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

Wetland Evaluation Report (WER)

Segment 4: State Road 400 (SR 400)/Interstate 4 (I-4) from East of SR 15-600/US 17-92 (Seminole/Volusia County Line) to ½ Mile East of SR 472

Volusia County (79110)

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1.0 Summary of Project

The Florida Department of Transportation (FDOT) is conducting an update/reevaluation of the Project Development and Environment (PD&E) studies for the extension of proposed express lanes for State Road 400 (SR 400)/Interstate 4 (I-4). The project limits in the original PD&E studies were:

- West of Memorial Boulevard (SR 546) to the Polk/Osceola County Line, (29.5 miles)
- CR 532 (Polk/Osceola County Line) to West of SR 528 Beachline Expressway (13.7 miles), and
- West of SR 528 (Beachline Expressway) to SR 472 (43 miles).

The corresponding environmental documents associated with these PD&E studies include: Environmental Assessment/Finding of No Significant Impact (EA/FONSI) for SR 400 (I-4) from West of Memorial Boulevard (SR 546) to the Polk/Osceola County Line [Financial Project Number (FPN) 201210 (December 1998)] and from CR 532 (Polk/Osceola County Line) to West of SR 528 (Beachline Expressway) [FPN 242526 and 242483 (December 1999)] and Final Environmental Impact Statement (FEIS) for I-4 from SR 528 (Beachline Expressway) to SR 472 [FPN 242486, 242592 and 242703 (August 2002, Record of Decision Pending)].

The project limits of the current SR 400 (I-4) PD&E reevaluation, herein referred to as I-4 Beyond the Ultimate (BtU) PD&E Reevaluation Study, include a total of approximately 43 miles of roadway sections east and west of the 21-mile, I-4 Ultimate project. The I-4 Ultimate project, which began construction in early 2015, is reconstruction to include new express lanes, of the section of I-4 that extends from west of SR 435 (Kirkman Road) to east of SR 434. For analysis purposes, the current I-4 BtU PD&E study has been divided into the following five (5) segments:

- 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);
- Segment 2: SR 400 (I-4) from West of SR 528 (Beachline Expressway) to West of SR 435 (Kirkman Road) - Orange County (75280);
- Segment 3: SR 400 (I-4) from one Mile East of SR 434 to East of SR 15-600/US 17-92 (Seminole/Volusia County Line) - Seminole County (77160);
- 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); and
- 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).

Since no Record of Decision has been issued by the Federal Highway Administration (FHWA) for Segments 2, 3 or 4, the current PD&E BtU study for these three (3) segments will update the original PD&E study. This wetland evaluation report (WER) was prepared for Segment 4 of the SR 400 (I-4) BtU PD&E Reevaluation Study and contains and details the wetland and other surface water information that fulfills the purpose and need for the SR 400)/I-4, from East of SR 15-600/US 17-92 (Seminole/Volusia County Line) to ½ Mile East of SR 472, PD&E study.

The purpose of this wetland evaluation report is to document design changes in support of the PD&E update for the I-4 BtU Segment 4 portion of the FEIS for I-4 from SR 528 (Beachline Expressway) to SR 472 FPN 242486-1, 242592-1 and 242703-1, August 2002, Record of Decision pending). This update includes an analysis of the original design concept, which showed six general use lanes (GULs) and two high occupancy vehicles (HOV) lanes (6+2), to

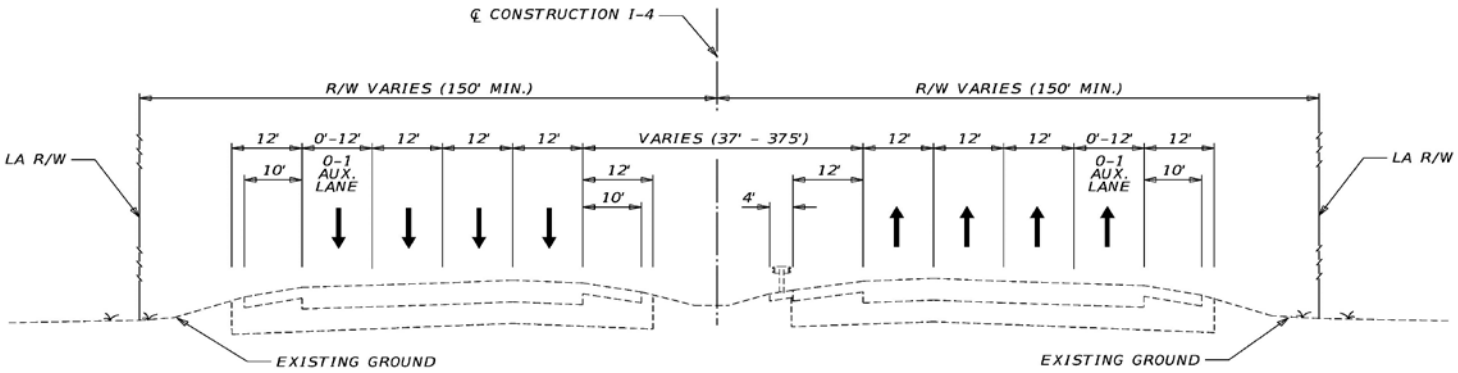
the current proposed design, which includes six GULs and four express lanes (EL) operating under a variable price toll plan (6+4). Other changes being reanalyzed include stormwater management, access plan and interchange configurations.

1.1 Description of Proposed Action

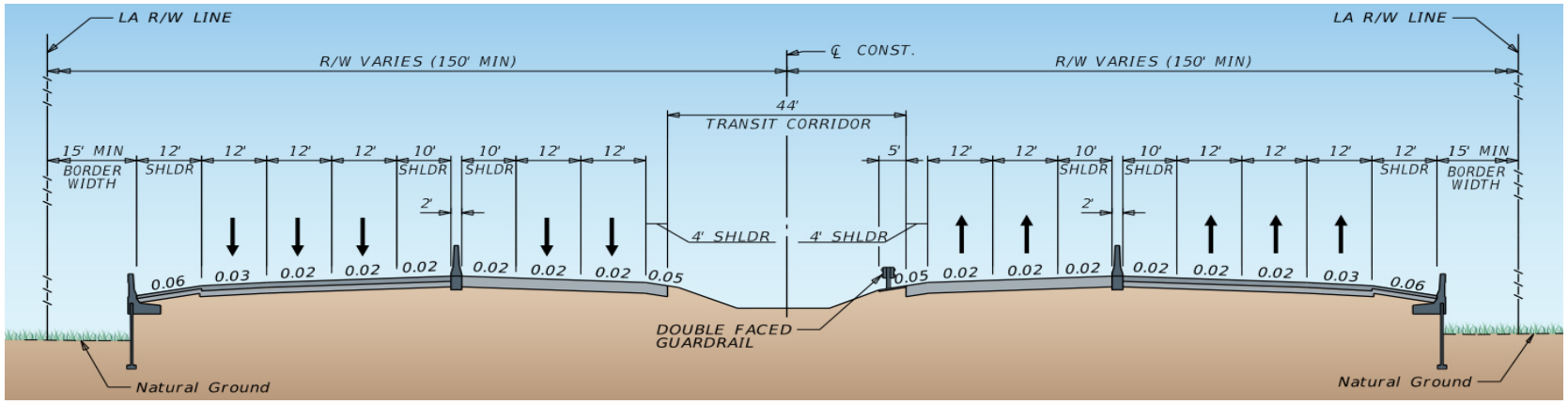
FDOT is proposing to reconstruct and widen I-4 as part of the I-4 BtU concept. This involves the build-out of I-4 to its ultimate condition through Central Florida, including segments in Polk, Osceola, Orange, Seminole and Volusia Counties. The concept design proposes the addition of two new express lanes in each direction, resulting in a total of ten dedicated lanes. The project limits for the segment analyzed in this report are within an approximate ten mile segment of I-4 which extends from east of US 17-92 to east of SR 472, from Milepost 0.086 to 10.227 in Volusia County (herein referred to as I-4, Segment 4) and as shown in Figure 1.1 and Appendix A, Exhibit 1. Although the interstate is a designated east-west corridor, the alignment follows a southwest to northeast orientation through the limits of Segment 4. The study area in this section, from east of US 17-92 to east of SR 472, includes interchanges at Dirksen Drive/Debary Avenue, Saxon Boulevard and SR 472/Howland Boulevard. A new interchange with I-4 providing direct access only to the express lanes is proposed to be constructed at Rhode Island Avenue, about halfway between Saxon Boulevard and SR 472, with the Rhode Island Avenue extension.

The proposed improvements to I-4 Segment 4 include widening the existing six (6) lane divided urban interstate to a ten (10) lane divided highway. 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 10 feet paved. The median width varies from 37 feet to 375 feet and the existing right of way (ROW) varies from 300 feet to 630 feet. The typical section in the proposed condition will have three 12-foot general use travel lanes with a 10-foot inside and 12-foot outside shoulder and two 12-foot express lanes with a 4-foot inside and 10-foot outside shoulder, in each direction. A barrier wall between adjacent 10-foot shoulders will separate the express lanes from the general use lanes. A 44’ transit corridor will be provided in the median for the entire length of Segment 4 and, auxiliary lanes in both the eastbound and westbound directions will be provided in some areas. The I-4 existing and proposed typical sections are shown in Figure 1.2.

Figure 1.1: Project Location Map



I-4 Segment 4 Existing Typical Section



I-4 Segment 4 Proposed Typical Section

Figure 1.2: Existing and Proposed Typical Sections

1.2 Purpose and Need

The proposed improvements to I-4 include widening the existing six lane divided urban interstate to a ten lane divided highway in order to improve traffic operations, enhance connectivity and improve mobility by providing travel choices to the motoring public. I-4 is an east-west limited access freeway which links the west and east coasts of Florida, from I-275 in Tampa to I-95 in Daytona Beach. I-4 spans across six counties in Central Florida, traversing many cities including Lakeland, Orlando, Altamonte Springs, Sanford and DeLand. I-4 is a critical component of Florida's Strategic Intermodal System (SIS) which links seaports, rail, airports and other intermodal facilities. This aspect of I-4's significance is evidenced through connectivity provided by major junctions with I-275 and I-75 in the Tampa Bay area, SR 429 (Daniel Webster Western Beltway), SR 417 (Southern Connector/Central Florida Greeneway/Seminole Expressway), SR 528 (Martin Andersen Beachline Expressway), SR 91 (Florida's Turnpike), SR 408 (Spessard Lindsay Holland East-West Expressway) in Central Florida and I-95 on the east coast.

I-4 serves as the primary corridor in the movement of people and freight between major population, employment and activity centers in the Central Florida region. When the entire Interstate was fully opened in the early 1960's, it was designed to serve intrastate and interstate travel by providing a critical link between the east and west coasts of Central Florida. Although this role continues to be a crucial transportation function of I-4, the highway also serves large volumes of local and commuter traffic with shorter trip distances. Today, the highway serves as the primary link between hotel/resort complexes and tourist attractions such as Walt Disney World®, Universal Orlando®, SeaWorld® Orlando, the International Drive Resort Area and downtown Orlando. Since I-4 is the only north-south limited access facility that is centrally located between the predominant employment centers and the major suburbs to the north, it has become the primary commuting corridor in the Central Florida metropolitan area.

Growth in Central Florida over the past decades, has made it difficult for the transportation system to accommodate travel demand. Additionally, traffic congestion and crash incidents have resulted in major delays on the Interstate as well as other arterials surrounding the corridor. Increased congestion levels are experienced outside of the typical morning and afternoon rush-hour periods, affecting mobility levels for more hours of the day and impacting other non-commuter/non-weekday travel. The congestion on I-4 is further evidenced by the less than desirable levels of service on the Interstate as well as the crossroads.

Projections of future population and employment in the region indicate that travel demand will continue to increase well into the future. The ability to accommodate the new travel patterns resulting from growth must be provided to sustain the region's economy. Without the improvements, extremely congested conditions are expected to occur for extended periods of time in both the morning and evening peak periods.

Due to these congested conditions, user travel times will continue to increase, the movement of goods through the urban area will be slower, and the deliveries of goods within the urban area will be forced to other times throughout the day. The need for improvements to I-4 is illustrated by the important transportation roles I-4 serves to the Central Florida region and the State of Florida. If no improvements are made to the Interstate, a loss

in mobility for the area's residents, visitors, and commuters can be expected, resulting in a severe threat to the continued viability of the economy and the quality of life.

This PD&E update involves revising the original design concept showing 6 GULs + 2 HOV lanes, as recommended in the FEIS for I-4 from SR 528 to SR 472 (FPN No. 242486, 242592 & 242703, August 2002, Record of Decision Pending), to the current proposed design of 6 GUL + 4 EL. The express lanes are tolled lanes and will extend the full length of the project. The access to/from the tolled lanes will be evaluated as part of this effort to determine if changes are needed from the previously approved concept for access to/from the HOV Lanes.

The original I-4 PD&E Studies involved physical separation between the general use lanes and the HOV lanes on I -4, with demand management in the HOV lanes. The original demand management strategy was to control the use of the lanes by requiring a minimum number of occupants per vehicle to maintain an acceptable level of service (Level of Service D). This update also addresses revising the demand management tool to convert the HOV lanes to tolled express lanes. The express lanes will be separated from the general use travel lanes by two shoulders with a barrier wall between the shoulders. A variable pricing tolling plan is proposed for the express lanes. The tolls will vary by time of day and day of week to maintain acceptable levels of service in the express lanes. The tolls will be collected electronically through existing E-Pass, SunPass and other systems currently in place in the Central Florida area. The conversion to express lanes will maintain the same right of way limits as documented previously and will not change the impacts to the social, natural or physical environment. An update to the Systems Access Modification Report (SAMR) prepared in January 2013 is being completed in conjunction with this effort.

This report reevaluates the jurisdictional limits of wetlands and other surface waters for I-4 Segment 4 corridor, assesses the potential for wetland and surface water involvement and proposes conceptual mitigation using the Uniform Mitigation Assessment Method (UMAM). This report has been prepared following guidelines presented in the Project Development (PD&E) Manual, Part 2, Chapter 18 (FDOT, 4/24/2013) for identify jurisdictional wetlands and other surface waters along the project corridor and to document potential project-related impacts.

The purpose of this wetland evaluation report is to present the findings of the studies conducted for this project, describe the results of the evaluation and document the justification for the recommended improvements.

2.0 METHODOLOGY AND ASSESSMENT

The existing I-4 ROW and newly proposed pond locations made up the study area in which the jurisdictional extent of on-site wetlands and surface water systems were evaluated. The evaluation included a review of current and historical aerial photography of the study area and ground-truth activities. Current and historical information reviewed included infrared digitally orthorectified quadrangle maps (DOQ's), U.S. Geological Survey Topographic Maps (Exhibit 2 – USGS Topographic Quadrangle Map), National Wetlands Inventory (NWI) Maps, and Soil Survey Maps (Exhibit 3 – NRCS Soil Survey Map). Jurisdictional limits were identified and limits established in general accordance with the *1987 Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1); the *November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic Gulf Coastal Plan Region* and the State of Florida's *Delineation of the Landward Extent of Wetlands and Surface Waters* (Chapter 62-340, Florida Administrative Code). The landward extent of surface water systems was recognized to be at the top-of-bank for ditches with side slopes of one (1)-foot vertical to four (4) feet horizontal or steeper or

using the seasonal high for swales with side slopes flatter than one (1)-foot vertical to four (4) feet horizontal. In the event wetland boundaries differed between the two methods, the more "wetland inclusive" extent was used to define that particular wetland system's boundary. Wetlands and surface waters observed were classified using the FDOT's *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) (Exhibit 4 – FLUCFCS Map) and the U.S. Fish and Wildlife Service's (FWS) classification system as described in their *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et. al, 1979).

Ground-truthing of wetland and other surface water assessments were conducted along the project corridor from June to October 2013 and January 2016. Handheld Global Positioning Systems (GPS) devices were used to approximate each system's limits. In the field, wetlands and surface waters were generally identified from the western project limits to the eastern project limits within the ROW of Interstate I-4 and all proposed stormwater pond area sites and within the Rhode Island extension. Photographic representation of wetland and/or other surface waters current conditions are provided in Appendix B.

2.1 Land Use Consideration

Land use types found within the project corridor were identified through color aerial and infrared photograph interpretation along with site reconnaissance. The existing land use types within the study area are best characterized as transportation, with residential, commercial, utility facilities and services related uses immediately adjacent to the corridor. Other land use types found within the project corridor include herbaceous uplands and wetlands, forested uplands and wetlands, lakes, ditches, swales and water retention areas (Exhibit 4 – FLUCFCS Map).

2.2 Wetland Function and Value Assessment

The Uniform Mitigation Assessment Methodology (Chapter 62-345.100, Florida Administrative Code) was used to qualify each jurisdictional system's condition. The UMAM is a matrix developed by the Florida Department of Environmental Protection for evaluating the functional characteristics of a wetland or other surface water system. The UMAM accomplishes this by assigning a numerical value, between 0 and 10 using whole number increments, to each of three (3) criteria: 1) Location and Landscape Support 2) Water Environment and 3) Community Structure. A criterion score of 10 represents optimal functions provided by a system while 0 represents a complete absence of function or negligible functions. Adding each score from each criterion and dividing that number by the maximum score attainable generates the final UMAM score. UMAM then calculates the functional loss (FL) of a wetland or other surface water by taking the UMAM score and multiplying the score by the acreage of area impacted. The result is a number, between 0 and 1, qualifying the final UMAM score (functional loss of wetland).

For the I-4 Segment 4 project, UMAM scoring for wetlands and other surface water functional losses were summarized by assigning a criterion of Low, Moderate and High. Criteria of Low was given to systems with final UMAM scores between 0 and 0.49, Moderate scored between 0.50 and 0.79, while High scored 0.80 or better.

2.3 Wetland and Other Surface Water Descriptions

For this study, jurisdictional systems were identified as either Wetland (WL-#) or Other Surface Water (SW-#) and included the direction of the travel lanes of I-4 (i.e. East (E) or West (W)) relative to the location of the system. The term other surface water generally categorizes existing stormwater ponds, lakes, creeks, ditches or swales,

associated with the existing drainage conditions of I-4. Wetland and other surface waters within the study area are described below, summarized in Table 1, and depicted in Exhibit 5 – Surface Water and Wetland Map.

Wetland and other surface water involvement discussed below for I-4 Segment 4 includes roadway and proposed pond sites.

EASTBOUND I-4

Wetlands

Wetland 1(E)

Wetland 1(E) (WL-1(E)) is located along the ROW of I-4 eastbound travel lanes expanding from just east of US 17/92 and the I-4 interchange to just west of Debary Avenue (Station 2600 to 2760) and I-4 interchange. Approximately 31.91 acres of WL-1(E) is located within the existing or newly proposed I-4 ROW. This wetland system is contiguous with Lake Monroe/St. Johns River floodplain and includes a variety of wetland community types that appear to have been bisected from its historical range by the existing I-4. This system is of moderate quality and is best characterized as a Stream and Lake Swamps (Bottomland), (FLUCFCS 6150). Dominant vegetation includes a canopy of cabbage palm (*Sabal palmetto*), American elm (*Ulmus americana*), hackberry (*Celtis occidentalis*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), cypress (*Taxodium* sp.), Chinese tallow (*Sapium sebiferum*), live oak (*Quercus virginiana*), laurel oak (*Quercus virginiana*), swamp bay (*Persea palustris*), water oak (*Quercus nigra*), and cedar (*Juniperus virginiana*). Sub-canopy and groundcover species include myrtle (*Myrica cerifera*), Carolina willow (*Salix caroliniana*), primrose willow (*Ludwigia peruviana*), saltbush (*Baccharis halimifolia*), giant reed (*Arundo donax*), bamboo (*Bambusa vulgaris*), Chinese parasol (*Firmiana simplex*), saw palmetto (*Serenoa repens*), viburnum (*Viburnum obovatum*), dog fennel (*Eupatorium capillifolium*), cattail (*Typha* sp.), swamp fern (*Blechnum serrulatum*), royal fern (*Osmunda regalis*), cinnamon fern (*O. cinnamomea*) and muscadine (*Vitis rotundifolia*) vegetation.

One American alligator (*Alligator mississippiensis*) was observed during site reconnaissance. It is anticipated that this system provides foraging, denning, nesting and roosting habitat for a variety of wildlife species, including wetland dependent.

It is anticipated that approximately 31.91 acres of WL-1(E) will be impacted by I-4 Segment 4 improvements.

Wetland 2(E)

Wetland 2(E) (WL-2(E)) is located within the infield of the I-4 eastbound off ramp to Debary Avenue near Station 2770. The surrounding land uses consist of roads and highways, disturbed uplands and maintained open land. This system is best classified as a Mixed Wetland Hardwoods (FLUCFCS 6170) and is of low quality. Dominant plant species include: sweet gum, cabbage palm, red maple, hackberry canopy, with an understory of canopy saplings, saw palmetto, viburnum and ragweed (*Ambrosia artemisiifolia*). Other groundcover vegetation includes Virginia chain fern, royal fern, muscadine and bidens (*Bidens alba*). Approximately 8.84 acres lie within the I-4 ROW.

This system receives direct runoff from the surrounding roads and highways. One common mockingbird (*Mimus polyglottos*) was observed during site reconnaissance. It is anticipated that WL-2(E) provides foraging and roosting habitat for wetland dependent species.

It is anticipated that approximately 8.84 acres of WL-2(E) will be impacted by I-4 Segment 4 improvements.

Wetland 3(E)

Wetland 3(E) (WL-3(E)) is located along the eastbound ROW of I-4 and the access ramp from Debary Avenue to I-4 eastbound near Station 2785. This system appears to have been excavated through upland soils from roadway construction or a remnant from other surrounding site modifications. The surrounding land uses includes roads and highways, commercial development and open maintained land. Approximately 0.35 acres lie within the I-4 Segment 4 improvements.

WL-3(E) is best classified as Mixed Wetland Hardwoods (FLUCFCS 6170) and is of low quality. The dominant vegetation includes American elm and hackberry within the canopy; a mid-story of Carolina willow and groundcover species, ragweed, bidens and star rush (*Rhynchospora colorata*). This system is isolated and approximately 0.36 acres in size.

WL-3(E) receives runoff from I-4 eastbound travel lanes and Deltona Boulevard. No wildlife was observed during site reconnaissance; however, it anticipated that this wetland provides little habitat value to wetland dependent wildlife species.

It is anticipated that approximately 0.35 acres of WL-3(E) will be impacted by I-4 Segment 4 improvements.

Wetland 4(E)

Wetland 4(E) (WL-4(E)) is located within the ROW of I-4 along the eastbound travel lanes near Station 2870, approximately 0.75 miles west of Saxon Boulevard. This system is best classified as a Willow and Elderberry (FLUCFCS 6180) wetland and is of low quality. Dominant vegetation includes hackberry, Carolina willow, wax myrtle, dog fennel and ragweed. This system extends beyond the current I-4 ROW; however, approximately 0.58 acres of its linear fringe is located within the ROW of I-4. Surrounding land uses consist of roads and highways, single family development and maintained open land.

WL-4(E) receives runoff from I-4 eastbound travel lanes and open maintained land. No wildlife was observed using this system during site reconnaissance; however, it is anticipated that this system provides some foraging and roosting opportunities for wetland dependent avian species, small mammals, amphibians and other reptiles.

It is anticipated that approximately 0.58 acres of WL-4(E) will be impacted by I-4 Segment 4 improvements.

SURFACE WATER COMMUNITIES

Lakes

Surface Water 1(E), and 1A(E)

Surface Water 1(E) (SW-1(E)) and Surface Water 1A(E) (SW-1A(E)) are located at the bridge sections of I-4 eastbound travel lanes that traverse Lake Monroe (SW-1(E) near Station 2590) and its tributary (SW-1A(E) near Station 2750). These surface waters are best classified as lakes larger than 500 acres (FLUCFCS 5210) and are of moderate quality. Dominant features of these systems include open water and floating vascular plants. Approximately 1.39 acres of SW-1(E) and 0.12 acres of SW-1A(E) lie within the I-4 eastbound ROW.

These systems are contiguous to the St. Johns River and several other lakes, streams and wetlands. No wildlife species were observed using this system; however, it is anticipated that foraging and roosting opportunities for avian wetland dependent species may be present.

It is anticipated that no surface water impacts will be associated with SW-1(E); however, 0.12 acres of SW-1A(E) will be impacted by I-4 Segment 4 improvements.

Surface Water 5(E)

Surface Water 5(E) (SW-5(E)) is located along the I-4 eastbound travel lanes just west of the off ramp of I-4 eastbound to Saxon Boulevard near Station 2900. This system is identified as Trout Lake and is best classified as Lakes larger than 10 acres, but less than 100 acres (FLUCFCS 5230) and is of moderate quality. The vegetated component of SW-5(E) includes dog fennel, with sandcord grass (*Spartina bakeri*), maidencane (*Panicum hemitomon*), St. John's wort (*Hypericum* sp.), meadow beauty (*Rhexia* sp.), rushes (*Rhynchospora* sp.) and fragrant water lilies (*Nymphaea odorata*) and is low quality. Approximately 0.49 acres of SW-5(E) lies within the improvement areas.

