Florida Department of Transportation
RE-EVALUATION FORM

1. GENERAL INFORMATION (originally approved Environmental Document)

a. Re-evaluation Type: Design Change, Preliminary Engineering Phase

b. Document Type and Date of Approval: EA 12/23/1999

c. Project Numbers:

ETDM (if applicable)	Financial Management	Federal-Aid
N/A	242526-1-22-01 242483-1-22-01	N/A

d. Project Name, Location and Limits (from original document):

Name: I-4 FROM POLK CO LINE TO ORANGE CO LINE
Location: FDOT District 5 (Osceola County)
Limits: State Road 400 (I-4) from west of CR 532 (Osceola Polk Line Road) to east of SR 522 (design project - 431456-1) and SR 400 (I-4) from east of SR 522 to west of SR 528 (Beachline Expressway) (design project - 242484-8)

e. Segments of Highway Being Advanced:

FAP Number	FM Number	Description	Funding
0042-269-I	431456-1	SR 400 (I-4) WEST OF CR 532 TO EAST OF SR 522 (OSCEOLA PARKWAY)	Federal
0042-266-I	242484-8	SR 400 (I-4) E OF SR 522 (OSCEOLA PKWY) TO WEST OF SR 528	Federal

f. Prior Re-evaluations:

FM Number	Type	Date District Approved	Date Lead Agency Concurred	Consultation Date
242531-1	Design Change		12/12/2001	
242531-1	Construction Advertisement		09/03/2003	

g. Project Segment Planning Consistency. If more than one segment is being advanced additional tables should be added. Table does not need to include past/completed phases.

Segment FM Number: 431456-1

Currently Adopted CFP-LRTP	COMMENTS
Yes	Yes, Technical Report #3, Plan Development & Cost Feasible Projects, Page 47

PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP $	TIP/STIP FY	COMMENTS
PE (Final Design)	Y	Y	12417000	2016/17	Planning is consistent across LRTP. TIP, and STIP. TIP Page IV-3 on the Interstate Highway Projects for Osceola County. STIP Report Page attached.
R/W					
Construction					

Segment FM Number: 242484-8

Currently Adopted CFP-LRTP	COMMENTS
Yes	Yes, Technical Report #3, Plan Development & Cost Feasible Projects, Page 47

PHASE	Currently Approved TIP	Currently Approved STIP	TIP/STIP $	TIP/STIP FY	COMMENTS
PE (Final Design)	Y	Y	1172000	2016/17	Planning is consistent across LRTP. TIP, and STIP. TIP Page IV-2 on the Interstate Highway Projects for Orange County. STIP Report Page attached.
R/W					
Construction					

**** Include pages from current TIP/STIP/LRTP***

Project Segment Planning Consistency Documentation:
None

h. Name and Title of FDOT Preparer: Beata Stys-Palasz, Senior Project Manager

2. EVALUATION OF CHANGES IN IMPACTS

	YES	NO	COMMENTS
A. SOCIAL & ECONOMIC			
1. Social	☐	☒	
2. Economic	☐	☒	
3. Land Use Changes	☒	☐	See attached document. [Att 1]
4. Mobility	☐	☒	
5. Aesthetic Effects	☐	☒	
6. Relocation Potential	☒	☐	See attached document. [Att 1]
7. Farmlands	☐	☒	
B. CULTURAL			
1. Section 4(f)	☐	☒	
2. Historic Sites/Districts	☒	☐	See attached document. [Att 2]
3. Archaeological Sites	☒	☐	See attached document. [Att 2]
4. Recreation Areas	☐	☒	
C. NATURAL			
1. Wetlands and Other Surface Waters	☒	☐	See attached document. [Att 3]
2. Aquatic Preserves and Outstanding	☐	☒	
3. Water Quality	☒	☐	See attached document. [Att 3]
4. Wild and Scenic Rivers	☐	☒	
5. Drainage and Floodplains	☒	☐	See attached document. [Att 3]
6. Coastal Zone Consistency	☐	☒	
7. Coastal Barrier Resources	☐	☒	
8. Protected Species and Habitat	☒	☐	See attached document. [Att 3]
9. Essential Fish Habitat	☐	☒	
D. PHYSICAL			
1. Highway Traffic Noise	☒	☐	See attached document. [Att 4]
2. Air Quality Analysis	☐	☒	
3. Contamination	☒	☐	See attached document. [Att 4]
4. Utilities and Railroads	☒	☐	See attached document. [Att 4]
5. Scenic Highways	☐	☒	
6. Construction	☐	☒	
7. Bicycles and Pedestrians	☒	☐	See attached document. [Att 4]
8. Navigation	☐	☒	

3. EVALUATION OF MAJOR DESIGN CHANGES AND REVISED DESIGN CRITERIA (e.g., Typical Section Changes, Alignment Shifts, Right of Way Changes, Bridge to Box Culvert, Drainage Requirements, Revised Design Standards)

Please see attached.

Evaluation of Major Design Changes and Revised Design Criteria Documentation:
- Attachment 5
- Attachment 7
- Attachment 8

4. COMMITMENT STATUS

See Attached Commitment Status

5. STATUS OF PERMITS

I-4 BtU Segment 1 has two design segments:
242484-8: - The South Florida Water Management District Individual Environmental Resource Permit will be obtained at the appropriate time during the design and permitting phase. - The U.S. Army Corps of Engineers Individual Wetland Dredge and Fill Permit will be obtained at the appropriate time during the design and permitting phase. - The Florida Department of Environmental Protection NPDES Permit will be secured prior to construction.

431456-1: - The South Florida Water Management District Individual Environmental Resource Permit will be obtained at the appropriate time during the design and permitting phase. - The U.S. Army Corps of Engineers Individual Wetland Dredge and Fill Permit will be obtained at the appropriate time during the design and permitting phase. - the Florida Department of Environmental Protection NPDES Permit will be secured prior to construction.

6. CONCLUSION

☒ The above Environmental Document has been re-evaluated as required by 23 CFR § 771.129. It has been determined that there have been no changes to the project that affect the original environmental determination. Therefore, the Administrative Action remains valid.

It is recommended that the project identified herein be advanced to the next phase.

7. REVIEWER SIGNATURE BLOCK

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016 and executed by the Federal Highway Administration and FDOT.

William G. Walsh	June 7, 2017
FDOT Environmental Manager or Designee	Date

8. OFFICE OF ENVIRONMENTAL MANAGEMENT CONCURRENCE

OEM Signature Required? ☒ Yes ☐ No Date of Consultation:

Jason Watts June 12, 2017

Print Name Date

Director of the Office of Environmental Management or Designee

9. ATTACHMENTS

1 - 24252612201-EA-D5-Attachment_1_-_2.A._Social_&_Economic-2017-0601.pdf
2 - 24252612201-EA-D5-Attachment_2_-_2.B._Cultural-2017-0601.pdf
3 - 24252612201-EA-D5-Attachment_3_-_2.C._Natural-2017-0601.pdf
4 - 24252612201-EA-D5-Attachment_4_-_2.D._Physical-2017-0601.pdf
5 - 24252612201-EA-D5-Attachment_5_-_3._Evaluation_of_Major_Design_Changes-2017-0601.pdf
6 - 24252612201-EA-D5-Attachment_6_-_Project_Location_Map-2017-0601.pdf
7 - 24252612201-EA-D5-Attachment_7_-_Typical_Sections-2017-0601.pdf
8 - 24252612201-EA-D5-Attachment_8__-_Interchanges-2017-0601.pdf
9 - 24252612201-EA-D5-I4_Segment_1_PCR-2017-0606.pdf

ATTACHMENT 1

Evaluation of Changes in Social & Economic Impacts – Section 2.A.

A.3. AND A.6. Land Use and Right-of-Way Acquisitions, and Relocation Potential

Land Use changes for the project involve new pond sites, new interchange alternatives, and new right-of-way for roadway. The proposed improvements to I-4 BtU Segment 1 will follow the existing alignment and will require acquisition of right-of-way for the roadway mainline and interchange improvements, stormwater management facilities and floodplain compensation sites. The total anticipated right-of-way impacts for the recommended alternative involve full or partial acquisition of 125 parcels for a total of approximately 188 acres; some parcels may be impacted by both roadway and stormwater acquisitions. Of these, 73 parcels (63 in Orange County and 10 in Osceola County) are improved with existing developments. The existing developments consist of apartments, condominium/timeshare properties, hotels, golf courses and restaurants. Other impacted parcels are vacant, agriculture use, existing ponds/surface waters or municipal/utility facilities. The majority of right-of-way impacts to parcels are related to stormwater management (approximately 135 acres) and the remaining impacts are related to roadway improvements (approximately 53 acres). Eighteen parcels in the project area are impacted by both roadway and stormwater management acquisitions. Of the 125 unique parcel IDs, eleven parcels are developed/occupied and may require full acquisitions, involving potential relocation of existing commercial properties. No residential relocations are anticipated within I-4 BtU Segment 1. The impacted commercial parcels are located within/near the existing Crossroads Shopping Plaza in the northeast quadrant of the I-4 and SR 535 interchange. To minimize the unavoidable effects of right-of-way acquisition and displacement of people, FDOT will carry out a relocation assistance program in accordance with The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended, for Federal and Federally Assisted Programs (23 CFR and 49 CFR, Part 24, Sections 334.048, 339.09 and 421.55, and Florida Statutes Rule 14-66, Florida Administrative Code). The recommended alternative for I-4 BtU Segment 1 is not anticipated to result in any residential displacements, however a review of real estate listings using internet search engines shows there is an ample number of sites available for potential displacees to relocate to within the project study area. Additional information pertaining to the potentially displaced properties, including resources available to facilitate relocation and socio-economic impacts to the surrounding neighborhoods, are identified in the *Conceptual Stage Relocation Plan* (April 2016) prepared for this project.

The original study proposed right-of-way impacts including 10.2 acres for roadway and 55.8 acres for pond sites.

ATTACHMENT 2

Evaluation of Changes in Cultural Resources Impacts – Section 2.B.

B.2. AND B.3. HISTORIC SITES/DISTRICTS, ARCHEOLOGICAL SITES

A Cultural Resource Assessment Survey (CRAS) in support of the proposed improvements was conducted to comply with Section 106 of the National Historic Preservation Act (as amended) and its implementing regulation 36 CFR Part 800 (Protection of Historic Properties). The purpose of the survey is to update the previous I-4 corridor study, which involves locating, identifying, and bounding archaeological resources within proposed pond locations and updating the inventory of historic structures and potential districts within the project Area of Potential Effect (APE). Previously undocumented resources identified in the APE were assessed for their potential for listing in the National Register of Historic Places (NRHP). The APE is defined as the area within which the roadway improvements and subsequent maintenance may have physical, visual, audible or atmospheric effects on historic properties. The APE as defined for this project includes the existing right-of-way along I-4 and was extended to the back or side property lines of parcels adjacent to the corridor, limited to a distance of no more than 100 meters (330 feet) from the proposed right-of-way. The APE also includes the proposed pond footprints plus a 100-foot buffer. Archaeological survey was conducted within the proposed pond footprints, and the architectural study included the entire APE.

One lithic flake was recovered in Pond 142B. The heat-treated flake (0.88 grams) appears to be a medial-distal fragment of coastal plain chert. This artifact represents the only archaeological occurrence encountered in the Segment 1 APE. No other artifacts were recovered from any of the shovel tests, and no archaeological sites or occurrences were identified. No further archaeological survey is recommended for the proposed ponds and roadway.

The architectural survey resulted in the identification of one historic structure, one historic cemetery, and one linear resource constructed before 1971 located within Segment 1 of the I-4 APE. The Oak Hill Baptist Church Cemetery (8OS01925) was a previously recorded resource. 900 Scott Lane (8PO07762) and the Florida Midland Railroad (8OR10235) are newly recorded resources. The identified historic resources were evaluated to determine their significance and potential for listing in the NRHP. All three historic resources within the I-4 Segment 1 APE lack the architectural distinction and significant historical associations necessary to be considered for listing in the NRHP and are recommended ineligible. No potential NRHP districts were identified due to the lack of concentration of historic structures.

FSMF data indicates that three previously recorded structures (8OS00153, 8OS01926, and 8OR09607) are located within the project APE; however, the field survey confirmed that Resource 8OS00153 (Homely Cow Dip, 400 Celebration Place), 8PO01926 (1525 Kemp Road), and 8OR09607 (+/- 11001 Turkey Lake Road) have been removed or demolished. Resource 8OS00153, Homely Cow Dip, was most likely demolished during the construction of a hospital currently located at 400 Celebration Place, 8PO01926, 1525 Kemp Road, was likely demolished or removed during the construction of a nearby office building, and 8OS00153, +/- 11001 Turkey Lake Road, was likely demolished or removed during the construction of Palm Parkway in Orange County.

FMSF data also indicated that four previously recorded historic resources (8OR06192-8OR006195) were within the current I-4 BtU Segment 1 APE; however, the architectural field survey indicated that all four resources lie to the northwest and outside of the APE. No additional documentation of these structures was warranted. Further details are contained within the *Cultural Resources Assessment Survey* (April 2016).

Based on the results of this study and through coordination with SHPO it was determined the project will have no effect on resources listed or eligible for listing in the NRHP (see SHPO Concurrence letter dated 6/23/16). The original study concluded that the project would have no effect on Section 106 properties.

ATTACHMENT 3

Evaluation of Changes in Impacts to Natural Resources– Section 2.C.

C.1 Wetlands

A *Wetland Evaluation Report* (WER) was prepared in conjunction with the project. Preliminary estimates suggest that 45.99 acres of jurisdictional other surface waters and 112.94 acres of wetland communities will be impacted by the proposed improvements associated with the mainline of I-4. These estimates are based on field assessment of jurisdictional limits and preliminary plan preparation for design. A UMAM functional assessment was conducted for the impacts to wetlands proposed in the concept design for this study based upon the conditions of the wetlands during field reviews. Details regarding the wetlands and proposed wetland impacts can be found in the *Wetland Evaluation Report* (April 2016) prepared for this project. Impacts to jurisdictional areas will be refined as design details are finalized. A conceptual mitigation plan was developed based upon the UMAM assessments and is included in the WER report. Mitigation will be provided to offset the impacts satisfying the requirements of Part IV Chapter 373, F.S. and 33 U.S.C.s.1344. The original study identified 59.6 acres of jurisdictional wetland impacts along with 11.4 acres of other surface water impacts.

C.5. Floodplains and Drainage

Floodplains

Based on the FEMA floodplain lines, the roadway widening will impact the floodplain on both sides of the roadway at numerous locations within the project limits. The project proposes 93.22 acre-feet of floodplain impacts for both the mainline and pond sites. There are a total of 10 basins that impact the 100-year floodplain including Basins 100, 101, 102, 103, 105, 109, 114, 132, 138 and 142. A total of 13 existing and proposed floodplain compensation ponds provide compensation for the floodplain impacts. Detailed floodplain impacts and compensation calculations are provided in the *Pond Siting Report* (March 2016) prepared for this project. The original study identified approximately 37.6 acres of floodplain impacts from the project.

Drainage

Pond Site FPC 100

Pond Site FPC 100 is located to the west of I-4, south of the Champions Gate interchange, north of Ronald Reagan Parkway. This is a proposed new floodplain compensation pond providing 6.41 acre-feet of compensation volume which did not have an equivalent pond site in the original PD&E Study. The existing site is an active cattle pasture with fallow citrus trees, some scrub live oak and some cabbage palm, with prickly pear, beauty berry, Bahia grass, and various weedy herbaceous species. The eastern portion of the site consists of a portion of a forested wetland system that continues off site. The pond site proposes minor wetland impacts (2.14 acres), has no listed species involvement, and no cultural resource impacts (SHPO Concurrence Letter 6/23/16). The site was given a medium risk contamination rating based upon its potential historical involvement in citrus operations. The pond site will require 8.14 acres of right-of-way acquisition.

Pond Site 100

Pond Site 100 is located to the east of I-4, just north of the Ronald Reagan Parkway overpass and includes an existing pond which will be enlarged to meet the needs of the basin. The existing pond is about half open water and half cattails and is surrounded by primrose, maidencane, torpedo grass, salt bush, and wax myrtle.

This pond site was not proposed to be involved in the original PD&E Study. The use of this site for a pond will involve wetland impacts (3.6 acres) and surface water impacts (0.19 acres), though it has no listed species involvement, no cultural resource impacts (SHPO Concurrence Letter 6/23/16), and no contamination impacts. The pond site will not require right-of-way acquisition.

Pond Site FPC 101A

Pond Site FPC 101A is located to the east of I-4, southeast of the Osceola Polk Line Road/Champions Gate Boulevard. This is a proposed new floodplain compensation pond providing 2.78 acre-feet of compensation volume with no equivalent in the original PD&E Study. The existing site is an active cattle pasture comprised primarily of a few scattered fallow citrus trees, some scrub live oak and some cabbage palm, with prickly pear, lantana, blue lupine, Bahia grass, and various weedy herbaceous species. The southern portion of the proposed site is a wetland comprised primarily of laurel oak, slash pine, sweet bay, and cypress. The use of this pond will involve wetland impacts (1.02 acres), but has no listed species involvement or cultural resource impacts (SHPO Concurrence Letter 6/23/16). The pond site could impact contamination (given a medium ranking) due to its historical involvement in citrus operations. The pond site will require 4.56 acres of right-of-way acquisition.

Pond Site 101A

Pond Site 101A is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the southwest quadrant. This is an existing pond that is proposed to be reconfigured which occurs in the same general location as Pond Site 57.6 from the original PD&E Study. The pond site is primarily maintained open water with a fountain in the middle and St. Augustine grass around the banks. There are no wetland impacts, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and no contamination involvement. Several burrows of the state-threatened gopher tortoise were observed on the site. Prior to construction, a permit will be obtained from FFWCC for relocation of gopher tortoises and commensals should the proposed pond not be able to avoid the burrows. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 101B

Pond Site 101B is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the southwest quadrant. This is a proposed new pond site that occurs in the same general location as Pond Site 57.6 from the original PD&E Study. The pond site is primarily mowed St. Augustine grass with a few planted cabbage palms. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource impacts (SHPO Concurrence Letter dated 6/23/16) and no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 101C

Pond Site 101C is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the northwest quadrant. This is a proposed new pond site which did not have an equivalent pond site in the original PD&E Study. The pond site is primarily mowed St. Augustine grass with a few planted cabbage palms. No environmental impacts will occur from the new pond. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource impacts (SHPO Concurrence Letter dated 6/23/16), and no contamination involvement. This pond is within the existing

right-of-way and will not require further acquisitions.

Pond Site 101D

Pond Site 101D is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the northwest quadrant. This is an existing pond that is proposed to be reconfigured occurring in approximately the same location as Pond Site 57.8 from the original PD&E Study. The pond site is primarily maintained open water with a fountain and St. Augustine grass with some planted cabbage palms on the banks. The pond site will have no environmental impacts. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource impacts (SHPO Concurrence Letter dated 6/23/16), and no contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 101E

Pond Site 101E is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the southeast quadrant. This is a proposed new pond site which did not have an equivalent pond site in the original PD&E Study. The pond site is primarily mowed Bahia grass with portions of compacted milled asphalt. The existing ramp from I-4 eastbound to Osceola Polk Line Road/Champions Gate Boulevard is located within the footprint of this proposed pond site. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource impacts (SHPO Concurrence Letter dated 6/23/16), and no contamination impacts. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 101F

Pond Site 101F is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the southeast quadrant. This is a proposed new pond site which did not have an equivalent pond site in the original PD&E Study. The pond site is primarily mowed Bahia grass. A portion of the existing ramp from I-4 eastbound to eastbound Osceola Polk Line Road/Champions Gate Boulevard is located within the footprint of this proposed pond site. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and no contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 101G

Pond Site 101G is located within the Osceola Polk Line Road/Champions Gate Boulevard and I-4 interchange in the northeast quadrant. This is a proposed new pond site which did not have an equivalent pond site in the original PD&E Study. The pond site is primarily mowed Bahia grass with portions of compacted milled asphalt. The existing ramp from Osceola Polk Line Road/Champions Gate Boulevard to eastbound I-4 is located within the footprint of this proposed pond site. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 102

Pond Site 102 is located to the east of the roadway, just north of the Osceola Polk Line Road/Champions

Gate Boulevard and I-4 interchange. This is an existing pond and no modifications or expansions are proposed and corresponds to Pond Site 58.3 from the original PD&E Study. The pond site is primarily open water with mixed submerged aquatic vegetation. A mix of cattails, Carolina willow, arrowhead, pickerel weed, and wax myrtle are present along the edges, and the banks are composed of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 102

Pond Site FPC 102 is located east of I-4, along Kemp Road. This is a proposed new floodplain compensation pond providing 3.36 acre-feet of compensation volume and has no corresponding pond in the original PD&E Study. The site is entirely wooded with a mix of slash pine, red maple, sweet gum, laurel oak, and cabbage palm. This site is located next to the Austin Outdoor, Reunion Development Parcel which has several identified contamination issues resulting in this pond site being given a medium risk rating. The pond site proposes minor wetland impacts (2.95 acres), has no listed species involvement, and no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). This pond will require 3.17 acres of additional right-of-way acquisitions.

Pond Site 103

Pond Site 103 is located to the west of I-4, between Osceola Polk Line Road/Champions Gate Boulevard and SR 429. This is an existing pond originally designed to provide floodplain compensation that has additional compensation volume for the project. It will provide 12.95 acre-feet of compensation volume and corresponds to Pond Site 58.8 in the original PD&E Study. The pond site is primarily open water with cattails and torpedo grass almost completely lining the pond out about twenty feet. Primrose, elderberry, wax myrtle, salt bush, Carolina willow, and red maple are present along the edges, and the banks are composed of mowed Bahia grass. The pond site proposes minor wetland impacts (0.21 acres). Several burrows of the state-threatened gopher tortoise were observed on the site. Prior to construction, a permit will be obtained from FFWCC for relocation of gopher tortoises and commensals should the proposed pond not be able to avoid the burrows. There is no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16) and no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 103A

Pond Site FPC 103A is located east of I-4, just south of the Tradition Boulevard overpass in Reunion Resort and Davenport Creek within the Austin Outdoor, Reunion Development Parcel. This is a proposed new floodplain compensation pond providing 2.72 acre-feet of compensation volume and does not have an equivalent pond site in the original PD&E Study. The site is split by an unnamed dirt road running south to north. The site is an entirely open field with a mix of grasses and weedy herbaceous species. The pond site proposed minor wetland impacts (0.06 acres). Several burrows of the state-threatened gopher tortoise were observed on the site. Prior to construction, a permit will be obtained from FFWCC for relocation of gopher tortoises and commensals should the proposed pond not be able to avoid the burrows. There is no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and no potential contamination involvement. Additional right-of-way (2.06 acres) will be required for this pond site.

Pond Site 104

Pond Site 104 is located along southbound SR 429, just north of the interchange with I-4. This is an existing pond and no modifications or expansions are proposed and did not have an equivalent pond site in the original PD&E Study. The pond is about half open water and half covered with cattails. It is surrounded by primrose, Carolina willow, wax myrtle, red maple, and salt bush, with mowed Bahia grass and planted sweet gum on the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 105A

Pond Site FPC 105A is located south of the interchange of SR 429 with Sinclair Road. This is a proposed new floodplain compensation pond providing 29.99 acre-feet of compensation volume with no corresponding pond site in the original PD&E Study. The majority of the site has a moderately open canopy which consists of thinned planted pine with a few clusters of oaks. Field surveys and cover board surveys determined the presence of the federally listed sand skink. Formal consultation with the USFWS was initiated in March 2016 to determine the extent of occupied habitat and the required compensatory mitigation. It was determined that 10.0 acres of occupied sand skink habitat occur on this pond site as documented in the issued Biological Opinion dated August 26, 2016. FDOT has agreed to mitigate for the impacts at a 2:1 ratio at a USFWS approved sand skink conservation bank. Numerous (approximately 50) burrows of the state-threatened gopher tortoise were observed on the site. Prior to construction, a permit will be obtained from FFWCC for relocation of gopher tortoises and commensals should the proposed pond not be able to avoid the burrows. The pond site does not propose any wetland impacts and has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). The pond site was given a medium contamination risk rating for its potential historical involvement in citrus operations. Additional right-of-way (16.10 acres) will be required for this pond site.

Pond Site 105A

Pond Site 105A is located within the SR 429 and I-4 interchange in the southwest quadrant. This is an existing pond that is proposed to be re-graded and corresponds to Pond Site 59.5 from the original PD&E Study. The pond site is almost completely covered with cattails and has Carolina willow and saltbush with planted cypress and red maple around its edges. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 105B

Pond Site 105B is located within the SR 429 and I-4 interchange in the northwest quadrant. This is an existing pond that is proposed to be reduced and re-graded and corresponds to Pond Site 59.6 from the original PD&E Study. The pond site is completely dominated by cattails and has very little open water. The perimeter of the pond is primarily composed of Carolina willow, saltbush, planted cypress and red maple with cordgrass and mowed Bahia grass around its edges. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-

way and will not require further acquisitions.

Pond Site 106A

Pond Site 106A is located within the SR 429 and I-4 interchange in the southeast quadrant. This is an existing pond that is proposed to be reduced and re-graded and corresponds to Pond Site 59.5 from the original PD&E Study. The pond site is almost completely covered with cattails and has Carolina willow, saltbush, and planted cypress and red maple around its edges. The pond site does not propose any wetland impacts, has no listed species involvement, and no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). The pond site was given a medium contamination risk rating based upon its location within a delineated area of groundwater contamination plume known from the agricultural pesticide EDB. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 106B

Pond Site 106B is located to the east of the I-4 eastbound onramp to SR 429. This is an existing pond that is proposed to be reduced and re-graded with no corresponding pond site from the original PD&E Study. The pond site has some open water with mixed submerged aquatic vegetation. The perimeter of the pond is primarily composed of cattails, Carolina willow, and torpedo grass with mowed Bahia grass and planted cypress and red maple around the banks. The pond site does not propose any wetland impacts and also has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). Several burrows of the state-threatened gopher tortoise were observed on the site. Prior to construction, a permit will be obtained from FFWCC for relocation of gopher tortoises and commensals should the proposed pond not be able to avoid the burrows. The pond site was given a medium contamination risk rating based upon its location within a delineated area of groundwater contamination plume known from the agricultural pesticide EDB. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 107

Pond Site 107 is located to the east of the SR 429 ramp to eastbound I-4. This is an existing pond and no modifications or expansions are proposed. It does not have a corresponding pond site in the original PD&E Study. The pond site is dominated by cattails with very little open water. The perimeter of the pond is primarily composed of cattails, Carolina willow, saltbush and dog fennel with mowed Bahia grass and planted cypress and red maple around the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 108A

Pond Site 108A is located within the SR 429 and I-4 interchange in the northeast quadrant. This is an existing pond that is proposed to be expanded and re-graded and corresponds with Pond Site 59.5 from the original PD&E Study. The pond site is primarily composed of cattails, with Carolina willow, wax myrtle, saltbush, planted cypress and red maple around its edges. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further

acquisitions.

Pond Site 108B

Pond Site 108B is located to the east of the ramp from southbound SR 429 to eastbound I-4. This is a proposed new pond site with no corresponding pond site in the original PD&E Study. The existing site is primarily composed of live oak, slash pine, red maple, cabbage palm, and saw palmetto with some persimmon, sand pine, beauty berry, salt bush, and Carolina willow. The pond site proposes minor wetland impacts (2.8 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (0.10 acres) will be required for this pond site.

Pond Site 109

Pond Site 109 is located to the west of the roadway, just north of the Old Lake Wilson Road overpass. This is an existing pond that is proposed to be expanded and re-graded and corresponds to Pond Site 60.4 from the original PD&E Study. The pond is mostly open water with mixed submerged aquatic vegetation. The pond is surrounded by cattails and torpedo grass with some salt bush, wax myrtle, primrose, cogon grass and broomsedge with mowed Bahia grass on the banks and berms. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 109

Pond Site FPC 109 is located to the east of I-4, between the SR 429 and World Drive interchanges. This is an existing borrow pit that is proposed to be a floodplain compensation pond providing 24.43 acre-feet of compensation volume with no corresponding pond site in the original PD&E Study. The pond is mostly open water surrounded by some cattails, torpedo grass, and sawgrass. The wooded area around the pond is primarily composed of slash pine, sweet bay, laurel oak, red maple, and saw palmetto. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (11.16 acres) will be required for this pond site.

Pond Site 110

Pond Site 110 is located to the west of I-4, southwest of the I-4 and World Drive interchange. This is an existing pond that is proposed to be expanded and corresponds to Pond Site 61.0 from the original PD&E Study. The pond is mostly open water surrounded by cattails and torpedo grass with some patches of arrowhead and maidencane. The banks are overgrown with a mix of slash pine, salt bush, wax myrtle, laurel oak, and red maple with patches of cogon grass and Carolina willow. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (7.4 acres) will be required for this pond site.

Pond Site 111

Pond Site 111 is located to the east of I-4, just south of the southern terminus of Celebration Boulevard. This is an existing pond with no proposed alterations or modifications and has no corresponding pond site

from the original PD&E Study. The pond site consists of open water surrounded by a mix of torpedo grass, cattails, and sedges, with some patches of Carolina willow, primrose, and wax myrtle. The banks are overgrown with a mix of salt bush, wax myrtle, red maple, cogon grass, and Caesar weed. Bahia grass dominates the upper banks surrounding the pond. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 112A

Pond Site 112A is located within the I-4 and World Drive interchange, in the southwest quadrant, just south of Pond Site 112B. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water that is surrounded by torpedo grass and arrowhead with some patches of cattails, wax myrtle, primrose, and fire flag. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 112B

Pond Site 112B is located within the I-4 and World Drive interchange, in the southwest quadrant, within the ramp from westbound I-4 to southbound World Drive. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water that is surrounded by torpedo grass and arrowhead with some patches of salt bush, wax myrtle, and Carolina willow. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 112C

Pond Site 112C is located within the I-4 and World Drive interchange, in the World Drive median to the west of I-4. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water that is surrounded by torpedo grass and arrowhead, with some patches of cattails and primrose. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 112D

Pond Site 112D is located within the I-4 and World Drive interchange, in the northwest quadrant. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water with a mix of submerged aquatic vegetation. The pond is surrounded by a mix of cattails, Carolina willow, primrose and arrowhead, with some torpedo grass, cogon grass, wax myrtle, and salt bush. The banks are primarily comprised of mowed Bahia grass. The

pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 112E

Pond Site 112E is located within the I-4 and World Drive interchange, in the southwest quadrant, just west of Pond Site 112B. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water that is mostly surrounded by torpedo grass and arrowhead with some Carolina willow, primrose, wax myrtle, and salt bush. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113A

Pond Site 113A is located within the I-4 and World Drive interchange, in the southeast quadrant. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water with a mix of submerged aquatic vegetation. The pond is surrounded by a mix of torpedo grass, primrose, and arrowhead. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113B

Pond Site 113B is located within the I-4 and World Drive interchange, in the World Drive median east of I-4. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water with a mix of submerged aquatic vegetation. The pond is surrounded by a mix of torpedo grass, cattails, and arrowhead, with some patches of Carolina willow. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113C

Pond Site 113C is located within the I-4 and World Drive interchange, within the ramp from eastbound I-4 to northbound World Drive. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water with heavy growth of hydrilla. The pond is surrounded by a mix of torpedo grass and arrowhead, with some patches of primrose and wax myrtle. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113D

Pond Site 113D is located within the I-4 and World Drive interchange, in the northeast quadrant, just north of Pond Site 113C. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site in the original PD&E Study. The pond site consists of open water with a mix of submerged aquatic vegetation. The pond is surrounded by a mix of torpedo grass, cattails, and arrowhead, with some patches of Carolina willow and wax myrtle. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113E

Pond Site 113E is located within the I-4 and World Drive interchange, in the northeast quadrant between Pond Sites 113C and 113G. This is a proposed new pond and does not have a corresponding pond site in the original PD&E Study. The current site consists entirely of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113F

Pond Site 113F is located within the I-4 and World Drive interchange, in the World Drive median to the east of I-4 and east of the eastbound on-ramp to I-4 from southbound World Drive. This is a proposed new pond and does not have a corresponding pond site in the original PD&E Study. The current site consists entirely of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 113G

Pond Site 113G is located within the I-4 and World Drive interchange, between the eastbound on-ramps to I-4 from World Drive. This is an existing pond that is proposed to be re-graded and does not have a corresponding pond site from the original PD&E Study. The pond site consists of open water surrounded by torpedo grass with some arrowhead, primrose, cattails, and Carolina willow. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 114A

Pond Site 114A is located to the west of I-4 between the interchanges at World Drive and SR 417. This is an existing pond with no proposed modifications or alterations and does not have a corresponding pond site in the original PD&E Study. The pond is dominated by white water lily with very little open water. Cattails and torpedo grass completely surround the pond with some arrowhead, slash pine, and wax myrtle present along the edges. The banks mostly consist of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence

Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 114B

Pond Site 114B is located to the west of I-4 between the interchanges at World Drive and SR 417. This is an existing pond with no proposed modifications or expansions and does not have a corresponding pond site from the original PD&E Study. The pond site consists of open water with some patches of white water lily and is completely surrounded by cattails. Some torpedo grass, arrowhead, and sedge are present along the edges and the banks consist of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 114A

Pond Site FPC 114A is located to the west of I-4 between the interchanges at World Drive and SR 417. This is an existing floodplain compensation pond and no modifications or expansions are proposed; no corresponding pond site was evaluated in the original PD&E Study. The existing floodplain compensation pond is almost completely covered by white water lily. The edges of the pond primarily consist of small patches of sedge, cattail, torpedo grass, wax myrtle and slash pine. The banks of the pond are comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 114B

Pond Site FPC 114B is located to the west of I-4 between the interchanges at World Drive and SR 417. This is an existing floodplain compensation pond and no modifications or expansions are proposed; no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water with dense patches of white water lily. The edges of the pond primarily consist of torpedo grass with some patches of pickerel weed. The banks are comprised of mowed Bahia grass with some wax myrtle and slash pine. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 114C

Pond Site FPC 114C is located to the west of I-4 between the interchanges at World Drive and SR 417. This is a proposed new floodplain compensation pond providing 39.57 acre feet of compensation volume with no corresponding pond site in the original PD&E Study. The majority of the proposed site is open pasture, but also includes a small area of cypress wetland in the southwest corner. The open pasture is primarily composed of mixed grasses and weedy herbaceous species with slash pine, longleaf pine and saw palmetto, with some red maple, Dahoon holly, sweet gum, jessamine, and wild grape vine. The cypress area of the proposed expansion area is primarily comprised of bald cypress, red maple, sweet bay, and wax myrtle. The pond site proposes minor wetland impacts (0.3 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential

contamination involvement. Additional right-of-way (4.74 acres) will be required for this pond site.

Pond Site 115

Pond Site 115 is located east of I-4, east of Celebration Boulevard. This is an existing pond and no modifications or expansions are proposed; no corresponding pond site was evaluated in the original PD&E Study. The pond site consists of open water that is completely covered with duckweed and water fern with large floating patches of cattail, primrose, and sedges. The banks consist of a mix of Carolina willow, red maple, sweet gum, slash pine, wax myrtle, and mixed herbaceous species. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way will be required for this pond site.

