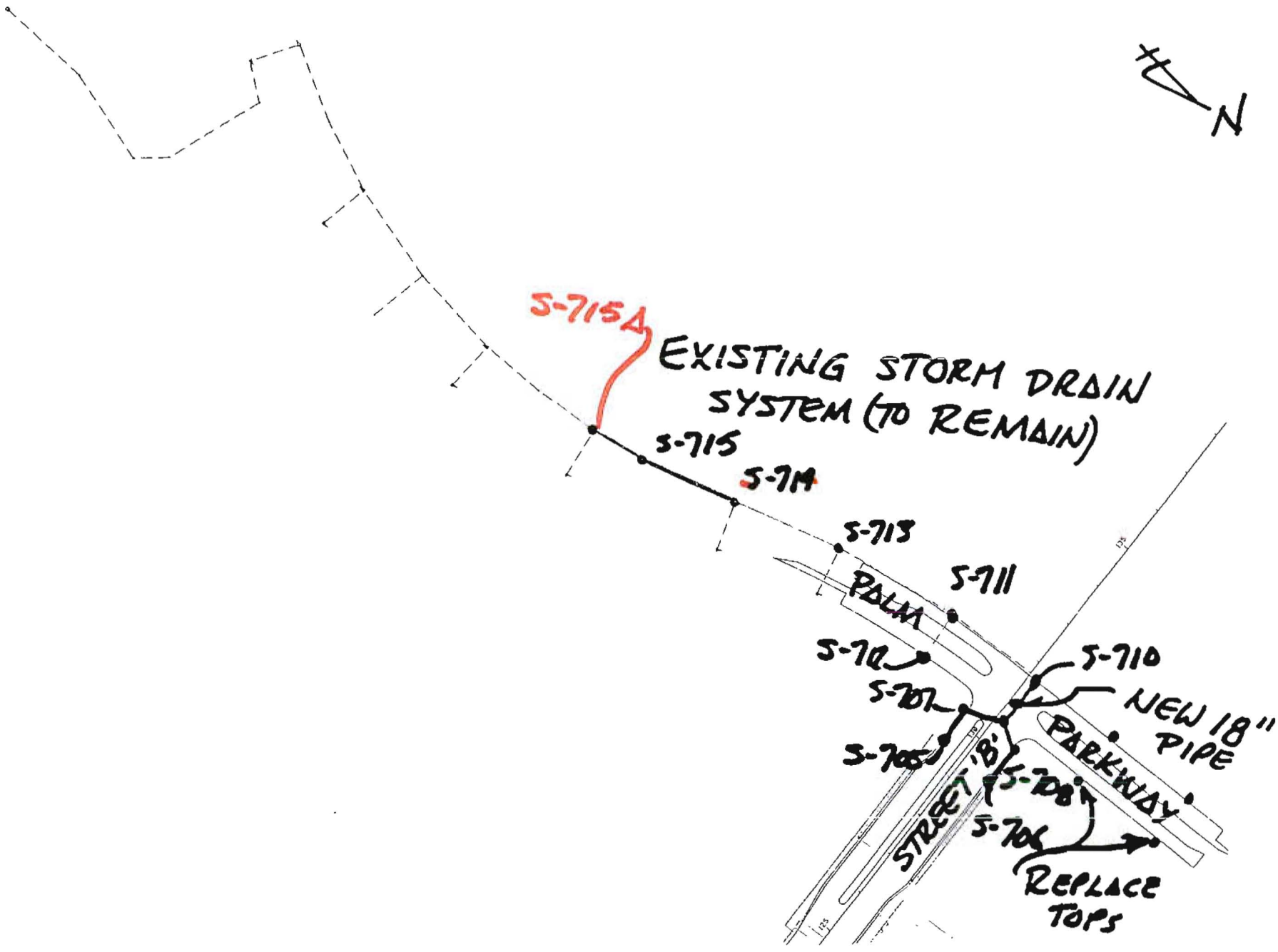
Street 'B' over I-4
Existing & Revised Pond '1A' for Palm Parkway
July 11, 2005 (HDT)

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
10y24Pky	Pond 1A	BASE	8.00	119.040	123.100	94204	34.326	4.090	3.8	0.5
10y24Pky	Pond 1A	BASE	8.25	119.343	123.100	96498	39.373	5.640	4.5	0.6
10y24Pky	Pond 1A	BASE	8.42	119.555	123.100	98107	42.553	7.017	5.1	0.7
10y24Pky	Pond 1A	BASE	8.58	119.770	123.100	99745	44.784	8.608	5.7	0.8
10y24Pky	Pond 1A	BASE	8.76	119.993	123.100	101432	46.337	10.421	6.3	1.0
10y24Pky	Pond 1A	BASE	8.92	120.199	123.100	102998	47.374	12.246	7.0	1.1
10y24Pky	Pond 1A	BASE	9.08	120.395	123.100	104490	47.170	14.098	7.6	1.3
10y24Pky	Pond 1A	BASE	9.26	120.579	123.100	105881	44.538	15.922	8.3	1.5
10y24Pky	Pond 1A	BASE	9.42	120.724	123.100	106987	41.459	17.435	8.9	1.7
10y24Pky	Pond 1A	BASE	9.59	120.847	123.100	107917	39.345	18.747	9.4	2.0
10y24Pky	Pond 1A	BASE	9.76	120.956	123.100	108747	37.718	19.948	10.0	2.2
10y24Pky	Pond 1A	BASE	9.92	121.046	123.100	109427	36.554	20.955	10.5	2.5
10y24Pky	Pond 1A	BASE	10.09	121.126	123.100	110036	35.172	21.870	11.0	2.8
10y24Pky	Pond 1A	BASE	10.17	121.157	123.100	110273	33.394	22.232	11.2	3.0
10y24Pky	Pond 1A	BASE	10.26	121.186	123.100	110491	30.422	22.564	11.4	3.1
10y24Pky	Pond 1A	BASE	10.34	121.204	123.100	110625	27.879	22.770	11.6	3.3
10y24Pky	Pond 1A	BASE	10.43	121.215	123.100	110710	25.751	22.901	11.8	3.5
10y24Pky	Pond 1A	BASE	10.50	121.220	123.100	110747	24.375	22.958	12.0	3.6
10y24Pky	Pond 1A	BASE	10.60	121.222	123.100	110763	22.966	22.984	12.2	3.8
10y24Pky	Pond 1A	BASE	10.69	121.221	123.100	110753	22.104	22.968	12.3	3.9
10y24Pky	Pond 1A	BASE	10.75	121.218	123.100	110735	21.631	22.941	12.4	4.1
10y24Pky	Pond 1A	BASE	10.86	121.213	123.100	110695	21.072	22.879	12.6	4.3
10y24Pky	Pond 1A	BASE	10.94	121.208	123.100	110655	20.695	22.815	12.8	4.4


N
S-715A
EXISTING STORM DRAIN SYSTEM (TO REMAIN)
S-715
S-714
S-713
S-711
PALM
S-712
S-710
S-707
NEW 18" PIPE
S-705
PARKWAY
STREET "B"
S-708
S-706
REPLACE TOPS

STORM SEWER HYDRAULICS

System: **ExPond1A**

PROJECT			
Number:	049280002	Organization:	Kimley, Horn and Associates
Description:	Street 'B' - w/ Superelevatio	Designed by:	HDT
County:	Orange	Checked by:	

Outfall Tailwater El:	120.20	Storm Event - IDF Curve	
Exit Loss at Outfall:	0.35	Zone	Frequency
Storm Sewer Control El	120.55	7	10

CONDITIONS		
Runoff Coefficients		
Area 1	Area 2	Area 3
0.90	0.20	0.50

FROM / Station / Type	Brls	TO / Offset / Len	Drainage Areas: Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs): Qb / Qfd / Qdw	S-Qb / S-Qfd / S-Qdw	CIA / TOTAL	Inlet Elevations: Inlet / Clear.	HGL / Min HGL / Jnc Loss	Pipe Elevations: HGL / Crown Line / Flow Line		Fall (ft)	Pipe Height / Width (in)	HGL (%) / FL (%)	Flow Type	Velocity: Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
S-705		**S-707**	0.46	0.46	0.41					0.00	0.00		141.71	138.37	138.34	138.30	0.044	18	0.0777	Full	1.79		
129+60		-59.50	0.07	0.07	0.01	10.00	0.47	7.41	0.43	0.00	0.00	3.17		0.00	139.10	138.30						13.48	0.0120
P-1	1	57.00	0.00	0.00	0.00					0.00	0.00	**3.17**	3.35	0.03	137.60	136.80	0.800	18	1.4035		7.63		
S-706		**S-708**	0.48	0.48	0.43					0.00	0.00		141.47	138.38	137.94	137.86	0.083	18	0.1454	Partial	7.49		
129+60		71.50	0.05	0.05	0.01	10.00	0.13	7.41	0.44	0.00	0.00	3.28		0.00	139.00	137.70				sub		17.14	0.0120
P-1	1	57.30	0.00	0.00	0.00					0.00	0.00	**3.28**	3.09	0.44	137.50	136.20	1.300	18	2.2688		9.70		
S-708		**S-709**	0.20	0.68	0.61					0.00	0.00		141.19	137.86	137.80	137.72	0.080	18	0.1647	Full	2.61		
130+18.78		71.50	0.02	0.07	0.01	10.13	0.31	7.38	0.63	0.00	0.00	4.62		0.00	137.70	137.50						7.29	0.0120
P-2	1	48.71	0.00	0.00	0.00					0.00	0.00	**4.62**	3.33	0.06	136.20	136.00	0.200	18	0.4106		4.13		
S-707		**S-709**	0.18	0.64	0.58					0.00	0.00		141.28	137.89	137.83	137.72	0.113	18	0.1469	Full	2.47		
130+18.78		-59.50	0.04	0.11	0.02	10.48	0.52	7.29	0.60	0.00	0.00	4.36		0.00	138.30	137.50						11.63	0.0120
P-2	1	76.66	0.00	0.00	0.00					0.00	0.00	**4.36**	3.39	0.06	136.80	136.00	0.800	18	1.0436		6.58		
S-709		**S-710**	0.00	1.32	1.19					0.00	0.00		141.52	137.72	137.41	136.55	0.856	18	0.5956	Full	4.97		
130+25		20.00	0.00	0.18	0.04	10.99	0.48	7.17	1.22	0.00	0.00	8.78		0.00	132.40	132.17						4.55	0.0120
MHP-8	1	143.75	0.00	0.00	0.00					0.00	0.00	**8.78**	3.80	0.31	130.90	130.67	0.230	18	0.1600		2.58		
S-710		**S-711**	0.00	1.32	1.19					0.00	0.00		141.68	136.55	136.26	134.90	1.353	18	0.5780	Full	4.90		
55+02.69		-55.00	0.00	0.18	0.04	11.47	0.80	7.07	1.22	0.00	0.00	8.65		0.00	132.17	131.31						6.90	0.0120
P-1	1	234.00	0.00	0.00	0.00					0.00	0.00	**8.65**	5.13	0.30	130.67	129.81	0.860	18	0.3675		3.90		
S-712		**S-711**	0.10	0.10	0.09					0.00	0.00		139.12	134.91	134.91	134.90	0.008	15	0.0077	Full	0.50		
52+70.13		54.50	0.04	0.04	0.01	15.00	0.91	6.41	0.10	0.00	0.00	0.61		0.00	133.01	132.26						5.80	0.0120
P-1	1	109.00	0.00	0.00	0.00					0.00	0.00	**0.61**	4.21	0.00	131.76	131.01	0.750	15	0.6881		4.73		
S-711		**S-713**	0.10	1.52	1.36					0.00	0.00		139.14	134.90	134.67	133.05	1.620	18	0.6066	Full	5.02		
52+71.11		-54.00	0.04	0.25	0.05	15.91	0.89	6.26	1.42	0.00	0.00	8.86		0.00	131.27	130.51						6.07	0.0120
P-1	1	267.00	0.00	0.00	0.00					0.00	0.00	**8.86**	4.24	0.23	129.77	129.01	0.760	18	0.2846		3.44		
S-713		**S-714**	0.19	1.89	1.70					0.00	0.00		136.42	133.05	132.94	132.47	0.464	24	0.1973	Full	3.46		
50+10.52		-54.58	0.07	0.39	0.08	16.80	1.13	6.13	1.78	0.00	0.00	10.89		0.00	130.96	130.43						11.64	0.0120
P-1	1	235.00	0.00	0.00	0.00					0.00	0.00	**10.89**	3.37	0.11	128.96	128.43	0.530	24	0.2255		3.70		
S-714		**S-715**	0.25	2.39	2.15					0.00	0.00		135.71	132.47	132.30	131.79	0.511	24	0.3040	Full	4.30		
47+80.41		-54.71	0.09	0.58	0.12	17.93	0.65	5.97	2.26	0.00	0.00	13.51		0.00	130.40	129.82						14.40	0.0120
P-1	1	168.00	0.00	0.00	0.00					0.00	0.00	**13.51**	3.24	0.17	128.40	127.82	0.580	24	0.3452		4.58		
S-715		**S-715A**	0.00	2.39	2.15					0.00	0.00		135.48	131.79	131.65	131.30	0.345	24	0.2952	Full	4.24		
46+05.98		-53.77	0.00	0.58	0.12	18.58	0.46	5.88	2.26	0.00	0.00	13.32		0.00	129.79	129.25						16.65	0.0120
MHJ-8	1	117.00	0.00	0.00	0.00					0.00	0.00	**13.32**	3.69	0.14	127.79	127.25	0.540	24	0.4615		5.30		
ExS-19		**S-713**	0.19	0.19	0.17					0.00	0.00		136.91	133.74	133.65	133.12	0.530	15	0.4862	Partial	3.27		
50+15.00		54.50	0.07	0.07	0.01	15.00	0.56	6.41	0.18	0.00	0.00	1.16		0.00	134.49	133.96				critical		4.88	0.0120
P-1	1	109.00	0.00	0.00	0.00					0.00	0.00	**1.16**	3.17	0.08	133.24	132.71	0.530	15	0.4862		3.98		

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STORM SEWER HYDRAULICS

System: **ExPond1A**

PROJECT			
Number:	049280002	Organization:	Kimley, Horn and Associates
Description:	Street 'B' - w/ Superelevatio	Designed by:	HDT
County:	Orange	Checked by:	

Outfall Tailwater El:	120.20	Storm Event - IDF Curve	
Exit Loss at Outfall:	0.35	Zone	Frequency
Storm Sewer Control El	120.55	7	10

CONDITIONS		
Runoff Coefficients		
Area 1	Area 2	Area 3
0.90	0.20	0.50

FROM / Station / Type	TO / Offset / Brls / Len	Drainage Areas: Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs): Qb / Qfd / Qdw	S-Qb / S-Qfd / S-Qdw	CIA / TOTAL	Inlet Elevations: Inlet / Clear.	HGL / Min HGL / Jnc Loss	Pipe Elevations: HGL / Crown Line / Flow Line		Fall (ft)	Pipe Height (in) / Width (in)	HGL (%) / FL (%)	Flow Type	Velocity: Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
ExS-21	**S-714**	0.25	0.25	0.22					0.00	0.00		136.22	133.21	133.19	133.14	0.054	15	0.0497	Full	1.27		
47+80.20	54.50	0.09	0.09	0.02	15.00	0.91	6.41	0.24	0.00	0.00	1.56		0.00	133.95	133.14						6.03	0.0120
P-1	1 109.00	0.00	0.00	0.00					0.00	0.00	**1.56**	3.01	0.01	132.70	131.89	0.810	15	0.7431		4.92		
ExS-23	**S-715A**	0.33	0.33	0.29					0.00	0.00		134.91	131.42	131.40	131.30	0.092	15	0.0847	Full	1.66		
44+35	54.50	0.12	0.12	0.02	15.00	0.91	6.41	0.32	0.00	0.00	2.04		0.00	129.17	128.60						5.06	0.0120
P-1	1 109.00	0.00	0.00	0.00					0.00	0.00	**2.04**	3.49	0.02	127.92	127.35	0.570	15	0.5229		4.12		
S-715A	**ExS-24A**	0.33	3.04	2.73					0.00	0.00		134.31	131.30	131.03	130.35	0.688	24	0.4747	Full	5.37		
44+82.29	-54.67	0.12	0.82	0.16	19.04	0.45	5.83	2.90	0.00	0.00	16.88		0.00	129.25	129.07						8.63	0.0120
P-1	1 145.00	0.00	0.00	0.00					0.00	0.00	**16.88**	3.01	0.27	127.25	127.07	0.180	24	0.1241		2.75		
ExS-25	**ExS-26**	0.33	0.33	0.29					0.00	0.00		133.27	129.57	129.54	129.45	0.092	15	0.0847	Full	1.66		
41+40.75	54.50	0.12	0.12	0.02	15.00	0.91	6.41	0.32	0.00	0.00	2.04		0.00	128.92	128.50						4.34	0.0120
P-1	1 109.00	0.00	0.00	0.00					0.00	0.00	**2.04**	3.70	0.02	127.67	127.25	0.420	15	0.3853		3.54		
ExS-24A	**ExS-26**	0.00	3.04	2.73					0.00	0.00		134.22	130.35	130.13	129.45	0.675	24	0.4655	Full	5.32		
42+88.55	-54.60	0.00	0.82	0.16	19.49	0.45	5.77	2.90	0.00	0.00	16.72		0.00	129.07	128.78						10.96	0.0120
MHP-8	1 145.00	0.00	0.00	0.00					0.00	0.00	**16.72**	3.87	0.22	127.07	126.78	0.290	24	0.2000		3.49		
ExS-26	**ExS-27**	0.33	3.69	3.32					0.00	0.00		133.27	129.45	129.07	127.60	1.466	24	0.6788	Full	6.43		
41+40.75	-54.50	0.12	1.07	0.21	19.94	0.56	5.71	3.53	0.00	0.00	20.19		0.00	128.78	127.60						18.11	0.0120
P-1	1 216.00	0.00	0.00	0.00					0.00	0.00	**20.19**	3.82	0.39	126.78	125.60	1.180	24	0.5463		5.77		
ExS-27A	**ExS-27**	2.67	2.67	2.40					0.00	0.00		130.85	127.55	127.37	126.89	0.485	24	0.3758	Full	4.78		
39+30.80	75.00	1.15	1.15	0.23	20.00	0.45	5.71	2.63	0.00	0.00	15.02		0.00	125.26	125.00						11.00	0.0120
MHP-8	1 129.00	0.00	0.00	0.00					0.00	0.00	**15.02**	3.30	0.18	123.26	123.00	0.260	24	0.2016		3.50		
ExS-27	**ExS-29**	0.00	6.36	5.72					0.00	0.00		130.88	126.89	126.34	125.07	1.271	30	0.6141	Full	7.09		
39+30.80	-54.50	0.00	2.22	0.44	20.50	0.49	5.65	6.17	0.00	0.00	34.82		0.00	125.50	124.85						24.90	0.0120
MHP-8	1 207.00	0.00	0.00	0.00					0.00	0.00	**34.82**	3.99	0.55	123.00	122.35	0.650	30	0.3140		5.07		
ExS-28	**ExS-29**	0.48	0.48	0.43					0.00	0.00		128.45	125.31	125.27	125.07	0.199	15	0.1826	Full	2.44		
37+22.00	54.50	0.18	0.18	0.04	15.00	0.75	6.41	0.47	0.00	0.00	2.99		0.00	124.10	123.69						4.29	0.0120
P-1	1 109.00	0.00	0.00	0.00					0.00	0.00	**2.99**	3.14	0.05	122.85	122.44	0.410	15	0.3761		3.50		
ExS-29	**ExS-30**	0.48	7.32	6.59					0.00	0.00		128.45	125.07	124.73	124.19	0.537	36	0.3018	Full	5.62		
37+07.05	-54.50	0.18	2.57	0.51	20.99	0.53	5.59	7.10	0.00	0.00	39.69		0.00	123.69	122.03						69.78	0.0120
P-1	1 178.00	0.00	0.00	0.00					0.00	0.00	**39.69**	3.38	0.34	120.69	119.03	1.660	36	0.9326		9.87		
ExS-30	**ExS-32**	0.00	7.32	6.59					0.00	0.00		126.48	124.19	123.90	123.38	0.526	36	0.2953	Full	5.56		
35+43.10	-54.50	0.00	2.57	0.51	21.52	0.53	5.53	7.10	0.00	0.00	39.27		0.00	122.03	120.82						59.57	0.0120
MHJ-8	1 178.00	0.00	0.00	0.00					0.00	0.00	**39.27**	2.29	0.29	119.03	117.82	1.210	36	0.6798		8.43		
ExS-32	**ExS-31**	0.40	7.72	6.95					0.00	0.00		124.40	123.38	123.15	123.00	0.154	42	0.1415	Full	4.26		
33+65.10	-54.50	0.15	2.72	0.54	22.05	0.43	5.47	7.49	0.00	0.00	41.00		0.00	119.63	119.54						31.32	0.0120
P-1	1 109.00	0.00	0.00	0.00					0.00	0.00	**41.00**	1.02	0.23	116.13	116.04	0.090	42	0.0826		3.26		

Units: ENGLISH

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STORM SEWER HYDRAULICS

System: **ExPond1A**

PROJECT			
Number:	049280002	Organization:	Kimley, Horn and Associates
Description:	Street 'B' - w/ Superelevatio	Designed by:	HDT
County:	Orange	Checked by:	

CONDITIONS					
Outfall Tailwater El:	120.20	Storm Event - IDF Curve		Runoff Coefficients	
Exit Loss at Outfall:	0.35	Zone	Frequency	Area 1	Area 2	Area 3
Storm Sewer Control El	120.55	7	10	0.90	0.20	0.50

FROM / Station / Type	TO / Offset / Brls / Len	Drainage Areas Inc.	Sub-Total	Sub-Total CA	Tc (min)	Travel Time (min)	Inten. (in/hr)	Total CA (ac)	Flow (cfs) Qb / Qfd / Qdw	S-Qb / S-Qfd / S-Qdw	CIA / TOTAL	Inlet Elevations Inlet / Clear.	HGL / Min HGL / Jnc Loss	Pipe Elevations HGL / Crown Line / Flow Line		Fall (ft)	Pipe Height / Width (in)	HGL (%) / FL (%)	Flow Type	Velocity Actual / Physical (fps)	Capacity (cfs)	Mann'g 'N'
ExS-31	**ExS-33**	0.10	7.82	7.04					0.00	0.00		124.40	123.00	122.77	122.66	0.113	42	0.1427	Full	4.28		
33+65.10	54.50	0.03	2.75	0.55	22.48	0.31	5.43	7.59	0.00	0.00	41.17		0.00	118.25	118.19						30.04	0.0120
J-1	1 79.00	0.00	0.00	0.00					0.00	0.00	**41.17**	1.40	0.23	114.75	114.69	0.060	42	0.0759		3.12		
ExS-33	**ExS-34**	0.08	7.90	7.11					0.00	0.00		125.19	122.66	122.45	122.14	0.309	42	0.1446	Full	4.31		
34+50	65.00	0.12	2.87	0.57	22.78	0.83	5.39	7.68	0.00	0.00	41.45		0.00	118.19	118.02						30.72	0.0120
MHJ-8	1 214.00	0.00	0.00	0.00					0.00	0.00	**41.45**	2.53	0.20	114.69	114.52	0.170	42	0.0794		3.19		
ExS-34	**ExS-35**	3.46	11.36	10.22					0.00	0.00		124.46	122.14	121.73	121.51	0.228	42	0.2926	Full	6.13		
34+81.18	280.36	1.54	4.41	0.88	23.61	0.21	5.31	11.11	0.00	0.00	58.96		0.00	118.02	117.95						32.65	0.0120
MHJ-8	1 78.00	0.00	0.00	0.00					0.00	0.00	**58.96**	2.32	0.41	114.52	114.45	0.070	42	0.0897		3.39		
ExS-35	**ExS-36**	2.52	13.88	12.49					0.00	0.00		123.69	121.51	121.29	121.07	0.225	48	0.1285	Full	4.44		
34+59.50	350.73	1.15	5.56	1.11	40.00	0.66	4.10	13.60	0.00	0.00	55.78		0.00	114.48	114.36						40.75	0.0120
MHJ-8	1 175.00	0.00	0.00	0.00					0.00	0.00	**55.78**	2.18	0.21	110.48	110.36	0.120	48	0.0686		3.24		
ExS-36	**ExS-999**	1.12	15.00	13.50					0.00	0.00		123.04	121.07	120.82	120.55	0.267	48	0.1482	Full	4.77		
33+00	405.33	0.64	6.20	1.24	40.66	0.00	4.06	14.74	0.00	0.00	59.91		0.00	114.36	114.22						43.40	0.0120
MHJ-8	1 180.00	0.00	0.00	0.00					0.00	0.00	**59.91**	1.97	0.25	110.36	110.22	0.140	48	0.0778		3.45		

Units: ENGLISH

Automated Storm sewer Analysis & Design (ASAD), copyright 1992-2002, Hiteshew Engineering Systems, Inc. Ph: (352) 383-4191
Portions of ASAD were developed by Kenneth J. Leeming, P.E. at International Engineering Consultants, Inc.

ROADWAY SPREAD ANALYSIS
(HEC-12 Method)

Node	Station	Offset	Drain Area	Rfall Inten.	Flow Rate	Sag Inlet	Manning Coeff.	Long. Slope	Rdwy X-Slope	Gutter X-Slope	Gutter Width	Spread Width	Velocity
			(ac)	(in/hr)	(cf/s)			(ft/ft)	(ft/ft)	(ft/ft)	(ft)	(ft)	(ft/s)
S-705	129+60	59.50	0.43	4.00	1.71		0.0160	0.0173	0.0300	0.0833	1.50	5.61	3.22
S-706	129+60	71.50	0.44	4.00	1.77		0.0160	0.0173	0.0200	0.0833	1.50	7.24	2.97
S-707	130+18.78	59.50	0.17	4.00	0.68		0.0160	0.0081	0.0300	0.0833	1.50	4.32	2.00
S-708	130+18.78	71.50	0.18	4.00	0.74		0.0160	0.0081	0.0200	0.0833	1.50	5.67	1.88

- Sag inlet. 'Flow Rate' value is one half the actual Q entering the inlet. 'Spread Width' and 'Velocity' are computed using the 'Flow Rate'.

Automated Storm sewer Analysis & Design (ASAD), copyright 1992-1996, Hiteshew Engineering Systems, Inc.
Portions of ASAD were developed by International Engineering Consultants, Inc.

Appendix 6 - Reference Material and Supporting Data

- U.S. Department of Agriculture, Soil Conservation Service. (1986). Urban Hydrology for Small Watersheds, Technical Release No. 55. Second Edition. USDA-SCS, Washington, D.C.
- Streamline Technologies, ICPR Advanced Manual. Version 3.2
- Hiteshew Engineering System, Inc, Automated Storm Sewer Analysis and Design User Manual. ASAD Version 2
- U.S. Department of Agriculture, Soil Conservation Service. Florida Rainfall Intensity for 10-year/24-hour, 25-year/24-hour, 100-year/24-hour, and 100-year/72-hour storm events.
- South Florida Water Management District. Environmental Resource Permit Information Manual Volume IV 2000
- State of Florida Department of Transportation – Drainage Handbook January 2004. Inlet Efficiencies

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

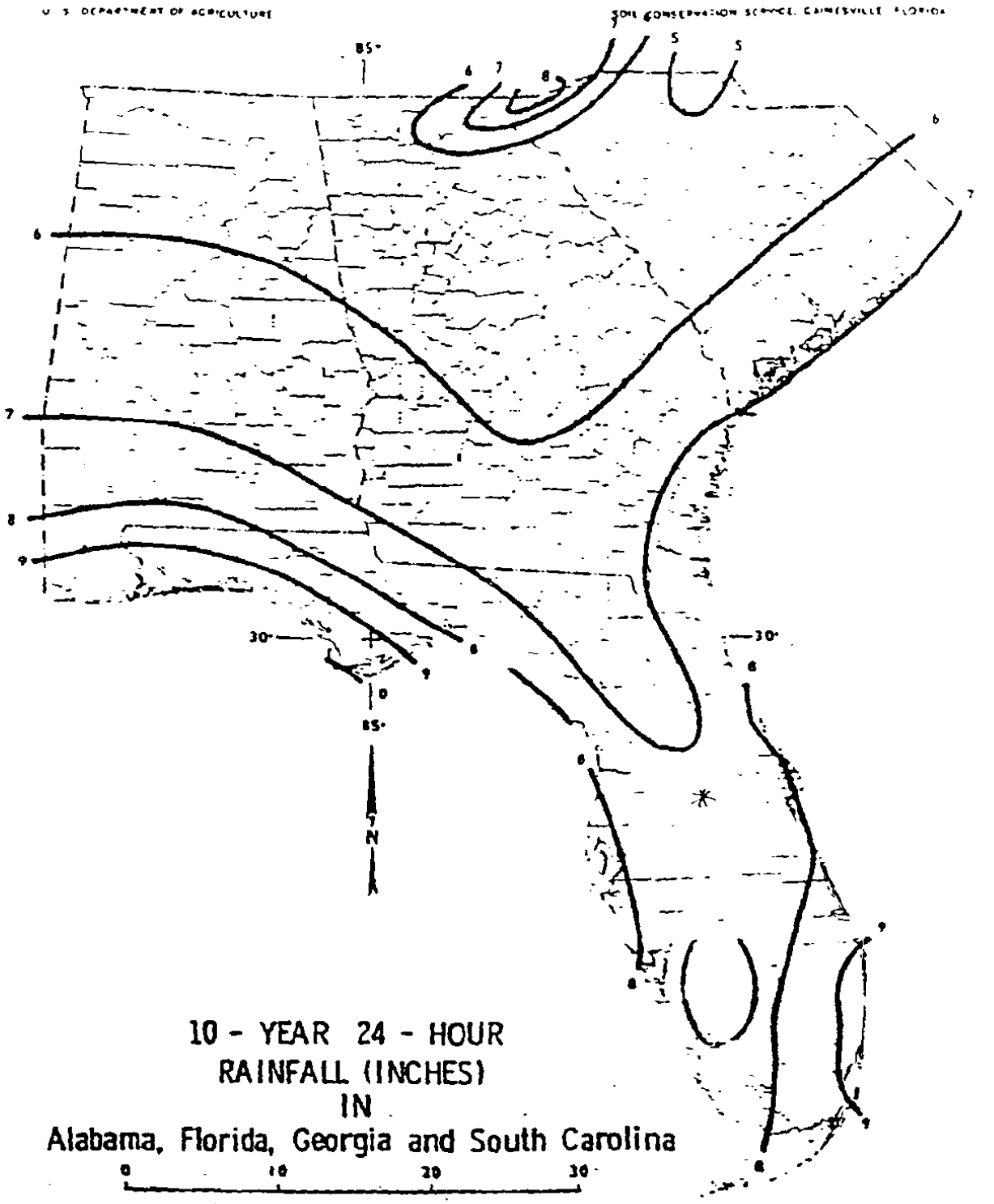
Made by: HDT Checked by:
DATE: May 31 2005 TIME: 10:54 AM
KHA Project Number: 049280002

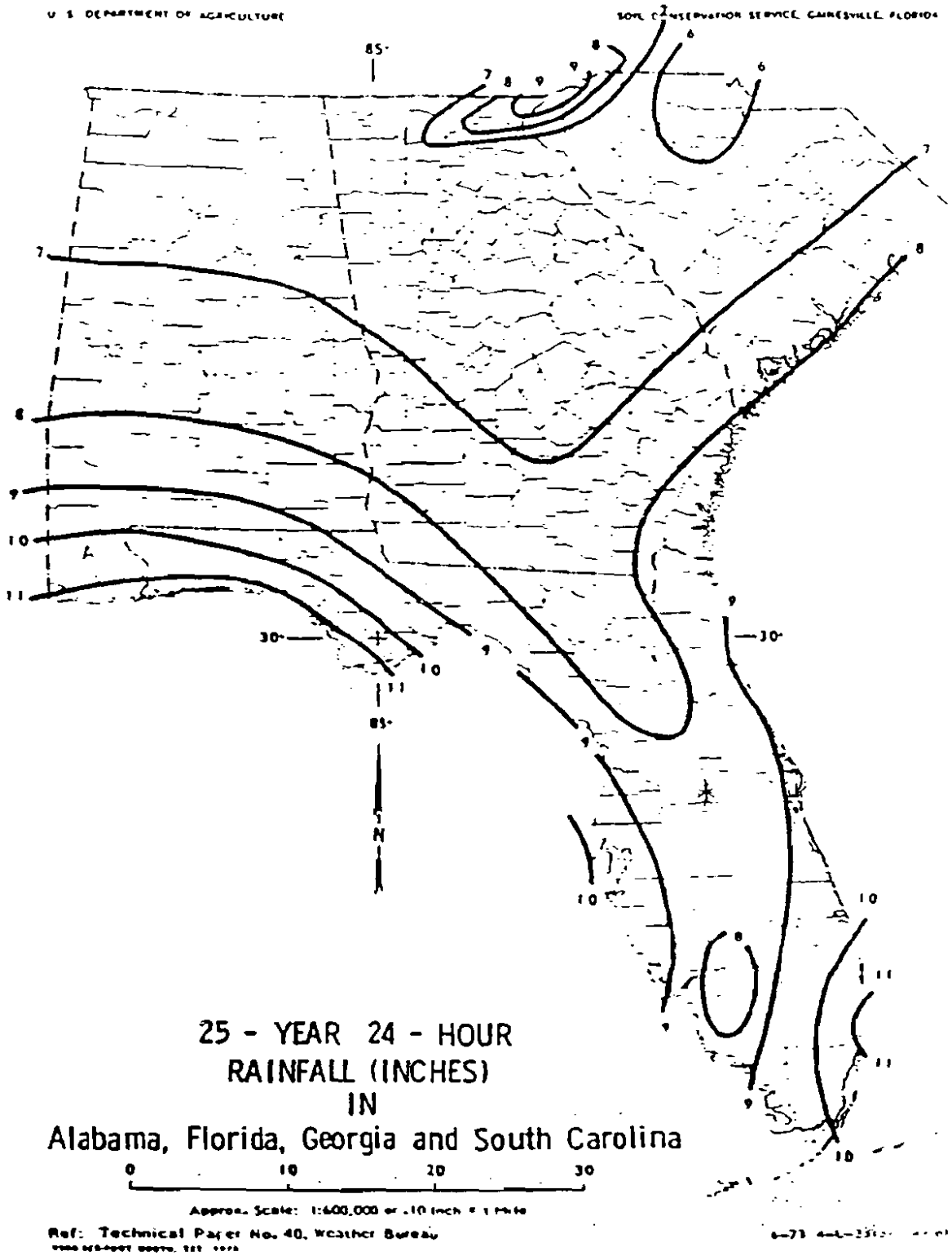
PROJECT: **Street 'B' & I-4 Overpass**

FDOT CRITICAL DURATION RAINFALL TABLE - Basin 1 WB ZONE: 7

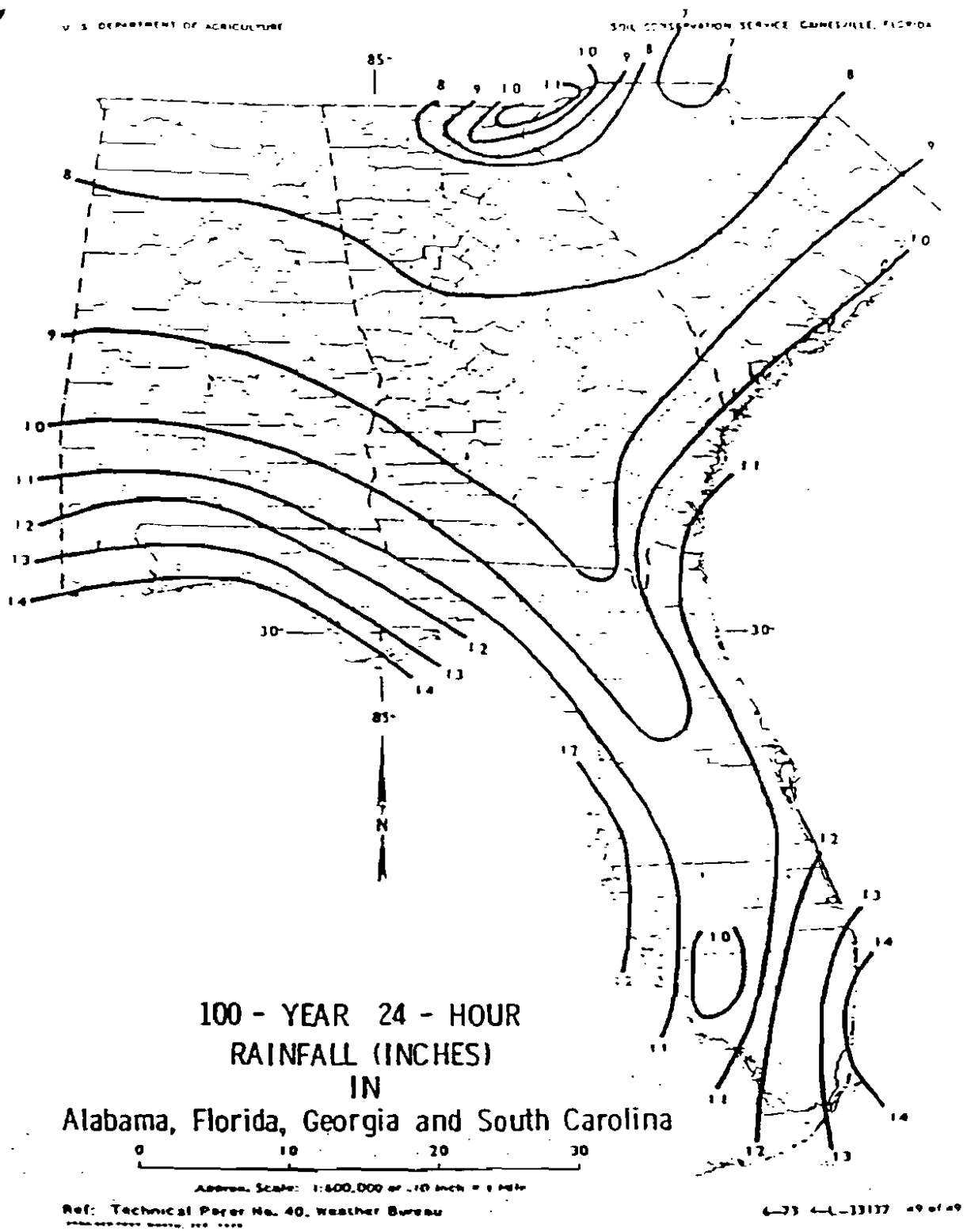
NOTE: The rainfall values were taken and /or interpolated from Rainfall Intensity-Duration-Frequency Curves and the Precipitation Depth maps in the FDOT Drainage Manual, Chapter 5.

TIME(hr. or day) / FREQUENCY(YR.)	1 hour (In.)	2 hour (in.)	4 hour (in.)	8 hour (In.)	24 hour (in.)	3 day (in.)	7 day (in)	10 day (in.)
2	2.40	2.90	3.30	3.80	4.80	5.90	7.50	8.40
5	2.95	3.50	4.10	4.85	6.25	7.60	9.50	11.00
10	3.25	4.00	4.70	5.60	7.40	9.00	11.00	13.00
25	3.75	4.50	5.40	6.55	8.60	10.50	13.20	15.00
50	4.10	5.00	6.05	7.30	9.60	12.30	15.00	17.00
100	4.50	5.50	6.60	8.00	10.60	13.90	17.00	18.80


U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE, GAINESVILLE, FLORIDA
85°
30°
N
10 - YEAR 24 - HOUR
RAINFALL (INCHES)
IN
Alabama, Florida, Georgia and South Carolina
0
10
20
30
Approx. Scale: 1:600,000 or .10 inch = 1 mile
Ref: Technical Paper No. 40, Weather Bureau



25 - YEAR 24 - HOUR
RAINFALL (INCHES)
IN
Alabama, Florida, Georgia and South Carolina



100 - YEAR 24 - HOUR
RAINFALL (INCHES)
IN
Alabama, Florida, Georgia and South Carolina

Sheet flow

Sheet flow is flow over plane surfaces. It usually occurs in the headwater of streams. With sheet flow, the friction value (Manning's n) is an effective roughness coefficient that includes the effect of raindrop impact; drag over the plane surface; obstacles such as litter, crop ridges, and rocks; and erosion and transportation of sediment. These n values are for very shallow flow depths of about 0.1 foot or so. Table 3-1 gives Manning's n values for sheet flow for various surface conditions.

Table 3-1 Roughness coefficients (Manning's n) for sheet flow

Surface description	n [1]
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover ≤20%	0.06
Residue cover >20%	0.17
Grass:	
Short grass prairie	0.15
Dense grasses [2]	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods:[3]	
Light underbrush	0.40
Dense underbrush	0.80

[1] The n values are a composite of information compiled by Engman (1986).