Surrounding land uses consist of roads and highways, residential and commercial developments, other surface waters and open maintained land.

SW-5(E) receives runoff from roads and highways and the surrounding commercial and residential developments. No wildlife was observed however, it is anticipated that this system provides foraging, denning, nesting and roosting habitat for wetland dependent avian species, small mammals, amphibians and other reptiles.

It is anticipated that approximately 0.49 acres of SW-5(E) will be impacted by I-4 Segment 4 improvements.

Ditches

Surface Water 6(E)

Surface Water 6(E) (SW-6(E)) is located in between the existing ROW of I-4 and SW-5(E), near Station 2900. This system is best classified as Streams and Waterways, upland-cut ditches (FLUCFCS 5130) and is of low quality. Vegetation present includes bahiagrass (*Paspalum notatum*) and dog fennel. Approximately 0.07 acres lie within the I-4 Segment 4 improvements.

Surrounding land uses consist of a canopy of pine trees, Trout Lake, other surface waters, open maintained land and roads and highways.

SW-6(E) receives runoff from the adjacent natural lands, roads and highways. There are power poles and overhead power lines located on the berm of this system. This ditch is likely maintained by the owner of the utility facility.

It is anticipated that approximately 0.07 acres will be impacted by I-4 Segment 4 improvements.

Surface Water 7(E)

Surface Water 7(E) is located within the ROW of I-4 eastbound and the exit ramp of I-4 eastbound to Saxon Boulevard eastbound and totals approximately 0.46 acres. Adjacent land uses include roads and highways, Trout Lake (SW-5(E)), upland-cut ditch (SW-6(E)) and open land.

This system is best classified as Streams and Waterways, upland-cut ditches (FLUCFCS 5130) and is vegetated by Carolina willow, wax myrtle, saltbush, dog fennel and bahiagrass. SW-7(E) is a low quality system that maintains stormwater conveyance receiving runoff from surrounding roads and highways and natural lands.

It is anticipated that approximately 0.46 acres will be impacted by I-4 Segment 4 improvements.

Swales

Surface Water 3(E), and 4(E)

Surface Water 3(E) (SW-3(E)) and Surface Water 4(E) (SW-4(E)) are located in the northeast quadrant of I-4 eastbound and Debary Avenue intersection, along the on ramp from Debary Avenue to I-4 eastbound near Station 2780. These systems are located within the existing I-4 ROW and are best classified as Streams and Waterways, upland-cut swales (FLUCFCS 5130). Surrounding land uses include roads and highway, commercial developments, open maintained land and disturbed uplands.

Approximately 0.28 acres of SW-3(E) and 0.06 acres of SW-4(E) lie within the I-4 ROW. These systems are seasonally saturated or inundated. Vegetation present includes vaseygrass (*Paspalum urvillei*), ragweed, duck potato (*Sagittaria lancifolia*), pickerelweed (*Pontederia cordata*), maidencane, torpedograss (*Panicum repens*), tickseed (*Coreopsis floridana*), foxtail (*Setaria parviflora*), sedges (*Carex* sp.) and bahiagrass.

These systems are cut through upland soils and function as conveyance for stormwater runoff from existing travel lanes, access ramps and open lands within the existing I-4 ROW. No wildlife was observed during site reconnaissance.

It is anticipated that approximately 0.34 acres will be impacted by I-4 Segment 4 improvements.

Existing Stormwater Ponds[1]

Surface Water 2(E), 8(E), 9(E), and 10(E)

Surface Water 2(E) (SW-2(E)) is located in the southwest quadrant of I-4 eastbound and Debary Avenue (near Station 2770) and Surface Water 9(E) (SW-9(E)), Surface Water 8(E) (SW-8(E)) and Surface Water 10(E) (SW-10(E)) are located in the northwest quadrant of Saxon Boulevard and I-4 intersection near Station 2920. These systems are best characterized as Reservoirs less than 10 acres (FLUCFCS 5340) with well-defined and maintained banks, open water and control structures. Surrounding land use types include roads and highways, access roads, forested uplands, commercial development, other surface waters and open land.

These stormwater ponds are mostly open water with floating water lilies (*Nymphaea odorata*). Bahiagrass and ruderal and weedy vegetation (e.g. ragweed, dog fennel, Mexican clover (*Richardia scabra*), and vasey grass) are found along the berms and the littoral zone. Collectively these systems total approximately 4.28 acres.

SW-2(E), SW-8(E), SW-9(E) and SW-10(E) provide treatment for stormwater runoff from the existing I-4 travel lanes and adjacent open land. No wildlife was observed during field reconnaissance.

WESTBOUND I-4

Wetlands

Wetland 1(W)

Wetland 1(W) (WL-1(W)) is located at the bridge of I-4, over Lake Monroe/St. Johns River floodplain, in between the westbound and eastbound travel lanes and Lake Monroe near Station 2585. This portion of WL-1(W) is best classified as a Freshwater Marsh (FLUCFCS 6410) and is of moderate quality. WL-1(W) is vegetated by switch cane (*Arundinaria gigantea*), bamboo, Caesar's weed (*Urena lobata*), maidencane, smartweed (*Polygonum* sp.), foxtail, sedges, pennywort (*Hydrocotyle* spp.) and spatter dock (*Nuphar advena*) plants. Scattered canopy and mid-story vegetation including sweetgum, cabbage palm, cypress, hackberry, Carolina willow, primrose willow and saltbush is also found associated with WL-1(W).

Surrounding land uses include Lake Monroe, roads and highways and open maintained land and. One coral snake (*Micrurus fulvius*) was observed during site reconnaissance. It is anticipated that this system provides foraging and roosting opportunities for avian species, amphibians and reptiles.

Wetland impacts are not anticipated within WL-1(W) as part of the I-4 Segment 4 improvements.

Wetland 2(W)

Wetland 2(W) (WL-2(W)) is located in between the eastbound and westbound travel lanes of I-4, approximately 0.12 miles east of US 17/92 near Station 2600. WL-2(W) is best classified as Mixed Wetland Hardwoods (FLUCFCS

[1] Permitted stormwater ponds are not considered jurisdictional other surface waters pursuant to Chapter 62-340, Florida Administrative Code (F.A.C), therefore, alterations or modifications to these systems were not assessed as a part of the total impacts to jurisdictional systems.

6170) and is of low quality. Dominant vegetation includes sweetgum, cabbage palm, cypress, hackberry, Carolina willow, primrose willow, saltbush and switch cane. WL-2(W) is contiguous with Lake Monroe, WL-1(E) and Wetland 3(W).

No wildlife was observed using the area during site evaluations; however, it is anticipated that this system could support foraging and roosting habitat opportunities for wetland dependent species, in particular, avian species.

No wetland impacts are anticipated from I-4 Segment 4 improvements.

Wetland 3(W)

Wetland 3(W) (WL-3(W)) is best classified as Stream and Lake Swamps (Bottomland), (FLUCFCS 6150) and is a moderate quality. This system is located west of US 17/92 and Lake Monroe, with a total of 19.58 acres within the existing I-4 ROW. WL-3(W) is part of the large floodplain of Lake Monroe/St. Johns River with a surrounding landscape that includes forested, herbaceous and shrub wetlands, roads and highways, open land, residential development, open water and forested and herbaceous uplands.

Dominant plant species include a canopy of cabbage palm, red maple, Chinese tallow, live oak, laurel oak, swamp bay and water oak. The sub-canopy and groundcover includes marsh hibiscus (*Hibiscus grandiflorus*), wax myrtle, Carolina willow, primrose willow, saltbush, switch cane, giant reed, bamboo, dog fennel, cattail, swamp fern, bidens, royal fern, sedges, cinnamon fern and muscadine.

WL-3(W) receives runoff from the existing I-4 westbound travel lanes and open lands. Several anhinga (*Anhinga anhinga*), wild turkey (*Meleagris gallopavo*), swallow-tailed kite (*Elanoides forficatus*) and great egrets (*Ardea alba*) were observed during site reconnaissance. It is anticipated that this system provide roosting, denning and foraging opportunities for avian species, small mammals, amphibians and reptiles.

It is anticipated that approximately 19.58 acres of WL-3(W) will be impacted by I-4 Segment 4 improvements.

Wetland 3A(W)

Wetland 3A(W) (WL-3A(W)) is located near Station 65, southwest of the off ramp of I-4 westbound to Debary Avenue. Specifically, WL-3A(W) is located along Dirksen Drive, with approximately 1.85 acres within the proposed ROW. Surrounding land uses consist of roads and highways, multi-dwelling units, single family homes, and a service station. This system is best characterized as Mixed Wetland Hardwood (FLUCFCS 6170), and is of low quality. The vegetative composition of WL-3A(W), within the limits of the ROW, consists of red maple, sweet gum, Chinese tallow, Carolina willow, rattlebox, dogfennel, saltbush, cogongrass (*Imperata cylindrica*), Virginia chain fern, and muscadine grapevine.

WL-3A(W) receives runoff from the existing Dirksen Road, and adjacent developments. No wildlife was observed during site reconnaissance, but this system is anticipated to provide foraging opportunity for avian wildlife.

It is anticipated that approximately 1.85 acres of WL-3A(W) will be impacted by I-4 Segment 4 improvements.

Wetland 3B(W)

Wetland 3B(W) (WL-3B(W)) is located near Station 2780 at the off ramp of I-4 westbound to Debary Avenue. Surrounding land uses includes roads and highways, swales, upland forests and open land. This system is best characterized as a Willow and Elderberry (FLUCFCS 6180) wetland of low quality. WL-3B(W) is dominated by Carolina willow vegetation and approximately 1.76 acres lie within the ROW of I-4 westbound.

WL-3B(W) receives runoff from roads and highways and open maintained land. No wildlife was observed during site reconnaissance, but this system is anticipated to provide foraging opportunity for avian wildlife.

It is anticipated that approximately 1.76 acres of WL-3B(W) will be impacted by I-4 Segment 4 improvements.

Wetland 4(W)

Wetland 4(W) (WL-4(W)) is located along I-4 westbound travel lanes near Station 2810, approximately 0.25 miles west of Enterprise Road. This system is best categorized as a Freshwater Marsh (FLUCFS 6410) and is of low quality. Dominant vegetation present includes cattail with Carolina willow along the fringe. Approximately 1.99 acres lie within the I-4 westbound ROW.

Surrounding land uses consist of roads and highways, forested uplands, open land commercial and residential development.

WL-4(W) receives runoff from I-4 travel lanes and the adjacent forested uplands. This system is of low quality in providing habitat for wildlife; however, it is anticipated that WL-4(W) provides foraging for avian wetland dependent species.

It is anticipated that approximately 1.99 acres of WL-4(W) will be impacted by I-4 Segment 4 improvements.

Wetland 5(W)

Wetland 5(W) (WL-5(W)) is located along I-4 westbound travel lanes, approximately 0.85 miles east of Enterprise Road near Station 2870. Surrounding land uses include I-4 westbound travel lanes, disturbed uplands, other surface waters and open land. Approximately 0.45 acres of WL-5(W) lie within the I-4 ROW.

WL-5(W) is best classified as a Willow and Elderberry (FLUCFCS 6180) wetland and is of low quality. Dominant vegetation includes Carolina willow, primrose willow and muscadine. There is also an open water component within the interior of this system. WL-5(W) receives runoff from I-4 westbound travel lanes, open lands and residential developments. No wildlife was observed; however, foraging opportunities for wildlife is anticipated to be provided by this system.

It is anticipated that approximately 0.45 acres of WL-5(W) will be impacted by I-4 Segment 4 improvements.

Wetland 6(W)

Wetland 6(W) (WL-6(W)) is located near Station 2990, approximately 1.40 miles east of Saxon Boulevard near Station 2990. Surrounding land uses consist of a dirt road, upland coniferous forests and I-4 travel lanes. Approximately 1.81 acres lie within the I-4 Segment 4 ROW.

WL-6(W) is best classified as a wet prairie (FLUCFCS 6430) and is of low quality. Dominant features include Carolina willow, dog fennel, chalky bluestem (*Andropogon virginicus* var. *glaucus*), St. John's wort (*Hypericum fasciculatum*), hatpins (*Eriocaulon decangulare*), maidencane, camphorweed (*Pluchea camphorata*), rustweed (*Polypremum procumbus*) and meadow beauty vegetation. This wetland system receives runoff from natural lands and roads and highways. No wildlife was observed; however, foraging opportunity for wetland dependent avian species is anticipated to be provided by WL-6(W).

This wetland is situated within close proximity of I-4 Segment 4 improvements; however, it is anticipated that impacts to this system can be avoided as a part of the planned improvements.

Rhode Island Avenue Extension

Wetland 6A(W), and 6B(W)

Wetland 6A(W) (WL-6A(W)) and Wetland 6B(W) (WL-6B(W)) are located just east of the terminus of Rhode Island Avenue and Veterans Memorial Parkway and west of I-4. Surrounding land uses consist of upland coniferous forest, an unimproved road, overhead power lines, and residential development. Both systems have been altered by the installation of the unimproved road and use of all-terrain vehicles; however, these systems maintain moderate quality as habitat for wildlife species.

WL-6A(W) and WL-6B(W) are best classified as Wet Prairies (FLUCFCS 6430) and are of moderate quality. Vegetation present includes broomsedge, St. John's wort, dog fennel, maidencene, little blue maidencane (*Amphicarpum muhlenbergianum*), ferns, yellow-eyed grass, meadow beauty, rushes, sedges and hat pins. Species of slash pine, water tupelo, wax myrtle and gallberry are scattered within these systems.

Both wetland systems receive runoff from surrounding natural lands, a maintenance road and residential development. During site reconnaissance the following species were observed near these systems: coyote (*Canis latrans*), red-shouldered hawk (*Buteo lineatus*), great egret, the state listed little blue heron, leopard frog (*Rana sphenocephala*) and brown anoles (*Anolis sagrei*). It is anticipated that these systems provide roosting, denning and foraging opportunities for other avian species, small mammals, amphibians and reptiles.

It is anticipated that approximately 1.30 acres of WL-6B(W) will be impacted by I-4 Segment 4 improvements. Impacts to WL-6A(W) are not anticipated.

SURFACE WATER COMMUNITIES

Lakes

Surface Water 1(W), and 3A(W)

Surface Water 1(W) (SW-1(W)) and Surface Water 3A(W) (SW-3A(W)) are located at the I-4 westbound travel lanes, just east of US 17/92 at the bridge sections of I-4 westbound travel lanes that traverse Lake Monroe and its tributary. SW-1(W) (located near Station 2590) and SW-3A(W) (located near Station 2750) are best classified as Lakes larger than 500 acres (FLUCFCS 5210) and are of moderate quality. Surrounding land uses include roads and highways and forested and herbaceous wetlands.

Dominant features for both systems include open water and herbaceous wetland plants. Approximately 0.22 acres of SW-3A(W) lie within limits of the existing I-4 ROW. No wildlife species were observed using this system; however, it is anticipated that foraging and roosting opportunities for avian wetland dependent species may be present.

No surface water impacts are anticipated with SW-1(W) as part of the I-4 Segment 4; However, approximately 0.22 acres of SW-3A(W) will be impacted by I-4 Segment 4 improvements.

Surface Water 8(W)

Surface Water 8(W) (SW-8(W)) is located within the existing ROW of I-4 near Station 2850, approximately 0.35 miles east of Enterprise Road. Surrounding land uses consist of roads and highways, commercial and residential developments and open land.

SW-8(W) is best classified as Lakes larger than 10 acres, but less than 100 acres (FLUCFCS 5230) and is of moderate quality. Approximately 1.22 acres are located within the existing and proposed ROW of I-4. Dominant features include primrose willow, cattail, salt bush (*Baccharis halimifolia*), dog fennel, maidencane, fragrant water lilies vegetation and open water.

This system appears to be isolated and receives runoff from roads and highways, open land, commercial and residential developments. No wildlife was observed during site evaluations; however, it is anticipated that this system could provide nesting, denning, roosting and breeding habitat for wetland dependent species.

It is anticipated that approximately 1.22 acres will be impacted by I-4 Segment 4 improvements.

Surface Water 16(W)

Surface Water 16(W) (SW-16(W)) is located near Station 2950 near the access ramp of Saxon Boulevard to I-4 westbound travel lanes. Surrounding land uses consist of roads and highways, residential and commercial development, other surface waters, forested uplands and open land.

This system is best classified as Lakes larger than 10 acres, but less than 100 acres (FLUCFCS 5230) and is of moderate quality. The vegetated component of this system includes scattered Chinese tallow, Carolina willow, wax myrtle and saltbush canopy/sub-canopy vegetation around the littoral zone and an interior open water system with emergent, submerged and floating vascular plants. Approximately 0.47 acres lie within limits of I-4 improvements.

SW-16(W) receives runoff from I-4 west travel lanes, access ramps, open land and residential and commercial development. No wildlife was observed during site reconnaissance, but it is anticipated that this system provides roosting and foraging nesting habitat for wetland dependent wildlife species.

It is anticipated that approximately 0.47 acres will be impacted by I-4 Segment 4 improvements.

Ditches

A large percentage of the ditch systems within the project study area are similar in general conditions, vegetative composition and hydrology. These systems were individually reviewed in the field; however, are being reported collectively due to their similarity.

Surface Water(s) (SW) – 2(W), 5(W), 6(W), and 10(W)

SW-2(W), SW-5(W), SW-6(W) and SW-10(W) are low quality systems, located along the existing westbound travel lanes of I-4 from east of US 17/92 to SR 472, near Station 2670 to 2860 (Please reference Surface Water and Wetland Maps, Exhibits 5.1-5.16). These surface waters are located within the existing I-4 ROW and are subject to routine maintenance. Surrounding land uses that encompass these systems include major roads and highways, access ramps, commercial and residential developments, other surface waters, forested/herbaceous uplands, forested/herbaceous wetlands, lakes and open land.

These systems are best characterized as Streams and Waterways, upland-cut ditches (FLUCFCS 5130) and total 4.57 acres. During site reconnaissance these systems were either inundated or saturated. Dominant vegetation inhabiting these systems include canna (*Canna* sp.), torpedograss, maidencane, duck potato, frog's bit (*Limnobium spongia*), bidens, fleabane (*Erigeron annuus*), primrose willow, ragweed, tickseed, meadow beauty, sedges, star rush, vasey grass, coinwort (*Centella asiatica*), bahiagrass, rushes, pickerelweed, pennywort and standing water.

These ditches are cut through upland soils and function as conveyance of stormwater runoff from existing travel lanes, access ramps and open lands within the existing I-4 ROW. No wildlife was observed.

It is anticipated that approximately 4.57 acres will be impacted by I-4 Segment 4 improvements.

Swales

Surface Water 13(W)

Surface Water 13(W) (SW-13(W)) is located along the westbound travel lanes of I-4, approximately 0.43 miles west of Saxon Boulevard near Station 2880. Surrounding land uses consist of Lake Emerald, residential development and roads and highways.

This system is best characterized as Streams and Waterways, upland-cut swales (FLUCFCS 5130) and totals 1.07 acres within the existing I-4 ROW. A low quality system, SW-13(W) is vegetated by canna, torpedograss, maidencane, duck potato, frog's bit, bidens, fleabane, primrose willow, ragweed, tickseed, meadow beauty, sedges, star rush, vasey grass, coinwort, bahiagrass, rushes, pickerelweed, pennywort vegetation and standing water.

It is anticipated that approximately 1.07 acres will be impacted by I-4 Segment 4 improvements.

Borrow Ponds

Surface Water 3(W)

Surface Water 3(W) (SW-3(W)) is located along I-4 westbound lanes near Station 2710, within a larger wetland system (WL-3(W)). Surrounding land uses include maintained open land, roads and highways, forested, herbaceous and shrub wetlands, Padgett Creek, forested and herbaceous uplands and Lake Monroe/St. Johns River.

This system is best characterized as a reservoir, larger than 10 acres but less than 100 acres, (FLUCFCS 5330). This system is of moderate quality and was excavated through wetland soils likely during the construction of I-4. This is an open water system with a canopy fringe. Approximately 19.37 acres lie within the easement for stormwater pond construction.

SW-3(W) receives runoff from roads and highways and surrounding natural lands. No wildlife was observed, however, it is anticipated that this system would provide roosting, denning, foraging and nesting habitat for wetland dependent species.

It is anticipated that approximately 19.37 acres will be impacted by I-4 Segment 4 improvements.

Surface Water(s) (SW) – 9(W), 11(W), 12(W), 14(W), and 15(W)

SW-9(W), SW-11(W), SW-12(W), SW-14(W) and SW-15(W) are located within the median of I-4 east and westbound travel lanes, approximately 0.50 miles west of Saxon Boulevard near Station 2850. Surrounding land uses consist of roads and highways and maintained open land.

These systems are best characterized as Reservoirs, less than 10 acres, which are dominant features (FLUCFCS 5340). These systems are of low quality and were likely excavated during the construction of I-4. Dominant features consist of Carolina willow, elderberry, red maple, wax myrtle, salt bush, broomsedge vegetation floating vegetation and open water.

These systems receive runoff from roads and highways and open maintained land. No wildlife was observed during site reconnaissance

It is anticipated that approximately 16.84 acres will be impacted from I-4 Segment 4 improvements.

Existing Stormwater Ponds[2]

Surface Water 1A(W)

Surface Water 1A(W) (SW-1A(W)) is located near Station 2640 along the ROW of I-4 westbound, approximately 1.12 miles east of US 17/92. Surrounding land uses consist of maintained open land, roads and highways,

[2] Pursuant to Chapter 62-340, Florida Administrative Code (F.A.C), permitted stormwater ponds are not considered jurisdictional other surface waters, therefore, alterations or modifications to these systems were not assessed as part of the total impacts.

residential development, forested, herbaceous and shrub wetlands, Lake Monroe/St. Johns River, forested and herbaceous uplands

This system is best characterized as Reservoirs less than 10 acres (FLUCFCS 5340). SW-1A(W) is mostly an open water system with emergent and floating vegetation and maintained berms. No impacts are anticipated with SW-1A(W).

Surface Water(s) (SW) – 4(W), 7(W), 17(W), and 18(W)

SW-4(W), SW-7(W), SW-7(W) and SW-18(W) are best described as reservoirs that are larger than 10 acres, but less than 100 acres (FLUCFCS 5340). These systems are located along the westbound travel lanes of I-4 within the existing I-4 ROW and are best characterized as stormwater management ponds with well-defined and maintained banks, open water and control structures. Surrounding land use types include access roads and maintained open land.

These stormwater ponds are mostly open water with maintained bahiagrass banks. Ruderal and weedy vegetation (e.g. ragweed, dog fennel, Mexican clover, primrose willow, pennywort, partridge-pea (*Chamaecrista fasciculata*), hairy indigo (*Indigofera hirsuta*), etc.) is disbursed within the littoral zone or along the berms, as well as shrubby and emergent vegetation. These systems total approximately 9.61 acres.

These systems treat stormwater runoff from the I-4 travel lanes and adjacent open land. Several grackles (*Quiscalus quiscula*), osprey (*Pandion haliaetus*), red-winged blackbirds (*Agelaius phoeniceus*), anhinga, American crow (*Corvus brachyrhynchos*), coots (*Fulica americana*), cattle egrets (*Bubulcus ibis*) and purple gallinule (*Porphyrio martinica*), with chicks, were observed using these systems.

Table 1 summarizes the classifications of onsite wetlands and other surface waters using the Classification of Wetlands and Deep Water Habitats of the United States and the Florida Land Use, Cover and Forms Classification System.

Existing and Proposed Pond Locations

Stormwater management for the I-4 improvements will be accommodated by using existing ponds, expanding existing ponds, or constructing new ponds and treatment swales. Existing ponds will be re-graded, enlarged, or unchanged to meet design criteria. Below is summary of proposed water management ponds that are new; being re-graded and/or enlarged.

Pond 400

Pond 400 is located along the I-4 westbound travel lanes, near Station 2650. Pond 400 is an existing stormwater pond (SW-1A(W)) that was constructed through uplands soils. This pond will be modified as a part of I-4 improvements. It is anticipated that no jurisdictional wetlands and/or surface water impacts will result from the modification of this pond as part of the I-4 Segment 4 improvements.

Pond 401

Pond 401 is located along I-4 westbound travel lanes, near Station 2710 approximately 2.56 miles east of US 17/92. This proposed pond is an existing FDOT borrow pond that is located within a larger wetland system (WL-3(W)) and

is an established wetland/surface water (SW-3(W)) community. Approximately 19.37 acres of this system will be re-graded and/or modified for the development of a stormwater management system. It is anticipated that 19.37 acres of surface water impacts will result from the construction of this pond for I-4 Segment 4 improvements.

Pond 402A

Pond 402A is located along the I-4 westbound lanes near Station 2770. Pond 402A is an existing stormwater pond (SW-7(W)) that was constructed through uplands soils. This pond will be re-graded as a part of I-4 improvements. It is anticipated that no jurisdictional wetlands and/or surface water impacts will result from the modification of this pond for I-4 Segment 4 improvements.

Pond 402B and Pond 402C

Pond 402B and Pond 402C are located in the infield of I-4 and Debary Avenue access ramp to I-4 eastbound from Debary Avenue near Station 2770. These proposed new ponds are located within WL-2(E). Approximately 5.17 acres of wetland impacts will result for Pond 402B and 3.67 acres for Pond 402C construction.