Pond Site 116

Pond Site 116 is located west of I-4, between the interchanges at World Drive and SR 417. This is a fenced existing pond and no modifications or expansions are proposed; no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water with mixed submerged aquatic vegetation and is surrounded by dense growths of cattails. The edges of the pond are overgrown and are comprised of a mix of wax myrtle, red maple, salt bush, and elderberry with heavy growth of cogon grass along the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 117

Pond Site 117 is located within the interchange of I-4 and SR 417, just east of I-4. This is an existing pond and no modifications or expansions are proposed; no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water with mixed submerged aquatic vegetation. The edges of the pond primarily consist of mowed Bahia grass, with small patches of torpedo grass, arrowhead, southern water grass, wax myrtle, and elderberry. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 118

Pond Site 118 is located within the interchange of I-4 and SR 417, just west of I-4. This is a fenced existing pond that is proposed to be reduced and re-graded; no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water with mixed submerged aquatic vegetation. The edges of the pond primarily consist of torpedo grass and arrowhead with a mix of cogon grass, Bahia grass and broomsedge along the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 119A

Pond Site 119A is located to the west of I-4 and SR 417 interchange. This is an existing pond and no

modifications or expansions are proposed; no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water with mixed submerged aquatic vegetation. The edges of the pond primarily consist of cattails, with patches of torpedo grass, southern water grass, arrowhead, and rattlebox. The banks are comprised of mowed Bahia grass with some wax myrtle. The pond site proposes minor wetland impacts (0.01 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 119B

Pond Site 119B is located to the northwest of I-4 and SR 417 interchange. This is an existing pond and no modifications or expansions are proposed; no corresponding pond site was evaluated in the original PD&E Study. The pond consists of floating mats of sedge and cattail with very little open water. The edges of the pond consist of heavy growth of cattails with some pickerel weed, arrowhead, and bacopa. The banks are primarily comprised of mowed Bahia grass with some rattlebox and rush. The pond site proposes minor wetland impacts (0.02 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 120

Pond Site 120 is located within the interchange of I-4 and SR 417, just east of I-4. This is a fenced existing pond that is proposed to be reconfigured and no corresponding pond site was evaluated during the original PD&E Study. The pond is dominated by bulrush with very little open water and is surrounded by arrowhead with some patches of Carolina willow, cattails, pickerel weed, cordgrass, and bacopa. The banks of the pond primarily consist of Bahia grass and cogon grass, with some salt bush and wax myrtle. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 121A

Pond Site 121A is located within the interchange of I-4 and US 192, in the southwest quadrant to the west of Pond 121B. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water surrounded by cattails and torpedo grass with some patches of primrose, arrowhead, and Carolina willow. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 121B

Pond Site 121B is located within the interchange of I-4 and US 192, within the westbound ramp from I-4 to eastbound US 192. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water surrounded by cattails with some torpedo grass and primrose. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource

involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 122A

Pond Site 122A is located within the interchange of I-4 and US 192, within the eastbound ramps from I-4 to US 192. This is a proposed new pond with no corresponding pond site in the original PD&E Study. The pond site consists entirely of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement, (SHPO Concurrence Letter dated 6/23/16) and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 122B

Pond Site 122B is located within the interchange of I-4 and US 192, just east of I-4 and south of US 192. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water surrounded by cattails with some patches of sedge, white water lily and salt bush. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 122C

Pond Site 122C is located within the interchange of I-4 and US 192, along the eastbound ramp from I-4 to eastbound US 192, just south of US 192. This is a proposed new pond with no corresponding pond site in the original PD&E Study. The current site consists of mowed Bahia grass with several swales that have a mix of arrowhead, torpedo grass, cattails, and primrose. The pond site proposes minor wetland impacts (0.26 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 123

Pond Site 123 is located within the interchange of I-4 and US 192, west of I-4 and just north of US 192. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water surrounded by cattails and torpedo grass with some patches of primrose, arrowhead, and cogon grass, and mowed Bahia grass on the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 124

Pond Site 124 is located within the interchange of I-4 and US 192, between the westbound ramps from I-4 to US 192. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water surrounded by cattails and torpedo grass with some patches of primrose, arrowhead and cogon grass, with mowed Bahia grass on the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource

involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 125

Pond Site 125 is located within the interchange of I-4 and US 192, within the eastbound ramp from I-4 to westbound US 192. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water surrounded by cattails with patches of phragmites, torpedo grass, Carolina willow, cogon grass, primrose, wax myrtle, and salt bush. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 126

Pond Site 126 is located within the interchange of I-4 and US 192, just to the north of the eastbound ramp from I-4 to westbound US 192, east of I-4. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated in the original PD&E Study. The pond consists of open water surrounded by cattails with patches of torpedo grass, Carolina willow, wax myrtle, and salt bush. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 127

Pond Site 127 is located southwest of the westbound on-ramp from Osceola Parkway to I-4. This is an existing pond and no modifications or expansions are proposed; no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water with heavy growth of hydrilla. The edges of the pond are surrounded by torpedo grass with sparse patches of cattails, arrowhead, and rattlebox, with mowed Bahia grass on the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 128A

Pond Site 128A is located within the Osceola Parkway and I-4 interchange between Pond Sites 127 and 128B. This is an existing pond that is proposed to be re-graded and no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water with a heavy growth of hydrilla that is surrounded by torpedo grass and alligator weed and sparse patches of cattails and spatterdock. The banks primarily consist of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 128B

Pond Site 128B is located within the Osceola Parkway and I-4 interchange along the westbound ramp from I-4 to eastbound Osceola Parkway. This is an existing pond and no modifications or expansions are proposed; and no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water with patches of white water lily and is surrounded by torpedo grass and patches of pickerel weed. The banks primarily consist of mowed Bahia grass with some patches of planted cypress. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 129

Pond Site 129 is located northwest of the westbound ramp from I-4 to Osceola Parkway. This is an existing pond and no modifications or expansions are proposed; and no corresponding pond site was evaluated during the original PD&E Study. The pond consists of open water with dense patches of white water lily. The edges of the pond are comprised of a mix of cattails, primrose, and salt bush with some patches of wax myrtle, and mowed Bahia grass on the banks. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 130

Pond Site 130 is located within the Osceola Parkway and I-4 interchange in the northeast quadrant. This is an existing pond which is proposed to be reduced in size and partially re-graded; and no corresponding pond site was evaluated during the original PD&E Study. The pond is mostly open water with heavy growth of hydrilla and patches of white water lily. The edges of the pond are comprised of cattails, Carolina willow and primrose, with planted cabbage palm and cypress. The banks are primarily comprised of mowed Bahia grass. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 130A

Pond Site 130A is located west of I-4, just north of the Osceola Parkway interchange. This is a proposed new pond site, which is currently a channelized portion of Bonnet Creek with no corresponding pond site from the original PD&E Study. The creek is mostly open water with some primrose and torpedo grass along the edges. The banks are primarily comprised of mowed Bahia grass. Bonnet Creek will be re-routed to the east of the current location. This re-alignment of Bonnet Creek is being proposed in coordination with the Reedy Creek Improvement District which utilizes this surface water as part of its master stormwater system. The pond site proposes minor wetland impacts (0.73 acres), surface water impacts (3.73 acres), though has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (12.82 acres) will be required for this pond site.

Pond Site 131A

Pond Site 131A is located within the braided ramps of westbound I-4, to the south of the SR 536 and I-4 interchange. This is an existing pond that is proposed to be reconfigured with no corresponding pond site

from the original PD&E Study. The pond is mostly open water with heavy growth of hydrilla and is surrounded by thick growth of torpedo grass and cattails with some pickerel weed, arrowhead, and planted cypress. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 131B

Pond Site 131B is located to the east of the right-of-way, just south of the SR 536 and I-4 interchange. This is an existing pond that is proposed to be reconfigured with no corresponding pond site from the original PD&E Study. The borrow pit is mostly open water surrounded by cattails, torpedo grass, slash pine, longleaf pine, saw palmetto, beauty berry, wax myrtle, and red maple. The portions that are proposed for expansion are primarily slash pine and longleaf pine with saw palmetto and some red bay and cypress. The pond site proposes minor wetland impacts (1.24 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (9.11 acres) will be required for this pond site.

Pond Site FPC 132

Pond Site FPC 132 is located within the braided ramps of westbound I-4, just south of the SR 536 and I-4 interchange. This is a proposed new floodplain compensation pond with no corresponding pond site from the original PD&E Study. The existing site is mostly wetland with a mix of slash pine, pond pine, red maple, cypress, wax myrtle, primrose, and Carolina willow. Mowed Bahia grass is located along the ramp to the southwest of the forested area. The pond site proposes minor wetland impacts (1.37 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 132

Pond Site 132 is located within the SR 536 and I-4 interchange in the southwest quadrant. This is a proposed new pond site corresponding to Pond Site 66.6 from the original PD&E Study. The existing site is forested with a mix of slash pine, long leaf pine, pond pine, red maple, and red bay with an understory dominated by saw palmetto and some elderberry, wax myrtle, and various species of vines and ferns. Wetland impacts are proposed for this pond site (9.81 acres) though these wetlands have been degraded in quality as they are isolated within the footprint of the cloverleaf interchange. The pond site has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site FPC 133

Pond Site FPC 133 is located within the braided ramps of eastbound I-4, just south of the SR 536 and I-4 interchange. This is a proposed new floodplain compensation pond with no corresponding pond site from the original PD&E Study. Together with FPC 132, the two ponds provide 12.20 acre-feet of compensation volume. The existing site is mostly wetland with heavy growth of Brazilian pepper and some red maple, cabbage palm, slash pine, pond pine, saw palmetto, red bay, and salt bush with patches of wild taro, blackberry, and various species of ferns. The pond site proposes some wetland impacts (3.41 acres), though

these wetlands have been degraded in quality as they are isolated within the existing footprint of the interchange. The proposed pond site has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 133

Pond Site 133 is located within the SR 536 and I-4 interchange in the southeast quadrant. This is a proposed new pond and corresponds to Pond Site 66.5 from the original PD&E Study. The existing site is forested with a mix of slash pine, long leaf pine, and red maple with an understory dominated by saw palmetto with some gallberry, St. John's wort, red root, salt bush, wax myrtle, and wild grape. Wetland impacts are proposed for this pond site (10.05 acres) though these wetlands have been degraded in quality as they are isolated within the footprint of the cloverleaf interchange. The pond site has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 134

Pond Site 134 is located within the SR 536 and I-4 interchange in the northwest quadrant. This is a proposed new pond site corresponding to Pond Site 66.7 from the original PD&E Study. The existing site is forested with a mix of pond pine and slash pine, with some red maple, red bay, sweet bay, and wax myrtle. The understory is dominated by saw palmetto with some Brazilian pepper, Chinese tallow, cogon grass, Carolina willow, and elderberry. Wetland impacts are proposed for this pond site (11.58 acres) though these wetlands have been degraded in quality as they are isolated within the footprint of the cloverleaf interchange. The pond site has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 135

Pond Site 135 is located within the SR 536 and I-4 interchange in the northeast quadrant. This is a proposed new pond site corresponding to Pond Site 66.8 from the original PD&E Study. The existing site is forested with a mix of slash pine, pond pine, red maple, and red bay with an understory dominated by saw palmetto and some gallberry, St. John's wort, red root, Brazilian pepper, salt bush, wax myrtle, and blackberry. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 136B

Pond Site 136B is located on the east side of the right-of-way, to the north of the SR 536 and I-4 interchange. This is a proposed new pond site with no corresponding pond site from the original PD&E Study. The site is mostly forested with some openings which are dominated by cogon grass. The site is composed of a mix of cabbage palm, laurel oak, water oak, golden raintree, and longleaf pine with unmaintained weedy herbaceous species. The pond site does not propose any wetland impacts, has no listed species involvement, and has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). This pond site was given a medium contamination risk rating, though subsequent analysis from the *Level 2 Contamination*

Assessment Report (March 2015) determined that the soils and groundwater have not been impacted and would not require special handling, characterization, and disposal provisions. Additional right-of-way (4.66 acres) will be required for this pond site.

Pond Site 137

Pond Site 137 is located within the SR 535 and I-4 interchange, east along the ramp from eastbound I-4 to SR 535. This is a proposed new pond site with no corresponding pond site in the original PD&E Study. The existing site is mostly planted pine with Bahia grass and mixed weedy herbaceous species. The pond site does not propose any wetland impacts, though will result in minor surface water impacts (0.75 acres). It has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 137A

Pond Site 137A is located within the SR 535 and I-4 interchange, at the off-ramp from eastbound I-4 to SR 535. This pond site is proposed to be reconfigured with no corresponding pond site in the original PD&E Study. The existing pond has some open water with a mix of various submerged aquatic vegetation and patches of cattails and white water lily in the middle. The edges of the pond are dominated by cattails and Carolina willow with some primrose, salt bush, and wax myrtle. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 137B

Pond Site 137B is located within the SR 535 and I-4 interchange, at the northwest corner. This is a proposed new pond site with no corresponding pond site in the original PD&E Study. The site is primarily comprised of a mix of wax myrtle, Carolina willow, elderberry, cabbage palm, cattail, and primrose. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. This pond is within the existing right-of-way and will not require further acquisitions.

Pond Site 138*

Pond Site 138 is located west of I-4 in the Crossroads Shopping Plaza, just north of the SR 535 and I-4 interchange. This is one of three proposed new pond sites in the Crossroads Shopping Plaza with no corresponding pond site in the original PD&E Study. The existing area for this pond site includes Red Lobster, Taco Bell, and Johnnie's Hideaway restaurants, as well as an existing pond for the Crossroads Shopping Plaza. The existing pond is mostly open water surrounded by mowed St. Augustine grass with an area of arrowhead, torpedo grass, and button bush. The remaining portion of the site is primarily composed of an asphalt parking lot with landscaped vegetation. The pond site does not propose any wetland impacts, has no listed species involvement, and has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). This pond site was given a medium contamination risk rating due to the amount of business currently located on the proposed pond. Additional right-of-way will be required for this pond site.

Pond Site 138A*

Pond Site 138A is located west of I-4 in the Crossroads Shopping Plaza, just north of the SR 535 and I-4 interchange. This is one of three proposed new pond sites in the Crossroads Shopping Plaza with no corresponding pond site in the original PD&E Study. The existing area includes McDonalds, Chevys, Buffalo Wild Wings, and The Knife restaurants. The site is primarily composed of an asphalt parking lot with landscaped vegetation. The pond site does not propose any wetland impacts, has no listed species involvement, and has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). This pond site was given a medium contamination risk rating due to the amount of business currently located on the proposed pond. Additional right-of-way will be required for this pond site.

Pond Site 138B*

Pond Site 138B is located west of I-4 in the Crossroads Shopping Plaza, just north of the SR 535 and I-4 interchange. This is one of three proposed new pond sites in the Crossroads Shopping Plaza with no corresponding pond site in the original PD&E Study. The existing area includes the Sweet Tomatoes restaurant, Pirate's Cove Mini Golf, and Gooding's Supermarket. The site is primarily composed of an asphalt parking lot with landscaped vegetation. The pond site proposes minor wetland impacts (0.82 acres), has no listed species involvement, and has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). This pond site was given a medium contamination risk rating due to the amount of business currently located on the proposed pond. Additional right-of-way will be required for this pond site.
*The right-of-way for these three pond sites consists of a number of commercial properties within a larger commercial development over multiple parcels. The total amount of right-of-way required for the 3 ponds is 29.64 acres.

Pond Site FPC 138

Pond Site FPC 138 is located west of I-4, west of South Apopka Vineland Road, behind a row of restaurants. This new pond site providing 3.50 acre-feet of compensation volume with no corresponding pond site from the original PD&E Study is densely vegetated and is mostly comprised of Carolina willow, elderberry, primrose, red maple, and laurel oak. The pond site proposes minor wetland impacts (1.41 acres), has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and no potential contamination involvement. Additional right-of-way (2.87 acres) will be required for this pond site.

Pond Site 139A

Pond Site 139A is located along the east side of I-4, just south of the Daryl Carter Parkway overpass. This pond site is proposed to be reconfigured with no corresponding pond site in the original PD&E Study. The pond is mostly open water with some patches of hydrilla and spatterdock. Some cattails, torpedo grass and primrose are present around the edges. The banks of the existing pond are primarily comprised of mowed Bahia grass. An active cattle pasture composed primarily of Bahia grass and prickly pear is located to the east of the existing pond, where expansion is proposed. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (1.57 acres) will be required for this pond site.

Pond Site 139B

Pond Site 139B is located along the east side of I-4, just north of the Daryl Carter Parkway overpass. This

pond site is proposed to be reconfigured and has no corresponding pond site in the original PD&E Study. The pond is mostly open water with some cattails, torpedo grass, Carolina willow and primrose around the edges. The banks of the existing pond are primarily comprised of mowed Bahia grass with some areas of castor bean. An active cattle pasture composed primarily of Bahia grass and prickly pear with some scrub lupine is located to the east of the existing pond, where expansion is proposed. The pond site does not propose any wetland impacts, has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. The scrub lupine, a federally listed plant species, was observed in the cattle pasture at this pond site. Based upon the recommendations of USFWS staff, FDOT will coordinate with the conservation staff from Bok Tower Gardens prior to project construction to collect and relocate the individual scrub lupine plants and seeds (if possible). This will satisfy the requirements of USFWS and is documented in the Biological Opinion dated August 26, 2016. Additional right-of-way (1.61 acres) will be required for this pond site.

Pond Site 140

Pond Site 140 is located along the west side of I-4, just north of the Daryl Carter Parkway overpass. This pond site is proposed to be reconfigured and has no corresponding pond site in the original PD&E Study. The existing pond is mostly open water with some cattails, torpedo grass, Carolina willow and primrose around the edges. The banks are primarily comprised of mowed Bahia grass. The area to the west of the existing pond is mostly scrub live oak with some sand pine, longleaf pine, and saw palmetto. The pond site does not propose any wetland impacts, has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (1.51 acres) will be required for this pond.

Pond Site FPC 141

Pond Site FPC 141 is located east of the right-of-way, north of the Daryl Carter Parkway overpass at the end of Lake Willis Drive. This is a proposed new floodplain compensation pond providing 1.92 acre-feet of compensation volume with no corresponding pond site in the original PD&E Study. The site is mostly forested and is primarily composed of live oak and saw palmetto which have been densely overgrown by wild grape vines. The pond site proposes minor wetland impacts (2.2 acres) and surface water impacts (1.02 acres), though has no listed species involvement, no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16), and has no potential contamination involvement. Additional right-of-way (4.17 acres) will be required for this pond site.

Pond Site 142B

Pond Site 142B is located west of I-4, to the southwest of the intersection of Palm Parkway and Central Florida Parkway. This is a proposed new pond site corresponding to Pond Site 70.8 from the original PD&E Study. This pond site is comprised of a forested area to the north, a furrowed planted pine area in the middle, and an area of planted citrus to the south. The forested part of the pond site is mostly sand pine that has been densely overgrown with Brazilian pepper and weedy herbaceous species. The middle area has rows of young planted pines in furrows with heavy growth of weedy herbaceous species. The southern area is mostly planted rows of young citrus. The pond site does not propose any wetland impacts and has no cultural resource involvement (SHPO Concurrence Letter dated 6/23/16). Several burrows of the state-threatened gopher tortoise were observed on the site. Prior to construction, a permit will be obtained from FFWCC for relocation of gopher tortoises and commensals should the proposed pond not be able to avoid

the burrows. This pond site was given a medium contamination risk rating, though subsequent analysis from the *Level 2 Contamination Assessment Report* (March 2015) found that the soils and groundwater have not been impacted and would not require special handling, characterization, and disposal provisions. Additional right-of-way (10.02 acres) will be required for this pond site.

Cross Drains:

Due to the proposed roadway widening, all of the cross drains will require total replacement. Through hydraulic analysis, it was determined that 4 cross drains need to be upsized: CD-7, 8, 12, and 13. The remaining cross drains will require a change in slope to function adequately. All cross drains were analyzed using HY8 (Version 7.3) software. Additional details are available in the *Location Hydraulic Report* (March 2016) prepared for this Reevaluation.

C.8. Protected Species and Habitat

An *Endangered Species Biological Assessment* (February 2016), was prepared to identify wildlife species of known or potential occurrence and natural habitat types along the I-4 BtU Segment 1 project corridor and to document potential project-related impacts. Fifty-one species of animals and forty-eight species of plants have been identified as potentially occurring within study area counties, though suitable habitat may not be available for all of the species along the project corridor. Of these species, 11 are federally listed animals, 11 are federally listed plants, 26 are state listed animals and 48 are state listed plants. The results of the field surveys allowed for the preparation of the effects determinations for the species with the potential to occur within the corridor and be potentially impacted by the project. The determinations were shared with FFWCC and USFWS for concurrence. Informal concurrence was provided via a letter from FFWCC dated October 13, 2015 and from USFWS in a letter dated April 4, 2016. USFWS agreed with the determination that the project would not affect the red-cockaded woodpecker or the Everglades snail kite, and the project May Affect, but would not likely Adversely Affect the crested caracara, wood stork, Florida scrub-jay, and eastern indigo snake.

Formal consultation for impacts from the project to federally listed species (sand skink and scrub-lupine) was submitted to USFWS by FHWA on April 6, 2016. The USFWS sent the completed Biological Opinion to FHWA on August 26, 2016, and on September 7, 2016, the USFWS sent FDOT the completed Biological Opinion addressing impacts to federally listed species (sand skink and scrub lupine).

The Conservation Measures from the Biological Opinion the FDOT will employ are the following:

Conservation Measure 1: Compensation for Sand Skink Habitat Loss

FHWA and FDOT propose to offset impacts by providing compensatory mitigation at a Service-approved conservation bank at 2:1 ratio. The compensation acres are based on surveys that determined sand skink occupancy within the Pond Site FPC 105A for the project (10.0 acres of impacts). FDOT will provide 20.0 credits to offset project impacts to occupied sand skink habitat.

Conservation Measure 2: Scrub lupine conservation

During permitting the proposed project will be re-surveyed for occurrence of scrub lupine. In coordination with Bok Tower Gardens, the following will occur: collection of seeds, or translocation of plants out of the

project footprint for replanting in lands acceptable to the Service (e.g., public conservation lands). Collected seeds would be provided to Bok Tower Gardens for reproduction and conservation of the species.

The Biological Opinion Terms and Conditions that FDOT will comply with are the following:

1. The construction work area for 1-4 BtU Segment 1 — Pond Site FPC 105A will be clearly delineated prior to ground disturbance to ensure that take is not exceeded within the known occupied skink areas. The Service concluded that no more than 10 ac (4.05 ha) of occupied sand skink habitat will be incidentally taken. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring re-initiation of consultation and review of the reasonable and prudent measures provided.

2. FDOT will be required to notify the Service 30 days before ground disturbance and construction begins that the compensatory mitigation has occurred.

The results of the review and subsequent Biological Opinion have been incorporated into the project documents (see also Section VI. Commitments).

The original study concluded that the project was not likely to adversely affect any threatened or endangered species.

ATTACHMENT 4

Evaluation of Changes in Physical Impacts – Section 2.D.

D.1. Highway Traffic Noise Impact Analysis

The project was subjected to a noise analysis which resulted in a *Noise Study Report (*December 2015). The purpose of this report is to update the original PD&E Study findings by documenting any changes that have occurred since the original study. This includes changes in the current proposed concept being analyzed, changes to the PD&E process, and changes in the environmental regulations since the EA/FONSI was approved in 1999. The results predict that 102 noise sensitive receptors will be impacted. Three locations with anticipated noise impacts had noise barriers recommended for further consideration and public input as a result of the noise impact analysis update.

Noise Sensitive Area B – Barriers were modeled at the Tuscana Resort Orlando within Noise Sensitive Area B. Ground-mounted barriers were modeled along the right-of-way adjacent to westbound I-4, and shoulder mounted barriers were modeled at the edge of the shoulder as a barrier-mounted wall. The best case scenario for the Ground Mounted Barrier was for a 619-foot long, 22-foot high wall at a total cost of $408,693 that provided an insertion loss of 5 dBA or greater to 11 receptors for an average cost of $37,154 per benefited receptor, and is therefore cost reasonable.

Noise Sensitive Area P – Barriers were modeled for the Integra Cove Apartments located within Noise Sensitive Area P. Barriers were modeled along the right-of-way, on the shoulder of the eastbound travel lanes, and on the shoulder of the off-ramp from eastbound I-4 to Central Florida Parkway. The best case scenario was for a 489-foot long, 22-foot tall ground-mounted barrier at a total cost of $322,524. This barrier provided an insertion loss of at least 5 dBA for 10 receptors at an average cost of $32,252 per benefited receptor, and is therefore cost reasonable.

Noise Sensitive Area Q – Barriers were modeled for the Altis Sand Lake Apartments located within Noise Sensitive Area Q. Barriers were modeled along the right-of-way adjacent to the on ramp to westbound I-4 from Central Florida Parkway and along the shoulder of the westbound travel lanes. The shoulder barrier was broken up into two separate barriers (with overlapping coverage) due to the elevated proposed on ramp to westbound I-4 from Central Florida Parkway. Both the ground mounted barriers and the shoulder-mounted barriers provided abatement, and both were deemed cost reasonable. The best case scenario for the shoulder mounted barrier was a configuration with a 979-foot long, 14-foot tall shoulder mounted barrier and a 598-foot long, 14-foot tall shoulder mounted barrier at a total cost of $662,424. This barrier combination provided an insertion loss of at least 5 dBA for 86 receptors at an average cost of $7,702 per benefited receptor. Both barrier options are well below the $42,000 cost per benefited receptor threshold and are therefore cost reasonable.

Commitments pertaining to noise and noise barriers can be found in Section 4.

The original study identified two locations with noise impacts where abatement measures were deemed reasonable and feasible and committed to further evaluations during final design. One location (Paradise Park RV) no longer exists, and the other (Monterey Lake Apartments) is located east of Central Florida Parkway and therefore is within the limits of I-4 BtU Segment 2, and is part of the Noise Study for that

project segment.

D.3. Contamination

A *Contamination Screening Evaluation Report* (December 2015) was completed to document the potential for contamination impacts for the I-4 Segment 1 corridor and proposed pond sites. Known contamination sites and properties with potential contamination were identified and assigned a risk rating based on the degree of concern for potential contamination problems. A total of 86 sites or properties within 1/2 mile of the current I-4 right-of-way and proposed pond sites were identified by searches in the FDEP contamination database or by field inspections. Of these sites, one had a high risk rating, 7 had a medium risk rating and the remaining 78 sites identified received a no risk or low risk rating. It is recommended that any excavation, demolition or dewatering activities within or adjacent to any of the identified medium risk sites should require soil and groundwater testing before construction. Pond sites were inspected via pedestrian transects and rated for their potential to have contamination. Out of the 89 pond sites, 11 were given medium risk rating and the remaining 78 were given a low risk rating.

Three sites were identified as groundwater contamination plumes of ethylene dibromide (EDB) and encompass a portion of one listed contamination site and Pond Sites 106A and 106B. The contamination site was given a low risk rating based on its distance from the right-of-way, but both pond sites were given a medium risk rating. In addition to the contamination plumes, discarded debris such as paint cans and fire extinguishers were discovered at Pond Site 136B, which was also given a medium risk rating.

A Level II Contamination Impact Assessment Report was prepared for four pond sites for I-4 BtU Segment 1 (Ponds 136B, 141A, 141B, and 142B), which determined that the soils and groundwater have not been impacted at that time and would not require special handling, characterization, and disposal provisions. It did not recommend any further contamination assessments to be performed at this location. The Level II Study was only conducted for those properties which did not have any previous soil analyses or contamination information from other studies and projects.

Based on historic aerials, land use in the area before the construction of I-4 consisted of natural vegetation, rural citrus groves, and some pasture land. Potential contamination impacts from these activities include additional EDB contamination from the citrus groves, pesticide/herbicide/fertilizer and potentially petroleum contamination from the citrus production or farm equipment, and arsenic contamination from potential cattle dips associated with the pastures. However, the existence, exact location and severity of these potential sources of contamination are mostly unknown.

The original study identified two sites with a risk rating of Medium and two sites with a risk rating of High to be further evaluated.

D.4. Utilities

The utilities located within the right-of-way were identified through the use of existing plans and by contacting all of the utility companies identified via the Sunshine State One call system. A number of new utilities have been added to the corridor over the past 15 years. Utility impacts were carefully evaluated when considering the proposed roadway improvements and stormwater pond locations. The location of

overhead utilities, existing power poles and access issues were also evaluated to minimize impacts. However, smaller gas lines and other buried utilities may involve relocation.

Most utility companies have the capability to adjust their services without causing major inconveniences to the customers. As a result, mitigation measures, to the maximum extent feasible, will include the following:

- Maintaining utility connections in temporary locations;
- Minimizing the time without service;
- Installing alternative or new service before disconnecting the existing service; and
- Allowing service disruption only during periods of non-usage or minimum usage.

A *Utility Impact Assessment (August, 2015)* report was prepared concurrently with this effort and submitted under separate cover. The tables in the report provide a summary of potential utility impacts associated with the proposed improvements in the I-4 BtU Segment 1 corridor for the recommended alternative. Exact locations of existing utilities will be determined in the final design of the proposed improvements. Coordination with the known utility companies during the final design phase will assist in minimizing relocation adjustments and disruptions of service to the public.

D.6. Bicycles and Pedestrians

There are no designated bicycle lanes currently on the cross streets within the study limits of I-4 BtU Segment 1. Pedestrian accommodations exist along CR 532, SR 535, Fenton Street (Daryl Carter Parkway) and Central Florida Parkway. According to the Orange County Trails Master Plan and MetroPlan Orlando documents, there are no planned bike trails within I-4 BtU Segment 1 in either Orange County or Osceola County. SR 429, World Drive, SR 417, SR 530, Osceola Parkway and SR 536 are roadway facilities without existing or proposed pedestrian accommodations. The proposed improvements for I-4 BtU Segment 1 will maintain sidewalks along both sides of CR 532 and Daryl Carter Parkway, which will expand in width through the center of the interchanges. Sidewalks will also be provided along both sides of SR 535. A 10-foot wide sidewalk (multi-use trail) will be provided along the south side of Central Florida Parkway since bicycle lanes are not being provided on the roadway and the County has indicated a preference to have a trail in lieu of bicycle lanes. Old Lake Wilson Road will have a 10-foot sidewalk on the west side of the bridge and 6-foot sidewalk on the east side when the bridge is replaced. The proposed improvements will not preclude any future pedestrian or bicycle facilities in the project area.

Attachment 5

3. EVALUATION OF MAJOR DESIGN CHANGES AND REVISED DESIGN CRITERIA (e.g., Typical Section Changes, Alignment Shifts, Right of Way Changes, Bridge to Box Culvert, Drainage Requirements, Revised Design Standards)

This reevaluation is to open the design phase and document design changes made to the I-4 Beyond the Ultimate (BtU) Segment 1 project. The segment that comprises the I-4 BtU Segment 1 PD&E Study Update Project (432100-1) limits are from west of CR 532 (Osceola Polk Line Road) to west of SR 528 (Beachline Expressway) as shown on the Location Map in Attachment 6. This correlates with the original EA/FONSI project limits. The I-4 BtU Segment 1 has been split into two design projects.

- **431456-1:** From west of CR 532 (Osceola Polk Line Road) to east of SR 522 (Osceola Parkway)
- **242484-8**: From east of SR 522 (Osceola Parkway) to west of SR 528 (Beachline Expressway)

This reevaluation includes environmental and engineering analysis of the original design concept, which showed six general use lanes (GUL) and four special use lanes (SUL) from CR 532 to southwest of World Drive (6+4), six GUL and two High Occupancy Vehicle (HOV) lanes from southwest of World Drive to northeast of Lake Avenue (6+2) and six GUL and 4 HOV lanes from northeast of Lake Avenue to SR 528 (Beachline Expressway) (6+4), to the current proposed design (from west of CR 532 to west of SR 528 / Beachline Expressway), which includes six GULs and four express lanes (EL) operating under a variable price toll plan (6+4) as well as interchange modifications, grade-separated ramps, ramp-to-ramp auxiliary lanes, intersection modifications and/or other improvements. The typical sections are provided in Attachment 7 and interchange layouts are provided in Attachment 8. Other changes being reanalyzed include stormwater management (drainage requirements and pond site changes), access plan and interchange configurations. Commitment compliance was also reviewed and updated as part of this reevaluation. See below for the details of the design changes. Discussion of the potential environmental impacts is found with each change and a general discussion of impacts can be found later in the reevaluation. The Planning Consistency Form for each design segment has been provided and the required TIP, STIP, and LRTP pages are attached.

*Note on Lake Avenue: The original name was Street B, which was renamed to Lake Avenue. Orange County subsequently reevaluated the PD&E to relocate this overpass to the current location and configuration with the street name of Wildwood; then after construction of the existing overpass, the name was changed again to Fenton Street, and now it is called Daryl Carter Parkway.

Design Changes:

Typical Section

The original Project Development and Environment (PD&E) Study proposed two typical sections providing 6 General Use Lanes (GUL) and two or four special use / HOV lanes (see the **Attachment 7**).

Typical Section 1: This mainline typical section was proposed from CR 532 / Osceola Polk Line Road to southwest of World Drive and again from northeast of Lake Avenue to SR 528 (Bee Line

Expressway) and would provide six GUL and four special use / HOV lanes within a minimum of 424 feet of right-of-way. All HOV lanes are HOV3+ (vehicles with three or more occupants.

Typical Section 2: This mainline typical section was proposed from southwest of World Drive to north east of Lake Avenue and would provide six GUL and two special use / HOV lanes within a minimum 400 feet of right-of-way. Both HOV lanes were HOV 3+ (vehicles with three or more occupants).

Both typical sections provide a design speed of 70 mph, and had the following additional common features:

- 12-foot outside and inside (median) shoulders
- 10-foot paved outside and inside (median) shoulders
- 12-foot paved shoulders on the inside of the general use lanes and on the outside (right) of the special use/HOV lanes
- A 3.9-foot barrier wall between the general use lanes and special use / HOV lanes
- A 44-foot wide future transit corridor

*Note: as a primary goal, the project is being designed to match Segment 2 of the I-4 BtU from SR 528 to Kirkman Road and the I-4 Ultimate project from Kirkman Road to SR 434. During a design re-evaluation for the I-4 Ultimate project in 2005, the Special Use Lanes (which were described as HOV lanes) were converted to tolled-Express Lanes. Since no existing HOV lanes were present on I-4, this change was approved by FHWA for the project moving forward. For Segment 1, the same situation occurs: there are no HOV lanes on I-4 to be considered, so the design change from Special Use Lanes to tolled-Express Lanes is similarly being proposed.

I-4 BtU Modified Build

The recommended general mainline typical section for I-4 BtU Segment 1 will have a total of ten dedicated lanes (6 general use lanes + 4 express lanes), a 44' future rail corridor in the median and a design speed of 70 miles per hour (mph) within a minimum 300-foot right-of-way (see the **Attachment 7**). Auxiliary lanes are also shown in the proposed typical sections and vary from one to three lanes. All typical sections provide a design speed of 70 mph. Other common features of the typical sections include:

- 12-foot express and general use lanes;
- 4-foot paved inside and 10-foot outside shoulders for express lanes
- 10-foot paved inside and 12-foot paved outside shoulders for general use lanes;
- A 2 foot wide barrier wall between the general use and express lanes.