[2] Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.

[3] When selecting n, consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

For sheet flow of less than 300 feet, use Manning's kinematic solution (Overtop and Meadows 1976) to compute T_t:

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}} \qquad \text{[eq. 3-3]}$$

where:

T_t = travel time (hr),
n = Manning's roughness coefficient (table 3-1)
L = flow length (ft)
P_2 = 2-year, 24-hour rainfall (in)
s = slope of hydraulic grade line (land slope, ft/ft)

This simplified form of the Manning's kinematic solution is based on the following: (1) shallow steady uniform flow, (2) constant intensity of rainfall excess (that part of a rain available for runoff), (3) rainfall duration of 24 hours, and (4) minor effect of infiltration on travel time. Rainfall depth can be obtained from appendix B.

Shallow concentrated flow

After a maximum of 300 feet, sheet flow usually becomes shallow concentrated flow. The average velocity for this flow can be determined from figure 3-1, in which average velocity is a function of watercourse slope and type of channel. For slopes less than 0.005 ft/ft, use equations given in appendix F for figure 3-1. Tillage can affect the direction of shallow concentrated flow. Flow may not always be directly down the watershed slope if tillage runs across the slope.

After determining average velocity in figure 3-1, use equation 3-1 to estimate travel time for the shallow concentrated flow segment.

Open channels

Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geological Survey (USGS) quadrangle sheets. Manning's equation or water surface profile information can be used to estimate average flow velocity. Average flow velocity is usually determined for bankfull elevation.

Figure 3-1 Average velocities for estimating travel time for shallow concentrated flow

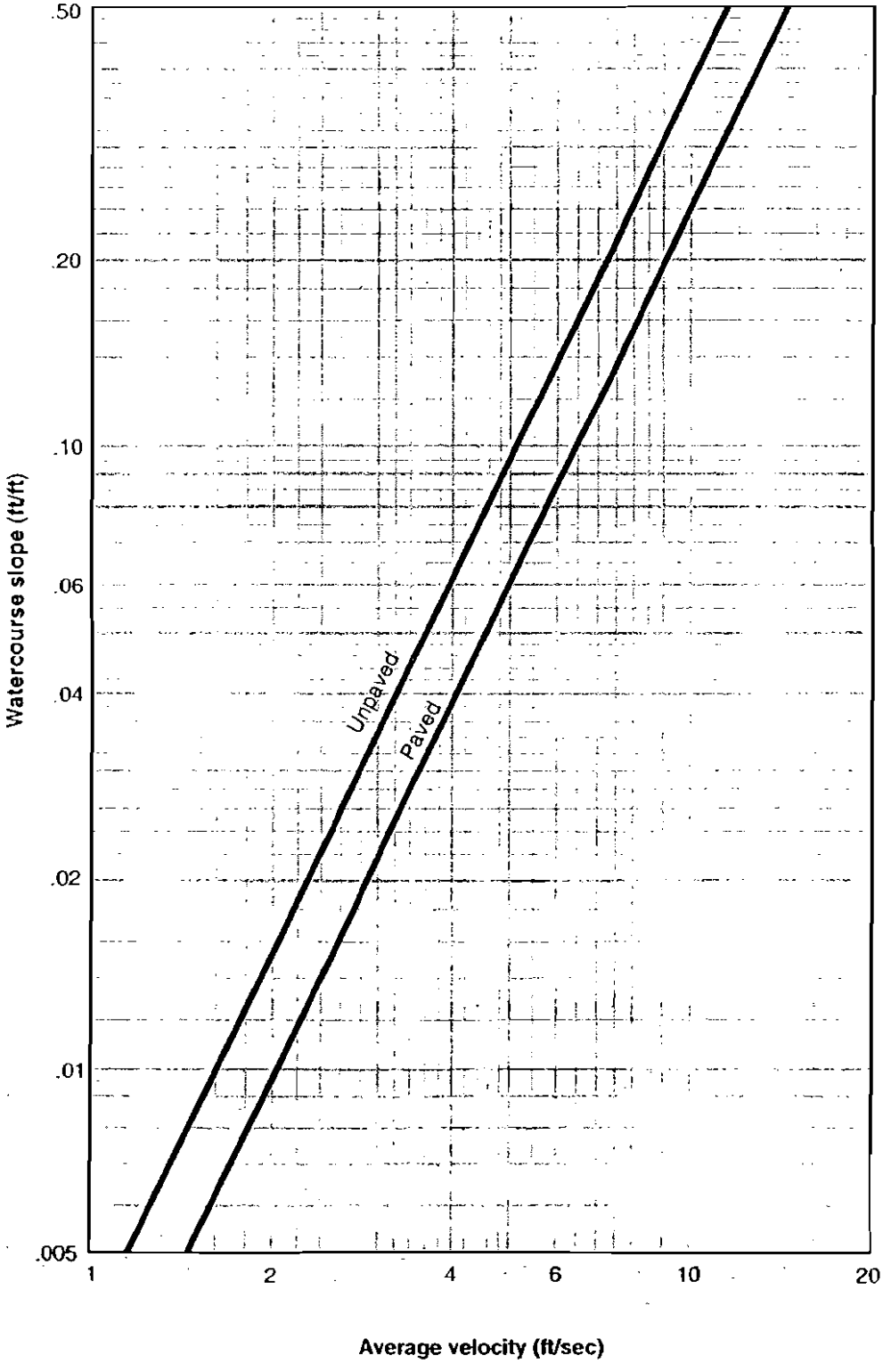


Table 2-2a Runoff curve numbers for urban areas [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area [2]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

[1] Average runoff condition, and $I_a = 0.2S$.

[2] The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

[3] CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

[4] Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

[5] Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2b Runoff curve numbers for cultivated agricultural lands [1]

Cover description			Curve numbers for hydrologic soil group			
Cover type	Treatment [2]	Hydrologic condition [3]	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T+ CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T+ CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

[1] Average runoff condition, and I_a=0.2S

[2] Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

[3] Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good ≥ 20%), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

Table 2-2c Runoff curve numbers for other agricultural lands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4]	48	65	73
Woods—grass combination (orchard or tree farm). [5]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

1 Average runoff condition, and $I_a = 0.2S$.

2 *Poor:* <50%) ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

3 *Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

4 Actual curve number is less than 30; use CN = 30 for runoff computations.

5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Table 2-2d Runoff curve numbers for arid and semiarid rangelands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition [2]	A [3]	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

1 Average runoff condition, and I_a = 0.2S. For range in humid regions, use table 2-2c.

2 Poor: <30% ground cover (litter, grass, and brush overstory).
Fair: 30 to 70% ground cover.
Good: > 70% ground cover.

3 Curve numbers for group A have been developed only for desert shrub.

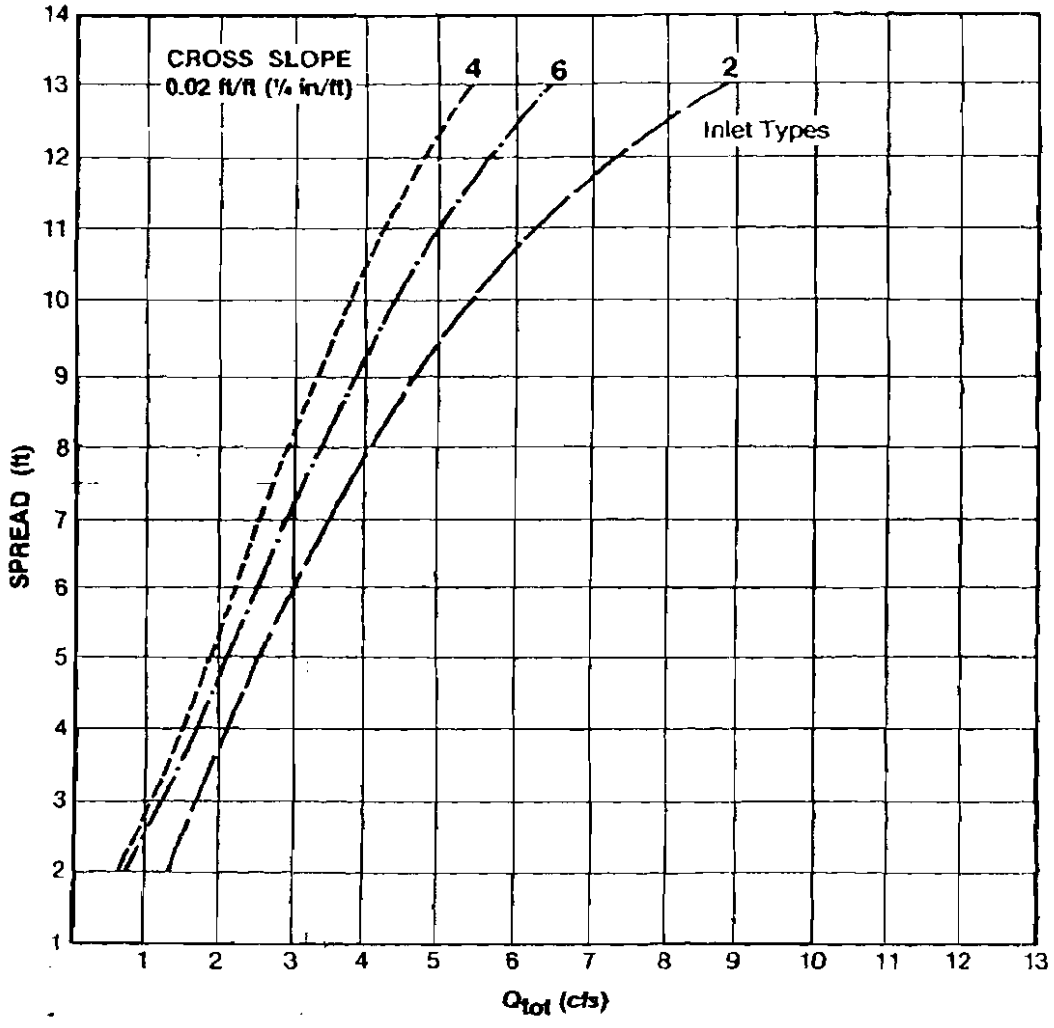


Figure A-17, Sump Conditions for Types 2, 4 & 6

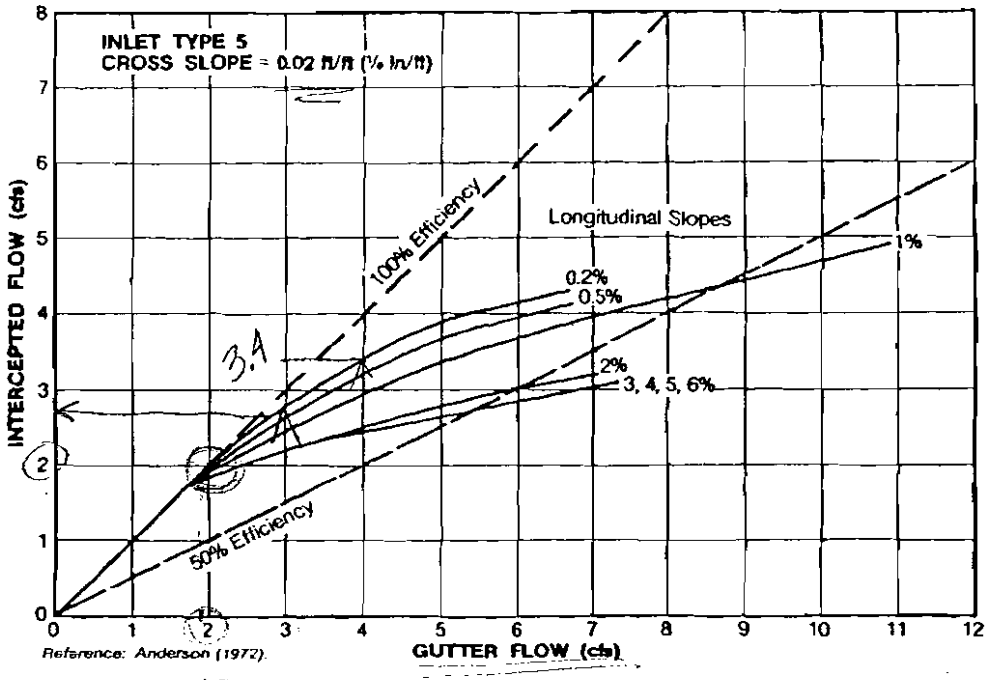


Figure A-11

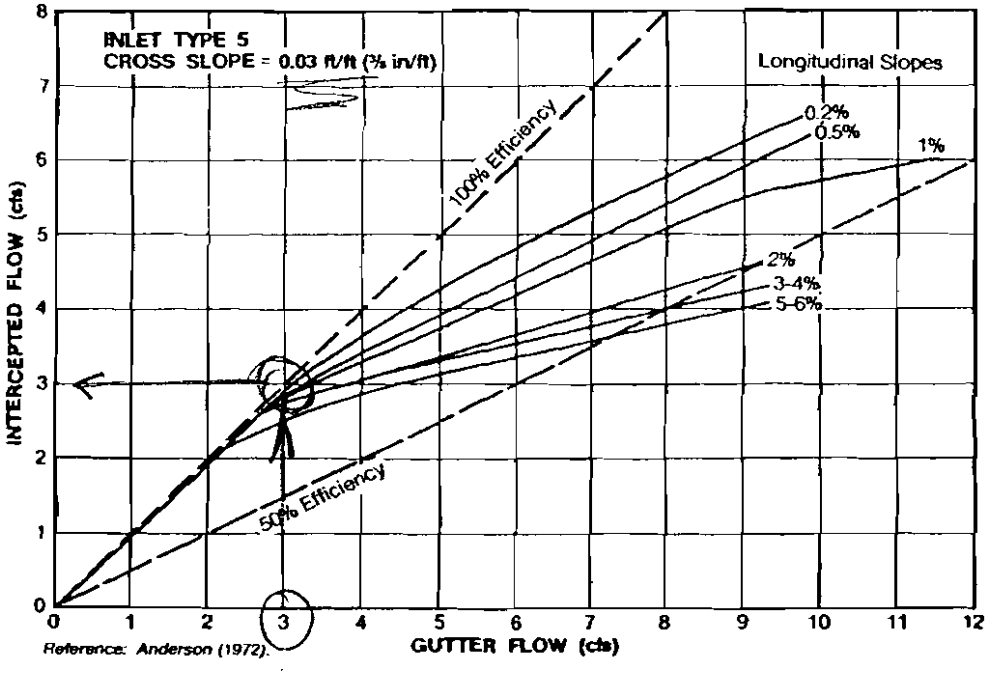


Figure A-12

Appendix 7 – Memoranda

Memorandum

To: Luis Alvan, P.E.

From: Kim Elmer, P.E.

Date: October 29, 2004

Subject: Wildwood Area Road Network, Street B (Fenton Street) 45 mph design speed and sight distance discussion.

As a follow up to our meeting held on Monday, October 25, 2004 we have laid out the horizontal and vertical alignment based on a 45 mph design speed and checked the sight distance at the future ramp connections for the above referenced roadway.

Enclosed you will find a plan view scroll plot showing a 1050 ft radius and the reverse crown needed to meet a 45 mph design speed based upon the FDOT PPM Table 2.9.2, Superelevation Rates for Urban Highways and High Speed Urban Streets (emax = 0.05). Please note that the reverse crown will raise the right edge of pavement approximately 1.56 ft. Please see the enclosed scroll plot for additional information.

All of the current vertical curves meet a 45 mph design speed with the exception of the sag curve approaching Palm Parkway. A 40 mph design speed was used for this curve to reduce the elevation difference with the existing roadway. This would reduce the amount of reconstruction required along Palm Parkway and the construction cost of the project. The proposed grade is currently 4.35 ft above the existing grade at the centerline of Palm Parkway. With a design speed of 45 mph, the elevation difference is increased by over 2 ft to approximately 6.49 ft. Please see attached plots of the profile for additional information.

The sight distance for the right turns from the future I-4 exit ramps on to Palm Parkway were checked and shown in the profile plot. The sight distance in both directions is approximately 364'. This distance meets the FDOT PPM Table 2.7.1 Minimum Stopping Sight Distance for grades of 2% or less.

If you have any questions or need additional information please contact me. We look forward to meeting with you soon to further discuss the desired typical section, roadway classification and design criteria. Thank you.

KWE/htc
Enclosures
3 Scroll Plots
cc: Jay Jackson

Kimley-Horn
and Associates, Inc.

TELEPHONE MEETING MINUTES

3660 Maguire Blvd.
Suite 200
Orlando, Florida 32803
407-898-1511
407-894-4791

Subject: **Fenton Street**
Orange County

Purpose: **Allowable Discharge Rates in Shingle Creek**

Date: **January 18, 2005; 10:00 AM**

Herman T. call Allen Leavens with the South Florida water Management District (SFWMD) to inquire the allowable discharge rates for the Shingle Creek Basin. Allen L. stated the Draft of the Basis of Review for SFWMD which has not been formally adopted, recommends in Appendix 2 the following allowable discharge rates for the 25-year/24-hour event.

North of Sand Lake Road in Orange County	320 cfs per square mile
South of Sand Lake Road in Orange County	192 cfs per square mile

Allen L. also added that for roadway projects, the maximum discharge SFWMD allows for the 25-yrear/24-hour storm events is the discharge currently occurring for the existing roadway planned for widening.

The telephone call ended around 10.15 AM.

*This document is the writer's understanding of the topics and items discussed during the meeting. Any revisions to topics and items discussed can be made to **Herman Tirado**, Kimley- Horn & Associates, at **407-898-1511** or email to '**herman.tirado@kimley-horn.com**'. If no revisions or comments are received by **January 15, 2005**, the memo will be considered accepted as distributed.*

******* End of Meeting *******

ACTION ITEMS:

1. KHA will use information as required to complete the design projects.

******* End of Memorandum *******

Kimley-Horn
and Associates, Inc.

MEETING NOTES

3660 Maguire Blvd.
Suite 200
Orlando, Florida 32803
407-898-1511
407-894-4791

Subject: **Wildwood Area Roadway Network**
From International Drive to I-4 to Palm Parkway
Orange County, Florida

Location: **Orange County Public Works Offices**

Orlando, Florida

Date: **January 19, 2005; 8:30AM**

Attendees:

Name	Organization	Phone	Email
Dan Harper	Developer	(407) 370-0093	
Bill Baxter	Orange County	(407) 836-7900	
Joe Kunkle	Orange County	(407) 836-7900	
Jay Jackson	Kimley-Horn & Assoc.	(407) 898-1511	jay.jackson@kimley-horn.com
Kim Elmer	Kimley-Horn & Assoc.	(407) 898-1511	kim.elmer@kimley-horn.com
Herman Tirado*	Kimley-Horn & Assoc.	(407) 898-1511	herman.tirado@kimley-horn.com

* - Author of this memo

Jay J. began the meeting giving a brief project description using the roll-out aerial diagram. Kim E. explained the various roadway typical sections for the project and requested Orange County concurrence in order to proceed with the project. The County has had this information since September 16, 2004. Orange County will look into getting a formal response to KHA of the approved typical section.

The discussion proceeded into the design speed requirements for the vertical alignment of the roadway over I-4. The options of 40 MPH and 45 MPH require a 4.5 foot and 6.5 foot vertical separation, respectively, of the proposed roadway grades to the existing roadway grade at Palm Parkway. After deliberating on the design constraints, it was decided to use the 40 MPH design vertical alignment for reasons including the 30 MPH posted speed for Palm Parkway and the future signalized interseetion constraints at Palm Parkway and Street 'B'.

We discussed the proposed bridge configuration to get County approval to proceed with the next step, submitting to FDOT the 15% Plans and Bridge Development Report. Bill B. suggested we submit to FDOT.

We also discussed the utility impaeted by the proposed project. Kim E. showed the location of the 6-line transmission power poles along the alignment. Bill B. suggested Joe Kunkle set up a meeting with Progress Energy, on behalf of the County, to discuss the relocation of these poles. KHA will also attend. There was also a discussion on the future pole locations in relationship to the proposed sidewalks along the roadway. It was mentioned that Orange County prefers sidewalks not be built with the roadway pavement construction. The sidewalks would be constructed when the adjacent property is developed in order to not destroy sidewalks during construction of the developing parcels adjacent to the roadway. At that time, the power poles would need to be placed with a dedicated easement or similar instrument.

We next discussed the drainage issues surrounding the project. Jay J. explained the project is divided into two parts. The north drainage area drains into Lake Willis under its undeveloped condition but the future discharge is dictated by a development agreement from some 15 years ago. The project completely and ultimately discharges into the Shingle Creek. However, with a minimal discharge potential into the Lake Willis outfall system under I-4 (approximately 4.5 cfs versus 100 cfs in the pre-development condition for the 25-year/24-hour event) and the downstream high water condition restricting flows into Big Sand Lake, it would require considerably larger on-site ponds. After some consideration, it was suggested we explore redirecting drainage southward directly into Shingle Creek. This concept will need coordination and approval from SFWMD. KHA will prepare the necessary exhibits in order to present this option to SFWMD and set up the meeting. Additionally, some discussion ensued regarding Lake Eve as a potential outfall. Lake Eve will need to be considered carefully since surrounding area is being developed.

Dan H. asked about Orange County's right-of-way needs for Lake Avenue. Bill B. mentioned the present right-of-way is 60 feet wide and no additional right-of-way is anticipated. However, the county would like to have an additional 15 feet at the intersections of Lake Avenue and Street 'A'/Village Green Road and at Street 'B' and Lake Avenue. Lake Avenue is presently under design by others and is contemplating a rural typical section because of water quality requirements and the lack of treatment pond area. The Lake Avenue typical section was discussed as to

the number of lanes needed and was determined that a 3-lane roadway is really all that is needed.

We then discussed the drainage area south of Lake Avenue toward International Drive. The area drains south toward International Drive. Presently, a 5'x3' Concrete Box Culvert under I-Drive allows runoff to discharge southward but the existing downstream ditch drains water into the existing dirt road. Jay J. asked the County for guidance on filling in the existing ditch and terminating the proposed concrete box culvert extension. Bill B. suggested we contact the adjoining property owners to determine their plans and how to best accommodate runoff from the proposed roadway with future development. Depending on the final determination for the south segment of Street 'B' (south of I-Drive), coordination will be required between Orange County, SFWMD, Progress Energy, and the adjoining property owners.

The following was not discussed in the meeting regarding the segment of Street 'B' between I-4 westward to Palm Parkway. The new segment of roadway will require water quality treatment per the SFWMD regulations. Two alternatives discussed by the design team include exfiltration trenches within the proposed roadway right-of-way or modifying the existing stormwater pond for this segment of Palm Parkway. The proposed segment of Street 'B' will occur in a high fill section and the use of an exfiltration trench should work well. However, the preferred alternative will be to modify the current outfall structure into Ruby Lake to include the treatment of the new segment of Street 'B' and the existing portion of Palm Parkway.

The meeting was adjourned at 10:15 AM.

This document is the writer's understanding of the topics and items discussed during the meeting. Any revisions to topics and items discussed can be made to Herman Tirado, Kimley- Horn & Associates, at 407-898-1511 or email to 'herman.tirado@kimley-horn.com'. If no revisions or comments are received by February 2, 2005, the memo will be considered accepted as distributed.

******* End of Meeting *******

Action Items:

1. KHA will coordinate with SFWMD to formalize an outfall solution for the Hickman Property north of Lake Avenue, Street 'B", and the properties south of Lake Avenue.

2. KHA will coordinate a meet with the property owners south of I-Drive, Vistana, and Busch properties, on the discharge outfall of the existing ditch south of I-Drive.

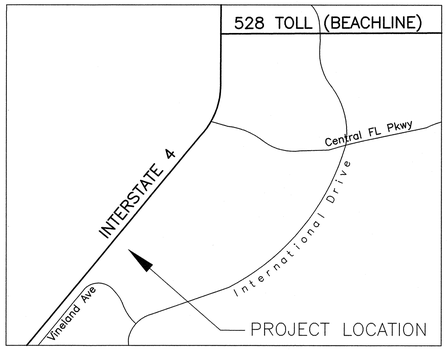
3. Joe Kunkle, Orange County, will set up a meeting with Progress Energy to address transmission pole relocation and future easements.

4. KHA will coordinate a meeting with adjoining property owners and develop stormwater discharge alternatives.

5. KHA will submit to FDOT 15% Plans and the Bridge Development Report.

6. Orange County will complete concurrence of the typical sections for Street 'B' and forward any recommendations to KHA.

******* End of Memo *******



VICINITY MAP
(NOT TO SCALE)

LEGEND:

- ⊙ - *SET 1/2" IRON ROD & CAP "DCL LB 7910"*
- ⊡ - *SET 4" CONCRETE MONUMENT "DCL LB 7910"*
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- *P.O.C. - POINT OF COMMENCEMENT*
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- *(C) - CALCULATED*
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- *NO ID - NO IDENTIFICATION*
- *A/C - AIR CONDITIONER*
- *OW - OVERHEAD UTILITY LINE*
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- *TYP - TYPICAL*
- *MES - MITERED END SECTION*
- *INV - INVERT*
- *LF - LENGTH FEET*
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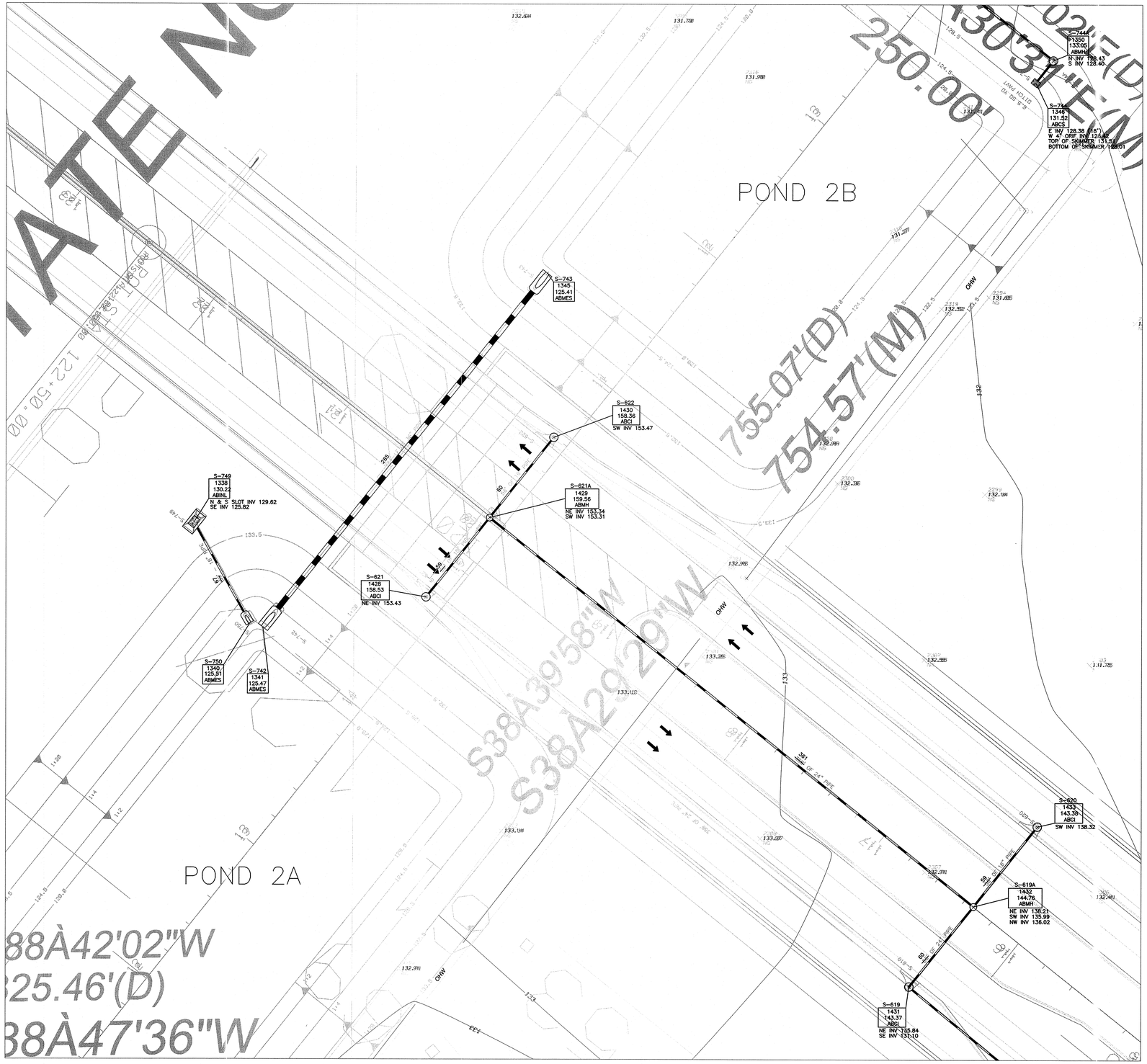

SURVEYOR'S NOTES
1. THE PURPOSE OF THIS AS–BUILT SURVEY IS TO SHOW THE LOCATION OF STORM IMPROVEMENTS.
2. HORIZONTAL COORDINATES SHOWN HEREON ARE BASED ON FLORIDA STATE PLANE, EAST ZONE, NAD83, ADJUSTMENT OF 1990 PROVIDED BY ENGINEER.
3. VERTICAL INFORMATION SHOWN HEREON WAS DERIVED FROM SITE BENCHMARKS PROVIDED ON CONSTRUCTION PLANS AND ARE RELATIVE TO NGVD29 DATUM.

DRAWING: WILDWOOD_PH2_STORMAB_R4.DWG SHEET 2 OF 7	AS-BUILT SURVEY WILDWOOD, PHASE 2 STORM LOCATED IN SECTION 14, T24S, R28E ORANGE COUNTY, FLORIDA	PREPARED FOR: SEMA CONSTRUCTION, INC.	DONOGHUE CONSTRUCTION LAYOUT, LLC LB#7910 711 TURNBULL AVE. STE. B ALT. SPR., FL 32730 PH:321-282-8282 F: 407-260-5461 DRAWN BY: S.A.D. 10/29/2014 CHK'D BY: R.R.D. 10/29/2014

SURVEYOR'S CERTIFICATION
I HEREBY CERTIFY THAT THE INFORMATION PROVIDED HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, THAT THE INFORMATION WAS GATHERED AND PREPARED UNDER MY DIRECT SUPERVISION, AND THAT ALL INFORMATION CONFORMS TO FLORIDA STATUTES 470 AND 5J-17 F.A.C AS APPLICABLE. THIS CERTIFICATION APPLIES TO THE STORM PORTION ON THE PROJECT ONLY. THIS CERTIFICATION IS NOT VALID UNLESS EMBOSSED WITH A RAISED SEAL AND SIGNATURE. NOT VALID WITHOUT SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ELEVATIONS PROVIDED ARE BASED ON NGVD29 DATUM, AS PROVIDED BY CONSTRUCTION PLANS.

11.3.14
DATE: RYAN R. DONOGHUE PSM #6586

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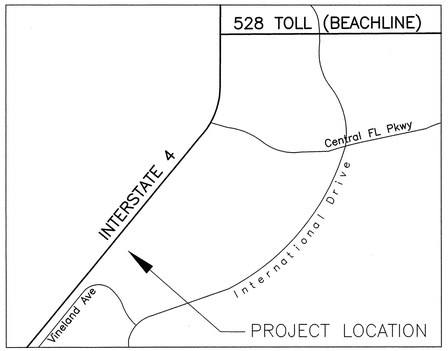
REVISED:	
REVISED:	
CREW CHIEF(S): S.A.H.	



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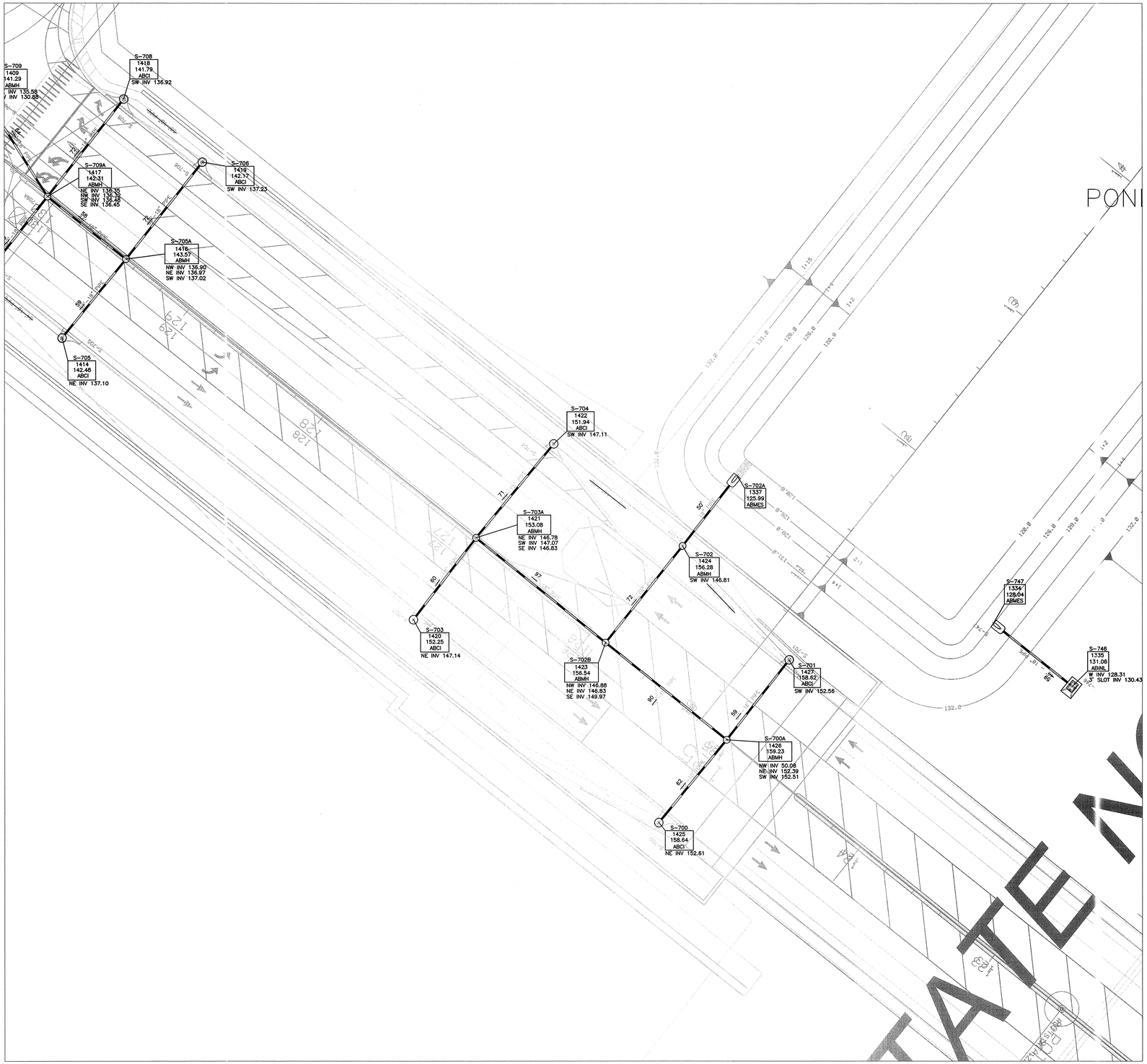

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SCALE - 1" = 40'

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DRAWING:
WILDWOOD_PH2_STORMAB_R4.DWG

SHEET
3 OF 7

AS-BUILT SURVEY

WILDWOOD, PHASE 2 STORM

LOCATED IN SECTION 14, T24S, R28E
ORANGE COUNTY, FLORIDA

PREPARED FOR:

SEMA CONSTRUCTION, INC.

DONOGHUE CONSTRUCTION LAYOUT, LLC LB#7910
711 TURNBULL AVE. STE. B
ALT. SPR., FL 32730
PH:321-282-8282
F: 407-260-5461

DRAWN BY:	S.A.D.	10/29/2014
CHK'D BY:	R.R.D.	10/29/2014

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11-3-14
DATE:

RYAN R. DONOGHUE PSM#6538
STATE OF FLORIDA

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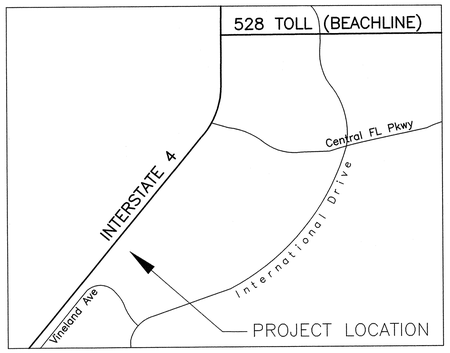
LAST FIELD WORK: 10/8/2014	
REVISED:	
REVISED:	
CREW CHIEF(S): S.A.H.	



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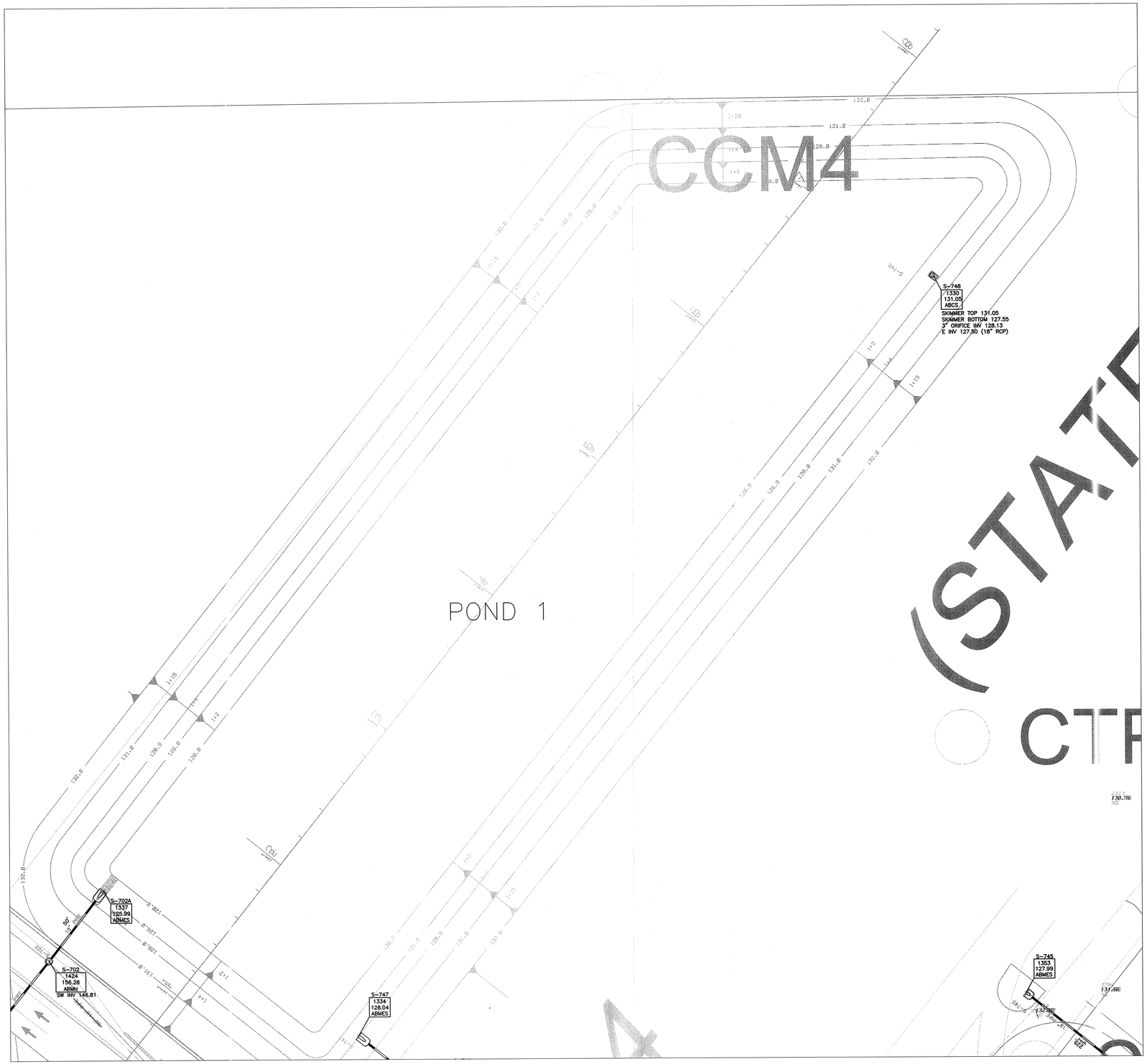

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11-3-14
DATE: RYAN R. DONOGHUE PSM#6538

SCALE: 1:40
LAST FIELD WORK: 10/8/2014
REVISED:
REVISED:
CREW CHIEF(S): S.A.H.