Pond 402D

Pond 402D is located along I-4 westbound travel lanes and the exit ramp from I-4 eastbound to Debary Avenue near Station 2780. This newly proposed pond is located entirely within uplands. No adverse impacts to jurisdictional wetland or other surface waters are anticipated.

Pond 402E

Pond 402E is located along I-4 eastbound travel lanes and the access ramp from Debary Avenue near Station 2780. This proposed pond is located within forested uplands. No adverse impacts to jurisdictional wetland or other surface waters are anticipated to result from the construction of this pond.

Pond 402F

Pond 402F is located near Station 2780 and Pond 402D along the westbound travel lanes of I-4. This proposed pond is located within an existing wetland, WL-3B(W). Approximately 1.76 acres of wetland impacts will result from the construction of this pond for I-4 Segment 4 improvements.

Pond 403

Pond 403 is located within the median of I-4 westbound and eastbound travel lanes approximately 0.55 miles east of Enterprise Road near Station 2850. This newly proposed pond is located within existing surface water features (SW-9(W), SW-11(W), SW-12(W), SW-14(W) and SW-15(W)). Approximately 16.84 acres of jurisdictional surface water impacts will result from the construction of this pond for I-4 Segment 4 improvements.

FPC 403

FPC 403 is located adjacent to SW-8(W) near Station 2850. This newly proposed floodplain compensation pond is located within upland habitat and the fringe of SW-8(W). It is anticipated that 0.05 acres of impacts to SW-8(W) will result from the construction of this pond for I-4 Segment 4 improvements.

Pond 405A and Pond 405B

Ponds 405A and 405B are located along the I-4 westbound travel lanes and the access ramp to I-4 from Saxon Boulevard near Station 2907. Land use in this area includes existing stormwater ponds SW-17(W) and SW-18(W). Both ponds will be re-graded as a part of I-4 improvements. It is anticipated that no jurisdictional wetlands and/or surface water impacts will result from the modification of this pond for I-4 Segment 4 improvements.

Pond 406A

Pond 406A is located within the infield of the on ramp from Saxon Boulevard to I-4 westbound near Station 2920. This is an existing dry stormwater retention area that will be expanded and re-graded. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 406B

Pond 406B is also located along I-4 westbound travel lanes and the exit ramp for Saxon Boulevard near Station 2925. This is a proposed pond that will be constructed entirely in uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 407A

Pond 407A is located along the access ramp to I-4 eastbound travel lanes from Saxon Boulevard. This pond is the existing SW-8(E) that will be expanded and re-graded. No adverse impacts to wetlands or surface waters are anticipated.

Pond 407B

Pond 407B is located along I-4 eastbound access ramp from Saxon Boulevard. This is a proposed pond that will be located within uplands and other surface waters (SW-10(E)). No adverse impacts to jurisdictional wetlands or other surface waters are anticipated.

Pond 407C

Pond 407C is located within the infield of I-4 eastbound and the access ramp to I-4 eastbound from Saxon Boulevard. This proposed pond is located entirely in uplands. No adverse impacts to jurisdictional wetland or surface water are anticipated.

FPC 407

FPC 407 is located along the I-4 eastbound access ramp to Saxon Boulevard. This is a proposed pond that will be located within uplands, SW-5(E), SW-6(E) and SW-7(E). It is anticipated that 0.49 acres of SW-5(E), 0.07 acres of SW-6(E), and 0.46 acres of impacts to SW-7(E) will result from the construction of this pond.

Pond 408

Pond 408 is located along the ROW of Saxon Boulevard east of Pond 407A. This is an existing stormwater pond (SW-9(E)) that will be expanded and re-graded for I-4 improvements. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 408B and Pond 408-D1

Ponds 408B and 408-D1 are located along Saxon Boulevard approximately 0.5 miles east of I-4 and Saxon Boulevard intersection near Station 100. Wetland and surface water communities are not associated with these proposed pond locations. No adverse impacts to wetlands or surface waters are anticipated.

Pond 409-A1 (Recommended) and Pond 409-A2

Ponds 409-A1 and 409-A2 are located along I-4 eastbound travel lanes, approximately 0.60 miles east of Saxon Boulevard near Station 2950. These ponds lie within an existing dry retention area that will be expanded and re-graded as a part of I-4 improvements. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 409-B1 (Recommended)

Pond 409-B1 is located along I-4 westbound travel lanes, approximately 1.25 miles west of Graves Avenue near Station 2990. This is a proposed pond located within uplands. Wetland 6(W) is located adjacent to the proposed pond; however, it is anticipated that impacts to this system can be avoided.

Pond 410

Pond 410 is located along I-4 eastbound travel lanes and the exit ramp to SR 472 from I-4 eastbound near Station 3565. This is an existing dry retention area that will be re-graded. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 411

Pond 411 is located along SR 472 and the access ramp from I-4 eastbound to SR 472 near Station 3075. This is an existing dry retention area that will be expanded and re-graded. Adverse impacts to jurisdictional wetland and other surface waters are not anticipated.

Pond 412

Pond 412 is located in the southwest quadrant of I-4 westbound travel lanes and SR 472 near Station 3085. This is a proposed pond located entirely in forested uplands. No adverse impacts to wetlands or surface waters are anticipated.

Pond 413

Pond 413 is located at SR 472 and Graves Avenue near Station 100, just east of I-4. Land use within this area is herbaceous uplands currently functioning as a stormwater retention area. This pond will not be modified as part of the I-4 Segment 4 improvements. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 414

Pond 414 is located along the I-4 eastbound travel lanes near the Casadaga Road overpass near Station 3120. This is an existing stormwater retention area with a bahiagrass groundcover. This pond will not be modified as part of the I-4 Segment 4 improvements. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 415

Pond 415 is located along SR 472 near Station 50. This proposed pond is located within forested uplands and no adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 416

Pond 416 is located along Kentucky Avenue approximately 0.6 miles south of the SR 472 and Kentucky Avenue intersection. This proposed pond site is located within forested uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 417

Pond 417 is located near the intersection of SR 472 and Kentucky Avenue. This proposed pond site is located within forested uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond 418

Pond 418 is an existing stormwater management area located along Dr. Martin Luther King (MLK) Beltway approximately 0.2 miles north of the MLK Beltway and SR 472 intersection. This pond will be regraded as a part of I-4 improvements. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond A

Pond A is located adjacent to Wetland 6A(W) and Wetland 6B(W) near Rhode Island Avenue and Veterans Memorial Parkway juncture. This is a proposed pond that is located entirely in uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

FPC A

FPC A is located adjacent to Pond A and Wetland 6B(W) near Rhode Island Avenue and Veterans Memorial Parkway juncture. This is a proposed pond that is located entirely in uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond B and Pond B1 (Recommended)

Ponds B and B1 are located adjacent to Pond 409-B1 near Station 3000. These proposed pond sites are located entirely within uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond C

Pond C is located near Station 3000 and adjacent to Normandy Boulevard. This proposed pond is located entirely within uplands. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Pond D

Pond D is located near Station 3010 and east of the I-4 eastbound lanes. This existing pond is located within uplands and will not be modified as part of the I-4 Segment 4 improvements. No adverse impacts to jurisdictional wetlands or surface waters are anticipated.

Proposed Treatment Swale

Treatment Swale 401-A and 401-B (Recommended)

Proposed treatment swales, 401-A and 401-B, are located along I-4 eastbound and westbound travel lanes, approximately 0.50 miles west of Debary Avenue between Stations 2660 and 2740. These proposed swales lie within portions of WL-1(E) and WL-3(W), respectively. Approximately 23.94 acres of impacts to WL-1(E) and 14.50 acres of impacts to WL-3(W) will result from the construction of these linear stormwater treatment systems for I-4 Segment 4 improvements.

Table 1 summarizes the classifications of onsite jurisdictional wetlands and other surface waters using the Classification of Wetlands and Deep Water Habitats of the United States and the Florida Land Use, Cover and Forms Classification System.

Table 1
Summary of Jurisdictional Wetlands and Other Surface Waters

ID	USFWS Classification*	FLUCFCS Code**	Description
SW-1(E)	L2UB/EMH	5210	Lakes larger than 500 acres
SW-1A(E)	L2UB/EMH	5210	Lakes larger than 500 acres
SW-3(E)	PEM2E	5130	Upland-cut swale
SW-4(E)	PEM2E	5130	Upland-cut swale
SW-5(E)	L2EMC	5230	Lakes larger than 10 acres less than 100 acres
SW-6(E)	PEM2E	5130	Upland-cut ditch
SW-7(E)	PEM2E	5130	Upland-cut ditch
SW-1(W)	L2EMH	5210	Lakes larger than 500 acres
SW-2(W)	PEM2E	5130	Upland-cut ditch
SW-3(W)	L2EMH	5330	Reservoirs larger than 10 acres less than 100 acres
SW-3A(W)	L2EMH	5210	Lakes larger than 500 acres
SW-5(W)	PEM2E	5130	Upland-cut ditch
SW-6(W)	PEM2E	5130	Upland-cut ditch

Table 1
Summary of Jurisdictional Wetlands and Other Surface Waters

ID	USFWS Classification*	FLUCFCS Code**	Description
SW-8(W)	L2EMH	5230	Lakes larger than 10 acres less than 100 acres
SW-9(W)	PSSCx	5340	Reservoir, less than 10 acres
SW-10(W)	PEM2E	5130	Upland-cut ditch
SW-11(W)	PAB4H	5340	Reservoir, less than 10 acres
SW-12(W)	PSSCx	5340	Reservoir, less than 10 acres
SW-13(W)	PEM2E	5130	Upland-cut swale
SW-14(W)	PSSCx	5340	Reservoir, less than 10 acres
SW-15(W)	PSSCx	5340	Reservoir, less than 10 acres
SW-16(W)	PEM1A	5230	Lakes larger than 10 acres less than 100 acres
WL-1(E)	PFO14E	6150	Streams and Lake Swamp (Bottomland)
WL-2(E)	PFO67E	6170	Mixed Wetland Hardwoods
WL-3(E)	PEM1C	6170	Mixed Wetland Hardwoods
WL-4(E)	PSS67E	6180	Willow and Elderberry
WL-1(W)	PEM1C	6410	Freshwater Marsh
WL-2(W)	PFO67E	6170	Mixed Wetland Hardwoods
WL-3(W)	PFO67C	6150	Streams and Lakes Bottomland
WL-3A(W)	PFO67E	6170	Mixed Wetland Hardwood
WL-3B(W)	PSS7H	6180	Willow and Elderberry
WL-4(W)	PEM1C	6410	Freshwater Marsh
WL-5(W)	PEM2E	6180	Willow and Elderberry
WL-6(W)	PEM2E	6430	Wet Prairie
WL-6A(W)	PEM2E	6430	Wet Prairie
WL-6B(W)	PEM2E	6430	Wet Prairie

**Florida Land Use Cover and Forms Classification System (FLUCFCS): 5210 (Lakes larger than 500 acres) 5230 (Lakes larger than 10 acres, but less than 100 acres) 5340 (Reservoirs less than 10 acres which are dominant features) 5130 (Streams and Waterways) 6150 (Stream and Lake Swamp (Bottomland)) 6410 (Freshwater Marsh) 6170 (Mixed Wetland Hardwoods) 6180 (Willow and Elderberry) 6430 (Wet Prairie)

*United States Fish and Wildlife Service (USFWS) Classifications:
L2UB/EMH: Lacustrine/Littoral/Unconsolidated Bottom/Emergent/Permanently Flooded; L2EMH: Lacustrine/Littoral/Emergent/Permanently Flooded; PEM2E:Palustrine/Emergent/Nonpersistent/Seasonally Flooded/Saturated, L2EMC: Lacustrine/Littoral/Emergent/Seasonally Flooded; L2EMH: Lacustrine/Littoral/Emergent/Permanently Flooded, PSSCx: Palustrine/Scrub-shrub/Seasonally Flooded/Excavated; PAB4H: Palustrine/Aquatic Bed/Floating Vascular/Permanently Flooded, PEM1A/G: Palustrine/Emergent/Persistent/Temporarily Flooded/Intermittently Exposed; PFO14E: Palustrine/Forested/Broad Leaved Deciduous/Needle-Leaved Evergreen/Seasonally Flooded/Saturated; PEM1C: Palustrine/Emergent/Persistent/Seasonally Flooded, PSS67E: Palustrine/Scrub-shrub/Deciduous/Evergreen/Seasonally Flooded/Saturated; PFO67E: Palustrine/Forested/Deciduous/Evergreen/Seasonally Flooded/Saturated;PFO67C: Palustrine/Forested/Deciduous/Evergreen/Seasonally Flooded;PSS7H: Palustrine/Scrub-Shrub/Evergreen/Permanently Flooded

3.0 Wetland Impact Assessment

Estimates suggest that direct impacts to 45.24 acres of jurisdictional other surface waters and 68.61 acres of wetland communities (quality ranging from low to moderate) will result from the proposed I-4 Segment 4 improvements and Rhode Island Avenue extension, (see Table 2 below). Estimates are based on field assessment of jurisdictional limits and preliminary plan preparation for design. Impacts to jurisdictional areas will be refined as design details are finalized.

Impact acreages will be further refined as detailed Construction Plans are developed during the permitting phase of the project. Impacts to surface waters and wetlands during construction will also be classified as temporary or permanent, depending on the proposed level of disturbance. The type and level of mitigation for impacts will be based on the final impact acreages, the nature of disturbance (temporary or permanent) and the overall quality of the systems.

Table 2
Summary of Proposed Impacts to Jurisdictional Wetlands/Other Surface Waters

ID	FLUCFCS Code	Total Area within ROW (acres)	Proposed Impacts (acres)	*Quality (UMAM)	**Mitigation Requirements (Y, N, N/A)
Wetlands					
WL-1(E)	6150	31.91	31.91	Moderate	Y
WL-2(E)	6170	8.84	8.84	Low	Y
WL-3(E)	6170	0.35	0.35	Low	N
WL-4(E)	6180	0.58	0.58	Low	Y
WL-1(W)	6410	0.00	0.00	Moderate	N/A
WL-2(W)	6170	0.00	0.00	Low	N/A
WL-3(W)	6150	19.58	19.58	Moderate	Y
WL-3A(W)	6170	1.85	1.85	Low	Y
WL-3B(W)	6180	1.76	1.76	Low	Y
WL-4(W)	6410	1.99	1.99	Low	Y
WL-5(W)	6180	0.45	0.45	Low	Y
WL-6(W)	6430	0.00	0.00	Low	N/A
WL-6A(W)	6430	0.00	0.00	Moderate	N/A
WL-6B(W)	6430	1.30	1.30	Moderate	Y
Subtotal Area		68.61			
Subtotal			68.61		
Other Surface Waters (Lakes, Upland-Cut Ditches and Swales, Reservoirs)					
SW-1(E)	5210	1.39	0.00	Moderate	N/A
SW-1A(E)	5210	0.12	0.12	Moderate	Y
SW-3(E)	5130	0.28	0.28	Low	N
SW-4(E)	5130	0.06	0.06	Low	N
SW-5(E)	5230	0.49	0.49	Moderate	Y
SW-6(E)	5130	0.07	0.07	Low	N
SW-7(E)	5130	0.46	0.46	Low	N
SW-1(W)	5210	0.00	0.00	Moderate	N/A
SW-2(W)	5130	2.22	2.22	Low	N
SW-3(W)	5330	56.46	19.37	Moderate	Y
SW-3A(W)	5210	0.22	0.22	Moderate	Y
SW-5(W)	5130	0.02	0.02	Low	N

Table 2
Summary of Proposed Impacts to Jurisdictional Wetlands/Other Surface Waters

ID	FLUCFCS Code	Total Area within ROW (acres)	Proposed Impacts (acres)	*Quality (UMAM)	**Mitigation Requirements (Y, N, N/A)
SW-6(W)	5130	0.93	0.93	Low	N
SW-8(W)	5230	1.22	1.22	Moderate	Y
SW-9(W)	5340	6.64	6.64	Low	Y
SW-10(W)	5130	1.4	1.4	Low	N
SW-11(W)	5340	5.70	5.70	Low	Y
SW-12(W)	5340	2.84	2.84	Low	Y
SW-13(W)	5130	1.07	1.07	Low	N
SW-14(W)	5340	1.22	1.22	Low	Y
SW-15(W)	5340	0.44	0.44	Low	Y
SW-16(W)	5230	0.47	0.47	Moderate	Y
Subtotal Area		83.72			
Subtotal Impact			45.24		
Project Total		152.33	113.85		

*Low= UMAM Score between 0 and 0.49 Moderate= UMAM Score between 0.50 and 0.79 High= UMAM Score of 0.80 or better.
**Y = Jurisdictional/Mitigation Required N = Jurisdictional/No Mitigation Required N/A = No Impacts Anticipated

Table 3 further summarizes wetland and other surface water impacts that require mitigation by community type (forested wetlands, freshwater wetlands or other surface waters) and hydrological basin for the proposed I-4 Segment 4 improvements.

Table 3
Summary of Proposed Jurisdictional Wetlands/Other Surface Water Impacts Anticipated to Require Mitigation
(Type and Hydrologic Basin)

Hydrological Basin	Forested Wetlands (acres)	Freshwater Wetlands (acres)	Other Surface Waters (acres)
St. Johns River (Canaveral Marshes to Wekiva)	10.69	55.24	21.42
St. Johns River (Wekiva to Walaka)	--	2.33	17.31
Totals	10.69	57.57	38.73

4.0 Alternative Analysis

Reconstruction and widening of I-4 involves the buildout of the mainline of I-4 to its ultimate condition and modification of interchange configurations at Dirksen Drive/Debary Avenue, Saxon Boulevard, Rhode Island Avenue and SR 472. As such, the build scenario of the I-4 mainline includes improvements to all land areas within the existing ROW, thus rendering a single design for the mainline.

The planned interchange improvements involve work at the junction of existing roads and highways. As such, alternative configurations are restricted in using the existing built conditions. In general, the land uses at the

proposed interchanges includes roads and highways, access/exit ramps, forested and herbaceous uplands and low quality wetlands or surface waters. The current interchange layouts represent the best design alternative when considering engineering constraints, health and human welfare and the environment.

5.0 Avoidance and Minimization of Impacts

The proposed reconstruction and widening of I-4, from east of 17/92 to east of SR 472, is designed to improve the level of service and enhance safety for the traveling public. In meeting the FDOT and the American Association of State Highway and Transportation Standards (AASHTO) roadway design criteria, the ultimate condition build-out of the I-4 mainline presents little opportunities to avoid or minimize adverse wetland impacts within the existing I-4 ROW and alternative interchange designs. In addition, the wetlands and other surface water systems within the mainline ROW are of low to moderate quality, generally isolated from larger more regionally significant systems or have been constructed through upland soils. A large percentage of the jurisdictional communities within the ROW have been altered or have experienced degradation by the presence of the existing I-4 travel lanes, routine maintenance of the ROW and general edge effect experienced by wetlands near built environments.

The proposed treatment swales are located along a lengthy stretch of wetland habitat. Implementing these linear features adjacent to the existing ROW is less intrusive than traditional stormwater ponds, minimizes adverse wetland impacts, while meeting design criteria and limits the impact to the disturbed component of the wetland habitat. Also the use of a manmade-borrow lake (e.g. Pond 401) to provide stormwater management is also a wetland impact minimization effort that is being employed.

It is anticipated that jurisdictional systems within the proposed stormwater treatment systems will be avoided and/or minimized to the greatest extent practical while maintaining safety and function. Further avoidance and minimization efforts of wetlands will be conducted during the design and construction phase. Appropriate mitigation will be proposed based on the final roadway design to offset any adverse impacts to jurisdictional wetlands or other surface waters.

6.0 Secondary & Cumulative Impacts

It is anticipated that improvements for I-4 Segment 4 could result in adverse secondary and cumulative impacts in meeting the intent of 33 CFR Section 320.4 and sections 10.2.7 and 10.2.8 of Volume I of the Environmental Resource Permit Information Manual. In evaluation of the potential secondary (indirect) impacts to jurisdictional wetlands, the US Army Corps of Engineers (USACOE) matrix tool for determining secondary impacts was considered. The USACOE secondary impact matrix was used due to its more comprehensive approach in calculating the area of influence. In consideration of the USACOE matrix, current design improvements suggest that secondary impacts could range between 60 acres (75-foot into a wetland system) to 88 acres (100 feet into a wetland system) of secondary wetland impacts could result from I-4 Segment 4 improvements (Please reference Appendix A – Exhibit 6).

It is presumed that cumulative impacts would result should direct impacts occur. However, a cumulative impact analysis and appropriate mitigation could satisfy the cumulative impact presumption. It is anticipated that the proposed project will not result in unacceptable cumulative impacts to wetland functions in the St. Johns River (Canaveral Marshes to Wekiva) and St. Johns River (Wekiva to Walaka) basins provided that there is appropriate

and available mitigation within in the same basin as the adverse impacts or that a cumulative impact assessment analysis determines the mitigation plan is sufficient in addressing.

A secondary and cumulative impacts for I-4 Segment 4 improvements will be refined during the permitting phase in determining the exact mitigation needed in offsetting adverse impacts.

7.0 Conceptual Mitigation

Mitigation requirements are based on a compilation of wetland parameters including quality, type, function and size. Impacts to wetlands and other surface waters will be avoided and minimized to the maximum extent possible while maintaining safe and sound engineering and construction practices. Primarily, avoidance and minimization efforts are involved at the proposed stormwater management pond locations and the widening of the I-4 corridor from East of SR 15/600 (US 17/92) to ½ Mile East of SR 472.

A mitigation plan that adequately offsets adverse impacts will be developed and implemented prior to construction activities. Adverse wetland impacts that may result from the construction of this project will be mitigated, satisfying the requirements of Part IV. Chapter 373, F.S. and 33 U.S.C.s.1344. Compensatory mitigation for this project will be accomplished through the use of mitigation banks and/or other mitigation options that satisfy state and federal requirements.

Mitigation bank service areas and mitigation credit availability for the St. Johns River (Canaveral Marshes to Wekiva) and St. Johns River (Wekiva to Walaka) Basins are provided in Table 4.

Table 4
Summary of Available Mitigation Credits per Service Area

Mitigation Bank (MB)	Mitigation Service Area	Credit Availability*
Tosohatchee State Reserve	St. Johns River (Canaveral Marshes to Wekiva)	32.54 UMAM Credits
Lake Monroe MB	St. Johns River (Canaveral Marshes to Wekiva)	46.55 UMAM Credits
Barberville MB	St. Johns River (Canaveral Marshes to Wekiva) & St. Johns River (Wekiva to Walaka)	3.98 UMAM Credits
Colbert Cameron MB	St. Johns River (Canaveral Marshes to Wekiva)	147.09 UMAM Credits
Farmton North MB	St. Johns River (Canaveral Marshes to Wekiva) & St. Johns River (Wekiva to Walaka)	822.69 UMAM Credits
Farmton South MB	St. Johns River (Canaveral Marshes to Wekiva) & St. Johns River (Wekiva to Walaka)	433.61 UMAM Credits
Farmton West MB	St. Johns River (Canaveral Marshes to Wekiva) & St. Johns River (Wekiva to Walaka)	248.63 UMAM Credits
TM Econ MB Phases 1, 2 & 3	St. Johns River (Canaveral Marshes to Wekiva)	388.14 UMAM Credits
TM Econ MB Phase IV	St. Johns River (Canaveral Marshes to Wekiva)	164.83 UMAM Credits
Blackwater Creek MB	St. Johns River (Wekiva to Walaka)	15.75 UMAM Credits

*Data source as of October 2015 mitigation bank credit ledger. HTTP://WEBAPUB.SJRWMD.COM/AGWS10/MT/DEFAULT.HTM

8.0 Coordination

It is anticipated that project improvements will result in impacts to wetlands and other surface waters regulated by the US Army Corps of Engineers (USACOE) and the state of Florida. A USACOE permit under Section 404 of the Clean Water Act is anticipated for the proposed project improvements and an Environmental Resource Permit from the St. Johns Water Management District is needed for the project prior to implementation of construction activities. In addition, a National Pollutant Discharge Elimination System Permit from the Florida Department of Environmental Protection will be required.

In review of past permit documents from the St. Johns River Water Management District, wetland and other surface water involvement was mitigated for in a portion of I-4 Segment 4 from west of Orange Boulevard (in Seminole County) to west of Saxon Boulevard (in Volusia County), please reference Appendix C- Past Permit Information. This permitting effort included wetland impacts to 106.7 acres of wetlands and/or surface waters with a mitigation plan. Permitted activities included a replacement bridge over the St. Johns River (Lake Monroe) and travel lane expansion from four lanes to eight. This information would suggest that a portion of wetland impacts for I-4 Segment 4 may have been identified as impacts and mitigated. This information will be verified with regulatory agencies during the design and permitting phase.