While the overall typical section remains consistent throughout Segment 1, there are some areas along the Segment 1 corridor that will have special sections. Special cross sections were developed to meet the needs of the project due to right-of-way constraints, existing utility easements or other design considerations along

the corridor. These special sections may include Collector – Distributor (C-D) roads, braided ramp systems, elevated express lanes or elevated general use lanes. Additionally, the median width may vary in certain locations to accommodate changes in the horizontal alignment due to crossroad support structures, water crossings or other features. In the area between World Drive and SR 417, the median is considerably wider than 44 feet to accommodate a future high speed rail station. The special sections along the Segment 1 corridor are identified as follows:

- I-4 Eastbound elevated express lanes between East of SR 429/ Western Beltway and West of World Drive
- C-D system (Eastbound and Westbound) between World Drive and SR 417
- I-4 Eastbound elevated general use lanes with an at grade C-D Road between SR 536 and SR 535
- I-4 Westbound elevated general use lanes between SR 536 and East of Daryl Carter Parkway with an at grade C-D Road between SR 536 and Central Florida Parkway
- I-4 Westbound with an elevated C-D Road between west of Central Florida Parkway and SR 528

The mainline typical section (three general use lanes and two express lanes in each direction) will be mostly consistent with the approved typical section that is being implemented for the I-4 Ultimate section from SR 435 (Kirkman Road) to SR 434 (432193-1). The typical section was designed to be contained within the existing right-of-way to the greatest extent possible, though right-of-way acquisition will be required (188 acres). The mainline proposes impacts to floodplains (46.02 acre feet) which will be offset via floodplain compensation ponds, and impacts to wetlands (112.94 acres) and surface waters (45.99 acres) which will be mitigated for satisfying the requirements of Part IV Chapter 373, F.S. and 33 U.S.C.s.1344. There are no proposed impacts to listed species with the proposed mainline. Contamination involvement for the mainline includes 3 medium risk sites and 1 high risk site (for details see Contamination section). No potential impacts to cultural or historical sites are proposed (SHPO concurrence obtained 6/23/16; for details see Cultural Resources Assessment Update section). The proposed project was evaluated for noise impacts where the results predict that 102 noise sensitive receptors will be impacted. Three noise barriers were determined to be reasonable and feasible to provide abatement at the impacted locations as detailed in the *Noise Study Report* (December 2015) prepared for the project (for details see Noise Impact Analysis section).

Design Traffic & System Access Modification Report (SAMR) Re-Evaluation:

Project traffic for I-4 and surrounding arterials within the study limits of I-4 BtU Segment 1 were developed and evaluated as part of the I-4 BtU SAMR Re-evaluation. The SAMR Re-evaluation includes existing conditions analysis, future original build and future modified build analyses. The "original build" analysis refers to the improvement concepts previously approved by the FHWA in the original I-4 SAMR report dated April 2000 and approved by FHWA in June 2000, with subsequent update in 2003. The current PD&E re-evaluation for I-4 BtU Segment 1 constitutes revised improvement concepts, referred to as

"modified build," which account for changing conditions over time. These changes include variation in traffic characteristics, modifications to express lane access points and other traffic and design considerations which led to the current proposed build alternatives. The SAMR Re-evaluation was approved by the FHWA on May 9, 2017.

Interchanges

Original PD&E Study:

The original PD&E Study proposed design concepts for the following interchange configurations:

- CR 532
- Western Beltway (SR 429)
- World Drive
- Southern Connector (SR 417)
- US 192 (SR 530)
- Osceola Parkway
- SR 536
- SR 535
- Lake Avenue (now Daryl Carter Parkway)
- Central Florida Parkway

CR 532 – This interchange will not be modified beyond its current full diamond configuration. However, dual left turn lanes are planned on the westbound off-ramp approach and for the eastbound CR 532 to eastbound I-4 turning movement.

Western Beltway (SR 429) – Due to the limited access nature of both I-4 and the Western Beltway, no at-grade ramp terminal intersections were part of this proposed new interchange. The Preferred Build Alternative is a fully-directional interchange, with all ramps having a design speed of 50 mph.

World Drive – The existing interchange configuration and collector-distributor (CD) system will not be modified as part of the project.

Southern Connector (SR 417) – The existing interchange configuration will not be modified as part of the project.

US 192 (SR 530) – The Preferred Build Alternative modifies this interchange to a three-level diamond. This interchange allows the US 192 through movement to be free of at-grade intersections. Only the turning movements to and from I-4 will have to through at-grade intersections.

Osceola Parkway – Osceola Parkway currently crosses over I-4 without access. However, another project will construct a full access interchange at this location which will be completed prior to the improvements within this study. The eastbound I-4 to Osceola Parkway movements will be accommodated by a loop ramp in this design project. Traffic desiring access to eastbound Osceola Parkway would be required to make a left turn at an at-grade intersection. A diamond ramp was considered for this movement in the

previous study, but would result in significant right-of-way impacts. This movement will be modified by the Preferred Build Alternative by adding the diamond ramp as a part of the aerial CD roadway.

SR 536 – This interchange is not being modified from its current configuration. This interchange is similar to a full cloverleaf type interchange, with the exception that the eastbound SR 536 to eastbound I-4 movement is accommodated with a flyover.

US 192 to SR 536 Braided Ramps and CD system – The Preferred Build Alternative includes an eastbound aerial CD roadway between US 192 and Osceola Parkway. The eastbound entrance ramp from Osceola Parkway is braided with the eastbound exit ramp to SR 536. For the westbound direction, a continuous CD system is provided from SR 536 to US 192.

SR 535 –The traffic analyses showed the need for dual left turn lanes on the northbound approach to the SR 535 / westbound ramps intersection.

SR 535 to Lake Avenue CD system – The eastbound entrance loop and diamond ramps from SR 535 begin a CD system which extends to Lake Avenue. A slip ramp is provided from the general use lanes to the CD road for eastbound traffic exiting at Lake Avenue. A CD system is also provided in the westbound direction between Lake Avenue and SR 535. Westbound traffic exiting at SR 535 will use a slip ramp which connects to the CD road. Also, the traffic analysis shows the need for dual left turn lanes at the SR 535 / I-4 westbound ramps intersection.

Lake Avenue (now Daryl Carter Parkway) – The Preferred Build Alternative provides a full access interchange at Lake Avenue. This proposed interchange is essentially a diamond interchange for eastbound traffic. A diamond ramp is provided for westbound traffic exiting the general use lanes. A loop ramp provides access for all movements from Lake Avenue to westbound I-4.

Central Florida Parkway – The Preferred Build Alternative modifies this interchange to include ramp movement to and from the northeast along I-4. This interchange continues the westbound Central Florida Parkway to westbound I-4 flyover ramp movement, but requires that the existing structure be replaced due to mainline widening impacts to the bridge piers.

Interim Changes to the I-4 Corridor since the PD&E Study Preferred Build Alternative Approval:

Tradition Boulevard was constructed as a part of the Reunion Resort over I-4, approximately 2 miles north of CR 532.

SR 429 / Western Beltway was constructed with the terminus of the road occurring at the junction with I-4. This includes a 3-way (“Y”) stack freeway-to-freeway interchange at I-4 with no at-grade ramp terminal intersections.

242531-1 – The US 192 interchange was modified to include the proposed US 192 through movements without at-grade intersections. Additional flyover ramps were constructed for movements to and from I-4 from US 192. This project was approved under a Re-evaluation of the original EA/FONSI.

416518-1 – Braided ramps were constructed including an eastbound off ramp to Osceola Parkway, an eastbound off ramp to SR 536 with on ramp from Osceola Parkway, westbound off ramps to SR 536, Osceola Parkway, and US 192 with on ramps beginning from SR 536. This project was analyzed and approved under a separate Environmental Document (Type 1 CE).

242522-1 – A full access interchange at Osceola Parkway was constructed per the original PD&E Study Preferred Build Alternative.

Interchange improvements were made at the SR 535 interchange, including dual eastbound on ramps from southbound SR 535, dual left and right turns from westbound I-4 to SR 535, and westbound on ramps that merge into a braided ramp system on westbound I-4 from SR 535.

Daryl Carter Parkway was constructed by Orange County as an overpass (formerly called Lake Avenue) with no access from I-4.

The westbound flyover on-ramp from Central Florida Parkway was constructed.

I-4 BtU Segment 1 Reevaluation:

The recommended alternative for the I-4 BtU Segment 1 provides grade separations and/or interchanges at fourteen locations (see the **Attachment 8** for plan sheet layout):

- CR 532/Osceola-Polk Line Road (Diverging Diamond Interchange),
- Tradition Boulevard (overpass),
- SR 429/Daniel Webster Western Beltway (Systems 3-leg Directional Interchange),
- Old Lake Wilson Road (overpass),
- Reedy Creek (I-4 overpass)
- World Drive (Partial Cloverleaf Interchange),
- SR 417/Central Florida Greenway (Systems Partial Y Interchange),
- US 192/SR 530 (Partial Cloverleaf Interchange),
- W. Osceola Parkway (Partial Cloverleaf Interchange),
- Bonnet Creek (I-4 overpass)
- SR 536 (Epcot Center/World Center Drive) (Partial Cloverleaf Interchange)
- SR 535 (Modified Diamond Interchange)
- Daryl Carter Parkway (Diverging Diamond Interchange),
- Central Florida Parkway (Diamond Interchange)

CR 532 Interchange

Two interchange alternatives were evaluated for CR 532 (as described in the I-4 Beyond the Ultimate Systems Access Modification Report (SAMR) Re-evaluation of I-4 Beyond the Ultimate Project South Section from west of US 27 to west of SR 435 (Kirkman Road).

Alternative 2 (Recommended Alternative; see Attachment 8) proposes modifying the existing diamond interchange to a diverging diamond interchange (DDI). A DDI is designed so that each direction of the crossing roadway traffic is split and then crosses over itself. The traffic will temporarily drive on the left hand side of the roadway and then cross back over on the other side of the interchange. In order to avoid wrong way movements through this type of interchange, the opposite directions of the roadway are intersected at an angle that is large enough to appear to the driver as if they are making a through movement and that the other side of the roadway is an intersecting street. This design changes the signal operations at the ramp terminals from three-phase to two-phase cycles, as the left turn movements from the crossroad to the on ramps are now free flow movements. The existing single lane off ramps will diverge into four lanes accommodating dual left turn lanes and dual right lanes onto CR 532. The I-4 off-ramp movements will be signalized since there are only two receiving through lanes in each direction on CR 532. Bike lanes have been provided along CR 532 through the interchange. In this alternative, the existing I-4 eastbound off ramp is shifted to the south and the widening of the ramp will require additional right-of-way (0.31 acres).

This alternative has minor environmental impacts including 2.3 acre-feet of floodplain impacts (mitigation will be provided via the creation of a 4.56 acre floodplain compensation pond). No wetland impacts or listed species involvement is anticipated. No contamination will be impacted by the interchange. No cultural resources will be impacted (SHPO Concurrence Letter dated 6/23/16).

SR 429 / Western Beltway Interchange

One interchange alternative was evaluated for the SR 429 interchange. The proposed alternative (see Attachment 8) would leave the overall existing horizontal geometry as it is, in a three leg directional interchange configuration. Each of the general use lane ramps would remain the same with new ramps being added to provide connections to the express lanes in each direction. The eastbound general use exit ramp will shift north east of the existing condition will be a parallel cross road exit ramp. The existing single lane I-4 eastbound general use lane exit ramp will combine with a new eastbound express lane exit ramp to begin SR 429 northbound. The existing single lane I-4 eastbound ramp from SR 429 southbound will connect to the I-4 eastbound general use and express lanes. The new eastbound general use on ramp will connect further south from the existing condition due to the widening. The existing single lane I-4 westbound ramp to SR 429 northbound will remain connected to the I-4 westbound general use lanes. The existing off ramp will be modified to connect to I-4 further southwest of the existing condition. A new exit ramp will connect the westbound express lanes to SR 429 northbound. The existing I-4 westbound 2-lane on ramp from SR 429 southbound which converges to a single lane will become a 3-lane on ramp which will diverge, with two lanes connecting to the westbound general use lanes and one lane connecting to the express lanes. This ramp will connect to I-4 northeast of the existing condition. No additional right-of-way will need to be purchased in order to construct this alternative.

This alternative has minor environmental impacts including 29.42 acre-feet of floodplain impacts, which will be compensated via a floodplain compensation pond of 16.1 acres. Three of the pond sites within the interchange contain medium risk contamination sites that may be involved with the improvements. No wetland impacts are proposed, though the floodplain compensation pond (FPC 105A) has been determined to have an active population of sand skinks via a cover board survey. Coordination with USFWS has determined that approximately 10.0 acres of occupied skink habitat exists. FDOT has proposed mitigation at a 2:1 ratio to offset the impacts, and consultation with USFWS to provide a Biological Opinion (BO)

was completed with the issuance of the BO dated August 26, 2016. No cultural resources will be impacted (SHPO Concurrence Letter dated 6/23/16).

World Drive Interchange

One interchange alternative was evaluated for World Drive (see Attachment 8). The alternative would leave the overall existing horizontal geometry as it is, in a partial cloverleaf configuration. The single lane I-4 eastbound off ramp to eastbound World Drive will continue to connect to the eastbound C-D road. The single lane I-4 eastbound loop off ramp to westbound World Drive will continue to connect to the eastbound C-D road. The C-D road and the off ramp to eastbound and westbound World Drive will be shifted further to the southeast than the existing condition due to the widening of I-4. The existing 2-lane eastbound on ramp from World Drive will continue to connect to the eastbound C-D road at approximately the same location as existing today. The existing 2-lane I-4 westbound off ramp to westbound World Drive will continue to connect to the westbound C-D road at approximately the same location as existing today. The existing single lane I-4 westbound off ramp to eastbound World Drive will continue to connect to the westbound C-D road at approximately the same location as existing today. The existing single lane westbound on ramp from World Drive will continue to connect to the westbound C-D road at approximately the same location as existing today. No additional right-of-way will need to be purchased in order to construct this alternative.

No environmental impacts are anticipated with this proposed interchange. There are no proposed wetland impacts, no listed species involvement, and no contamination has been identified at this interchange. No cultural resources will be impacted (SHPO Concurrence Letter 6/23/16).

SR 417 Interchange

One interchange alternative was evaluated for SR 417 (see Attachment 8). The proposed alternative would leave the overall existing horizontal geometry as it is, in a partial interchange configuration. The existing 2-lane eastbound off ramp will continue to connect the eastbound C-D road to the beginning of northbound SR 417. The existing 2-lane on ramp will continue to connect the SR 417 southbound terminus to the westbound C-D road. Two new single lane ramp structures bridging over the I-4 eastbound lanes will provide direct connections from SR 417 southbound to the I-4 westbound express lanes and from I-4 eastbound express lanes to SR 417 northbound. The existing SR 417 southbound bridge over I-4 will be replaced due to conflicts with the existing substructure and the proposed I-4 widening. No additional right-of-way will need to be purchased in order to construct this alternative.

No environmental impacts are anticipated with this proposed interchange. There are no wetland impacts, no listed species involvement, and no contamination identified for this interchange. Cultural resources will not be impacted (SHPO Concurrence Letter dated 6/23/16).

US 192/SR 530 Interchange

One interchange alternative was evaluated for US 192/SR 530 (see Attachment 8). The alternative would leave the overall existing horizontal geometry as it is, in a partial cloverleaf interchange configuration with loop ramps in the southwest and northeast quadrants. The existing 2-lane I-4 eastbound off ramp will continue to connect to eastbound SR 530 and to the loop ramp to westbound SR 530 but will diverge from I-4 further northeast of the existing condition. The existing 2-lane on ramp will continue to connect the merged ramps from eastbound SR 530 and westbound SR 530 to I-4 eastbound as a parallel entrance. The

new connection point will be located further southwest of the existing condition. The existing 2-lane I-4 westbound off ramp will diverge further southwest than the existing condition on I-4 and will continue to connect to westbound SR 530 and to the loop ramp to eastbound SR 530. The existing single lane westbound on ramp will continue to connect to the merged ramps from SR 530 eastbound and the SR 530 westbound flyover ramp. This ramp will have a parallel-type entrance and will connect to I-4 further northeast of the existing condition. No additional right-of-way will need to be purchased in order to construct this alternative.

No impacts are anticipated to wetlands and listed species. One medium risk contamination site was identified in this interchange that could possibly be impacted. Cultural resources will not be impacted (SHPO Concurrence Letter dated 6/23/16).

Osceola Parkway Interchange

Three interchange alternatives were evaluated for Osceola Parkway (as described in the I-4 Beyond the Ultimate Systems Access Modification Report (SAMR) Re-evaluation of I-4 Beyond the Ultimate Project South Section from west of US 27 to west of SR 435 (Kirkman Road).

Alternative 3 (Recommended Alternative; see Attachment 8) maintains the partial cloverleaf configuration with loop ramps in the southwest and northeast quadrants and proposes the realignment of Bonnet Creek (C-1 Drainage Canal), resulting in numerous new bridge structures within this interchange. Bonnet Creek will be realigned in order to move the I-4 bridges out from underneath the Osceola Parkway bridges. The realignment of Bonnet Creek will be accomplished in coordination with the Reedy Creek Improvement District. The creek is a channelized body of water with control structures located throughout, and is a main component of the Walt Disney World Resort Drainage System. The realigned Bonnet Creek will follow a north/south alignment through the interchange crossing under Osceola Parkway approximately 500 feet east of the existing crossing location, and then crossing under I-4 approximately 1,300 feet north of the existing crossing location. The braided ramp system between Osceola Parkway and SR 535 will be maintained with some modifications. The existing I-4 westbound to Osceola Parkway westbound will be maintained as it is today as a 2-lane off ramp. The existing I-4 westbound to Osceola Parkway eastbound will be maintained as it is today as a 1-lane off ramp. The existing I-4 eastbound to Osceola Parkway westbound will be a 1-lane off ramp, the eastbound movement to Osceola Parkway, which is a stop condition today, will be removed and provided as a separate single lane off ramp. The I-4 eastbound express lane to Osceola Parkway eastbound will be a 1-lane off ramp as well, and will merge with the general use one lane off ramp. Improvements to the Osceola Parkway westbound to I-4 eastbound ramp have also been identified, providing a larger turning radius at this location, as shown in the concept plans. This alternative will require additional right-of-way (8.35 acres), including that which is required for the realignment of Bonnet Creek.

No environmental impacts are anticipated with this proposed interchange. There are no proposed wetland impacts (Bonnet Creek is not a jurisdictional wetland), no listed species involvement, and no contamination was identified for this interchange. No cultural resources will be impacted (SHPO Concurrence Letter dated 6/23/16).

SR 536 Interchange

One interchange alternative was evaluated for SR 536 (see Attachment 8). The proposed alternative would leave the overall existing horizontal geometry as it is, in a partial cloverleaf interchange configuration with loop ramps in the southwest, northeast, and northwest quadrants. The existing 2-lane off ramp from I-4 eastbound will diverge off further northeast than the existing condition and will continue to connect to eastbound SR 536 and the loop ramp to westbound SR 536. It will also be extended to the east of the loop ramp to provide a direct connection to the eastbound express lanes. The existing 2-lane on ramp to I-4 eastbound will merge onto I-4 further southeast than the existing condition and continue to connect to westbound SR 536 and eastbound SR 536. A new single lane ramp will be added to connect eastbound and westbound SR 536 directly to the eastbound express lanes. The existing 2-lane I-4 westbound off ramp will diverge off of I-4 further northwest than the existing condition and will continue to connect to westbound SR 536 and a C-D roadway. The 2-lane westbound I-4 off ramp will split, the left lane will continue to westbound SR536 and the right lane will go to the recently constructed ramp to Buena Vista Drive (*not shown on aerial image, but added by design geometry). The C-D road merges with ramps from the westbound express lanes, from westbound SR 536, to eastbound SR 536, and from eastbound SR 536 before merging back with westbound I-4. This ramp will merge onto I-4 westbound further north than the existing condition. A new single lane ramp will directly connect the westbound express lanes to westbound SR 536 and the C-D roadway which will provide access to eastbound SR 536. No additional right-of-way will be required to build this interchange.

No environmental impacts are anticipated with this proposed interchange other than floodplains. No wetland impacts, listed species, or contamination will be impacted by this interchange. Floodplain impacts are proposed for this interchange (8.89 acre-feet) which will be offset via a floodplain compensation pond. Cultural resources will not be impacted (SHPO Concurrence Letter 6/23/16).

SR 535 Interchange

Four interchange alternatives were evaluated for SR 535 (as described in the I-4 Beyond the Ultimate Systems Access Modification Report (SAMR) Re-evaluation of I-4 Beyond the Ultimate Project South Section from west of US 27 to west of SR 435 (Kirkman Road).

Alternative 4 (Recommended Alternative; see Attachment 8) is a modified diamond configuration, which will impact the entire Crossroads Shopping Plaza to the northwest of the current interchange. This alternative will provide a one-way loop road connection to Hotel Plaza Boulevard and a new I-4 westbound off ramp to southbound SR 535 in the northeast quadrant. SR 535 northbound traffic will bridge over and circumnavigate the new loop road to access Hotel Plaza Boulevard, eliminating the existing north to west left turn movements. Additionally, the Hotel Plaza Boulevard eastbound dual left turn lane will be elevated and under signal control at the merge with the SR 535 northbound through lanes. A new westbound C-D road will provide a new two lane off ramp that will diverge into two separate ramps; the right split will be a free flow left turn bridging over SR 535 northbound lanes to provide access to SR 535 southbound and the left split will be at grade signalized dual right turn lanes onto SR 535 northbound.

Similar to the Hotel Plaza Boulevard grade separated intersection, the intersection at the I-4 eastbound off ramp and Vineland Road will also be grade separated. The I-4 eastbound off ramp will connect to SR 535 at grade, SR 535 southbound will cross over the intersection and westbound Vineland Road to southbound

SR 535 will also cross over the SR 535 northbound travel lanes. Further south along SR 535, improvements are also proposed at the Meadow Creek Drive intersection. An additional left turn lane is proposed on the west leg to accommodate eastbound to northbound SR 535 left turn traffic. A bicycle lane is also provided along both sides of SR 535.

The Palm Parkway intersection with SR 535 lies north of the Hotel Plaza Boulevard intersection. Improvements are also required at this intersection; as a result all left turns at the Palm Parkway and SR 535 intersection will be prohibited. Left turning traffic will now need to continue straight through the intersection and make a U-turn or turn right onto the intersecting roadway and make a U-turn. Additionally, further north along SR 535, a new quadrant road is proposed to connect to the south leg of the SR 535 and Vinings Way Boulevard intersection. The quadrant road will run parallel to and west of SR 535, connecting Vinings Way Boulevard to Palm Parkway. The quadrant road is needed since the left turns have been prohibited at SR 535 and Palm Parkway. Additional right-of-way will be required to build this interchange (20.42 acres).

There are no proposed wetland and listed species impacts. Floodplain impacts are proposed (2.87 acre-feet) that will be offset via a floodplain compensation pond. One medium risk contamination site was identified for this interchange. Cultural resources will not be impacted (SHPO Concurrence Letter dated 6/23/16).

Daryl Carter Parkway (formerly Lake Drive) Interchange

Three interchange alternatives were evaluated for Daryl Carter Parkway (as described in the I-4 Beyond the Ultimate Systems Access Modification Report (SAMR) Re-evaluation of I-4 Beyond the Ultimate Project South Section from west of US 27 to west of SR 435 (Kirkman Road).

Alternative 3 (Recommended Alternative; (see Attachment 8) proposes a Diverging Diamond Interchange (DDI). The westbound C-D road provides a 1-lane off ramp from westbound I-4 which diverges to access Daryl Carter Parkway northbound to the right and Daryl Carter Parkway southbound to the left. The I-4 westbound on ramp from Daryl Carter Parkway will connect to the I-4 elevated westbound general use lanes. A single lane off ramp from I-4 eastbound which diverges to two lanes will provide access to Daryl Carter Parkway from I-4 eastbound. The 2-lane I-4 eastbound on ramp from Daryl Carter Parkway will connect to the I-4 eastbound general use lanes; this ramp will be braided in order to eliminate weaving and conflicts with vehicles exiting to Central Florida Parkway. The I-4 westbound general use lanes will bridge over the Daryl Carter Parkway interchange. The I-4 westbound viaduct will begin just east of Daryl Carter Parkway and terminate just east of SR 536. Additional right-of-way will be required to build this interchange (20.56 acres).

A federally listed plant species, the scrub lupine, was identified in the pasture east of I-4 at this interchange location and could be impacted. Consultation with USFWS relating to listed species for I-4 BtU Segment 1 was completed and a Biological Opinion dated August 26, 2016 addressed the potential impacts. Conservation Measure 2 from the BO addressed the scrub lupine. FDOT will be working with the conservation staff from Bok Tower Gardens prior to project construction to collect and relocate the individual scrub lupine plants and seeds (if possible). Bok Tower Gardens participates in the Rare Plant Conservation Program which is a national coalition dedicated to conserving and restoring the rare native plants of the United States of America. When a rare plant population is being impacted by development or

other activities, the Rare Plant Conservation Program helps prevent loss of its unique germplasm by collecting seeds or living plants. This will satisfy the requirements of USFWS as documented in the Biological Opinion. There are no wetland impacts at this interchange. One medium risk contamination site was identified in this interchange that could be impacted. Cultural resources will not be impacted (SHPO Concurrence Letter 6/23/16).

An interim build condition for the Daryl Carter Parkway Interchange has been proposed to create an alternative connection to the heavily utilized I-4/SR 535 interchange area prior to the opening of the I-4 BtU Modified Build alternative. An evaluation of the interim build condition at the I-4/Daryl Carter Parkway interchange was conducted for 2020 to be consistent with the assumption that the I-4 BtU Modified Build alternative would be open in 2020. A sensitivity analysis was also conducted to confirm the 2020 analysis findings in the event that the I-4 BtU project is not open until 2030.

The recommended Interim Build alternatives include a diverging diamond interchange (DDI) configuration and a westbound C-D system, consistent with the Modified Build alternative of the I-4 BtU project. The Interim Build alternative assumes existing configurations (i.e., do not assume BtU improvements) at the adjacent ramp junctions.

The recommended alternative is a ¾ interchange concept that includes one eastbound off-ramp, one eastbound on-ramp, and one westbound off-ramp at Daryl Carter Parkway with no west-bound on-ramp from Daryl Carter Parkway to I-4, and maintains the existing ramp configurations at SR 535.

The interim interchange project is included in the SAMR for this section which was approved by the FHWA on May 9, 2017. Phasing of the construction will be determined once FHWA approval has been granted and the funding source has been solidified.

Central Florida Parkway Interchange

One Interchange alternative was evaluated for Central Florida Parkway (see Attachment 8). The alternative would modify the existing partial interchange into a diamond interchange with a flyover ramp. The existing single lane I-4 eastbound off ramp will diverge off of I-4 further northeast than the existing condition and continue to connect to Central Florida Parkway. A new 2-lane on ramp will connect Central Florida Parkway to I-4 eastbound and will merge onto I-4 at the SR 528/I-4 interchange. A new 2-lane off ramp will connect I-4 westbound to Central Florida Parkway. This ramp will connect to westbound I-4 at the SR 528/I-4 interchange. The existing westbound Central Florida Parkway flyover ramp will continue to merge with the single lane ramp from eastbound Central Florida Parkway then become a braided ramp with a C-D road and continue to connect to westbound I-4 as a single lane on ramp further to the west of the existing connection. Additional right-of-way will be required to build this interchange (3.32 acres).

No wetlands or listed species will be impacted. One medium risk contamination site identified for this interchange that could be impacted. Cultural resources will not be impacted (SHPO Concurrence Letter dated 6/23/16).

Access Management

The proposed improvements will include a new full access interchange at Daryl Carter Parkway (previously known as Lake Avenue in the original PD&E Study).

CR 532 (Osceola Polk Line Road) is a County Road which is classified as an Access Class 5 minor arterial. There are numerous businesses located on the west side of the interchange in the area known as Champions Gate. To the east of the interchange, there are a few businesses and a residential community. The study area along CR 532 starts at South Goodman Road and continues east to Kemp Road. The recommended alternative maintains two through lanes in each direction. Access to businesses will not be affected.

SR 429 and SR 417 are limited access facilities that are operated by the Florida Turnpike Enterprise within the limits of Segment 1.

World Drive is a County Road which is classified as an Access Class 3 minor arterial roadway between I-4 and US 192/SR 530. Directly west of the interchange there are no driveways, businesses or residences. To the east of the interchange, World Drive forms a major intersection with Celebration Boulevard. The recommended alternative maintains the same number of lanes and access that is provided today.

US 192/SR 530 is currently categorized as a Class 1 roadway between World Drive and I-4 and as Class 5 roadway west of World Drive and east of I-4. The proposed improvements in Segment 1 do not affect the access management of US 192/SR 530.

Osceola Parkway is a County Road which is classified as an Access Class 2 principal arterial. Directly west of the interchange there are no driveways, businesses or residences with direct access to Osceola Parkway. To the east of the interchange lies the entrance to Gaylord Palms. The study area along World Drive starts at Victory Way and continues east to International Drive. There are some modifications to the existing interchange ramps, as well as the addition of new ramps, however, the recommended alternative maintains the same access that is provided today.

SR 536 is categorized as a Class 3 roadway from west of I-4 to SR 535. The proposed improvements in Segment 1 do not affect the access management of SR 536.

SR 535 is categorized as a Class 3 roadway from I-4 to SR 530. The proposed improvements in Segment 1 will modify access to some parcels along SR 535 north and south of the interchange. Between I-4 and Hotel Plaza Boulevard, the two driveway access points immediately north of the interchange (east and west side of SR 535) will be maintained but shifted slightly from their current locations. The second driveway north of I-4 on the east side of SR 535 will be removed along with the acquisition of the Crossroads Shopping Plaza. SR 535 northbound traffic will bridge over Hotel Plaza Boulevard, eliminating the existing north to west left turn movements at the intersection. The east leg of Hotel Plaza Boulevard, which is currently the main access for the Crossroads Shopping Plaza will be converted to a new one-way loop road which will go under SR 535 to provide access to Hotel Plaza Boulevard westbound. Additionally, the Hotel Plaza Boulevard eastbound through movement will be eliminated, since there will be no plaza to access on the east side of SR 535. Between Hotel Plaza Boulevard and north to Palm Parkway, all of the accesses along SR 535 will be maintained, except for the first driveway on the east side which connects to the Crossroads Shopping Plaza; that access will no longer be required as this is the location of the proposed pond 138A. North of Palm Parkway to Vinings Way Boulevard, all accesses to parcels along SR 535 will be maintained. However, all left turns will be prohibited at the Palm Parkway intersection and SR 535 intersection. Left turning traffic will continue straight through the intersection and make a U-turn, or turn right onto the intersecting roadway and make a U-turn. Additionally, a new quadrant road is proposed to

connect to the south leg of the SR 535 and Vinings Way Boulevard intersection. The quadrant road will run parallel to and west of SR 535, connecting Vinings Way Boulevard to Palm Parkway. South of the interchange, access to and from Vineland Avenue will be maintained, but SR 535 southbound through lanes will bridge over the intersection, and westbound left turns from Vineland Avenue to southbound SR 535 will bridge over the SR 535 northbound travel lanes. Between Vineland Avenue south to Meadow Creek Drive, all access drives to parcels along SR 535 will be maintained except for the right-in only driveway on the west side of SR 535, just south of Vineland Way. This driveway is located within the transition section of the southbound SR 535 bridge section from Vineland Avenue which elevates the southbound travel lanes through this section of roadway, thus the need to eliminate the existing access. A full access driveway is located approximately 300 feet south of this location which is already being utilized by the existing parcel for exiting.

Daryl Carter Parkway is a County Road classified as a minor arterial. Directly west of the interchange there is an intersection with Palm Parkway/Turkey Lake Road; however there are no driveways, businesses or residences between the intersection and I-4. To the east of the interchange, Regency Village Drive intersects Daryl Carter Parkway, providing access to the Orlando Premium Outlets (Vineland Avenue) to the south. The study area along Daryl Carter Parkway starts at Turkey Lake Road / Palm Parkway and continues east to Regency Village Drive. The interchange will be reconfigured to a Diverging Diamond Interchange, with full access to I-4 eastbound and westbound. Access to businesses in the vicinity of the Orlando Premium Outlets will not be affected.

Central Florida Parkway is a County Road classified as a minor arterial. Directly west of the interchange there are no driveways, businesses or residences with direct access. To the east of the interchange, is a major intersection with Westwood Boulevard and further east is the access to the Sea World theme park. The study area along Central Florida Parkway starts at Turkey Lake Road/Palm Parkway and continues east to Westwood Boulevard. Interchange ramps will be added to allow access to eastbound I-4 and from westbound I-4. Access along the section of Central Florida Parkway will remain as it is today.

Special Construction Methods:

Segment 1 (Osceola and Orange County) of the I-4 Beyond the Ultimate project has numerous construction challenges as well as many opportunities for construction innovation. Three areas in particular fall into this category, Bonnet Creek, the express lane viaduct between SR 429 and World Drive and the general use lane viaduct between SR 535 and Central Florida Parkway.

At the Bonnet Creek location, the challenge will be to construct the new Bonnet Creek alignment under Osceola Parkway and I-4. A new Bonnet Creek will be constructed and the old section of creek will be abandoned. A portion of the abandoned creek will be used for a stormwater retention pond, and the other portion will be filled in. Special care will need to be taken to compact the fill in the abandoned creek to avoid settlement of the newly constructed at grade I-4. A new AMIL gate will need to be constructed up stream of the existing AMIL gate. The function of the AMIL gate is to maintain a constant upstream water elevation irrespective of the discharge and variation in water demand. Bonnet Creek serves as an artery for stormwater leaving Walt Disney World.

For the area between SR 429 and World Drive, the right of way is constrained and in order to avoid

numerous utility impacts, the eastbound express lanes were elevated and cantilevered over the general use lanes. Construction of the viaduct can be accomplished by shifting I-4 eastbound towards the outside, enough to provide a sufficient work zone to construct the foundations and piers and erect the concrete segments. The foundation and piers will likely be multiple drilled shafts for redundancy, and the piers will be C-shaped with post tensioning. The superstructure type will most likely be precast segments. The advantage of precast segments is that the superstructure can be erected at a faster rate compared to cast in place construction. The precast concrete segments are made while the substructure is being built and then stored until needed for erection. Precast segments are usually erected using the span by span method. In the span by span method, an entire span is assembled, post-tensioned, and erected so that it is self-supporting before the next span is erected. The method is appropriate for span lengths up to about 150-feet. All the segments are supported by an erection truss before the segments are post-tensioned together. The erection truss may be located either above or below the segments. Once the segments are post-tensioned together and the span is resting on its bearings, the erection truss is moved to the next span. When space permits, the segments may be assembled at ground level, post–tensioned together, and the entire span lifted into place. Once the bridge viaduct is complete, some of the eastbound I-4 traffic can be shifted to the viaduct while the mainline of I-4 is reconstructed.