APPENDIX D.6: Wildwood Area Roadway Network: I-4 Pond Modification (080205-41)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
STANDARD GENERAL PERMIT NO. 48-01243-P
DATE ISSUED:October 10, 2008

Form #0941
08/95

PERMITTEE: FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 5
719 S WOODLAND BLVD
DELAND, FL 32720

PROJECT DESCRIPTION: Modification for construction and operation of a surface water management system to serve a 7.18 acre roadway project known as Wildwood Area Road Network, I-4 Pond Modifications.

PROJECT LOCATION: ORANGE COUNTY, SEC 14 TWP 24S RGE 28E

PERMIT DURATION: See Special Condition No:1. See attached Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Notice of Intent for Permit Application No. 080205-41, dated February 5, 2008. This action is taken pursuant to Rule 40E-1.603 and Chapter 40E-40 , Florida Administrative Code (F.A.C.).

Based on the information provided, District rules have been adhered to and an Environmental Resource General Permit is in effect for this project subject to:

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 19 General Conditions (See Pages : 2 - 4 of 6),
3. the attached 16 Special Conditions (See Pages : 5 - 6 of 6) and
4. the attached 2 Exhibit(s)

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights," we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the Permittee (and the persons listed in the attached distribution list) no later than 5:00 p.m. on this 10th day of October, 2008, in accordance with Section 120.60(3), Florida Statutes.

BY: _____
Edward Yaun, P.E.
Director, Orlando Regulatory Division
Orlando Service Center

Certified mail number 7008 1300 0001 2001 5972

40E-4.321 Duration of Permits

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C. is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. the effective date of the local government's comprehensive plan amendment.
2. the effective date of the local government development order.
3. the date on which the District issues the conceptual approval, or
4. the latest date of the resolution of any Chapter 120.57, F.A.C., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For a noticed general permit issued pursuant to chapter 40-E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made in writing pursuant to subsection (3), the permit shall remain in full force and effect until:

1. the Governing Board takes action on an application for extension of an individual permit, or
2. staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environmental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to subsection 40E-4.331(2)(b), F.A.C. (letter modifications) do not extend the duration of a permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific authority 373.044, 373.113 F.S. Law Implemented 373.413, 373.416, 373.419, 373.426 F.S. History—New 9-3-81, Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4/20/94, Amended 7-1-86, 4/20/94, 10-3-95

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373. F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permitee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit

GENERAL CONDITIONS

Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(3), F.A.C., also known as the "No Notice" Rule.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit

GENERAL CONDITIONS

application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on October 10, 2013.

2. Operation of the surface water management system shall be the responsibility of FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5.

3. Discharge Facilities:

   Basin: I-4 Pond 1 Mod., Structure: S-748

   1-3" dia. CIRCULAR ORIFICE with invert at elev. 128' NGVD 29.
   58 LF of 18" dia. REINFORCED CONCRETE PIPE culvert.
   1-37" W X 49" L drop inlet with crest at elev. 131' NGVD 29.

   Receiving body : Existing road system
   Control elev : 128 feet NGVD 29.

   Basin: I-4 Pond 2A&B Mod., Structure: S-744

   1-3" dia. CIRCULAR ORIFICE with invert at elev. 128.5' NGVD 29.
   219 LF of 18" dia. REINFORCED CONCRETE PIPE culvert.
   1-37" W X 49" L drop inlet with crest at elev. 131.5' NGVD 29.

   Receiving body : Existing road system
   Control elev : 128.5 feet NGVD 29.

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.

5. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.

6. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.

7. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

8. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse flooding conditions.

9. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

10. The permittee acknowledges, that pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the

SPECIAL CONDITIONS

property.

11. Minimum road crown elevation: Basin: I-4 Pond 1 Mod. - 130.00 feet NGVD 29. Basin: I-4 Pond 2A&B Mod. - 130.50 feet NGVD 29.

12. Silt fencing shall be installed at the limits of construction to protect all areas from silt and sediment deposition during the construction of the project. The sediment controls shall be installed prior to the commencement of any clearing or construction and shall remain in place and be maintained in good functional condition until all adjacent construction activities have been completed and all fill slopes have been stabilized.

13. Prior to any future construction, the permittee shall apply for and receive a permit modification. As part of the permit application, the applicant for that phase shall provide documentation verifying that the proposed construction is consistent with the design of the master surface water management system, including the land use and site grading assumptions.

14. Grass seed or sod, shall be installed and maintained on all disturbed areas within 48 hours of completing final grade, and at other times, as necessary, to prevent erosion, sedimentation or turbid discharges into receiving waters and/or adjacent wetlands.

15. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

16. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 48-012243-P unless otherwise specified herein.

Last Date For Agency Action: 12-OCT-2008

GENERAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Wildwood Area Road Network; I-4 Pond Modification

Permit No.: 48-01243-P

Application No.: 080205-41 **Associated File:** 070307-6 ERP Concurrent

Application Type: Environmental Resource (General Permit Modification)

Location: Orange County, S14/T24S/R28E

Permittee : Florida Department Of Transportation District 5

Operating Entity : Florida Department Of Transportation District 5

Project Area: 7.18 acres

Project Land Use: Roadway

Drainage Basin: SHINGLE CREEK

Receiving Body: Existing road system **Class:** CLASS III

Special Drainage District: NA

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

Modification of an Environmental Resource Permit to authorize construction and operation of a surface water management system to serve a 7.18 acre roadway project known as Wildwood Area Road Network, I-4 Pond Modification. Staff recommends approval with conditions.

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

The site is located within the I-4 right-of-way west of International Drive, between CR 535 and Central Florida Parkway.

There are permitted surface water management facilities within the project area. The site contains the existing I-4 roadway, unimproved right-of-way, and the existing ponds.

There are no wetlands located within or affected by the proposed project.

PROPOSED PROJECT:

Construction proposed consists of modifications to the previously permitted detention ponds serving as the surface water management system for I-4. The water management ponds are being revised to include drainage from Wildwood Area Road Network Road "B". The Road "B" area was part of the original drainage area, but was pervious area.

The permit for I-4 improvements, Application No. 011109-7 issued on January 4, 2002 had a contributing drainage area to these ponds of approximately 20 acres. This modification relocates and reconfigures the ponds and increases the drainage area to 20.42 acres. The original area of Pond 1 was 2.9 acres, the reconfigured pond has 2.8 acres. The original area of Pond 2 was 2.38 acres, the reconfigured pond has 2.63 acres. The control elevation for both ponds remains as previously permitted. The inlet grates have been raised to provide the required additional water quality treatment volume. The bleeder orifices have been revised from the permitted four inch to three inch orifices to meet the discharge requirements.

There are two applications that are related to this project. The first, Application No. 070307-6, modification of Permit No. 48-01583-P for the construction of Road "B" from its present terminus over I-4 to Palm Parkway, is being processed concurrently with this application. The second, Application No. 080603-24, modification of Permit No. 48-00963-P for required revisions at the intersection of Palm Parkway and Road "B" was issued on July 23, 2008.

LAND USE:

Construction:
Project:

	This Phase	Total Project	
Pervious	1.75	1.75	acres
Water Mgnt Acreage	5.43	5.43	acres
Total:	**7.18**	**7.18**	

WATER QUANTITY :

Discharge Rate :

As shown in the table below, the proposed project discharge is within the allowable limit for the area.

Discharge Storm Frequency : 25 YEAR-1 DAY Design Rainfall : 8.6 inches

Basin	Allow Disch (cfs)	Method Of Determination	Peak Disch (cfs)	Peak Stage (ft, NGVD 29)
I-4 Pond 1 Mod.	.7	Previously Permitted	.7	130.2
I-4 Pond 2A&B Mod.	.5	Previously Permitted	.5	130.1

Road Design :

Road Storm Frequency : 10 YEAR-1 DAY Design Rainfall: 7.4 inches

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Road Crown (ft, NGVD 29)
I-4 Pond 1 Mod.	129.8	130
I-4 Pond 2A&B Mod.	129.9	130.5

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
I-4 Pond 1 Mod.	12.12	128	128.00	Previously Permitted
I-4 Pond 2A&B Mod.	8.30	128.5	128.50	Previously Permitted

Receiving Body :

Basin	Str.#	Receiving Body
I-4 Pond 1 Mod.	S-748	Existing road system
I-4 Pond 2a&B Mod.	S-744	Existing road system

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Culverts:

Basin	Str#	Count	Type	Width	Length	Dia.
I-4 Pond 1 Mod.	S-748	1	Reinforced Concrete Pipe		58'	18"
I-4 Pond 2A&B Mod.	S-744	1	Reinforced Concrete Pipe		219'	18"

Inlets:

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
I-4 Pond 1 Mod.	S-748	1	Inlet	37"	49"		131
I-4 Pond 2A&B Mod.	S-744	1	Inlet	37"	49"		131.5

Water Quality Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Bleeders:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
I-4 Pond 1 Mod.	S-748	1	Circular Orifice				3"		128
I-4 Pond 2A&B Mod.	S-744	1	Circular Orifice				3"		128.5

WATER QUALITY :

No adverse water quality impacts are anticipated as a result of the proposed project. Water quality

treatment in excess of the first inch of runoff is provided in the wet detention ponds for the 20.42 acre contributing drainage area.

Basin	Treatment Method			Vol Req.d (ac-ft)	Vol Prov'd
I-4 Pond 1 Mod.	Treatment	Wet Detention	2.8 acres	1.01	1.14
I-4 Pond 2A&B Mod.	Treatment	Wet Detention	2.63 acres	.69	.8

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that no irrigation water use is proposed for the project at this time.
The applicant has indicated that dewatering is not required for construction of this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Historical/Archeological Resources:

No information has been received that indicates the presence of archaeological or historical resources or that the proposed activities could cause adverse impacts to archaeological or historical resources.

DCA/CZM Consistency Review:

The District has not received a finding of inconsistency from the Florida Department of Environmental Protection or other commenting agencies regarding the provisions of the federal Coastal Zone Management Plan.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF REVIEW:

DIVISION APPROVAL:

NATURAL RESOURCE MANAGEMENT:

Marc S. Ady

DATE: 10/18/09

SURFACE WATER MANAGEMENT:

Mark S. Daron, P.E.

DATE: 10/18/09

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office**. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing
Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District's Governing Board takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation
The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW
Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

App. no. : 080205-41

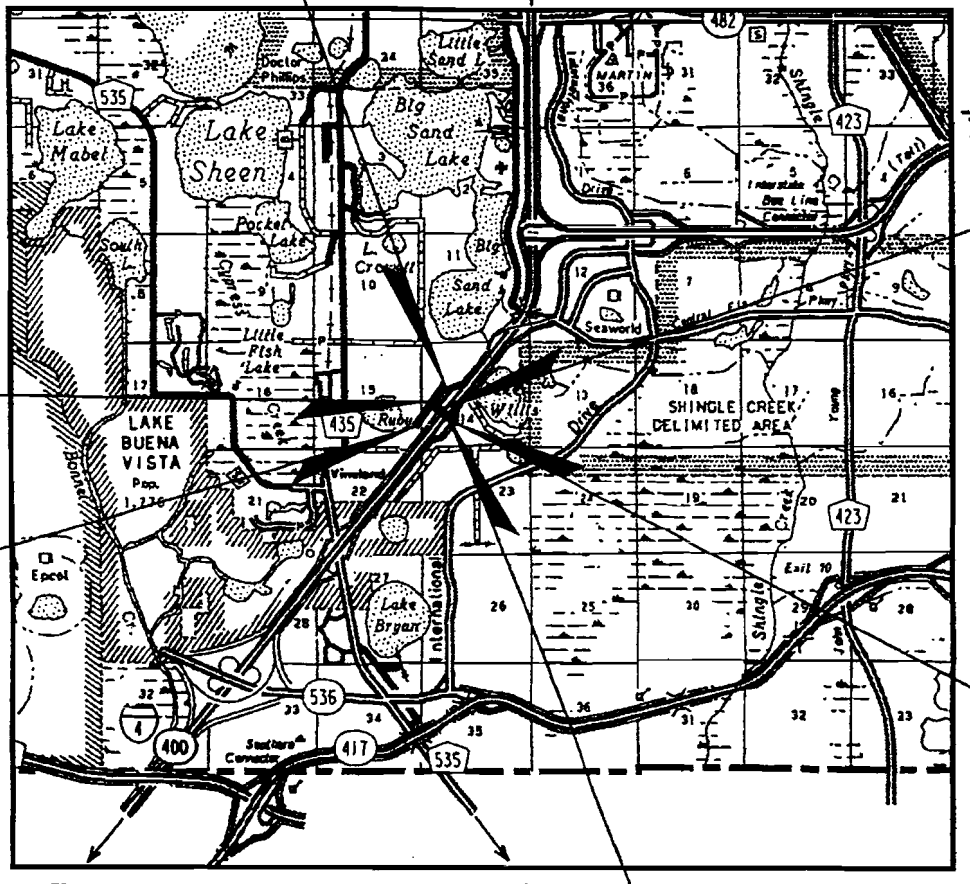
Page 1 of 1

Exhibit 1

END CONSTRUCTION
STA. 60+66.55
℄ SURVEY PALM PARKWAY

END PROJECT
END CONSTRUCTION
STA. 131+17.24
℄ CONST. STREET B

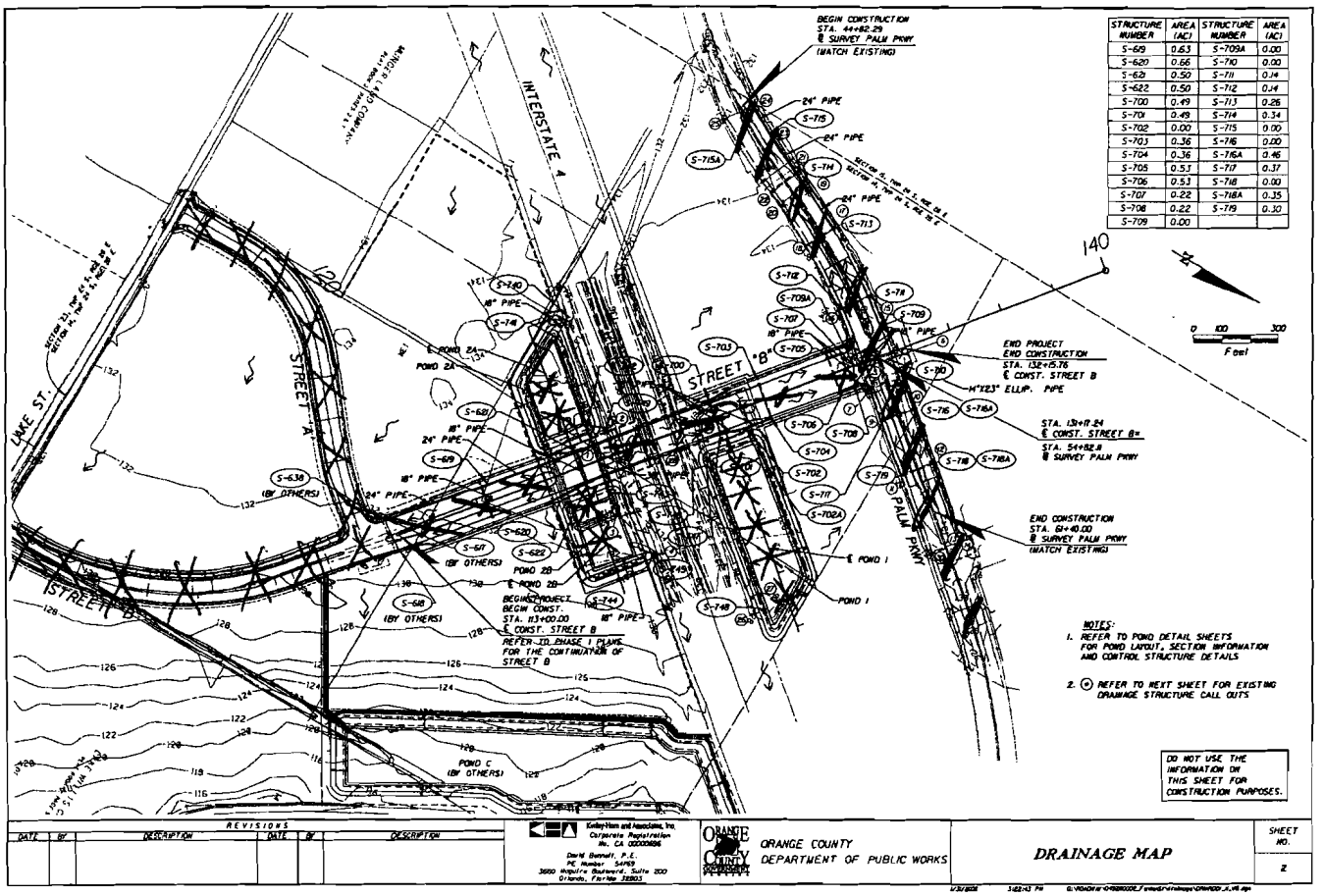
BEGIN CONSTRUCTION
STA. 44+82.29
℄ SURVEY PALM PARKWAY



END BRIDGE
STA. 124+60.00
℄ CONST. STREET B

BEGIN PROJECT
BEGIN CONSTRUCTION
STA. 113+00.00
℄ CONST. STREET B

BEGIN BRIDGE
STA. 120+40.00
℄ CONST. STREET B



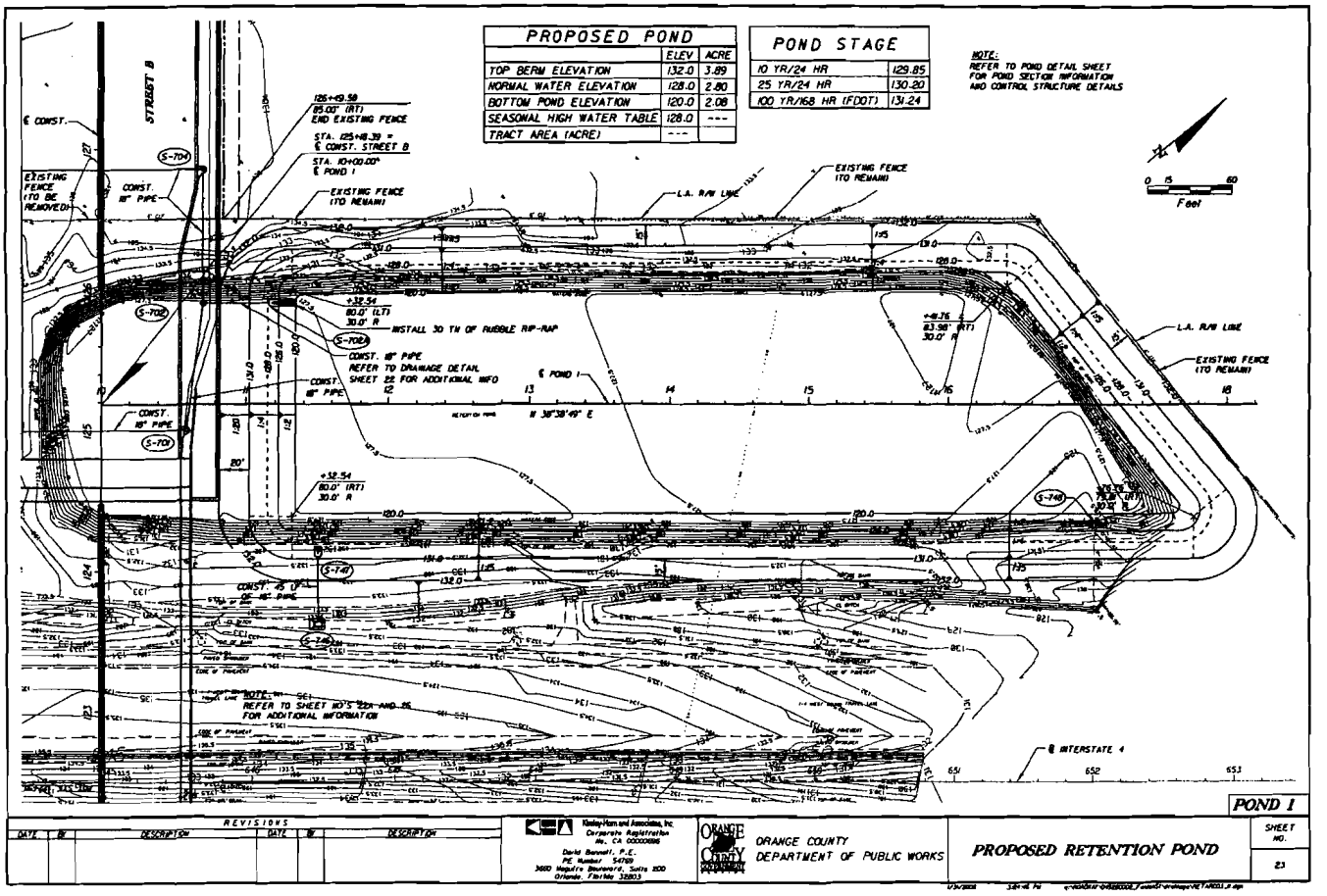
STRUCTURE NUMBER	AREA (AC)	STRUCTURE NUMBER	AREA (AC)
S-619	0.63	S-709A	0.00
S-620	0.66	S-710	0.00
S-621	0.50	S-711	0.14
S-622	0.50	S-712	0.14
S-700	0.49	S-713	0.26
S-701	0.49	S-714	0.34
S-702	0.00	S-715	0.00
S-703	0.36	S-716	0.00
S-704	0.36	S-716A	0.46
S-705	0.51	S-717	0.37
S-706	0.51	S-718	0.00
S-707	0.22	S-718A	0.35
S-708	0.22	S-719	0.30
S-709	0.00		

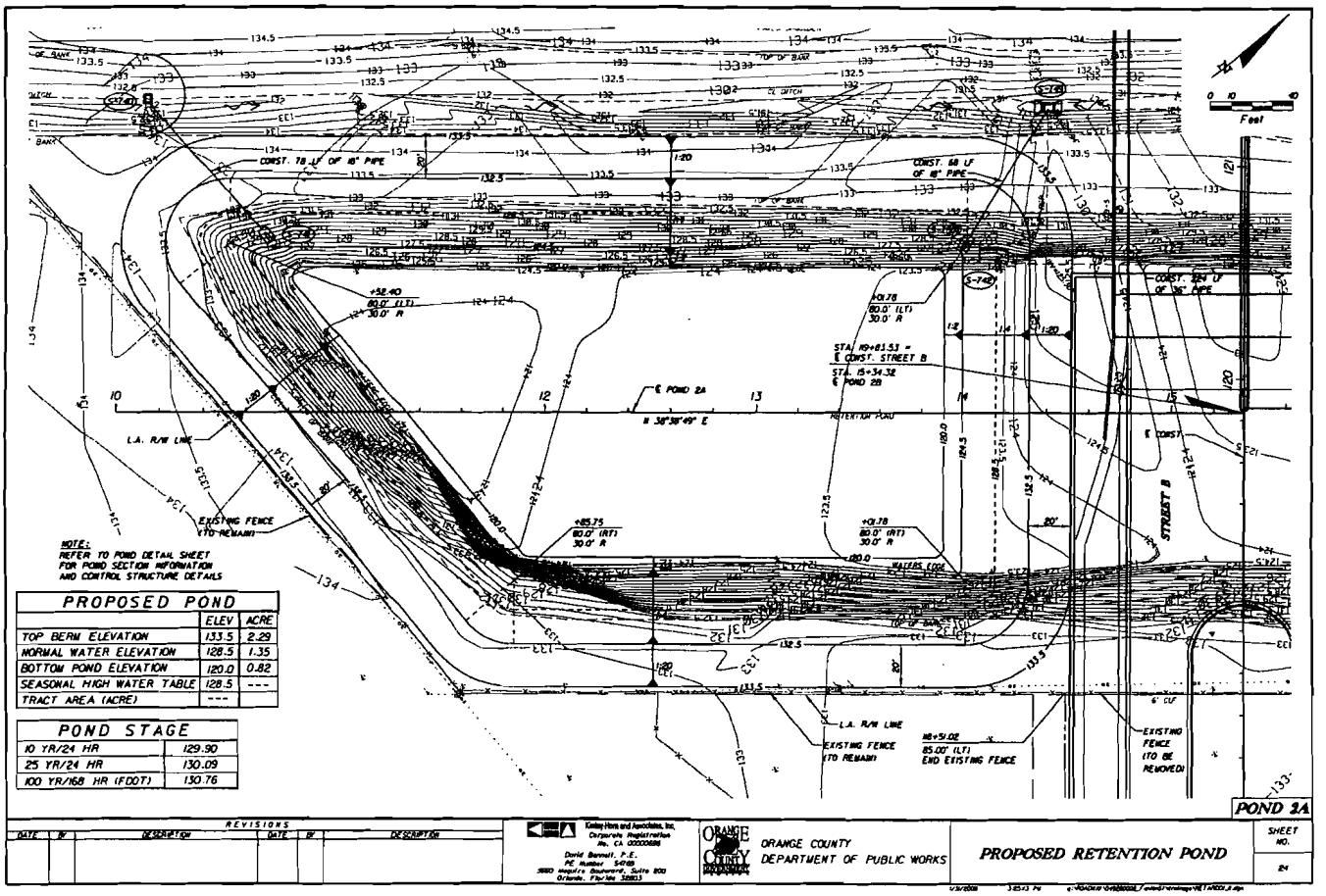
XX - Existing Previously Permitted

++ - STREET B (App. No 070307-6)

** - I-4 Pond Modification (This Application)

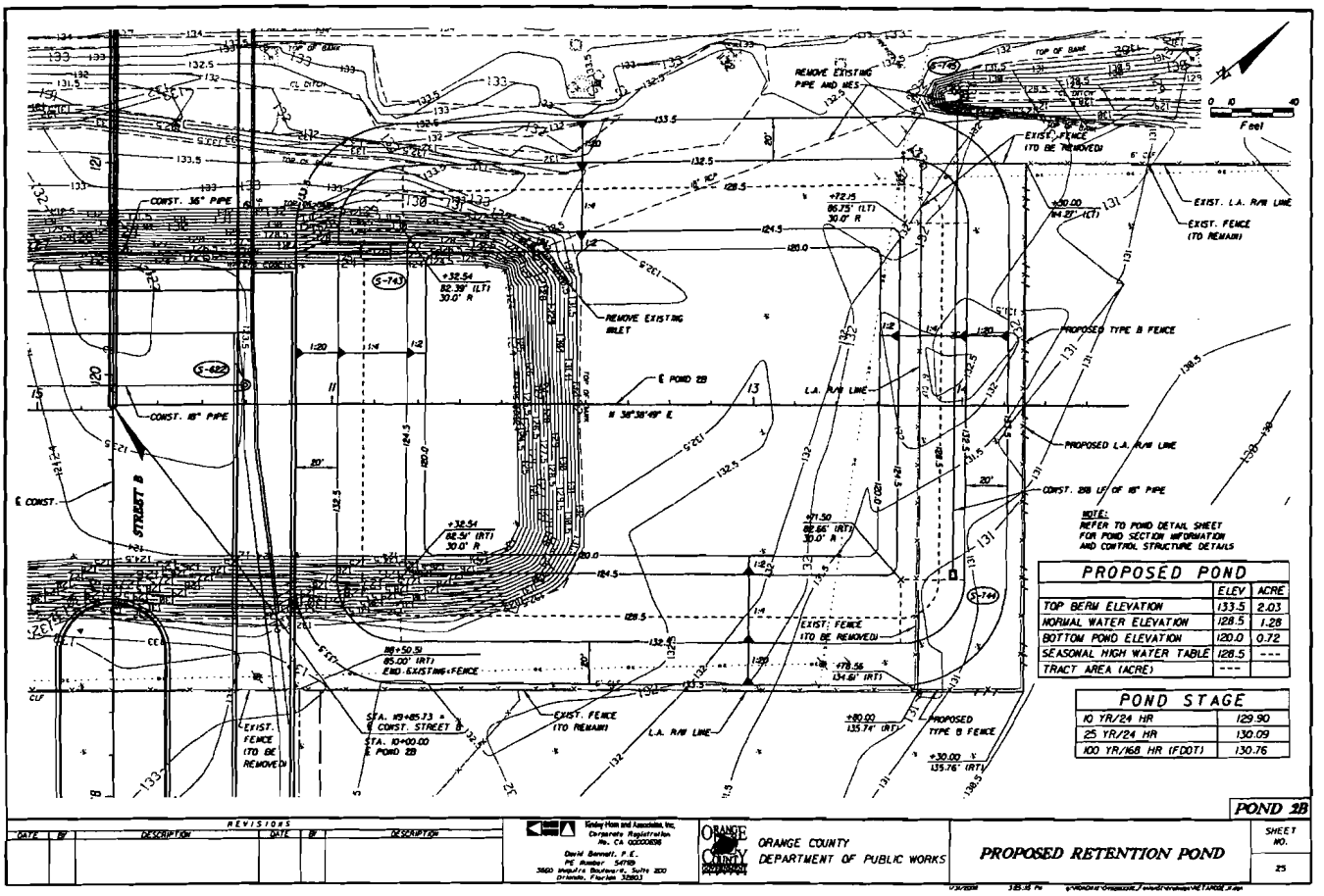
11 - Palm Parkway (App No. 080603-24)


PROPOSED POND
ELEV ACRE
TOP BERM ELEVATION 132.0 3.89
NORMAL WATER ELEVATION 128.0 2.80
BOTTOM POND ELEVATION 120.0 2.08
SEASONAL HIGH WATER TABLE 128.0 ---
TRACT AREA (ACRE) ---
POND STAGE
10 YR/24 HR 129.85
25 YR/24 HR 130.20
100 YR/168 HR (FDOT) 131.24
NOTE:
REFER TO POND DETAIL SHEET FOR POND SECTION INFORMATION AND CONTROL STRUCTURE DETAILS
STREET B
EXISTING FENCE (TO BE REMOVED)
CONST. 18" PIPE
EXISTING FENCE (TO REMAIN)
L.A. R/W LINE
INSTALL 30 TN OF RUBBLE RIP-RAP
CONST. 18" PIPE
REFER TO DRAINAGE DETAIL SHEET 22 FOR ADDITIONAL INFO
℄ POND 1
N 38°38'49" E
NOTE:
REFER TO SHEET NO'S 22A AND 26 FOR ADDITIONAL INFORMATION
℄ INTERSTATE 4
Feet
POND 1
REVISIONS
DATE BY DESCRIPTION
Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS
PROPOSED RETENTION POND
SHEET NO.
23


NOTE:
REFER TO POND DETAIL SHEET
FOR POND SECTION INFORMATION
AND CONTROL STRUCTURE DETAILS
PROPOSED POND
ELEV
ACRE
TOP BERM ELEVATION
133.5
2.29
NORMAL WATER ELEVATION
128.5
1.35
BOTTOM POND ELEVATION
120.0
0.82
SEASONAL HIGH WATER TABLE
128.5

TRACT AREA (ACRE)

POND STAGE
10 YR/24 HR
129.90
25 YR/24 HR
130.09
100 YR/168 HR (FDOT)
130.76
REVISIONS
DATE
BY
DESCRIPTION
ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS
PROPOSED RETENTION POND
SHEET NO.
24
POND 2A



PROPOSED POND	ELEV	ACRE
TOP BERM ELEVATION	133.5	2.03
NORMAL WATER ELEVATION	128.5	1.28
BOTTOM POND ELEVATION	120.0	0.72
SEASONAL HIGH WATER TABLE	128.5	---
TRACT AREA (ACRE)	---	

POND STAGE	
10 YR/24 HR	129.90
25 YR/24 HR	130.09
100 YR/168 HR (FDOT)	130.76

POND 2B

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kindley Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54789
3600 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
DEPARTMENT OF PUBLIC WORKS

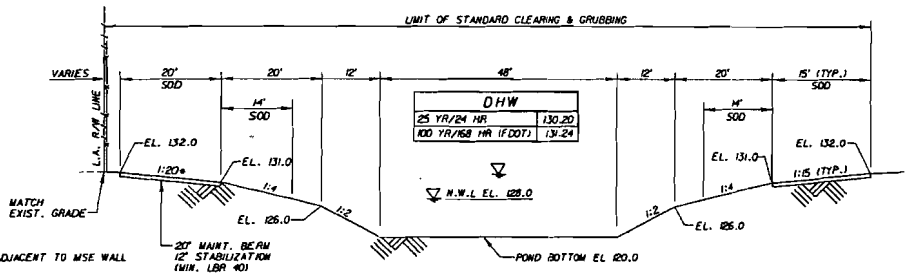
PROPOSED RETENTION POND

SHEET NO. 25

NOTES:

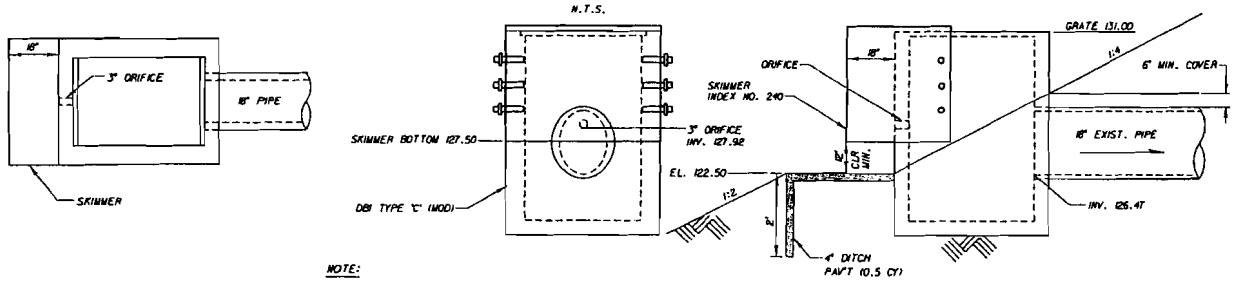
1. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL, AND SHALL BE INCLUDED IN THE UNIT PRICE BID "INLET" (TYPE 'C')

2. ALL STATION AND OFFSETS ARE REFERENCED FROM CENTER LINE CONSTRUCTION STREET 'B', UNLESS OTHERWISE NOTED.



POND TYPICAL SECTION

N.T.S.



NOTE:

THE PRECAST CONCRETE MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND DESIGN COMPUTATIONS PREPARED BY A STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE ENGINEER PRIOR TO CASTING ANY OF PRECAST UNITS NOT COVERED BY THE FL. STD. DETAILS

POND CONTROL STRUCTURE DETAIL

N.T.S.

S-748

POND 1

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000696
David Bennett, P.E.
PE Number 54765
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

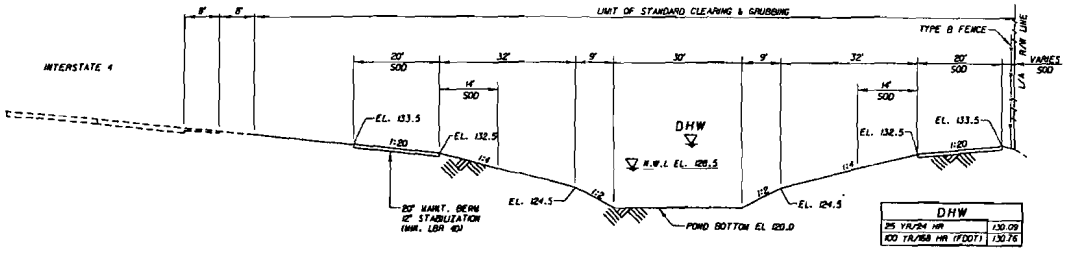
DRAINAGE DETAILS

SHEET NO. 20

NOTES:

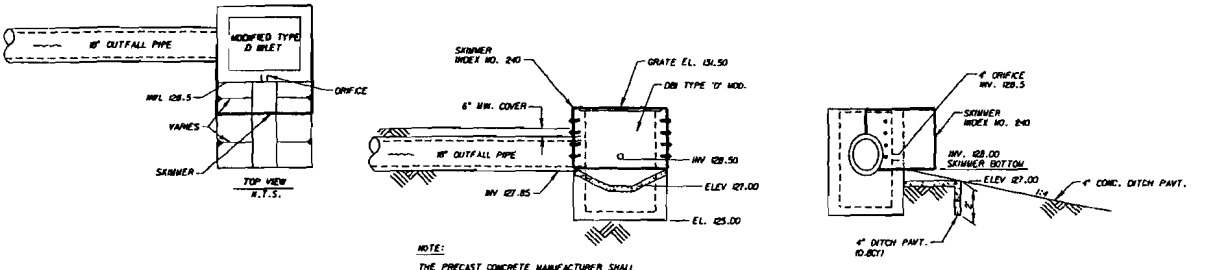
1. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE UNIT PRICE BID "VALLEY (TYPE 'C')

2. ALL STATION AND OFFSETS ARE REFERENCED FROM CENTER LINE CONSTRUCTION STREET "B", UNLESS OTHERWISE NOTED.



POND TYPICAL SECTION

N.T.S.



NOTE:

THE PRECAST CONCRETE MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND DESIGN COMPUTATIONS PREPARED BY A STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL BY THE ENGINEER PRIOR TO CASTING ANY OF PRECAST UNITS NOT COVERED BY THE FL. STD. DETAILS

POND CONTROL STRUCTURE DETAIL

N.T.S.

S-744

PONDS 2A & 2B

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley-Horn and Associates, Inc.
Corporate Registration No. CA 00000806
David Bennett, P.E.
PE number 54769
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

DRAINAGE DETAILS

SHEET NO. 21

STAFF REPORT DISTRIBUTION LIST

WILDWOOD AREA ROAD NETWORK; I-4 POND MODIFICATION

Application No: 080205-41

Permit No: 48-01243-P

INTERNAL DISTRIBUTION

X Alan L. Leavens - 2250
X Nicole Gough - 2250
X Marc S. Ady - 2250
X Mark S. Daron, P.E. - 1640
X A. Lee - 6850
X ERC Engineering - 6850
X ERC Environmental - 6850
X Permit File

EXTERNAL DISTRIBUTION

X Permittee - Florida Department Of Transportation District 5
X Engr Consultant - Kimley-Horn & Associates Inc

GOVERNMENT AGENCIES

X Div of Recreation and Park - District 6 - FDEP
X Florida Department of Environmental Protection
X Orange County - Environmental Protection Division
X Orange County - Public Utilities Division
X Orange County Engineer Public Works Division Dvlpmnt Engineering Dept.

OTHER INTERESTED PARTIES

X Sierra Club - Central Florida Group P.O. Box 941692

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

December 5, 2011
Application No. 111118-13
Regulation Division

Mr. Jay Jackson, P.E.
Kimley-Horn and Associates, Inc.
3660 Maguire Boulevard
Orlando, FL 32803

SUBJECT: Wildwood Area Road Network, I-4 Pond Modifications
Permit Number 48-01243-P
Orange County

Dear Mr. Jackson:

We are in receipt of your notice to use the provisions of Section 79 of Chapter 2011-139 Laws of Florida (HB 7207) to extend the duration of the above Environmental Resource Permit (ERP) under Part IV of Chapter 373, F.S. Pursuant to those provisions, the expiration date of the permit is changed as follows:

Original Expiration Date: October 10, 2013 (App. # 080205-41)

New Expiration Date: October 10, 2015 (App. # 111118-13)

All dates contained in the terms and conditions of the permit pertaining to deadlines, such as for commencing or completing construction, completing any mitigation, and submitting reports for the activity authorized by the permit are modified in recognition of, and relative to, the new expiration date. You are advised that the legislation requires that, "The commencement and completion dates for any required mitigation associated with a phased construction project [is] extended such that the mitigation takes place in the same timeframe relative to the phase as originally permitted."

In accordance with the legislation, the permitted activity will continue to be governed by the rules in effect at the time the permit was issued. However, any future request to modify the permit, except where the modification lessens the environmental impact, will be governed by the rules in effect at the time of the modification.

This extension does not:

1. Otherwise change any other terms or conditions of the permit.
2. Affect the expiration date of any associated state-owned submerged lands lease or easement that was executed for the activities authorized in the permit. It also does not change any terms or conditions contained in the lease or easement, such as deadlines for submittal of any required lease fees.
3. Affect the water quality certification determination under Section 401, Public Law 92-500, 33 U.S.C. Section 1341 made as part of the permit.
4. Affect the coastal zone consistency concurrence determination made under Florida's Coastal Zone Management Program in Section 307 of the Coastal Zone Management Act and 15 CFR 930, Subpart D originally contained in the permit.
5. Affect the expiration date of any state, federal, or local permit, license, or authorization related to this permit, specifically including any federal permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

If you have any questions, please call Mark Daron at 407.858.6100 ext. 3805.