On Wednesday November 13, 2013, a meeting was conducted at the Maitland Service Center of the St. Johns River Water Management District (Appendix D). The meeting included Mr. Ken Lewis, PE and Mr. Lee Kissick, both with SJRWMD, and included a discussion of the stormwater design of the project and wetland and surface water involvement. Additional discussion included a determination that the proposed project is not located within the five-hundred (500) foot Riparian Habitat Protection Zone (RHPZ) for the Wekiva River and would not need to meet the requirements of Chapter 40C-41, F.A.C. Design modifications have included reducing and/or eliminating wetland and surface water impact as a result of this meeting are demonstrated in the use of linear treatment swales and existing borrow lake areas.

9.0 Discussion and Commitments

This wetland evaluation was conducted for I-4 PD&E Study Segment 4: east of US 17/92 and east of SR 472 in compliance with Executive Order 11990, Protection of Wetlands, and the FDOT PD&E Manual Part 2, Chapter 18, Wetlands and Other Surface Waters, to assure that every practicable effort will be made to avoid short and long-term impacts to wetlands. The approximate total of jurisdictional wetland impacts anticipated to require mitigation is 68.26 acres and the total impacts to jurisdictional other surface waters anticipated to require mitigation is 38.73 acres. Sufficient mitigation to offset adverse impacts is currently available at the Tosohatchee, Lake Monroe, Barberville, Colbert Cameron, Farmton, TM Econ, and Blackwater Creek Mitigation Banks.

I-4 Segment 4 is located within one wood stork Core Foraging Areas (CFAs). Wetland mitigation will adhere to the requirements of the *Corps of Engineers and U. S. Fish and Wildlife Service Effect Determination Key for the Wood Stork in South Florida* (2010).

The following recommendations are being proposed to ensure that the I-4 Segment 4 project does not result in adverse impacts to wetland communities and the functions provide.

- During the permitting process, FDOT will coordinate with federal and state agency personnel to ensure minimization and reduction of adverse wetland impacts have been explored to the fullest extent of the project while meeting engineering standards and practice.

- Wetland impacts (direct and secondary) that will result from the construction of this project will be mitigated pursuant to requirements of Part IV. Chapter 373, F.S. and 33 U.S.C.s.1344. The FDOT is committed to minimize direct, secondary and temporary impacts where feasible.

- During the design, a Quality Enhancement Strategies (QES) addressing the avoidance and minimization for losses of waters of the United States and alternative design changes to minimize wetland impacts (without jeopardizing safety) will be committed by others.

- During permitting, FDOT will coordinate with the permitting agencies to quantify and provide compensation for any unavoidable impacts to wood stork suitable foraging habitat (SFH). Mitigation for these impacts will be provided within the service area of a USFWS-approved wetland mitigation bank that provides an amount of habitat and foraging function equivalent to that of the impacted SFH in accordance with the *Corps of Engineers and U.S. Fish and Wildlife Service Effect Determination Key for the Wood Stork in Central and North Peninsular Florida*.

10.0 REFERENCES

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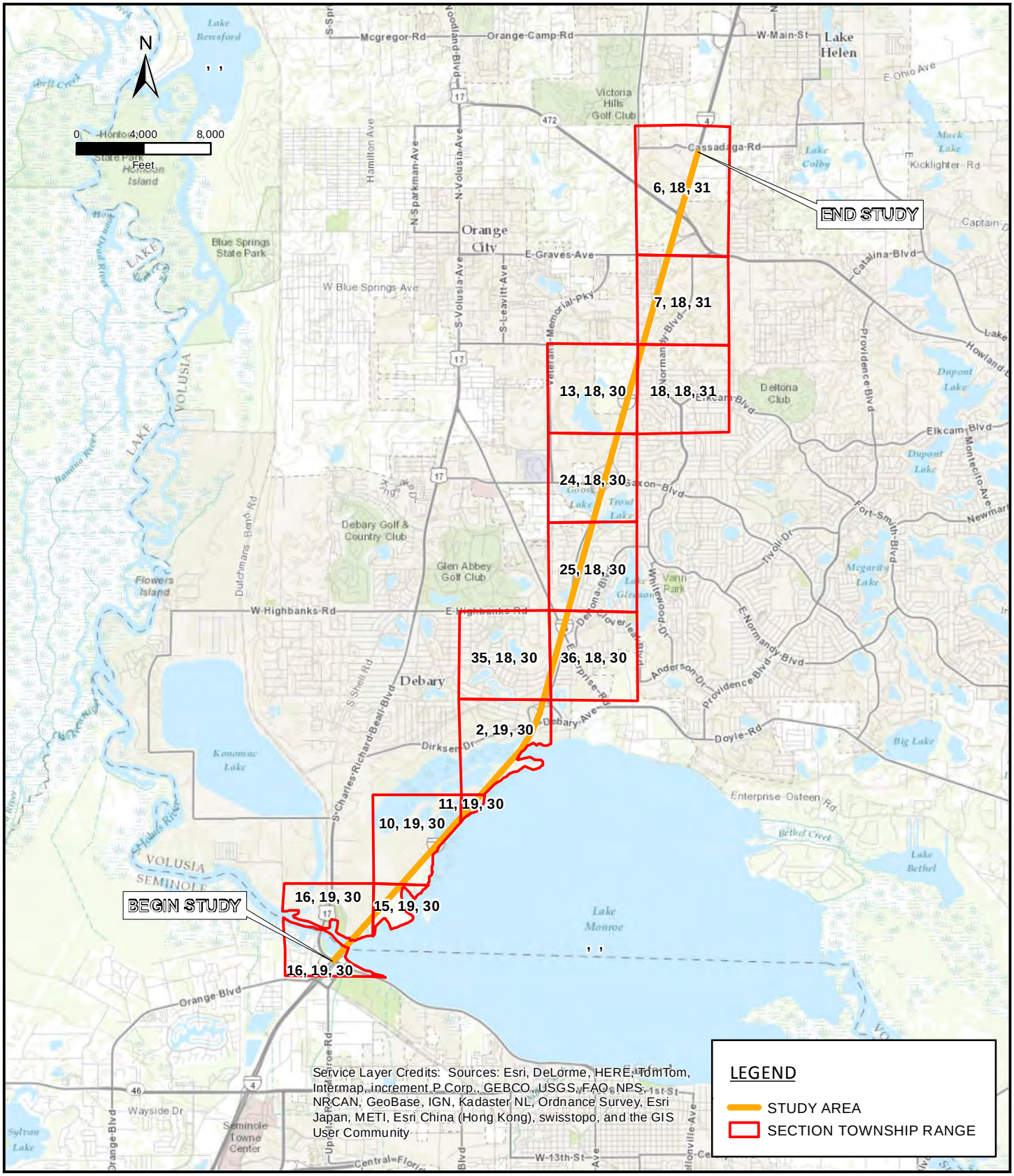
APPENDIX A
PROJECT MAPS AND FIGURES

EXHIBIT 1
LOCATION MAP


N
0
4,000
8,000
Feet
MCGREGOR RD
ORANGE CAMP RD
S WOODLAND BLVD
MINNESOTA AVE
DR ML KING JR BLVD
MAIN ST
N LAKEVIEW DR
MACY AVE
PREVATT AVE
SR 472
CASSADAGA RD
END STUDY
W FRENCH AVE
VOLUSIA AVE
KENTUCKY AVE
E GRAVES AVE
GRAVES AVE
LAKE HELEN OSTEEN RD
HOWLAND BLVD
VETERANS MEM PKWY
RHODE ISLAND AVE
PROVIDENCE BLVD
ELKCAM BLVD
FT SMITH BLVD
SAXON BLVD
SAXON BLVD
I-4 WB TO I-4 WB
NEWMARK DR
TIVOLI DR
ENTERPRISE RD
DELTONA BLVD
HIGHBANKS RD
NORMANDY BLVD
FORT FLORIDA RD
DEBARY AVE
DEBARY AVE
CR 92A/LL BLVD
DIRKSEN DR
JACOB BROCK AVE
DOYLE RD
I-4
BEGIN STUDY
I-4 EB TO US 17/92
ORANGE BLVD
US 17/92
I-4
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
STUDY AREA

Exhibit 1

EXHIBIT 2
USGS TOPOGRAPHIC QUADRANGLE MAP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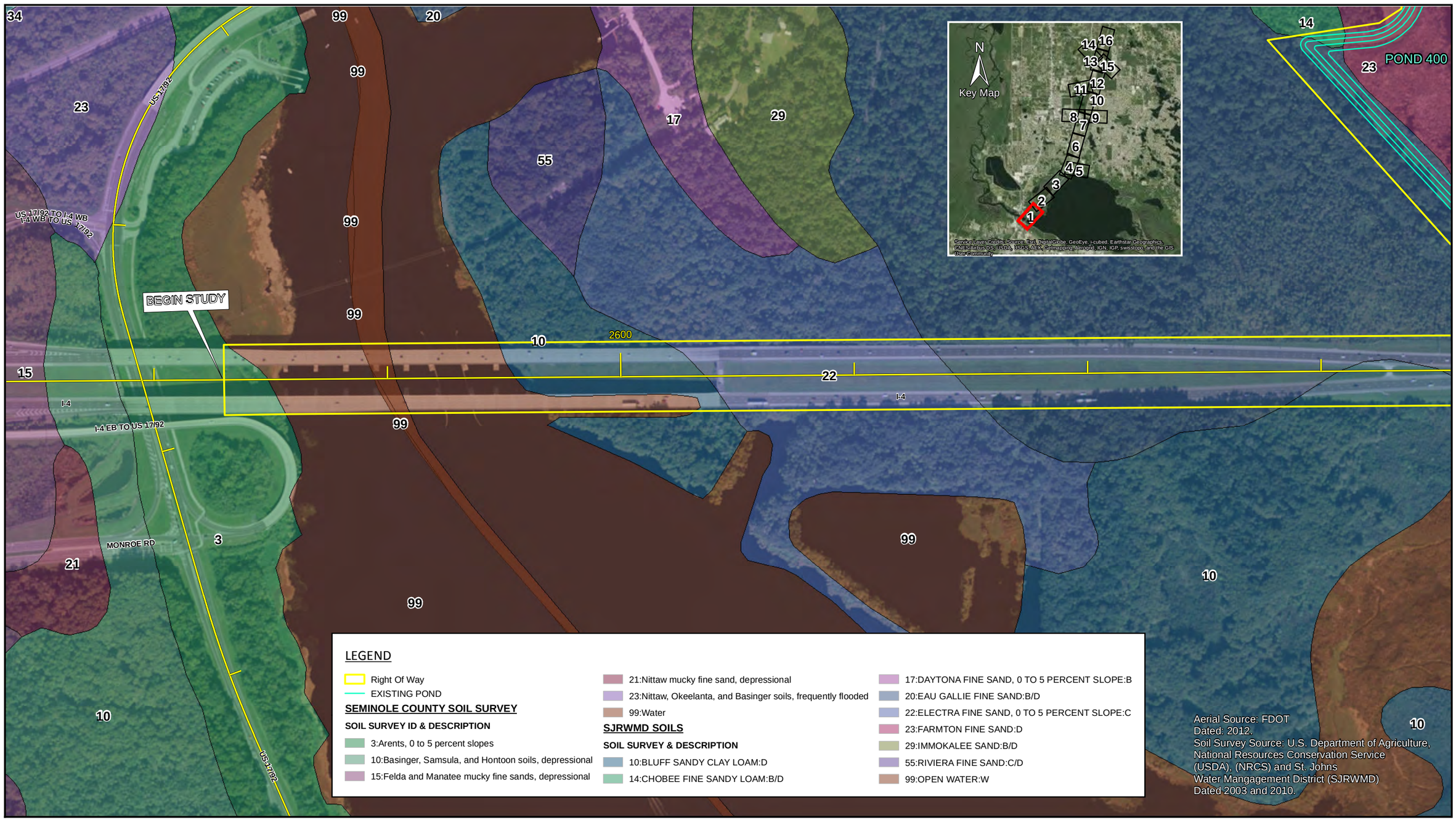
Service Layer Credits: Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community
LEGEND
STUDY AREA
SECTION TOWNSHIP RANGE

Exhibit 2

EXHIBIT 3
SCS SOIL SURVEY MAP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Key Map
BEGIN STUDY
US 17/92
US 17/92 TO I-4 WB
I-4 WB TO US 17/92
I-4
I-4 EB TO US 17/92
MONROE RD
POND 400
2600
34
23
99
20
17
29
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21
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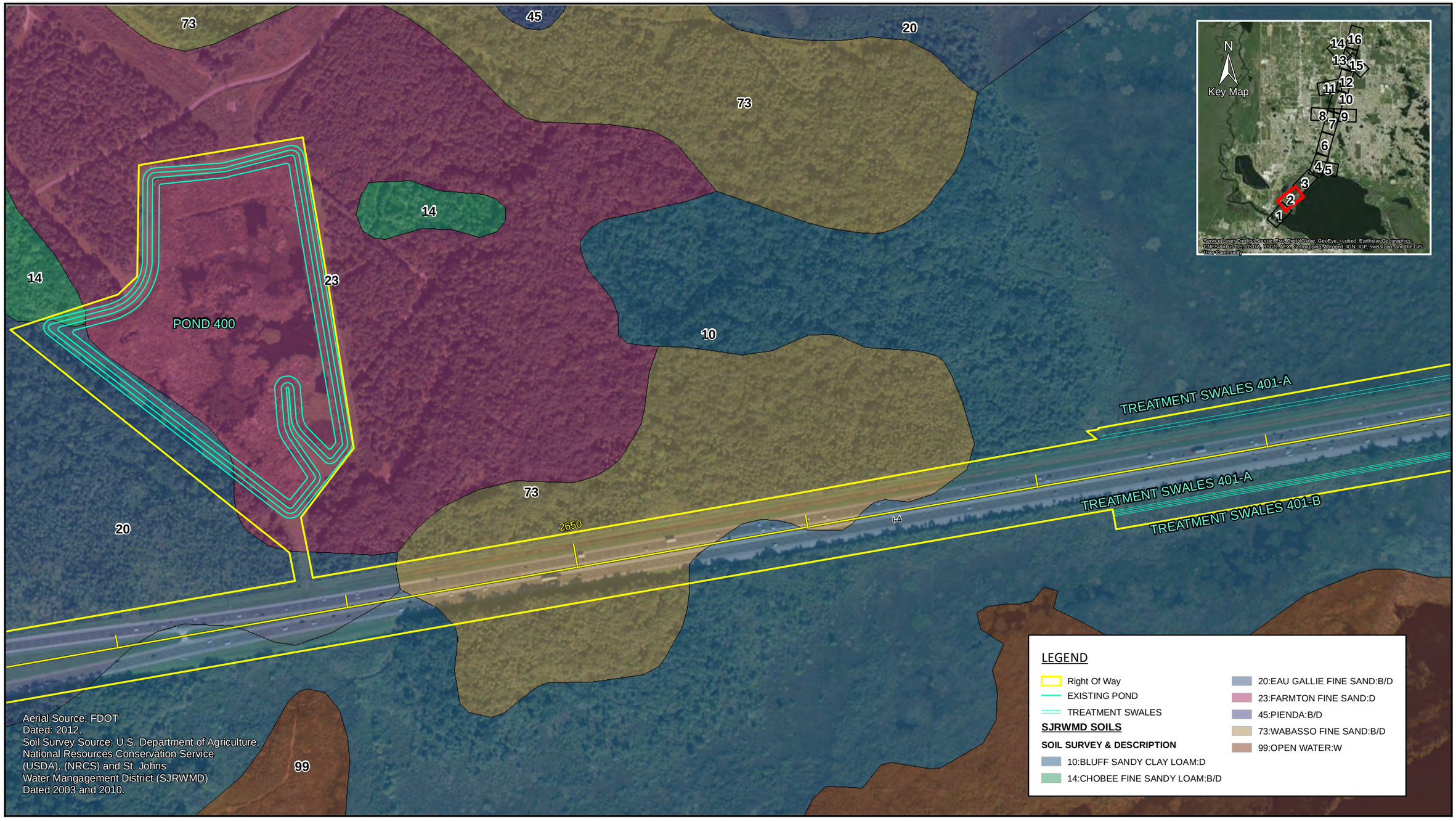
LEGEND
Right Of Way
EXISTING POND
SEMINOLE COUNTY SOIL SURVEY
SOIL SURVEY ID & DESCRIPTION
3:Arents, 0 to 5 percent slopes
10:Basinger, Samsula, and Hontoon soils, depressional
15:Felda and Manatee mucky fine sands, depressional
21:Nittaw mucky fine sand, depressional
23:Nittaw, Okeelanta, and Basinger soils, frequently flooded
99:Water
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
10:BLUFF SANDY CLAY LOAM:D
14:CHOBEE FINE SANDY LOAM:B/D
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
20:EAU GALLIE FINE SAND:B/D
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
23:FARMTON FINE SAND:D
29:IMMOKALEE SAND:B/D
55:RIVIERA FINE SAND:C/D
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.1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TREATMENT SWALES 401-A
TREATMENT SWALES 401-B
Key Map
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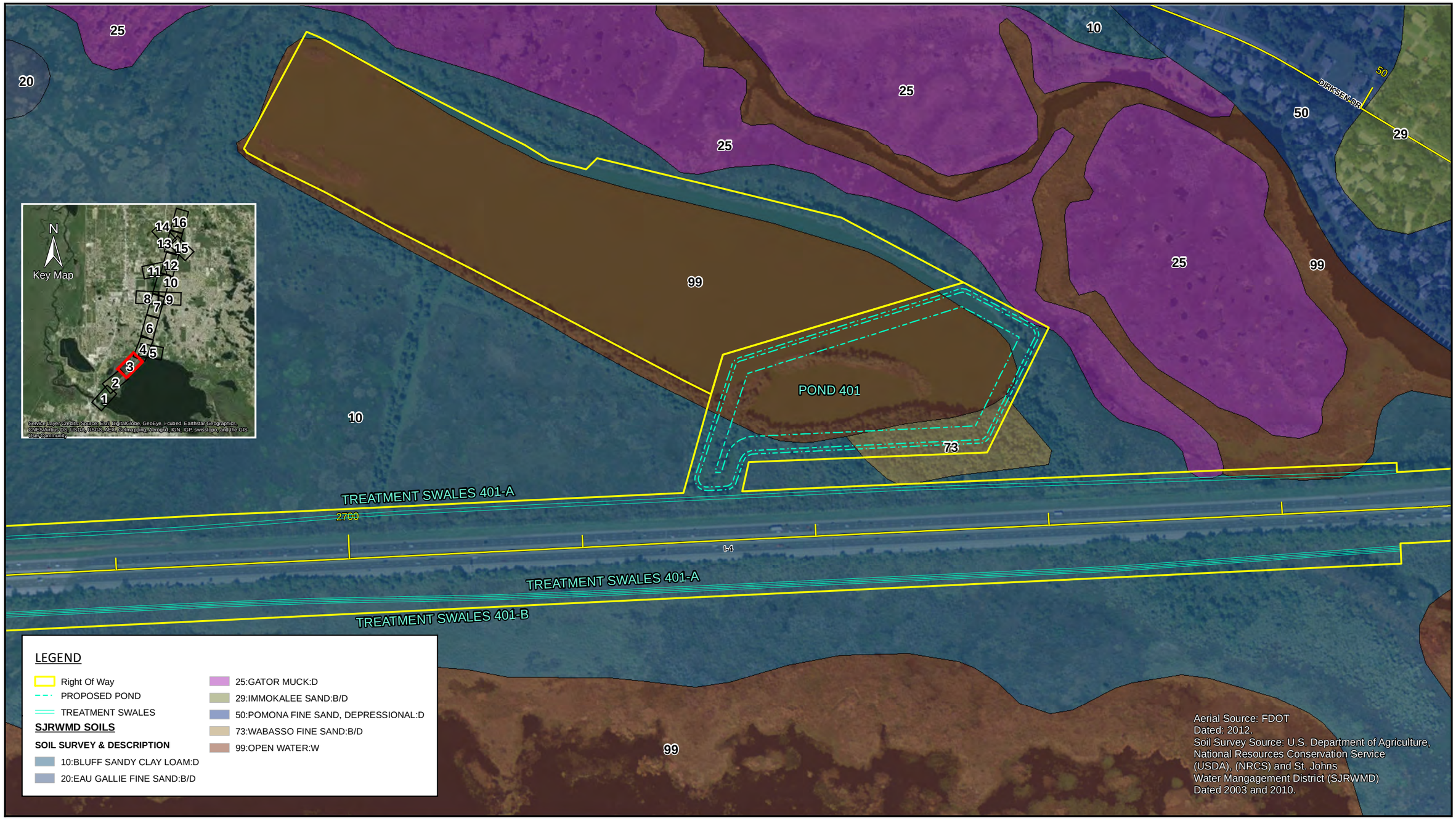
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.
LEGEND
Right Of Way
EXISTING POND
TREATMENT SWALES
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
10:BLUFF SANDY CLAY LOAM:D
14:CHOBEE FINE SANDY LOAM:B/D
20:EAU GALLIE FINE SAND:B/D
23:FARMTON FINE SAND:D
45:PIENDA:B/D
73:WABASSO FINE SAND:B/D
99:OPEN WATER:W

Exhibit 3.2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TREATMENT SWALES 401-A
TREATMENT SWALES 401-B
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Key Map
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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
PROPOSED POND
TREATMENT SWALES
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
10:BLUFF SANDY CLAY LOAM:D
20:EAU GALLIE FINE SAND:B/D
25:GATOR MUCK:D
29:IMMOKALEE SAND:B/D
50:POMONA FINE SAND, DEPRESSIONAL:D
73:WABASSO FINE SAND:B/D
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.3

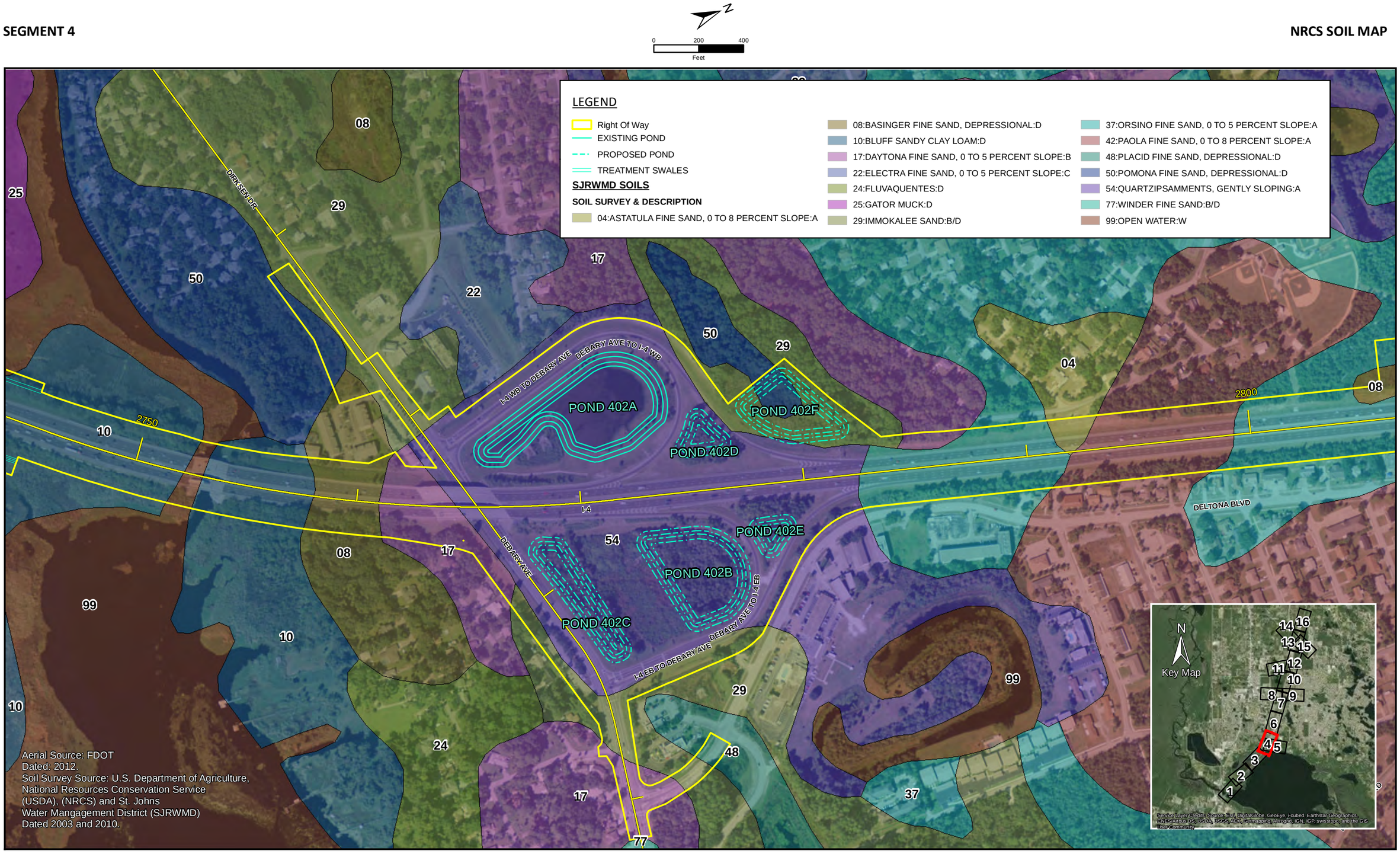

N
0
200
400
Feet
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
TREATMENT SWALES
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
04:ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPE:A
08:BASINGER FINE SAND, DEPRESSIONAL:D
10:BLUFF SANDY CLAY LOAM:D
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
24:FLUVAQUENTES:D
25:GATOR MUCK:D
29:IMMOKALEE SAND:B/D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
48:PLACID FINE SAND, DEPRESSIONAL:D
50:POMONA FINE SAND, DEPRESSIONAL:D
54:QUARTZIPSAMMENTS, GENTLY SLOPING:A
77:WINDER FINE SAND:B/D
99:OPEN WATER:W
DIRKSEN DR
I-4WB TO DEBARY AVE
DEBARY AVE TO I-4 WB
POND 402A
POND 402D
POND 402F
POND 402E
POND 402B
POND 402C
DEBARY AVE
DEBARY AVE TO I-4 EB
I-4 EB TO DEBARY AVE
I-4
DELTONA BLVD
2750
2800
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture,
National Resources Conservation Service
(USDA), (NRCS) and St. Johns
Water Mangagement District (SJRWMD)
Dated 2003 and 2010.
Key Map