For the area between SR 536 and Central Florida Parkway, the right of way is constrained and in order to avoid numerous business impacts, the eastbound and westbound general use lanes were elevated and partially overhang the express lanes. Construction of the general use lane viaducts can be accomplished by shifting I-4 eastbound and westbound towards the outside, enough to provide sufficient work zone to construct the foundations and piers and erect the concrete segments. The foundation and piers will likely be multiple drilled shafts for redundancy, and the piers will be hammerhead shaped with post tensioning. The superstructure type will most likely be precast segments. The advantage of precast segments is that the superstructure can be erected at a faster rate compared to cast in place construction. The precast concrete segments are made while the substructure is being built and then stored until needed for erection. Precast segments are usually erected using the span by span method. In the span by span method, an entire span is assembled, post-tensioned, and erected so that it is self-supporting before the next span is erected. The method is appropriate for span lengths up to about 150-feet. All the segments are supported by an erection truss before the segments are post-tensioned together. The erection truss may be located either above or below the segments. Once the segments are post-tensioned together and the span is resting on its bearings, the erection truss is moved to the next span. When space permits, the segments may be assembled at ground level, post –tensioned together, and the entire span lifted into place. Once the bridge viaduct is complete, some of the eastbound and westbound I-4 traffic can be shifted to the viaduct while the express lanes are being constructed.

Land Use and Right-of-Way Acquisitions, and Relocation Potential

Land Use changes for the project involve new pond sites, new interchange alternatives, and new right-of-way for roadway. The proposed improvements to I-4 BtU Segment 1 will follow the existing alignment and will require acquisition of right-of-way for the roadway mainline and interchange improvements, stormwater management facilities and floodplain compensation sites. The results of the analysis for Land Use Changes and Potential Relocations is described in **Attachment 1**.

Historic and Archeological Sites

As a result of the design changes and new drainage system, an updated cultural resource assessment survey was conducted for the project. The results of this assessment are documented in **Attachment 2**.

Wetlands and Other Surface Waters

The proposed design changes and new pond sites were evaluated for potential impacts to wetlands and surface waters which is discussed in **Attachment 3**.

Floodplains and Drainage

The project was evaluated for impacts to floodplains in comparison to the original PD&E Study because of both land use changes and the updates to the FEMA floodplain maps that have occurred in the interim. The evaluation results are discussed in **Attachment 3**.

The original PD&E Study designed the stormwater management system to meet the standards and criteria of the SFWMD at that time. An updated design has been provided to meet current standards and is discussed in **Attachment 3**.

Protected Species and Habitat

The project was re-evaluated for potential impacts to protected species and habitat as many changes to listed species have occurred since the original study was completed. The results of the assessment are documented in **Attachment 3**

Highway Traffic Noise

An updated Noise analysis was conducted for the project to address design changes, land use changes, and to identify new noise sensitive sites along the project corridor. This was treated as a new Noise Study Report and is not an addendum to the original study. The results of this analysis are detailed in **Attachment 4**.

Contamination

An updated screening for the potential involvement with contamination was conducted, with the results documented in **Attachment 4**.

Utilities

An updated analysis of potential utility conflicts was conducted to correspond to the design changes and new pond sites and is detailed in **Attachment 4**.

Bicycles and Pedestrians

An updated analysis of potential impacts to bicycles and pedestrians was conducted and is described in **Attachment 4.**

Public Involvement

Alternatives Public Workshop

The Alternatives Public Workshop was held on Thursday, June 17, 2014, from 5:30 p.m. to 7:30 p.m. at

the Radisson Resort, Orlando-Celebration located at 2900 Parkway Boulevard, Kissimmee, FL 34747. An invitational letter was mailed to property owners located within at least 300 feet on either side of the current project corridor, public officials, organizations and individuals interested in the project. An advertisement was placed in the Orlando Sentinel (full circulation) and a press release was distributed by FDOT to local media outlets. The Alternatives Public Workshop was held in an open house format with project display boards and an automated presentation which gave an overview of the proposed project, including a summary of the engineering and environmental considerations in development of the proposed alternatives. Thirty-eight (38) citizens and nine (9) project team members signed in at the public meeting. Project team attendees included the FDOT Project Manager, staff from FDOT Right-of-way and Environmental Management Offices, and the project consultants. Public comment forms were made available to attendees; however, no written comments were received during or after the meeting. Verbal comments/questions received during the public meeting consisted of general project and schedule questions. No opposition against the project was received during the meeting.

Several additional meetings were held to discuss the proposed project improvements and PD&E study, as follows.

- Florida's Turnpike Enterprise (FTE) Coordination Meeting (May 2, 2014) – Discussion on proposed improvement concepts for SR 417 & SR 429 interchanges
- Orange County Partnering Meeting (August 12, 2014)
- Orange County Coordination Meeting #1/Management Presentation (February 9, 2015) – Presented recommended alternatives to Orange County management for Segments 1 and 2
- Meeting with property owners and representatives – Discussion on Crossroads Shopping Plaza (February 17, 2015).
- Orange County Meeting to discuss Daryl Carter Parkway Interchange Improvements (February 25, 2015)
- Reedy Creek Improvement District (March 24, 2015) – Discussed SR 535, Bonnet Creek, Slip Ramp location point, Utilities between SR 429 and World Drive.
- Osceola County Coordination Meeting (April 7, 2015)
- Orange County Coordination Meeting #2 (April 29, 2015)
- Meeting with Congressman Mica and the CFHLA to introduce the I-4 BtU Improvements (06/15/15)
- Reedy Creek Energy Services (June 23, 2015)

Public Hearing Summary:

A formal Public Hearing was conducted on October 25, 2016 to seek input on the Recommended Alternative. The hearing provided an overview of the Recommended Alternative and impacts, the study schedule, and summary of the remaining steps in the study process. The hearing was held at the Celebration Town Hall located at 851 Celebration Avenue, Kissimmee, FL 34747. The draft environmental and engineering reports were available for public review from October 4, 2016 through November 4, 2016 on the project website (www.i4express.com) and at the Osceola County Public Library, West Branch located at 305 Campus Street, Kissimmee, FL 34747.

A 30 minute open house preceded the formal portion of the hearing. The public was given the opportunity to ask questions and provide comments to the FDOT representatives in a one-on-one setting. A court reporter was present to receive oral comments from the public, and written comments were also accepted. The Recommended Alternative for the overall I-4 corridor and each interchange was displayed on aerial photography of the study area. A matrix with potential environmental impacts and cost estimates was presented. An audio-visual presentation describing the engineering and environmental components of the Recommended Alternative was given. After the presentation, the public was given an opportunity to offer oral comments to the hearing moderator.

In accordance with Chapter 11 of the PD&E Manual, all property owners within at least 300 feet of either side of the centerline of the Recommended Alternative were notified of the hearing by newsletter. Thirty (30) citizens and fifteen (15) project team members signed in at the public hearing. Project team attendees included the FDOT PD&E and Design Project Managers and staff from FDOT Public Information, Right-of-way and Environmental Management Offices. Three public comment forms (from two different citizens) were received at the hearing and two public comments were provided during the oral comment period of the hearing. No additional comments were received during the 10-day comment period following the hearing. The public comments from the hearing are summarized as follows:

Written Comments

- Extend the project limits to US 27; this will help the commercial traffic.
- Request for electronic copies of the slide presentation given at the hearing.
- Questions regarding the impact of the project on their property, how to get a sound barrier approved and the project timeline.

Oral Comments

- Has FDOT considered the impact on loss of jobs and revenue to the state with respect to Crossroads?
- FDOT shows the need for 5.5 acres of a 38-acre parcel. Does FDOT have a timetable when they will publicly commit that they aren't going to take more land than the 5.5 acres shown?

Oral and written comments from the public were either directly addressed by project team members during the public hearing or through follow-up letter/email responses provided by the FDOT Project Manager.

I-4 Beyond The Ultimate

as of 5/2/2016

NOTE:
- All dollar amounts are present day cost (PDC).
- Fiscal Year (FY) - July 1 thru June 30.

HIGHEST PROGRAMMED PHASE

PHASE	COLOR
P.D.& E.	
PREL. ENG.	
RIGHT OF WAY	
CONSTRUCTION	

408464-2 (SEGMENT 4) **10.141 miles**
SR 400 (I-4) E. OF SR 15/600/US 17/92
TO 1/2 MILE E. OF SR 472

DESIGN	$6,410,549	FY17
PERMIT/MIT	$186,720	FY18
ROW	$28,861,500	UNFUNDED
UTILITIES	$3,400,000	UNFUNDED
CONST (w/design)	$494,527,025	UNFUNDED
CEI	$30,834,577	UNFUNDED

242592-4 (SEGMENT 3) **8.992 miles**
SR 400 (I-4) 1 MILE E. OF SR 434 TO E. OF
SR 15/600/US 17/92 SEMINOLE/VOLUSIA C/L

DESIGN	$8,130,477	FY16
PERMIT/MIT	$165,900	UNFUNDED
ROW	$35,179,000	FY22-FY25
UTILITIES	$2,800,000	UNFUNDED
CONST (w/design)	$447,048,838	UNFUNDED
CEI	$25,545,648	UNFUNDED

242484-7 (SEGMENT 2) **3.599 miles**
SR 400 (I-4) W. OF SR 528 (BEACHLINE)
TO W. OF SR 435 KIRKMAN RD

DESIGN	$5,102,551	FY16
PERMIT/MIT	$1,000,000	FY16
ROW	$43,371,686	FY22-FY26
UTILITIES	$6,200,000	FY25
CONST	$193,976,492	FY25
CONST (w/design)	$70,680,995	UNFUNDED
CEI	$15,600,000	FY25

431456-1 (SEGMENT 1) **7.885 miles**
SR 400 (I-4) W. OF CR 532 TO E. OF SR 522
(OSCEOLA PARKWAY)

DESIGN	$12,685,178	FY16-FY17
PERMIT/MIT	$8,700,000	FY17
ROW	$33,323,000	UNFUNDED
UTILITIES	$4,700,000	UNFUNDED
CONST (w/design)	$664,932,681	UNFUNDED
CEI	$37,996,153	UNFUNDED

242484-8 (SEGMENT 1) **5.650 miles**
SR 400 (I-4) E. OF SR 522 (OSCEOLA PKWY)
TO W. OF SR 528

DESIGN	$10,720,736	FY16
PERMIT/MIT	$8,700,000	FY16
ROW	$261,521,500	UNFUNDED
UTILITIES	$5,200,000	UNFUNDED
CONST (w/design)	$984,333,847	UNFUNDED
CEI	$46,873,040	UNFUNDED

201210-3 (SEGMENT 5) **4.022 miles**
SR 400 (I-4) W. OF SR 25/US 27 W. OF CR 532
POLK/OSCEOLA COUNTY LINE

DESIGN	$3,500,000	FY16-FY17
PERMIT/MIT	$3,165,608	UNFUNDED
ROW	$39,827,000	UNFUNDED
UTILITIES	$3,400,000	UNFUNDED
CONST (w/design)	$354,794,988	UNFUNDED
CEI	$21,773,966	UNFUNDED

I-4 ULTIMATE (UNDER CONST. EST. COMPLETION SPRING 2021)

VOLUSIA
SEMINOLE
ORANGE
OSCEOLA
POLK

Legend
County Boundaries

FDOT

Miles
0 1.5 3 6 9 12

I-4 BEYOND the ULTIMATE

4 EXPRESS

FDOT

I-4 South Section from West of US 27 to West of SR 435

SEGMENT 5

SR 400 (I-4) from West of SR 25/US 27 to West of CR 532 (Polk/Osceola County Line)
Polk County (16320)

EA/FONSI - 1998
(201210) West of Memorial Boulevard (SR 546) to the Polk/Osceola County Line

DESIGN - MARCH 2015
(201210-3-32-01) I-4 (SR 400) from West of US 27 to West of CR 532 (Polk/Osceola County Line) - Polk County
(431456-1) I-4 (SR 400) from West of CR 532 (Polk/Osceola County Line) to East of SR 522 (Osceola/Orange County Line) - Osceola County

CONSTRUCTION

SEGMENT 1

SR 400 (I-4) from West of CR 532 (Polk/Osceola County Line) to West of SR 528 Beachline Expressway
Osceola County (92130) and Orange County (75280)

EA/FONSI - 1999
(242526 & 242483) CR 532 (Polk/Osceola County Line) to West of SR 528 Beachline Expressway

CONSTRUCTION

SEGMENT 2

SR 400 (I-4) from West of SR 528 Beachline Expressway to West of SR 435 Kirkman Road
Orange County (75280)

FEIS - 2002
(242486, 242592 & 242703) West of SR 528 Beachline Expressway to SR 472 (Orange, Seminole, Volusia)

DESIGN - MARCH 2015
(242484-8) SR 400 (I-4) from East of SR 522 Osceola Parkway (Osceola/Orange County Line) to West of SR 528 Beachline Expressway - Orange County

DESIGN - MARCH 2015
(242484-7) SR 400 (I-4) from West of SR 528 Beachline Expressway to West of SR 435 Kirkman Road - Orange County

CONSTRUCTION

I-4 North Section from East of SR 434 to East of SR 472

SEGMENT 3

SR 400 (I-4) from 1 Mile East of SR 434 to East of SR 15/600 US 17/92 (Seminole/Volusia County Line)
Seminole County (77160)

DESIGN - JUNE 2015
(242592-4) SR 400 (I-4) from 1 Mile East of SR 434 to East of SR 15/600 US 17/92 (Seminole/Volusia County Line) - Seminole County

CONSTRUCTION

SEGMENT 4

SR 400 (I-4) from East of SR 15/600 US 17/92 (Seminole/Volusia County Line) to 1/2 Mile East of SR 472
Volusia County (79110)

FEIS - 2002
(242486, 242592 & 242703) West of SR 528 Beachline Expressway to SR 472 (Orange, Seminole, Volusia)

DESIGN - JUNE 2015
(408464-2) SR 400 (I-4) from East of SR 15/600 US 17/92 (Seminole/Volusia County Line) to 1/2 Mile East of SR 472 - Volusia County

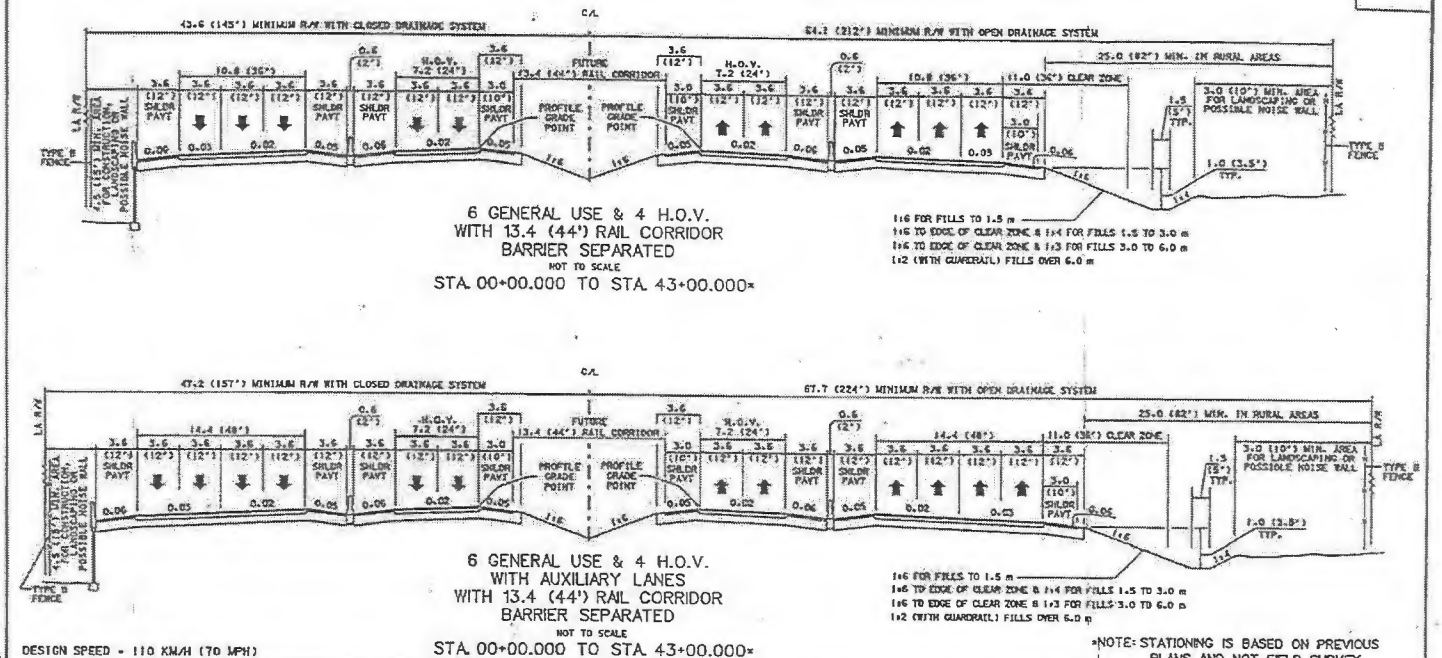
CONSTRUCTION

Contract 1 and 2 Advertisement: August 25, 2014
Contract 3 and 4 Advertisement: December 2014

TYPICAL SECTIONS

Original EA/FONSI Typical Sections

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
PROPOSED TYPICAL SECTION



DESIGN SPEED - 110 KM/H (70 MPH)

*NOTE: STATIONING IS BASED ON PREVIOUS PLANS AND NOT FIELD SURVEY.

COUNTY	ROAD NO.	LENGTH	TERMINI	SECTION	JOB	EST. COST
OSCEOLA	SR400 (I-4)	2.680 KM (7.88 MI.)	STA. 00+00.000 TO STA. 126+80.000 POLK / OSCEOLA COUNTY LINE TO OSCEOLA/ORANGE COUNTY LINE	92130	1425	171.8 M (CONSTRUCTION)

FEDERAL AID PROJECT NO.	WPI NO.	FINANCIAL PROJECT ID	APPROVED BY CONSULTANT / DATE:	CONCURRENCE: DISTRICT DESIGN ENGINEER / DATE:	CONCURRENCE: FHWA DISTRICT ENGINEER / DATE:
NA	5147330	242526-1	August 21, 1998		

FIGURE 3

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

HNTB ARCHITECTS ENGINEERS PLANNERS | FLORIDA DEPARTMENT OF TRANSPORTATION | I-4 PD & E TYPICAL SECTIONS

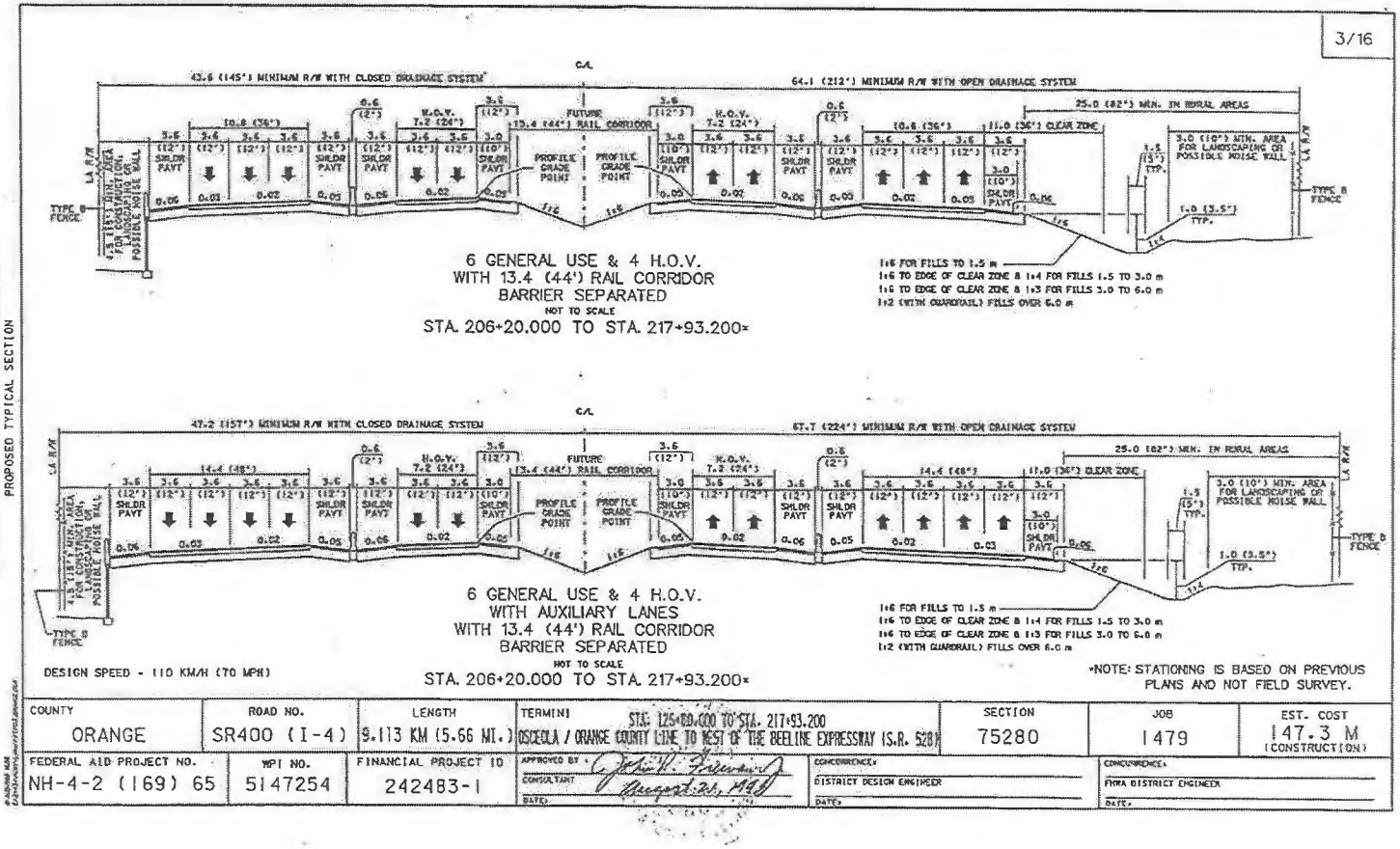
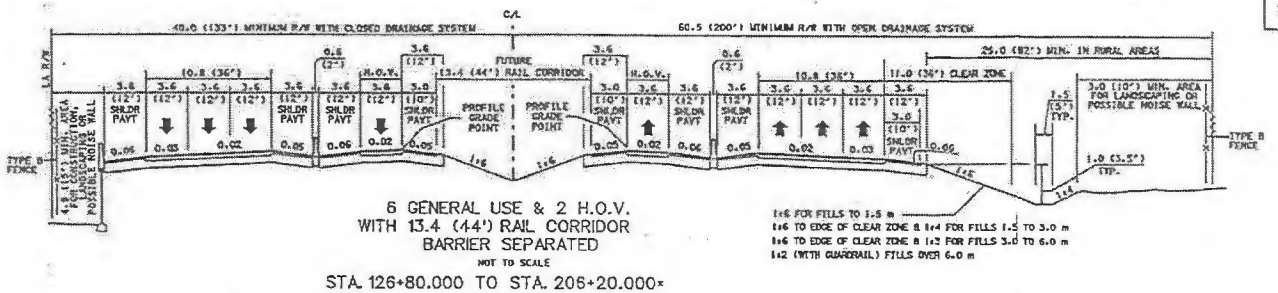


FIGURE 3 (CONT)

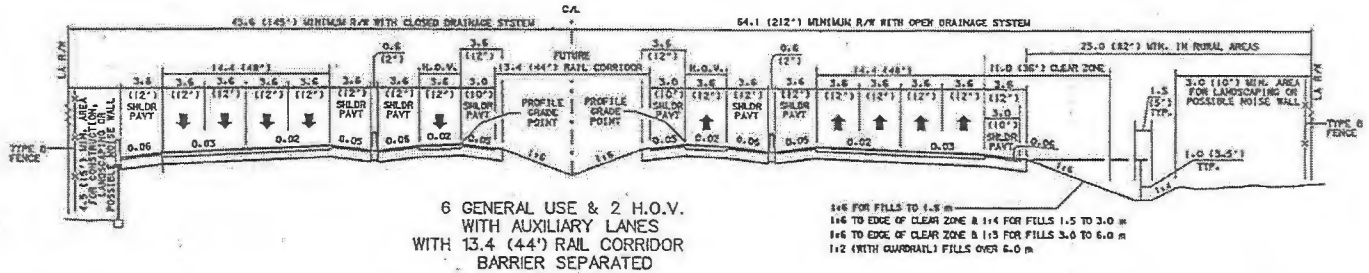
STATE PROJ. NO. | SHEET NO.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
PROPOSED TYPICAL SECTION

2/16



6 GENERAL USE & 2 H.O.V.
WITH 13.4 (44') RAIL CORRIDOR
BARRIER SEPARATED
NOT TO SCALE
STA. 126+80.000 TO STA. 206+20.000*



6 GENERAL USE & 2 H.O.V.
WITH AUXILIARY LANES
WITH 13.4 (44') RAIL CORRIDOR
BARRIER SEPARATED
NOT TO SCALE
STA. 126+80.000 TO STA. 206+20.000*

DESIGN SPEED - 110 KM/H (70 MPH)

*NOTE: STATIONING IS BASED ON PREVIOUS PLANS AND NOT FIELD SURVEY.

COUNTY	ROAD NO.	LENGTH	TERMINI	SECTION	JOB	EST. COST
ORANGE	SR400 (I-4)	9.113 KM (5.66 MI)	STA. 126+80.000 TO STA. 217+93.200 OSCEOLA/ORANGE COUNTY LINE TO EAST OF THE BEELINE EXPRESSWAY	75280	1479	147.3 M (CONSTRUCTION)

FEDERAL AID PROJECT NO.	WPI NO.	FINANCIAL PROJECT ID	APPROVED BY CONSULTANT / DATE: August 21, 1996	CONCURRENCE: DISTRICT DESIGN ENGINEER / DATE:	CONCURRENCE: FHWA DISTRICT ENGINEER / DATE:
NH-4-2 (169) 65	5147254	242483-1			

REVISIONS
DATE | BY | DESCRIPTION

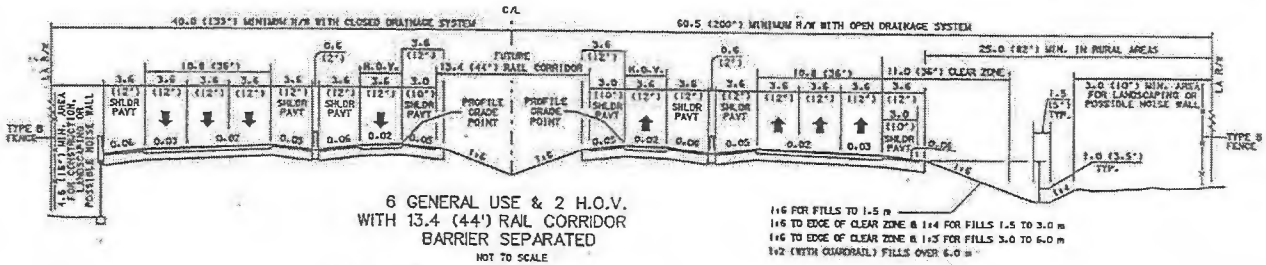
HNTB ARCHITECTS ENGINEERS PLANNERS | FLORIDA DEPARTMENT OF TRANSPORTATION | I-4 PD & E TYPICAL SECTIONS

FIGURE 3 (CONT)

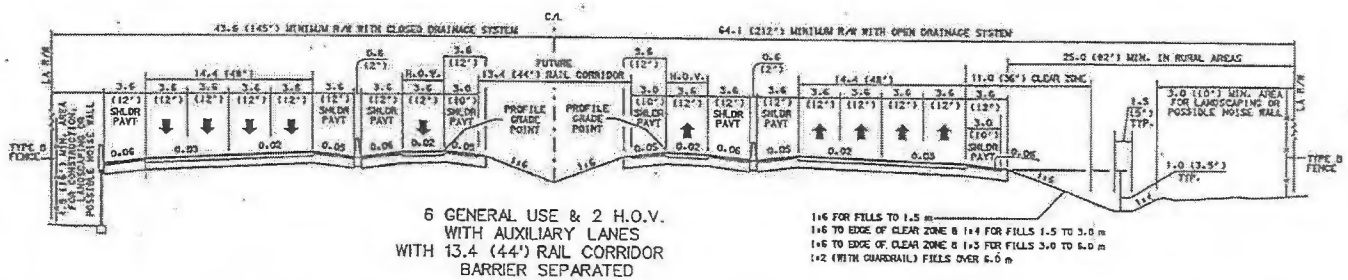
STATE PROJ. NO. | SHEET NO.

3/15

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
PROPOSED TYPICAL SECTION



6 GENERAL USE & 2 H.O.V.
WITH 13.4 (44') RAIL CORRIDOR
BARRIER SEPARATED
NOT TO SCALE
STA. 43+00.000 TO STA. 126+80.000*



6 GENERAL USE & 2 H.O.V.
WITH AUXILIARY LANES
WITH 13.4 (44') RAIL CORRIDOR
BARRIER SEPARATED
NOT TO SCALE
STA. 43+00.000 TO STA. 126+80.000*

DESIGN SPEED = 110 KM/H (70 MPH)

*NOTE: STATIONING IS BASED ON PREVIOUS PLANS AND NOT FIELD SURVEY.

COUNTY	ROAD NO.	LENGTH	TERMINI	SECTION	JOB	EST. COST
OSCEOLA	SR400 (I-4)	12.680 KM (7.88 MI)	STA. 00+00.000 TO STA. 126+80.000 POLK / OSCEOLA COUNTY LINE TO OSCEOLA / ORANGE COUNTY LINE	92130	1425	171.8 M (CONSTRUCTION)
FEDERAL AID PROJECT NO. NA	MPI NO. 5147330	FINANCIAL PROJECT ID 242526-1	APPROVED BY: CONSULTANT DATE: January 31, 1996	CONCURRENCE: DISTRICT DESIGN ENGINEER DATE:	CONCURRENCE: FHWA DISTRICT ENGINEER DATE:	

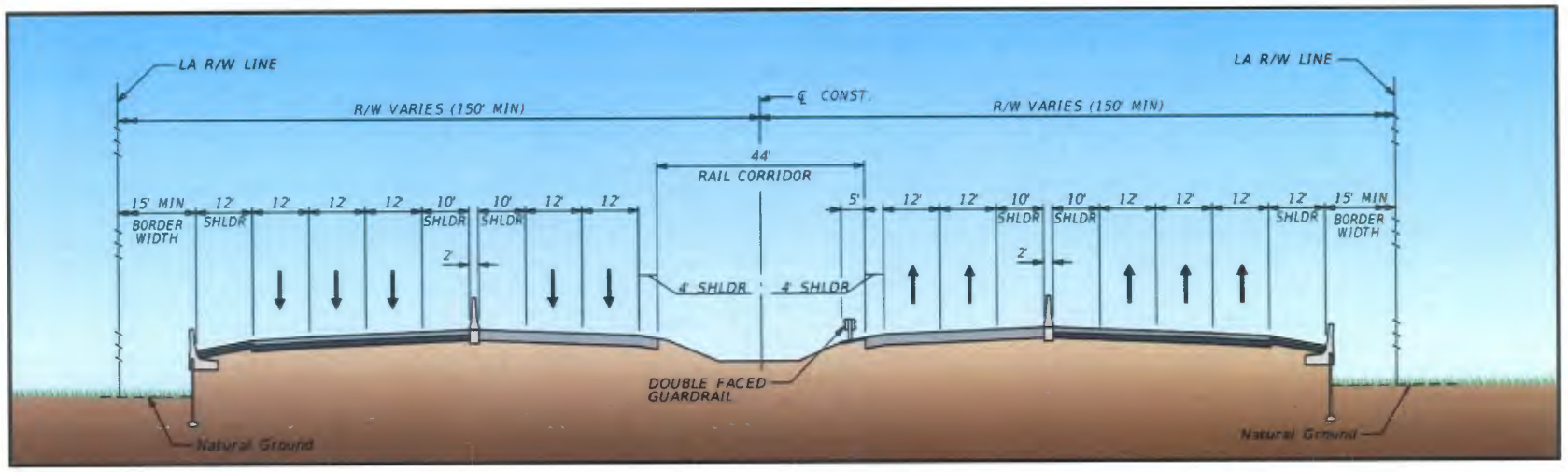
REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

HNTB ARCHITECTS ENGINEERS PLANNERS | FLORIDA DEPARTMENT OF TRANSPORTATION | I-4 PD & E TYPICAL SECTIONS

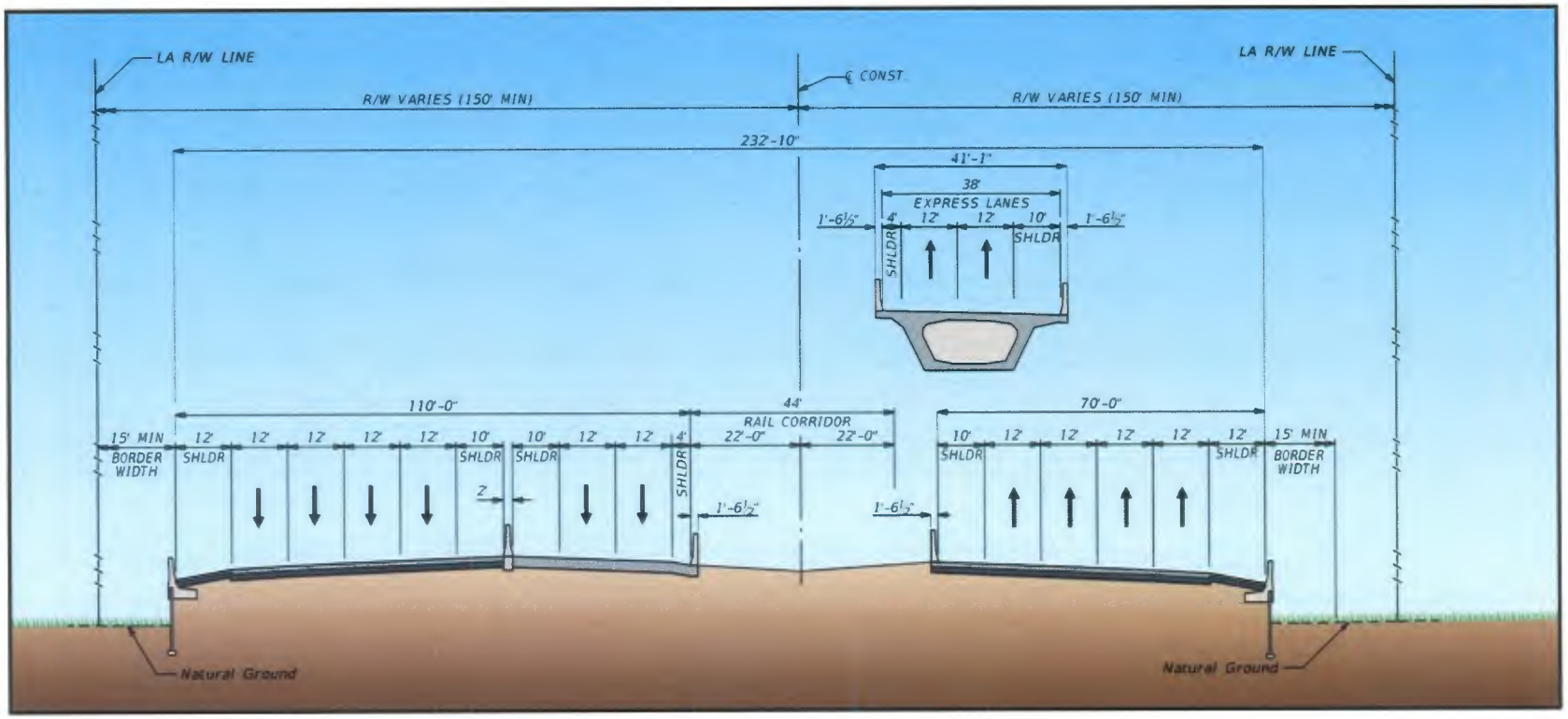
FIGURE 3 (CONT)