Sincerely,

for Anita R. Bain, Chief
Environmental Resource Permitting Bureau
South Florida Water Management District

c: U.S. Army Corps of Engineers

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office.** An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing
Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation
The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW
Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

Bc: Application 080205-41

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 • www.sfwmd.gov/orlando/

Environmental Resource
Regulation Department
Application No. 080205-41
Permit No. 48-01243-P

February 21, 2008

Mr. David A. Bennett, P.E.
Kimley-Horn & Associates, Inc.
3660 Maguire Boulevard, Suite 200
Orlando, Florida 32803

Subject: Wildwood Area Road "B", I-4 Pond Modification, Orange County, S14/T24S/R28E

Dear Mr. Bennett:

South Florida Water Management District staff has completed a preliminary review of the Wildwood Area Road "B", I-4 Pond Modification construction application. Pursuant to Rule 40E-40, Florida Administrative Code (FAC), and as discussed in our telephone conversation of February dd, 2008, the SFWMD is requesting the following information needed to complete the application.

1. Due to the inseparable nature of related Application No. 070307-6 for Wildwood Area Road Network (Road "B"), under review, this application must be processed concurrently. Neither application will be considered complete until both are complete. In addition an application for the proposed modification to Palm Parkway has yet to be submitted, and it too must be reviewed concurrently with the two related applications.

2. Please submit the required Application Processing Fee of $1000.00 for the permit modification.

Advisory Comment: The following comment is advisory in nature and does not require a response to the District. Included with this letter/permit is a brochure from the Florida Department of Environmental Protection (DEP) on Florida's National Pollutant Discharge Elimination System (NPDES) program for construction activities.

As the brochure indicates, the U.S. Environmental Protection Agency authorized the DEP in October 2000 to implement the NPDES stormwater permitting program in Florida. The District is assisting DEP by distributing this information to entities which

may be subject to regulation under the NPDES program. No response to the District is required.

A "Generic Permit for Stormwater Discharge For Stormwater Discharge from Large and Small Construction Activities (CGP) is required for a construction activity which contributes stormwater discharges to surface waters of the State or into a municipal separate storm sewer system. Phase I regulates "large" construction activity (disturbing five or more acres of total land area) and Phase II regulates "small" construction activity (disturbing between 1 and 5 acres of total land area).

The permit required under DEP's NPDES stormwater permitting program is separate from the Environmental Resource Permit required by the District. Receiving a permit from the District does not exempt you from meeting the NPDES program requirements.

If you have any questions on the NPDES program, there are DEP phone numbers, mailing addresses and internet web page addresses in the brochure. The DEP web site, at www.dep.state.fl.us/water/stormwater/npdes/, provides information associated with the NPDES program including all regulations and forms cited in the brochure.

Advisory Comment: Please be advised that a response to this Request for Additional Information may be submitted through the District's e-Permitting website even if the original application was not submitted via e-Permitting. The link for an electronic submittal is: http://my.sfwmd.gov/ePermitting.

In accordance with Rule 40E-1.603(1)(b) FAC, if the requested information is not received within 90 days of the date of this letter, this application may be processed for denial, if not withdrawn by the applicant. Please use the attached transmittal form and **submit THREE copies of the requested information** to the Orlando Service Center and **include additional copies of your cover letter**. Also, in order to process your application as quickly as possible; **please collate your response into separate complete packages**. If you have any questions please call Nicole Simotes or me at (407) 858-6100.

Sincerely,

Alan Leavens
Staff Engineer
Orlando Service Center

AL/che

Attachments

c: Orange County Development Engineering Department (w/o attachments)
Patrick Muench, P.E., FDOT District 5

bc: Alan Leavens
Nicole Simotes
Backup File
Reader File

ADDITIONAL INFORMATION ROUTING

Regulation Department

Application Number: 080205-41 **County:** Orange

Permit Number:48-01243-P

Project Name: WILDWOOD AREA ROADWAY NETWORK - PHASE 2

Response Date :5/13/08 30 Day Deadline

Processed By: CHE **Date:**5/19/08

TRACKING SYSTEM UPDATED ☒ YES ☐ NO *
*SEE COMMENTS

APPLICATION TYPE

☒ ERP ☐ SWM ☐ WU ☐ D/F

☐ MIT ☐ FWD ☐ PERMIT TRANSFER

Reviewer: Alan Leavens
NRM Reviewer: Nicole Simotes
Environmental Resource Compliance Division
Backup File

*COMMENTS:
RECEIVED FEE OF $1000.00

Scanned by: Date:

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 • www.sfwmd.gov/orlando/

No. 84048-1

RECEIPT

MAURY L CARTER & ASSOC INC
CARTER-VINELAND POINTE LLLP
P O BOX 568821
ORLANDO, FL 32856-8821

Project	Application
WILDWOOD AREA ROADWAY NETWORK - PHASE 2	080205-41

Revenue Account	Application Type	Fee
462500	ERP GENERAL PERMIT STANDARD GEN. PERMIT - MOD	$ 1,000.00

Transaction Details

Date	Transaction	Reference	Amount
13-MAY-08	PAYMENT MADE BY MAURY L CARTER & ASSOC INC	Check# 151	$ 1,000.00

Processed by : CEDMUND
Date : 19 MAY 2008
Branch Office : ORL

APP# 080205-41

Kimley-Horn
and Associates, Inc.

3660 Maguire Boulevard
Suite 200
Orlando, FL 32803
Tel. 407 898-1511
Fax 407 894-4791

May 13, 2008

Alan Leavens
SFWMD
1707 Orlando Central Parkway, Suite 200
Oviedo, Florida 32809

RE: Wildwood Area Road "B", I-4 Pond Modification
Orange County, S14/T24S/R28E
Application No. 080205-41
Permit No. 48-01243-P

Dear Mr. Leavens,

Below are the responses to your Request for Additional Information dated on February 21, 2008.

1) Due to the inseparable nature of related Application No. 070307-6 for Wildwood Area Road Network (Road "B"), under review, this application must be processed concurrently. Neither application will be considered complete until both are complete. In addition an application for the proposed modification to Palm Parkway has yet to be submitted, and it too must be reviewed concurrently with the two related applications. **Comment noted, a modification to the Palm Parkway Permit with be submitted under separate cover.**
2) Please submit the required Application Processing Fee of $1000.00 for the permit modification. **A check for $1000.00 is enclosed.**

If you have any questions or need any additional information, please do not hesitate to contact me at (407) 898-1511. Otherwise we look forward to receiving the permit.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.

David A. Bennett, P.E.
Senior Drainage Engineer

PERMIT APPLICATION ROUTING
Environmental Resource Regulation

Application Number: **080205-41** Permit Number: **48-01243-P**

Related Application Number:

Applicant: FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

Project: **WILDWOOD AREA ROADWAY NETWORK - PHASE 2**

County: **Orange** Permit Type: **ERP-GP-MOD** Land Use Type: **GOV**

☒ **Copy of application *was not* sent to the ACOE, if determined there is wetland activity please route a copy of the application back to the ADMIN staff.**

☐ **Copy of application was sent to the ACOE on -08.**

30 Day Deadline: **03/06/08**

No Fee Required: $**0.00**

Fee Received: $**0.00** Fee Due: $**1000.00**
(Do Not Issue Permit)

		DATE RECEIVED	DATE OUT
PROCESSED BY:	**Johnella Kilo**	**02/05/08** (02/07/08)	**02/08/08**
Alan Leavens			
Nicole Simotes			

BACK-UP

SHAKIR AHMED – MSC 4241

COMMENTS: CONCURRENT ERP 070307-6. PLEASE CHECK WATER BODY. 02/08/08-LEFT VOICE MESSAGE FOR ENGINEER THAT FEE IS DUE.

Application Submittal Included:
Application Form: 5 Plans: 5 Aerials: 5 Engineer Reports: 5 Adjacent Property Owners Lists:

Scanned by: Date:

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ORLANDO SERVICE CENTER 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809
(407) 858-6100 • FL WATS 1-800-250-4250 • Suncom 358-6100 • Fax (407) 858-6121 • www.sfwmd.gov/orlando/

NOTICE

February 8, 2008

Subject: Environmental Resource Standard General Permit
Application No. 080205-41
FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5
WILDWOOD AREA ROADWAY NETWORK - PHASE 2
Orange County, S14/T24S/R28E

The South Florida Water Management District is currently processing the enclosed application. If you have any comments or objections concerning this project, please submit them in writing to this office within 30 days of receipt of this notice.

This is also an opportunity for applicable State agencies to concur with or object to the proposed project under the federal consistency provisions of the Coastal Zone Management Act. Review must be in accordance with the procedures adopted by the Interagency Management Committee on October 25, 1989. Findings of inconsistency must describe how the project conflicts with your agency's statutory authorities in the Florida Coastal Management Program and provide alternative measures, if any, which would make the project consistent. Commenting agencies must provide a copy of all consistency comment letters to the Florida Coastal Management Program Director. Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, Florida 32399-2100.

Please refer to the applicant's name and application number as referenced above in any correspondence to help facilitate processing. Questions concerning this project should be addressed to Mr. Edward W. Yaun at (407) 858-6100 extension 3824 or Mr. Marc S. Ady at (407) 858-6100 extension 3803.

EWY/MSA/jlk

Enclosure

c: Florida Department of Environmental Protection
Department of State, Division of Historical Resources

Application documents are now available online and can be accessed through the e-Permitting database. You may view these documents by going to www.sfwmd.gov and accessing the e-Permitting link.

COURIER

Kimley-Horn
and Associates, Inc.

3660 Maguire Blvd.
Suite 200
Orlando, Florida
32803

TEL 407 898-1511
FAX 407-894-4791

Transmittal I-4 Mod for APP# 080205-41

Date: February 5, 2008 Job Number: 049280002

Project Name: Wildwood Area Road Network – ~~From East of I-4 to Palm Parkway~~

To: Alan Leavens, P.E.
SFWMD
1707 Orlando Central Parkway, Suite 200
Orlando, Fl 32809
(407) 858-6100

ORIGINAL SUBMITTAL
FEB 0 5 2008
ORLANDO SERVICE CENTER

We are sending these by

☐ U.S. Mail ☐ FedEx ☒ Hand Deliver
☐ Other:

We are sending you

☒ Attached ☐ Under separate cover via the following items:

☐ Shop Drawings ☒ Prints/Plans ☐ Samples ☐ Specifications ☐ Change Orders

☐ Other:

Copies	*Date*	*No.*	*Description*
5	2/05/08	1	Drainage Permit Package including Plans, Drainage Report with Sections A, C and E.

These are transmitted as checked below:

☐ For your use ☐ Approved as submitted ☐ Resubmit ☐ Copies for approval
☐ As requested ☐ Approved as noted ☐ Submit ☐ Copies for distribution
☒ For review and comment ☐ Returned for corrections ☐ Return ☐ Corrected prints

Remarks:

Copy to: File Signed David A. Bennett, P.E.

RECEIVED
FEB 0 5 2008
ORLANDO SERVICE CENTER

APP# 080205-41

FOR AGENCY USE ONLY

ACOE Application # _____ SJR Application # _____

Date Application Received _____ Date Application Received ORIGINAL SUBMITTAL

Proposed Project Lat. ____°____'____" Fee Received $_____

Proposed Project Long. ____°____'____" Fee Receipt # _____ FEB 05 2008

Date Received_____ Project Use Codes_____ ORLANDO SERVICE CENTER

Assigned Reviewers_____ Reviewer# 's_____

SECTION A

Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters? ___ **yes** _X_ **no**

A. Type of Environmental Resource Permit Requested (check at least one)

_____ Noticed General - include information requested in Section B.
_____ Standard General (Single Family Dwelling) - include information requested in Sections C and D.
XXX **Standard General (all other projects) - include information requested in Sections C and E.**
_____ Individual (Single Family Dwelling) - include information requested in Sections C and D.
_____ Individual (all other projects) – include information requested in Sections C and E.
_____ Conceptual - include information requested in Sections C and E.
_____ Mitigation Bank Permit (construction) - include information requested in Sections C and F.

(If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)

_____ Mitigation Bank (conceptual) – include information requested in Sections C and F.
_____ Standard General Stormwater – include information requested in Sections C and H
_____ Individual Stormwater - include information requested in Sections C and H

B. Type of activity for which you are applying (check at least one)

_____ Construction and operation of a new system including dredging or filling in, on or over wetlands and other surface waters.
_____ Alteration and operation of an existing system which was not previously permitted by a WMD or DEP.
XXX Modification of a system previously permitted by a WMD or DEP. Provide previous permit numbers:
48-01243-P

___ Alteration and operation of a system ___ Extension of permit duration
___ Abandonment of a system ___ Construction and operation of additional phases of
___ Removal of a system a system

C. Are you requesting authorization to use State Owned Submerged Lands? ___ yes _XXX_ no
(If yes, include the information requested in Section G.)

D. For activities in, on or over wetlands or other surface waters, check type of federal dredge and fill permit requested:

____ Individual ____ Programmatic General
____ General ____ Nationwide

E. Are you claiming to qualify for an exemption? ___ yes _XXX_ no

If yes provide rule number if known_____.

OWNER(S) OF LAND	ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)
NAME **Florida Department of Transportation, District 5**	NAME
ADDRESS **719 S. Woodland Boulevard**	ADDRESS
CITY, STATE, ZIP **DeLand, FL 32720**	CITY, STATE, ZIP
COMPANY AND TITLE **Patrick M. Muench, P.E., Permit Coordinator**	COMPANY AND TITLE
TELEPHONE **(386) 943-5434** FAX ( )	TELEPHONE ( ) FAX ( )
AGENT AUTHORIZED TO SECURE PERMIT (IF AN AGENT IS USED)	**CONSULTANT (IF DIFFERENT FROM AGENT)**
NAME	NAME **David A. Bennett, P.E.**
COMPANY AND TITLE	COMPANY AND TITLE **Kimley-Horn & Associates, Inc.**
ADDRESS	ADDRESS **3660 Maguire Boulevard– Suite 200**
CITY, STATE, ZIP	CITY, STATE, ZIP **Orlando, FL 32803**
TELEPHONE ( ) FAX ( )	TELEPHONE (**407**) **898-1511** FAX (**407**) **894-4791**

Name of project, including phase if applicable: **Wildwood Area Roadway Network – Phase II**
Is this application for part of a multi-phase project? **XXX** yes ___ no
Total applicant-owned area contiguous to the project **17.33** ac
Total project area for which a permit is sought **12.40** ac
Impervious area for which a permit is sought **2.15** ac
What is the total area (metric equivalent for federally funded projects) of work in, on, or over wetlands or other surface waters?
0 acres _____ square feet _____ hectares _____ square meters
If a docking facility, the number of proposed new slips _____.

Project location (use additional sheets, if needed)
County(ies) **ORANGE COUNTY, FLORIDA**
Section(s) **14** Township(s) **24 SOUTH** Range(s) **28 EAST**
Section(s) _____ Township(s) _____ Range(s) _____
Land Grant name, if applicable _____
Tax Parcel Identification Number _____
Street address, road, or other location **~I-4 north of SR 535 at the Existing Ponds where the old Rest Area was located.**
City, Zip Code if applicable _____

Describe, in general terms, the proposed project, system or activity.

CONSTRUCT A 4-LANE URBAN ROADWAY OVER INTERSTATE-4 (I-4) TO PALM PARKWAY. THIS PROJECT INCLUDES CLOSED STORM SEWER COLLECTION SYSTEMS AND MODIFYING EXISTING FDOT STORMWATER MANAGEMENT FACILITIES. THE STORMWATER MANAGEMENT FACILITIES INCLUDE 3 WET-BOTTOM DETENTION PONDS WITH ASSOCIATED CONTROL STRUCTURES. WATER QUALITY IS ATTAINED USING THE PONDS PROPOSED AND THE PERMITTED PONDS IN THE ADJACENT DEVELOPMENTS. THIS PERMIT IS FOR WORK PROPOSED WITHIN THE I-4 (FDOT) RIGHT-OF-WAY.

If there have been any pre-application meetings, including at the project site, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives.

WE HAD A MEETING WITH MR. ED YAUN, SFWMD SENIOR STAFF ENGINEER, IN JANUARY 27, 2005 DISCUSSING THE DESIGN ISSUES SURROUNDING THIS PROJECT.

Please identify by number any MSSW/Wetland Resource/ERP/ACOE permits pending, issued or denied for projects at the location and any related enforcement actions.

Agency	Date	No.\Type of Application	Action Taken(Pending/Issued/Denied)
SFWMD	01-04-2002	48-01243-P	APPROVED JANUARY 2002

Note:The following information is required for projects proposed to occur in, on or over wetlands or other surface waters that need a federal dredge and fill permit and/or authorization to use state owned submerged lands.
Please provide the names ,addresses and zip codes of property owners whose property directly adjoins the project (excluding applicant). Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. _____

2. _____

3. _____

4. _____

By signing and submitting this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application, and represent that such information is true complete and accurate. I understand this is an application and not a permit, and work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relieve me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of my corporation, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S., and 18 U.S.C. Section 1001.

PATRICK M. MUENCH, P.E., FDOT DISTRICT 5 - PERMIT COORDINATOR
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent — Date: 11/19/07

FDOT DISTRICT 5 - PERMIT COORDINATOR
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I designate and authorize the above-listed agent to bind me, or my corporation, to perform any requirement which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S., and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant Signature of Applicant Date

(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

PATRICK M. MUENCH, P.E., FDOT DISTRICT 5 - PERMIT COORDINATOR — 11/19/07
Typed/Printed Name Signature Date

FDOT DISTRICT 5 - PERMIT COORDINATOR
(Corporate Title if applicable)

APP# 080205-41

SECTION C
Environmental Resource Permit Notice of Receipt of Application

This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. ***PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 2' x 3'.***

Project Name: ***STREET 'B' OVER I-4 NORTH OF SR 535***
County: ***ORANGE COUNTY, FLORIDA***
Owner: ***ORANGE COUNTY BOARD OF COUNTY COMMISSIONSERS***
Applicant: ***ORANGE COUNTY BOARD OF COUNTY COMMISSIONSERS***
Applicant's Address: ***4200 SOUTH JOHN YOUNG PARKWAY***
ORLANDO, FL. 32825

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1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.

   SEE ATTACHED AERIAL PHOTOGRAPH AND QUADRANGLE MAP

2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve:

   NO SURFACE WATERS IMPACTS ARE ANTICIPATED WITH THIS PROPOSED CONSTRUCTION.

3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works.

   SEE ATTACHED DRAWINGS THAT SHOW THE PROPOSED IMPROVEMENTS.

4. Briefly describe the proposed project (such as "construct a deck with boatshelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"):

   THE PROJECT INCLUDES CONSTRUCTING A 4-LANE ROADWAY TO PLAM PARKWAY OVER I-4, REVISING EXISTING PONDS, AND ADDING STORMWATER COLLECTION FACILITIES.

5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be disturbed, filled, excavated, or otherwise impacted by the proposed activity:

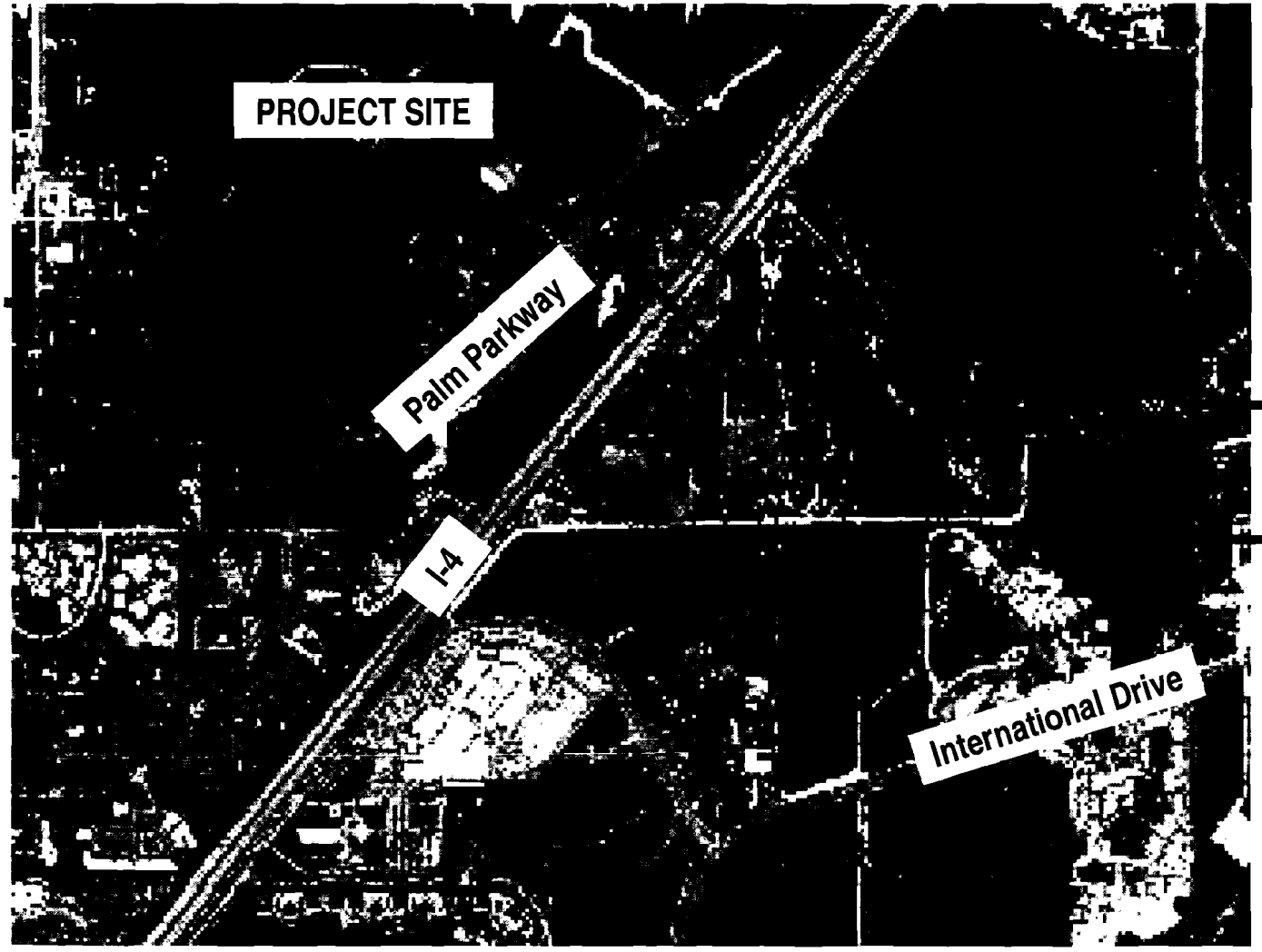
   NO SURFACE WATER IMPACTS ARE ANTICIPATED.

6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary):

   NOT APPLICABLE.

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:



ORANGE COUNTY GOVERNMENT FLORIDA

PROJECT AERIAL MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit 12

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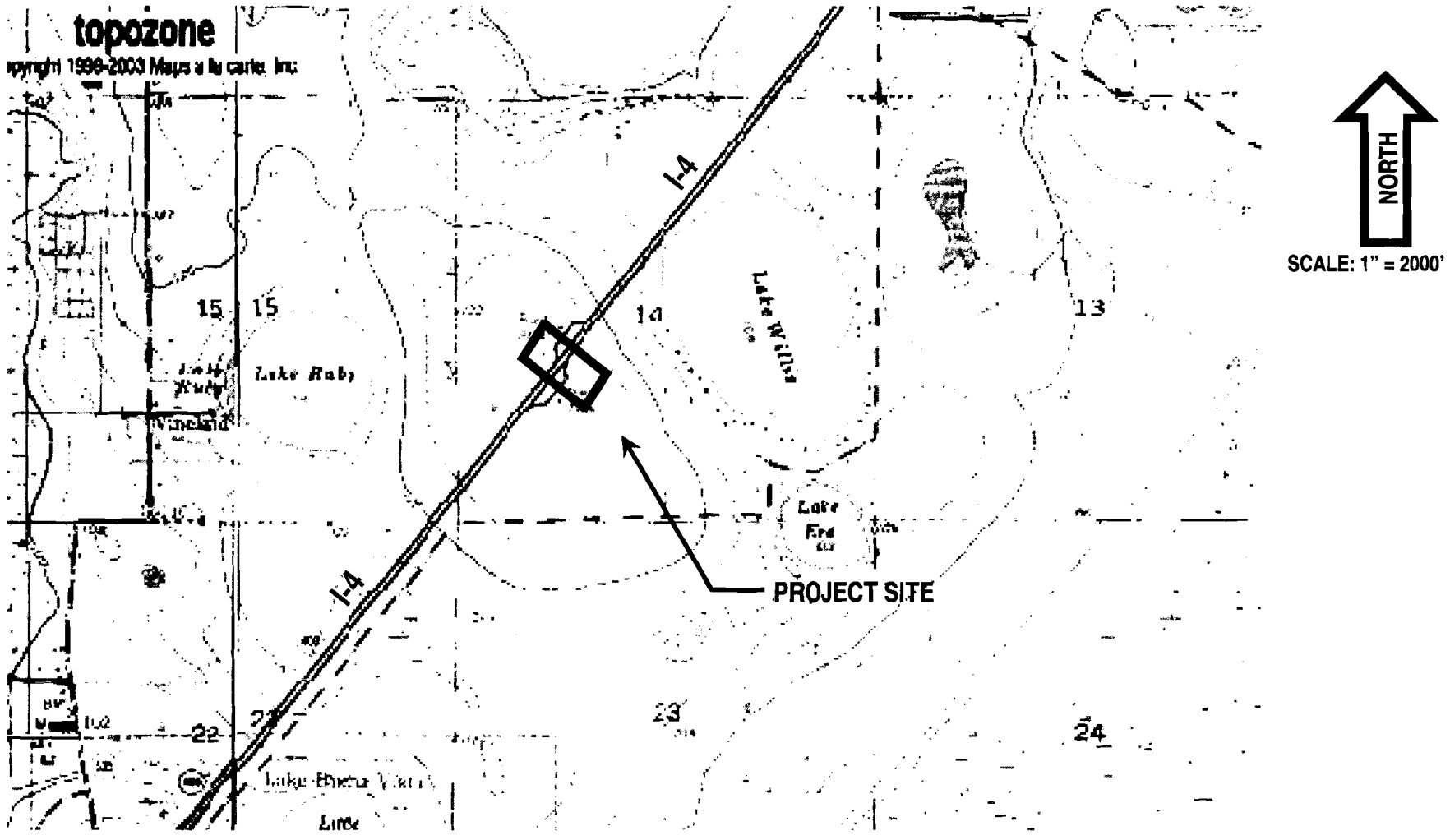

ORANGE COUNTY GOVERNMENT FLORIDA

USGS QUADRANGLE MAP

LAKE JESSAMINE

Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit

3

H:\049280002-Fenton Design\Exhibits\figPH2.ppt

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SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL, CONCEPTUAL APPROVAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

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I. SITE INFORMATION

a. Provide a map(s) of the project area and vicinity delineating USDA/SCS soils types;

Please refer to the Geotetechnical Report attached separately for soils information. Also refer to the Drainage Report, Appendix A for additional maps and exhibits.

b. Provide recent aerials, legible for photointerpretation with a scale of 1" = 400 ft., or more detailed, with project boundaries delineated on the aerial.

Please refer to the Drainage Report and the attached Roadway Plans for aerial information.

c. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations.

Please refer to the Geotetechnical Report attached separately for seasonal high water level information and the Drainage Report for additional information regading tailwater calculations.

d. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations.

Please refer to the Geotetechnical Report attached separately for seasonal high water level information.

II. ENVIRONMENTAL CONSIDERATIONS

a. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service.

N/A

b. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or will remain undisturbed.

N/A

c. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs.

N/A

d. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identification number.

N/A

e. Impact Summary Tables:
1. For all projects, complete Table 1, 2 and 3 as applicable.

N/A

2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4.

N/A.

3. For shoreline stabilization projects, provide the information requested in Table 5.

N/A.

III. PLANS

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

a. Project area boundary and total land area, including distances and orientation from roads or other land mark.

Please refer to the attached Drainage Report and Construction Plans.

b. Existing land use and land cover (acreage and percentages), and on-site natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS)(LEVEL 3) for projects proposed in the St. Johns River Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits.

Please refer to the attached Drainage Report.

c. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems waterward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel.

Please refer to the attached Construction Plans.

d. If the project is in the known flood plain of a stream or other watercourse, identify the flood plain boundary and approximate flooding elevation. Identify the 100-year flood elevation and floodplain boundary of any lake, stream or other watercourse located on or adjacent to the site.

N/A

e. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination.

N/A

f. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used III (B) above.

The Impervious Areas are 5.30 acres (26.0%) of the Project area, Water Surface Areas are 5.21 acres (25.5%), and the Pervious Areas are 7.03 acres (34.5%). Stormwater Management Areas are 8.60 acres (42.1%) of the total Project area.

SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL, CONCEPTUAL APPROVAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

g. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands.

N/A

h. Proposed buffer zones.

N/A

i. Pre and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters.

Please refer to the attached Drainage Report and Construction Plans.

j. Location of all water management areas with details of size, side slopes, and designed water depths.

Please refer to the attached Construction Plans.

k. Location and details of all water control structures, control elevations, and any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure).

Please refer to the attached Construction Plans.

l. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings.

Please refer to the attached Construction Plans.

m. Location, size, and design capacity of the internal water management facilities.

Please refer to the attached Construction Plans and the Drainage Report for Drainage Basin Calculations.

n. Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any.

Please refer to the attached Construction Plans.

o. Receiving waters or surface water management systems into which runoff from the developed site will be discharged.

Runoff from detention ponds will discharge toward the sorth via an existing I-4 roadside swales to Big Sand Lake and eventually reaching the Shingle Creek. The section of Palm Parkway discharges toward an existing pond for Palm Parkway. Please refer to the Drainage Maps in attached Construction Plans for flow directions.

p. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions.

Please refer to the attached Construction Plans. Silt fences are to be installed before construction per FDOT Index 102-104.

q. Location, grading, design water levels, and planting details of all mitigation areas.

Please refer to the attached Construction Plans.

r. Site grading details, including perimeter site grading.

Please refer to the attached Construction Plans.

s. Disposal site for any excavated material, including temporary and permanent disposal sites.

Excavated material will be used onsite or will be disposed of at permitted landfills.

t. Dewatering plan details.

The contractor will provide means and methods for dewatering. In the event dewatering is needed during construction, the contractor will be required to obtain a consumptive use permit and comply with the requirements as provided in the FDOT Roadway and Traffic Design Standards, Index 100-105 for erosion control and water quality.

u. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations.

N/A.

v. Location and description of any nearby existing offsite features (such as wetland and other surface waters, stormwater management ponds, and building or other structures) which might be affected by or affect the proposed construction or development.

Please refer to the attached Construction Plans.

w. For phased projects, provide a master development plan.

This project is the second part of a 2 part project involving the section of roadway from I-4 to Palm Parkway. Please refer to the attached Construction Plans.

IV. CONSTRUCTION SCHEDULE AND TECHNIQUES

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information shall specifically include the following:

a. Method for installing any pilings or seawall slabs:

N/A.

b. Schedule of implementation of a temporary or permanent erosion and turbidity control measures;

Silt fences are to be installed prior to construction per FDOT Index 102-104.

c. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of materials to be excavated;

Backhoes and earth scrapers are to be used for excavation and earth movement.

d. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill materials to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment), and whether the racks will be underlain with filter cloth;

A-3 (AASHTO M-145) sand fills will be used as needed. Please refer to the Geotechnical Report for more information on the use of insitu soils.

e. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place;

The contractor will provide means and methods for dewatering. In the event dewatering is needed during construction, the contractor will be required to obtain a consumptive use permit and com ply with the requirements as provided in the FDOT Roadway and Traffic Design Standards, Index 100-105 for erosion control and water quality.

f. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge;

All equipment and materials shall be transported overland.

g. Demolition plan for any existing structures to be removed; and

The only demolition anticipated throughout the project limits includes incidental concrete curb and gutter returns and some sidewalks. The demolition is handled in the standard clearing and grubbing associated with construction. Therefore, no demolition plan is included in the Construction Plans.

h. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed.

Orange County will be the entity responsible for completing monitoring, record drawings, and construction certifications as needed. The schedule for the project is dependent on the County's present work program and available funding.

V. DRAINAGE INFORMATION

a. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows:

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin;

   Please refer to the Drainage Report for Drainage Basin Calculations.

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table draw down.

   Please refer to the Geotechnical Report attached separately.

3. Receiving water elevations (normal, wet season, design storm);

   Please refer to the Drainage Report for Tailwater Calculations.

4. Design storms used including rainfall depth, duration, frequency, and distribution;

   Please refer to the Drainage Report for design storms, rainfall depths, duration, frequencies and distributions for the proposed stormwater management facilities.

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s);

   Please refer to the Drainage Report for the Basin Hydrographs and associated ICPR models.

6. Stage-storage computations for any area such as a reservoir, close basin, detention area, or channel, used in storage routing;

   Please refer to the Drainage Report for Pond Design Calculations.

7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction;

   Please refer to the Drainage Report for the Proposed Pond Routings.

8. Flood routings through on-site conveyance and storage areas;

   Please refer to the Drainage Report for the Proposed Pond Routings.

9. Water surface profiles in the primary drainage system for each required design storm event(s);

   Please refer to the Drainage Report.

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s);

    Please refer to the Drainage Report.

11. Tailwater history and justification (time and elevation) and;

    Please refer to the Drainage Report for Tailwater Calculations.

12. Pump specifications and operating curves for range of possible operating conditions (if used in system).

N/A.

b. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions;

N/A

c. Provide the acreage, and percentages of the total project, of the following:

1. Impervious surfaces, excluding wetlands.

Total impervious areas are 5.30 acres, approximately 26.0% of the total project area.

2. Pervious surfaces (green areas not including wetlands).

Total pervious green areas are 7.03 acres, approximately 34.5% of the total project area.

3. Lakes, canals, retention areas, other open water areas.

Total water surface areas are 5.21 acres, approximately 25.5% of the total project area. Total detention areas are 8.60 acres, approximately 42.1% of the total project area.

4. Wetlands.

N/A

d. Provide an engineering analysis of floodplain storage and conveyance (if applicable), including;

1. Hydraulic calculations for all proposed traversing works;

Please refer to the Drainage Report.

2. Backwater water surface profiles showing upstream impact of traversing works;

N/A

3. Location and volume of encroachment within regulated floodplain(s); and

N/A

4. Plan for compensating floodplain storage and calculations required for determining minimum building and road flood elevations.

N/A

e. Provide an analysis of the water quality treatment system including:

1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis; and

Stormwater treatment is attained through 3 wet-detention ponds for I-4 and Street 'B'; and one existing detention pond for Palm Parkway. Please refer to the Drainage Report for Pond Design Calculations.

2. Construction Plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria.

Please refer to the attached Construction Plans and Drainage Report for Pond Design Calculations.

f. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection.

Please refer to the attached Construction Plans and the Drainage Report.

SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL, CONCEPTUAL APPROVAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

VI. OPERATION AND MAINTENANCE AND LEGAL DESCRIPTION

a. Describe the overall maintenance and operation schedule for the proposed system.

Orange County will be responsible for the maintenance and operation schedule for the proposed system on Palm Parkway. FDOT will be responsible for the maintenance and operation schedule for the proposed system on I-4. This consists of periodically checking the control structures for debris and scheduling maintenance.

b. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different that the permittee, a draft document enumerating the enforceable affirmative obligation on the entity to property operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit.

N/A.

c. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system.

N/A.

d. Provide indication of how water and wastewater service will be supplied. Letters of commitment from off-site suppliers must be included.

N/A.

e. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owner/controlled the applicant.

N/A

VII. WATER-USE

a. Will the surface water system be used for water supply, including landscape irrigation, recreation, etc.?

N/A.

b. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number.

N/A.

c. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted.

N/A.

d. Indicate how any existing wells located within the project site will be utilized or abandoned.

N/A.

SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL, CONCEPTUAL APPROVAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

VIII. SPECIAL BASIN INFORMATION

a. Shingle Creek Basin-

Although this project is in the Shingle Creek Basin, the project meets the discharge limitations.

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DRAINAGE REPORT

Wildwood Area Road Network

From East of I-4 to Palm Parkway

Orange County, Florida

Prepared for:

ORANGE COUNTY GOVERNMENT
FLORIDA

Prepared by:

Kimley-Horn
and Associates, Inc.
Orlando, Florida

February 2008

APP# 080205-41

ORIGINAL SUBMITTAL
FEB 05 2008
ORLANDO SERVICE CENTER

DRAINAGE REPORT

Wildwood Area Road Network

From East of I-4 to Palm Parkway

Orange County, Florida

Prepared for:

ORANGE COUNTY GOVERNMENT
FLORIDA

Prepared by:

Kimley-Horn
and Associates, Inc.
Orlando, Florida

February 2008

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Kimley-Horn and Associates, Inc., a corporation authorized to operate as an engineering business, by the State of Florida, Department of Professional Regulation, and Board of Professional Engineers. I have reviewed and taken no exceptions to the evaluation, findings, opinions and conclusions as reported herein for the following project.

PROJECT: **Wildwood Area Roadway Network – Drainage Report From Street 'A" to Palm Parkway**

LOCATION: **Orange County, Florida**

The Drainage Report includes a summary of data collection efforts and design analysis for the Wildwood Area Roadway Network project. I acknowledge that the procedures and references used to develop the results contained in this report are consistent with the professional standard of care for civil engineering.

SIGNATURE: 

NAME: David A. Bennett, *P. E.*

P.E. NUMBER: 54769

DATE: 2/5/08

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EXECUTIVE SUMMARY

The purpose of this report is to provide supporting drainage design parameters and calculations for the proposed stormwater detention facilities and the stormsewer system. The total length of the project is approximately 0.34 miles. The project location is shown in Exhibit 1 of Appendix 1 – Project Aerial & Vicinity Map. Specifically, the project is located within Section 14 of Township 24 South, Range 28 East in Orange County, Florida.

The proposed roadway typical section for Street 'B' consists of two (2) 12-foot lanes in each direction with a 4-foot bike lane separated by a 22-foot raised median as shown in Exhibit 5 of Appendix 1. There are 5-foot sidewalks in each direction along the roadway. Additionally as part of the project, the profile of Palm Parkway will need to be revised to accommodate the Street 'B' profile over I-4. A section of 500 feet +/- of Palm Parkway is raised from the existing grades approximately 3 feet or so requiring the replacement of pavement, curb and gutters, and inlet tops.

The runoff from the existing undeveloped areas is sheet flowing toward Big Sand Lake or toward Ruby Lake. I-4 basin area has runoff from the existing ponds on I-4 draining to Big Sand Lake. Palm Parkway has runoff to the existing storm drain system on Palm Parkway eventually reaching a stormwater pond prior to discharging toward Ruby Lake.

The project is under the jurisdiction of the South Florida Water Management District (SFWMD), and Orange County for the roadway development plans. Ruby Lake is under the jurisdiction of the Reedy Creek Improvement District (RCID). This project is applying for a permit modification to the existing permits discharging across Palm Parkway and for I-4.

The stormwater runoff is collected into the existing and/or proposed stormwater ponds. Three ponds are located on the Florida Department of Transportation L-A R/W. No new pond is proposed for the section of Street 'B' and Palm Parkway. The ponds proposed on I-4 require the existing pond on the east side of I-4 to be divided, interconnected and expanded in order to maintain the existing volume capacity. The pond on the west side of I-4 requires expanding within the existing I-4 Limited Access Right-of-Way. Based on the previously permitted calculations for Palm Parkway, the existing stormwater pond has sufficient volume available to accommodate the proposed treatment volume for the improvements to Street 'B'.

Stormwater discharges are routed to Big Sand Lake for the portion of I-4 impacted by this project. The proposed cumulative discharge from the ponds on I-4 only slightly exceeds the existing discharge from I-4 towards Big Sand Lake for the Critical Duration Analysis. The Critical Duration Analysis was used based on Chapter 14-86 whereby a matrix of 54 storms are hydrographed and routed using ICPR for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year frequency; 1-hour, 2-hour, 4-hour, 8-hour, 24-hour, 72-hour, 168-hour, and 240-hour storm events. Table 2 indicates the peak pond discharge rates for the critical storm events for the I-4 basins.

1.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has been retained to design the improvements to a new arterial road known as Street 'B' from International Drive north past I-4 (SR 400) to Palm Parkway, formerly Turkey Lake Road. The purpose of this report is to provide supporting drainage design parameters and calculations for the proposed stormwater detention facilities and the stormsewer system. The total length of the project is approximately 0.34 miles. This project is in two parts with the first project from International Drive to just east of I-4. The second project is from the end of the first project west over I-4 to Palm Parkway. This Drainage Report is the second project, which is for the section of roadway from Street 'A' over I-4 to Palm Parkway. The project location is shown in Exhibit 2 of Appendix 1 – Project Aerial & Vicinity Map. Specifically, the project is located within Section 14 of Township 24 South, Range 28 East in Orange County, Florida.

2.0 PROJECT DESCRIPTION

The proposed multi-lane roadway is a development driven project whereby an agreement between the varying landowners and Orange County has been reached to dedicate the right-of-way needed to provide a four-lane urban roadway with a raised median with bike and pedestrian facilities.