Exhibit 3.4

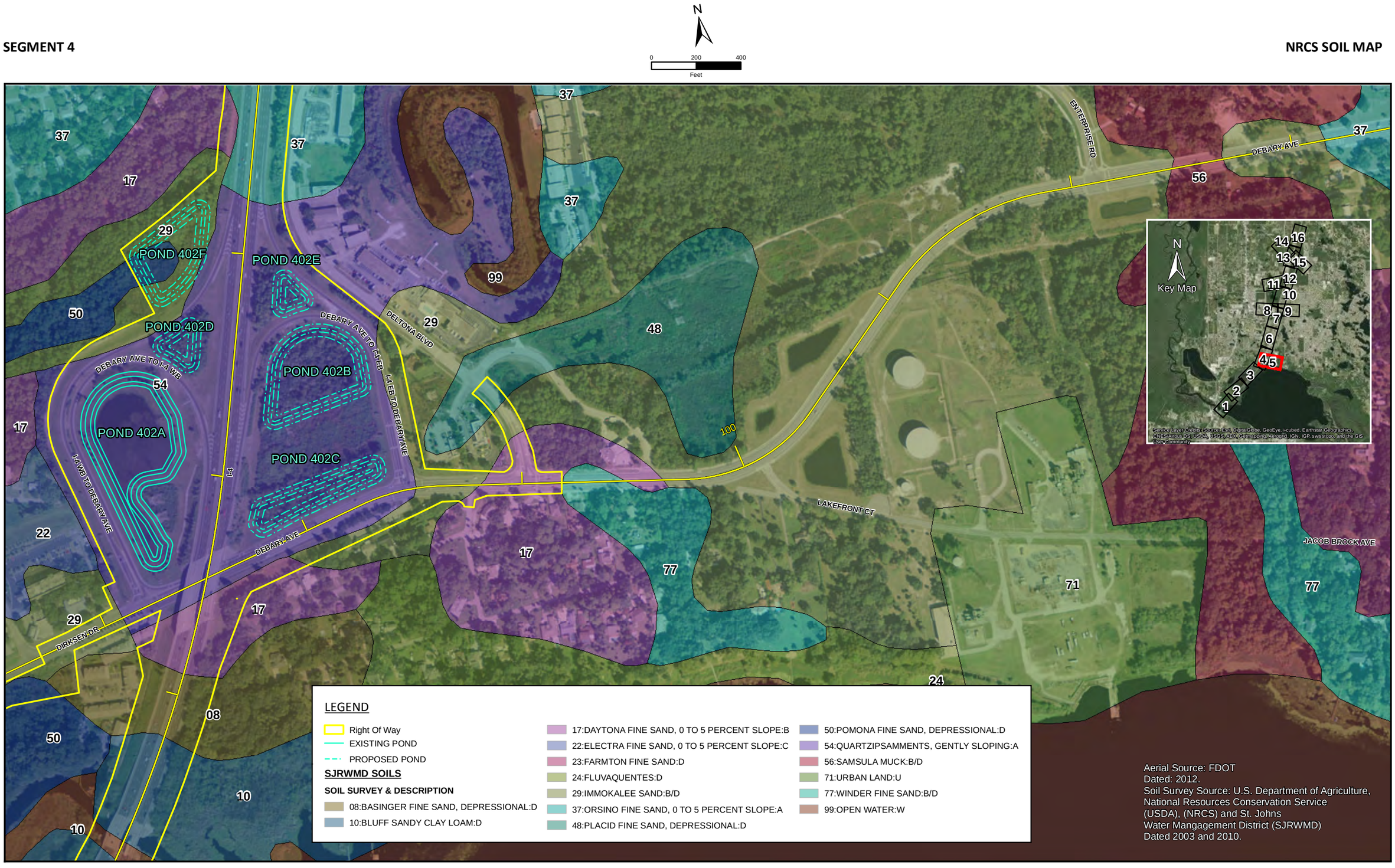

N
0
200
400
Feet
POND 402A
POND 402B
POND 402C
POND 402D
POND 402E
POND 402F
I-4
DEBARY AVE
DEBARY AVE TO I-4 WB
I-4 WB TO DEBARY AVE
DEBARY AVE TO I-4 EB
I-4 EB TO DEBARY AVE
DELTONA BLVD
ENTERPRISE RD
LAKEFRONT CT
JACOB BROCK AVE
DIRKSEN DR
Key Map
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
08:BASINGER FINE SAND, DEPRESSIONAL:D
10:BLUFF SANDY CLAY LOAM:D
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
23:FARMTON FINE SAND:D
24:FLUVAQUENTES:D
29:IMMOKALEE SAND:B/D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
48:PLACID FINE SAND, DEPRESSIONAL:D
50:POMONA FINE SAND, DEPRESSIONAL:D
54:QUARTZIPSAMMENTS, GENTLY SLOPING:A
56:SAMSULA MUCK:B/D
71:URBAN LAND:U
77:WINDER FINE SAND:B/D
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.5

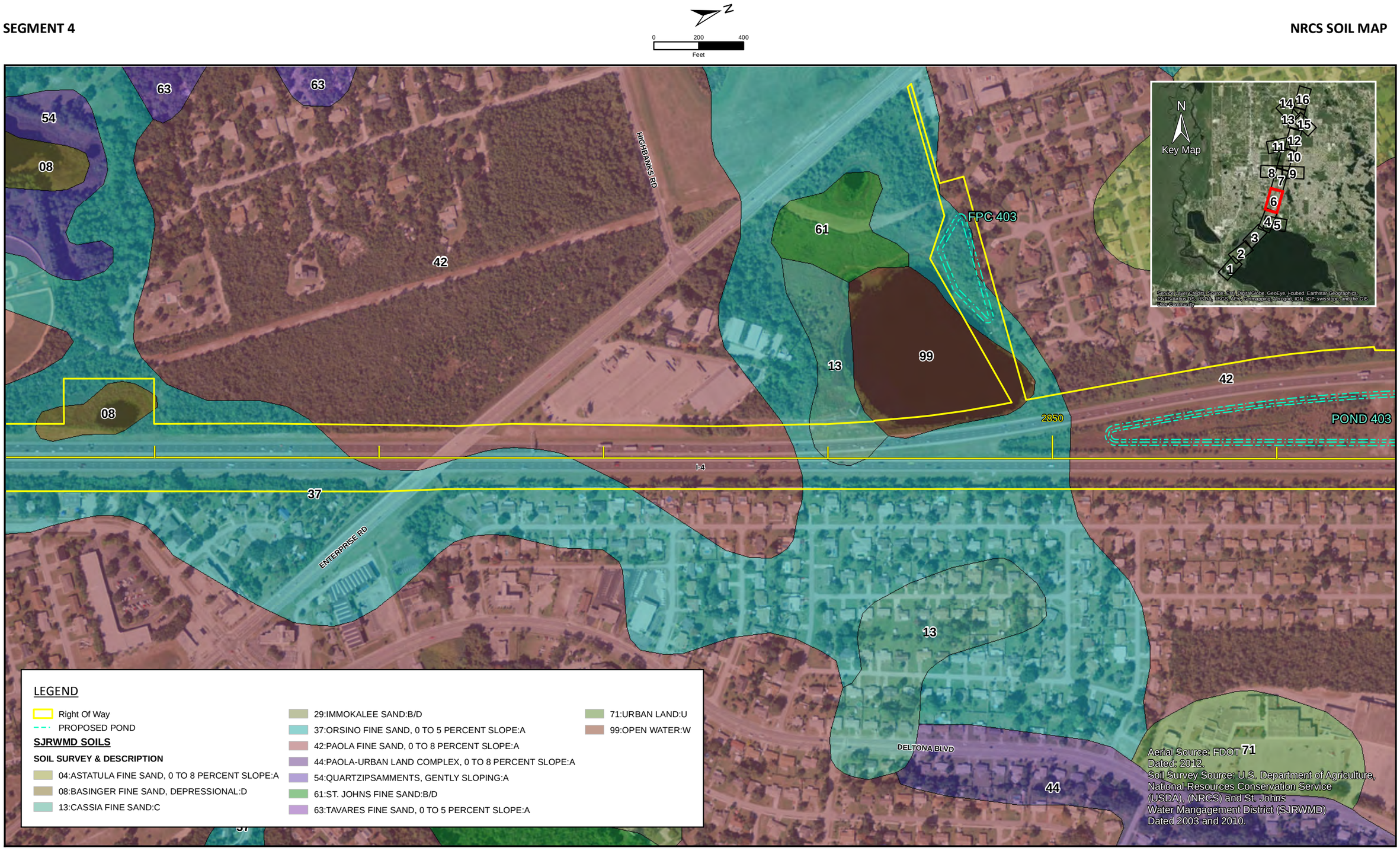
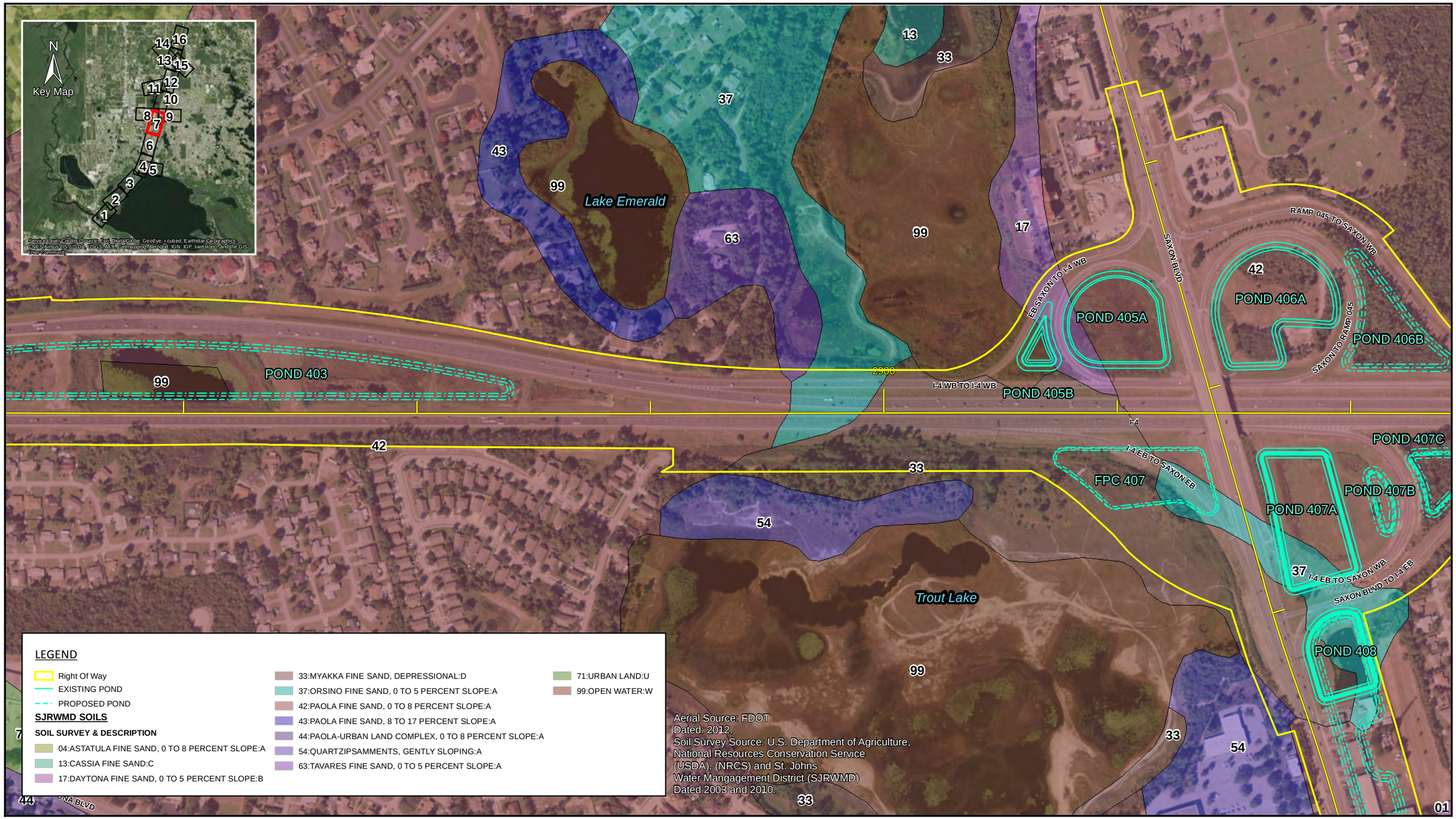

N
0
200
400
Feet
63
63
54
08
42
HIGHBANKS RD
61
FPC 403
99
13
08
42
2850
POND 403
I-4
37
ENTERPRISE RD
13
DELTONA BLVD
44
71
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
04:ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPE:A
08:BASINGER FINE SAND, DEPRESSIONAL:D
13:CASSIA FINE SAND:C
29:IMMOKALEE SAND:B/D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
44:PAOLA-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPE:A
54:QUARTZIPSAMMENTS, GENTLY SLOPING:A
61:ST. JOHNS FINE SAND:B/D
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
71:URBAN LAND:U
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.6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Key Map
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
0
200
400
Feet
Lake Emerald
Trout Lake
POND 403
POND 405A
POND 405B
POND 406A
POND 406B
POND 407A
POND 407B
POND 407C
POND 408
FPC 407
RAMP 045 TO SAXON WB
SAXON BLVD
EB SAXON TO I-4 WB
SAXON TO RAMP 045
I-4 WB TO I-4 WB
I-4
I-4 EB TO SAXON EB
I-4 EB TO SAXON WB
SAXON BLVD TO I-4 EB
2300
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
04:ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPE:A
13:CASSIA FINE SAND:C
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
33:MYAKKA FINE SAND, DEPRESSIONAL:D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
44:PAOLA-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPE:A
54:QUARTZIPSAMMENTS, GENTLY SLOPING:A
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
71:URBAN LAND:U
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.7

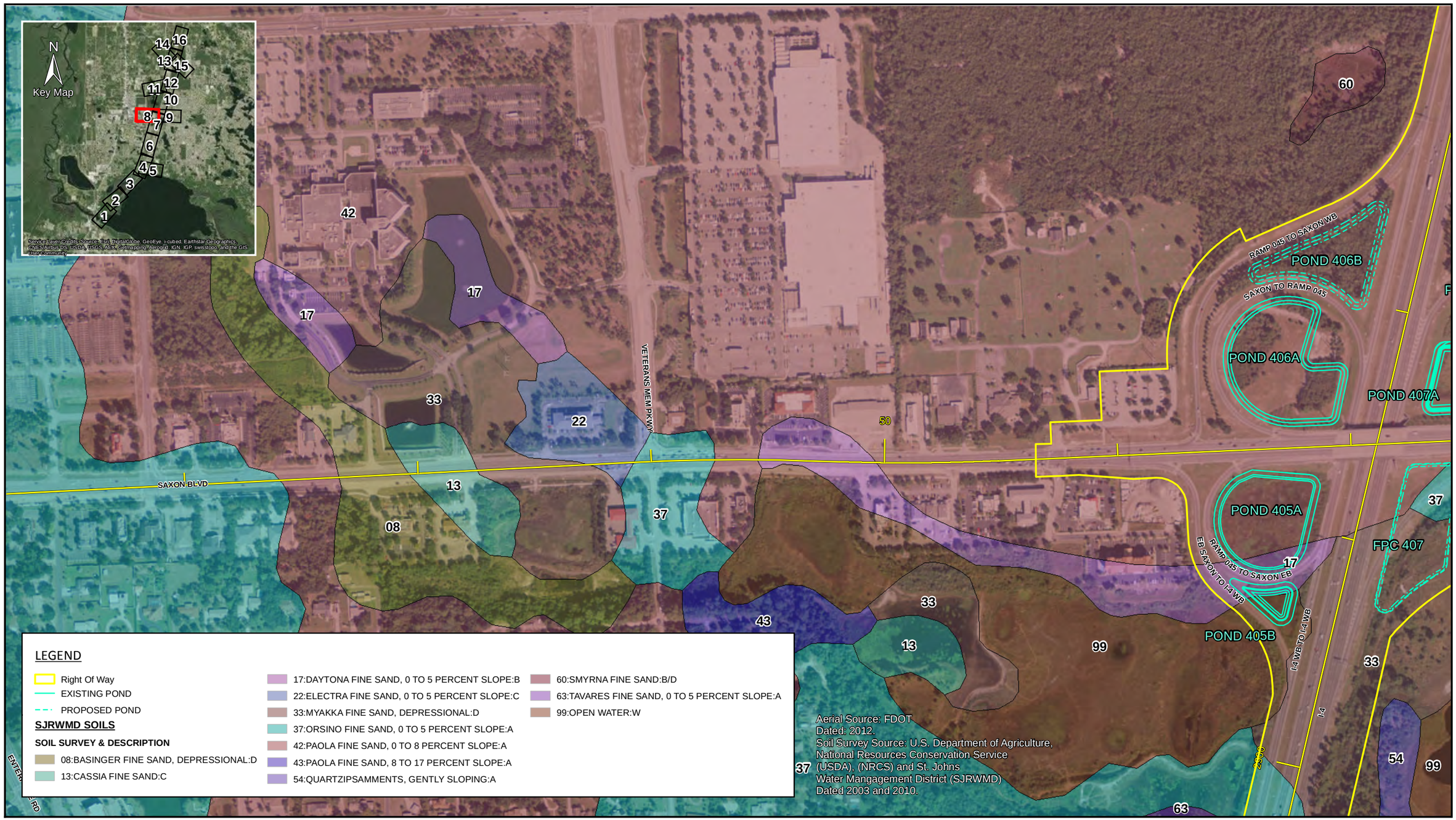
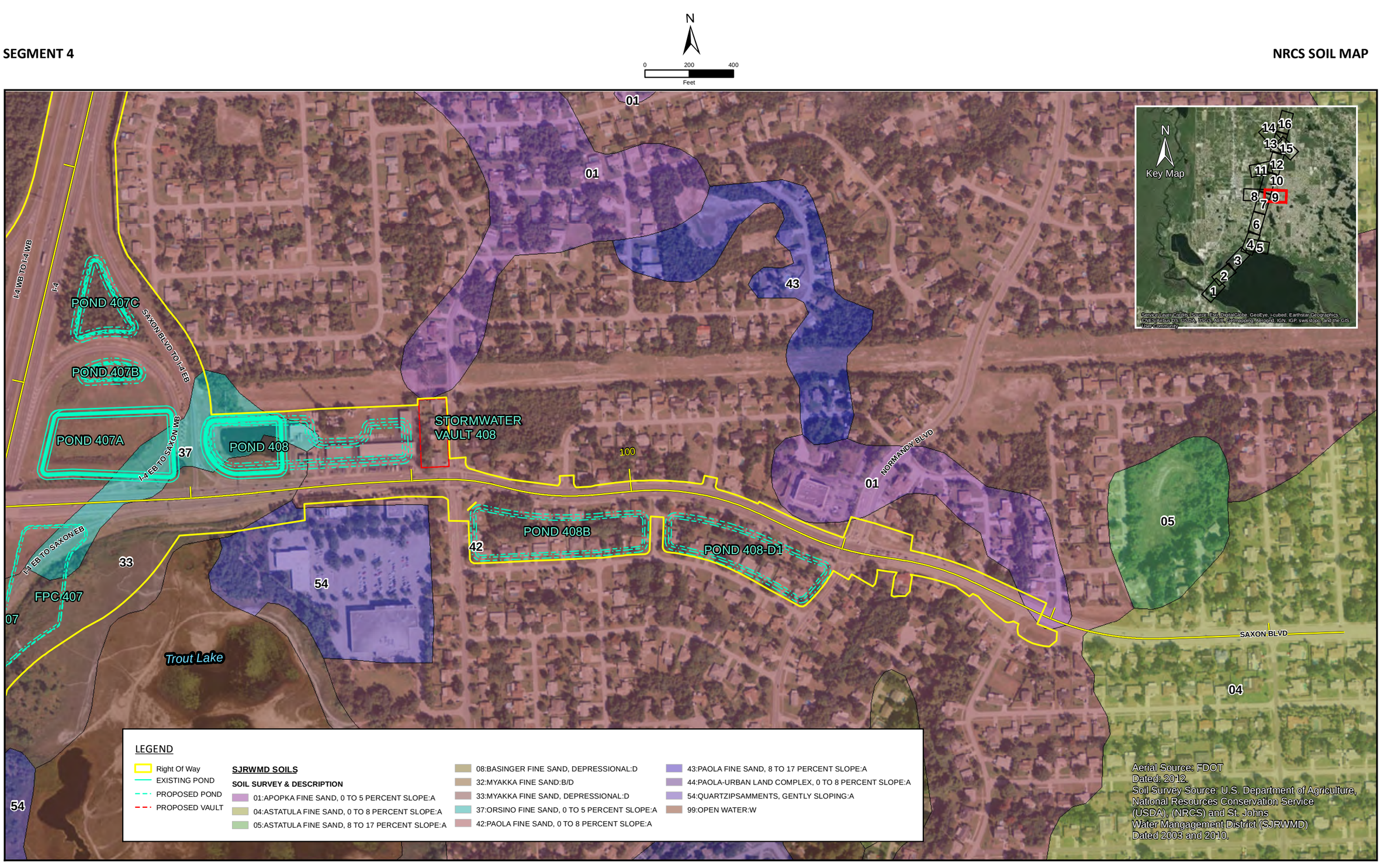

N
0 200 400
Feet
Key Map
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
VETERANS MEM PKWY
SAXON BLVD
RAMP 045 TO SAXON WB
POND 406B
SAXON TO RAMP 045
POND 406A
POND 407A
POND 405A
FPC 407
RAMP 045 TO SAXON EB
EB SAXON TO I-4 WB
POND 405B
I-4 WB TO I-4 WB
I-4
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
08:BASINGER FINE SAND, DEPRESSIONAL:D
13:CASSIA FINE SAND:C
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
33:MYAKKA FINE SAND, DEPRESSIONAL:D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
54:QUARTZIPSAMMENTS, GENTLY SLOPING:A
60:SMYRNA FINE SAND:B/D
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture,
National Resources Conservation Service
(USDA), (NRCS) and St. Johns
Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.8