Proposed I-4 BtU Typical Sections



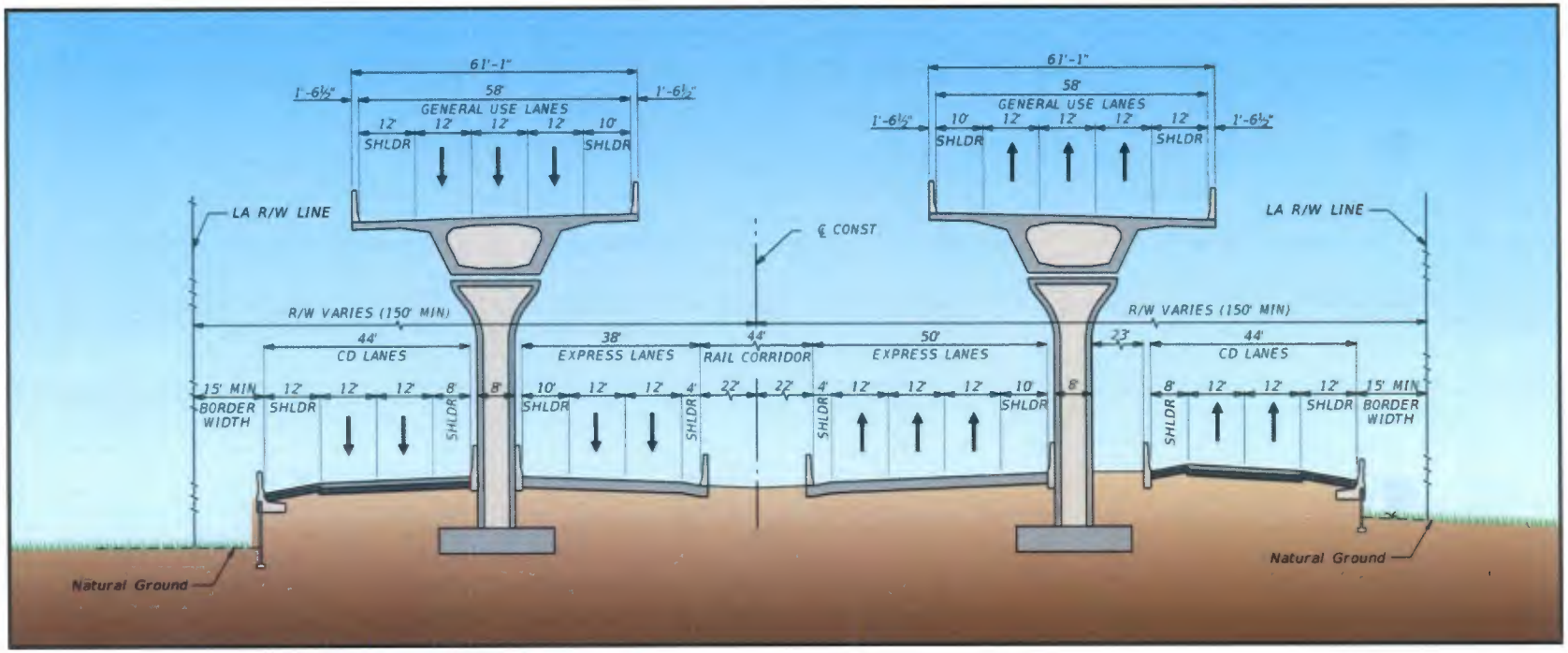
SR 400 (I-4) TYPICAL SECTION
Design Speed - 70 MPH
Station 627 + 20.00 to Station 759 + 00.00 (Osceola County)
Station 828 + 00.00 to Station 1042 + 95.00 (Osceola County)
Station 1042 + 95.00 to Station 1121 + 50.00 (Orange County)
Station 1288 + 00.00 to Station 1365 + 00.00 (Orange County)

SR 400 (I -4) Segment 1 Proposed Typical Section (6+4 with rail envelope)



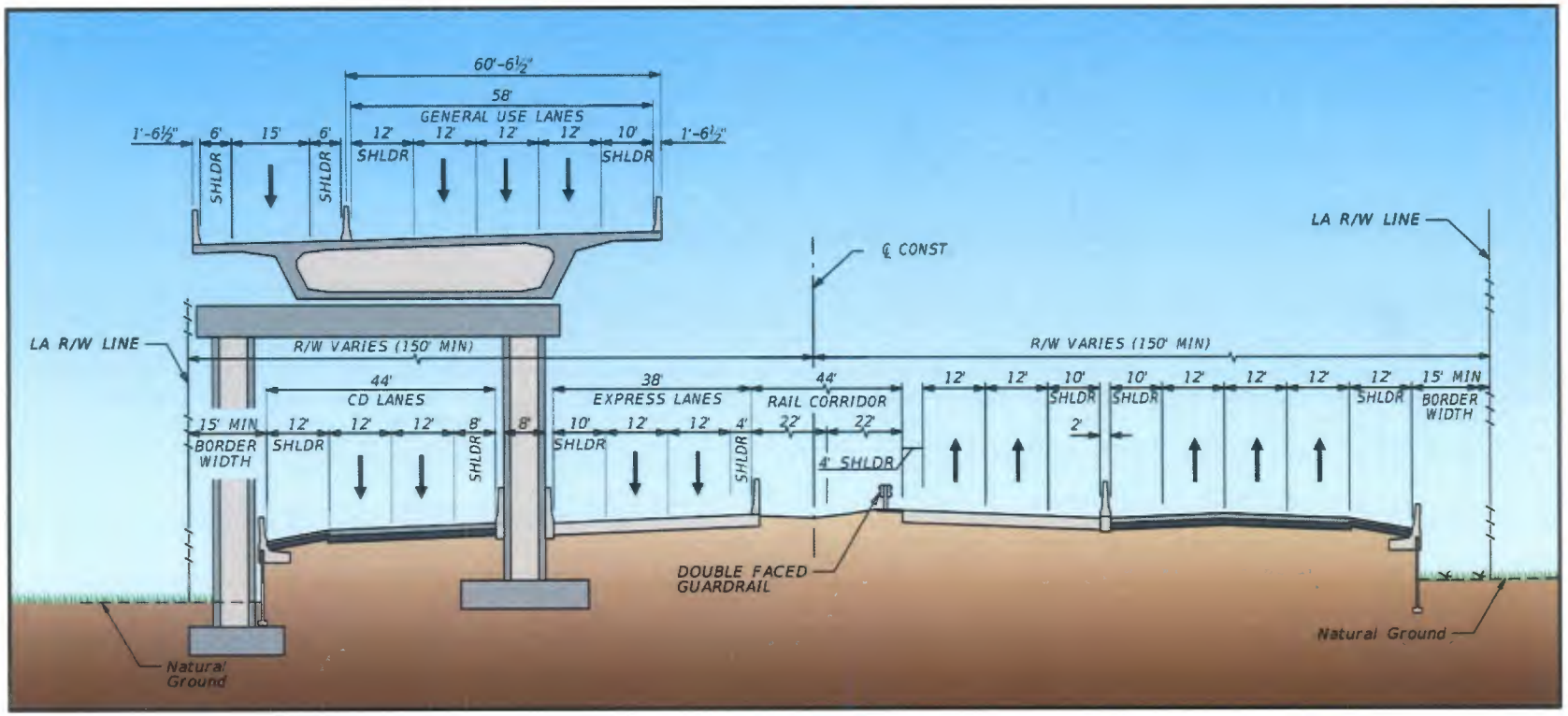
SR 400 (I-4) SPECIAL SECTION
Design Speed - 70 MPH
Station 759 + 00.00 to Station 828 + 00.00 (Osceola County)

SR 400 (I -4) Segment 1 Proposed Special Section (Bridge Viaduct Between SR 429 and World Drive)



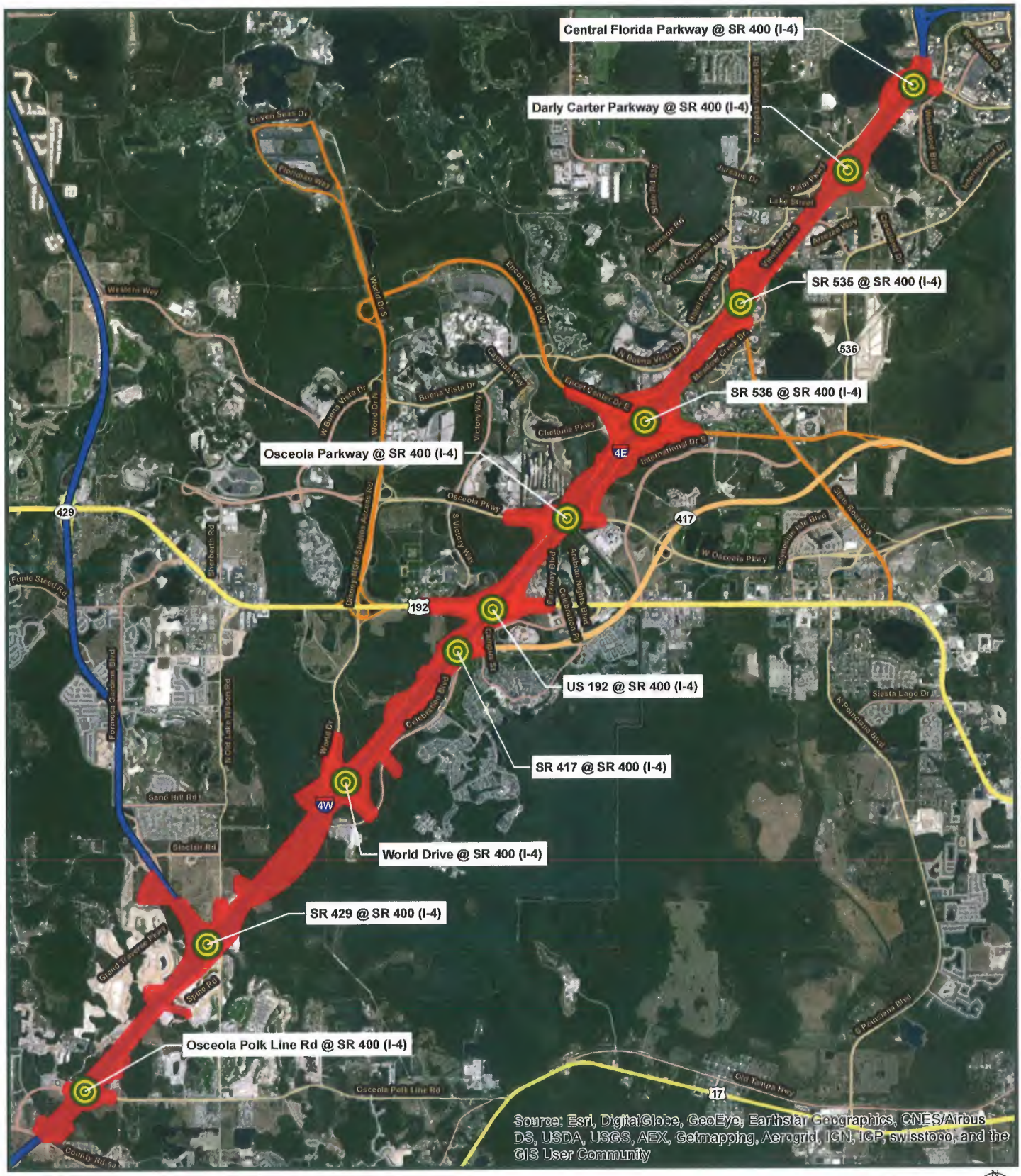
SR 400 (I-4) SPECIAL SECTION
Design Speed - 70 MPH
Station 1121 +50.00 to Station 1168 + 50.00 (Orange County)

SR 400 (I -4) Segment 1 Proposed Special Section (Bridge Viaduct Between SR 536 and SR 535)



SR 400 (I-4) SPECIAL SECTION
Design Speed - 70 MPH
Station 1168 + 50.00 to Station 1288 + 00.00 (Orange County)

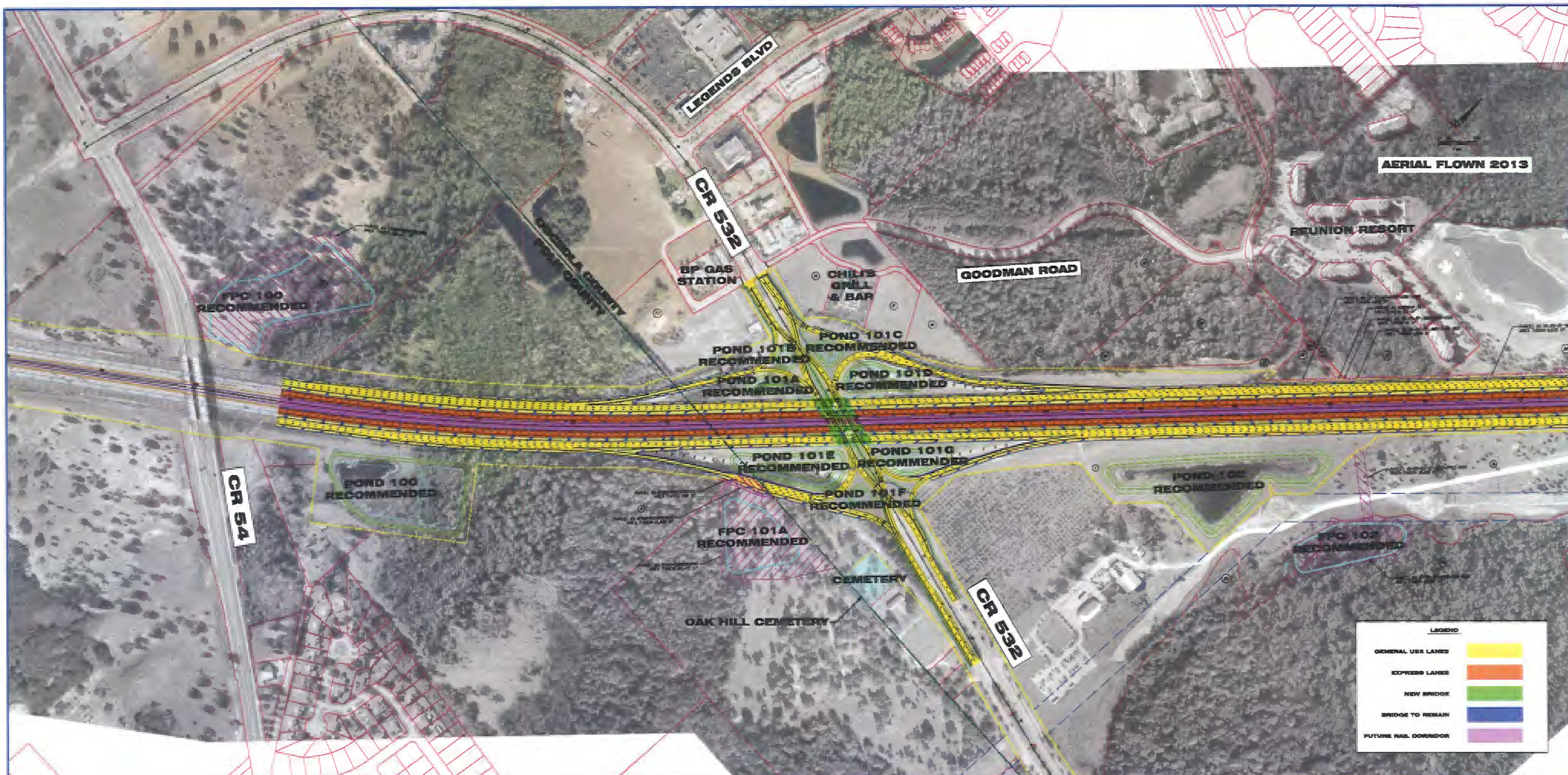
SR 400 (I -4) Segment 1 Proposed Special Section (Bridge Viaduct Between SR 535 and Daryl Carter Parkway)



0 3,500 7,000 14,000 Feet

1 " = 7,000 '

SR 400 (I-4) Project Development and Environment (PD&E) Study | FM No. 432100-1-22-01

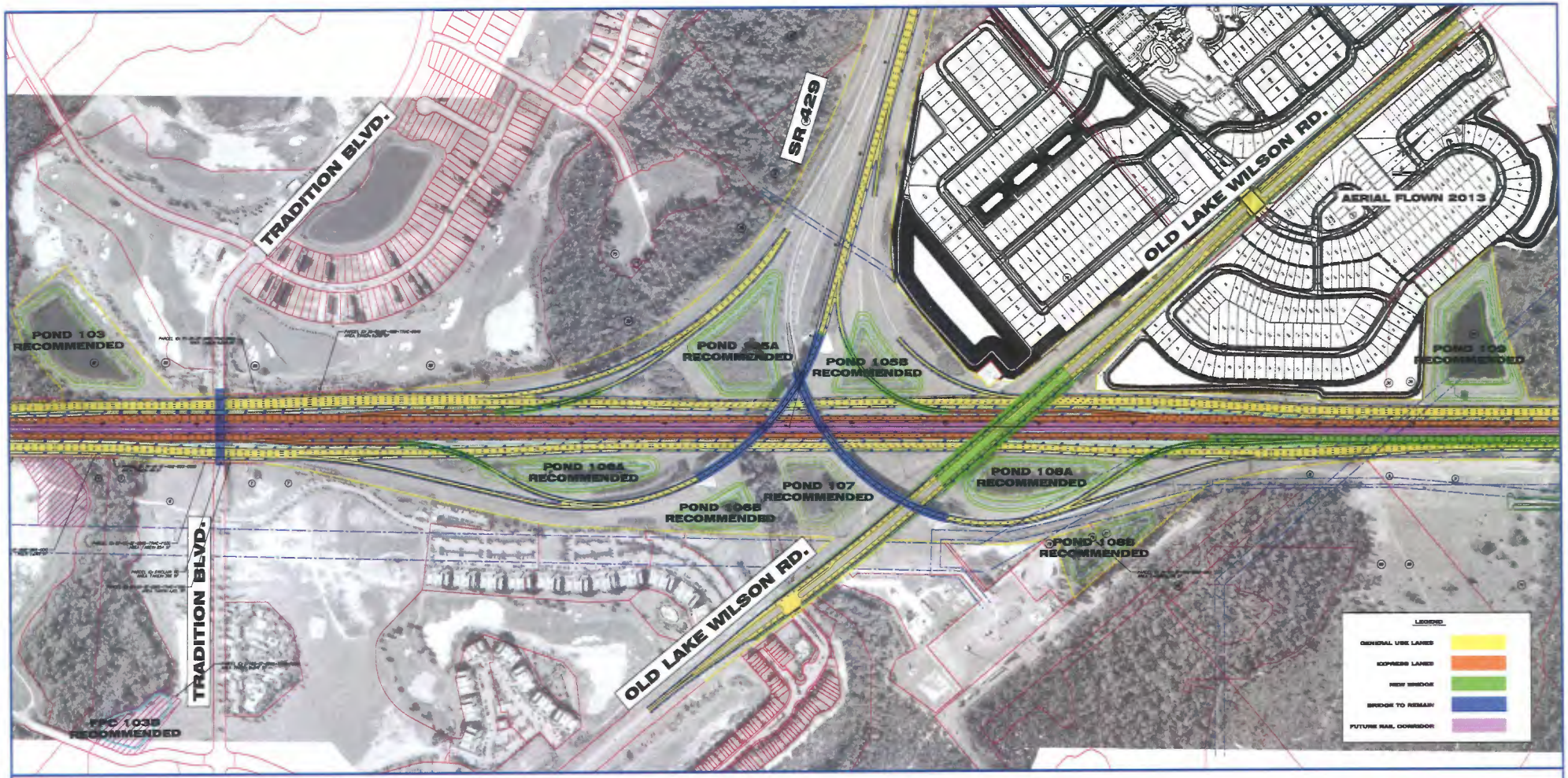


FDOT

SR-400 (I-4) Segment 1
CR 532 / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

4 BEYOND ULTIMATE

4 EXPRESS

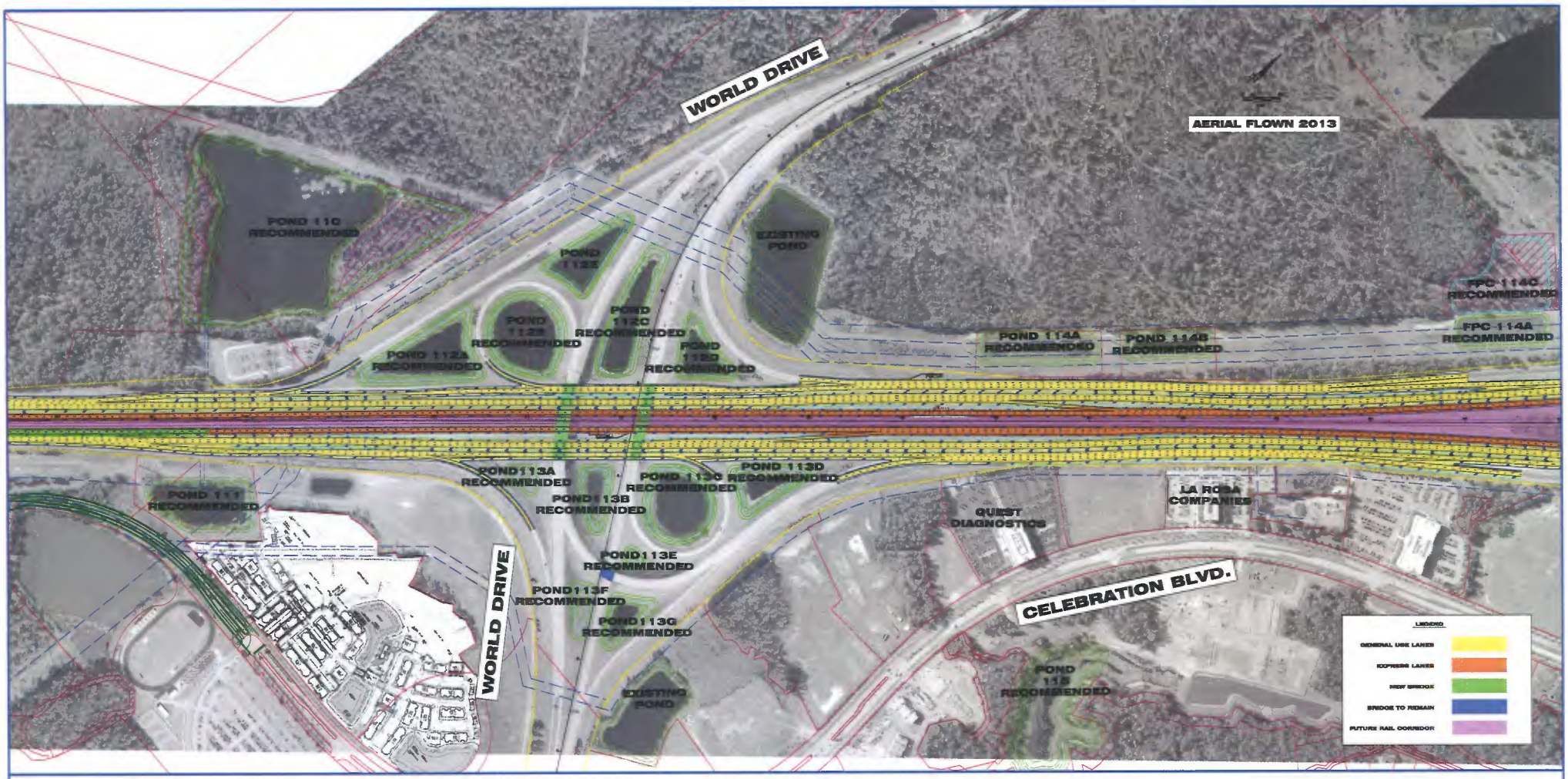


FDOT

SR-400 (I-4) Segment 1
SR 429 / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

4 BEYOND ULTIMATE

4 EXPRESS



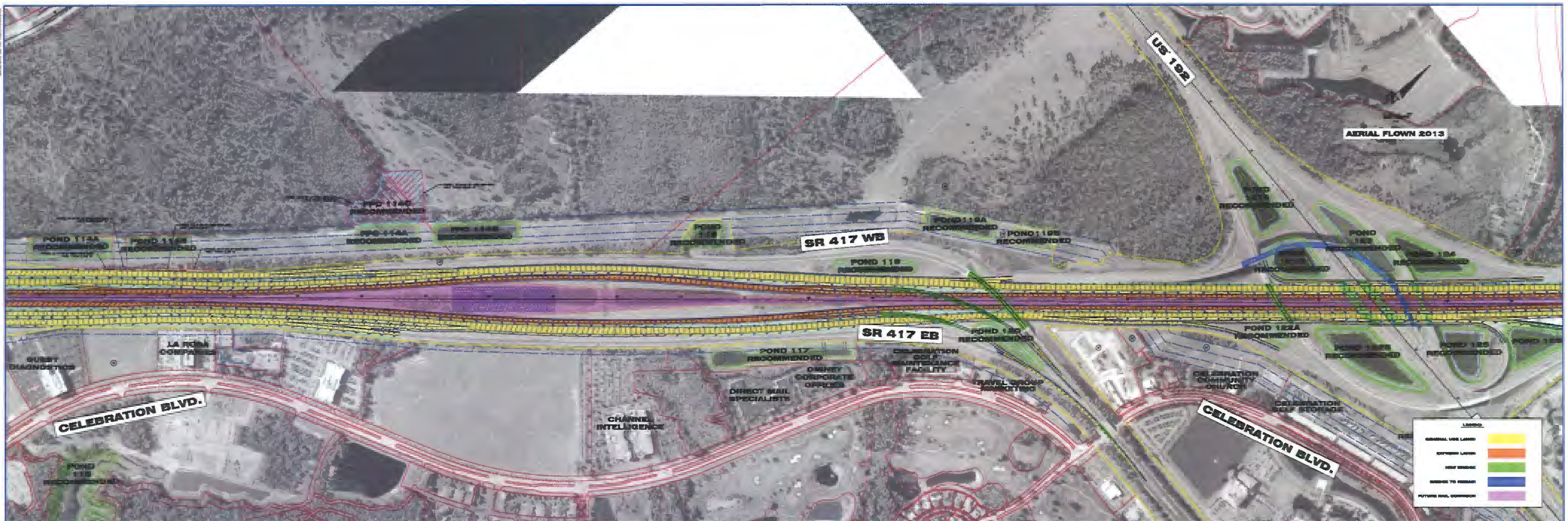
FDOT

SR-400 (I-4) Segment 1
WORLD DRIVE / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

I-4 BEYOND ULTIMATE

4 EXPRESS

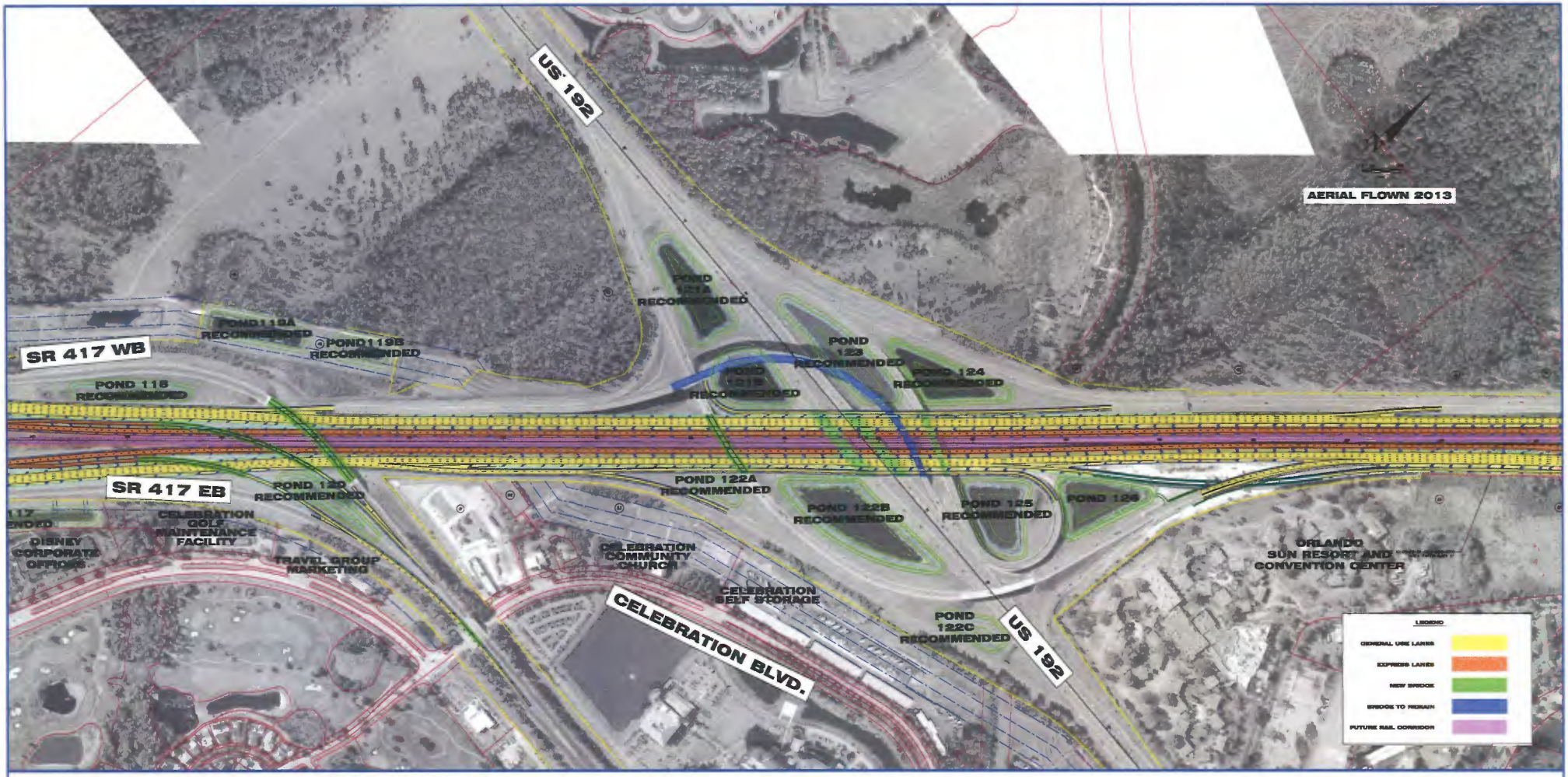
\\KMw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\432100122O1\Segment 1\roadway\SEGMENT1-DISPLAY-BOARD.DGN



SR-400 (I-4) Segment 1

SR 417 / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

4 EXPRESS



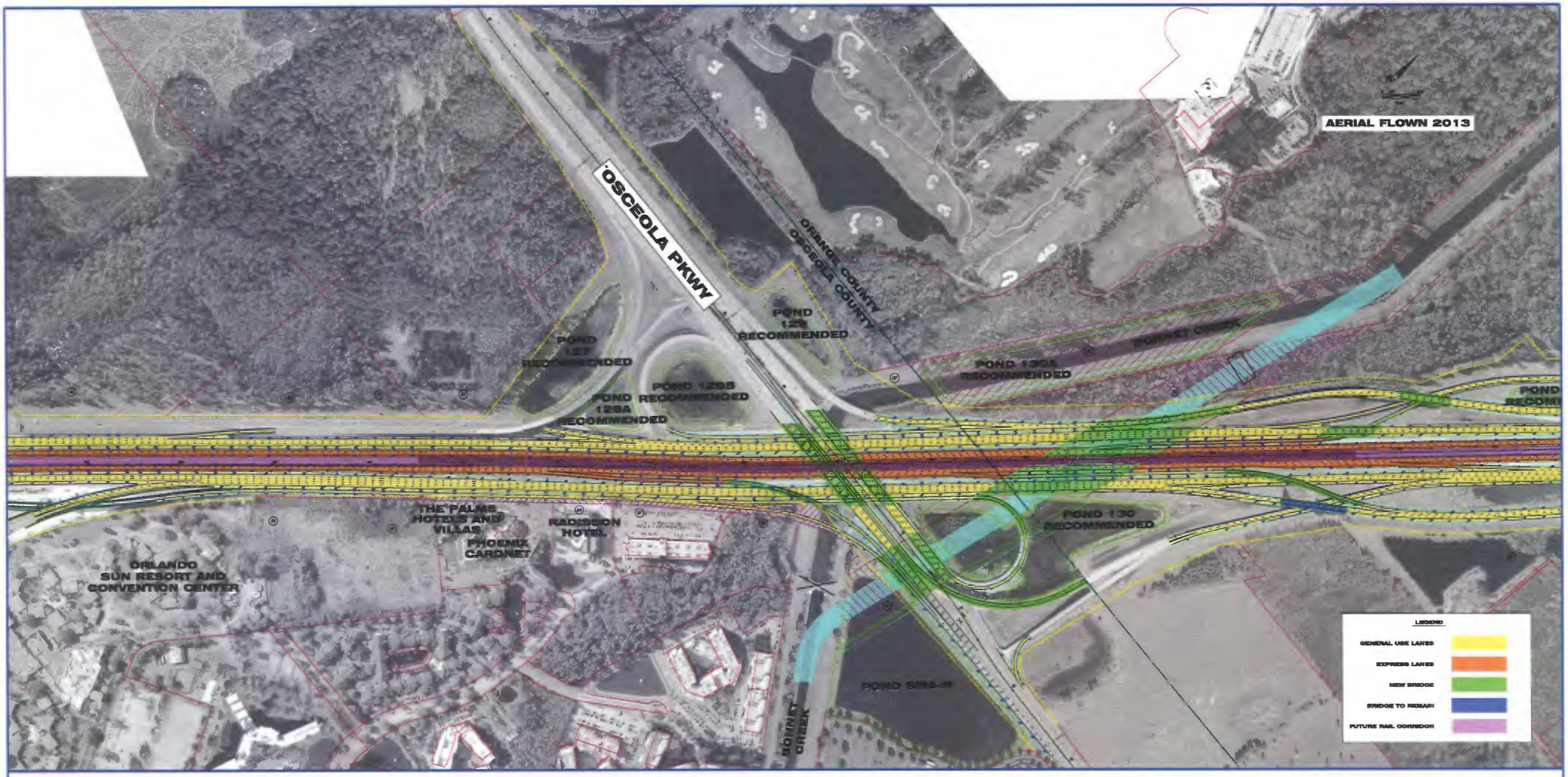
FDOT

SR-400 (I-4) Segment 1
SR 530 / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