The proposed roadway typical section for Street 'B' consists of two (2) 12-foot lanes in each direction with a 4-foot bike lane separated by a 22-foot raised median as shown in Exhibit 5 of Appendix 1. There are 5-foot sidewalks in each direction along the roadway. The total project begins on International Drive and extends west of I-4.

As part of the project, the profile of Palm Parkway will need to be revised to accommodate the Street 'B' profile over I-4. A section of 500 feet +/- of Palm Parkway is raised from the existing grades approximately 3 feet or so requiring the replacement of pavement, curb and gutters, and inlet tops.

3.0 SITE INFORMATION

3.1 Topography & Hydrologic Features

The topography of this portion of Orange County varies from relatively flat near the I-4 overpass to having well-defined relief in the surrounding areas. Elevations throughout the project corridor range from approximately 107 feet North American Vertical Datum (NAVD 1988) to approximately 133 feet. The project is located within the Shingle Creek drainage basin as shown in Exhibit 2 – Appendix 1. A reproduction of the USGS quadrangle maps for the project vicinity can be seen in the USGS Quadrangle Maps in Exhibit 3 of Appendix 1.

The adjacent land areas surrounding this project are undeveloped with portions having begun various phases of development in lieu of this project coming online.

The natural runoff discharges in two directions under the existing conditions. The runoff naturally flows toward Big Sand Lake from I-4 and to Ruby Lake from Palm Parkway. The movement of runoff is primarily overland flow with areas of concentrated flow through swales and roadway curb and gutters eventually reaching their respective ponds prior to discharge.

3.2 Soils Data & Geotechnical Investigations

The Soil Survey of Orange County, Florida, published by the United States Department of Agriculture (USDA) SCS has been reviewed for the project vicinity. The soil survey for the project vicinity is illustrated in Appendix 1- Exhibit 6 on the NRCS Soil Survey Map and Table 5 – USDA SCS Soil Survey Information of this report.

The USDA Soil Conservation Service Soil Survey for Orange County provides general descriptions of subsurface conditions for this county. In general, the surficial soils consist of poorly graded fine sands and muck. The average seasonal water table varies from 2 feet to 3.5 feet below the natural ground surface along the alignment. For the majority of the alignment, the seasonal high groundwater levels are within 1.5 to 2.0 feet below the natural ground surface.

Geotechnical field services were provided and attached to this report. The services included performing field reconnaissance, groundwater table measurements, standard penetration test (SPT) borings, and preliminary laboratory classification testing. Results of the borings are included in the geotechnical report prepared by Nodarse and Associates, Inc. for this project.

3.3 Flood Insurance Rate Maps

The FEMA Flood Insurance Study (FIS) for Orange County indicates that no floodplain areas are shown as Exhibit 8 in Appendix 1.

Table 1 - USDA SCS Soil Survey Information

SOILS SURVEY INFORMATION							
Orange County USDA Soil Series	Seasonal High Groundwater Table		Hydrologic Soil Group	Permeability (in/hr)	Soil Classification		
	Depth (feet)	Duration (months)			Depth (inches)	Unified	AASHTO
Archbold Fine Sand (2)	3.5 – 6.0	Jun – Nov	A	>20	0 – 80	SP	A-3
Candler Fine Sand (4)	>6.0	---	A	6-20 6-20 6-20	0 –5 5-74 74-80	SP, SP-SM SP, SP-SM SP, SP-SM	A-3 A-3 A-3, A-2-4
Immokalee Fine Sand (20)	0.0 – 1.0	Jun – Nov	B/D	6-20 6-20 0.6-2.0 6-20	0 – 5 5 – 35 35 – 67 67-80	SP, SP-SM SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3 A-3, A-2-4 A-3
Pomello Fine Sand (34)	2.0 – 3.5	Jul –Nov	C	>20 2-6 6-20	0-40 40 – 55 55-80	SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3, A-2-4 A-3
St. Lucie Fine Sand (38)	>6.0	---	A	>20	0-80	SP	A-3
Smyrna Fine Sand (44)	0-1.0	Jul-Oct	B/D	6-20 0.6-6.0 6-20	0-18 18-28 28-80	SP, SP-SM SM, SP-SM SP, SP-SM	A-3, A-2-4 A-3, A-2-4 A-3
Zolfo Fine Sand (54)	2.0-3-5	Jun – Nov	C	6-20 6-20 0.6-2.0	0-5 5-55 55-80	SP-SM SP-SM, SM SP-SM, SM	A-3, A-2-4 A-3, A-2-4 A-3, A-2-4

4.0 STORMWATER MANAGEMENT PLAN

4.1 Existing Drainage Condition

Presently, the runoff from undeveloped areas is sheet flowing downstream in two distinct drainage basins. The I-4 basin has runoff from the existing ponds on I-4 draining toward Big Sand Lake to the north. The portion of the project west of I-4 and inclusive of Palm Parkway is the other basin and runoff drains into the existing storm drain system on Palm Parkway eventually reaching a stormwater pond prior to discharging toward Ruby Lake.

4.2 Regulatory Viewpoint

The project is under the jurisdiction of the South Florida Water Management District (SFWMD), and Orange County for the roadway development plans. Ruby Lake is under the jurisdiction of the Reedy Creek Improvement District (RCID). This project is applying for a permit modification to the existing and recent permit discharging across Palm Parkway and for I-4. The SFWMD Permit for the Palm Parkway, formerly Turkey Lake Road is a Standard General Permit under the application number 980316-5, dated March 26, 1998. The SFWMD rules allow the use of the Orange County 25-year/24-hour design storm event. The required treatment volume was calculated for each basin based on the wet-detention criteria of (1-inch over the basin area or 2.5-inches over directly connected impervious area).

The pond design is established using the FDOT, Orange County, RCID, and the SFWMD pond design criteria. The pond design includes:

- Chain link fences and gates for access as needed when sides slopes are greater than 1:4;
- Sodded side slopes;
- 15 to 20-foot maintenance areas at a 1:20 to 1:8 (maximum) side slope;
- 1:4 side slopes or flatter from the top of the bank to the littoral shelf;
- 1:2 side slopes from the littoral shelf to the pond bottom;
- 1-foot of freeboard for the 25-year/24-hour storm event;
- Control Elevation is the water surface elevation in the wet ponds;
- Oil skimmer is included on the discharge structures; and
- All proposed wet ponds designed take into the consideration the tailwater of the receiving facility.

The wet-detention ponds used are indicated in the Proposed Ponds '1', '2A', and '2B' in Exhibits 9, 10, and 11 of Appendix 1.

5.0 PROPOSED DRAINAGE CONDITION

5.1 Drainage Basins

There exist two drainage basins which are the FDOT portion of I-4 and the section of Street 'B' and Palm Parkway.

The ponds on I-4 are being impacted by the proposed roadway alignment of Street 'B'. The proposed roadway requires the existing pond on the east side of I-4 to be divided, interconnected and expanded in order to maintain the existing volume capacity. The pond on the west side of I-4 is partially impacted and requires expanding to the north within the existing I-4 Limited Access Right-of-Way (L-A R/W).

Based on the previously permitted calculations for Palm Parkway, the existing stormwater pond has sufficient volume available below the existing weir to accommodate the proposed treatment volume for the improvements to Street 'B'. Palm Parkway will require some revisions to the existing roadway conditions but no additional pavement is proposed for Palm Parkway.

The stormwater runoff is collected by closed stormwater collection systems into the existing and/or proposed stormsewer systems and discharging into stormwater ponds. Three ponds are located on the Florida Department of Transportation L-A R/W. No new pond is proposed for the section of Street 'B' and Palm Parkway.

Stormwater discharges are routed to Big Sand Lake for the portion of I-4 impacted by this project. The proposed cumulative discharge from the ponds on I-4 does not exceed the existing discharge from I-4 towards Big Sand Lake for the Critical Duration Analysis. The Critical Duration Analysis was used based on Chapter 14-86 whereby a matrix of 54 storms are hydrographed and routed using ICPR for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year frequency; 1-hour, 2-hour, 4-hour, 8-hour, 24-hour, 72-hour, 168-hour, and 240-hour storm events. The following table is for the peak pond discharge rates based on the most critical storm events for I-4 basins within the I-4 L-A R/W.

Table 2 – Big Sand Lake Discharge Rates

Design Storm Event	Discharge Rates (cfs) for Ponds '1 WB', & '2 EB'				Comments
	Q Existing (cfs)		Q Proposed (cfs)		
	'1 WB'	'2 EB'	'1 WB'	'2 EB'	
25-year/ 24-hour Orange County	0.54	0.53	0.35	0.50	OK!!!
100-year/ 168-hour FDOT Critical Storm	5.57	3.73	5.83	0.61	Pond '1WB' exceeds by 0.26 cfs.

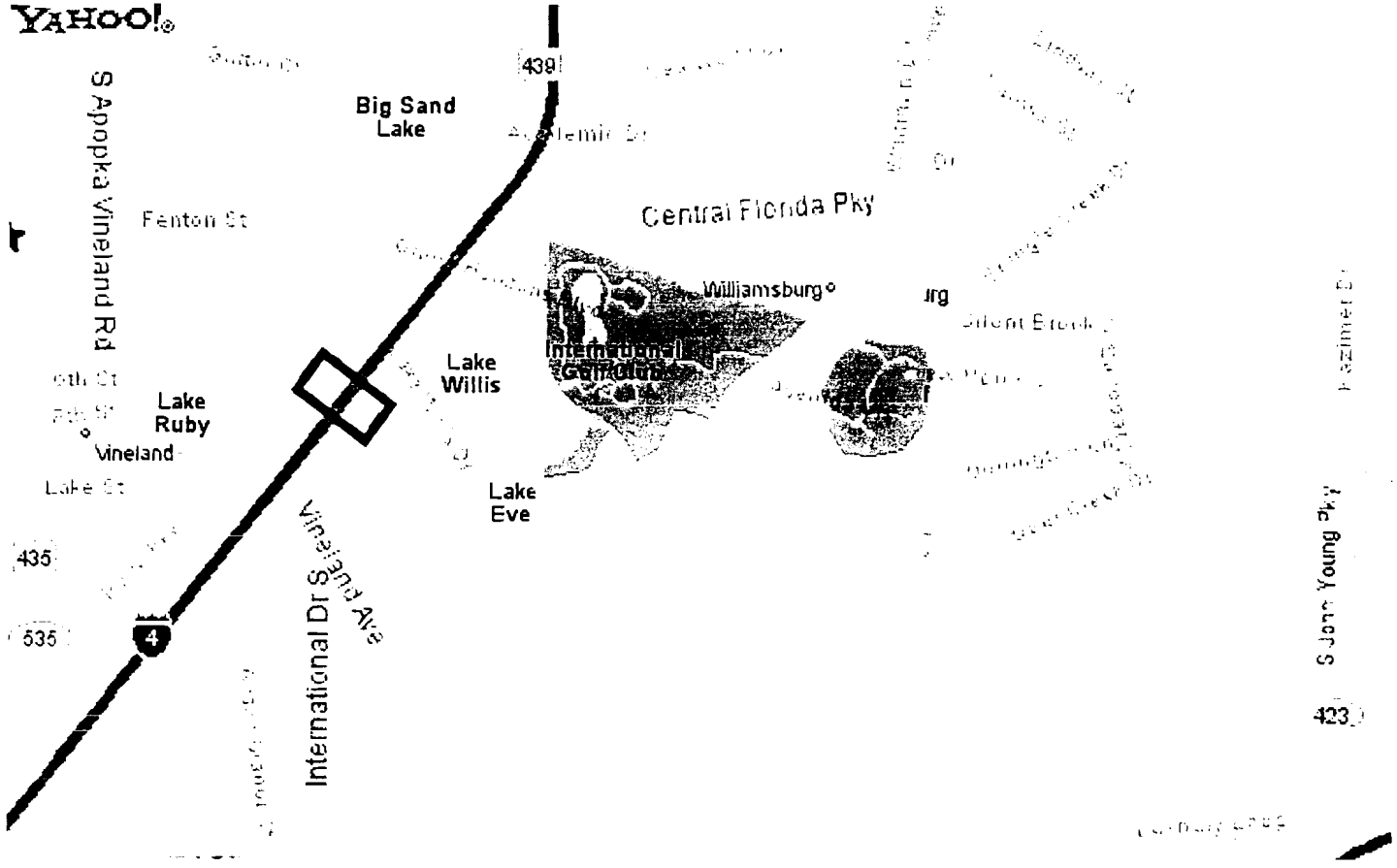
The portion of Street 'B' and Palm Parkway draining into an existing stormwater pond is analyzed for volume only. The proposed improvements do not impact the pond enough to require a routing analysis. The existing pond for Palm Parkway provides 5.51 acre-feet of treatment volume however, the required treatment volume for the proposed improvements is 4.49 acre-feet. Therefore, the existing pond can readily handle the small contributing areas from Street 'B' without any revisions to the existing control structure.

6.0 CONCLUSION

SFWMD and Orange County require that the peak discharge from the site, in the post developed condition, does not exceed the permitted discharge rate. Post-development discharge rates were determined using Interconnected Channel & Pond Routing (ICPR Ver 3.02). For all practical purposes, this project meets this requirement as indicated by Table 2 shown above. The construction modification of the stormwater ponds for this project will not increase the peak discharge rates and improve the water quality. Please refer to supporting calculations located in Appendix 2, 3, 4 & 5

Appendix 1 – Exhibits

- Exhibit 1 – Project Aerial & Vicinity Map
- Exhibit 2 – SFWMD Basin Map
- Exhibit 3 – USGS Quadrangle Map
- Exhibit 4 & 5 – Proposed Roadway Typicals
- Exhibit 6 – NRCS Soil Survey Map
- Exhibit 7 – Future Land Use Map
- Exhibit 8 – FEMA Floodplain Map
- Exhibit 9 – Ponds '1 WB'
- Exhibit 10 – Pond '2 EB'
- Exhibit 11 – Pond '1A'
- Exhibit 12 – Aerials



ORANGE COUNTY GOVERNMENT FLORIDA	**PROJECT AREA & VICINITY MAP** **Orange County, Florida**	**Wildwood Area Roadway Network** Kimley-Horn and Associates, Inc.	**Exhibit** **1**

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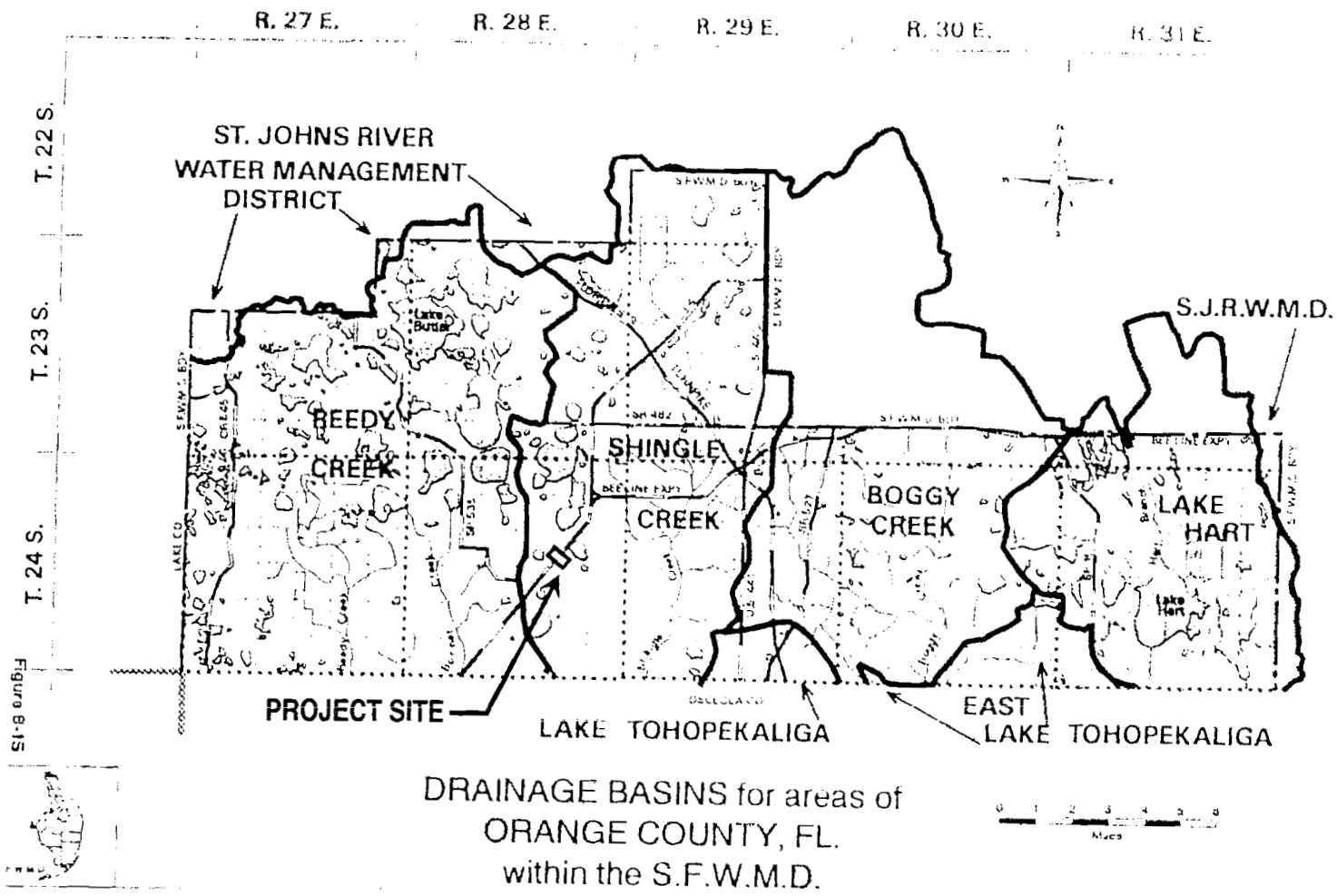

DRAINAGE BASINS for areas of
ORANGE COUNTY, FL.
within the S.F.W.M.D.

ORANGE COUNTY GOVERNMENT FLORIDA	**SFWMD DRAINAGE BASIN** **Orange County, Florida**	**Wildwood Area Roadway Network** Kimley-Horn and Associates, Inc.	**Exhibit** **2**

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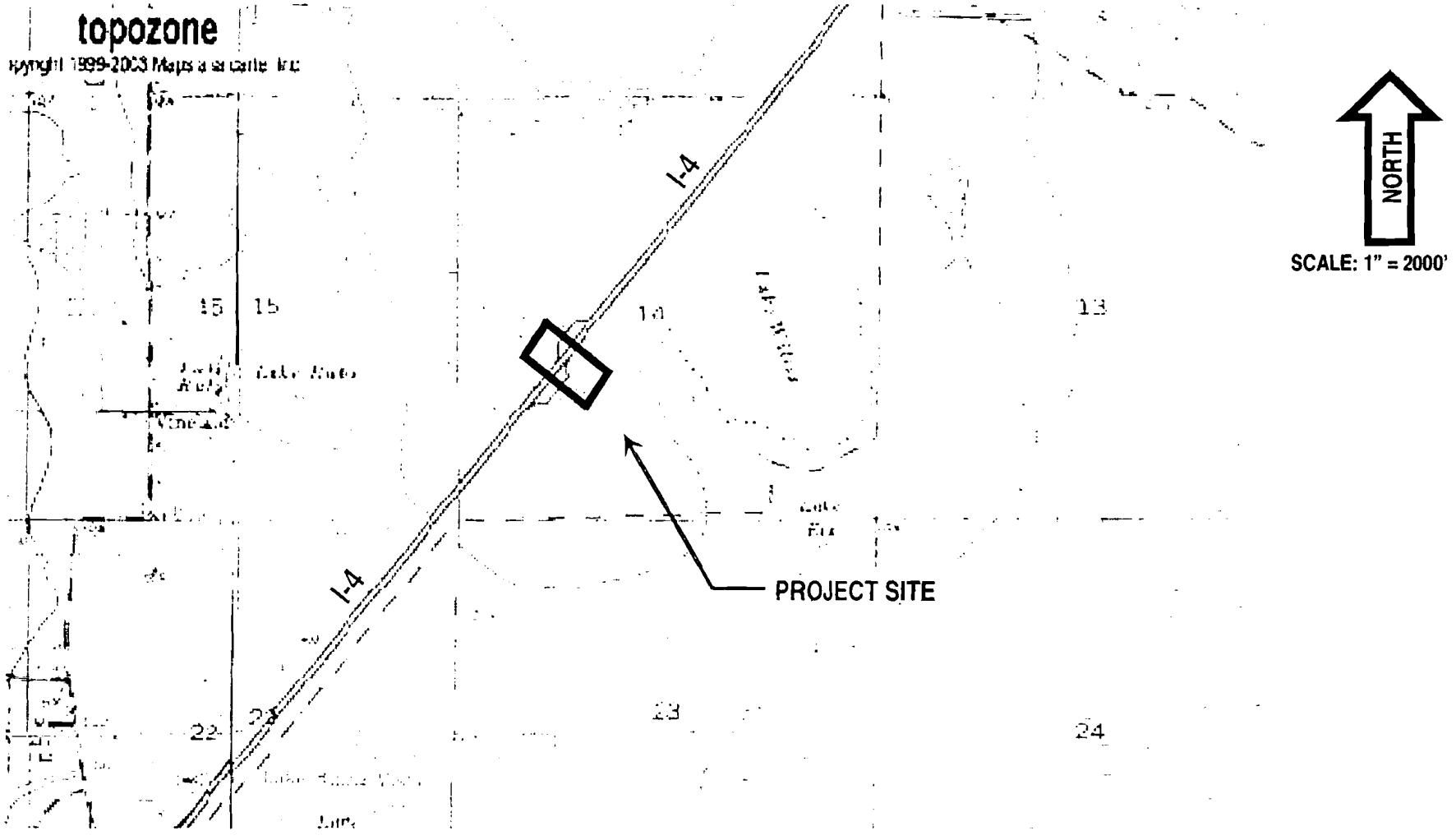

ORANGE COUNTY GOVERNMENT FLORIDA

QUADRANGLE MAP- LAKE JESSAMINE
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
3

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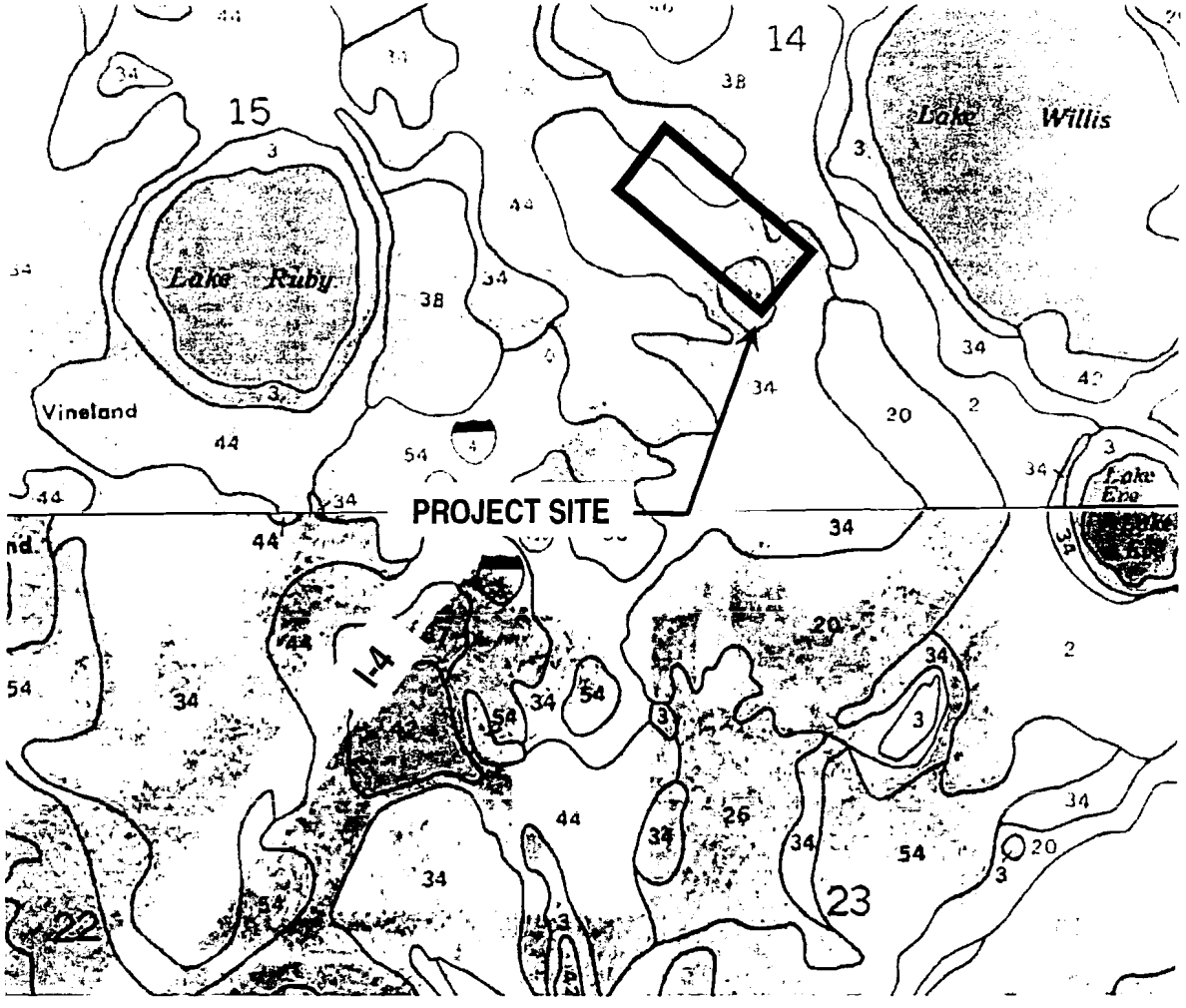

SOILS LEGEND

Soil Nu.	Soil Names	Hydrologic Group
2	Archbold	A
4	Candler	A
20	Immokalee	B/D
34	Pomello	C
38	St. Lucie	A
44	Smyrna	B/D
54	Zolfo	C

SOILS REPORT – PANEL 64 & 76

ORANGE COUNRTY, FLORIDA

ORANGE COUNTY GOVERNMENT FLORIDA

NRSC (formerly SCS) SOILS SURVEY MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit

6

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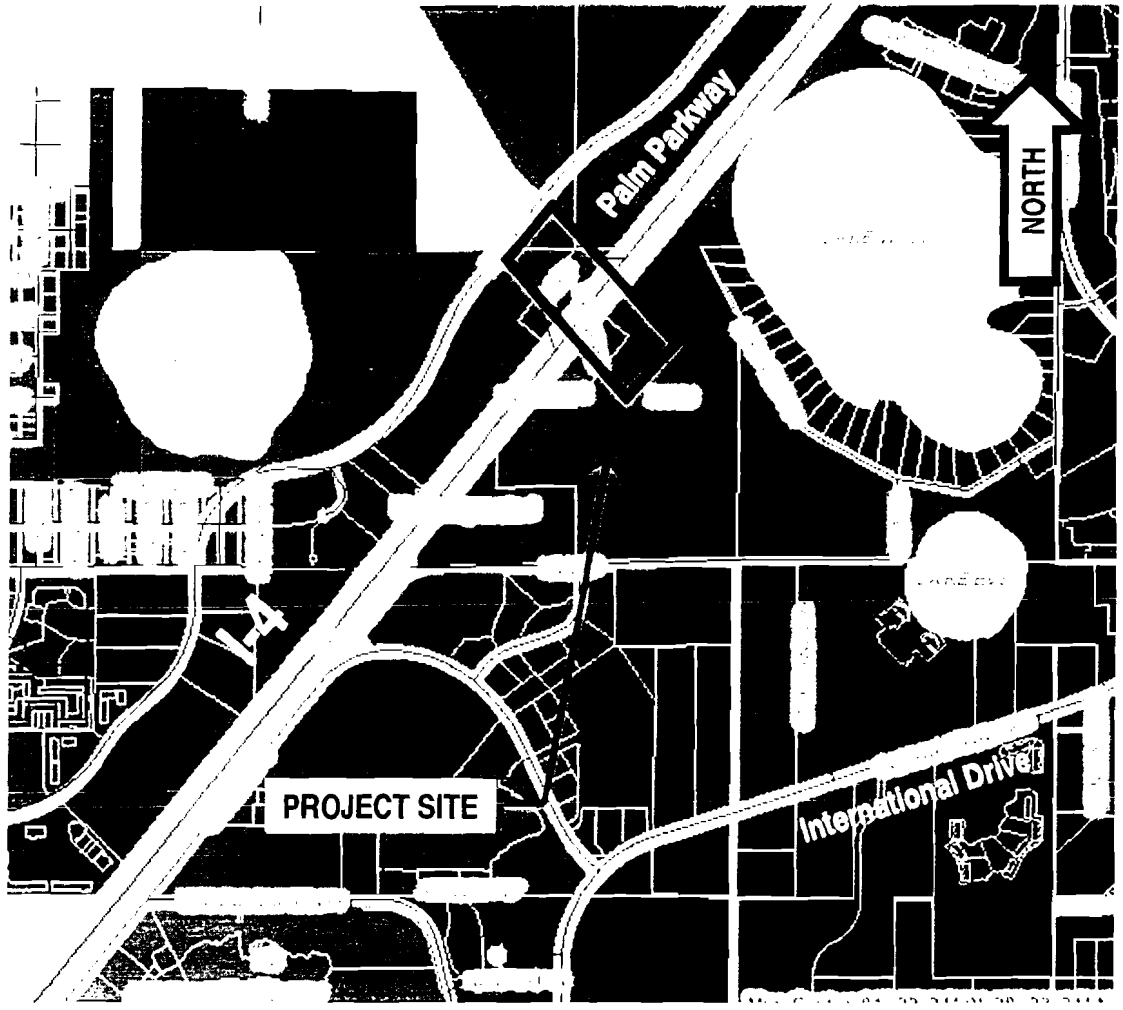
Map Legend

- Orange County Boundary
- Streets
- Parcels
- Named Lakes and Waterways
- Unnamed Lakes and Waterways
- City of Orlando Future Land Use
- Water Body (WB)
- Existing Land Use (1997)
- COMMERCIAL
- CONSERVATION
- INDUSTRIAL
- INSTITUTIONAL
- LOW DENSITY RESIDENTIAL
- LOW-MEDIUM DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- NO DESIGNATION
- PARKS AND RECREATION
- RURAL / AGRICULTURE
- WATER BODY
- Activity Center Mixed Use (ACMU)
- Activity Center Residential (ACR)
- High Density Residential (HD)



ORANGE COUNTY GOVERNMENT FLORIDA

Future Land Use Map
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
7

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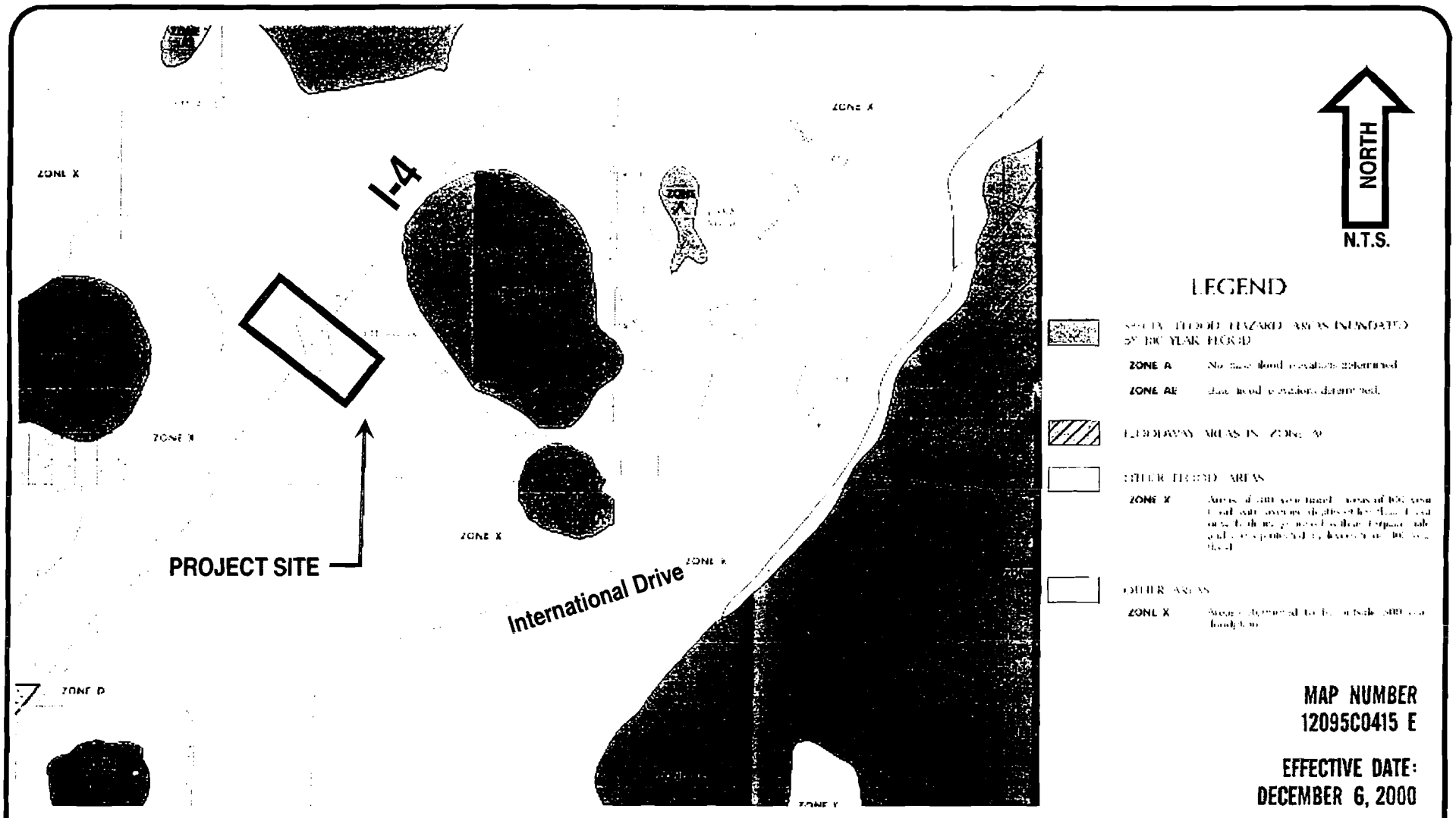

ORANGE COUNTY GOVERNMENT FLORIDA

FEMA MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit

8

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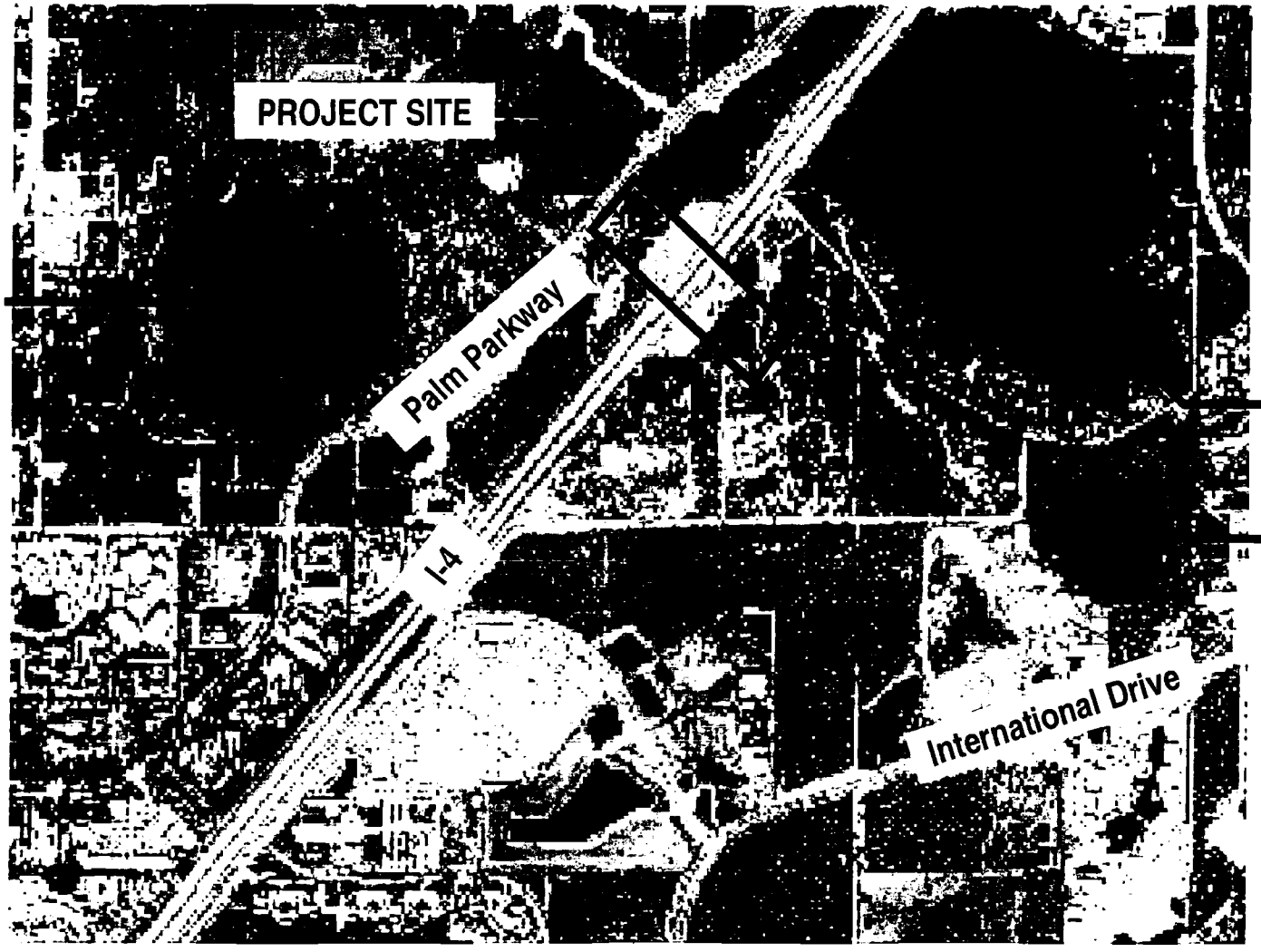

ORANGE COUNTY GOVERNMENT FLORIDA

PROJECT AERIAL MAP
Orange County, Florida

Wildwood Area Roadway Network

Kimley-Horn and Associates, Inc.

Exhibit
12

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Appendix 2 – I-4 Ponds

- **Pond '1 WB' Design**
- **Pond '2 EB' Design**
- **Existing Control Box Details**
- **ICPR Input & Output Data**

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
Date: January 2 2008 Time: 9:32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 1 WB**
NODE NAME: **Pond 1**

PRE - DEVELOPED CONDITION

AREA	BASIN DESCRIPTION	BASIN FLOWS TO...
11.75 ac.	EXISTING ROADWAY & OFFSITE AREA	Ex Pond 1 WB
11.75 ac.	TOTAL BASIN AREAS	

EXISTING ROADWAY AREA

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
634+10.00	648+35.00	1,425.00 ft.	120.00 ft.			
AREA impervious =	2.06 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	6.94 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA POND =	2.75 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
AREA Total =	11.75 ac.		Paved Shoulder(s)	22.00 ft.	1	22.00 ft.
			Sidewalk(s)	6.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add'l Pav't.	0.16 ac.

EXISTING ROADWAY & OFFSITE AREA

BASIN NAME: **EXISTING ROADWAY & OFFSITE AREA**

NODE NAME:	**Ex Pond 1 WB**	LAND USE DESCRIPTION	%Impervious	SOILS TYPE	Percent of Area
AREApervious	2.06 ac.	Impervious areas (Dirt including R/W)	100.00%	---	17.51%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		A	0.00%
AREApervious	3.94 ac.	Open Space (Grass cover 50% to 75%)		C	33.53%
AREApervious	3.00 ac.	Woods-grass combination (Fair cover)		C	25.55%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/D	0.00%
AREAwater surf.	2.75 ac.	Pond Water Surface		---	23.40%
TOTAL AREA =	11.75 ac.				100.00%
Weighted CN =	80.30		Tc =	10.00	minutes.
RUNOFF VOLUME =	6.10 ac.-ft.	25YR-24HR			

POST - DEVELOPED CONDITION

PROPOSED AREA	BASIN BREAKDOWN	BASIN FLOWS TO...
12.12 ac.	PROPOSED ROADWAY	Pond 1
12.12 ac.	Basin 1 WB	

BASIN NAME: Basin 1 WB
NODE NAME: Pond 1

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
634+10.00	648+35.00	1,425.00 ft.	120.00 ft.			
AREA impervious =	3.21 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	6.28 ac.		Bike Lane	4.00 ft.	0	0.00 ft.
AREA POND =	2.63 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA Total =	12.12 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
			Paved Shoulder	22.00 ft.	1	22.00 ft.
			Sidewalk	5.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add'l Pav't.	1.31 ac.