N
0
200
400
Feet
01
01
43
I-4 WB TO I-4 WB
I-4
POND 407C
SAXON BLVD TO I-4 EB
POND 407B
POND 407A
37
POND 408
I-4 EB TO SAXON WB
STORMWATER VAULT 408
100
NORMANDY BLVD
01
05
I-4 EB TO SAXON EB
33
42
POND 408B
POND 408-D1
54
FPC 407
07
Trout Lake
SAXON BLVD
04
54
Key Map
1
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5
6
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8
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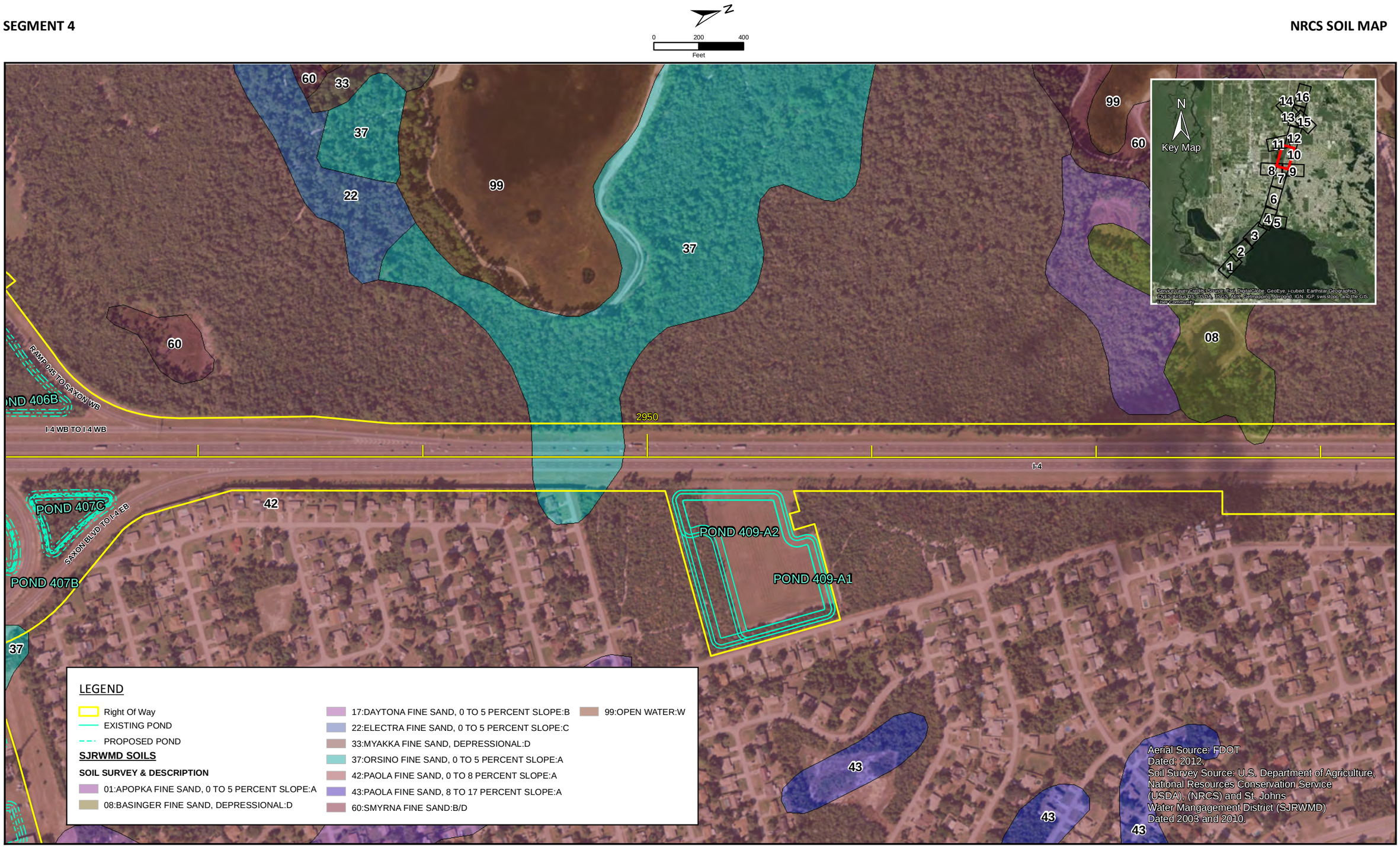
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
PROPOSED VAULT
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
04:ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
08:BASINGER FINE SAND, DEPRESSIONAL:D
32:MYAKKA FINE SAND:B/D
33:MYAKKA FINE SAND, DEPRESSIONAL:D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
44:PAOLA-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPE:A
54:QUARTZIPSAMMENTS, GENTLY SLOPING:A
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.9


N
0
200
400
Feet
60
33
37
22
99
37
60
99
60
08
Key Map
1
2
3
4
5
6
7
8
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10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
RAMP 045 TO SAXON WB
ND 406B
I-4 WB TO I-4 WB
2950
I-4
POND 407C
SAXON BLVD TO I-4 EB
POND 407B
42
POND 409-A2
POND 409-A1
37
43
43
43
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
08:BASINGER FINE SAND, DEPRESSIONAL:D
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
33:MYAKKA FINE SAND, DEPRESSIONAL:D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
60:SMYRNA FINE SAND:B/D
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.10

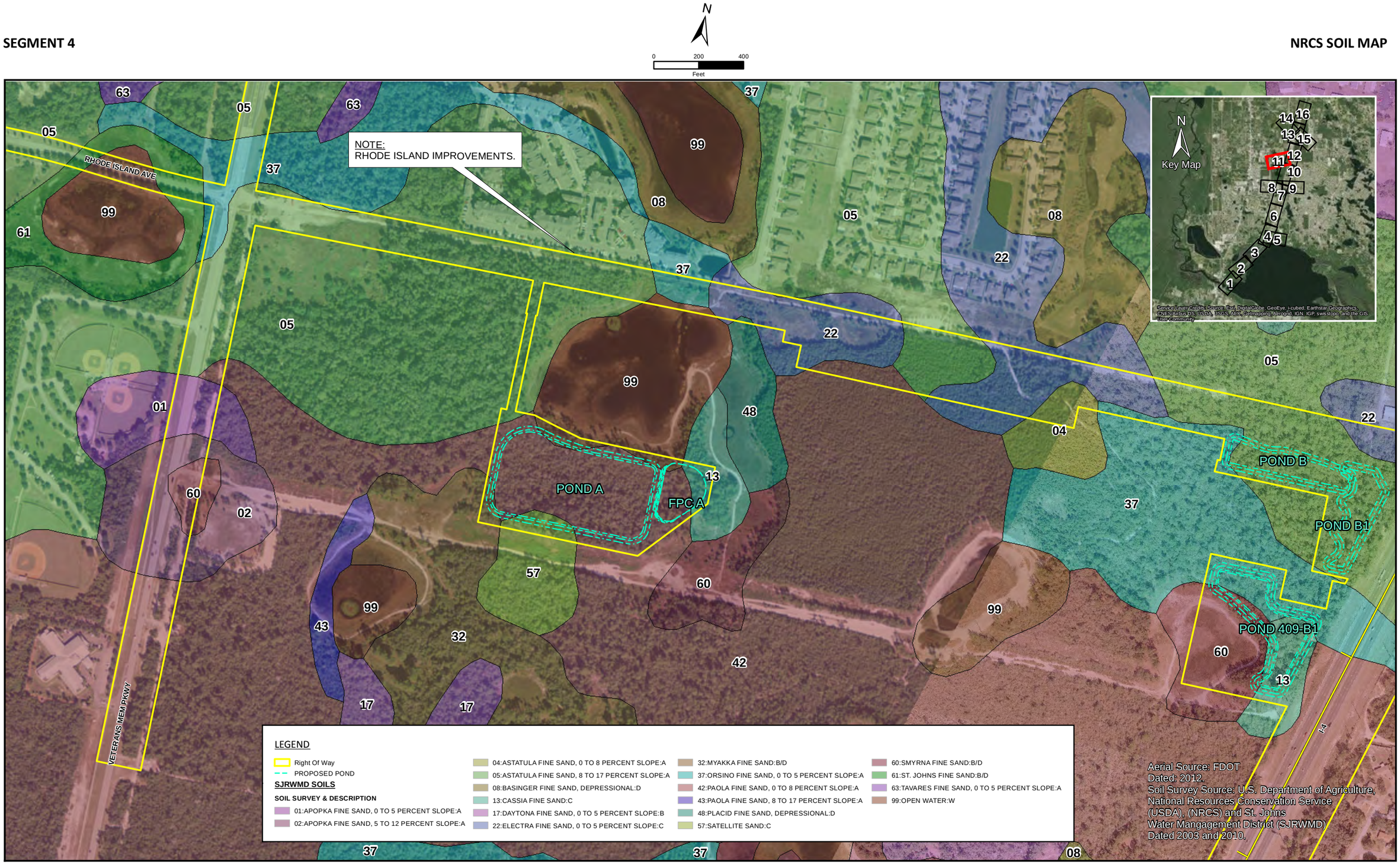

N
0 200 400
Feet
NOTE:
RHODE ISLAND IMPROVEMENTS.
RHODE ISLAND AVE
VETERANS MEM PKWY
POND A
FPC A
POND B
POND B1
POND 409-B1
I-4
Key Map
LEGEND
Right Of Way
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
02:APOPKA FINE SAND, 5 TO 12 PERCENT SLOPE:A
04:ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
08:BASINGER FINE SAND, DEPRESSIONAL:D
13:CASSIA FINE SAND:C
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
32:MYAKKA FINE SAND:B/D
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
48:PLACID FINE SAND, DEPRESSIONAL:D
57:SATELLITE SAND:C
60:SMYRNA FINE SAND:B/D
61:ST. JOHNS FINE SAND:B/D
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
99:OPEN WATER:W
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.11

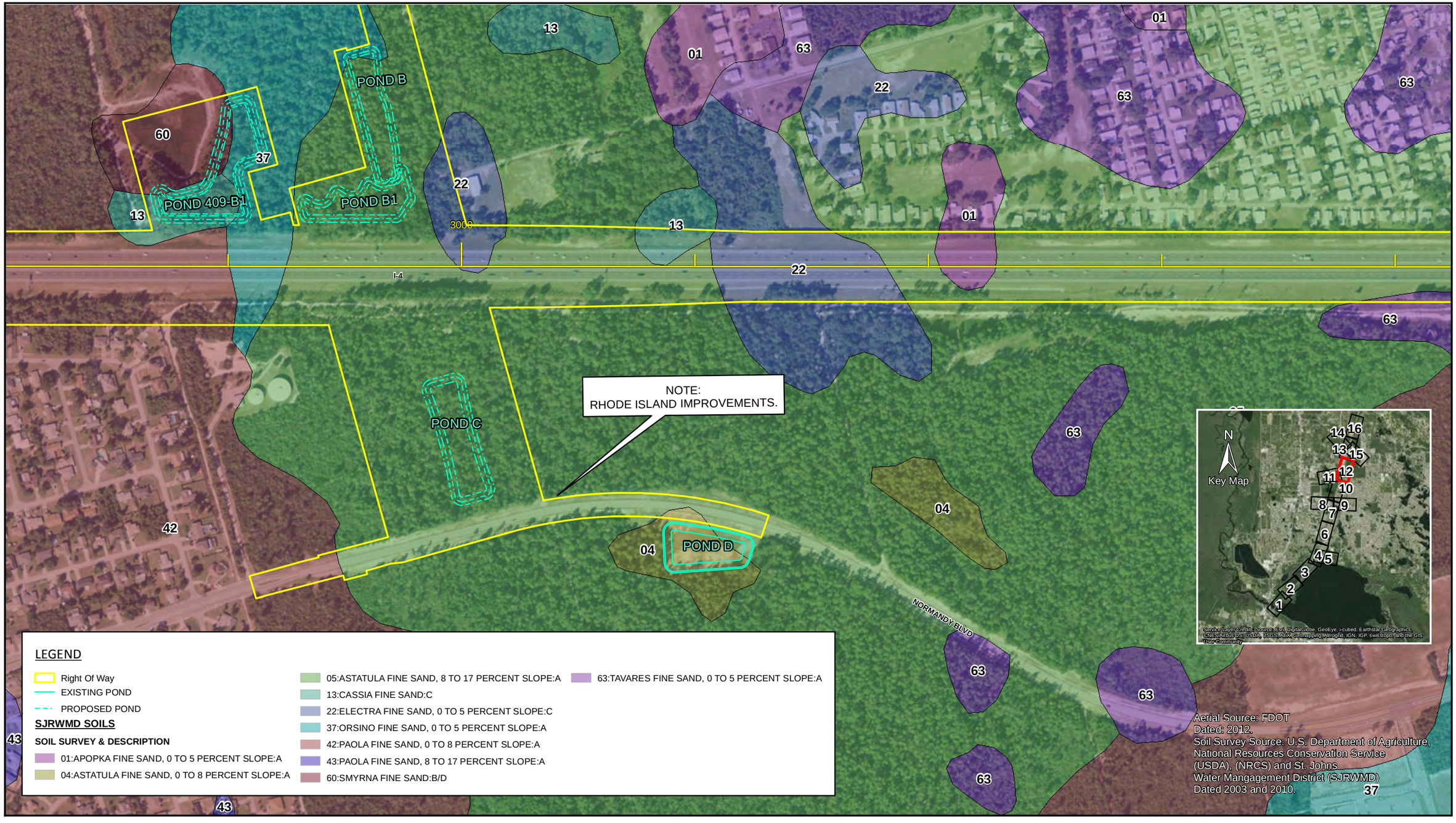
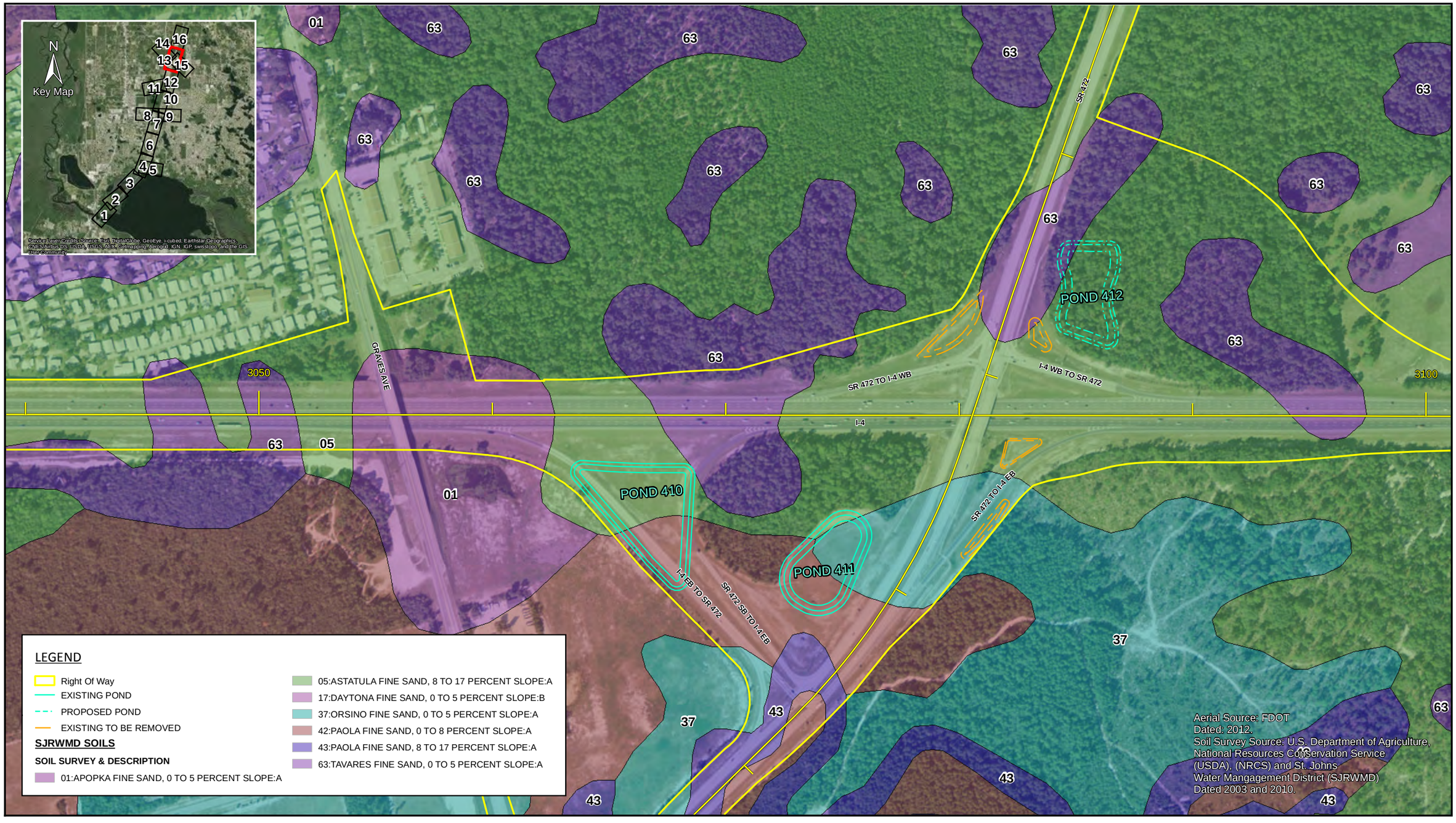

N
0
200
400
Feet
POND B
POND 409-B1
POND B1
POND C
POND D
I-4
NORMANDY BLVD
NOTE:
RHODE ISLAND IMPROVEMENTS.
Key Map
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
04:ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
13:CASSIA FINE SAND:C
22:ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPE:C
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
60:SMYRNA FINE SAND:B/D
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.12


N
0
200
400
Feet
Key Map
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8
9
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11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
01
63
05
37
43
3050
3100
GRAVES AVE
SR 472
I-4
SR 472 TO I-4 WB
I-4 WB TO SR 472
SR 472 TO I-4 EB
I-4 EB TO SR 472
SR 472 SB TO I-4 EB
POND 410
POND 411
POND 412
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
17:DAYTONA FINE SAND, 0 TO 5 PERCENT SLOPE:B
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.13

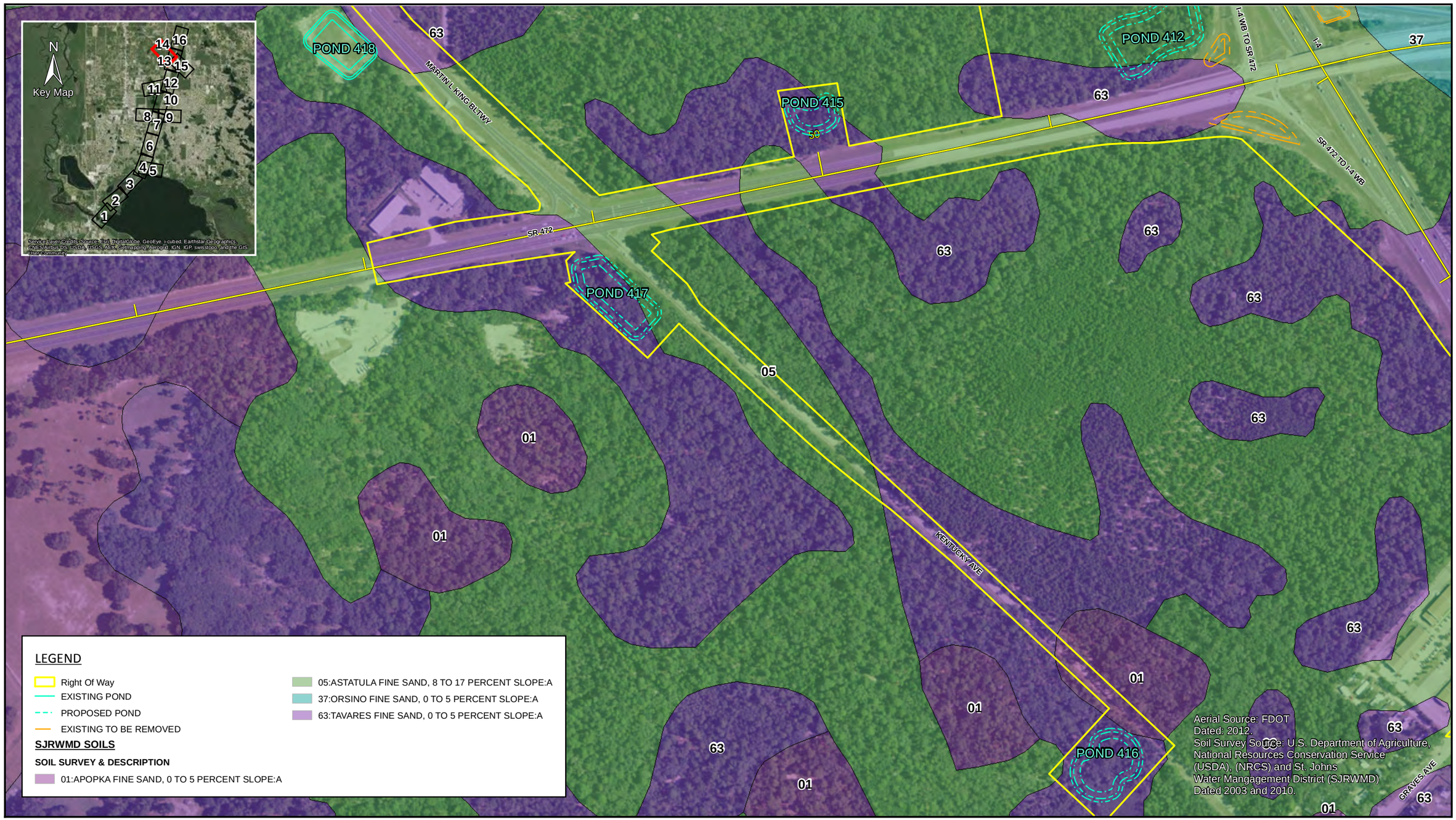

N
0
200
400
Feet
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
POND 418
63
MARTIN L KING BLTWY
POND 415
50
POND 412
I-4 WB TO SR 472
I-4
37
SR 472 TO I-4 WB
SR 472
POND 417
05
01
KENTUCKY AVE
POND 416
GRAVES AVE
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD) Dated 2003 and 2010.

Exhibit 3.14

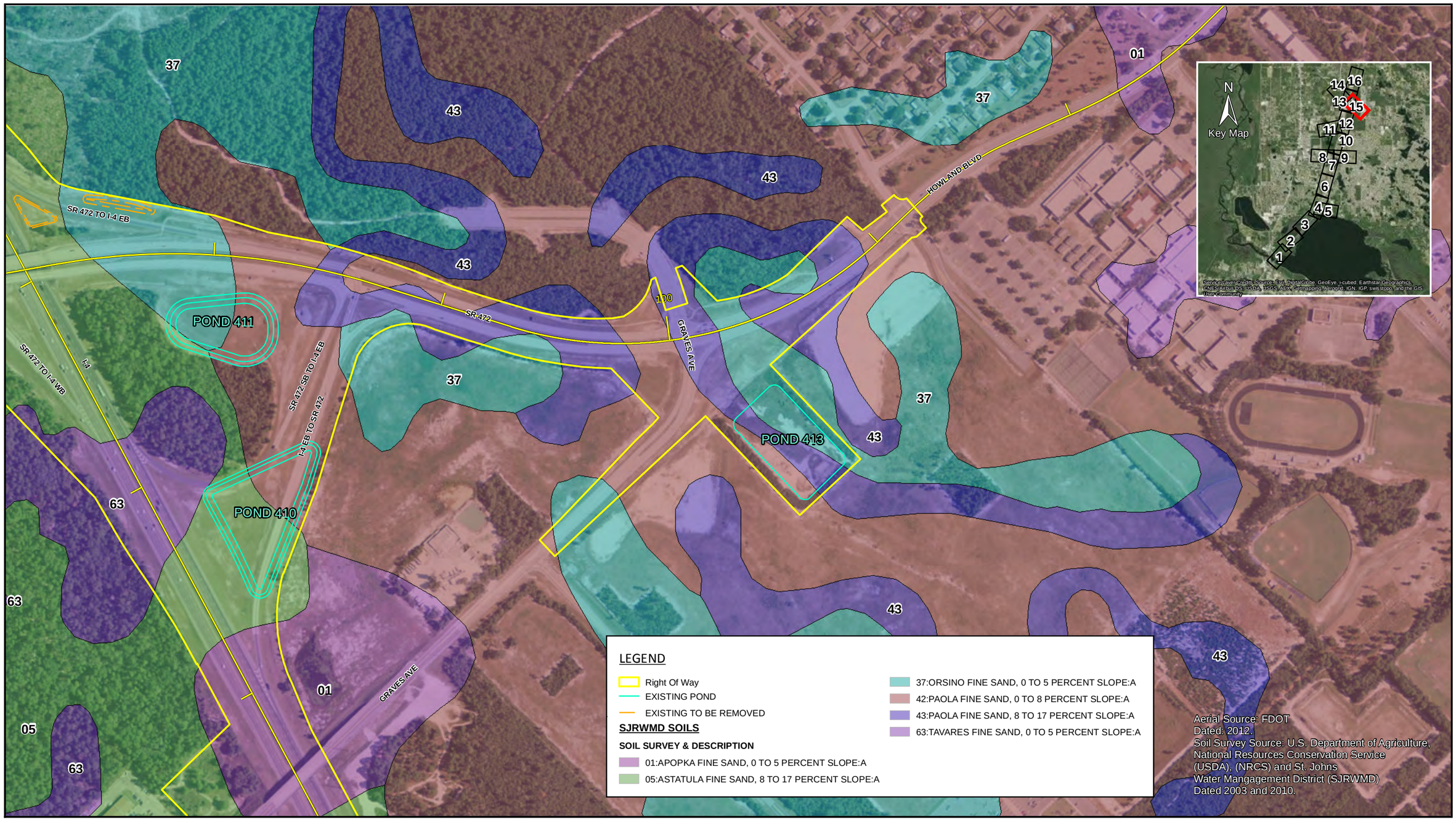

N
0
200
400
Feet
37
43
01
SR 472 TO I-4 EB
SR 472
HOWLAND BLVD
100
GRAVES AVE
POND 411
I-4
SR 472 TO I-4 WB
SR 472 SB TO I-4 EB
I-4 EB TO SR 472
POND 410
POND 413
63
05
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
EXISTING TO BE REMOVED
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA), (NRCS) and St. Johns Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.15