4 BEYOND ULTIMATE

4 EXPRESS

\\Lkmw00\pmwork3\Jobs\59219 - I4 SAMR\TECHPROD\43210012201\Segment 1\roadway\SEGMENT1-DISPLAY-BOARD.DGN

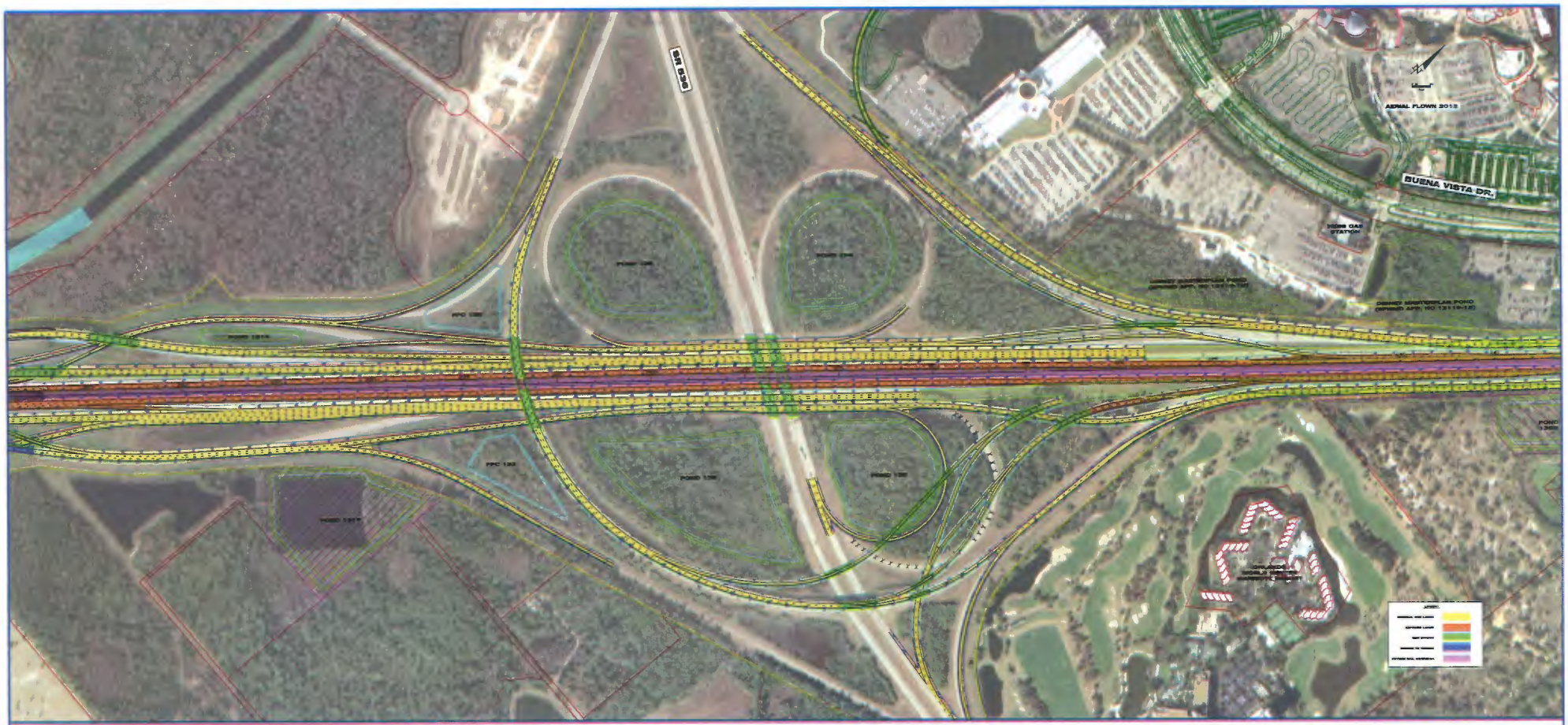


SR-400 (I-4) Segment 1
OSCEOLA PARKWAY / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

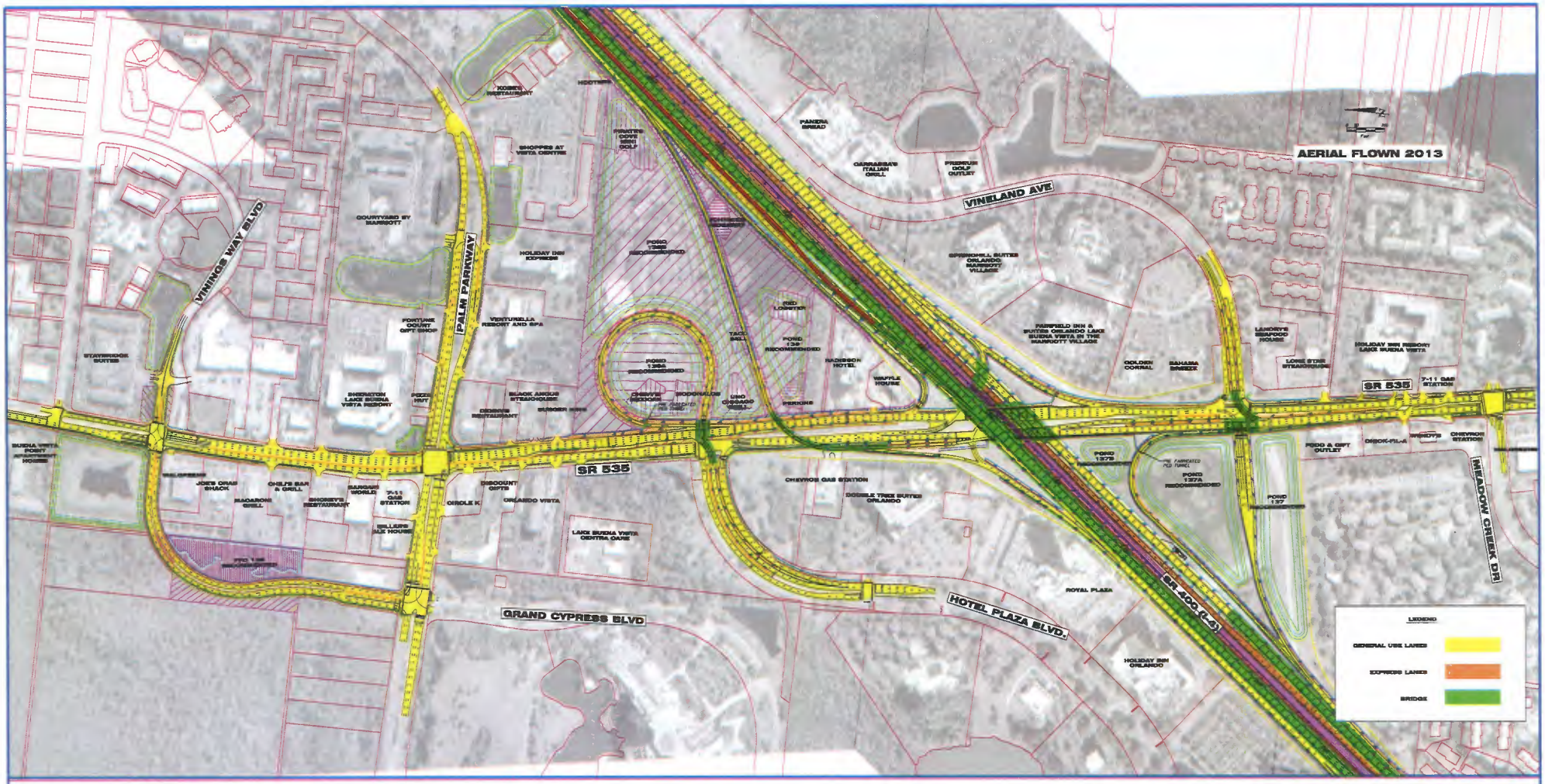
4 BEYOND ULTIMATE

4 EXPRESS

U:\Jobs\59219 - I4 SAMR\TECHPROD\432100122O1\Segment 1\roadway\SEGMENT1-DISPLAY-BOARD.DGN



SR-400 (I-4) Segment 1
SR 536 / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

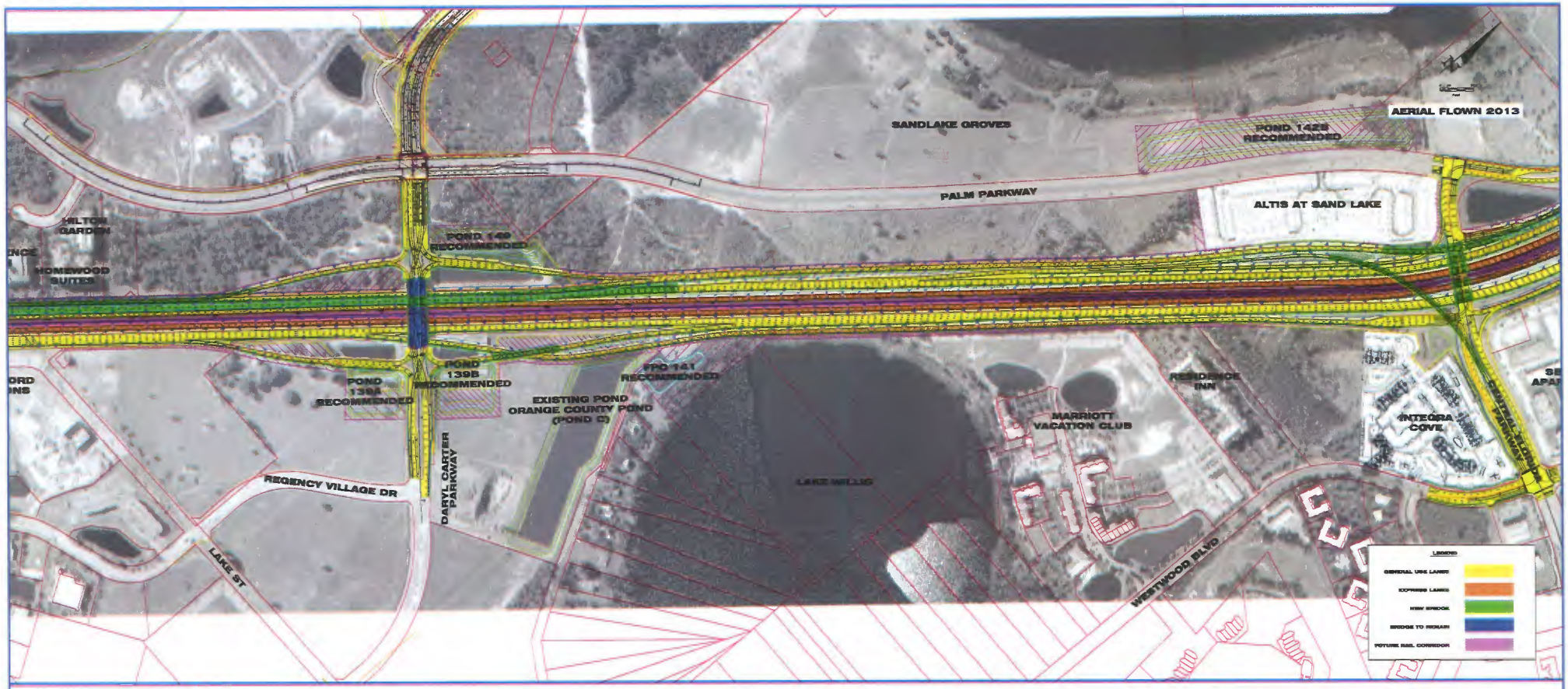


SR-400 (I-4) Segment 1
SR 535 / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

FDOT

4 BEYOND ULTIMATE

4 EXPRESS

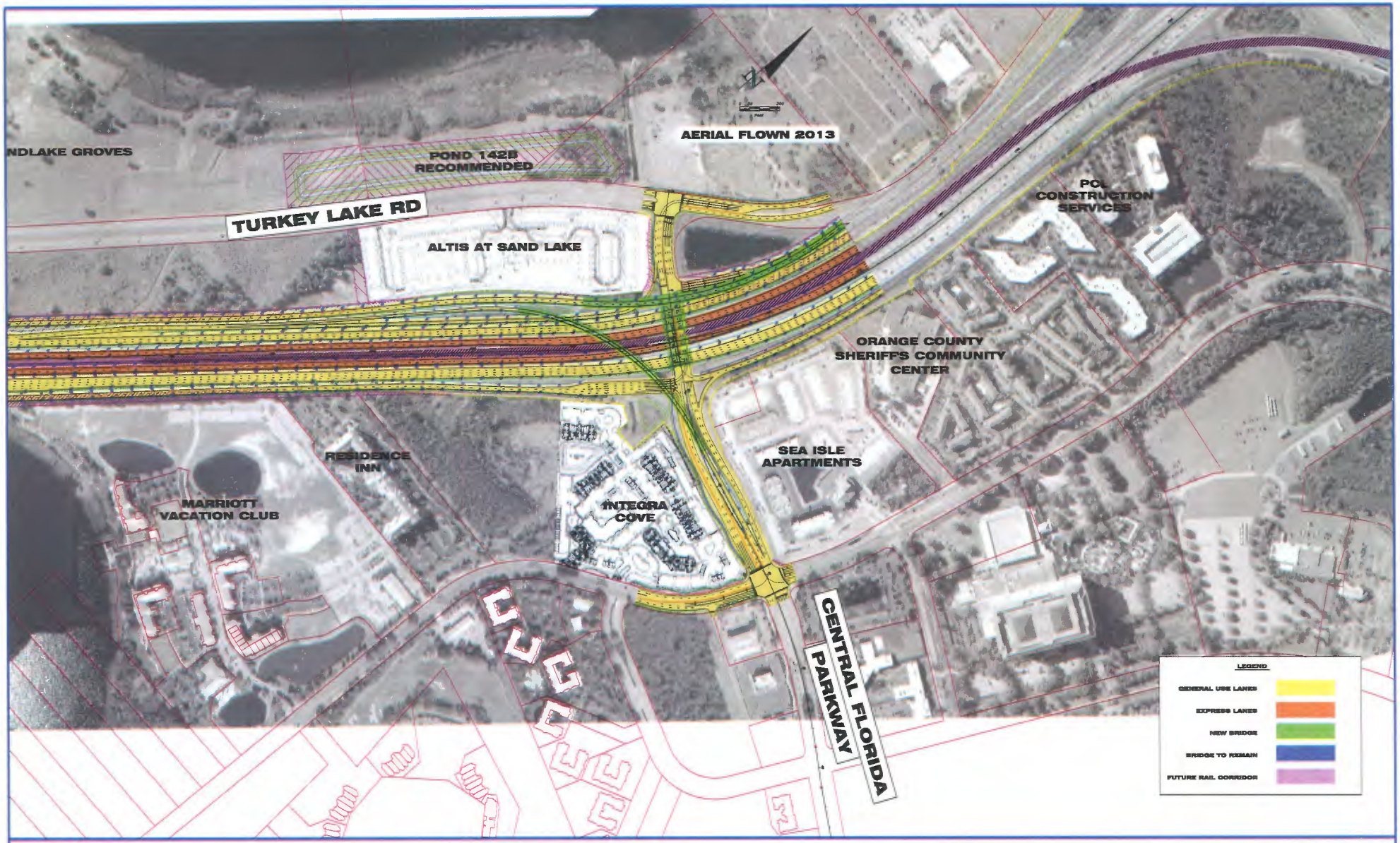


FDOT

SR-400 (I-4) Segment 1
DARYL CARTER PKWY / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

4 BEYOND ULTIMATE

4 EXPRESS



FDOT

SR-400 (I-4) Segment 1
CENTRAL FLORIDA PARKWAY / I-4 INTERCHANGE RECOMMENDED ALTERNATIVE

4 BEYOND ULTIMATE

4 EXPRESS

242482-8
TIP, STIP, LRTP
Pages

MetroPlan Orlando
Transportation Improvement Program
Interstate Highway Projects
Orange County

FDOT Financial Management Number	Project Name or Designation	Project Description				2040 LRTP Reference	Historic Cost Prior to 2016/17 ($000's)	Project Status and Cost ($000's)							Estimated Future Cost After 2020/21 ($000's)	Total Project Cost ($000's)	Responsible Agency
		From	To	Length (Miles)	Work Description			2016/17	2017/18	2018/19	2019/20	2020/21	Funding Sources	Project Phases			
2424843	I-4	W of SR 435/Kirkman Rd.	W of SR 500/US 441	5.25	Add 4 Managed Lanes/ Improve I-4/SR 435 Int.	Tech. Rep. 3 page 27		8	0	0	0	0	DIH	PE			FDOT
SIS Project							11,332	6	0	0	0	0	Total		0	11,338	
2424844	I-4	W of SR 500/US 441	W of Ivanhoe Blvd.	4.07	Add 4 Managed Lanes	Tech. Rep. 3 page 27		81	0	0	0	0	DIH	PE			FDOT
SIS Project								60	0	0	0	0	DS	RRU			
							20,014	141	0	0	0	0	Total		0	20,155	
2424845	I-4	W of Ivanhoe Blvd.	E of Kennedy Blvd.	4.88	Add 4 Managed Lanes	Tech. Rep. 3 page 27		11	0	0	0	0	DIH	PE			FDOT
SIS Project							9,825	11	0	0	0	0	Total		0	9,836	
2424847	I-4	W of SR 528/Beachline Expy.	W of SR 435/Kirkman Rd.	3.60	Add 4 Managed Lanes	Tech. Rep. 3 page 27		50	50	550	2,850	30	ACNP	PE			FDOT
SIS Project								0	0	0	600	0	DDR	PE			
								503	0	0	0	0	DIH	PE			
								1,130	17,330	10,875	8,302	4,399	ACNP	ROW			
								38	0	0	0	0	DEM	ENV			
							7,433	1,721	17,380	11,425	11,752	4,429	Total		324,270	378,410	
2424848	I-4	E of Osceola Pkwy.	W of SR 528/Beachline Expy.	5.65	Add 4 Managed Lanes	Tech. Rep. 3 page 47		687	0	0	0	0	ACNP	PE			FDOT
SIS Project								485	0	0	0	0	DIH	PE			
							21,654	1,172	0	0	0	0	Total		301,200	324,026	
4084161	I-4 Master Plan	Orange/Osceola Co. Line	Orange/Seminole Co. Line	24.67	Advance Right-of-Way Acquisition	Tech. Rep. 3 page 46		20	0	0	0	0	DIH	PE			FDOT
SIS Project								5,196	5,186	0	0	0	ACNP	ROW			
								3,302	0	0	0	0	BNIR	ROW			
								103	10	0	0	0	DIH	ROW			
								8	0	0	0	0	DS	ROW			
								5	0	0	0	0	NHAC	ROW			
								1	0	0	0	0	NHPP	ROW			
							357,833	8,635	5,196	0	0	0	Total		0	371,664	
4290791	I-4	Orange/Osceola Co. Line	E of SR 536	1.87	Resurfacing	Overview page 7		2	0	0	0	0	ACNP	CST			FDOT
SIS Project								154	0	0	0	0	NHPP	CST			
							6,262	156	0	0	0	0	Total		0	6,418	
4292431	I-4	W of Central Florida Pkwy.	E of Central Florida Pkwy.	0.97	Lighting	Overview page 7		3	0	0	0	0	DIH	CST			FDOT
SIS Project							612	3	0	0	0	0	Total		0	615	
4306441	I-4	E of SR 536	W of SR 528/Beachline Expy.	4.28	Resurfacing	Overview page 7		5	0	0	0	0	DIH	CST			FDOT
SIS Project							8,834	5	0	0	0	0	Total		0	8,839	
4324531	I-4	SR 528/Beachline Expy.	W of SR 435/Kirkman Rd.	3.23	Resurfacing	Overview page 7		6	0	0	0	0	NHPP	PE			FDOT
SIS Project								232	0	0	0	0	ACNP	CST			
								5	0	0	0	0	DDR	CST			
								286	0	0	0	0	PKYI	CST			
							5,691	529	0	0	0	0	Total		0	6,220	
4324532	I-4			3.23	Hurricane Matthew Erosion Damage Restoration	Overview page 7		12	0	0	0	0	D	MSC			FDOT
SIS Project							0	12	0	0	0	0	Total		0	12	
4347831	I-4	at Central Florida Pkwy.		0.40	Drainage Improvements	Overview page 7		5	0	0	0	0	DIH	CST			FDOT
SIS Project							50	5	0	0	0	0	Total		0	55	

Effective Date: 09/01/2016

Florida Department of Transportation

Run: 01/04/2017 14.44.16

Approved STIP

View Approved STIP Phase Grouping

Crosswalk

Item Segment: 242484 8

Fund	<2017	2017	2018	2019	2020	>2020	All Years
HIGHWAYS							
Item Number: 242484 8 Project Description: SR 400 (I-4) E OF SR 522 (OSCEOLA PKWY) TO WEST OF SR 528 *SIS*							
District: 05 County: ORANGE Type of Work: ADD LANES & RECONSTRUCT Project Length: 5.650							
PRELIMINARY ENGINEERING / MANAGED BY FDOT							
ACNP -ADVANCE CONSTRUCTION NHPP	12,814,863	634,665	0	0	0	0	13,449,528
DIH -STATE IN-HOUSE PRODUCT SUPPORT	138,827	484,901	0	0	0	0	623,728
ENVIRONMENTAL / MANAGED BY FDOT							
NHPP -IM, BRDG REPL, NATNL HWY-MAP21	8,700,000	0	0	0	0	0	8,700,000
Item 242484 8 Totals:	**21,653,690**	**1,119,566**	**0**	**0**	**0**	**0**	**22,773,256**
Project Total:	**21,653,690**	**1,119,566**	**0**	**0**	**0**	**0**	**22,773,256**
District 05 Totals:	**21,653,690**	**1,119,566**	**0**	**0**	**0**	**0**	**22,773,256**
Grand Total	**21,653,690**	**1,119,566**	**0**	**0**	**0**	**0**	**22,773,256**

MetroPlan Orlando

YEAR 2040 LONG RANGE TRANSPORTATION PLAN

SIS Highway Project Costs ($000's) by Plan Year

Federal/State	1	I-4	Polk/Osceola Co. Line	SR 435/Kirkman Rd	Ultimate Configuration for General Use & Managed	20.35	$1,128,814.8	$1,365,865.9	$1,523,900.0		
Federal/State	2	I-4	SR 434	Seminole/Volusia Co. Line	Ultimate Configuration for General Use & Managed	10.30	$320,000.0	$387,200.0	$432,000.0		
Federal/State	3 (1)	Wekiva Pkwy	US 441	I-4	New Expressway	25.00	$1,111,111.1	$1,344,444.4	$1,500,000.0		

(1) Cost is projected to be $1,500,000,000 and is being funded through a partnership of FDOT, OOCEA and Florida's Turnpike.

Inflation Rates						*1.21*	*1.35*	*1.59*	*2.03*
Year of Expenditure (YOE) Total Cost					$2,559,925.9	$3,097,510.4	$3,455,900.0	$0.0	$0.0
Budget						$0.0	$3,455,900.0	$0.0	$0.0
Budget + Carry Forward						$0.0	$3,455,900.0	$0.0	$0.0
Project Cost						$0.0	$3,455,900.0	$0.0	$0.0
Remaining Budget						$0.0	$0.0	$0.0	$0.0

Total Cost of Completion in 2040
$5,196,649.6
Total Project Cost in YOE
$3,455,900.0

Budget Breakdown
SIS Highway Funds

						2019-2020	2021-2025	2026-2030	2031-2040
SIS Highway/FIHS Construction/ROW						$0.0	$3,455,900.0	$0.0	$0.0

Tech Report 3 of 47

MetroPlan Orlando
FY 2021/22-2039/40 Prioritized Project List
Highway Projects
National Highway System (NH) Funded Projects

Priority Number/ County	FDOT Financial Management Number	Project Name or Designation	From	To	Length (Miles)	Work Description	Latest Project Phase Funded	Project Phase(s) Remaining Unfunded	Estimated Remaining Cost (Present-Day)
1 Orange Co.	2424847	I-4	W of SR 528/Beachline Expy.	W of SR 435/Kirkman Rd.	3.90	Ultimate Configuration for General Use & Managed Lanes	Partial PE 2015/16	Remaining PE/ ROW/CST①	$324,270,000
2 Orange Co./ Osceola Co.	2424848 & 4314561	I-4	W of CR 532 (Polk/Osceola Line)	W of SR 528/Beachline Expy.	16.45	Ultimate Configuration for General Use & Managed Lanes	Partial PE 2015/16	Remaining PE/ ROW/CST	$1,731,919,000
3 Seminole Co.	2425924	I-4	E of SR 434	Seminole/Volusia Co. Line	10.30	Ultimate Configuration for General Use & Managed Lanes	Partial PE 2015/16	Remaining PE/ ROW/CST	$472,061,000
---② Volusia Co.	4084642	I-4	Seminole/Volusia Co. Line	SR 472 in Volusia Co.		Ultimate Configuration for General Use & Managed Lanes	PE 2015/16	ROW/CST	$469,736,000
---② Polk Co.	2012103	I-4	W of US 27 in Polk Co.	W of CR 532 (Polk/Osceola Line)		Ultimate Configuration for General Use & Managed Lanes	PE 2015/16	ROW/CST	$63,227,000

Note: The ranking of priorities and the project limits were changed from that of previous PPLs to reflect FDOT's current I-4 Beyond the Ultimate plan and schedule as well as the SIS priorities adopted in July 2015 by the Central Florida MPO Alliance and the MetroPlan Orlando Board.

① The I-4 Beyond the Ultimate project from west of SR 528 to west of Kirkman Road will be funded for construction from 2025 to 2027 based on FDOT's 10-year SIS plan, beyond the scope of the FY 2016/17-2020/21 Five Year Work Program/TIP.

② Although they are outside the MetroPlan Orlando region, the I-4 Beyond the Ultimate projects from the Seminole/Volusia Co. line to SR 472 in Volusia County and from west of US 27 to the Polk/Osceola County Line in Polk County are included in MetroPlan Orlando's PPL for information purposes in order to show the entire length of the I-4 Beyond the Ultimate improvements.

431456-1
TIP, STIP, LRTP Pages

MetroPlan Orlando
Transportation Improvement Program
Interstate Highway Projects

Orange County

FDOT Financial Management Number	Project Name or Designation	Project Description: From	To	Length (Miles)	Work Description	2040 LRTP Reference	Historic Cost Prior to 2016/17 ($000's)	Project Status and Cost ($000's): 2016/17	2017/18	2018/19	2019/20	2020/21	Funding Sources	Project Phases	Estimated Future Cost After 2020/21 ($000's)	Total Project Cost ($000's)	Responsible Agency
4364051	I-4	at Kennedy Blvd.		0.30	Planning for Potential Future Interchange	Overview page 7		4	0	0	0	0	DIH	PE			FDOT
SIS Project							84	4	0	0	0	0	Total		0	88	
4375551	I-4 Downtown Improvement	S of W. Church St.	N of W. Washington St.	0.25	Urban Corridor Improvements	Overview page 7		14,500	0	0	0	0	LF	CST			FDOT
SIS Project								4,500	0	0	0	0	TRWR	CST			
							0	19,000	0	0	0	0	Total		0	19,000	

Osceola County

4314561	I-4	Polk/Osceola Co. Line	Orange/Osceola Co. Line	7.89	Add 4 Managed Lanes	Tech. Rep. 3 page 2		3,232	0	0	0	0	ACNP	PE			FDOT
SIS Project								485	0	0	0	0	DIH	PE			
								3,595	0	0	0	0	ACNP	ENV			
								1,000	0	0	0	0	ACTU	ENV			
								4,105	0	0	0	0	TALU	ENV			
							11,711	12,417	0	0	0	0	Total		70,930	95,058	
4324161	I-4	Ramps at World Dr.		4.88	Resurfacing	Overview page 7		66	0	0	0	0	DIH	PE			FDOT
SIS Project								1,024	0	0	0	0	DDR	CST			
								311	0	0	0	0	DIH	CST			
								2,632	0	0	0	0	SA	CST			
							96	4,033	0	0	0	0	Total		0	4,129	
4339161	I-4	SR 417	US 192	0.42	Landscaping	Overview page 9		94	0	0	0	0	DIH	CST			FDOT
SIS Project							1,202	94	0	0	0	0	Total		0	1,296	
4350521	I-4	at CR 532		1.06	Lighting	Overview page 7		5	0	0	0	0	DIH	PE			FDOT
SIS Project								102	0	0	0	0	DDR	CST			
								1,099	0	0	0	0	HSP	CST			
							264	1,206	0	0	0	0	Total		0	1,470	

Effective Date: 09/01/2016

Florida Department of Transportation

Run: 01/04/2017 14.45.48

Approved STIP

View Approved STIP Phase Grouping

Crosswalk

Item Segment: 431456 1

Fund	<2017	2017	2018	2019	2020	>2020	All Years
HIGHWAYS							
Item Number: 431456 1 Project Description: SR 400 (I-4) WEST OF CR 532 TO EAST OF SR 522 (OSCEOLA PARKWAY) *SIS*							
District: 05 County: OSCEOLA Type of Work: ADD LANES & RECONSTRUCT Project Length: 7.885							
PRELIMINARY ENGINEERING / MANAGED BY FDOT							
ACNP -ADVANCE CONSTRUCTION NHPP	9,203,976	3,285,335	0	0	0	0	12,489,311
DIH -STATE IN-HOUSE PRODUCT SUPPORT	145,252	484,999	0	0	0	0	630,251
DIS -STRATEGIC INTERMODAL SYSTEM	2,361,638	0	0	0	0	0	2,361,638
ENVIRONMENTAL / MANAGED BY FDOT							
ACNP -ADVANCE CONSTRUCTION NHPP	0	6,500,000	0	0	0	0	6,500,000
DDR -DISTRICT DEDICATED REVENUE	0	2,200,000	0	0	0	0	2,200,000
Item 431456 1 Totals:	**11,710,866**	**12,470,334**	**0**	**0**	**0**	**0**	**24,181,200**
Project Total:	**11,710,866**	**12,470,334**	**0**	**0**	**0**	**0**	**24,181,200**
District 05 Totals:	**11,710,866**	**12,470,334**	**0**	**0**	**0**	**0**	**24,181,200**

Grand Total	**11,710,866**	**12,470,334**	**0**	**0**	**0**	**0**	**24,181,200**

MetroPlan Orlando

YEAR 2040 LONG RANGE TRANSPORTATION PLAN

SIS Highway Project Costs ($000's) by Plan Year

Jurisdiction	Priority	Roadway	From	To	Improvement	Distance	Budget Allocation by Year ($000's)				
Federal/State	1	I-4	Polk/Osceola Co. Line	SR 435/Kirkman Rd	Ultimate Configuration for General Use & Managed	20.35	$1,128,814.8	$1,365,865.9	$1,523,900.0	-	-
Federal/State	2	I-4	SR 434	Seminole/Volusia Co. Line	Ultimate Configuration for General Use & Managed	10.30	$320,000.0	$387,200.0	$432,000.0	-	-
Federal/State	3 (1)	Wekiva Pkwy	US 441	I-4	New Expressway	25.00	$1,111,111.1	$1,344,444.4	$1,500,000.0	-	-

(1) Cost is projected to be $1,500,000,000 and is being funded through a partnership of FDOT, OOCEA and Florida's Turnpike.

Inflation Rates						1.21	1.35	1.59	2.03
Year of Expenditure (YOE) Total Cost					$2,559,925.9	$3,097,510.4	$3,455,900.0	$0.0	$0.0
Budget						$0.0	$3,455,900.0	$0.0	$0.0
Budget + Carry Forward						$0.0	$3,455,900.0	$0.0	$0.0
Project Cost						$0.0	$3,455,900.0	$0.0	$0.0
Remaining Budget						$0.0	$0.0	$0.0	$0.0

Total Cost of Completion in 2040
$5,196,649.6
Total Project Cost in YOE
$3,455,900.0

Budget Breakdown
SIS Highway Funds

	2019-2020	2021-2025	2026-2030	2031-2040
SIS Highway/FIHS Construction/ROW	$0.0	$3,455,900.0	$0.0	$0.0

Tech Report 3 p47

MetroPlan Orlando
FY 2021/22-2039/40 Prioritized Project List
Highway Projects
National Highway System (NH) Funded Projects

Priority Number/ County	FDOT Financial Management Number	Project Name or Designation	From	To	Length (Miles)	Work Description	Latest Project Phase Funded	Project Phase(s) Remaining Unfunded	Estimated Remaining Cost (Present-Day)
1 Orange Co.	2424847	I-4	W of SR 528/Beachline Expy.	W of SR 435/Kirkman Rd.	3.90	Ultimate Configuration for General Use & Managed Lanes	Partial PE 2015/16	Remaining PE/ ROW/CST①	$324,270,000
2 Orange Co./ Osceola Co.	2424848 & 4314561	I-4	W of CR 532 (Polk/Osceola Line)	W of SR 528/Beachline Expy.	16.45	Ultimate Configuration for General Use & Managed Lanes	Partial PE 2015/16	Remaining PE/ ROW/CST	$1,731,919,000
3 Seminole Co.	2425924	I-4	E of SR 434	Seminole/Volusia Co. Line	10.30	Ultimate Configuration for General Use & Managed Lanes	Partial PE 2015/16	Remaining PE/ ROW/CST	$472,061,000
—② Volusia Co.	4084642	I-4	Seminole/Volusia Co. Line	SR 472 in Volusia Co.		Ultimate Configuration for General Use & Managed Lanes	PE 2015/16	ROW/CST	$469,736,000
—② Polk Co.	2012103	I-4	W of US 27 in Polk Co.	W of CR 532 (Polk/Osceola Line)		Ultimate Configuration for General Use & Managed Lanes	PE 2015/16	ROW/CST	$63,227,000

Note: The ranking of priorities and the project limits were changed from that of previous PPLs to reflect FDOT's current I-4 Beyond the Ultimate plan and schedule as well as the SIS priorities adopted in July 2015 by the Central Florida MPO Alliance and the MetroPlan Orlando Board.

① The I-4 Beyond the Ultimate project from west of SR 528 to west of Kirkman Road will be funded for construction from 2025 to 2027 based on FDOT's 10-year SIS plan, beyond the scope of the FY 2016/17-2020/21 Five Year Work Program/TIP.

② Although they are outside the MetroPlan Orlando region, the I-4 Beyond the Ultimate projects from the Seminole/Volusia Co. line to SR 472 in Volusia County and from west of US 27 to the Polk/Osceola County Line in Polk County are included in MetroPlan Orlando's PPL for information purposes in order to show the entire length of the I-4 Beyond the Ultimate improvements.

FDOT

Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 S. Woodland Blvd.
DeLand, FL 32720

JIM BOXOLD
SECRETARY

April 28, 2016

Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
& State Historic Preservation Officer
Florida Department of State
Division of Historical Resources
500 South Bronough Street
Tallahassee, Florida 32399-0250

Attention: Ms. Ginny Jones, Transportation Compliance Review Program

RE: SR 400 (I-4) Beyond the Ultimate Project Development & Environment Study
Segment 1 (Osceola and Orange Counties)
Financial Management # 432100-1-22-01

Dear Dr. Parsons,

Enclosed please find the report entitled *Technical Memorandum: Cultural Resource Assessment Survey of Proposed Improvements to Segment 1: State Road 400 (SR 400/Interstate 4 (I-4) from West of CR 532 (Polk/Osceola County Line) to West of SR 528 (Beachline Expressway), Osceola and Orange Counties, Florida.* The Segment 1 boundaries have been modified since the project was developed to incorporate a small portion of Polk County. The following documents have also been included:

- One SHPO package containing one unbound copy of the CRAS final report, one completed Survey Log Sheet, and accompanying documentation.