PROPOSED ROADWAY

BASIN NAME **Basin 1 WB**

NODE NAME:	**Pond 1**	LAND USE	%Impervious	SOILS TYPE	Percent of Area
AREApervious	3.21 ac.	Impervious areas (Dirt including R/W)		---	26.46%
AREApervious	3.11 ac.	Open Space (Grass cover 50% to 75%)		C	25.70%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		B/D	0.00%
AREApervious	3.00 ac.	Woods-grass combination (Fair cover)		C	24.77%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/D	0.00%
AREAwater surf.	2.80 ac.	Pond Water Surface		---	23.07%
TOTAL AREA =	12.12 ac.				100.00%
Weighted CN =	85.70		Tc =	10.00	minutes.
RUNOFF VOLUME =	6.95 ac.-ft.	25YR-24HR			

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 1 WB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **EXISTING ROADWAY & OFFSITE AREA**
BASIN NAME: **EXISTING ROADWAY & OFFSITE AREA**
NODE NAME: **Ex Pond 1 WB**
BASIN SIZE: 11.75 acres
TYPE of EVALUATION: **PRE -** **DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH: **8.60** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		---	---	89.00	17.51%	15.58
Open Space (Grass cover 50% to 75%)		2, 4, 38	A	49.00	0.00%	0.00
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	33.53%	26.49
Woods-grass combination (Fair cover)		34, 54	C	76.00	25.55%	19.42
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00		
Pond Water Surface		---	---	100.00		
					76.60%	61.49

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 61.49 / 76.60% = 80.29

USE CN = 80.30

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 2.45 \text{ inches}$$

Determine Runoff: R
25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 6.23 \text{ inches}$$

Determine Runoff Volume; Vr
25YR-24HR $Vr = R * AREA/12 = 6.10$ acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i(10\text{-yr})^{0.4}) * (S^{0.3})} = To(hr.'s)$$

OVERLAND TERRAIN: **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0.05	BARE SOIL
0.20	POOR GRASS
0.40	AVE. GRASS or LAWNS
0.60	DENSE GRASS or WOODLANDS
0.80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(minutes)$$ where:

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16.1345 x (S)^0.5; where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)
Vpaved = 20.3282 x (S)^0.5; where S = Slope in ft/ft. Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	0.20%	7.40 in./hr.	7.40 in./hr.	---	1.86
UNPAVED	400 ft.		0.50%			1.14 fps	5.85
PIPE FLOW	100 ft.					2.50 fps	0.67

TOTAL TIME of CONCENTRATION = 8.38

USE TOTAL TIME of CONCENTRATION = 10.00

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 1 WB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **PROPOSED ROADWAY**
BASIN NAME: **Basin 1 WB**
NODE NAME: **Pond 1**
BASIN SIZE: 12.12 acres
TYPE of EVALUATION: **POST -** **DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH: **8.60** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		---	---	89.00	26.46%	23.55
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	25.70%	20.30
Open Space (Grass cover 50% to 75%)		20, 26, 44	B/D	84.00	0.00%	0.00
Woods-grass combination (Fair cover)		34, 54	C	76.00	24.77%	18.83
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00	0.00%	0.00
Pond Water Surface		---	---	100.00	23.07%	23.07
					100.00%	85.75

(PRODUCT SUM) 85.75
WEIGHTED CN = ---------- = ---------- = 85.75
(AREA or 100%) 100.00%

USE CN = 85.70

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 1.67 \text{ inches}$$

Determine Runoff: R
25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 6.88 \text{ inches}$$

Determine Runoff Volume; Vr
25YR-24HR Vr = R * AREA/12 = 6.95 acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i^{0.4}) * (S^{0.3})} = To(hr.'s)$$

OVERLAND TERRAIN: **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0.05	BARE SOIL
0.20	POOR GRASS
0.40	AVE. GRASS or LAWNS
0.60	DENSE GRASS or WOODLANDS
0.80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(minutes)$$ where:

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16.1345 x (S)^0.5; where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)
Vpaved = 20.3282 x (S)^0.5; where S = Slope in ft/ft. Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	2.00%	7.40 in./hr.	7.40 in./hr.	----	0.93
PAVED	400 ft.		50.00%			14.37 fps	0.46
PIPE FLOW	10 ft.					2.50 fps	0.07
					TOTAL TIME of CONCENTRATION =		1.46

USE TOTAL TIME of CONCENTRATION = 10.00

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Made by: HDT Checked by:
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KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 1 WB**
NODE NAME: **Pond 1**

WATER QUALITY CALCULATIONS

AREA CALCULATIONS:

Basin Designation	AREA TOTAL	AREA Imperv.	AREA perv.	AREA ws
Basin 1 WB	12.12 ac.	3.21 ac.	6.12 ac.	2.80 ac.
POND SITE	0.00 ac.	0.00 ac.	0.00 ac.	0.00 ac.
AREA SITE	0.00 ac.	0.00 ac.	0.00 ac.	0.00 ac.
TOTALS =	12.12 ac.	3.21 ac.	6.12 ac.	2.80 ac.
	% Impervious =	26.46%	% Pond R/W Area =	0.01%

WET-DETENTION TREATMENT VOLUME: 2.5" x AREAimpervious or 1" x AREAtotal
2.50 inch VOLUME = 0.67 ac.-ft.
1 inch VOLUME = 1.01 ac -ft.

USE Vtreatment = 1.01 ac.-ft.

USE A WET-BOTTOM DETENTION POND FOR Pond 1

STORAGE VOLUME REQUIREMENTS

Actual Qpre = 89.06 cfs as per the 25YR-24HR PRE-DEVELOPMENT HYDROGRAPH(S).
Qpre = **66.80 cfs** PRE-DEVELOPMENT HYDROGRAPH(S) USING 75% OF Qpre.
Qpost = **127.95 cfs** as per the 25YR-24HR POST-DEVELOPMENT HYDROGRAPH(S).
Qpre/Qpost = 0.52
Vs/Vr = 0.27 (for the TYPE II & III, TR-55, 1986)
Vr = 6.95 ac.-ft.
Vs = (Vs/Vr) * Vr = 1.86 ac.-ft.
USE Volume = 1.90 ac.-ft.

Permitted STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.00	2.90	--	--	--	0.00
	128.75	3.03	2.97	0.75	2.22	2.22
	129.50	3.17	3.10	0.75	2.32	4.55
	130.25	3.30	3.23	0.75	2.42	6.97
BANK	131.00	3.43	3.36	0.75	2.52	9.50
TOP	131.80	4.18	3.81	0.80	3.04	12.54

POND DESIGN

USE A WET-BOTTOM DETENTION POND FOR Pond 1

RAINFALL DEPTH: 8.60 in. for the 25YR-24HR Orange County
Water Management District: SFWMD (SJRWMD, SFWMD, SWFWMD)
Zone: 7

1	MAXIMUM STORAGE DEPTH =	2.00 ft.	
2	POND SIDE-SLOPE RATIO =	4.00 : 1	
3	MAINTENANCE AREA WIDTH =	15.00 ft.	@ 15: 1
4	MINIMUM FREEBOARD =	1.00 ft.	
5	POND TIE-IN WIDTH =	0.00 ft.	@ 2: 1
6	INITIAL STAGE ELEVATION =	128.00 ft.	
7	EXISTING GROUND ELEVATION =	132.00 ft.	
	PROPOSED POND SHAPE =	3	IRREGULAR POND SHAPE

Treatment Stage = 128.40 ft.
Required Treatment Volume = 1.01 ac.-ft.
Required Attenuation Volume = 2.00 ac.-ft.
Attenuation Stage = 128.70 ft.

STAGE	DESCRIPTION	AREA	DIMENSIONS Length	DIMENSIONS Width	STORAGE
132.00 ft.	POND R/W Area =	3.89 ac.			
132.00 ft.	Back of Maint. Berm =	3.89 ac.			12.66 ac.-ft.
131.00 ft.	Front of Maint. Berm =	3.26 ac.			9.09 ac.-ft.
130.00 ft.	Treat/Storage Stage =	3.11 ac.			5.90 ac.-ft.
128.00 ft.	Initial Water Area =	2.80 ac.			0.00 ac.-ft.
126.00 ft.		2.50 ac.			
122.00 ft.	Pond Bottom =	2.08 ac.			

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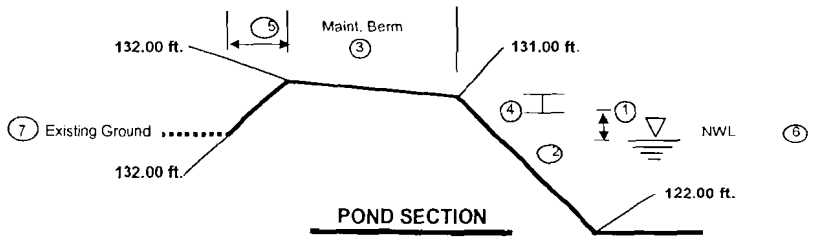
PROJECT: **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 1 WB**
NODE NAME: **Pond 1**



POND SECTION

STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.00	2.80	--	--	--	0.00
	128.67	2.90	2.85	0.67	1.90	1.90
	129.33	3.00	2.95	0.67	1.97	3.87
	130.00	3.11	3.05	0.67	2.04	5.90
BANK	131.00	3.26	3.18	1.00	3.18	9.09
TOP	132.00	3.89	3.58	1.00	3.58	12.66

REQUIRED TREATMENT VOLUME = 1.01 ac.-ft.
REQUIRED TREATMENT STAGE = 128.35 ft.
PROVIDED TREATMENT STAGE = 128.40 ft.
PROVIDED TREATMENT VOLUME = 1.14 ac.-ft.

REQUIRED ATTENUATION/TREATMENT VOLUME = 1.90 ac.-ft.
REQUIRED MAXIMUM STAGE = 128.67 ft. N.G.V.D.
PROVIDED MAXIMUM STAGE = 128.70 ft. N.G.V.D.
PROVIDED ATTENUATION/TREATMENT VOLUME = 2.00 ac.-ft.

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PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**

PRE - DEVELOPED CONDITION

AREA	BASIN DESCRIPTION	BASIN FLOWS TO...
8.80 ac.	EXISTING ROADWAY & OFFSITE AREA	Ex Pond 2 EB
8.80 ac.	TOTAL BASIN AREAS	

EXISTING ROADWAY AREA

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
633+55.50	648+58.41	1,502.91 ft.	120.00 ft.			
AREA impervious =	2.09 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	4.74 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA POND =	1.97 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
AREA Total =	8.80 ac.		Paved Shoulder(s)	22.00 ft.	1	22.00 ft.
			Sidewalk(s)	6.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add'l Pav't.	0.09 ac.

EXISTING ROADWAY & OFFSITE AREA

BASIN NAME: **EXISTING ROADWAY & OFFSITE AREA**
NODE NAME: **Ex Pond 2 EB**

		LAND USE DESCRIPTION	%Impervious	SOILS TYPE	Percent of Area
AREApervious	2.09 ac.	Impervious areas (Dirt including R/W)	100.00%	---	23.76%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		A	0.00%
AREApervious	4.74 ac.	Open Space (Grass cover 50% to 75%)		C	53.85%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		C	0.00%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/D	0.00%
AREAwater surf	1.97 ac.	Pond Water Surface		---	22.39%
TOTAL AREA =	8.80 ac.				100.00%
Weighted CN =	86.10		Tc =	10.00	minutes.
RUNOFF VOLUME =	5.01 ac.-ft.	25YR-24HR			

POST - DEVELOPED CONDITION

PROPOSED AREA	BASIN BREAKDOWN	BASIN FLOWS TO...
8.30 ac.	PROPOSED ROADWAY	Pond 2
8.30 ac.	Basin 2 EB	

BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**

STATION LIMITS		ROADWAY LENGTH	R/W Width	Width(s)	No. of Travel Lanes	Impervious Width(s)
633+55.50	649+20.98	1,565.48 ft.	120.00 ft.			
AREA impervious =	2.09 ac.		Averge Travel Lane	12.00 ft.	3	36.00 ft.
AREA pervious =	3.48 ac.		Bike Lane	4.00 ft.	0	0.00 ft.
AREA POND =	2.73 ac.		Inside Curb & Gutter	2.25 ft.	0	0.00 ft.
AREA Total =	8.30 ac.		Outside Curb & Gutter	2.00 ft.	0	0.00 ft.
			Paved Shoulder	22.00 ft.	1	22.00 ft.
			Sidewalk	5.00 ft.	0	0.00 ft.
					Total Width	58.00 ft.
					Add'l Pav't.	0.01 ac.

PROPOSED ROADWAY

BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**

		LAND USE	%Impervious	SOILS TYPE	Percent of Area
AREApervious	2.09 ac.	Impervious areas (Dirt including R/W)		---	25.23%
AREApervious	3.48 ac.	Open Space (Grass cover 50% to 75%)		C	41.92%
AREApervious	0.00 ac.	Open Space (Grass cover 50% to 75%)		B/D	0.00%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		C	0.00%
AREApervious	0.00 ac.	Woods-grass combination (Fair cover)		B/D	0.00%
AREAwater surf	2.73 ac.	Pond Water Surface		---	32.84%
TOTAL AREA =	8.30 ac.				100.00%
Weighted CN =	88.40		Tc =	10.00	minutes.
RUNOFF VOLUME =	4.91 ac.-ft.	25YR-24HR			

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KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 2 EB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **EXISTING ROADWAY & OFFSITE AREA**
BASIN NAME: **EXISTING ROADWAY & OFFSITE AREA**
NODE NAME: **Ex Pond 2 EB**
BASIN SIZE: 8.80 acres
TYPE of EVALUATION: **PRE - DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH: **8.50** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		----	----	89.00	23.76%	21.15
Open Space (Grass cover 50% to 75%)		2, 4, 38	A	49.00	0.00%	0.00
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	53.85%	42.54
Woods-grass combination (Fair cover)		34, 54	C	76.00	0.00%	0.00
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00	0.00%	0.00
Pond Water Surface		----	----	100.00	22.39%	22.39
					100.00%	86.08

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 86.08 / 100.00% = 86.08

USE CN = 86.10

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 1.61 \text{ inches}$$

Determine Runoff: R

25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 6.83 \text{ inches}$$

Determine Runoff Volume; Vr

25YR-24HR $Vr = R * AREA/12 =$ 5.01 acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i(10\text{-yr})^{0.4}) * (S^{0.3})} = To(\text{hr.'s})$$

OVERLAND TERRAIN: **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0.05	BARE SOIL
0.20	POOR GRASS
0.40	AVE. GRASS or LAWNS
0.60	DENSE GRASS or WOODLANDS
0.80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(\text{minutes})$$ where:

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch

Vunpaved = 16.1345 x (S)^0.5; where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)

Vpaved = 20.3282 x (S)^0.5; where S = Slope in ft/ft. Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	0.20%	7.40 in./hr.	7.40 in./hr.	----	1.86
UNPAVED	400 ft.		0.50%			1.14 fps	5.85
PIPE FLOW	100 ft.					2.50 fps	0.67
					TOTAL TIME of CONCENTRATION =		8.38

USE TOTAL TIME of CONCENTRATION = 10.00

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PROJECT: **Street 'B' & I-4 Overpass**
BASIN NAME: **Basin 2 EB**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

BASIN DESCRIPTION: **PROPOSED ROADWAY**
BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**
BASIN SIZE: 8.30 acres
TYPE of EVALUATION: **POST - DEVELOPMENT**
(PRE- or POST-)
RAINFALL DEPTH: **8.50** inches,(**25YR-24HR** EVENT).

Determine Basin Runoff Curve Number: CN

Land Use Description	PERCENT of IMPERVIOUS	Soil Name	Soil Group	CN	Percent of AREA	PRODUCT
Impervious areas (Dirt including R/W)		----	----	89.00	25.23%	22.46
Open Space (Grass cover 50% to 75%)		34, 54	C	79.00	41.92%	33.12
Open Space (Grass cover 50% to 75%)		20, 26, 44	B/D	84.00	0.00%	0.00
Woods-grass combination (Fair cover)		34 54	C	76.00	0.00%	0.00
Woods-grass combination (Fair cover)		20, 26, 44	B/D	82.00	0.00%	0.00
Pond Water Surface		----	----	100.00	32.84%	32.84
					100.00%	88.42

WEIGHTED CN = (PRODUCT SUM) / (AREA or 100%) = 88.42 / 100.00% = 88.42

USE CN = 88.40

ESTIMATED RUNOFF VOLUME:

Determine Soil Storage: S

$$S = \frac{1000}{CN} - 10 = 1.31 \text{ inches}$$

Determine Runoff: R
25YR-24HR

$$R = \frac{(P - 0.2 \times S)^2}{(P + 0.8 \times S)} = 7.11 \text{ inches}$$

Determine Runoff Volume; Vr
25YR-24HR $Vr = R * AREA/12 = 4.91$ acre-feet

TIME of CONCENTRATION CALCULATION

OVERLAND FLOW(SHEET FLOW):

$$To = \frac{0.93 * (L^{0.6}) * (n^{0.6})}{(i^{0.4}) * (S^{0.3})} = To(hr.'s)$$

OVERLAND TERRAIN: **PAVEMENT**

"n"	LAND USE
0.015	PAVEMENT
0.05	BARE SOIL
0.20	POOR GRASS
0.40	AVE. GRASS or LAWNS
0.60	DENSE GRASS or WOODLANDS
0.80	THICK FOREST

SHALLOW CONCENTRATED FLOW

$$Tsh = \frac{Lsh}{60 \times V} = Tsh(minutes)$$ where:

VELOCITY = Vunpaved, Vpaved, Vpipe and/or Vditch
Vunpaved = 16.1345 x (S)^0.5; where S = Slope in ft/ft. Vpipe = 2.5 fps (Established)
Vpaved = 20.3282 x (S)^0.5; where S = Slope in ft/ft. Vditch = 0.5 fps (Established)

FLOW TYPE	LENGTH	MANNING'S 'n'	SLOPE	RAINFALL (iterative)	INTENSITY(in) (calculated)	VELOCITY	TIME (min)
OVERLAND	36 ft.	0.015	2.00%	7.40 in./hr.	7.40 in./hr.	----	0.93
PAVED	400 ft.		50.00%			14.37 fps	0.46
PIPE FLOW	10 ft.					2.50 fps	0.07
						TOTAL TIME of CONCENTRATION =	1.46
						USE TOTAL TIME of CONCENTRATION =	10.00

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PROJECT: **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**

WATER QUALITY CALCULATIONS

AREA CALCULATIONS:

Basin Designation	AREA TOTAL	AREA imperv.	AREA perv.	AREA ws
Basin 2 EB	8.30 ac.	2.09 ac.	3.48 ac.	2.73 ac.
POND SITE	0.00 ac.	0.00 ac.	0.00 ac.	0.00 ac.
AREA SITE	0.00 ac.	0.00 ac.	0.00 ac.	0.00 ac.
TOTALS =	8.30 ac.	2.09 ac.	3.48 ac.	2.73 ac.
	% Impervious =	25.23%	% Pond R/W Area =	0.01%

WET-DETENTION TREATMENT VOLUME: 2.5" x AREAimpervious or 1" x AREAtotal
2.50 inch VOLUME = 0.44 ac.-ft.
1 inch VOLUME = 0.69 ac.-ft.

USE Vtreatment = 0.69 ac.-ft.

USE A WET-BOTTOM DETENTION POND FOR Pond 2

STORAGE VOLUME REQUIREMENTS

Actual Qpre = 89.06 cfs as per the 25YR-24HR PRE-DEVELOPMENT HYDROGRAPH(S).
Qpre = **66.80 cfs** PRE-DEVELOPMENT HYDROGRAPH(S) USING 75% OF Qpre.
Qpost = **127.95 cfs** as per the 25YR-24HR POST-DEVELOPMENT HYDROGRAPH(S).
Qpre/Qpost = 0.52
Vs/Vr = 0.27 (for the TYPE II & III, TR-55, 1986)
Vr = 4.92 ac.-ft.
Vs = (Vs/Vr) * Vr = 1.32 ac.-ft.
USE Volume = 1.35 ac.-ft.

Permitted STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.50	2.38	--	--	--	0.00
	129.25	2.50	2.44	0.75	1.83	1.83
	130.00	2.61	2.55	0.75	1.91	3.74
	130.75	2.73	2.67	0.75	2.00	5.74
BANK	131.50	2.84	2.78	0.75	2.09	7.83
TOP	132.50	3.50	3.17	1.00	3.17	11.00

POND DESIGN

USE A WET-BOTTOM DETENTION POND FOR Pond 2

RAINFALL DEPTH: 8.60 in. for the 25YR-24HR Orange County
Water Management District: SFWMD (SJRWMD, SFWMD, SWFWMD)
Zone: 7

1	MAXIMUM STORAGE DEPTH =	1.00 ft.	
2	POND SIDE-SLOPE RATIO =	4.00 : 1	
3	MAINTENANCE AREA WIDTH =	20.00 ft.	@ 10: 1
4	MINIMUM FREEBOARD =	1.00 ft.	
5	POND TIE-IN WIDTH =	1.00 ft.	@ 2: 1
6	INITIAL STAGE ELEVATION =	128.50 ft.	
7	EXISTING GROUND ELEVATION =	132.00 ft.	
	PROPOSED POND SHAPE =	3	IRREGULAR POND SHAPE

Treatment Stage = 128.80 ft.
Required Treatment Volume = 0.69 ac.-ft.
Required Attenuation Volume = 1.47 ac.-ft.
Attenuation Stage = 129.05 ft.

STAGE	DESCRIPTION	TOTAL POND AREA	AREA		STORAGE
			Pond 2A	Pond 2B	
132.00 ft.	POND R/W Area =	4.58 ac.	2.29 ac.	2.03 ac.	
132.50 ft.	Back of Maint. Berm =	3.29 ac.	1.75 ac.	1.54 ac.	11.84 ac.-ft.
130.50 ft.	Front of Maint. Berm =	2.96 ac.	1.55 ac.	1.41 ac.	5.59 ac.-ft.
129.50 ft.	Treat/Storage Stage =	2.80 ac.	1.45 ac.	1.34 ac.	2.71 ac.-ft.
128.50 ft.	Initial Water Area =	2.63 ac.	1.35 ac.	1.28 ac.	0.00 ac.-ft.
124.50 ft.		1.88 ac.	1.00 ac.	0.88 ac.	
120.00 ft.	Pond Bottom =	1.54 ac.	0.82 ac.	0.72 ac.	

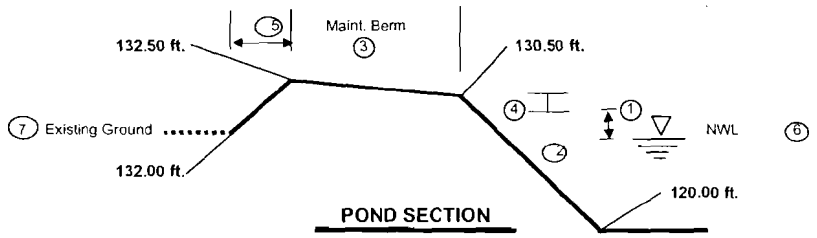
Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Checked by:
DATE: January 2 2008 TIME: 9:32 AM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**

POND DESIGN CALCULATIONS

BASIN NAME: **Basin 2 EB**
NODE NAME: **Pond 2**



POND SECTION

STAGE-STORAGE CALCULATIONS

	STAGE (ft. NGVD)	AREA (ac.)	AVERAGE AREA (ac.)	INCRE DEPTH (ft.)	INCRE STORAGE (ac.-ft.)	TOTAL STORAGE (ac.-ft.)
NWL	128.50	2.63	--	--	--	0.00
	128.83	2.69	2.66	0.33	0.89	0.89
	129.17	2.74	2.71	0.33	0.90	1.79
	129.50	2.80	2.77	0.33	0.92	2.71
BANK	130.50	2.96	2.88	1.00	2.88	5.59
TOP	132.50	3.29	3.13	2.00	6.25	11.84

REQUIRED TREATMENT VOLUME = 0.69 ac.-ft.
REQUIRED TREATMENT STAGE = 128.76 ft.
PROVIDED TREATMENT STAGE = 128.80 ft.
PROVIDED TREATMENT VOLUME = 0.80 ac.-ft.

REQUIRED ATTENUATION/TREATMENT VOLUME = 1.35 ac.-ft.
REQUIRED MAXIMUM STAGE = 129.00 ft. N.G.V.D.
PROVIDED MAXIMUM STAGE = 129.05 ft. N.G.V.D.
PROVIDED ATTENUATION/TREATMENT VOLUME = 1.47 ac.-ft.

==== Basins ====

Name: BasinEB | Node: Pond 2 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	8.300	Time Shift(hrs):	0.00
Curve Number:	88.40	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: BasinWB | Node: Pond 1 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	12.120	Time Shift(hrs):	0.00
Curve Number:	85.70	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: ExBasinEB | Node: ExPond2EB | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	8.800	Time Shift(hrs):	0.00
Curve Number:	86.10	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: ExBasinWB | Node: ExPond1WB | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph

Unit Hydrograph:	Uh323	Peaking Factor:	323.0
Rainfall File:	Orange	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.600	Time of Conc(min):	10.00
Area(ac):	11.750	Time Shift(hrs):	0.00
Curve Number:	80.30	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

==== Nodes ====

Name: ExPond1WB | Base Flow(cfs): 0.000 | Init Stage(ft): 128.000
Group: BASE | Warn Stage(ft): 131.800
Type: Stage/Area

Stage(ft)	Area(ac)
128.000	2.9000
128.750	3.0300
129.500	3.1700
130.250	3.3000
131.000	3.4300
131.800	4.1800

Name: ExPond2EB | Base Flow(cfs): 0.000 | Init Stage(ft): 128.500
Group: BASE | Warn Stage(ft): 132.500
Type: Stage/Area

Stage(ft)	Area(ac)

128.500	2.3800
129.250	2.5000
130.000	2.6100
130.750	2.7300
131.500	2.8400
132.500	3.5000

Name: ExSwaleEB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

Name: ExSwaleWB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

Name: Pond 1 Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 132.000
Type: Stage/Area

Stage(ft)	Area(ac)
128.000	2.8000
128.670	2.9000
129.330	3.0000
130.000	3.1100
131.000	3.2600
132.000	3.8900

Name: Pond 2 Base Flow(cfs): 0.000 Init Stage(ft): 128.500
Group: BASE Warn Stage(ft): 132.500
Type: Stage/Area

Stage(ft)	Area(ac)
128.500	2.6300
128.830	2.6900
129.170	2.7400
129.500	2.8000
130.500	2.9600
132.500	3.2900
133.500	4.3200

Name: SwaleEB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

Name: SwaleWB Base Flow(cfs): 0.000 Init Stage(ft): 128.000
Group: BASE Warn Stage(ft): 131.000

Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	128.000
36.00	128.000
260.00	128.000

==== Drop Structures ====

Name: ExS-10 From Node: ExPond2EB Length(ft): 200.00
Group: BASE To Node: ExSwaleEB Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	127.850	127.960	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 2 EB discharging into the I-4 EB Swale eventually to Big Sand Lake

*** Weir 1 of 2 for Drop Structure ExS-10 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600

Span(in): 4.00 Invert(ft): 128.510
Rise(in): 4.00 Control Elev(ft): 128.510

*** Weir 2 of 2 for Drop Structure ExS-10 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Horizontal Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 49.00 Invert(ft): 130.670
Rise(in): 37.00 Control Elev(ft): 130.670

Name: ExS 15 From Node: ExPond1WB Length(ft): 58.00
Group: BASE To Node: ExSwaleWB Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	126.470	126.980	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 1 WB discharging into the I-4 WB Swale to Big Sand Lake

*** Weir 1 of 2 for Drop Structure ExS-15 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600

Span(in):	4.00	Invert(ft):	127.920
Rise(in):	4.00	Control Elev(ft):	128.000

*** Weir 2 of 2 for Drop Structure ExS-15 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	49.00	Invert(ft):	130.190
Rise(in):	37.00	Control Elev(ft):	130.200

Name:	S-744	From Node:	Pond 2	Length(ft):	219.00
Group:	BASE	To Node:	SwaleEB	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	127.850	127.960	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 2 EB discharging intc the I-4 EB Swale eventually to Big Sand Lake

*** Weir 1 of 2 for Drop Structure S-744 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Circular	Orifice Disc Coef:	0.600
Span(in):	4.00	Invert(ft):	128.500
Rise(in):	4.00	Control Elev(ft):	128.500

*** Weir 2 of 2 for Drop Structure S-744 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	49.00	Invert(ft):	131.500
Rise(in):	37.00	Control Elev(ft):	131.500

Name:	S-748	From Node:	Pond 1	Length(ft):	58.00
Group:	BASE	To Node:	SwaleWB	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	18.00	18.00	Solution Algorithm:	Automatic
Rise(in):	18.00	18.00	Flow:	Both
Invert(ft):	126.470	126.980	Entrance Loss Coef:	0.500
Manning's N:	0.012000	0.012000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Existing DBI in Existing Pond 1 WB discharging into the I-4 WB Swale to Big Sand Lake
Revised Existing 4" Orifice to a 3" Orifice (6-1-2005)

*** Weir 1 of 2 for Drop Structure S-748 ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Vertical: Mavis	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200

```
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 3.00                        Invert(ft): 127.920
              Rise(in): 3.00                 Control Elev(ft): 128.000

*** Weir 2 of 2 for Drop Structure S-748 ***
                                                                      TABLE
                 Count: 1                     Bottom Clip(in): 0.000
                  Type: Horizontal               Top Clip(in): 0.000
                  Flow: Both                  Weir Disc Coef: 3.200
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 49.00                       Invert(ft): 131.000
              Rise(in): 37.00                Control Elev(ft): 131.000


==========================================================================
==== Hydrology Simulations ===============================================
==========================================================================

         Name: 002Y001H
     Filename: H:\049280002-Fenton Design\ICPR\002Y001H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: FDOT-1
    Rainfall Amount(in): 2.40

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           2.50

--------------------------------------------------------------------------
         Name: 002Y002H
     Filename: H:\049280002-Fenton Design\ICPR\002Y002H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: FDOT-2
    Rainfall Amount(in): 2.90

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           2.50

--------------------------------------------------------------------------
         Name: 002Y004H
     Filename: H:\049280002-Fenton Design\ICPR\002Y004H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: FDOT-4
    Rainfall Amount(in): 3.30

Time(hrs)       Print Inc(min)
--------------- ---------------
5.000           5.00

--------------------------------------------------------------------------
         Name: 002Y008H
     Filename: H:\049280002-Fenton Design\ICPR\002Y008H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: FDOT-8
    Rainfall Amount(in): 3.80

Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           5.00

--------------------------------------------------------------------------
         Name: 002Y024H
     Filename: H:\049280002-Fenton Design\ICPR\002Y024H.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: FDOT-24
    Rainfall Amount(in): 4.80

Time(hrs)       Print Inc(min)
--------------- ---------------
10.000          5.00
```

12.000	1.00
30.000	5.00

Name: 002Y072H
Filename: H:\049280002-Fenton Design\ICPR\002Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 5.90

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 002Y168H
Filename: H:\049280002-Fenton Design\ICPR\002Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 7.50

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 002Y240H
Filename: H:\049280002-Fenton Design\ICPR\002Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 8.40

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 005Y001H
Filename: H:\049280002-Fenton Design\ICPR\005Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 2.95

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 005Y002H
Filename: H:\049280002-Fenton Design\ICPR\005Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 3.50

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 005Y004H
Filename: H:\049280002-Fenton Design\ICPR\005Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 4.10

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 005Y008H
Filename: H:\049280002-Fenton Design\ICPR\005Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 4.85

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 005Y024H
Filename: H:\049280002-Fenton Design\ICPR\005Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 6.25

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 005Y072H
Filename: H:\049280002-Fenton Design\ICPR\005Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 7.60

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 005Y168H
Filename: H:\049280002-Fenton Design\ICPR\005Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 9.50

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 005Y240H
Filename: H:\049280002-Fenton Design\ICPR\005Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 010Y001H
Filename: H:\049280002-Fenton Design\ICPR\010Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 3.25

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 010Y002H
Filename: H:\049280002-Fenton Design\ICPR\010Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 010Y004H
Filename: H:\049280002-Fenton Design\ICPR\010Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 4.70

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 010Y008H
Filename: H:\049280002-Fenton Design\ICPR\010Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 5.60

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 010Y024H
Filename: H:\049280002-Fenton Design\ICPR\010Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 7.40

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 010Y072H
Filename: H:\049280002-Fenton Design\ICPR\010Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 9.00

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 010Y168H
Filename: H:\049280002-Fenton Design\ICPR\010Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 010Y240H
Filename: H:\049280002-Fenton Design\ICPR\010Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 025Y001H
Filename: H:\049280002-Fenton Design\ICPR\025Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 3.75

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 025Y002H
Filename: H:\049280002-Fenton Design\ICPR\025Y002H.R32

Override Defaults: Yes

Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 4.50

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 025Y004H
Filename: H:\049280002-Fenton Design\ICPR\025Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 5.40

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 025Y008H
Filename: H:\049280002-Fenton Design\ICPR\025Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 6.55

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 025Y024H
Filename: H:\049280002-Fenton Design\ICPR\025Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 025Y072H
Filename: H:\049280002-Fenton Design\ICPR\025Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 10.50

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 025Y168H
Filename: H:\049280002-Fenton Design\ICPR\025Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 13.20

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00

152.000	1.00
166.000	5.00
192.000	5.00

Name: 025Y240H
Filename: H:\049280002-Fenton Design\ICPR\025Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 050Y001H
Filename: H:\049280002-Fenton Design\ICPR\050Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 4.10

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 050Y002H
Filename: H:\049280002-Fenton Design\ICPR\050Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 5.00

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 050Y004H
Filename: H:\049280002-Fenton Design\ICPR\050Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 6.05

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 050Y008H
Filename: H:\049280002-Fenton Design\ICPR\050Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 7.30

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 050Y024H
Filename: H:\049280002 Fenton Design\ICPR\050Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00

Rainfall File: FDOT-24
Rainfall Amount(in): 9.60

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 050Y072H
Filename: H:\049280002-Fenton Design\ICPR\050Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 12.30

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 050Y168H
Filename: H:\049280002-Fenton Design\ICPR\050Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
166.000	5.00
192.000	5.00

Name: 050Y240H
Filename: H:\049280002-Fenton Design\ICPR\050Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 17.00

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: 100Y001H
Filename: H:\049280002-Fenton Design\ICPR\100Y001H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: FDOT-1
Rainfall Amount(in): 4.50

Time(hrs)	Print Inc(min)
2.000	2.50

Name: 100Y002H

Filename: H:\049280002-Fenton Design\ICPR\100Y002H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: FDOT-2
Rainfall Amount(in): 5.50

Time(hrs)	Print Inc(min)
4.000	2.50

Name: 100Y004H
Filename: H:\049280002-Fenton Design\ICPR\100Y004H.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: FDOT-4
Rainfall Amount(in): 6.60

Time(hrs)	Print Inc(min)
5.000	5.00

Name: 100Y008H
Filename: H:\049280002-Fenton Design\ICPR\100Y008H.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: FDOT-8
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
9.000	5.00

Name: 100Y024H
Filename: H:\049280002-Fenton Design\ICPR\100Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FDOT-24
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
10.000	5.00
12.000	1.00
30.000	5.00

Name: 100Y072H
Filename: H:\049280002-Fenton Design\ICPR\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: FDOT-72
Rainfall Amount(in): 13.90

Time(hrs)	Print Inc(min)
8.000	5.00
9.000	1.00
16.000	5.00
33.000	1.00
41.000	5.00
56.000	1.00
68.000	5.00
100.000	5.00

Name: 100Y168H
Filename: H:\049280002-Fenton Design\ICPR\100Y168H.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: FDOT-168
Rainfall Amount(in): 17.00

Time(hrs)	Print Inc(min)

9.000	5.00
24.000	1.00
48.000	5.00
152.000	1.00
156.000	5.00
192.000	5.00

Name: 100Y240H
Filename: H:\049280002-Fenton Design\ICPR\100Y240H.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: FDOT-240
Rainfall Amount(in): 18.80

Time(hrs)	Print Inc(min)
10.000	5.00
24.000	1.00
56.000	5.00
60.000	15.00
160.000	5.00
168.000	1.00
208.000	5.00
240.000	15.00
264.000	15.00

Name: I-410024
Filename: H:\049280002-Fenton Design\ICPR\I-410024.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Orange
Rainfall Amount(in): 10.60

Time(hrs)	Print Inc(min)
6.000	15.00
8.000	10.00
15.000	5.00
18.000	10.00
24.000	15.00
36.000	15.00

Name: I-410072
Filename: H:\049280002-Fenton Design\ICPR\I-410072.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
50.000	15.00
55.000	10.00
62.000	5.00
72.000	10.00
80.000	15.00
100.000	15.00

Name: I-42524
Filename: H:\049280002-Fenton Design\ICPR\I-42524.R32

Override Defaults: No

Time(hrs)	Print Inc(min)
6.000	15.00
8.000	10.00
15.000	5.00
18.000	10.00
24.000	15.00
36.000	15.00

Name: I-42572
Filename: H:\049280002-Fenton Design\ICPR\I-42572.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 9.90

Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          15.00
55.000          10.00
62.000          5.00
72.000          10.00
80.000          15.00
100.000         15.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 002Y001R            Hydrology Sim: 002Y001H
     Filename: H:\049280002-Fenton Design\ICPR\002Y001R.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 2.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           1.000
4.000           5.000

Group           Run
--------------- -----
BASE            Yes

--------------------------------------------------------------------------------
         Name: 002Y002R            Hydrology Sim: 002Y002H
     Filename: H:\049280002-FENTON DESIGN\ICPR\002Y002R.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 4.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           1.000
8.000           5.000