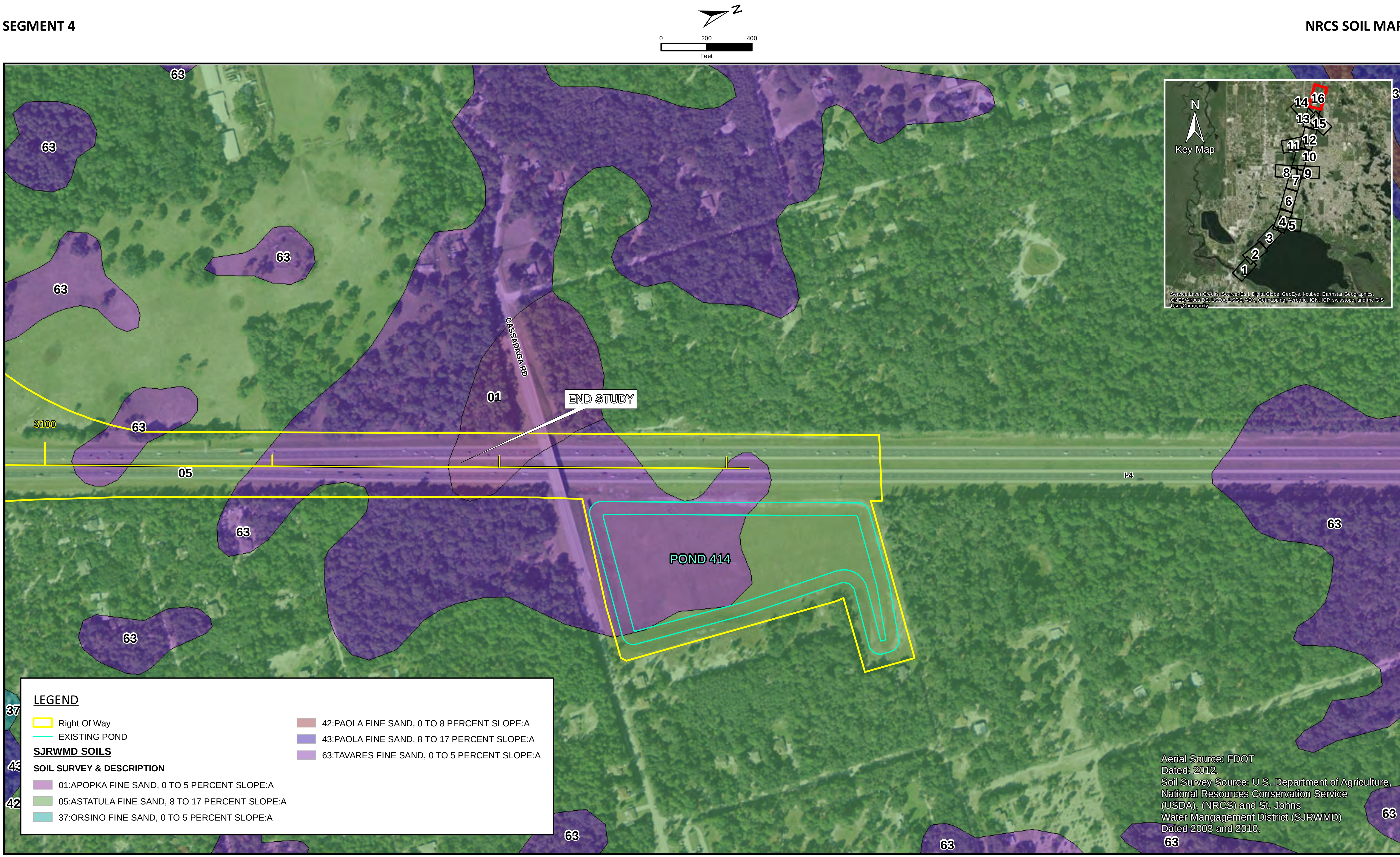
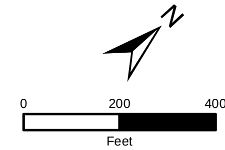

N
0
200
400
Feet
CASSADAGA RD
END STUDY
01
05
3100
63
37
43
42
I-4
POND 414
N
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
SJRWMD SOILS
SOIL SURVEY & DESCRIPTION
01:APOPKA FINE SAND, 0 TO 5 PERCENT SLOPE:A
05:ASTATULA FINE SAND, 8 TO 17 PERCENT SLOPE:A
37:ORSINO FINE SAND, 0 TO 5 PERCENT SLOPE:A
42:PAOLA FINE SAND, 0 TO 8 PERCENT SLOPE:A
43:PAOLA FINE SAND, 8 TO 17 PERCENT SLOPE:A
63:TAVARES FINE SAND, 0 TO 5 PERCENT SLOPE:A
Aerial Source: FDOT
Dated: 2012.
Soil Survey Source: U.S. Department of Agriculture,
National Resources Conservation Service
(USDA), (NRCS) and St. Johns
Water Mangagement District (SJRWMD)
Dated 2003 and 2010.

Exhibit 3.16

EXHIBIT 4
FLUCFCS MAP


N
0
200
400
Feet

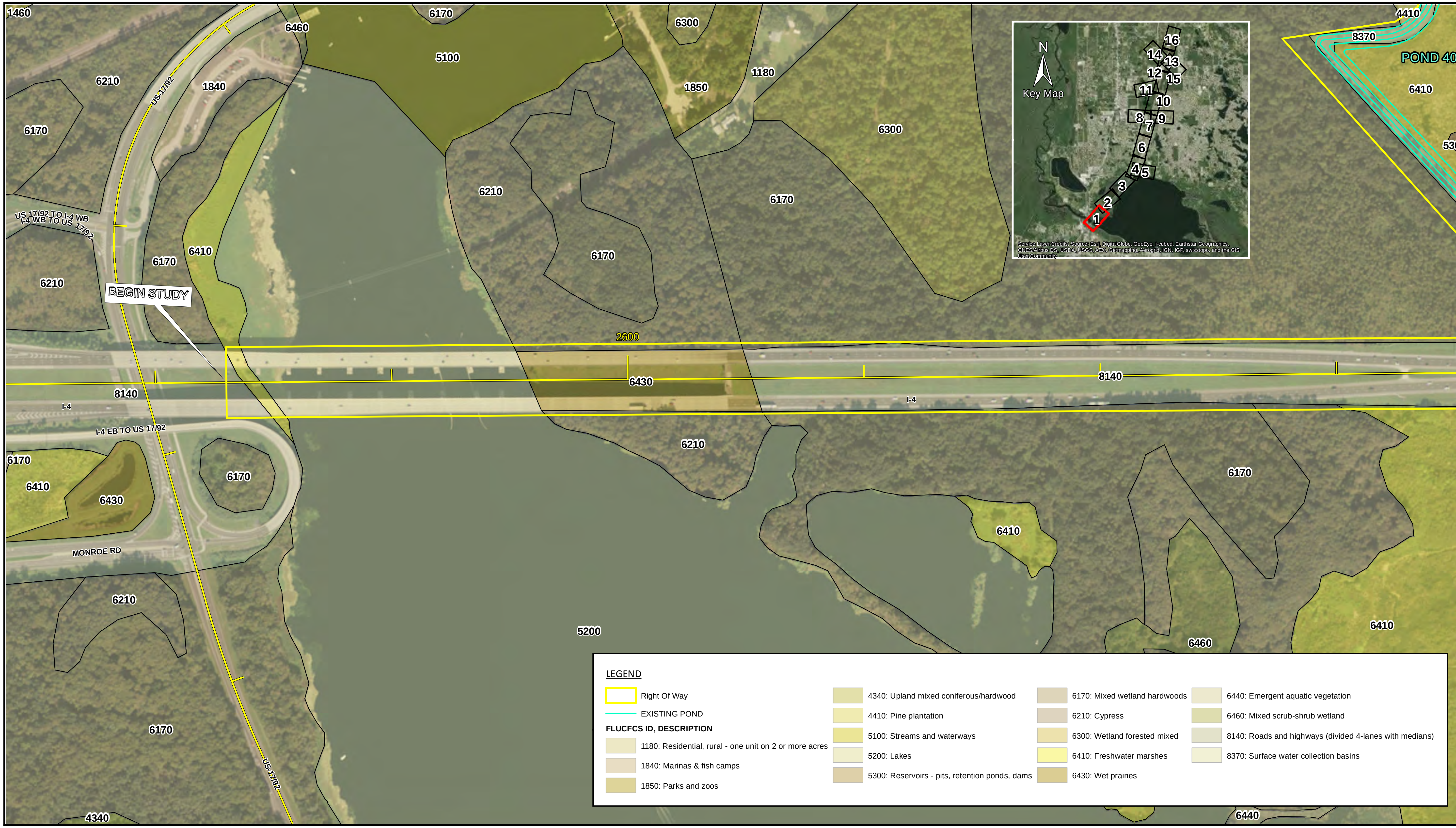

1460
6170
6460
5100
6300
1850
1180
6300
6210
1840
US-17/92
6170
US 17/92 TO I-4 WB
I-4 WB TO US 17/92
6170
6410
6210
BEGIN STUDY
6210
6170
6170
2600
6430
8140
8140
I-4
I-4
I-4 EB TO US 17/92
6210
6170
6410
6430
6170
MONROE RD
6410
6170
6210
5200
6460
6410
6170
US-17/92
4340
6440
4410
8370
POND 400
6410
5300
N
Key Map
16
14
13
12
15
11
10
8
7
9
6
4
5
3
2
1
LEGEND
Right Of Way
EXISTING POND
FLUCFCS ID, DESCRIPTION
1180: Residential, rural - one unit on 2 or more acres
1840: Marinas & fish camps
1850: Parks and zoos
4340: Upland mixed coniferous/hardwood
4410: Pine plantation
5100: Streams and waterways
5200: Lakes
5300: Reservoirs - pits, retention ponds, dams
6170: Mixed wetland hardwoods
6210: Cypress
6300: Wetland forested mixed
6410: Freshwater marshes
6430: Wet prairies
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8370: Surface water collection basins

Exhibit 4.1

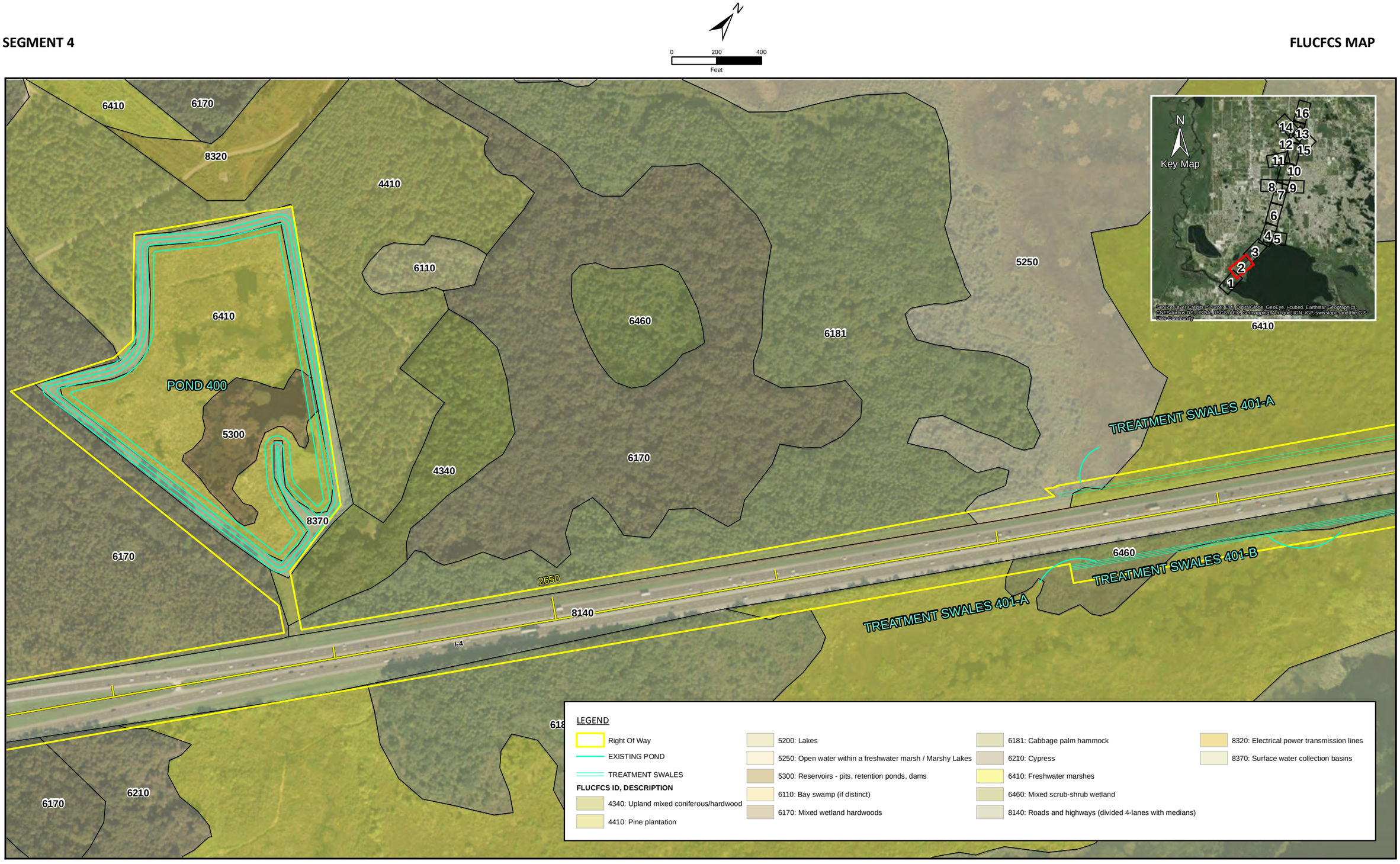

0
200
400
Feet
N
Key Map
16
14
13
12
15
11
10
8
9
7
6
4
5
3
2
1
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
6410
6170
8320
4410
6110
6460
6181
5250
6410
POND 400
5300
4340
6170
8370
6170
6210
6170
2650
8140
I-4
6460
TREATMENT SWALES 401-B
TREATMENT SWALES 401-A
TREATMENT SWALES 401-A
LEGEND
Right Of Way
EXISTING POND
TREATMENT SWALES
FLUCFCS ID, DESCRIPTION
4340: Upland mixed coniferous/hardwood
4410: Pine plantation
5200: Lakes
5250: Open water within a freshwater marsh / Marshy Lakes
5300: Reservoirs - pits, retention ponds, dams
6110: Bay swamp (if distinct)
6170: Mixed wetland hardwoods
6181: Cabbage palm hammock
6210: Cypress
6410: Freshwater marshes
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines
8370: Surface water collection basins

Exhibit 4.2

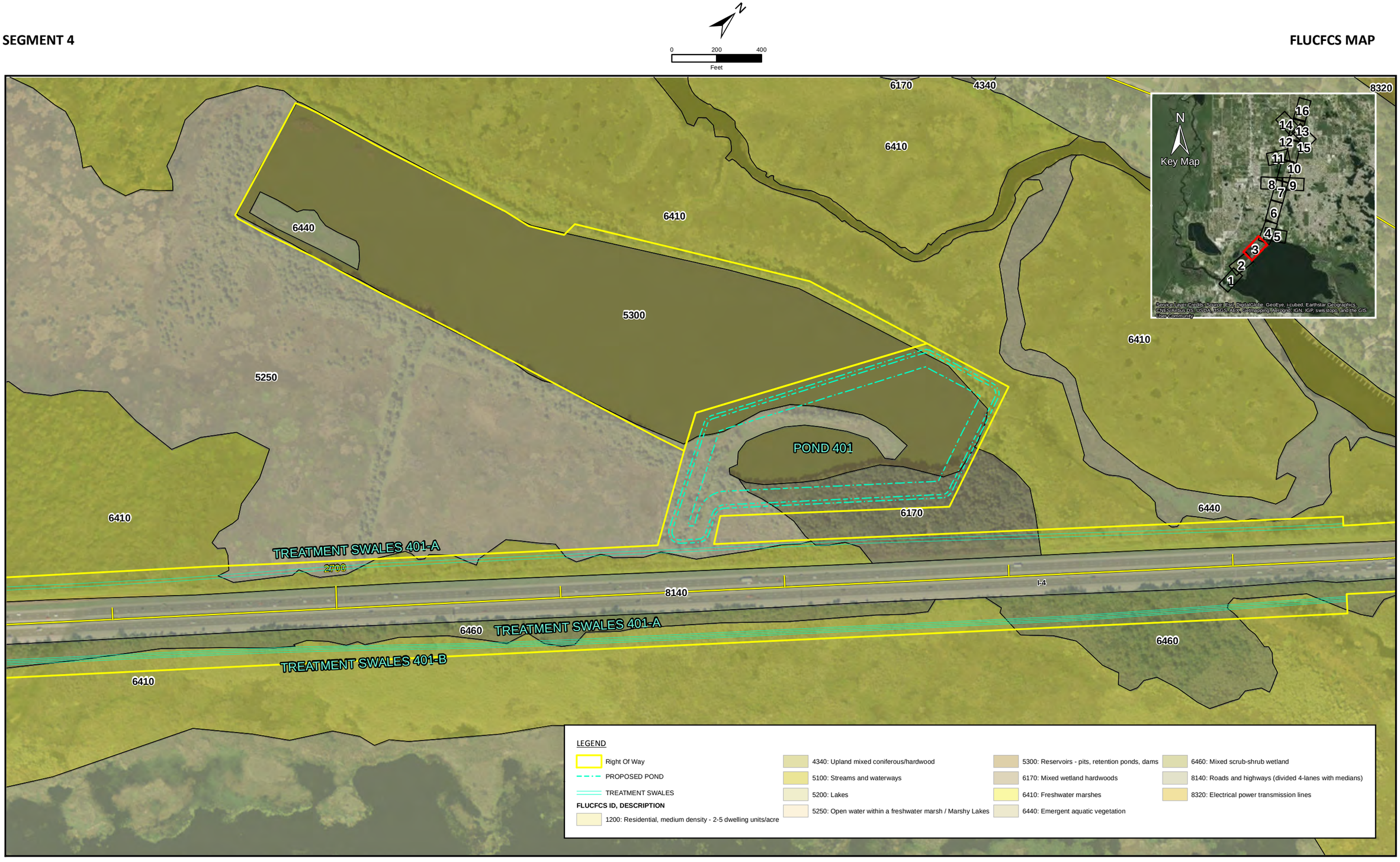

N
0
200
400
Feet
6170
4340
8320
6410
6440
6410
5300
5250
POND 401
6410
6440
6170
TREATMENT SWALES 401-A
2700
8140
I-4
6460
TREATMENT SWALES 401-A
6460
TREATMENT SWALES 401-B
6410
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
PROPOSED POND
TREATMENT SWALES
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
4340: Upland mixed coniferous/hardwood
5100: Streams and waterways
5200: Lakes
5250: Open water within a freshwater marsh / Marshy Lakes
5300: Reservoirs - pits, retention ponds, dams
6170: Mixed wetland hardwoods
6410: Freshwater marshes
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines

Exhibit 4.3

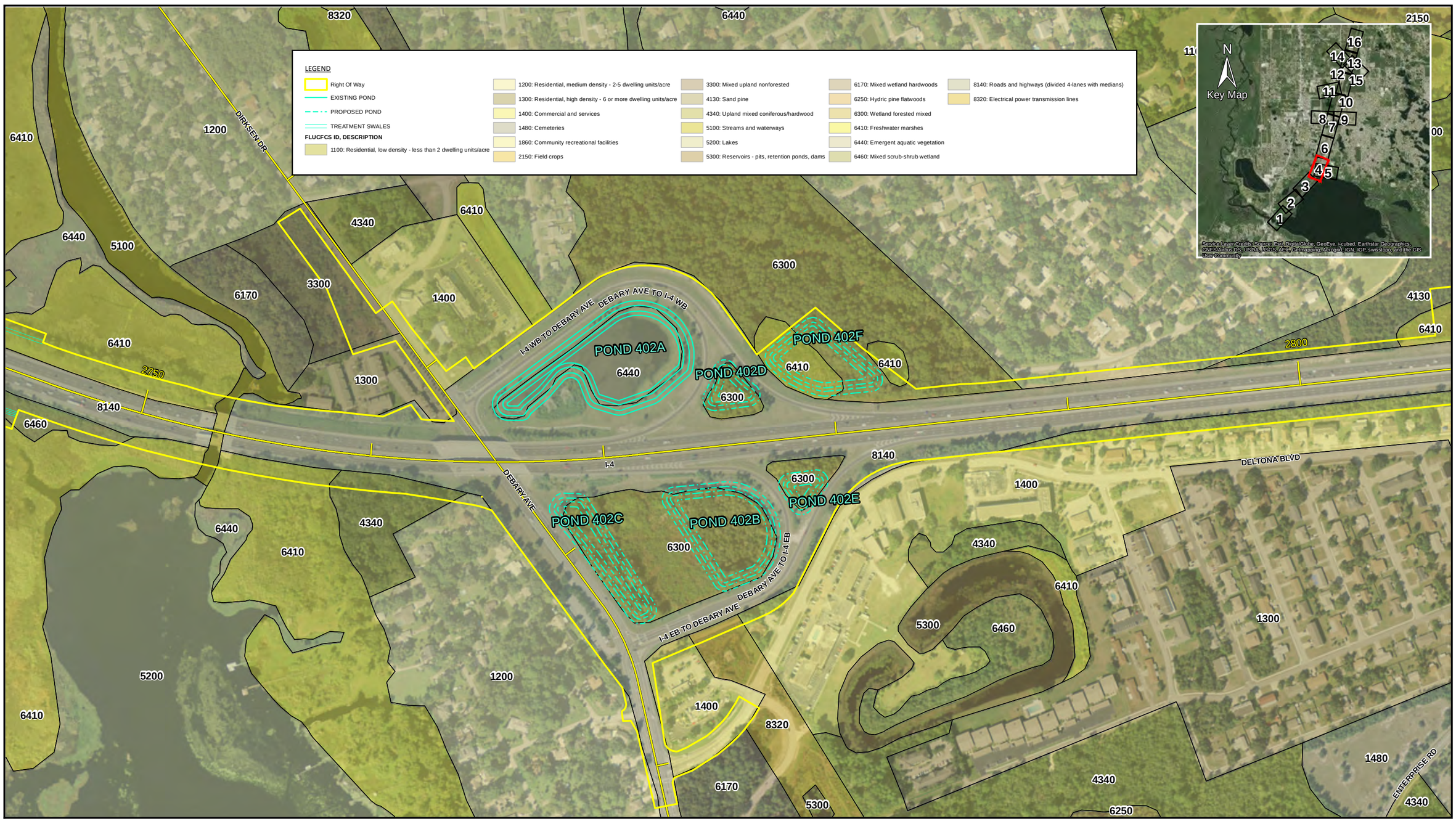

N
0
200
400
Feet
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
TREATMENT SWALES
FLUCFCS ID, DESCRIPTION
1100: Residential, low density - less than 2 dwelling units/acre
1200: Residential, medium density - 2-5 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1480: Cemeteries
1860: Community recreational facilities
2150: Field crops
3300: Mixed upland nonforested
4130: Sand pine
4340: Upland mixed coniferous/hardwood
5100: Streams and waterways
5200: Lakes
5300: Reservoirs - pits, retention ponds, dams
6170: Mixed wetland hardwoods
6250: Hydric pine flatwoods
6300: Wetland forested mixed
6410: Freshwater marshes
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines
Key Map
DIRKSEN DR
DEBARY AVE
I-4
I-4 WB TO DEBARY AVE
DEBARY AVE TO I-4 WB
I-4 EB TO DEBARY AVE
DEBARY AVE TO I-4 EB
DELTONA BLVD
ENTERPRISE RD
POND 402A
POND 402B
POND 402C
POND 402D
POND 402E
POND 402F
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Exhibit 4.4