The archaeological survey included pedestrian inspection and the excavation of 120 shovel tests within proposed pond footprints. One artifact was recovered during shovel testing, resulting in the identification of one archaeological occurrence. No archaeological sites were recorded. No further archaeological survey is recommended for the proposed ponds.

The architectural survey resulted in the identification of one historic structure, one historic cemetery, and one historic linear resource constructed before 1971 located within Segment 1 of the I-4 APE. The Oak Hill Baptist Church Cemetery (8OS01925) was previously recorded, while 900 Scott Lane (8PO07762) and the Florida Midland Railroad (8OR10235) are newly recorded resources. The historic resources were evaluated to determine their significance and potential for listing in the NRHP. All three resources within Segment 1 of the I-4 APE lack the architectural distinction and significant historical associations necessary to be considered for

listing in the NRHP and are recommended ineligible. No potential NRHP districts were identified.

Based on the results of this study, it is the opinion of the District that the proposed undertaking will have no effect on resources listed or eligible for listing in the NRHP. I respectfully request your concurrence with the findings of the enclosed report.

If you have any questions or need further assistance, please contact Catherine Owen, District Cultural Resource Coordinator, at (386) 943-5383 or me at (386) 943-5411.

Sincerely,

FOR William G. Walsh
Environmental Manager
FDOT, District Five

cc: Beata Stys-Palasz, FDOT District Five
Roy Jackson, FDOT SEMO
Cathy Kendall, FHWA

The Florida State Historic Preservation Officer:

__✓__ finds the attached report complete and sufficient and __✓__ concurs/ ___ does not concur with the findings and recommendations contained in this cover letter and the enclosed report.

___ does not find the attached report complete and sufficient and requires additional information in order to provide an opinion on the potential effects of the proposed project on historic resources.

/s/ Deputy SHPO
For: Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
& State Historic Preservation Officer

6/23/2016
Date

2016-1348
DHR No.

United States Department of the Interior
U. S. FISH AND WILDLIFE SERVICE
7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:
FWS Log. No. 04EF1000-2016-F-0430

August 26, 2016

Cathy Kendall, AICP
Senior Environmental Specialist
FHWA - FL, PR and VI
3500 Financial Plaza, Suite 400
Tallahassee, FL 32312

Dear Ms. Kendall:

This document is the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed SR 400 (I-4) Beyond the Ultimate-Segment 1 widening and improvement project in Orange and Osceola Counties, Florida, and its effects on the threatened sand skink (*Neoseps reynoldsi*) [*Plestiodon reynoldsi*] and scrub lupine (*Lupinus aridorum)* per section 7 of the Endangered Species Act (Act) of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). The Service received your written request to initiate formal consultation on April 6, 2016, for improvements to I-4 Beyond the Ultimate (BtU)-Segment 1. The proposed project will be addressed in this biological opinion as requested by the applicants.

This biological opinion is based on information provided by the Florida Department of Transportation (FDOT) and Federal Highway Administration (FHWA), prior technical assistance and informal consultations with FDOT, field investigations, and other sources of information. A complete administrative record of this consultation is on file at the Service's North Florida Ecological Services Office, Jacksonville, Florida.

BIOLOGICAL OPINION

A Biological Opinion is a document that includes the Service's analysis of whether the proposed action, the SR 400 (I4) Beyond Ultimate Segment 1, is likely to jeopardize the continued existence of sand skinks (*Plestiodon reynoldsi)* and scrub lupine (*Lupinus aridorum*). "To jeopardize the continued existence of a listed species" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species (50 CFR §402.02). Because critical habitat has not been designated for the sand skink or scrub lupine, this Biological Opinion will not discuss critical habitat or analyze adverse modification.

CONSULTATION HISTORY

The summary presented below highlights our early coordination and discussions about sand skinks, which is the focus of the action agency's request for Formal Consultation. The Service provided technical guidance on specific roadway sections and survey methods. A separate informal consultation was completed for this project.

The following list is presented in reverse chronological order, starting with the most recent coordination with the Service.

2016 August 26, The Service provided a draft Biological Opinion to the FHWA and FDOT to review and provide comments.

2016 June 1, Representatives of FDOT, Service staff from both North Florida and South Florida field offices, and project consultants attended a field meeting to determine the areas of skink occupied habitat based upon the site characteristics and the cover board survey results.

2016 May 11, FHWA, FDOT, the Service and project consultants met at the Service's office to discuss the new designation for skink occupied habitat and resultant increased project impacts.

2016 April 6, FHWA requested formal consultation with the Service for I-4 BtU - Segment 1.

2016 March 8, FDOT requested informal consultation for I-4 BtU Segment 1. Informal consultation for this segment was concluded on April 11, 2016. The informal consultation covered Florida scrub jays, wood storks, snail kites, crested caracara, and eastern indigo snakes.

2015 December 17, FDOT, FHWA, project consultant (Stantec) and the Service met to discuss needs for consultation for I-4 extension of proposed express lanes. The decision was made to send the Service a request for informal consultation and another request for formal consultation.

2014 October 22, Service staff in the North Florida Office (Jane Monaghan) communicated to FDOT and project consultant that survey results were reviewed and that concurrence for a MANLAA for sand skinks was possible.

2014 May 12, Project consultant sent South Florida staff (John M. Wrublik) message indicating negative results of cover boards for Osceola County, FL.

DESCRIPTION OF PROPOSED ACTION

As part of the I-4 Beyond the Ultimate concept FDOT is proposing to reconstruct and widen SR 400 (I-4). The project consists of the build-out of I-4 to its ultimate condition through Central Florida. The design proposes the addition of two new express lanes in each direction, resulting in a total of ten dedicated lanes. The proposed improvements to I-4 include widening the existing six lane divided urban interstate to a ten lane divided highway. The typical section will be consistent throughout Segment 1 and will have three 12-foot general use travel lanes with 10-foot inside and 12-foot outside shoulders and two 12-foot express lanes with 4-foot inside and 10-foot outside shoulders in each direction. A barrier wall

between the adjacent shoulders will separate the express lanes from the general use lanes. Twelve-foot auxiliary lanes will be provided in some areas in both the eastbound and westbound directions. The typical section includes a 44-foot rail envelope in the median within a minimum 300 foot right of way.

The focus of this consultation is Segment 1: SR 400 (I-4) from West of CR 532 (Polk/Osceola County Line) to West of SR 528 Beachline Expressway in Osceola and Orange Counties, Florida. Construction work will include the use of heavy machinery to clear vegetation, compact soils, and construct the proposed project. All fill, dirt hauling, asphalt paving, and staging areas for the proposed construction will occur in the construction right-of-way.

Based on survey results, the FHWA and FDOT determined the proposed project "may affect and is likely to adversely affect" the sand skink and scrub lupine. The Service concurs with this determination. For the scrub lupine we found that while adverse effects will result, the species will not be jeopardized. Because it is a plant, take is not prohibited.

Action area

The action area is defined as all areas to be directly or indirectly affected by the Federal action and not merely the immediate area involved in the action. The action may result in a variety of indirect and cumulative effects in the project area. Also, it may potentially encouraging new development resulting in the loss of additional sand skink habitat and sand skinks. Consequently, existing sand skink habitat in the project area is threatened by future development and increased fragmentation of the landscape. However, the extent of the project's effects on the surrounding lands is difficult to discern. The action area identified for this project is SR 400 (I-4) from West of CR 532 (Polk/Osceola County Line) to West of SR 528 Beachline Expressway in Osceola and Orange Counties, Florida (Figure 1). FDOT and FHWA have identified 14.5 acres of potential suitable habitat for sand skinks in a proposed pond site for this Segment of I-4. The Service has established a skink action area for this project that includes all lands within the proposed Pond Site 105A and a buffer of 188 feet that includes all undeveloped lands with suitable soils (excessively drained to moderately well drained) adjacent to the project footprint (Figure 2). The action area as described above is sufficient to capture the direct, indirect, and cumulative effects resulting from the proposed roadway improvements.

The scrub lupine was observed west of Turkey Lake Road, to the west of the SR 528 Interchange at westbound I-4 in five areas surveyed for sand skinks in 2014 (Area H, Area K, Area L, Area M, and Area O). The footprint of Pond Site 139B and the edge of the proposed right-of-way northeast of the Daryl Carter Parkway overpass overlap an individual observation of scrub lupine. For the scrub lupine the action area was identified as the total project area (Figure 3) surrounding the areas where the species was identified, as mentioned above.

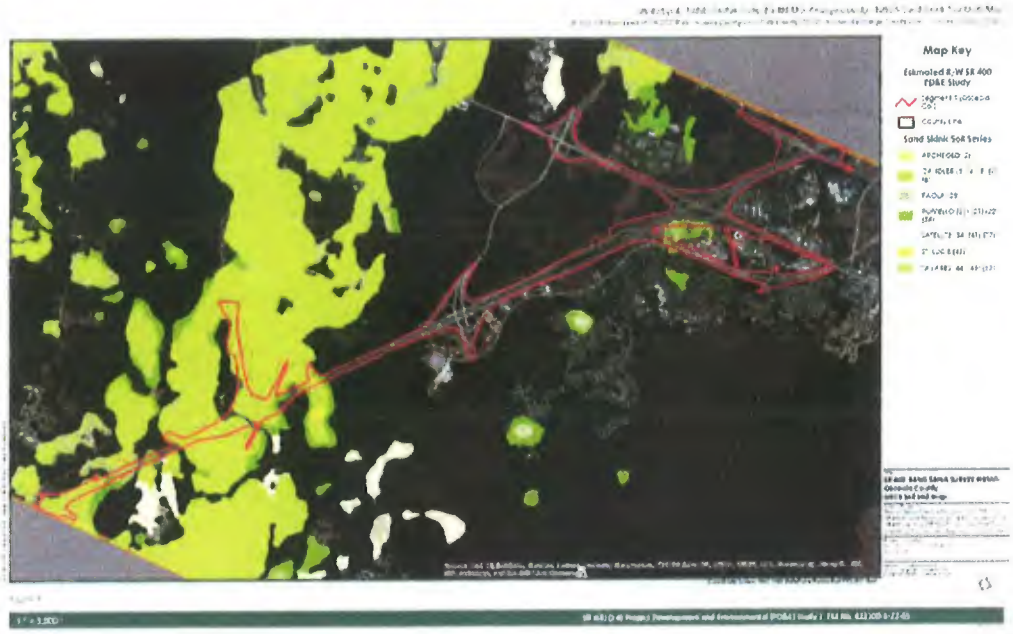


Figure 1. Project area (red) showing sand skink soils

Figure 2. Pond Site FPC 105, sand skink habitat.

Figure 3. Identified scrub lupine habitat and occurrences at proposed project.

Conservation Measures

Conservation measures are actions to benefit or promote the recovery of a listed species that are included by the Federal agency as an integral part of the proposed action. These actions are taken by the Federal agency or applicant and serve to avoid, minimize, or compensate for project effects on the listed species.

Conservation Measure 1: Compensation for Sand Skink Habitat Loss

FHWA and FDOT propose to offset impacts by providing compensatory mitigation at a Service-approved conservation bank at 2:1 ratio. The compensation acres are based on surveys that determined sand skink occupancy within the Pond Site FPC 105 for the project (10.0 acres of impacts). FDOT and FHWA will provide 20.0 credits to offset project impacts to occupied sand skink habitat.

Conservation Measure 2: Scrub lupine conservation
During permitting the proposed project will be re-surveyed for occurrence of scrub lupine. In coordination with Bok Tower Gardens, the following will occur: collection of seeds, or translocation of plants out of the project footprint for replanting in lands acceptable to the Service (e.g., public conservation lands). Collected seeds would be provided to Bok Tower Gardens for reproduction and conservation of the species.

STATUS OF SPECIES/CRITICAL HABITAT

The most recent review of the sand skink can be found in the 5-year review (Service 2007) and in the 5-year review for the scrub lupine (USFWS 1996). This review builds on the detailed information in the Multi-Species Recovery Plan (MSRP) (Service 1999) The MSRP is incorporated by reference and can be used to obtain more detailed information about these species. Additional species information was obtained from the Peninsular Florida Species Conservation and Consultation Guide (Service 2012).

Scrub Lupine

Species/critical habitat description

Appearance/Morphology

Lupinus aridorum is a woody, perennial herb, with sprawling stems up to 1 m long. The leaves are obovateelliptic, 4 to 7 cm long and 2 to 4 cm wide. The base and end of the leaf are rounded with a sharp point at the leaf's end. The petioles are 2.0 to 4.5 cm long and the stipules are very small or absent. A silvery pubescence covers the leaves and stems. The flowers are a pale flesh-colored pink and are 4 to 5 cm long. The upper petal (standard) has a black center surrounded by a maroon area. They are arranged in racemes with stalks 4 to 13 cm long. Each raceme has 5 to 14 flowers, but up to 25 on occasion (Stout in press). *Lupinus aridorum* fruits are long, woody, and elliptical with a pointed end. It is differentiated from *L. villosus*, the only other pink flowering lupine, in that *L. aridorum* is not prostrate, has hairs on the leaves and stem, and is the only upright pink-flowering lupine in Florida.

Taxonomy

Until being named *L. aridorum* in 1982, this taxon was identified as *L. diffusus* and *L. westianus* (52 FR 11172). Isley (1986, 1990) evaluated the systematics of *L. aridorum* in his floristic treatment of the pea family (Fabaceae) in the Southeast and concluded that *L. aridorum* belongs to the same species as *L. westianus* of the Gulf Coast of northwest Florida, which differs mainly in flower color (blue). Isley's taxonomic status for the central Florida plant is *L. westianus* var. *aridorum* (McFarlin ex Beckner) Isley. However, the former classification *L. aridorum* was used to list the species (52 FR 11172), and will be used here to maintain consistency.

Life History

The scrub lupine was first collected in 1900 in Orange County, Florida. It was not collected again until it was found in Polk County in 1928 and 1937. Renewed survey efforts in the early 1970s and the early 1980s greatly expanded the knowledge of the species distribution in both Orange and Polk counties (Figure 1). Scrub lupine is now known from two distinct areas. In western Orange County (Orlando area) it is found on the southern Mount Dora Ridge from the Apopka-Plymouth area south, past Lake Buena Vista. In South Florida it is found in north-central Polk County on the Winter Haven Ridge near Auburndale and Winter Haven.

The scrub lupine has been found in bloom between March and May. The seed pods mature by June, and the seeds fall off the plant and take root nearby or remain in a long-lived seedbank (T. Race, Bok Tower Gardens, personal communication 1996, J. Stout, University of Central Florida, personal communication 1996). Recent information indicates the plant may bloom from one to three times throughout its life, though few seeds are produced the first year (J. Stout, University of Central Florida, personal communication 1996). Pollinators of this species are unknown.

Habitat

The scrub lupine grows primarily on well-drained sandy soils of the Lakewood or St. Lucie series (Wunderlin 1984). These soils are very dry and have very little organic accumulation (Lowe *et al.* 1990). The sands are white or occasionally yellow and generally support sand pine scrub (Wunderlin 1984). They are also quite acidic with a pH from 4.0 to 4.5 (J. Stout, University of Central Florida, personal communication 1996).

The natural habitat for *L. aridorum* is believed to be sand pine and rosemary scrub (J. Stout, University of Central Florida, personal communication 1996). Scrub lupine probably existed in sunny gaps until succession of the scrub resulted in excessive shading and closure of open, sunny patches. After long periods without disturbance, gap specialists usually become less common in scrub communities. Regrowth of *L. aridorum* after fire or other disturbances occurs from seedbanks stored in the sand.

Most of the sites where *L. aridorum* is now found are moderately to severely disturbed by soil scraping, road construction, land clearing, or offroad vehicles (Stout *in press*). With these disturbances and associated vegetative responses, it is difficult to determine what the "natural" vegetative cover may have been. However, Wunderlin (1984) found the predominant overstory for this species to be sand pine (*Pinus clausa*), longleaf pine (*Pinus palustris*), and occasionally turkey oak (*Quercus laevis*). The shrub layer tends to be sparse at *L. aridorum* sites; however this may be a result of manmade disturbances to the soil. Shrub species most frequently found in association with *L. aridorum* include rosemary (*Ceratiola ericoides*), scrub live oak (*Quercus geminata*), rusty lyonia (*Lyonia ferruginea*), *Palafoxia feayi*, tallowwood (*Ximenia americana*), and an occasional cabbage palm (*Sabal palmetto*). The herbaceous layer is mostly wiregrass (*Aristida beyrichiana*).

Status and distribution

Distribution

Like many other Florida scrub endemics, *L. aridorum* has suffered from habitat loss due to urban and agricultural expansion. Currently, most of the estimated 1,000 individuals of this species occur in habitats that have already been highly modified or are threatened by future land clearing for residential housing; road construction and maintenance; pedestrian, horse, and off-road vehicles; and conversion to pasture land. It is endemic to 2 counties in central FL: Orange County on the southern Mount Dora Ridge and Polk County on the Winter Haven Ridge. Throughout much of its range, the scrub lupine is afforded little protection; it occurs on fewer than 2 ha of public land (excluding road rights-of-ways) (Stout *in press*). The limited distribution

of *L. aridorum* makes it especially vulnerable to loss of habitat. As a result of these threats, this species was federally listed as an endangered species on April 7, 1987 (52 FR 11172).

In South Florida, only six sites are inhabited by *L. aridorum.* They are in Polk County, near Winter Haven and Auburndale. The sites near Auburndale are threatened by land clearing to support a rapidly growing human population. Presently only small tracts of scrub remain among expanses of residential development. Polk County sites total only about 380 ha (Christman 1988). The status of the 10 sites inhabited by *L. aridorum* in Orange County is important to evaluate the pressures on this species. All 10 sites are between the City of Orlando and Walt Disney World. Orlando has been, and continues to be, one of the most rapidly growing cities in Florida. The portion of the species' range in western Orange County is largely urbanized, with many of the remaining sites composed of small remnants of the original scrub, including vacant residential lots and the right-of-ways of the Florida Turnpike. These are also rapidly expanding communities whose human population growth threatens the continued existence of *L. aridorum.*

Status

Although the species is not abundant or well-distributed, the seeds of *L. aridorum* may be numerous in many locations in which it historically grew. This species may persist only in the form of a seed bank in many heavily vegetated scrubs (J. Stout, University of Central Florida, personal communication 1996). In most known localities, *L. aridorum* grows aggressively following soil disturbance, because of the open patches of bare sand resulting from these disturbances. Since fire and other sources of disturbance have been excluded from many scrub sites, succession and the subsequent growth of other scrub vegetation probably have out-competed *L. aridorum* in many historic localities. Even though seed sources may be available in many of these locations, vegetative surveys rarely locate seeds, and these potential sources of plants are overlooked and rarely considered when reviewing areas for acquisition or protection needs.

Analysis of the species/critical habitat likely to be affected

It is difficult to adequately assess the status and population dynamics of the scrub lupine. The status of the 10 sites inhabited by *L. aridorum* in Orange County is important to evaluate the pressures on this species. All 10 sites are between the City of Orlando and Walt Disney World. Orlando has been, and continues to be, one of the most rapidly growing cities in Florida. The portion of the species' range in western Orange County is largely urbanized, with many of the remaining sites composed of small remnants of the original scrub, including vacant residential lots and the right-of-ways of the Florida Turnpike. These are also rapidly expanding communities whose human population growth threatens the continued existence of *L. aridorum.*

In 2010 there was a population planted at Mackay Gardens and Lakeside Preserve. This is one of 5 introduced populations in conservation lands introduced by the Rare Plant Conservation Program at Bok Tower Gardens and its many partners. Another population, one of the largest, is found in Orange County near Vineland Road, Apopka.

SAND SKINK

Species/critical habitat description

Appearance/Morphology

The sand skink is a small, fossorial lizard that reaches a maximum length of about 5 inches (in) (12.7 centimeters [cm]). The tail makes up about half the total body length. The body is shiny and usually gray to grayish-white in color, although the body color may occasionally be light tan. Hatchlings have a wide black band located along each side from the tip of the tail to the snout. This band is reduced in adults and may only occur from the eye to snout on some individuals (Telford 1959). Sand skinks contain a variety of morphological adaptations for a fossorial lifestyle. The legs are vestigial and practically nonfunctional, the eyes are greatly reduced, the external ear openings are reduced or absent (Greer 2002), the snout is wedge-shaped, and the lower jaw is countersunk.

Taxonomy

The taxonomic classification of the sand skink has been reevaluated since it was listed as *Neoseps reynoldsi* in 1987 (52 FR 42658), and the commonly accepted scientific name for the sand skink is now *Plestiodon reynoldsi* (Brandley et al. 2005; Smith 2005). A detailed description of the recent taxonomic review can be found in Service (2007). We continue to use the scientific name as published in the final listing rule (52 FR 42658).

The sand skink is believed to have evolved on the central Lake Wales Ridge (LWR) and radiated from there (Branch et al. 2003). Analysis of mitochondrial DNA indicates populations of the sand skink are highly structured with most of the genetic variation partitioned among four lineages: three subpopulations on the LWR characterized by high haplotype diversity and a single, unique haplotype detected only on the Mount Dora Ridge (MDR) (Branch et al. 2003). Under the conventional molecular clock, the 4.5 percent divergence in sand skinks between these two ridges would represent about a 2-million-year separation; the absence of haplotype diversity on the MDR would suggest this population was founded by only a few individuals or severely reduced by genetic drift of a small population (Branch et al. 2003).

Life History

The sand skink is usually found below the soil surface burrowing through loose sand in search of food, shelter, and mates. Sand skinks feed on a variety of hard and soft-bodied arthropods that occur below the ground surface. The diet consists largely of beetle larvae and termites (*Prorhinotermes* spp.). Spiders, larval ant lions, lepidopteran larvae, roaches, and adult beetles are also eaten (Myers and Telford 1965; Smith 1982).

Sand skinks are most active during the morning and evening in spring and at mid-day in winter, the times when body temperatures can easily be maintained at a preferred level between 82 ° Fahrenheit (F) and 88° F (27.8 ° Celsius [C] - 31.1 ° C) in open sand (Andrews 1994). During the hottest parts of the day, sand skinks move under shrubs to maintain their preferred body temperatures in order to remain active near the surface. With respect to season, Telford (1959) reported skinks most active from early March through early May, whereas Sutton (1996) found

skinks most active from mid-February to late April. Based on monthly sampling of pitfall traps, Ashton and Telford (2006) found captures peaked in March at Archbold Biological Station (ABS), but in May at the Ocala National Forest (ONF). All of these authors suggested the spring activity peak was associated with mating. At ABS, Ashton and Telford (2006) noted a secondary peak in August that corresponded with the emergence of hatchling sand skinks.

Telford (1959) assumed sand skinks become sexually mature during the first year following hatching, at a size of 1.78 in (4.52 cm) snout-vent length. He suspected most of the breeders in his study were in their second year and measured between 1.78 in and 2.24 in (4.52 cm - 5.69 cm) snout-vent length. However, Ashton (2005) determined sand skinks become sexually mature between 19 and 23 months of age and have a single mating period each year from February through May. Sand skinks first reproduce at 2 years of age and females produce a single clutch in a season, although some individuals reproduce biennially or less frequently (Ashton 2005). Sand skinks lay between two and four eggs, typically under logs or debris, in May or early June (Ashton 2005; Mushinsky in Service 2007), approximately 55 days after mating (Telford 1959). The eggs hatch from June through July. Sand skinks can live at least to 10 years of age (Meneken et al. 2005). Gianopulos (2001) found the sex ratio of sand skinks did not differ significantly from 1:1, which is consistent with the findings of Sutton (1996).

Evidence suggested smaller sand skinks might move greater distances than larger individuals. The longest sand skink movement documented is 26,250 ft (8 km) and an average movement of 5,250 ft (1.6 km) in naturally fragmented scrubby flatwoods at the ABS (Mushinsky et al. 2011). However, most sand skinks move less than 130 ft (39.6 m) between captures, but some have been found to move over 460 ft (140.2 m) in 2 weeks (Mushinsky et al. 2001). Limited dispersal has been suggested to explain the relatively high degree of genetic structure within and among sand skink populations (Branch et al. 2003; Reid et al. 2004).

Habitat

The sand skink is widespread in native xeric uplands with excessively drained, well-drained, and moderately well-drained soils on the sandy ridges of interior central Florida at elevations greater than 80 ft (24.4 m) above mean sea level (Service 2012). Commonly occupied native habitats include Florida scrub variously described as sand pine scrub, xeric oak scrub, rosemary scrub and scrubby flatwoods, as well as high pine communities that include sandhill, longleaf pine/turkey oak, turkey oak barrens and xeric hammock (see habitat descriptions in Myers 1990 and Service 1999). Sand skinks also use disturbed habitats such as citrus groves, pine plantations, and old fields, especially when adjacent to existing occupied scrub (Pike et al. 2007; 2008).

Various authors have attempted to characterize optimal sand skink habitat (Telford 1959; 1962; Christman 1978; 1992a; Campbell and Christman 1982). Literature descriptions of scrub characteristics have not proven very useful to predict sand skink abundance, but expert opinion was more successful (McCoy et al. 1999). McCoy et al. (1999) used trap-out enclosures to measure sand skink densities at seven scrub sites and attempted to rank each area individually based on eight visual characteristics to identify good habitat: root-free, grass-free, patchy bare areas, bare areas with lichens, bare areas with litter, scattered scrubs, open canopy, and sunny exposure. None of the individual literature descriptions of optimal habitat (or any combination thereof) accurately predicted the rank order of actual sand skink abundance at these sites, which ranged in density from 52 to 270 individuals per acre (Sutton 1996). However, knowledgeable

researchers, especially as a group, appear to be able to visually sort out the environmental variables important to sand skinks, but had difficulty translating their perceptions into a set of rules that others could use to identify optimal sand skink habitat (McCoy et al. 1999).

Multiple studies (Collazos 1998; Hill 1999; Mushinsky and McCoy 1999; Gianopulos 2001; Mushinsky et al. 2001) have quantified the relationship between sand skink density and a suite of environmental variables. These studies have found that sand skink relative density was positively correlated with low canopy cover, percent bare ground, amount of loose sand and large sand particle size, but negatively correlated with understory vegetation height, litter cover, small sand particle size, soil moisture, soil temperature, and soil composition. In an unburned sandhill site at ABS, Meshaka and Lane (2002) captured significantly more sand skinks in pitfall traps set in openings without shrubs than at sites with moderate to heavy shrub density. Telford (1959) suggested scattered debris and litter provided moisture that was important to support an abundant food supply and nesting sites for sand skinks. Cooper (1953) noted the species was most commonly collected under rotting logs, and Christman (1992) suggested they nest in these locations. Christman (2005) found the species continues to occupy scrub with a closed canopy and thick humus layer, although at lower densities. Recent surveys have also shown sand skinks may occupy both actively managed lands such as citrus groves and pine plantations and old-field communities (Pike et al. 2007), particularly if these sites are adjacent to patches of native habitat that can serve as a source population for recolonization.

Habitat size may be a factor in maintaining viable skink populations. Pike et al. (2006) monitored sand skinks and quantified vegetation change in six areas from 5 ac to 69 ac (2 - 27.9 ha) that were restored to a more natural state using fire and canopy thinning, and set aside for conservation in residential areas. Pike et al. (2006) documented a severe decline in occupancy and relative density of sand skinks, and hypothesized indirect impacts from surrounding development, such as changes in soil hydrology, may have caused the decline. Hydrologic changes in the soil may have occurred as a result of construction of retention ponds or run-off from neighborhoods that caused a rise in the groundwater level (Pike et al. 2006). The population decline of skinks noted may also have been caused by prescribed burning used to restore these sites (Mushinsky in Service 2007).

Population Dynamics

The current status of the sand skink throughout its geographic range is unclear because recent comprehensive, range-wide surveys have not been conducted. At the time of listing in 1987, Florida Natural Areas Inventory (FNAI) had recorded 31 known sites for the sand skink. By September 2006, 132 localities were known by FNAI (Griffin,2007). This increase is largely the result of more intensive sampling of scrub habitats in recent years and does not imply this species is more widespread than originally supposed. Nonetheless, except for a few locations where intensive research has been conducted, limited information about the presence or abundance of sand skinks exists. Additional studies have provided presence/absence information that has been used to determine the extant range of the species (Mushinsky and McCoy 1991; Stout and Corey 1995). However, few long-term monitoring efforts have been undertaken to evaluate the population size, or population trends, of sand skinks at these sites, on remaining scrub habitat on private lands, or range-wide.

The population dynamics of sand skinks within their extant ranges are not well known because the skinks' small size and secretive habits make their study difficult. Sand skinks are known to exhibit life-history traits that are also found in a number of other fossorial lizard species, such as: delayed maturity, a small clutch size of relatively large eggs, low frequency of reproduction, and a long lifespan (Ashton 2005). Such character traits may have resulted from, and be indicative of, high intraspecific competition or predation.

Status and distribution

The modification and destruction of xeric upland communities in central Florida were a primary consideration in listing the sand skink as threatened under the Act in 1987 (52 FR 42658), and is listed as federally-designated threatened by the state. Critical habitat has not been designated for the sand skink.

Distribution

The extant range of the sand skink includes Highlands, Lake, Marion, Orange, Osceola, Polk, and Putnam counties (Christman 1988; Telford 1998). Principal populations occur on the LWR and Winter Haven Ridge (WHR) in Highlands, Lake, and Polk counties (Christman 1992a; Mushinsky and McCoy 1995). The sand skink is uncommon on the MDR, including sites within the ONF (Christman 1970; 1992a). Herptile surveys in a variety of scrub habitats in the ONF did not detect sand skinks (Greenberg et al. 1994). Telford (1998) cited the ephemeral nature of early successional scrub habitats due to dynamic changes as an important confounding factor in the evaluation of the sand skink's present status in the ONF. At least two persistent populations are known from the ONF (Telford 1998), where sand skinks have been collected for genetic analysis (Branch et al. 2003) and population studies (Ashton and Telford 2006). Despite intensive sampling efforts in scrub habitat with similar herpetofauna, the sand skink has not been recorded at Avon Park Air Force Range on the Bombing Range Ridge (Branch and Hokit 2000). Although we do not have estimates of acreage for all of the ridges, we do know that the largest of these, the LWR, encompasses approximately 517,303 ac (209,353 ha) (Weekley et al. 2008).

According to the FNAI database updated as of September 2006, there were 132 locality records for the sand skink, including 115 localities on the LWR, 7 on the MDR, and 4 on the WHR (Griffin 2007). FNAI also reports four localities for this species west of the MDR in Lake County and two localities between the LWR and the Lake Hendry Ridge.

Range-wide trends

Approximately 85 percent of xeric upland communities historically used by sand skinks on the LWR are estimated to have been lost due to development (Turner et al. 2006b). It is likely continued residential and agricultural development of xeric upland habitat in central Florida has destroyed or degraded habitat containing sand skinks. Protection of the sand skink from further habitat loss and degradation provides the most important means of ensuring its continued existence. Of the 73 locations examined by Turner et al. (2006a) on which sand skinks were reported, 39 are protected and, as of 2004, 27 were managed. Current efforts to expand the system of protected xeric upland communities on the LWR, coupled with implementation of effective land management practices, represent the most likely opportunity for assuring the sand skink's survival.

Over the last 20 years, a concerted effort by public and private institutions to protect the remaining undeveloped areas of the LWR has resulted in the acquisition of 21,498 ac (8,700 ha) of scrub and sandhill habitat (Turner et al. 2006). A variety of state and federal agencies and private organizations are responsible for management of these areas. The Service has also acquired portions of several tracts totaling 1,800 ac (728.4 ha) as a component of the LWR National Wildlife Refuge (Service 1993). Private organizations, such as TNC and ABS, have acquired and currently manage xeric uplands within the LWR. All of these efforts have greatly contributed to the protection of imperiled species including sand skinks on the LWR (Turner et al. 2006).

The Service currently has certified six conservation banks totaling nearly 1,500 ac (607 ha) for sand and blue-tailed mole skinks, two in Highlands County and four in Polk County. Additional conservation banks are in the approval process in Polk County which will significantly increase the amount of habitat in conservation for this species once approved. Conservation banking provides an avenue for collaboration of private/public partnerships to maintain and preserve habitat, providing for the conservation of endangered species. These banks conserve and manage land in perpetuity through a conservation easement to offset impacts occurring elsewhere to the same resource values on non-bank lands. The certification of these banks should help reduce the piece-meal approach to sand skink conservation that can result from separate evaluation of individual projects by establishing larger reserves and improving connectivity of habitat.

Analysis of the species/critical habitat likely to be affected

Little information is available to adequately assess the status and population dynamics of the sand skink. However, the sand skink may be relatively widespread in remaining xeric uplands. Furthermore, the implementation of favorable management practices can create and maintain suitable habitat conditions for the sand skink, as well as other xeric upland-dependent species. A number of actions over the last 20 years have resulted in conservation benefits to xeric uplands within the extant range of the species. The state of Florida has acquired xeric upland habitat through various acquisition programs for conservation of native landscapes. The Service has also acquired portions of several tracts as a component of the LWR National Wildlife Refuge. In 2012, the Service began acquisition and conservation easements to create the Everglades Headwaters National Wildlife Refuge and Conservation Area that includes xeric uplands on LWR. Finally, private organizations, such as TNC and ABS have acquired and currently manage xeric uplands within the LWR.

ENVIRONMENTAL BASELINE

The environmental baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat (including designated critical habitat), and ecosystem within the action area. The environmental baseline does not include the effects of the action under review in this Biological Opinion.

STATUS OF THE SPECIES WITHIN THE ACTION AREA

Project biologists conducted visual pedestrian surveys according to the USFWS Sand Skink and Blue-tailed Mole Skink Survey Protocol (2012) within the proposed right-of-way and pond sites of the SR 400 (I-4) Segment 1, in locations where land elevation exceeded 82 feet mean sea level and well-drained soils were suitable. There wasn't previous evidence of skinks noted in the original PD&E surveys conducted in December 1996 – December 1997, nor was there a species-specific survey performed. However, guidance from USFWS on the skink now classifies areas with skink soils as potential skink habitat, whether or not natural xeric scrub habitat occurs over the soils. Cover board surveys were conducted according to the USFWS Survey Protocol for Peninsular Florida for the Sand Skink and Bluetailed Mole Skink (USFWS 2012) during March, April, and May 2014. Subsequent design changes after the completion of the 2014 survey necessitated a supplemental survey over several new areas in 2015.

Sand skink tracks were not observed on the 2014 surveys. In 2015 an extensive survey was conducted and sand skinks were found in Pond Site FPC 105A. Originally, total acres proposed as occupied were 14.5 acres. Areas where heavy oak cover occurred and soil conditions were changed to include a heavy duff layer, high soil moisture, organic presence, and high root mass density are considered non-suitable sand skink habitat. A 188-foot buffer from a positive occurrence was used to determine the extent of occupied habitat. In areas where positive tracks were found with unsuitable habitat in a direction a 30-foot buffer in that same direction was used. In the areas where the pine plantation included heavy coverage of Bahia grass and a slightly altered soil profile (high root mass density, higher soil moisture), the extent of the occupied habitat was again determined using a 30-foot buffer from the end of the line of positive occurrences. In addition, it was agreed that the several areas that were vegetated with a heavy cover of Cogon grass likely represented unsuitable habitat for sand skinks and would be excluded from the calculation of occupied habitat. Based on survey results, the FHWA and FDOT determined the proposed Pond Site 105A of the SR 400 BtU project "may affect and is likely to adversely affect" the sand skink.