Group           Run
--------------- -----
BASE            Yes

--------------------------------------------------------------------------------
         Name: 002Y004H            Hydrology Sim: 002Y004H
     Filename: H:\049280002-Fenton Design\ICPR\002Y004R.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.10                    Delta Z Factor: 1.00000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 8.00
     Min Calc Time(sec): 10.0000              Max Calc Time(sec): 300.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
```

8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 002Y008H Hydrology Sim: 002Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\002Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 002Y024H Hydrology Sim: 002Y024H
Filename: H:\049280002 Fenton Design\ICPR\002Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 002Y072H Hydrology Sim: 002Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\002Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000

68.000 5.000
100.000 5.000

Group Run
BASE Yes

Name: 002Y168H Hydrology Sim: 002Y168H
Filename: H:\049280002-Fenton Design\ICPR\002Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
9.000 5.000
24.000 1.000
48.000 5.000
152.000 1.000
166.000 5.000
192.000 5.000

Group Run
BASE Yes

Name: 002Y240H Hydrology Sim: 002Y240H
Filename: H:\049280002-Fenton Design\ICPR\002Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
10.000 5.000
24.000 1.000
56.000 5.000
60.000 15.000
160.000 5.000
168.000 1.000
208.000 5.000
240.000 15.000
264.000 15.000

Group Run
BASE Yes

Name: 005Y001R Hydrology Sim: 005Y001H
Filename: H:\049280002-Fenton Design\ICPR\005Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 005Y002H Hydrology Sim: 005Y002H
Filename: H:\049280002-Fenton Design\ICPR\005Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 005Y004H Hydrology Sim: 005Y004H
Filename: H:\049280002-Fenton Design\ICPR\005Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 005Y008H Hydrology Sim: 005Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\005Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run

BASE Yes

Name: 005Y024H Hydrology Sim: 005Y024H
Filename: H:\049280002-Fenton Design\ICPR\005Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 005Y072H Hydrology Sim: 005Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\005Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 005Y168H Hydrology Sim: 005Y168H
Filename: H:\049280002-Fenton Design\ICPR\005Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000

192.000 5.000

Group	Run
BASE	Yes

Name: 005Y240H Hydrology Sim: 005Y240H
Filename: H:\049280002-Fenton Design\ICPR\005Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 010Y001R Hydrology Sim: 010Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\010Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 010Y002H Hydrology Sim: 010Y002H
Filename: H:\049280002-Fenton Design\ICPR\010Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 010Y004H Hydrology Sim: 010Y004H
Filename: H:\049280002-Fenton Design\ICPR\010Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 010Y008H Hydrology Sim: 010Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\010Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 010Y024H Hydrology Sim: 010Y024H
Filename: H:\049280002-Fenton Design\ICPR\010Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 010Y072H Hydrology Sim: 010Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\010Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 010Y168H Hydrology Sim: 010Y168H
Filename: H:\049280002-Fenton Design\ICPR\010Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 010Y240H Hydrology Sim: 010Y240H
Filename: H:\049280002-Fenton Design\ICPR\010Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000

208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 025Y001R Hydrology Sim: 025Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 025Y002H Hydrology Sim: 025Y002H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 025Y004H Hydrology Sim: 025Y004H
Filename: H:\049280002-Fenton Design\ICPR\025Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 025Y008H Hydrology Sim: 025Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 025Y024H Hydrology Sim: 025Y024H
Filename: H:\049280002-Fenton Design\ICPR\025Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 025Y072H Hydrology Sim: 025Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\025Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 025Y168H Hydrology Sim: 025Y168H
Filename: H:\049280002-Fenton Design\ICPR\025Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 025Y240H Hydrology Sim: 025Y240H
Filename: H:\049280002-Fenton Design\ICPR\025Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 050Y001R Hydrology Sim: 050Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\050Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run

BASE	Yes

Name: 050Y002H Hydrology Sim: 050Y002H
Filename: H:\049280002-FENTON DESIGN\ICPR\050Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 050Y004H Hydrology Sim: 050Y004H
Filename: H:\049280002-Fenton Design\ICPR\050Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 050Y008H Hydrology Sim: 050Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\050Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 050Y024H Hydrology Sim: 050Y024H
Filename: H:\049280002-Fenton Design\ICPR\050Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 050Y072H Hydrology Sim: 050Y072H
Filename: H:\049280002-PENTON DESIGN\ICPR\050Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 050Y168H Hydrology Sim: 050Y168H
Filename: H:\049280002-Fenton Design\ICPR\050Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 050Y240H Hydrology Sim: 050Y240H
Filename: H:\049280002-Fenton Design\ICPR\050Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: 100Y001R Hydrology Sim: 100Y001H
Filename: H:\049280002-FENTON DESIGN\ICPR\100Y001R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	1.000
4.000	5.000

Group	Run
BASE	Yes

Name: 100Y002H Hydrology Sim: 100Y002H
Filename: H:\049280002-FENTON DESIGN\ICPR\100Y002R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	1.000
8.000	5.000

Group	Run
BASE	Yes

Name: 100Y004H Hydrology Sim: 100Y004H
Filename: H:\049280002-Fenton Design\ICPR\100Y004R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	1.000
12.000	5.000

Group	Run
BASE	Yes

Name: 100Y008H Hydrology Sim: 100Y008H
Filename: H:\049280002-FENTON DESIGN\ICPR\100Y008R.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 16.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	1.000
18.000	5.000

Group	Run
BASE	Yes

Name: 100Y024H Hydrology Sim: 100Y024H
Filename: H:\049280002-Fenton Design\ICPR\100Y024H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
12.000	1.000
30.000	5.000

Group	Run
BASE	Yes

Name: 100Y072H Hydrology Sim: 100Y072H
Filename: H:\049280002-FENTON DESIGN\ICPR\100Y072H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 80.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	5.000
9.000	1.000
16.000	5.000
33.000	1.000
41.000	5.000
56.000	1.000
68.000	5.000
100.000	5.000

Group	Run
BASE	Yes

Name: 100Y168H Hydrology Sim: 100Y168H
Filename: H:\049280002-Fenton Design\ICPR\100Y168H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 192.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
9.000	5.000
24.000	1.000
48.000	5.000
152.000	1.000
166.000	5.000
192.000	5.000

Group	Run
BASE	Yes

Name: 100Y240H Hydrology Sim: 100Y240H
Filename: H:\049280002-Fenton Design\ICPR\100Y240H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.10 Delta Z Factor: 1.00000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 264.00
Min Calc Time(sec): 10.0000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	5.000
24.000	1.000
56.000	5.000
60.000	15.000
160.000	5.000
168.000	1.000
208.000	5.000
240.000	15.000
264.000	15.000

Group	Run
BASE	Yes

Name: I-410024 Hydrology Sim: I-410024
Filename: H:\049280002-Fenton Design\ICPR\I-410024.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
6.000	15.000
8.000	10.000
15.000	5.000
18.000	10.000
24.000	15.000
48.000	15.000

Group	Run
BASE	Yes

Name: I 410072 Hydrology Sim: I-410072
Filename: H:\049280002-Fenton Design\ICPR\I-410072.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 96.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000
55.000	10.000
62.000	5.000
72.000	10.000
80.000	15.000
100.000	15.000

Group	Run
BASE	Yes

Name: I-42524 Hydrology Sim: I-42524
Filename: H:\049280002-Fenton Design\ICPR\I-42524.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
6.000	15.000
8.000	10.000
15.000	5.000
18.000	10.000
24.000	15.000
48.000	15.000

Group	Run
BASE	Yes

Name: I-42572 Hydrology Sim: I-42572
Filename: H:\049280002-Fenton Design\ICPR\I-42572.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 96.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 300.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000
55.000	10.000
62.000	5.000
72.000	10.000
80.000	15.000
100.000	15.000

Group	Run
BASE	Yes

==== Boundary Conditions ====

```
            Basin Name: BasinEB
            Group Name: BASE
            Simulation: I-42524
             Node Name: Pond2EB
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh323
          Peaking Fator: 323.0
   Spec Time Inc (min): 1.33
   Comp Time Inc (min): 1.33
          Rainfall File: Orange
  Rainfall Amount (in): 8.600
  Storm Duration (hrs): 24.00
                Status: Onsite
    Time of Conc (min): 10.00
      Time Shift (hrs): 0.00
              Area (ac): 8.300
  Vol of Unit Hyd (in): 1.001
          Curve Number: 88.400
               DCIA (%): 0.000

         Time Max (hrs): 9.00
        Flow Max (cfs): 13.961
    Runoff Volume (in): 7.207
   Runoff Volume (ft3): 217136.278
```

```
            Basin Name: BasinWB
            Group Name: BASE
            Simulation: I-42524
             Node Name: Pond1WB
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh323
          Peaking Fator: 323.0
   Spec Time Inc (min): 1.33
   Comp Time Inc (min): 1.33
          Rainfall File: Orange
  Rainfall Amount (in): 8.600
  Storm Duration (hrs): 24.00
                Status: Onsite
    Time of Conc (min): 10.00
      Time Shift (hrs): 0.00
              Area (ac): 12.120
  Vol of Unit Hyd (in): 1.000
          Curve Number: 85.500
               DCIA (%): 0.000

         Time Max (hrs): 9.00
        Flow Max (cfs): 19.824
    Runoff Volume (in): 6.857
   Runoff Volume (ft3): 301665.817
```

```
            Basin Name: ExBasinEB
            Group Name: BASE
            Simulation: I-42524
             Node Name: ExPond2EB
            Basin Type: SCS Unit Hydrograph

        Unit Hydrograph: Uh323
          Peaking Fator: 323.0
   Spec Time Inc (min): 1.33
   Comp Time Inc (min): 1.33
          Rainfall File: Orange
  Rainfall Amount (in): 8.600
  Storm Duration (hrs): 24.00
                Status: Onsite
    Time of Conc (min): 10.00
      Time Shift (hrs): 0.00
              Area (ac): 8.800
  Vol of Unit Hyd (in): 1.000
          Curve Number: 86.100
               DCIA (%): 0.000

         Time Max (hrs): 9.00
        Flow Max (cfs): 14.484
    Runoff Volume (in): 6.929
   Runoff Volume (ft3): 221346.093
```

Basin Name:	ExBasinWB
Group Name:	BASE
Simulation:	I-42524
Node Name:	ExPond1WB
Basin Type:	SCS Unit Hydrograph
Unit Hydrograph:	Uh323
Peaking Fator:	323.0
Spec Time Inc (min):	1.33
Comp Time Inc (min):	1.33
Rainfall File:	Orange
Rainfall Amount (in):	8.600
Storm Duration (hrs):	24.00
Status:	Onsite
Time of Conc (min):	10.00
Time Shift (hrs):	0.00
Area (ac):	11.750
Vol of Unit Hyd (in):	1.000
Curve Number:	80.300
DCIA (%):	0.000
Time Max (hrs):	9.00
Flow Max (cfs):	18.034
Runoff Volume (in):	6.229
Runoff Volume (ft3):	265662.449

Street 'B'
5-24-2005
Rest Area Ponds Modified (5-26-05)

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs	
ExPond1WB	BASE	I-42524	20.23	129.808	131.800	0.0398	140414	8.98	18.006	23.98	0.527	1.06 CFS
ExPond2EB	BASE	I-42524	19.15	130.278	132.500	0.0384	115627	8.98	14.472	19.15	0.531	
ExSwaleEB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	19.15	0.531	0.00	0.000	
ExSwaleWB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	23.98	0.527	0.00	0.000	
Pond1WB	BASE	I-42524	20.15	130.211	132.000	0.0471	131896	8.98	19.806	20.15	0.683	1.17 CFS
Pond2EB	BASE	I-42524	20.15	130.006	132.500	0.0319	137292	8.98	13.953	20.15	0.486	
SwaleEB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	20.15	0.486	0.00	0.000	
SwaleWB	BASE	I-42524	12.06	128.800	131.000	0.0250	0	20.15	0.683	0.00	0.000	

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond1WB	BASE	002Y001R	1.47	128.276	131.800	0.0309	128410	0.69	20.617	1.47	0.166
ExPond1WB	BASE	002Y002R	2.47	128.389	131.800	0.0270	129263	0.85	18.287	2.47	0.231
ExPond1WB	BASE	002Y004H	4.31	128.484	131.800	0.0253	129981	2.47	11.038	4.31	0.265
ExPond1WB	BASE	002Y008H	8.31	128.596	131.800	0.0286	130821	3.97	12.541	8.31	0.300
ExPond1WB	BASE	002Y024H	24.14	128.793	131.800	0.0088	132333	11.97	3.950	24.14	0.353
ExPond1WB	BASE	002Y072H	68.22	128.915	131.800	0.0061	133332	59.97	3.011	68.22	0.382
ExPond1WB	BASE	002Y168H	168.06	128.991	131.800	0.0047	133945	159.89	2.421	168.06	0.399
ExPond1WB	BASE	002Y240H	192.47	128.996	131.800	0.0063	133986	183.89	3.153	192.47	0.400
ExPond1WB	BASE	005Y001R	1.47	128.405	131.800	0.0448	129385	0.69	29.906	1.47	0.237
ExPond1WB	BASE	005Y002H	2.44	128.539	131.800	0.0375	130394	0.85	25.513	2.44	0.282
ExPond1WB	BASE	005Y004H	4.31	128.692	131.800	0.0350	131546	2.47	15.229	4.31	0.327
ExPond1WB	BASE	005Y008H	8.31	128.873	131.800	0.0407	132988	3.97	17.960	8.31	0.372
ExPond1WB	BASE	005Y024H	24.14	129.171	131.800	0.0127	135409	11.97	5.748	24.14	0.436
ExPond1WB	BASE	005Y072H	68.31	129.310	131.800	0.0082	136541	59.97	4.060	68.31	0.463
ExPond1WB	BASE	005Y168H	168.06	129.350	131.800	0.0061	136868	159.89	3.143	168.06	0.470
ExPond1WB	BASE	005Y240H	216.06	129.408	131.800	0.0087	137339	183.89	4.254	216.06	0.481
ExPond1WB	BASE	010Y001R	1.52	128.480	131.800	0.0528	129949	0.69	35.207	1.52	0.263
ExPond1WB	BASE	010Y002H	2.44	128.670	131.800	0.0468	131381	0.85	31.788	2.44	0.321
ExPond1WB	BASE	010Y004H	4.31	128.853	131.800	0.0431	132827	2.06	18.759	4.31	0.368
ExPond1WB	BASE	010Y008H	8.31	129.078	131.800	0.0494	134655	3.97	21.884	8.31	0.417
ExPond1WB	BASE	010Y024H	24.14	129.478	131.800	0.0157	137908	11.97	7.187	24.14	0.493
ExPond1WB	BASE	010Y072H	68.39	129.643	131.800	0.0099	139163	59.97	4.918	68.39	0.521
ExPond1WB	BASE	010Y168H	168.06	129.644	131.800	0.0072	139173	159.89	3.681	168.06	0.522
ExPond1WB	BASE	010Y240H	216.06	129.739	131.800	0.0105	139890	183.89	5.095	216.06	0.537
ExPond1WB	BASE	025Y001R	1.50	128.609	131.800	0.0666	130926	0.69	44.299	1.50	0.304
ExPond1WB	BASE	025Y002H	2.52	128.804	131.800	0.0563	132429	0.85	38.219	2.52	0.356
ExPond1WB	BASE	025Y004H	4.31	129.046	131.800	0.0526	134396	2.06	23.056	4.31	0.411
ExPond1WB	BASE	025Y008H	8.31	129.342	131.800	0.0603	136798	3.97	26.878	8.31	0.469
ExPond1WB	BASE	025Y024H	24.14	129.802	131.800	0.0189	140363	11.97	8.690	24.14	0.547
ExPond1WB	BASE	025Y072H	68.47	130.002	131.800	0.0116	141876	59.97	5.831	68.47	0.578
ExPond1WB	BASE	025Y168H	168.14	130.092	131.800	0.0087	142552	159.89	4.465	168.14	0.591
ExPond1WB	BASE	025Y240H	216.14	130.096	131.800	0.0122	142585	183.89	5.931	216.14	0.592
ExPond1WB	BASE	050Y001R	1.50	128.703	131.800	0.0764	131630	0.69	50.809	1.50	0.330
ExPond1WB	BASE	050Y002H	2.46	128.942	131.800	0.0659	133545	0.85	44.761	2.46	0.388
ExPond1WB	BASE	050Y004H	4.36	129.229	131.800	0.0502	135878	2.07	27.127	4.36	0.447
ExPond1WB	BASE	050Y008H	8.31	129.551	131.800	0.0688	138473	3.97	30.822	8.31	0.506
ExPond1WB	BASE	050Y024H	24.14	130.072	131.800	0.0215	142402	11.97	9.940	24.14	0.588
ExPond1WB	BASE	050Y072H	64.22	130.310	131.800	0.0137	144199	59.89	6.920	64.22	2.490
ExPond1WB	BASE	050Y168H	160.14	130.338	131.800	0.0098	144410	159.89	5.104	160.14	3.191
ExPond1WB	BASE	050Y240H	191.97	130.250	131.800	0.0139	143747	183.89	6.764	191.97	1.260
ExPond1WB	BASE	100Y001R	1.52	128.813	131.800	0.0743	132500	0.67	59.439	1.52	0.358
ExPond1WB	BASE	100Y002H	2.51	129.081	131.800	0.0756	134677	0.85	51.380	2.51	0.418
ExPond1WB	BASE	100Y004H	4.31	129.383	131.800	0.0564	137133	2.07	30.545	4.31	0.476
ExPond1WB	BASE	100Y008H	8.31	129.747	131.800	0.0766	139954	3.97	34.500	8.31	0.538
ExPond1WB	BASE	100Y024H	22.14	130.278	131.800	0.0240	143960	11.97	11.187	22.14	1.787
ExPond1WB	BASE	100Y072H	63.97	130.382	131.800	0.0155	144744	59.89	7.885	63.97	4.419
ExPond1WB	BASE	100Y168H	159.97	130.420	131.800	0.0111	145028	159.89	5.812	159.97	5.574
ExPond1WB	BASE	100Y240H	184.14	130.400	131.800	0.0153	144881	183.89	7.512	184.14	4.962
ExPond1WB	BASE	I-410024	15.23	130.248	131.800	0.0503	143733	8.98	23.109	15.23	1.230
ExPond1WB	BASE	I-410072	68.17	130.254	131.800	0.0877	143777	59.97	56.308	68.17	1.328
ExPond1WB	BASE	I-42524	20.23	129.781	131.800	0.0398	140203	8.98	18.006	20.23	0.544
ExPond1WB	BASE	I-42572	72.18	130.055	131.800	0.0875	142278	60.00	50.751	72.18	0.586
ExPond2EB	BASE	002Y001R	1.47	128.852	132.500	0.0385	106126	0.69	20.899	1.47	0.159
ExPond2EB	BASE	002Y002R	2.47	128.970	132.500	0.0330	106949	0.85	18.241	2.47	0.227
ExPond2EB	BASE	002Y004H	4.31	129.067	132.500	0.0287	107622	2.06	10.194	4.31	0.262
ExPond2EB	BASE	002Y008H	8.22	129.174	132.500	0.0312	108373	3.97	11.237	8.22	0.296
ExPond2EB	BASE	002Y024H	24.06	129.353	132.500	0.0093	109558	11.97	3.477	24.06	0.345

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond2EB	BASE	002Y072H	68.14	129.444	132.500	0.0058	110142	59.97	2.413	68.14	0.368
ExPond2EB	BASE	002Y168H	160.64	129.462	132.500	0.0044	110256	159.89	1.884	160.64	0.372
ExPond2EB	BASE	002Y240H	192.22	129.487	132.500	0.0061	110416	183.89	2.462	192.22	0.378
ExPond2EB	BASE	005Y001R	1.47	128.987	132.500	0.0528	107069	0.64	28.662	1.47	0.234
ExPond2EB	BASE	005Y002H	2.44	129.122	132.500	0.0436	108009	0.85	24.136	2.44	0.280
ExPond2EB	BASE	005Y004H	4.31	129.272	132.500	0.0389	109042	2.06	13.907	4.31	0.324
ExPond2EB	BASE	005Y008H	8.22	129.444	132.500	0.0422	110139	3.97	15.372	8.22	0.368
ExPond2EB	BASE	005Y024H	24.06	129.708	132.500	0.0128	111823	11.97	4.836	24.06	0.426
ExPond2EB	BASE	005Y072H	68.22	129.797	132.500	0.0077	112393	59.97	3.187	68.22	0.444
ExPond2EB	BASE	005Y168H	167.97	129.753	132.500	0.0057	112111	159.89	2.417	167.97	0.436
ExPond2EB	BASE	005Y240H	192.31	129.814	132.500	0.0082	112506	183.89	3.276	192.31	0.448
ExPond2EB	BASE	010Y001R	1.46	129.063	132.500	0.0607	107600	0.64	33.140	1.46	0.261
ExPond2EB	BASE	010Y002H	2.44	129.252	132.500	0.0526	108911	0.85	29.131	2.44	0.318
ExPond2EB	BASE	010Y004H	4.31	129.430	132.500	0.0466	110048	2.06	16.719	4.31	0.364
ExPond2EB	BASE	010Y008H	8.22	129.640	132.500	0.0500	111389	3.97	18.322	8.22	0.412
ExPond2EB	BASE	010Y024H	24.06	129.993	132.500	0.0155	113644	11.97	5.909	24.06	0.482
ExPond2EB	BASE	010Y072H	68.22	130.092	132.500	0.0092	114333	59.89	3.820	68.22	0.500
ExPond2EB	BASE	010Y168H	168.06	129.996	132.500	0.0066	113665	159.89	2.815	168.06	0.482
ExPond2EB	BASE	010Y240H	192.39	130.072	132.500	0.0098	114191	183.89	3.897	192.39	0.496
ExPond2EB	BASE	025Y001R	1.50	129.193	132.500	0.0740	108504	0.64	40.727	1.50	0.302
ExPond2EB	BASE	025Y002H	2.43	129.383	132.500	0.0616	109752	0.85	34.168	2.43	0.353
ExPond2EB	BASE	025Y004H	4.31	129.615	132.500	0.0556	111231	2.06	20.011	4.31	0.407
ExPond2EB	BASE	025Y008H	8.31	129.889	132.500	0.0598	112980	3.97	22.043	8.31	0.462
ExPond2EB	BASE	025Y024H	24.14	130.291	132.500	0.0183	115716	11.97	7.023	24.14	0.533
ExPond2EB	BASE	025Y072H	68.22	130.411	132.500	0.0108	116556	59.89	4.494	68.22	0.553
ExPond2EB	BASE	025Y168H	168.06	130.370	132.500	0.0079	116271	159.89	3.396	168.06	0.546
ExPond2EB	BASE	025Y240H	215.97	130.339	132.500	0.0113	116055	183.89	4.517	215.97	0.541
ExPond2EB	BASE	050Y001R	1.50	129.285	132.500	0.0833	109126	0.64	46.103	1.50	0.328
ExPond2EB	BASE	050Y002H	2.46	129.516	132.500	0.0705	110599	0.85	39.229	2.46	0.385
ExPond2EB	BASE	050Y004H	4.28	129.788	132.500	0.0517	112338	2.01	23.160	4.28	0.443
ExPond2EB	BASE	050Y008H	8.31	130.085	132.500	0.0673	114286	3.97	24.968	8.31	0.498
ExPond2EB	BASE	050Y024H	24.14	130.538	132.500	0.0206	117441	11.97	7.946	24.14	0.573
ExPond2EB	BASE	050Y072H	64.47	130.730	132.500	0.0127	118777	59.89	5.300	64.47	1.253
ExPond2EB	BASE	050Y168H	168.06	130.682	132.500	0.0090	118446	159.89	3.871	168.06	0.655
ExPond2EB	BASE	050Y240H	216.06	130.640	132.500	0.0128	118151	183.89	5.135	216.06	0.588
ExPond2EB	BASE	100Y001R	1.46	129.393	132.500	0.0849	109814	0.67	52.406	1.46	0.355
ExPond2EB	BASE	100Y002H	2.43	129.649	132.500	0.0794	111451	0.85	44.303	2.43	0.414
ExPond2EB	BASE	100Y004H	4.31	129.934	132.500	0.0573	113270	2.01	25.784	4.31	0.471
ExPond2EB	BASE	100Y008H	8.31	130.268	132.500	0.0742	115562	3.97	27.688	8.31	0.530
ExPond2EB	BASE	100Y024H	22.14	130.738	132.500	0.0228	118837	11.97	8.866	22.14	1.397
ExPond2EB	BASE	100Y072H	64.06	130.825	132.500	0.0142	119400	59.89	6.014	64.06	3.292
ExPond2EB	BASE	100Y168H	160.06	130.842	132.500	0.0101	119505	159.89	4.397	160.06	3.726
ExPond2EB	BASE	100Y240H	184.39	130.748	132.500	0.0142	118904	183.89	5.690	184.39	1.569
ExPond2EB	BASE	I-410024	15.06	130.720	132.500	0.0478	118710	8.98	18.237	15.06	1.105
ExPond2EB	BASE	I-410072	68.25	130.710	132.500	0.0830	118643	59.97	43.855	68.25	0.966
ExPond2EB	BASE	I-42524	19.15	130.275	132.500	0.0384	115609	8.98	14.472	19.15	0.531
ExPond2EB	BASE	I-42572	72.10	130.504	132.500	0.0828	117201	60.00	39.749	72.10	0.567
ExSwaleEB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.159	0.00	0.000
ExSwaleEB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.47	0.227	0.00	0.000
ExSwaleEB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.262	0.00	0.000
ExSwaleEB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.296	0.00	0.000
ExSwaleEB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.345	0.00	0.000
ExSwaleEB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	68.14	0.368	0.00	0.000
ExSwaleEB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	160.64	0.372	0.00	0.000
ExSwaleEB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	192.22	0.378	0.00	0.000
ExSwaleEB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.234	0.00	0.000
ExSwaleEB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.280	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExSwaleEB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.324	0.00	0.000
ExSwaleEB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.368	0.00	0.000
ExSwaleEB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.426	0.00	0.000
ExSwaleEB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.444	0.00	0.000
ExSwaleEB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	167.97	0.436	0.00	0.000
ExSwaleEB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	192.31	0.448	0.00	0.000
ExSwaleEB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.261	0.00	0.000
ExSwaleEB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.318	0.00	0.000
ExSwaleEB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.364	0.00	0.000
ExSwaleEB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.412	0.00	0.000
ExSwaleEB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.482	0.00	0.000
ExSwaleEB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.500	0.00	0.000
ExSwaleEB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.482	0.00	0.000
ExSwaleEB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	192.39	0.496	0.00	0.000
ExSwaleEB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.302	0.00	0.000
ExSwaleEB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.353	0.00	0.000
ExSwaleEB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.407	0.00	0.000
ExSwaleEB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.462	0.00	0.000
ExSwaleEB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.533	0.00	0.000
ExSwaleEB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.553	0.00	0.000
ExSwaleEB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.546	0.00	0.000
ExSwaleEB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	215.97	0.541	0.00	0.000
ExSwaleEB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.328	0.00	0.000
ExSwaleEB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.46	0.385	0.00	0.000
ExSwaleEB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.28	0.443	0.00	0.000
ExSwaleEB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.498	0.00	0.000
ExSwaleEB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.573	0.00	0.000
ExSwaleEB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	64.47	1.253	0.00	0.000
ExSwaleEB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.655	0.00	0.000
ExSwaleEB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.588	0.00	0.000
ExSwaleEB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.355	0.00	0.000
ExSwaleEB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.414	0.00	0.000
ExSwaleEB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.471	0.00	0.000
ExSwaleEB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.530	0.00	0.000
ExSwaleEB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	22.14	1.397	0.00	0.000
ExSwaleEB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	64.06	3.292	0.00	0.000
ExSwaleEB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	160.06	3.726	0.00	0.000
ExSwaleEB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	184.39	1.569	0.00	0.000
ExSwaleEB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	15.06	1.105	0.00	0.000
ExSwaleEB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	68.25	0.966	0.00	0.000
ExSwaleEB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	19.15	0.531	0.00	0.000
ExSwaleEB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.10	0.567	0.00	0.000
ExSwaleWB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.166	0.00	0.000
ExSwaleWB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.47	0.231	0.00	0.000
ExSwaleWB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.265	0.00	0.000
ExSwaleWB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.300	0.00	0.000
ExSwaleWB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.353	0.00	0.000
ExSwaleWB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.382	0.00	0.000
ExSwaleWB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.399	0.00	0.000
ExSwaleWB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	192.47	0.400	0.00	0.000
ExSwaleWB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.237	0.00	0.000
ExSwaleWB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.282	0.00	0.000
ExSwaleWB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.327	0.00	0.000
ExSwaleWB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.372	0.00	0.000
ExSwaleWB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.436	0.00	0.000
ExSwaleWB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	68.31	0.463	0.00	0.000
ExSwaleWB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.470	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExSwaleWB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.481	0.00	0.000
ExSwaleWB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.263	0.00	0.000
ExSwaleWB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.321	0.00	0.000
ExSwaleWB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.368	0.00	0.000
ExSwaleWB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.417	0.00	0.000
ExSwaleWB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.493	0.00	0.000
ExSwaleWB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	68.39	0.521	0.00	0.000
ExSwaleWB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.522	0.00	0.000
ExSwaleWB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.537	0.00	0.000
ExSwaleWB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.304	0.00	0.000
ExSwaleWB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.52	0.356	0.00	0.000
ExSwaleWB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.411	0.00	0.000
ExSwaleWB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.469	0.00	0.000
ExSwaleWB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.547	0.00	0.000
ExSwaleWB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	68.47	0.578	0.00	0.000
ExSwaleWB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.591	0.00	0.000
ExSwaleWB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	216.14	0.592	0.00	0.000
ExSwaleWB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.330	0.00	0.000
ExSwaleWB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.46	0.388	0.00	0.000
ExSwaleWB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.36	0.447	0.00	0.000
ExSwaleWB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.506	0.00	0.000
ExSwaleWB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.588	0.00	0.000
ExSwaleWB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	64.22	2.490	0.00	0.000
ExSwaleWB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	160.14	3.191	0.00	0.000
ExSwaleWB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	191.97	1.260	0.00	0.000
ExSwaleWB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.358	0.00	0.000
ExSwaleWB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.51	0.418	0.00	0.000
ExSwaleWB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.476	0.00	0.000
ExSwaleWB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.538	0.00	0.000
ExSwaleWB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	22.14	1.787	0.00	0.000
ExSwaleWB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	63.97	4.419	0.00	0.000
ExSwaleWB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	159.97	5.574	0.00	0.000
ExSwaleWB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	184.14	4.962	0.00	0.000
ExSwaleWB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	15.23	1.230	0.00	0.000
ExSwaleWB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	68.17	1.328	0.00	0.000
ExSwaleWB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	20.23	0.544	0.00	0.000
ExSwaleWB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.18	0.586	0.00	0.000
Pond 1	BASE	002Y001R	1.54	128.404	132.000	0.0441	124597	0.69	28.231	1.54	0.142
Pond 1	BASE	002Y002R	2.56	128.545	132.000	0.0378	125512	0.85	24.670	2.56	0.167
Pond 1	BASE	002Y004H	4.39	128.661	132.000	0.0331	126265	2.06	13.811	4.39	0.185
Pond 1	BASE	002Y008H	8.39	128.800	132.000	0.0362	127182	3.97	15.306	8.39	0.205
Pond 1	BASE	002Y024H	24.22	129.055	132.000	0.0110	128868	11.97	4.741	24.22	0.237
Pond 1	BASE	002Y072H	72.06	129.242	132.000	0.0072	130097	59.97	3.311	72.06	0.257
Pond 1	BASE	002Y168H	168.14	129.400	132.000	0.0055	131180	159.89	2.589	168.14	0.274
Pond 1	BASE	002Y240H	216.22	129.405	132.000	0.0074	131215	183.89	3.383	216.22	0.274
Pond 1	BASE	005Y001R	1.54	128.563	132.000	0.0608	125630	0.64	38.785	1.54	0.170
Pond 1	BASE	005Y002H	2.53	128.725	132.000	0.0503	126685	0.85	32.753	2.53	0.194
Pond 1	BASE	005Y004H	4.39	128.905	132.000	0.0451	127873	2.06	18.911	4.39	0.218
Pond 1	BASE	005Y008H	8.39	129.123	132.000	0.0495	129313	3.97	21.000	8.39	0.244
Pond 1	BASE	005Y024H	24.22	129.495	132.000	0.0153	131862	11.97	6.613	24.22	0.283
Pond 1	BASE	005Y072H	72.06	129.720	132.000	0.0095	133470	59.97	4.377	72.06	0.304
Pond 1	BASE	005Y168H	168.14	129.906	132.000	0.0070	134796	159.89	3.324	168.14	0.321
Pond 1	BASE	005Y240H	216.22	129.999	132.000	0.0098	135464	183.89	4.504	216.22	0.329
Pond 1	BASE	010Y001R	1.52	128.653	132.000	0.0701	126212	0.64	44.921	1.52	0.184
Pond 1	BASE	010Y002H	2.52	128.878	132.000	0.0608	127595	0.85	39.613	2.52	0.215
Pond 1	BASE	010Y004H	4.39	129.091	132.000	0.0542	129103	2.06	22.780	4.39	0.241
Pond 1	BASE	010Y008H	8.39	129.356	132.000	0.0588	130869	3.97	25.064	8.39	0.269

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Pond 1	BASE	010Y024H	24.22	129.845	132.000	0.0186	134366	11.97	8.093	24.22	0.316
Pond 1	BASE	010Y072H	72.14	130.119	132.000	0.0113	136250	59.89	5.250	72.14	0.339
Pond 1	BASE	010Y168H	168.14	130.290	132.000	0.0081	137365	159.89	3.872	168.14	0.352
Pond 1	BASE	010Y240H	216.31	130.466	132.000	0.0116	138519	183.89	5.361	216.31	0.366
Pond 1	BASE	025Y001R	1.56	128.805	132.000	0.0857	127215	0.64	55.328	1.56	0.205
Pond 1	BASE	025Y002H	2.52	129.033	132.000	0.0714	128719	0.85	45.538	2.52	0.234
Pond 1	BASE	025Y004H	4.39	129.310	132.000	0.0648	130550	2.06	27.311	4.39	0.265
Pond 1	BASE	025Y008H	8.39	129.653	132.000	0.0703	132990	3.97	30.194	8.39	0.298
Pond 1	BASE	025Y024H	24.22	130.209	132.000	0.0219	136838	11.97	9.629	24.22	0.346
Pond 1	BASE	025Y072H	72.14	130.546	132.000	0.0132	139040	59.89	6.179	72.14	0.372
Pond 1	BASE	025Y168H	168.22	130.856	132.000	0.0096	141062	159.89	4.674	168.22	0.394
Pond 1	BASE	025Y240H	216.31	130.937	132.000	0.0134	141597	183.89	6.215	216.31	0.400
Pond 1	BASE	050Y001R	1.56	128.913	132.000	0.0967	127930	0.64	62.709	1.56	0.219
Pond 1	BASE	050Y002H	2.54	129.189	132.000	0.0820	129752	0.85	53.500	2.54	0.252
Pond 1	BASE	050Y004H	4.45	129.515	132.000	0.0605	132004	2.01	31.634	4.45	0.285
Pond 1	BASE	050Y008H	8.39	129.887	132.000	0.0792	134661	3.97	34.228	8.39	0.319
Pond 1	BASE	050Y024H	24.22	130.510	132.000	0.0247	138805	11.97	10.902	24.22	0.369
Pond 1	BASE	050Y072H	71.97	131.030	132.000	0.0153	142842	59.89	7.290	71.97	0.649
Pond 1	BASE	050Y168H	160.22	131.145	132.000	0.0108	145978	159.89	5.327	160.22	2.928
Pond 1	BASE	050Y240H	192.06	131.069	132.000	0.0151	143899	183.89	7.066	192.06	1.236
Pond 1	BASE	100Y001R	1.52	129.040	132.000	0.0980	128765	0.67	71.432	1.52	0.235
Pond 1	BASE	100Y002H	2.51	129.347	132.000	0.0926	130798	0.85	60.484	2.51	0.268
Pond 1	BASE	100Y004H	4.40	129.687	132.000	0.0671	133236	2.01	35.249	4.40	0.301
Pond 1	BASE	100Y008H	8.39	130.104	132.000	0.0874	136149	3.97	37.979	8.39	0.337
Pond 1	BASE	100Y024H	24.22	130.809	132.000	0.0274	140758	11.97	12.171	24.22	0.391
Pond 1	BASE	100Y072H	64.06	131.181	132.000	0.0172	146986	59.89	8.274	64.06	3.943
Pond 1	BASE	100Y168H	159.97	131.242	132.000	0.0121	148646	159.89	6.052	159.97	5.831
Pond 1	BASE	100Y240H	184.14	131.214	132.000	0.0165	147885	183.89	7.831	184.14	4.934
Pond 1	BASE	I-410024	23.31	130.795	132.000	0.0566	140668	8.98	25.040	23.31	0.390
Pond 1	BASE	I-410072	72.25	130.825	132.000	0.0974	140863	59.97	60.264	72.25	0.392
Pond 1	BASE	I-42524	23.23	130.195	132.000	0.0455	136747	8.98	19.848	23.23	0.345
Pond 1	BASE	I-42572	72.26	130.508	132.000	0.0973	138792	60.00	54.603	72.26	0.369
Pond 2	BASE	002Y001R	1.47	128.841	132.500	0.0368	117245	0.64	22.003	1.47	0.158
Pond 2	BASE	002Y002R	2.47	128.947	132.500	0.0312	117924	0.85	19.020	2.47	0.222
Pond 2	BASE	002Y004H	4.31	129.033	132.500	0.0268	118475	2.06	10.518	4.31	0.254
Pond 2	BASE	002Y008H	8.22	129.129	132.500	0.0283	119089	3.97	11.257	8.22	0.285
Pond 2	BASE	002Y024H	24.06	129.286	132.500	0.0084	120270	11.97	3.460	24.06	0.330
Pond 2	BASE	002Y072H	68.14	129.361	132.500	0.0051	120868	59.97	2.325	68.14	0.350
Pond 2	BASE	002Y168H	160.72	129.368	132.500	0.0038	120925	159.89	1.798	160.72	0.352
Pond 2	BASE	002Y240H	192.22	129.385	132.500	0.0053	121058	183.89	2.352	192.22	0.356
Pond 2	BASE	005Y001R	1.47	128.962	132.500	0.0494	118023	0.64	29.810	1.47	0.228
Pond 2	BASE	005Y002H	2.44	129.082	132.500	0.0405	118792	0.85	24.693	2.44	0.271
Pond 2	BASE	005Y004H	4.31	129.215	132.500	0.0357	119711	2.06	14.058	4.31	0.311
Pond 2	BASE	005Y008H	8.22	129.366	132.500	0.0378	120909	3.97	15.149	8.22	0.351
Pond 2	BASE	005Y024H	24.06	129.597	132.500	0.0114	122641	11.97	4.736	24.06	0.405
Pond 2	BASE	005Y072H	68.22	129.670	132.500	0.0068	123150	59.89	3.049	68.22	0.421
Pond 2	BASE	005Y168H	167.97	129.624	132.500	0.0049	122830	159.89	2.298	167.97	0.411
Pond 2	BASE	005Y240H	192.31	129.670	132.500	0.0071	123156	183.89	3.114	192.31	0.421
Pond 2	BASE	010Y001R	1.46	129.030	132.500	0.0563	118458	0.64	34.145	1.46	0.253
Pond 2	BASE	010Y002H	2.44	129.197	132.500	0.0483	119568	0.85	29.462	2.44	0.306
Pond 2	BASE	010Y004H	4.31	129.354	132.500	0.0423	120809	2.06	16.719	4.31	0.348
Pond 2	BASE	010Y008H	8.22	129.538	132.500	0.0445	122231	3.97	17.915	8.22	0.392
Pond 2	BASE	010Y024H	24.06	129.846	132.500	0.0137	124377	11.97	5.741	24.06	0.456
Pond 2	BASE	010Y072H	68.22	129.928	132.500	0.0080	124950	59.89	3.642	68.22	0.472
Pond 2	BASE	010Y168H	168.06	129.836	132.500	0.0057	124309	159.89	2.671	168.06	0.454
Pond 2	BASE	010Y240H	192.47	129.896	132.500	0.0085	124730	183.89	3.698	192.47	0.466
Pond 2	BASE	025Y001R	1.50	129.145	132.500	0.0678	119196	0.64	41.442	1.50	0.290

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Pond 2	BASE	025Y002H	2.43	129.313	132.500	0.0560	120487	0.85	34.247	2.43	0.338
Pond 2	BASE	025Y004H	4.31	129.516	132.500	0.0500	122080	2.06	19.821	4.31	0.387
Pond 2	BASE	025Y008H	8.31	129.755	132.500	0.0529	123748	3.97	21.400	8.31	0.438
Pond 2	BASE	025Y024H	24.14	130.106	132.500	0.0161	126190	11.97	6.783	24.14	0.504
Pond 2	BASE	025Y072H	68.31	130.207	132.500	0.0094	126898	59.89	4.275	68.31	0.521
Pond 2	BASE	025Y168H	168.06	130.164	132.500	0.0069	126598	159.89	3.217	168.06	0.514
Pond 2	BASE	025Y240H	215.97	130.133	132.500	0.0098	126379	183.89	4.280	215.97	0.508
Pond 2	BASE	050Y001R	1.50	129.227	132.500	0.0759	119803	0.64	46.587	1.50	0.314
Pond 2	BASE	050Y002H	2.46	129.430	132.500	0.0638	121410	0.85	39.037	2.46	0.367
Pond 2	BASE	050Y004H	4.28	129.668	132.500	0.0462	123136	2.01	22.844	4.28	0.420
Pond 2	BASE	050Y008H	8.31	129.927	132.500	0.0593	124945	3.97	24.138	8.31	0.471
Pond 2	BASE	050Y024H	24.14	130.322	132.500	0.0181	127698	11.97	7.648	24.14	0.540
Pond 2	BASE	050Y072H	68.31	130.544	132.500	0.0110	129253	59.89	5.031	68.31	0.575
Pond 2	BASE	050Y168H	168.06	130.442	132.500	0.0078	128531	159.89	3.663	168.06	0.559
Pond 2	BASE	050Y240H	216.06	130.397	132.500	0.0111	128218	183.89	4.861	216.06	0.552
Pond 2	BASE	100Y001R	1.46	129.321	132.500	0.0786	120554	0.62	52.529	1.46	0.340
Pond 2	BASE	100Y002H	2.43	129.546	132.500	0.0715	122290	0.85	43.827	2.43	0.394
Pond 2	BASE	100Y004H	4.31	129.795	132.500	0.0510	124024	2.01	25.307	4.31	0.446
Pond 2	BASE	100Y008H	8.31	130.087	132.500	0.0652	126058	3.97	26.684	8.31	0.500
Pond 2	BASE	100Y024H	24.14	130.538	132.500	0.0200	129208	11.97	8.509	24.14	0.574
Pond 2	BASE	100Y072H	68.39	130.847	132.500	0.0124	131432	59.89	5.702	68.39	0.618
Pond 2	BASE	100Y168H	168.06	130.756	132.500	0.0088	130776	159.89	4.158	168.06	0.606
Pond 2	BASE	100Y240H	216.06	130.642	132.500	0.0123	129960	183.89	5.383	216.06	0.589
Pond 2	BASE	I-410024	20.15	130.524	132.500	0.0419	129112	8.98	17.477	20.15	0.572
Pond 2	BASE	I-410072	72.09	130.506	132.500	0.0723	128981	59.97	41.850	72.09	0.569
Pond 2	BASE	I-42524	19.15	130.093	132.500	0.0338	126102	8.98	13.953	19.15	0.502
Pond 2	BASE	I-42572	72.10	130.287	132.500	0.0723	127453	60.00	38.000	72.10	0.534
SwaleEB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.158	0.00	0.000
SwaleEB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.47	0.222	0.00	0.000
SwaleEB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.254	0.00	0.000
SwaleEB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.285	0.00	0.000
SwaleEB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.330	0.00	0.000
SwaleEB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	68.14	0.350	0.00	0.000
SwaleEB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	160.72	0.352	0.00	0.000
SwaleEB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	192.22	0.356	0.00	0.000
SwaleEB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.47	0.228	0.00	0.000
SwaleEB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.271	0.00	0.000
SwaleEB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.311	0.00	0.000
SwaleEB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.351	0.00	0.000
SwaleEB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.405	0.00	0.000
SwaleEB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.421	0.00	0.000
SwaleEB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	167.97	0.411	0.00	0.000
SwaleEB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	192.31	0.421	0.00	0.000
SwaleEB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.253	0.00	0.000
SwaleEB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.44	0.306	0.00	0.000
SwaleEB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.348	0.00	0.000
SwaleEB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.22	0.392	0.00	0.000
SwaleEB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.06	0.456	0.00	0.000
SwaleEB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	68.22	0.472	0.00	0.000
SwaleEB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.454	0.00	0.000
SwaleEB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	192.47	0.466	0.00	0.000
SwaleEB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.290	0.00	0.000
SwaleEB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.338	0.00	0.000
SwaleEB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.387	0.00	0.000
SwaleEB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.438	0.00	0.000
SwaleEB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.504	0.00	0.000
SwaleEB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	68.31	0.521	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SwaleEB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.514	0.00	0.000
SwaleEB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	215.97	0.508	0.00	0.000
SwaleEB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.50	0.314	0.00	0.000
SwaleEB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.46	0.367	0.00	0.000
SwaleEB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.28	0.420	0.00	0.000
SwaleEB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.471	0.00	0.000
SwaleEB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.540	0.00	0.000
SwaleEB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	68.31	0.575	0.00	0.000
SwaleEB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.559	0.00	0.000
SwaleEB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.552	0.00	0.000
SwaleEB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.46	0.340	0.00	0.000
SwaleEB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.43	0.394	0.00	0.000
SwaleEB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.31	0.446	0.00	0.000
SwaleEB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.31	0.500	0.00	0.000
SwaleEB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	24.14	0.574	0.00	0.000
SwaleEB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	68.39	0.618	0.00	0.000
SwaleEB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	168.06	0.606	0.00	0.000
SwaleEB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	216.06	0.589	0.00	0.000
SwaleEB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	20.15	0.572	0.00	0.000
SwaleEB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	72.09	0.569	0.00	0.000
SwaleEB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	19.15	0.502	0.00	0.000
SwaleEB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.10	0.534	0.00	0.000
SwaleWB	BASE	002Y001R	0.00	128.000	131.000	0.0000	0	1.54	0.142	0.00	0.000
SwaleWB	BASE	002Y002R	0.00	128.000	131.000	0.0000	0	2.56	0.167	0.00	0.000
SwaleWB	BASE	002Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.185	0.00	0.000
SwaleWB	BASE	002Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.205	0.00	0.000
SwaleWB	BASE	002Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.237	0.00	0.000
SwaleWB	BASE	002Y072H	0.00	128.000	131.000	0.0000	0	72.06	0.257	0.00	0.000
SwaleWB	BASE	002Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.274	0.00	0.000
SwaleWB	BASE	002Y240H	0.00	128.000	131.000	0.0000	0	216.22	0.274	0.00	0.000
SwaleWB	BASE	005Y001R	0.00	128.000	131.000	0.0000	0	1.54	0.170	0.00	0.000
SwaleWB	BASE	005Y002H	0.00	128.000	131.000	0.0000	0	2.53	0.194	0.00	0.000
SwaleWB	BASE	005Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.218	0.00	0.000
SwaleWB	BASE	005Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.244	0.00	0.000
SwaleWB	BASE	005Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.283	0.00	0.000
SwaleWB	BASE	005Y072H	0.00	128.000	131.000	0.0000	0	72.06	0.304	0.00	0.000
SwaleWB	BASE	005Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.321	0.00	0.000
SwaleWB	BASE	005Y240H	0.00	128.000	131.000	0.0000	0	216.22	0.329	0.00	0.000
SwaleWB	BASE	010Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.184	0.00	0.000
SwaleWB	BASE	010Y002H	0.00	128.000	131.000	0.0000	0	2.52	0.215	0.00	0.000
SwaleWB	BASE	010Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.241	0.00	0.000
SwaleWB	BASE	010Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.269	0.00	0.000
SwaleWB	BASE	010Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.316	0.00	0.000
SwaleWB	BASE	010Y072H	0.00	128.000	131.000	0.0000	0	72.14	0.339	0.00	0.000
SwaleWB	BASE	010Y168H	0.00	128.000	131.000	0.0000	0	168.14	0.352	0.00	0.000
SwaleWB	BASE	010Y240H	0.00	128.000	131.000	0.0000	0	216.31	0.366	0.00	0.000
SwaleWB	BASE	025Y001R	0.00	128.000	131.000	0.0000	0	1.56	0.205	0.00	0.000
SwaleWB	BASE	025Y002H	0.00	128.000	131.000	0.0000	0	2.52	0.234	0.00	0.000
SwaleWB	BASE	025Y004H	0.00	128.000	131.000	0.0000	0	4.39	0.265	0.00	0.000
SwaleWB	BASE	025Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.298	0.00	0.000
SwaleWB	BASE	025Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.346	0.00	0.000
SwaleWB	BASE	025Y072H	0.00	128.000	131.000	0.0000	0	72.14	0.372	0.00	0.000
SwaleWB	BASE	025Y168H	0.00	128.000	131.000	0.0000	0	168.22	0.394	0.00	0.000
SwaleWB	BASE	025Y240H	0.00	128.000	131.000	0.0000	0	216.31	0.400	0.00	0.000
SwaleWB	BASE	050Y001R	0.00	128.000	131.000	0.0000	0	1.56	0.219	0.00	0.000
SwaleWB	BASE	050Y002H	0.00	128.000	131.000	0.0000	0	2.54	0.252	0.00	0.000
SwaleWB	BASE	050Y004H	0.00	128.000	131.000	0.0000	0	4.45	0.285	0.00	0.000

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
SwaleWB	BASE	050Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.319	0.00	0.000
SwaleWB	BASE	050Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.369	0.00	0.000
SwaleWB	BASE	050Y072H	0.00	128.000	131.000	0.0000	0	71.97	0.649	0.00	0.000
SwaleWB	BASE	050Y168H	0.00	128.000	131.000	0.0000	0	160.22	2.928	0.00	0.000
SwaleWB	BASE	050Y240H	0.00	128.000	131.000	0.0000	0	192.06	1.236	0.00	0.000
SwaleWB	BASE	100Y001R	0.00	128.000	131.000	0.0000	0	1.52	0.235	0.00	0.000
SwaleWB	BASE	100Y002H	0.00	128.000	131.000	0.0000	0	2.51	0.268	0.00	0.000
SwaleWB	BASE	100Y004H	0.00	128.000	131.000	0.0000	0	4.40	0.301	0.00	0.000
SwaleWB	BASE	100Y008H	0.00	128.000	131.000	0.0000	0	8.39	0.337	0.00	0.000
SwaleWB	BASE	100Y024H	0.00	128.000	131.000	0.0000	0	24.22	0.391	0.00	0.000
SwaleWB	BASE	100Y072H	0.00	128.000	131.000	0.0000	0	64.06	3.943	0.00	0.000
SwaleWB	BASE	100Y168H	0.00	128.000	131.000	0.0000	0	159.97	5.831	0.00	0.000
SwaleWB	BASE	100Y240H	0.00	128.000	131.000	0.0000	0	184.14	4.934	0.00	0.000
SwaleWB	BASE	I-410024	0.00	128.000	131.000	0.0000	0	23.31	0.390	0.00	0.000
SwaleWB	BASE	I-410072	0.00	128.000	131.000	0.0000	0	72.25	0.392	0.00	0.000
SwaleWB	BASE	I-42524	0.00	128.000	131.000	0.0000	0	23.23	0.345	0.00	0.000
SwaleWB	BASE	I-42572	0.00	128.000	131.000	0.0000	0	72.26	0.369	0.00	0.000

Name	Simulation	Max Time Stage	Max Stage	Max Time Inflow	Max Inflow	Max Time Outflow	Max Outflow
		hrs	ft	hrs	cfs	hrs	cfs
ExPond1WB	002Y001R	1.47	128.276	0.69	20.617	1.47	0.166
ExPond1WB	002Y002R	2.47	128.389	0.85	18.287	2.47	0.231
ExPond1WB	002Y004H	4.31	128.484	2.47	11.038	4.31	0.265
ExPond1WB	002Y008H	8.31	128.596	3.97	12.541	8.31	0.300
ExPond1WB	002Y024H	24.14	128.793	11.97	3.95	24.14	0.353
ExPond1WB	002Y072H	68.22	128.915	59.97	3.011	68.22	0.382
ExPond1WB	002Y168H	168.06	128.991	159.89	2.421	168.06	0.399
ExPond1WB	002Y240H	192.47	128.996	183.97	3.153	192.47	0.400
ExPond1WB	005Y001R	1.47	128.405	0.69	29.906	1.47	0.237
ExPond1WB	005Y002H	2.44	128.539	0.85	25.513	2.44	0.282
ExPond1WB	005Y004H	4.31	128.692	2.47	15.229	4.31	0.327
ExPond1WB	005Y008H	8.31	128.873	3.97	17.96	8.31	0.372
ExPond1WB	005Y024H	24.14	129.171	11.97	5.748	24.14	0.436
ExPond1WB	005Y072H	68.31	129.31	59.97	4.06	68.31	0.463
ExPond1WB	005Y168H	168.06	129.35	159.89	3.143	168.06	0.470
ExPond1WB	005Y240H	216.06	129.408	183.97	4.252	216.06	0.481
ExPond1WB	010Y001R	1.52	128.48	0.69	35.207	1.52	0.263
ExPond1WB	010Y002H	2.44	128.67	0.85	31.788	2.44	0.321
ExPond1WB	010Y004H	4.31	128.853	2.06	18.759	4.31	0.368
ExPond1WB	010Y008H	8.31	129.078	3.97	21.884	8.31	0.417
ExPond1WB	010Y024H	24.14	129.478	11.97	7.187	24.14	0.493
ExPond1WB	010Y072H	68.39	129.643	59.97	4.918	68.39	0.521
ExPond1WB	010Y168H	168.06	129.644	159.89	3.681	168.06	0.522
ExPond1WB	010Y240H	216.06	129.739	183.81	5.095	216.06	0.537
ExPond1WB	025Y001R	1.5	128.609	0.69	44.299	1.5	0.304
ExPond1WB	025Y002H	2.52	128.804	0.85	38.219	2.52	0.356
ExPond1WB	025Y004H	4.31	129.046	2.06	23.056	4.31	0.411
ExPond1WB	025Y008H	8.31	129.342	3.97	26.878	8.31	0.469
ExPond1WB	025Y024H	24.14	129.802	11.97	8.69	24.14	0.547
ExPond1WB	025Y072H	68.47	130.002	59.97	5.831	68.47	0.578
ExPond1WB	025Y168H	168.14	130.092	159.89	4.465	168.14	0.591
ExPond1WB	025Y240H	216.14	130.096	183.81	5.931	216.14	0.592
ExPond1WB	050Y001R	1.5	128.703	0.69	50.809	1.5	0.330
ExPond1WB	050Y002H	2.49	128.942	0.85	44.761	2.49	0.388
ExPond1WB	050Y004H	4.36	129.229	2.07	27.127	4.36	0.447
ExPond1WB	050Y008H	8.31	129.551	3.97	30.822	8.31	0.506
ExPond1WB	050Y024H	24.14	130.072	11.97	9.94	24.14	0.588
ExPond1WB	050Y072H	64.22	130.31	59.89	6.92	64.22	2.490
ExPond1WB	050Y168H	160.14	130.338	159.89	5.104	160.14	3.191
ExPond1WB	050Y240H	191.97	130.25	183.72	6.764	191.97	1.259
ExPond1WB	100Y001R	1.52	128.813	0.67	59.439	1.52	0.358
ExPond1WB	100Y002H	2.51	129.081	0.85	51.38	2.51	0.418
ExPond1WB	100Y004H	4.31	129.383	2.07	30.545	4.31	0.476
ExPond1WB	100Y008H	8.31	129.747	3.97	34.5	8.31	0.538
ExPond1WB	100Y024H	22.14	130.278	11.97	11.187	22.14	1.787
ExPond1WB	100Y072H	63.97	130.382	59.89	7.885	63.97	4.419
ExPond1WB	100Y168H	159.97	130.42	159.89	5.812	159.97	5.574
ExPond1WB	100Y240H	184.14	130.399	183.72	7.51	184.14	4.923
ExPond1WB	I-410024	15.23	130.248	8.98	23.109	15.23	1.230

Street 'B' I-(Overpass

Name	Simulation	Max Time Stage	Max Stage	Max Time Inflow	Max Inflow	Max Time Outflow	Max Outflow
		hrs	ft	hrs	cfs	hrs	cfs
ExPond1WB	I-410072	68.17	130.254	59.97	56.308	68.17	1.328
ExPond1WB	I-42524	20.23	129.781	8.98	18.006	20.23	0.544
ExPond1WB	I-42572	72.18	130.055	60	50.751	72.18	0.586
ExPond2EB	002Y001R	1.47	128.852	0.69	20.899	1.47	0.159
ExPond2EB	002Y002R	2.47	128.97	0.85	18.241	2.47	0.227
ExPond2EB	002Y004H	4.31	129.067	2.06	10.194	4.31	0.262
ExPond2EB	002Y008H	8.22	129.174	3.97	11.237	8.22	0.296
ExPond2EB	002Y024H	24.06	129.353	11.97	3.477	24.06	0.345
ExPond2EB	002Y072H	68.14	129.444	59.97	2.413	68.14	0.368
ExPond2EB	002Y168H	160.64	129.462	159.89	1.884	160.64	0.372
ExPond2EB	002Y240H	192.22	129.487	183.81	2.462	192.22	0.378
ExPond2EB	005Y001R	1.47	128.987	0.64	28.662	1.47	0.234
ExPond2EB	005Y002H	2.44	129.122	0.85	24.136	2.44	0.280
ExPond2EB	005Y004H	4.31	129.272	2.06	13.907	4.31	0.324
ExPond2EB	005Y008H	8.22	129.444	3.97	15.372	8.22	0.368
ExPond2EB	005Y024H	24.06	129.708	11.97	4.836	24.06	0.426
ExPond2EB	005Y072H	68.22	129.797	59.97	3.187	68.22	0.444
ExPond2EB	005Y168H	167.97	129.753	159.89	2.417	167.97	0.436
ExPond2EB	005Y240H	192.31	129.814	183.89	3.274	192.31	0.448
ExPond2EB	010Y001R	1.46	129.063	0.64	33.14	1.46	0.261
ExPond2EB	010Y002H	2.44	129.252	0.85	29.131	2.44	0.318
ExPond2EB	010Y004H	4.31	129.43	2.06	16.719	4.31	0.364
ExPond2EB	010Y008H	8.22	129.64	3.97	18.322	8.22	0.412
ExPond2EB	010Y024H	24.06	129.993	11.97	5.909	24.06	0.482
ExPond2EB	010Y072H	68.22	130.092	59.89	3.82	68.22	0.500
ExPond2EB	010Y168H	168.06	129.996	159.89	2.815	168.06	0.482
ExPond2EB	010Y240H	192.39	130.072	183.89	3.896	192.39	0.496
ExPond2EB	025Y001R	1.5	129.193	0.64	40.727	1.5	0.302
ExPond2EB	025Y002H	2.43	129.383	0.85	34.168	2.43	0.353
ExPond2EB	025Y004H	4.31	129.615	2.06	20.011	4.31	0.407
ExPond2EB	025Y008H	8.31	129.889	3.97	22.043	8.31	0.462
ExPond2EB	025Y024H	24.14	130.291	11.97	7.023	24.14	0.533
ExPond2EB	025Y072H	68.22	130.411	59.89	4.494	68.22	0.553
ExPond2EB	025Y168H	168.06	130.37	159.89	3.396	168.06	0.546
ExPond2EB	025Y240H	215.97	130.339	183.72	4.517	215.97	0.541
ExPond2EB	050Y001R	1.5	129.285	0.64	46.103	1.5	0.328
ExPond2EB	050Y002H	2.49	129.516	0.85	39.229	2.49	0.385
ExPond2EB	050Y004H	4.28	129.788	2.01	23.16	4.28	0.443
ExPond2EB	050Y008H	8.31	130.085	3.97	24.968	8.31	0.498
ExPond2EB	050Y024H	24.14	130.538	11.97	7.946	24.14	0.573
ExPond2EB	050Y072H	64.47	130.73	59.89	5.3	64.47	1.253
ExPond2EB	050Y168H	168.06	130.682	159.89	3.871	168.06	0.655
ExPond2EB	050Y240H	216.06	130.64	183.89	5.135	216.06	0.588
ExPond2EB	100Y001R	1.46	129.393	0.67	52.406	1.46	0.355
ExPond2EB	100Y002H	2.43	129.649	0.85	44.303	2.43	0.414
ExPond2EB	100Y004H	4.31	129.934	2.01	25.784	4.31	0.471
ExPond2EB	100Y008H	8.31	130.268	3.97	27.688	8.31	0.530
ExPond2EB	100Y024H	22.14	130.738	11.97	8.866	22.14	1.397

Street 'B' I-(Overpass

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
ExPond2EB	100Y072H	64.06	130.825	59.89	6.014	64.06	3.292
ExPond2EB	100Y168H	160.06	130.842	159.89	4.397	160.06	3.726
ExPond2EB	100Y240H	184.39	130.748	183.72	5.689	184.39	1.569
ExPond2EB	I-410024	15.06	130.72	8.98	18.237	15.06	1.105
ExPond2EB	I-410072	68.25	130.71	59.97	43.855	68.25	0.966
ExPond2EB	I-42524	19.15	130.275	8.98	14.472	19.15	0.531
ExPond2EB	I-42572	72.1	130.504	60	39.749	72.1	0.567

Street 'B' I- Overpass

2008
2:00 PM

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs	Qpre	Δ Q	Remarks
Pond1WB	002Y001R	1.54	128.40	0.69	28.231	1.54	0.142	0.166	0.02	OK!!!
Pond1WB	002Y002R	2.56	128.55	0.85	24.67	2.56	0.167	0.231	0.06	OK!!!
Pond1WB	002Y004H	4.39	128.66	2.06	13.811	4.39	0.185	0.265	0.08	OK!!!
Pond1WB	002Y008H	8.39	128.80	3.97	15.306	8.39	0.205	0.300	0.10	OK!!!
Pond1WB	002Y024H	24.22	129.06	11.97	4.741	24.22	0.237	0.353	0.12	OK!!!
Pond1WB	002Y072H	72.06	129.24	59.97	3.311	72.06	0.257	0.382	0.13	OK!!!
Pond1WB	002Y168H	168.14	129.40	159.89	2.589	168.14	0.274	0.399	0.13	OK!!!
Pond1WB	002Y240H	216.22	129.41	183.81	3.383	216.22	0.274	0.400	0.13	OK!!!
Pond1WB	005Y001R	1.55	128.56	0.64	38.785	1.55	0.170	0.237	0.07	OK!!!
Pond1WB	005Y002H	2.56	128.73	0.85	32.753	2.56	0.194	0.282	0.09	OK!!!
Pond1WB	005Y004H	4.39	128.91	2.06	18.911	4.39	0.218	0.327	0.11	OK!!!
Pond1WB	005Y008H	8.39	129.12	3.97	21	8.39	0.244	0.372	0.13	OK!!!
Pond1WB	005Y024H	24.22	129.50	11.97	6.613	24.22	0.283	0.436	0.15	OK!!!
Pond1WB	005Y072H	72.06	129.72	59.97	4.377	72.06	0.304	0.463	0.16	OK!!!
Pond1WB	005Y168H	168.14	129.91	159.89	3.324	168.14	0.321	0.470	0.15	OK!!!
Pond1WB	005Y240H	216.22	130.00	183.72	4.504	216.22	0.329	0.481	0.15	OK!!!
Pond1WB	010Y001R	1.52	128.65	0.64	44.921	1.52	0.184	0.263	0.08	OK!!!
Pond1WB	010Y002H	2.52	128.88	0.85	39.613	2.52	0.215	0.321	0.11	OK!!!
Pond1WB	010Y004H	4.39	129.09	2.06	22.78	4.39	0.241	0.368	0.13	OK!!!
Pond1WB	010Y008H	8.39	129.36	3.97	25.064	8.39	0.269	0.417	0.15	OK!!!
Pond1WB	010Y024H	24.22	129.85	11.97	8.093	24.22	0.316	0.493	0.18	OK!!!
Pond1WB	010Y072H	72.14	130.12	59.89	5.25	72.14	0.339	0.521	0.18	OK!!!
Pond1WB	010Y168H	168.14	130.29	159.89	3.872	168.14	0.352	0.522	0.17	OK!!!
Pond1WB	010Y240H	216.31	130.47	183.89	5.361	216.31	0.366	0.537	0.17	OK!!!
Pond1WB	025Y001R	1.56	128.81	0.64	55.328	1.56	0.205	0.304	0.10	OK!!!
Pond1WB	025Y002H	2.52	129.03	0.85	46.538	2.52	0.234	0.356	0.12	OK!!!
Pond1WB	025Y004H	4.39	129.31	2.06	27.311	4.39	0.265	0.411	0.15	OK!!!
Pond1WB	025Y008H	8.39	129.65	3.97	30.194	8.39	0.298	0.469	0.17	OK!!!
Pond1WB	025Y024H	24.22	130.21	11.97	9.629	24.22	0.346	0.547	0.20	OK!!!
Pond1WB	025Y072H	72.14	130.55	59.89	6.179	72.14	0.372	0.578	0.21	OK!!!
Pond1WB	025Y168H	168.22	130.86	159.89	4.674	168.22	0.394	0.591	0.20	OK!!!
Pond1WB	025Y240H	216.31	130.94	183.72	6.215	216.31	0.400	0.592	0.19	OK!!!
Pond1WB	050Y001R	1.56	128.91	0.64	62.709	1.56	0.219	0.330	0.11	OK!!!
Pond1WB	050Y002H	2.54	129.19	0.85	53.5	2.54	0.252	0.388	0.14	OK!!!
Pond1WB	050Y004H	4.45	129.52	2.01	31.634	4.45	0.285	0.447	0.16	OK!!!
Pond1WB	050Y008H	8.39	129.89	3.97	34.228	8.39	0.319	0.506	0.19	OK!!!
Pond1WB	050Y024H	24.22	130.51	11.97	10.902	24.22	0.369	0.588	0.22	OK!!!
Pond1WB	050Y072H	71.97	131.03	59.89	7.29	71.97	0.649	2.490	1.84	OK!!!
Pond1WB	050Y168H	160.22	131.15	159.89	5.327	160.22	2.928	3.191	0.26	OK!!!
Pond1WB	050Y240H	192.06	131.07	183.89	7.066	192.06	1.236	1.259	0.02	OK!!!
Pond1WB	100Y001R	1.52	129.04	0.67	71.432	1.52	0.235	0.358	0.12	OK!!!
Pond1WB	100Y002H	2.51	129.35	0.85	60.484	2.51	0.268	0.418	0.15	OK!!!
Pond1WB	100Y004H	4.4	129.69	2.01	35.249	4.4	0.301	0.476	0.18	OK!!!
Pond1WB	100Y008H	8.39	130.10	3.97	37.979	8.39	0.337	0.538	0.20	OK!!!
Pond1WB	100Y024H	24.22	130.81	11.97	12.171	24.22	0.391	1.787	1.40	OK!!!
Pond1WB	100Y072H	64.06	131.18	59.89	8.274	64.06	3.943	4.419	0.48	OK!!!
Pond1WB	100Y168H	159.97	131.24	159.89	6.052	159.97	5.831	5.574	-0.26	Qpre is exceeded!!!
Pond1WB	100Y240H	184.14	131.21	183.89	7.831	184.14	4.934	4.923	-0.01	Qpre is exceeded!!!

Street 'B' I-[illegible] Overpass

[illegible]2008
2:[illegible]0 PM

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs			
Pond1WB	I-410024	23.31	130.80	8.98	25.04	23.31	0.390	1.230	0.84	OK!!!
Pond1WB	I-410072	72.25	130.83	59.97	60.264	72.25	0.392	1.328	0.94	OK!!!
Pond1WB	I-42524	23.23	130.20	8.98	19.848	23.23	0.345	0.544	0.20	OK!!!
Pond1WB	I-42572	72.26	130.51	60	54.603	72.26	0.369	0.586	0.22	OK!!!
								Qpre	Δ Q	Remarks
Pond2EB	002Y001R	1.47	128.84	0.64	22.003	1.47	0.158	0.159	0.00	OK!!!
Pond2EB	002Y002R	2.47	128.95	0.85	19.02	2.47	0.222	0.227	0.01	OK!!!
Pond2EB	002Y004H	4.31	129.03	2.06	10.518	4.31	0.254	0.262	0.01	OK!!!
Pond2EB	002Y008H	8.22	129.13	3.97	11.257	8.22	0.285	0.296	0.01	OK!!!
Pond2EB	002Y024H	24.06	129.29	11.97	3.46	24.06	0.330	0.345	0.02	OK!!!
Pond2EB	002Y072H	68.14	129.36	59.97	2.325	68.14	0.350	0.368	0.02	OK!!!
Pond2EB	002Y168H	160.72	129.37	159.89	1.798	160.72	0.352	0.372	0.02	OK!!!
Pond2EB	002Y240H	192.22	129.39	183.89	2.352	192.22	0.356	0.378	0.02	OK!!!
Pond2EB	005Y001R	1.47	128.96	0.64	29.81	1.47	0.228	0.234	0.01	OK!!!
Pond2EB	005Y002H	2.44	129.08	0.85	24.693	2.44	0.271	0.280	0.01	OK!!!
Pond2EB	005Y004H	4.31	129.22	2.06	14.058	4.31	0.311	0.324	0.01	OK!!!
Pond2EB	005Y008H	8.22	129.37	3.97	15.149	8.22	0.351	0.368	0.02	OK!!!
Pond2EB	005Y024H	24.06	129.60	11.97	4.736	24.06	0.405	0.426	0.02	OK!!!
Pond2EB	005Y072H	68.22	129.67	59.89	3.049	68.22	0.421	0.444	0.02	OK!!!
Pond2EB	005Y168H	167.97	129.62	159.89	2.298	167.97	0.411	0.436	0.03	OK!!!
Pond2EB	005Y240H	192.31	129.67	183.89	3.114	192.31	0.421	0.448	0.03	OK!!!
Pond2EB	010Y001R	1.46	129.03	0.64	34.145	1.46	0.253	0.261	0.01	OK!!!
Pond2EB	010Y002H	2.44	129.20	0.85	29.462	2.44	0.306	0.318	0.01	OK!!!
Pond2EB	010Y004H	4.31	129.35	2.06	16.719	4.31	0.348	0.364	0.02	OK!!!
Pond2EB	010Y008H	8.22	129.54	3.97	17.915	8.22	0.392	0.412	0.02	OK!!!
Pond2EB	010Y024H	24.06	129.85	11.97	5.741	24.06	0.456	0.482	0.03	OK!!!
Pond2EB	010Y072H	68.22	129.93	59.89	3.642	68.22	0.472	0.500	0.03	OK!!!
Pond2EB	010Y168H	168.06	129.84	159.89	2.671	168.06	0.454	0.482	0.03	OK!!!
Pond2EB	010Y240H	192.47	129.90	183.89	3.698	192.47	0.466	0.496	0.03	OK!!!
Pond2EB	025Y001R	1.5	129.15	0.64	41.442	1.5	0.290	0.302	0.01	OK!!!
Pond2EB	025Y002H	2.43	129.31	0.85	34.247	2.43	0.338	0.353	0.02	OK!!!
Pond2EB	025Y004H	4.31	129.52	2.06	19.821	4.31	0.387	0.407	0.02	OK!!!
Pond2EB	025Y008H	8.31	129.76	3.97	21.4	8.31	0.438	0.462	0.02	OK!!!
Pond2EB	025Y024H	24.14	130.11	11.97	6.783	24.14	0.504	0.533	0.03	OK!!!
Pond2EB	025Y072H	68.31	130.21	59.89	4.275	68.31	0.521	0.553	0.03	OK!!!
Pond2EB	025Y168H	168.06	130.16	159.89	3.217	168.06	0.514	0.546	0.03	OK!!!
Pond2EB	025Y240H	215.97	130.13	183.89	4.28	215.97	0.508	0.541	0.03	OK!!!
Pond2EB	050Y001R	1.5	129.23	0.64	46.587	1.5	0.314	0.328	0.01	OK!!!
Pond2EB	050Y002H	2.46	129.43	0.85	39.037	2.46	0.367	0.385	0.02	OK!!!
Pond2EB	050Y004H	4.28	129.668	2.01	22.844	4.28	0.420	0.443	0.02	OK!!!
Pond2EB	050Y008H	8.31	129.927	3.97	24.138	8.31	0.471	0.498	0.03	OK!!!
Pond2EB	050Y024H	24.14	130.322	11.97	7.648	24.14	0.540	0.573	0.03	OK!!!
Pond2EB	050Y072H	68.31	130.544	59.89	5.031	68.31	0.575	1.253	0.68	OK!!!
Pond2EB	050Y168H	168.06	130.442	159.89	3.663	168.06	0.559	0.655	0.10	OK!!!
Pond2EB	050Y240H	216.06	130.397	183.89	4.861	216.06	0.552	0.588	0.04	OK!!!
Pond2EB	100Y001R	1.46	129.321	0.62	52.529	1.46	0.340	0.355	0.02	OK!!!
Pond2EB	100Y002H	2.43	129.546	0.85	43.827	2.43	0.394	0.414	0.02	OK!!!
Pond2EB	100Y004H	4.31	129.795	2.01	25.307	4.31	0.446	0.471	0.03	OK!!!
Pond2EB	100Y008H	8.31	130.087	3.97	26.684	8.31	0.500	0.530	0.03	OK!!!

Street 'B' I-(Overpass

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs			
Pond2EB	100Y024H	24.14	130.538	11.97	8.509	24.14	0.574	1.397	0.82	OK!!!
Pond2EB	100Y072H	68.39	130.847	59.89	5.702	68.39	0.618	3.292	2.67	OK!!!
Pond2EB	100Y168H	168.06	130.756	159.89	4.158	168.06	0.606	3.726	3.12	OK!!!
Pond2EB	100Y240H	216.06	130.642	183.89	5.383	216.06	0.589	1.569	0.98	OK!!!
Pond2EB	I-410024	20.15	130.524	8.98	17.477	20.15	0.572	1.105	0.53	OK!!!
Pond2EB	I-410072	72.09	130.506	59.97	41.85	72.09	0.569	0.966	0.40	OK!!!
Pond2EB	I-42524	19.15	130.093	8.98	13.953	19.15	0.502	0.531	0.03	OK!!!
Pond2EB	I-42572	72.1	130.287	60	38	72.1	0.534	0.567	0.03	OK!!!

Street 'B' I-(Overpass

2008
2:30 PM

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs

Design Storm	Pond1WB Δ Q	Pond2EB Δ Q	Total Discharge	Remark
002Y001R	0.02	0.00	0.03	Total discharge < Qpre & OK!
002Y002R	0.06	0.01	0.07	Total discharge < Qpre & OK!
002Y004H	0.08	0.01	0.09	Total discharge < Qpre & OK!
002Y008H	0.10	0.01	0.11	Total discharge < Qpre & OK!
002Y024H	0.12	0.02	0.13	Total discharge < Qpre & OK!
002Y072H	0.13	0.02	0.14	Total discharge < Qpre & OK!
002Y168H	0.13	0.02	0.15	Total discharge < Qpre & OK!
002Y240H	0.13	0.02	0.15	Total discharge < Qpre & OK!
005Y001R	0.07	0.01	0.07	Total discharge < Qpre & OK!
005Y002H	0.09	0.01	0.10	Total discharge < Qpre & OK!
005Y004H	0.11	0.01	0.12	Total discharge < Qpre & OK!
005Y008H	0.13	0.02	0.15	Total discharge < Qpre & OK!
005Y024H	0.15	0.02	0.17	Total discharge < Qpre & OK!
005Y072H	0.16	0.02	0.18	Total discharge < Qpre & OK!
005Y168H	0.15	0.03	0.17	Total discharge < Qpre & OK!
005Y240H	0.15	0.03	0.18	Total discharge < Qpre & OK!
010Y001R	0.08	0.01	0.09	Total discharge < Qpre & OK!
010Y002H	0.11	0.01	0.12	Total discharge < Qpre & OK!
010Y004H	0.13	0.02	0.14	Total discharge < Qpre & OK!
010Y008H	0.15	0.02	0.17	Total discharge < Qpre & OK!
010Y024H	0.18	0.03	0.20	Total discharge < Qpre & OK!
010Y072H	0.18	0.03	0.21	Total discharge < Qpre & OK!
010Y168H	0.17	0.03	0.20	Total discharge < Qpre & OK!
010Y240H	0.17	0.03	0.20	Total discharge < Qpre & OK!
025Y001R	0.10	0.01	0.11	Total discharge < Qpre & OK!
025Y002H	0.12	0.02	0.14	Total discharge < Qpre & OK!
025Y004H	0.15	0.02	0.17	Total discharge < Qpre & OK!
025Y008H	0.17	0.02	0.20	Total discharge < Qpre & OK!
025Y024H	0.20	0.03	0.23	Total discharge < Qpre & OK!
025Y072H	0.21	0.03	0.24	Total discharge < Qpre & OK!
025Y168H	0.20	0.03	0.23	Total discharge < Qpre & OK!
025Y240H	0.19	0.03	0.23	Total discharge < Qpre & OK!
050Y001R	0.11	0.01	0.13	Total discharge < Qpre & OK!
050Y002H	0.14	0.02	0.15	Total discharge < Qpre & OK!
050Y004H	0.16	0.02	0.19	Total discharge < Qpre & OK!
050Y008H	0.19	0.03	0.21	Total discharge < Qpre & OK!
050Y024H	0.22	0.03	0.25	Total discharge < Qpre & OK!
050Y072H	1.84	0.68	2.52	Total discharge < Qpre & OK!
050Y168H	0.26	0.10	0.36	Total discharge < Qpre & OK!
050Y240H	0.02	0.04	0.06	Total discharge < Qpre & OK!
100Y001R	0.12	0.02	0.14	Total discharge < Qpre & OK!
100Y002H	0.15	0.02	0.17	Total discharge < Qpre & OK!
100Y004H	0.18	0.03	0.20	Total discharge < Qpre & OK!
100Y008H	0.20	0.03	0.23	Total discharge < Qpre & OK!

Street 'B' I-(Overpass

Name	Simulation	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
100Y024H	1.40	0.82	2.22	Total discharge < Qpre & OK!			
100Y072H	0.48	2.67	3.15	Total discharge < Qpre & OK!			
100Y168H	(0.26)	3.12	2.86	Total discharge < Qpre & OK!			
100Y240H	(0.01)	0.98	0.97	Total discharge < Qpre & OK!			
I-410024	0.84	0.53	1.37	Total discharge < Qpre & OK!			
I-410072	0.94	0.40	1.33	Total discharge < Qpre & OK!			
I-42524	0.20	0.03	0.23	Total discharge < Qpre & OK!			
I-42572	0.22	0.03	0.25	Total discharge < Qpre & OK!			

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
Date: January 2 2008 Time: 4:22 PM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**

Design Storm	ExPond1WB	Pond 1	Remarks		
002Y001R	128.276	128.404	1.54	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y002R	128.389	128.545	1.87	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y004H	128.484	128.661	2.12	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y008H	128.596	128.800	2.45	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y024H	128.793	129.055	3.14	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y072H	128.915	129.242	3.92	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y168H	128.991	129.400	4.91	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y240H	128.996	129.405	4.91	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y001R	128.405	128.563	1.90	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y002H	128.539	128.725	2.23	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y004H	128.692	128.905	2.56	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y008H	128.873	129.123	3.00	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y024H	129.171	129.495	3.89	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y072H	129.310	129.720	4.92	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y168H	129.350	129.906	6.67	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y240H	129.408	129.999	7.09	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y001R	128.480	128.653	2.08	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y002H	128.670	128.878	2.50	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y004H	128.853	129.091	2.86	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y008H	129.078	129.356	3.34	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y024H	129.478	129.845	4.40	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y072H	129.643	130.119	5.71	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y168H	129.644	130.290	7.75	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y240H	129.739	130.466	8.72	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y001R	128.609	128.805	2.35	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y002H	128.804	129.033	2.75	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y004H	129.046	129.310	3.17	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y008H	129.342	129.653	3.73	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y024H	129.802	130.209	4.88	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y072H	130.002	130.546	6.53	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y168H	130.092	130.856	9.17	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y240H	130.096	130.937	10.09	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y001R	128.703	128.913	2.52	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y002H	128.942	129.189	2.96	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y004H	129.229	129.515	3.43	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y008H	129.551	129.887	4.03	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y024H	130.072	130.510	5.26	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y072H	130.310	131.030	8.64	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y168H	130.338	131.145	9.68	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y240H	130.250	131.069	9.83	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y001R	128.813	129.040	2.72	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y002H	129.081	129.347	3.19	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y004H	129.383	129.687	3.65	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y008H	129.747	130.104	4.28	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y024H	130.278	130.809	6.37	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y072H	130.382	131.181	9.59	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y168H	130.420	131.242	9.86	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y240H	130.400	131.214	9.77	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410024	130.248	130.795	6.56	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410072	130.254	130.825	6.85	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42524	129.781	130.195	4.97	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42572	130.055	130.508	5.44	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.

MAXIMUM STAGE = 131.24 ft. in Pond 1.
Design Storm = 100Y168H
Maximum Stage difference between Pre-Stage and Post-Stage in the Pond 1 = 10.09 inches.

Kimley-Horn
AND ASSOCIATES, Inc.
3660 Maguire Blvd., Suite 200
Orlando, Florida 32803

Made by: HDT Ch'd by:
Date: January 2 2008 Time: 4:22 PM
KHA Project Number: 049280002

PROJECT: **Street 'B' & I-4 Overpass**

Design Storm	ExPond2EB	Pond 2	Remarks		
002Y001R	128.852	128.841	(0.13)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y002R	128.970	128.947	(0.28)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y004H	129.067	129.033	(0.41)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y008H	129.174	129.129	(0.54)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y024H	129.353	129.286	(0.80)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y072H	129.444	129.361	(1.00)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y168H	129.462	129.368	(1.13)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
002Y240H	129.487	129.385	(1.22)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y001R	128.987	128.962	(0.30)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y002H	129.122	129.082	(0.48)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y004H	129.272	129.215	(0.68)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y008H	129.444	129.366	(0.94)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y024H	129.708	129.597	(1.33)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y072H	129.797	129.670	(1.52)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y168H	129.753	129.624	(1.55)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
005Y240H	129.814	129.670	(1.73)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y001R	129.063	129.030	(0.40)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y002H	129.252	129.197	(0.66)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y004H	129.430	129.354	(0.91)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y008H	129.640	129.538	(1.22)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y024H	129.993	129.846	(1.76)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y072H	130.092	129.928	(1.97)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y168H	129.996	129.836	(1.92)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
010Y240H	130.072	129.896	(2.11)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y001R	129.193	129.145	(0.58)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y002H	129.383	129.313	(0.84)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y004H	129.615	129.516	(1.19)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y008H	129.889	129.755	(1.61)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y024H	130.291	130.106	(2.22)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y072H	130.411	130.207	(2.45)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y168H	130.370	130.164	(2.47)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
025Y240H	130.339	130.133	(2.47)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y001R	129.285	129.227	(0.70)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y002H	129.516	129.430	(1.03)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y004H	129.788	129.668	(1.44)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y008H	130.085	129.927	(1.90)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y024H	130.538	130.322	(2.59)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y072H	130.730	130.544	(2.23)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y168H	130.682	130.442	(2.88)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
050Y240H	130.640	130.397	(2.92)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y001R	129.393	129.321	(0.86)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y002H	129.649	129.546	(1.24)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y004H	129.934	129.795	(1.67)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y008H	130.268	130.087	(2.17)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y024H	130.738	130.538	(2.40)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y072H	130.825	130.847	0.26	inches HIGHER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y168H	130.842	130.756	(1.03)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
100Y240H	130.748	130.642	(1.27)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410024	130.720	130.524	(2.35)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-410072	130.710	130.506	(2.45)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42524	130.275	130.093	(2.18)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.
I-42572	130.504	130.287	(2.60)	inches LOWER than Max. Pre Stage.	No Net Impact to I-4 Travel Lanes or Swale System.

MAXIMUM STAGE = 130.85 ft. in Pond 2.
Design Storm = 100Y168H
Maximum Stage difference between Pre-Stage and Post-Stage in the Pond 2 = 0.26 inches.