Scrub lupine was found during the sand skink surveys in 2014. This plant species was observed west of Turkey Lake Road, to the west of the SR 528 Interchange at westbound I-4 in five areas surveyed for sand skinks in 2014 (Area H, Area K, Area L, Area M, and Area O). The footprint of Pond Site 139B and the edge of the proposed right-of-way northeast of the Daryl Carter Parkway overpass overlap with an individual observation of scrub lupine. Based on the survey results, the FHWA and FDOT determined the proposed project, SR 400 BtU Segment 1, "may affect and is likely to adversely affect" the scrub lupine.

The Service concurs with these determinations and finds that the project will result in adverse effects to the federally listed sand skink and its habitat, and the federally listed scrub lupine and its habitat. The project's effects on the sand skink and the scrub lupine will be discussed in the Effects of the Action.

FACTORS AFFECTING SPECIES' ENVIRONMENT WITHIN THE ACTION AREA

The habitats surrounding the action area are threatened by degradation resulting from fire exclusion, lack of management, and residential development. As mentioned in the previous section, some suitable habitat is interspersed within the residential and compacted pastureland. Xeric habitats favored by skinks require periodic fire to maintain optimal habitat values such as patches of bare sand and low shrub architecture. The need to protect agricultural, residential, and commercial development has resulted in the suppression of wildfires.

Xeric habitats lacking periodic fire or management become overgrown and less suitable to skinks and scrub lupine. Over time, skinks and scrub lupine will diminish in abundance and eventually may be extirpated as other vegetation takes over the available habitat and open sandy areas are covered. The FHWA and FDOT have no mechanism to perpetuate land management practices beyond their right-of-way, so the maintenance of habitat for skink and scrub lupine suitability surrounding the action area will be the responsibility of individual property owners.

CLIMATE CHANGE

Climate change is evident from observations of increases in average global air and ocean temperatures, widespread melting of snow and ice, and rising sea level, according to the Intergovernmental Panel on Climate Change Report (IPCC 2007a,b). The IPCC Report describes changes in natural ecosystems with potential wide-spread effects on many organisms, including marine mammals and migratory birds. The potential for rapid climate change poses a significant challenge for fish and wildlife conservation. Species' abundance and distribution are dynamic, relative to a variety of factors, including climate. As climate changes, the abundance and distribution of fish and wildlife will also change. Highly specialized or endemic species are likely to be most susceptible to the stresses of changing climate. Based on these findings and other similar studies, the Department of the Interior (DOI) requires agencies under its direction to consider potential climate change effects as part of their long-range planning activities (Service 2007).

Temperatures are predicted to rise from 3.6 °F to 9.0 °F (2 ° - 5 °C) for North America by the end of this century (IPCC 2007a,b). Other processes to be affected by this projected warming include rainfall (amount, seasonal timing and distribution), storms (frequency and intensity), and sea level rise.

Climatic changes in Florida could amplify current land management challenges involving habitat fragmentation, urbanization, invasive species, disease, parasites, and water management. Global warming will be a particular challenge for endangered, threatened, and other "at risk" species. It is difficult to estimate, with any degree of precision, which species will be affected by climate change or exactly how they will be affected. The Service will use Strategic Habitat Conservation planning, an adaptive science-driven process that begins with explicit trust resource population objectives, as the framework for adjusting our management strategies in response to climate change (Service 2006). As the level of information increases concerning the effects of global climate change on sand skinks and scrub lupine, the Service will have a better basis to address the nature and magnitude of this potential threat and will more effectively evaluate these effects to the range-wide status of these species.

EFFECTS OF THE ACTION

This section analyzes the direct, indirect, and beneficial effects of the proposed action and interrelated and independent actions on federally listed skinks and their habitat and scrub lupine.

FACTORS TO BE CONSIDERED

The project site contains skink and scrub lupine habitat and is located within the geographic range of the sand skink and scrub lupine. The timing of construction for this project, relative to sensitive periods of the species, is unknown. The project will be constructed in a single, disruptive event and alter native vegetation within the action area. The time required to complete construction of the project is not known, but it is likely the majority of the land clearing will be completed within a few months. The disturbance associated with the project will be permanent and will result in a direct loss of habitat currently occupied and available to these species.

Direct effects

Direct effects are those effects that are caused by the proposed action, at the time of construction, are primarily habitat based, and are reasonably certain to occur. Direct effects include: the permanent and temporary loss of habitat for the sand skink and a reduction in the geographic distribution of sand skink habitat. Direct impacts to scrub lupine are the permanent loss of habitat and mortality of the plants located in the project area.

The construction of I-4 BtU Segment 1 will result in the permanent loss of 10 acres of occupied sand skink habitat. Based on the outcome of sand skink coverboard surveys conducted in the spring of 2015 construction activities will directly destroy 10.0 acres of occupied skink habitat at Pond Site 105A. Incidental mortality of skinks due to land clearing and construction activities may also occur. Mechanical preparation of the proposed project site can crush or injure individual skinks and skink eggs, and destroy or degrade occupied and potential habitat and foraging areas. In addition, any clearing activities may adversely affect skinks by causing them to leave the area and possibly miss foraging and mating opportunities. Individual skinks fleeing the area may be more vulnerable to predation.

Sand skinks may respond to the commencement of construction activities by attempting to flee the project site to avoid the disturbance. However, because skinks are not highly agile, they may not be able to successfully flee the project site before they are affected by construction activities. As such, skinks may be crushed by construction vehicles or entombed during earth moving, contouring and trenching activities associated with the construction of the proposed pond site 105A of I-4 BtU Segment-1 analyzed in this Biological Opinion.

Mechanical preparation of the proposed project site will also crush any scrub lupine plant located at the proposed project site. It will also destroy or degrade occupied and potential habitat for this species.

Interrelated and interdependent actions

An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation.

Indirect effects

Indirect effects are those effects that result from the proposed action, are later in time, and are reasonably certain to occur. Unintentional yet often unavoidable indirect effects of a new roadway are increased incidences of vehicle wildlife collision resulting in road kill. In addition, the project will add to the continued fragmentation of skink and scrub lupine habitat in the Mount Dora region and skink home ranges that extend into Pond Site 105A may be truncated.

Beneficial effects

Beneficial effects are those effects of the proposed action that are completely positive, without any adverse effects to the listed species or its critical habitat. The proposed action includes a habitat restoration or conservation component (Conservation Measure 1 and 2) that will result in management or protection of suitable, potentially occupied habitat within the northern portion of the species range.

Analyses for effects of the action

To minimize potential impacts to sand skinks and scrub habitat, the applicants will provide compensatory mitigation at a Service Approved conservation bank to preserve skink habitat as a part of the proposed action. Targeted habitat credit acquisition will have beneficial effects for the species and protect or restore up to two times as much habitat that is proposed to be directly impacted.

Although we know that the site is occupied, it is difficult to quantify abundance due to the cryptic nature of the species and survey methodology. Therefore, the actual number of skinks that currently occupy the site are unknown. The Service has determined that the acres of occupied scrub habitat are a quantifiable proxy for the jeopardy analysis and allows the Service to quantify and monitor take of the species. Results of the surveys suggest that federally listed sand skinks occur within 10 acres of the project footprint. Based on estimated acres of protected lands that manage for sand skinks and scrub species, the proposed loss of occupied habitat is insignificant amount, less than .04% (assuming 29,511 acres, Mushinsky et al 2011). The Service acknowledges that this may be a conservative estimate because of limited rangewide data regarding sand skink population size at all protected sites in the remaining scrub habitat. Based on the best available information, the Service has determined that the loss would not jeopardize the recovery or continued existence of the sand skink.

To minimize impacts to the scrub lupine, the applicants will do surveys during the permitting phase to determine where the specimens are located. After determining if the plants are still located within the area identified in the 2014 surveys, the applicants will work with Bok Tower Gardens to collect seed and/or transplant the specimens found in the project area. The Service

has determined that the plants identified in the six surveyed areas that identified scrub lupine occurrence in Orange County are located in isolated areas with roads north and south of the plants where management (prescribed fire) will most likely never occur. These plants are in already fragmented habitat and are few in numbers. Based on the best available information, the Service has determined that the loss of these plants would not jeopardize the recovery or continued existence of the scrub lupine.

CUMULATIVE EFFECTS

The Service defines "cumulative effects" considered in this Biological Opinion as the effects of future State, Tribal, local, or private actions (*i.e.*, non-Federal actions) reasonably certain to occur in the action area. Our definition of cumulative effects does not include future Federal actions unrelated to the proposed action because these actions require separate consultation pursuant to section 7 of the Act. Cumulative effects are considered in regard to the risk of the proposed action having an effect that would jeopardize the recovery and continued existence of the species.

Anticipated future county actions in the action area that will adversely affect sand skink habitat include the issuance of county building permits. Construction projects requiring only county building permits will not have a Federal nexus requiring consultation with the Service under the Act. However, applicants obtaining county building permits are not absolved from the prohibition of take of listed species under the Act. Section 10 of the Act provides a means for permitting the incidental take of listed species associated with non-Federal actions such as county building permits. In order to obtain an incidental take permit, the applicant must prepare a Habitat Conservation Plan (HCP), acceptable to the Service, describing how impacts to both species will be minimized and mitigated to the maximum extent practicable. To be acceptable to the Service, an HCP for a non-Federal action affecting Federally-listed species would generally include the enhancement, restoration, or preservation of sand skink habitat. Take provisions are only given in federal lands but the Service would recommend that plants be relocated or seed collected for conservation during the HCP process.

The Service has considered cumulative effects within the action area for the sand skink and scrub lupine and based on the above discussion, we have not identified any additional cumulative effects beyond those already discussed in the Environmental Baseline.

CONCLUSION

After reviewing the current status of sand skink and the scrub lupine, the environmental baseline for the action area, the effects of the proposed roadway construction and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the sand skink or the scrub lupine. No critical habitat has been designated for either of these species; therefore, none will be affected. Construction of the proposed project will result in the permanent loss of 10 ac (4.05 ha) of occupied sand skink habitat. However, the loss of this habitat is not expected to appreciably affect the overall survival and recovery of the sand skink.

Additionally, the proposed project will also impact 10 or more scrub lupine plants, however, the loss of these plants will not affect the overall survival and recovery of the species. The scrub lupine is a plant and take is not prohibited for plants. An incidental take statement will only be provided for sand skinks.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct." "Harass" is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. "Harm" is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking, that is incidental to and not intended as part of the agency action, is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

AMOUNT OR EXTENT OF TAKE

The Service has reviewed the biological information for this species, the information presented by the applicant, and other available information relevant to this action. The Service anticipates incidental take of sand skinks in the form of harm (*i.e.*, mortality and habitat loss). Construction activities associated with the project may wound or kill skinks, and result in the loss 10 acres of occupied skink habitat. The Service finds the actual number of sand skinks incidentally taken by the action will be difficult to quantify for the following reasons: 1) individuals have a small body size and spend the majority of their time underground, making the detection of a dead or impaired specimen unlikely; and 2) a commercially practicable and suitable survey method has not been developed to accurately estimate skink density, thus the number of skinks currently occurring in the project footprint is not well known. The Service finds that all sand skinks occurring within the 10 acres (4.05 ha) of occupied skink habitat on the Pond Site 105A will be taken incidental to the action.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined this level of anticipated take is not likely to result in jeopardy to the sand skink. Critical habitat has not been designated for the sand skink and therefore, will not be affected. If during the course of this action, this level of take is exceeded; such take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide modification of the reasonable and prudent measures.

REASONABLE AND PRUDENT MEASURES

When providing an incidental take statement, the Service is required to give reasonable and prudent measures it considers necessary or appropriate to minimize the take along with terms and conditions that must be complied with, to implement the reasonable and prudent measures. The Service has determined that the following reasonable and prudent measures are necessary and appropriate to minimize the take of sand skinks.

1) FHWA and FDOT shall ensure the level of incidental take anticipated in this Biological Opinion is commensurate with the analysis contained herein.

The conservation measures described as a part of the project description are considered binding measures and shall be implemented for the exemption in section 7(o)(2) to apply. In the event that a sick, injured, or dead species is found, the Service has provided the following procedures to be used to handle or dispose of any individuals taken.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the FDOT and FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. These terms and conditions are non-discretionary.

- The construction work area for I-4 BtU Segment 1 – Pond Site 105A will be clearly delineated prior to ground disturbance to ensure that take is not exceeded within the known occupied skink areas. The Service concluded that no more than 10 ac (4.05 ha) of occupied sand skink habitat will be incidentally taken. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring re-initiation of consultation and review of the reasonable and prudent measures provided.

- FDOT will be required to notify the Service 30 days before ground disturbance and construction begins that the compensatory mitigation has occurred.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service recommends incorporating the following minimization measures to the ongoing maintenance of the highway right-of-way:

- Setting mower height at greater than 4 inches to avoid or minimize adverse effects to ground-dwelling wildlife.

- Limit the use of pesticides in the right-of-ways and pond sites that have suitable soils at elevations that could support sand skinks.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Thank you for your cooperation in the effort to protect fish and wildlife resources. If you have any questions regarding this project, please contact Lourdes Mena at 904-731-3134.

Sincerely,

for Jay B. Herrington
Field Supervisor

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CONDENSED

I-4 BEYOND THE ULTIMATE

PD&E REEVALUATION STUDY

SEGMENT 1: FROM WEST OF CR 532 TO WEST OF SR 528

FDOT PROJECT NUMBER: 432100-1-22-01

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PUBLIC HEARING

DATE: OCTOBER 25, 2016

REPORTER: KAYLYN REINHOLD

PLACE: CELEBRATION TOWN HALL
851 CELEBRATION AVENUE
CELEBRATION FLORIDA, 34747

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APPEARANCES

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STIPULATION

THE PUBLIC HEARING HELD AT CELEBRATION TOWN HALL,
851 CELEBRATION AVENUE, CELEBRATION FLORIDA, 34747 ON
TUESDAY THE 25TH DAY OF OCTOBER, 2016 AT APPROXIMATELY
6:01 P.M., WAS TAKEN PURSUANT TO THE FLORIDA RULES OF
CIVIL PROCEDURE.

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PROCEEDINGS

MS. STYS-PALASZ: Good Evening. The Florida Department of Transportation would like to welcome you to the public hearing for the Interstate 4 Beyond the Ultimate Project Development and Environment Study. My name is Beata Stys-Palasz. I am the project manager for the Florida Department of Transportation. This public hearing is relative to Financial Management Project Number 432100-1-22-01 and Federal Aid Project Number 0041-227-I. The proposed improvement involves widening Interstate 4 to ten lanes, with three general use lanes and two express lanes in each direction, from West of County Road 532 to West of State Road 528, Beachline Expressway. This hearing is being held to provide you with the opportunity to comment on this project. Here with me tonight is Luis Diaz, the consultant project manager from the back, also Pedro Johnston, who is the design project manager for this section, and of course, other representatives from the FDOT and consultant project team. At this time, we would like to recognize any federal, state, county, or city officials who might be present tonight. Are there any officials who would like to be recognized? We will begin the presentation right now, starting

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with a short safety -- pedestrian safety and bicycle safety educational movie.

(VIDEO)

RECORDING: The State of Florida Department of Transportation, also known as FDOT, would to welcome you to the Public Hearing for the Interstate 4 Beyond the Ultimate Project Development and Environment Study. This public hearing is being held relative to FDOT Financial Project ID Number 432100-1-22-01 and Federal Aid Project Number 0041-227-I. This public hearing was advertised consistent with federal and state requirements and is being conducted consistent with the Americans with Disabilities Act of 1990. Advertisements for this public hearing included letters to elected and agency officials, letters to property owners, newspaper ads, notifying local media, and advertising in the Florida Administrative Register. The Florida Department of Transportation is required to comply with various nondiscrimination laws and regulations, including Title VI of the Civil Rights Act of 1964. This hearing is being held to give all interested persons the right to understand the project and comment on their concerns to the department. Public participation at this hearing is solicited without regard to race, color, national origin, age, sex, religion, disability, or family

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status. Persons wishing to express their concerns about Title VI may do so by contacting the individuals listed on this slide, which is also provided in the project newsletter and on a board displayed at this hearing. The proposed improvement involves adding express lanes on I-4, from US 27 to Kirkman Road to the west and from State Road 434 to State Road 472 to the east. The purpose of this public hearing is to share information with the general public about the alternatives under consideration, the proposed improvements, and their potential environmental impacts. This public hearing also serves as an official forum providing an opportunity to the public to express their opinions and concerns regarding the location, conceptual design; and potential social, economic, and environmental effects of the proposed improvement on the community. There is a court reporter present at this hearing and tonight's proceedings are being recorded. An official transcript of the hearing will be produced. Following this presentation, the floor will be open for public comments. All written material received at this public hearing and at the Florida Department of Transportation office, postmarked no later than November 4, 2016 or through the project website, will become a part of the public record for this hearing. The Project Development

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and Environment Study or PD&E is the second step of the project development process that the Florida Department of Transportation follows to evaluate social, cultural, economic, and environmental impacts associated with a planned transportation improvement project. The PD&E process was established by the FDOT as the state's procedure for complying with the National Environmental Policy Act, or NEPA, of 1969 and Florida statutes. NEPA is a United States environmental law that requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. This phase involves the preparation of all preliminary engineering and environmental documentation required for study approval and subsequent funding. During a PD&E Study, several alternatives are developed to meet the purpose and need for the project. These alternatives are developed with input from the public, local government, and environmental agencies throughout the study process. Keeping the public involved and informed throughout the study is paramount to the success of a PD&E study. This study is a reevaluation of a PD&E study that was previously done 14 to 17 years ago. The original study covered the same project limits as the current study: the segment of Interstate 4 between County Road 532 and State Road 528. The study corridor

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is approximately fourteen miles in length and is located in Osceola and Orange County. An environmental assessment was prepared and submitted to the Federal Highway Administration, or FHWA, and received a Finding of No Significant Impact in December 1999. The current reevaluation is being completed to document any changes in design and design criteria, and impacts to social, cultural, physical, and the natural environment. The MetroPlan Orlando Metropolitan Planning Organization works with the Florida Department of Transportation and local governments to fund and implement projects identified through various plans developed by the MPO. It should be noted that the I-4 Beyond the Ultimate, Segment 1, was ranked number two on the MetroPlan Orlando priority list, adopted September 14, 2016. This project segment is identified on the MetroPlan Orlando 2040 Long Range Transportation Plan. The project is consistent with the State Transportation Improvement Program and the Transportation Element of the Orange County and Osceola County Comprehensive Plans. The purpose of this study is to accommodate future traffic needs based on anticipated population and employment growth and enhance safety and mobility along the study corridor. The original PD&E study included special use or high occupancy vehicle or HOV lanes in the median.

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This reevaluation includes six general use lanes, three in each direction, and four express lanes, two in each direction. The widening of I-4 proposed to meet the design year 2040 projected traffic volumes. The goal of the project is to maintain acceptable levels of service along the corridor for the design year 2040. Levels of service are measured on an "A" through "F" grading scale with "A" being the best and "F" failing. Drivers will experience levels of services "E" and "F" under the "original build" condition in the design year 2040 along some portions of the corridor. Levels of service can be improved to "D" or better with the express lanes widening improvements of the recommended "build" alternative. Typical sections are detailed cross section depictions of a roadway's principal elements that are standard between certain segment limits and show typical conditions only. The existing typical section for the I-4 mainline consists of three 12-foot travel lanes in each direction. The outside and inside shoulders are 12 feet wide with ten feet paved. A guardrail is provided on the inside shoulder of the eastbound and westbound lanes, in varying locations throughout the segment. The roadways are separated by a grass median which varies in width from 55 feet to 340 feet. The existing right-of-way widens within portions

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of the segment with collector-distributor or C-D roads or braided ramp systems along the corridor. The following is a summary of coordination, meetings, and presentations held with local agencies and stakeholders to discuss the study which includes Orange County, Osceola County, MetroPlan Orlando, Florida's Turnpike Enterprise, Reedy Creek Improvement District, and many other stakeholders. A project website, www.i4express.com, was developed to allow the public to communicate with the study team and provide comments. An Alternatives Public Meeting was held on June 17, 2014. 47 members of the public attended this meeting. No written comments were received. Public input from these meetings has factored into the study decision making process. Today's hearing will provide the public with another opportunity to comment on the proposed improvements under consideration. A "no-build" and "build" alternative are being considered as part of this PD&E study. The "no-build" alternative maintains the existing facility as-is. No improvements are made and there is no congestion relief along the corridor. The "no-build" alternative is also evaluated as a baseline for comparison with the "build" alternative. We will now discuss the recommended "build" alternative which proposes to widen Interstate 4 to ten lanes with

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five lanes in each direction: three general use lanes and two express lanes. An evaluation matrix comparing the "no- build" alternative with the recommended roadway "build" alternative is on display here tonight. In general, the proposed typical section consists of two 12-foot wide express lanes with four-foot inside and ten-foot outside shoulders and three 12-foot wide general use lanes with ten-foot inside and 12-foot outside shoulders, in each direction. A two-foot wide barrier wall separates the general use from the express lanes. The minimum right- of-way width required to accommodate this typical section is 300 feet. A 44-foot rail corridor is preserved within the median throughout the corridor. While the overall typical section remains consistent throughout Segment 1, there are some areas along the Segment 1 corridor that will have "special sections." "Special" cross sections were developed to meet the needs of the project due to right-of-way constraints, existing utility easements, or other design considerations along the corridor. These special sections many include C-D roads, braided ramp systems, elevated express lanes, or elevated general use lanes. Additionally, the median width may vary in certain locations to accommodate changes in the horizontal alignment due to crossroad support structures, water

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crossings, or other features. The proposed horizontal alignment of I-4 Segment 1 closely follows the existing I-4 alignment. Right-of-way will be required for the roadway mainline and interchange improvements, storm water management facilities, and floodplain compensation sites. The total anticipated right-of-way impacts involve full or partial acquisition of 125 parcels for the total of approximately 188 acres. The recommended alternative for the County Road 532 Interchange proposes a Diverging Diamond Interchange, also known as DDI. A DDI is designed so that each direction of traffic is split and crosses over itself. The traffic will temporarily drive on the opposite side of the roadway and cross back over on the other side of the interchange. In order to avoid wrong way movements through this type of interchange, the opposite directions of the roadway are intersected at an angle that is large enough to appear to the driver as if they are making a through movement and that the other side of the roadway is an intersecting street. The existing single lane off ramps will diverge into four lanes, accommodating dual left turn lanes and dual right lanes onto County Road 532. The recommended alternative for State Road 429 proposes leaving the overall existing horizontal geometry as it is, in a three-leg directional

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interchange configuration. Each of the general use lane ramps would remain the same, with new ramps being added to provide connections to the express lanes in each direction. No additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the World Drive Interchange proposes leaving the overall existing horizontal geometry as it is, in a partial cloverleaf configuration. The existing I-4 eastbound and westbound on and off ramps will continue to connect to the eastbound and westbound C-D roads, respectively. Ramp connections between the general use lane and express lanes will be provided east of World Drive. No additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the State Road 417 Interchange proposes leaving the overall existing horizontal geometry as it is, in a partial interchange junction configuration. Direct connections from State Road 417 to the express lanes will be provided. The existing State Road 417 Southbound bridge over I-4 will be replaced due to conflicts with the existing substructure and the proposed I-4 widening. No additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the US

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192/State Road 530 Interchange proposes leaving the overall existing horizontal geometry as it is, in a partial cloverleaf interchange configuration. All of the existing ramp connections will be maintained, with some minor modifications. No additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the Osceola Parkway Interchange proposes leaving the interchange a partial cloverleaf configuration with the braided ramp system between Osceola Parkway and State Road 535. Bonnet Creek will be realigned in order to move the I-4 bridges out from underneath the Osceola Parkway bridges. This will result in numerous new bridge structures. The I-4 eastbound to Osceola Parkway eastbound movement will be modified to be a free flow ramp, removing the existing stop condition. A ramp will also be provided from the I-4 eastbound express lane to Osceola Parkway eastbound. Additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the State Road 536 Interchange proposes leaving the overall existing horizontal geometry as it, in a partial cloverleaf interchange configuration. Existing ramp configurations will remain, with some minor modifications. New ramps will be added from the I-4

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express lanes to State Road 536 eastbound and westbound. Additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the State Road 535 Interchange proposes a modified diamond interchange configuration. This alternative includes grade separation with a loop ramp at Hotel Plaza Boulevard, grade separation at Vineland Avenue, and additional improvements at the Palm Parkway and Meadow Creek Drive intersections. Additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the Daryl Carter Parkway Interchange proposes a Diverging Diamond Interchange, DDI. New ramps will be added to this interchange via a C-D system in the westbound direction and braided ramps in the eastbound direction. Additional right-of-way will need to be purchased in order to construct this alternative. The recommended alternative for the Central Florida Parkway Interchange proposes modifying the existing partial interchange into a diamond interchange with a flyover ramp. This will include the addition of an I-4 eastbound on ramp from Central Florida Parkway and an off ramp from I-4 westbound to Central Florida Parkway. Additional right-of-way will need to be purchased in order to construct this alternative. The existing drainage systems will be

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enhanced to accommodate storm water runoff from the proposed roadway improvements. The storm water management systems, proposed by this study, have been designed to meet the current requirements of the Southwest Florida Water Management District, South Florida Water Management District, the Reedy Creek Improvement District, and the Florida Department of Transportation. Storm water treatment will be provided in wet detention ponds and dry retention ponds, located on or off-site. The treatment facilities and locations are on exhibit here this evening, as well as in the documents on display. In accordance with current FDOT standards for road and bridge construction, all best management practices for erosion control and water quality considerations will be adhered to during the construction phase of the project. Pond siting evaluation criteria were developed to screen the various potential pond sites. Each of the criteria are evaluated for impacts which are then used for comparison in order to identify overall suitability and select recommended ponds. Design criteria as set forth by the Southwest Florida Water Management District, South Florida Water Management District, the Reedy Creek Improvement District, and FDOT was used to determine pond siting. The recommended pond sites for this study

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are labeled and illustrated on the design concept boards on display. To comply with various executive orders and other federal and state requirements, engineering and environmental information was reviewed and evaluated to determine if there were any substantial impacts to social and economic, cultural, physical, and natural resources that may result from construction of the proposed improvements. The project improvements will have positive socioeconomic impacts on the study area as it improves mobility and relieves congestion. An archaeological survey was performed within the existing and proposed right-of-way. The results indicate that there is one artifact, not surrounded by an additional cultural material, within the study limits. The isolated artifact represents an archaeological occurrence, and as such, is not eligible for listing on the National Register of Historic Places. The architectural survey resulted in the identification of one historic structure, one historic cemetery, and one historic linear resource constructed before 1971 located within Segment 1 of the I-4 APE. All three resources lack the architectural distinction and significant historical associations necessary to be considered for listing in the National Register of Historic Places and are recommended ineligible. No adverse effects to

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cultural resources are anticipated. The project was evaluated in accordance with Executive Order 11990 entitled "Protection of Wetlands." There are approximately 112.94 acres of direct wetland impacts and 45.99 acres of jurisdictional other surface water impacts associated with the recommended alternative. This project was evaluated for impacts to wildlife and habitat resources, including protected species, in accordance with Title 50 Code of Federal Regulations Part 402 of the Endangered Species Act of 1973, as amended. The proposed I-4 Segment 1 project has either a "No effect," "Not Likely to Adversely Affect," or "May Affect but not Likely to Adversely Affect" determination for all federally or state listed species that may be impacted by the project, with the exception of the Sand Skink and Scrub Lupine. A biological opinion with conservation measures to address the impacts to these species was issued, and is available here with the documents on display. To avoid and/or minimize impacts to wildlife, FDOT will continue to coordinate with the U.S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission. FDOT will also conduct monitoring and assessment for specific species during the permitting phase. The proposed storm water facilities will be designed to meet the current

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requirements of the Southwest Florida Water Management District, the South Florida Water Management District, and the Reedy Creek Improvement District. Storm water treatment will be provided by wet detention and dry retention ponds, located on or off-site. The pond locations are on exhibit here this evening, as well as in the documents on display. In accordance with Executive Order 11988 entitled "Floodplain Management," a floodplain analysis was performed. Floodplain impacts are anticipated. There are a total of ten basins that impact the 100-year floodplain for approximately 90 acre-feet of floodplain impacts. 13 existing and proposed floodplain compensation ponds provide compensation for the floodplain impacts. Traffic noise impacts were evaluated in accordance with the Code of Federal Regulation, Part 772. Based on the results of a noise barrier evaluation, three noise barriers are recommended for further consideration on this segment of the project along the west side of I-4, near the Tuscana Resort Orlando and the Integra Cove Apartments, and along the east side of I-4 near the Altis Sand Lake Apartments. The recommended barriers provide the best noise abatement and meet the requirements as reasonable and cost feasible. Potentially contaminated sites in the vicinity of the project corridor were identified and

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evaluated to determine if impacts would occur as a result of the proposed improvements. 86 potential contamination sites have been identified. One of the site is rated as a high risk, seven are medium risk, and 78 are rated no risk or low risk of potential contamination. Additionally, of the 89 potential pond sites, none were rated as high risk, 11 were rated as medium risk, and 78 were rated as low risk. An Air Quality Analysis was performed on the project. The analysis was conducted using the established FDOT Air Quality Screening Model. Air quality impacts are not expected to occur as a result of this project. Right-of-way acquisition is anticipated for the recommended alternative for roadway and drainage improvements. Approximately 53 acres of additional right-of-way is anticipated for roadway improvements and approximately 135 acres of additional right-of-way is anticipated for off-site ponds. In addition, there is a potential for 12 relocations involving commercial properties. These anticipated relocations are displayed on the aerials available at tonight's hearing. No residential relocations are anticipated. All right-of-way acquisition will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970 and FDOT Real Estate Acquisition

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Process. Right-of-way requirements for the project are on display here tonight. One of the unavoidable consequences on a project such as this is the necessary relocation of families or businesses. On this project, we anticipate the relocation of three families and one business. All right-of-way acquisition will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, commonly known as the Uniform Act. If you are required to make any type of move as a result of a Department of Transportation project, you can expect to be treated in a fair and helpful manner and in compliance with the Uniform Relocation Assistance Act. If a move is required, you will be contacted by an appraiser who will inspect you property. We encourage you to be present during your inspection and provide information about the value of your property. You may also be eligible for relocation advisory services and payment benefits. If you are being moved and you are unsatisfied with the department's determination of your eligibility for payment of the amount of that payment, you may appeal that determination. You will be promptly furnished necessary forms and notified of the procedures to be followed in making that appeal. A special word of caution -- if you move before you receive notification

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of the relocation benefits that you might be entitled to, your benefits may be jeopardized. The relocation specialists who are supervising this program are here tonight. They will be happy to answer your questions and will also furnish you with copies of relocation assistance brochures. The estimated total cost for the recommended alternative will be approximately $2.2 billion. This includes $1.6 billion for construction and utility relocations, $428 million for right-of-way acquisition for roadway and pond improvements, and $17 million for permitting, and $126 million for construction engineering and inspection. Over the next two months, FDOT will continue to finalize the analysis and will seek to approve the documents and improvements presented here at tonight's public hearing. Following approval, FDOT will continue with the design, right-of-way acquisition, and construction phases. This project is currently not funded for construction. The study is anticipated to be completed in November 2016. The design is fully-funded for this segment of I-4. Draft documents for this pubic hearing were available for review starting October 4, 2016 and will remain on display until November 4, 2016 at the Osceola Public Library, West Branch and also on the study website, www.i4express.com. These documents are also on display

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here tonight. No final decisions will be made until after we review your comments. You may provide your comments in several ways. You may provide an oral statement to the court reporter present here tonight. Complete a speaker card and make an oral statement at the microphone during the public comment period. Complete a comment form and drop it in the comment box provided here at the hearing or mail your comments to the FDOT project manager at the address shown on the comment form. You may e-mail your comments to the FDOT at the address shown on the comment form or visit the project website and submit comments electronically. There is a dedicated page on the website for comments. All written material received at this public hearing and at the Florida Department of Transportation office, postmarked no later than ten days following the date of this public hearing or through the project website, will become a part of the public record for this hearing. This concludes our presentation. Thank you.

MS. JARRELL: We will now take a brief break. If anybody wants to make a public statement, please ask for a comment or a speaker card, and we'll fill those out and can come -- in the order that I receive them back, you can come up and give your public statement for the record. Does anybody --

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does anyone else?

MS. STYS-PALASZ: We have an error in the script and I would like to correct. We do not have residential relocation. We have five relocation involving only commercial properties. Thank you.

MS. JARRELL: Okay. So I have two comments. We'll start with Brendan Lynch.

MR. LYNCH: It's always good to have an audience. My statements are just twofold. My name is Brendan Lynch. I'm at the Lowndes Law Firm, and we have been working with DOT for some of this project, discussing with them two questions for DOT that we want to make sure are on the record. One is whether FDOT has considered the impact on loss of jobs, particularly in the Crossroads area where the restaurants are being closed. That's one. The second is whether FDOT has considered the loss of revenue to the state and localities through sale of revenue tax, property tax revenue, et cetera, again, due to the loss of those properties, particularly at Crossroads.

MS. JARRELL: Thank you. And then Mr. Maguire?

MR. MAGUIRE: My name is Raymer Maguire and I represent this 38-acre parcel here, and it looks like you-all are taking about five-and-a-half acres.

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And we've got individuals that want to go ahead and start building on this 38 acres. Is the DOT got a time table when they publicly will commit that they are not going to take more land than this five-and-a-half acres represented by the crosshatching?

MS. STYS-PALASZ: We will finalize our right-of-way maps in -- when the right-of-way maps will be ready?

MS. JARRELL: End of the next year.

MS. STYS-PALASZ: End of the next year -- that will be the time frame we can make a commitment.

MR. MAGUIRE: 2017, right?

MS. STYS-PALASZ: Yes, sir.

MS. JARRELL: Is that? Okay. Thank you. No other public statements? Okay. Seeing none, we will close the public hearing portion. And then we can go back to the display areas. If anyone has any questions, there are plenty of team members to address those. We've got comment forms. If you please leave those, everybody who provides a comment will receive a response from the department. Thank you.

(PUBLIC HEARING CONCLUDED AT 6:40 P.M.)

C E R T I F I C A T E

STATE OF FLORIDA)
COUNTY OF ORANGE)

I, KAYLYN REINHOLD , Court Reporter and Notary Public for the State of Florida at Large, do hereby certify that I was authorized to and did report the foregoing proceeding, and that said transcript is a true record of the testimony given by the witness.

I FURTHER CERTIFY that I am not of counsel for, related to, or employed by any of the parties or attorneys involved herein, nor am I financially interested in said action.

Submitted on: November 4, 2016

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KAYLYN REINHOLD
Court Reporter, Notary Public

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