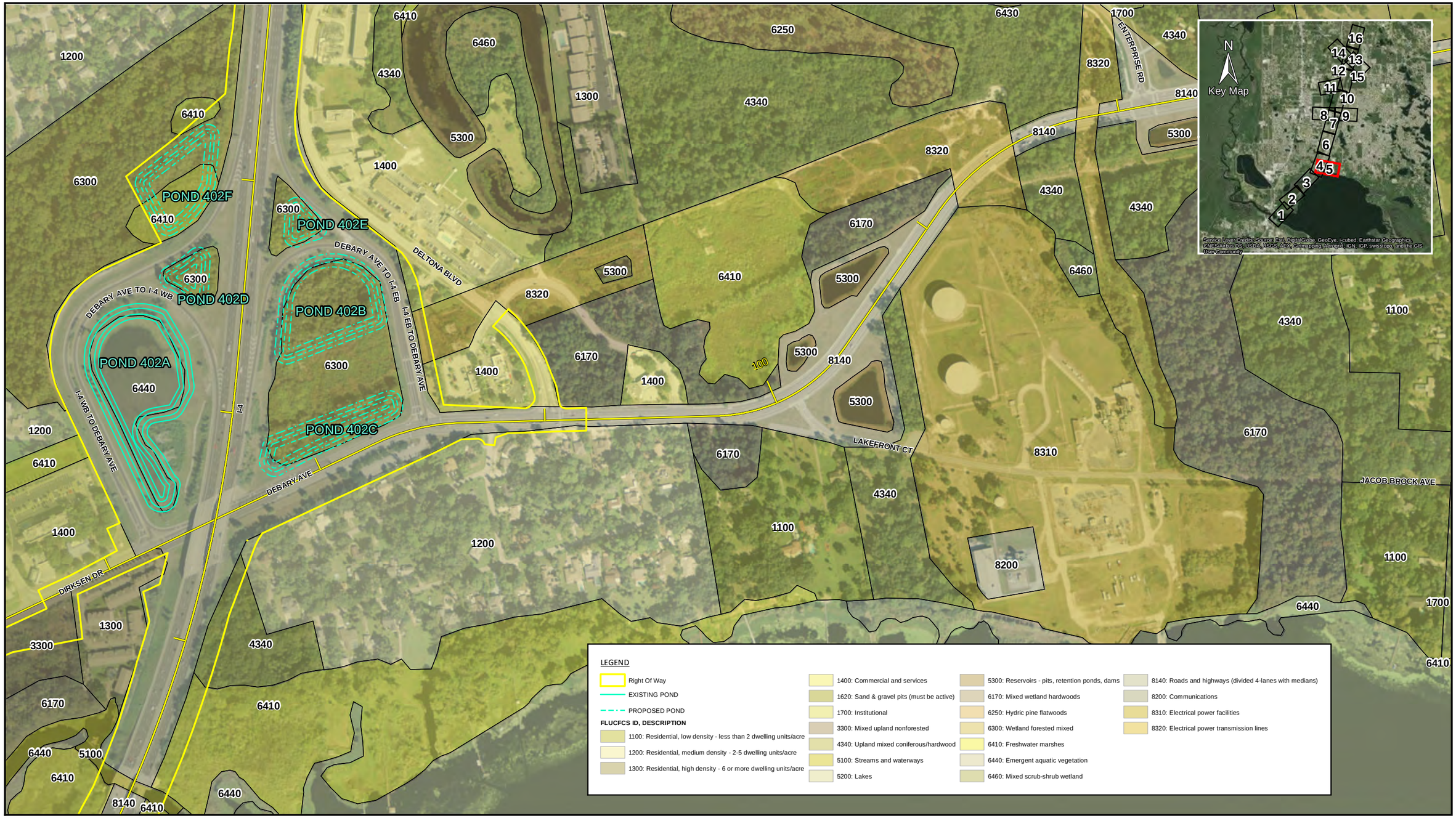

N
0 200 400
Feet
POND 402F
POND 402E
POND 402D
POND 402B
POND 402A
POND 402C
DEBARY AVE TO I-4 WB
DEBARY AVE TO I-4 EB
I-4 EB TO DEBARY AVE
I-4 WB TO DEBARY AVE
I-4
DELTONA BLVD
DEBARY AVE
DIRKSEN DR
LAKEFRONT CT
ENTERPRISE RD
JACOB BROCK AVE
Key Map
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1100: Residential, low density - less than 2 dwelling units/acre
1200: Residential, medium density - 2-5 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1620: Sand & gravel pits (must be active)
1700: Institutional
3300: Mixed upland nonforested
4340: Upland mixed coniferous/hardwood
5100: Streams and waterways
5200: Lakes
5300: Reservoirs - pits, retention ponds, dams
6170: Mixed wetland hardwoods
6250: Hydric pine flatwoods
6300: Wetland forested mixed
6410: Freshwater marshes
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8200: Communications
8310: Electrical power facilities
8320: Electrical power transmission lines

Exhibit 4.5

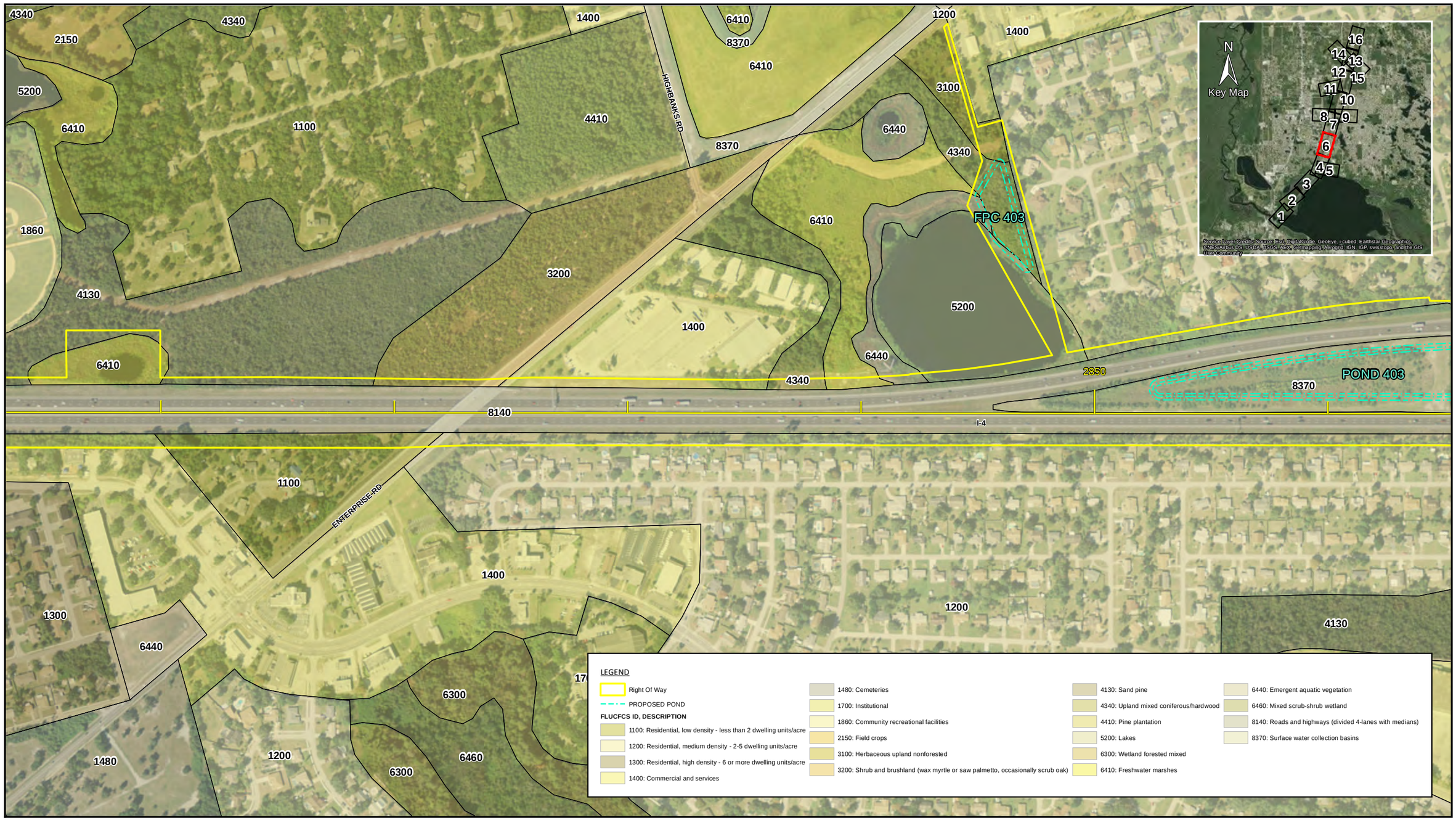

N
0
200
400
Feet
4340
2150
4340
1400
6410
8370
1200
1400
5200
6410
1100
4410
HIGHBANKS RD
6410
8370
6440
3100
4340
1860
6410
FPC 403
4130
3200
5200
1400
6410
6440
4340
2850
POND 403
8370
8140
I-4
1100
ENTERPRISE RD
1400
1300
1200
4130
6440
6300
6460
1480
1200
6300
Key Map
16
14
13
12
15
11
10
8
9
7
6
4
5
3
2
1
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1100: Residential, low density - less than 2 dwelling units/acre
1200: Residential, medium density - 2-5 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1480: Cemeteries
1700: Institutional
1860: Community recreational facilities
2150: Field crops
3100: Herbaceous upland nonforested
3200: Shrub and brushland (wax myrtle or saw palmetto, occasionally scrub oak)
4130: Sand pine
4340: Upland mixed coniferous/hardwood
4410: Pine plantation
5200: Lakes
6300: Wetland forested mixed
6410: Freshwater marshes
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8370: Surface water collection basins

Exhibit 4.6

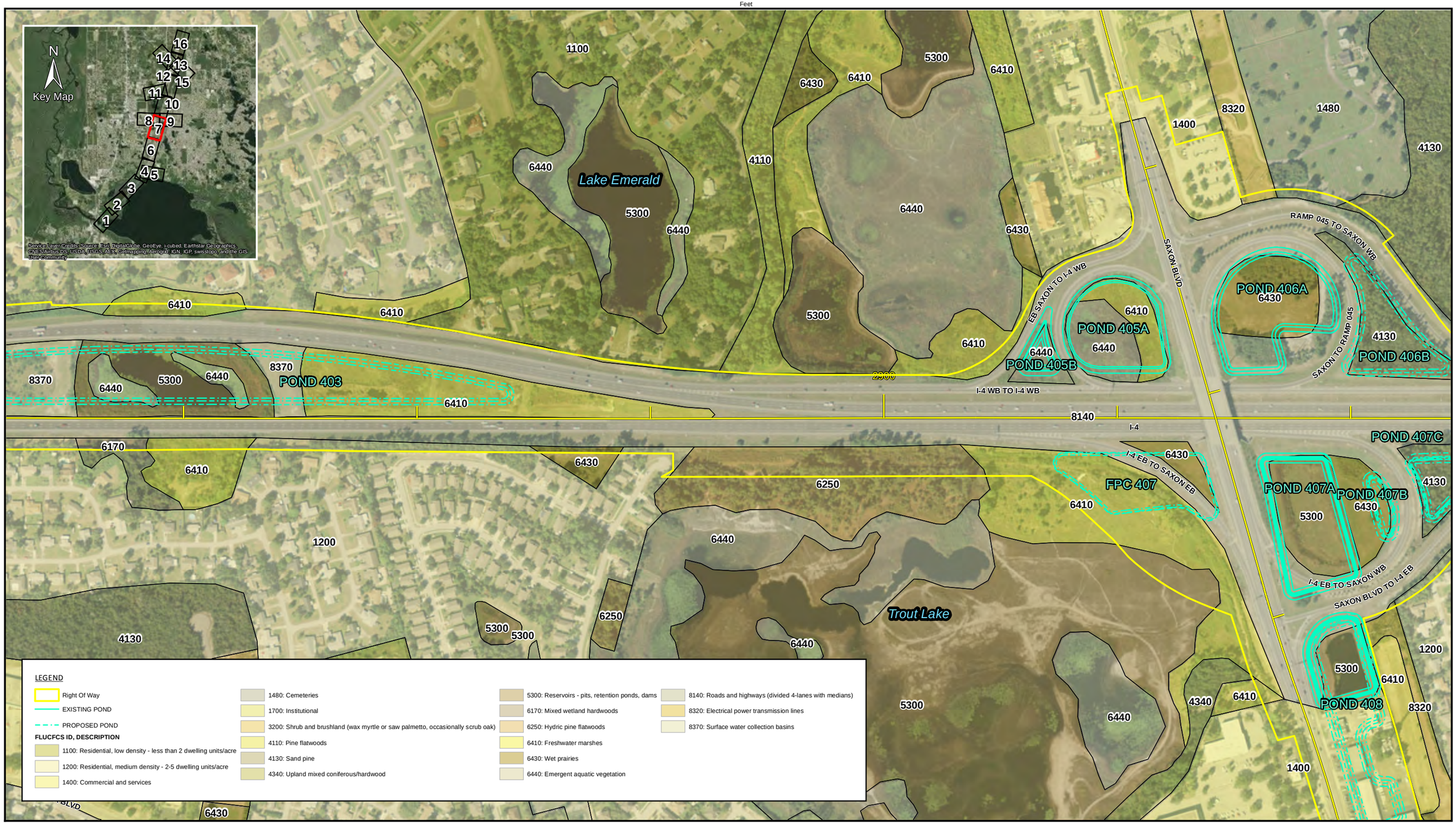

N
0
200
400
Feet
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
1100
6440
Lake Emerald
5300
6440
6410
6410
6430
6410
5300
6410
4110
6440
6430
1400
8320
1480
4130
RAMP 045 TO SAXON WB
EB SAXON TO I-4 WB
SAXON BLVD
POND 406A
6430
6410
POND 405A
6440
6440
POND 405B
SAXON TO RAMP 045
4130
POND 406B
6410
5300
6410
6410
6410
8370
6440
5300
6440
8370
POND 403
6410
I-4 WB TO I-4 WB
8140
I-4
POND 407C
6170
6410
6430
6430
I-4 EB TO SAXON EB
FPC 407
6410
POND 407A
POND 407B
6430
5300
4130
6250
1200
6440
I-4 EB TO SAXON WB
SAXON BLVD TO I-4 EB
Trout Lake
5300
5300
6250
4130
6440
1200
5300
6410
5300
4340
6410
POND 408
8320
6440
1400
6430
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1100: Residential, low density - less than 2 dwelling units/acre
1200: Residential, medium density - 2-5 dwelling units/acre
1400: Commercial and services
1480: Cemeteries
1700: Institutional
3200: Shrub and brushland (wax myrtle or saw palmetto, occasionally scrub oak)
4110: Pine flatwoods
4130: Sand pine
4340: Upland mixed coniferous/hardwood
5300: Reservoirs - pits, retention ponds, dams
6170: Mixed wetland hardwoods
6250: Hydric pine flatwoods
6410: Freshwater marshes
6430: Wet prairies
6440: Emergent aquatic vegetation
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines
8370: Surface water collection basins

Exhibit 4.7

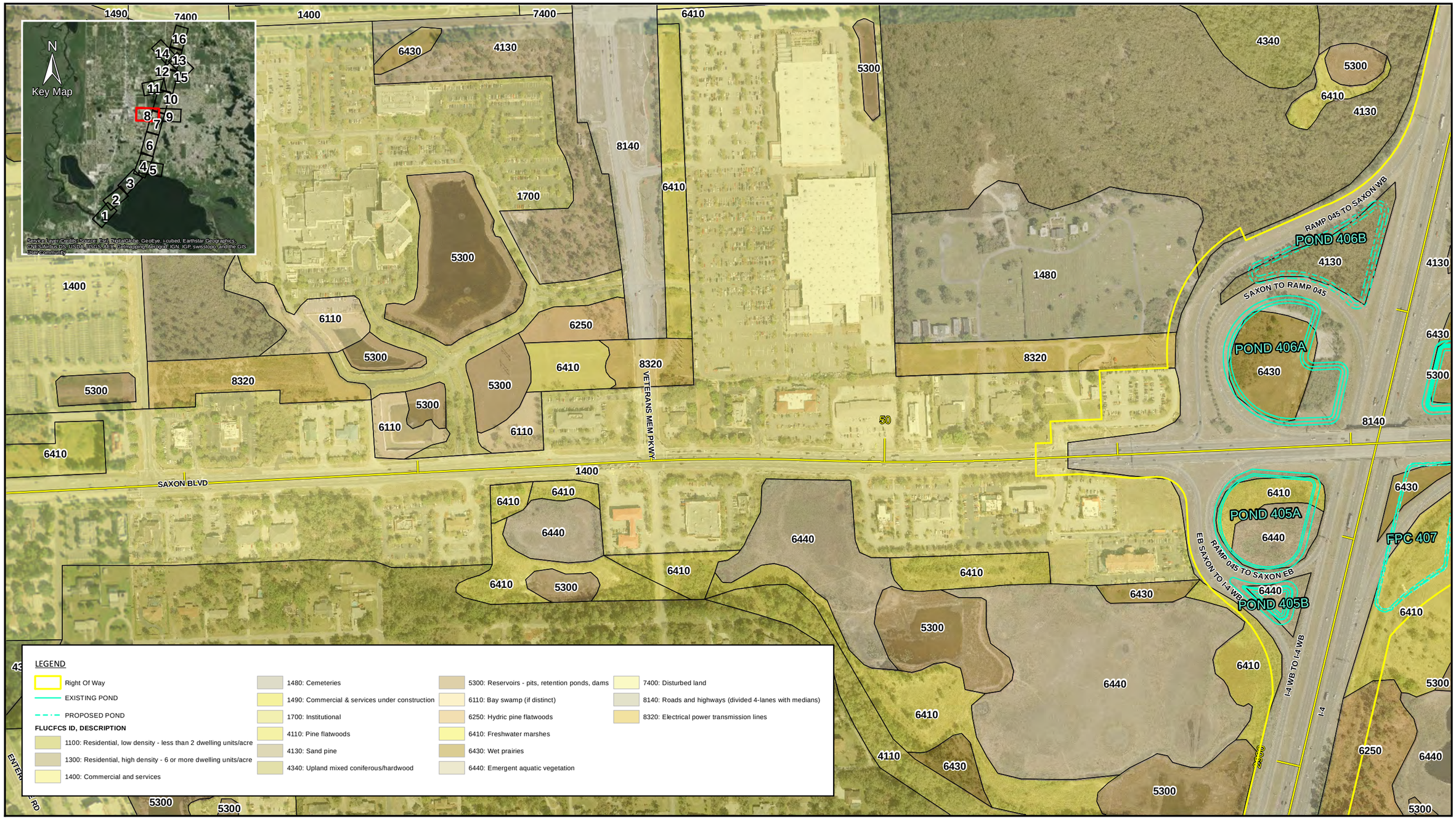

N
0 200 400
Feet
Key Map
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
SAXON BLVD
VETERANS MEM PKWY
SAXON TO RAMP 045
RAMP 045 TO SAXON WB
POND 406B
POND 406A
RAMP 045 TO SAXON EB
EB SAXON TO I-4 WB
POND 405A
POND 405B
I-4 WB TO I-4 WB
I-4
FPC 407
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1100: Residential, low density - less than 2 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1480: Cemeteries
1490: Commercial & services under construction
1700: Institutional
4110: Pine flatwoods
4130: Sand pine
4340: Upland mixed coniferous/hardwood
5300: Reservoirs - pits, retention ponds, dams
6110: Bay swamp (if distinct)
6250: Hydric pine flatwoods
6410: Freshwater marshes
6430: Wet prairies
6440: Emergent aquatic vegetation
7400: Disturbed land
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines

Exhibit 4.8

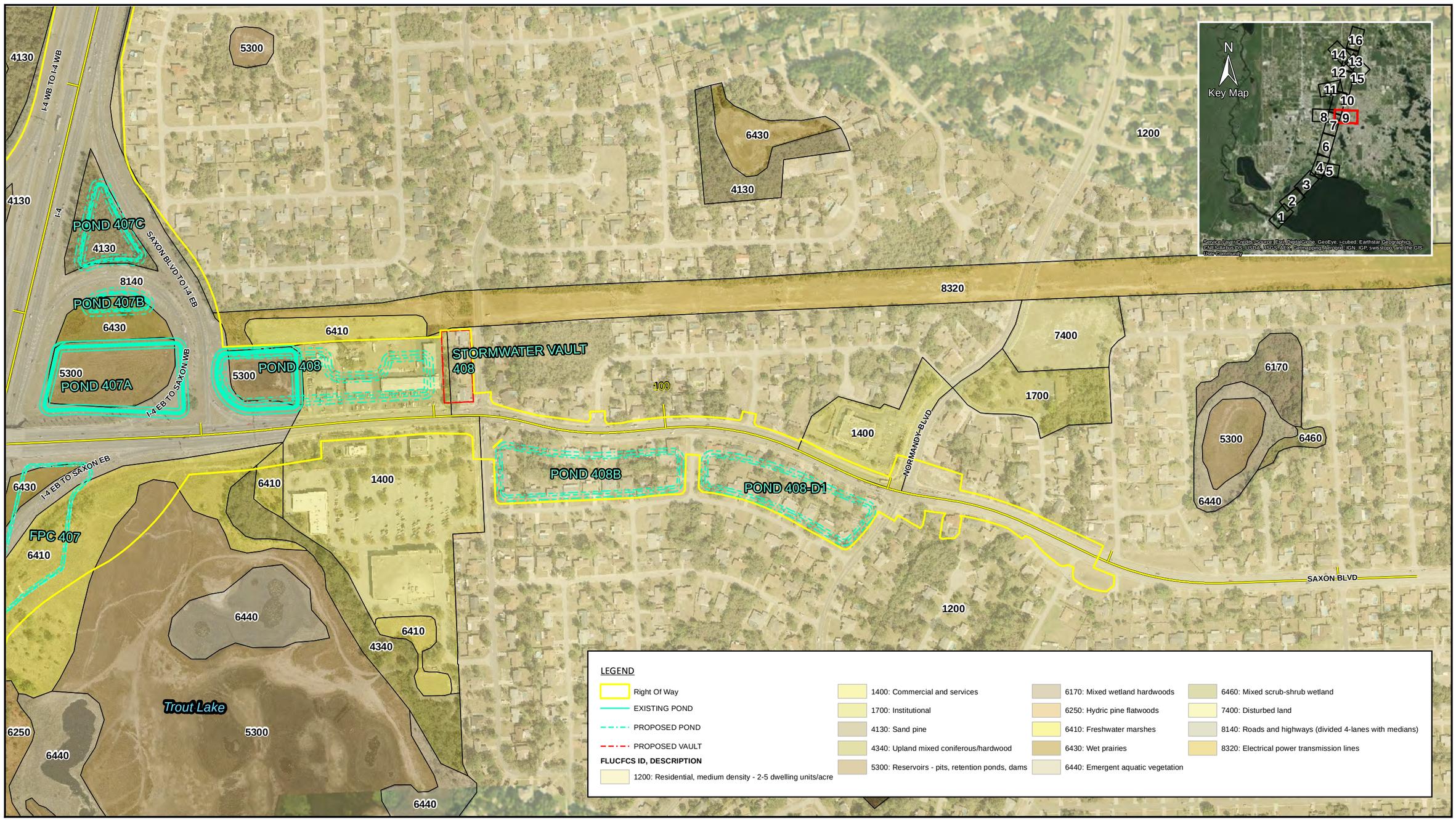

N
0
200
400
Feet
Key Map
I-4 WB TO I-4 WB
I-4
I-4 EB TO SAXON WB
SAXON BLVD TO I-4 EB
I-4 EB TO SAXON EB
NORMANDY BLVD
SAXON BLVD
POND 407C
POND 407B
POND 407A
POND 403
STORMWATER VAULT 408
POND 408B
POND 408-D1
FPC 407
Trout Lake
4130
5300
6430
8140
6410
1200
8320
7400
1700
1400
6170
6460
6440
4340
6250
100
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
PROPOSED VAULT
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
1400: Commercial and services
1700: Institutional
4130: Sand pine
4340: Upland mixed coniferous/hardwood
5300: Reservoirs - pits, retention ponds, dams
6170: Mixed wetland hardwoods
6250: Hydric pine flatwoods
6410: Freshwater marshes
6430: Wet prairies
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
7400: Disturbed land
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines

Exhibit 4.9


N
0
200
400
Feet
6410
5200
4340
1480
6440
6410
5300
4130
POND 406B
4130
I-4 WB TO I-4 WB
2950
8140
I-4
POND 407C
4130
SAXON BLVD TO I-4 EB
6430
5300
POND 409-A2
8370
POND 409-A1
3200
4130
1200
6410 8320
1400
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
1400: Commercial and services
1480: Cemeteries
3200: Shrub and brushland (wax myrtle or saw palmetto, occasionally scrub oak)
4130: Sand pine
4340: Upland mixed coniferous/hardwood
5200: Lakes
5300: Reservoirs - pits, retention ponds, dams
6410: Freshwater marshes
6440: Emergent aquatic vegetation
7400: Disturbed land
8140: Roads and highways (divided 4-lanes with medians)
8320: Electrical power transmission lines
8370: Surface water collection basins

Exhibit 4.10


N
0 200 400
Feet
NOTE:
RHODE ISLAND IMPROVEMENTS
RHODE ISLAND AVE
VETERANS MEM PKWY
I-4
POND A
FPC A
POND B
POND B1
POND 409-B1
Key Map
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
1290: Medium density under construction
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1700: Institutional
1820: Golf courses
1860: Community recreational facilities
3200: Shrub and brushland (wax myrtle or saw palmetto, occasionally scrub oak)
3300: Mixed upland nonforested
4130: Sand pine
4210: Xeric oak
4340: Upland mixed coniferous/hardwood
5200: Lakes
5300: Reservoirs - pits, retention ponds, dams
6250: Hydric pine flatwoods
6410: Freshwater marshes
6430: Wet prairies
6440: Emergent aquatic vegetation
6460: Mixed scrub-shrub wetland
8140: Roads and highways (divided 4-lanes with medians)
8330: Water supply plants
8340: Sewage treatment
8370: Surface water collection basins

Exhibit 4.11


N
0
200
400
Feet
3200
4130
POND B
3300
1820
1300
4340
2430
5200
4340
POND 409-B1
4340
1820
1300
4130
POND B1
1400
4340
1820
3009
8140
I-4
8330
POND C
NOTE:
RHODE ISLAND IMPROVEMENTS
8370
POND D
4130
1200
NORMANDY BLVD
N
Key Map
16
14
13
12
15
11
10
8
9
7
6
4
5
3
2
1
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1820: Golf courses
2430: Ornamentals
3200: Shrub and brushland (wax myrtle or saw palmetto, occasionally scrub oak)
3300: Mixed upland nonforested
4130: Sand pine
4340: Upland mixed coniferous/hardwood
5200: Lakes
7410: Rural land in transition without positive indicators of intended activity
8140: Roads and highways (divided 4-lanes with medians)
8330: Water supply plants
8370: Surface water collection basins

Exhibit 4.12

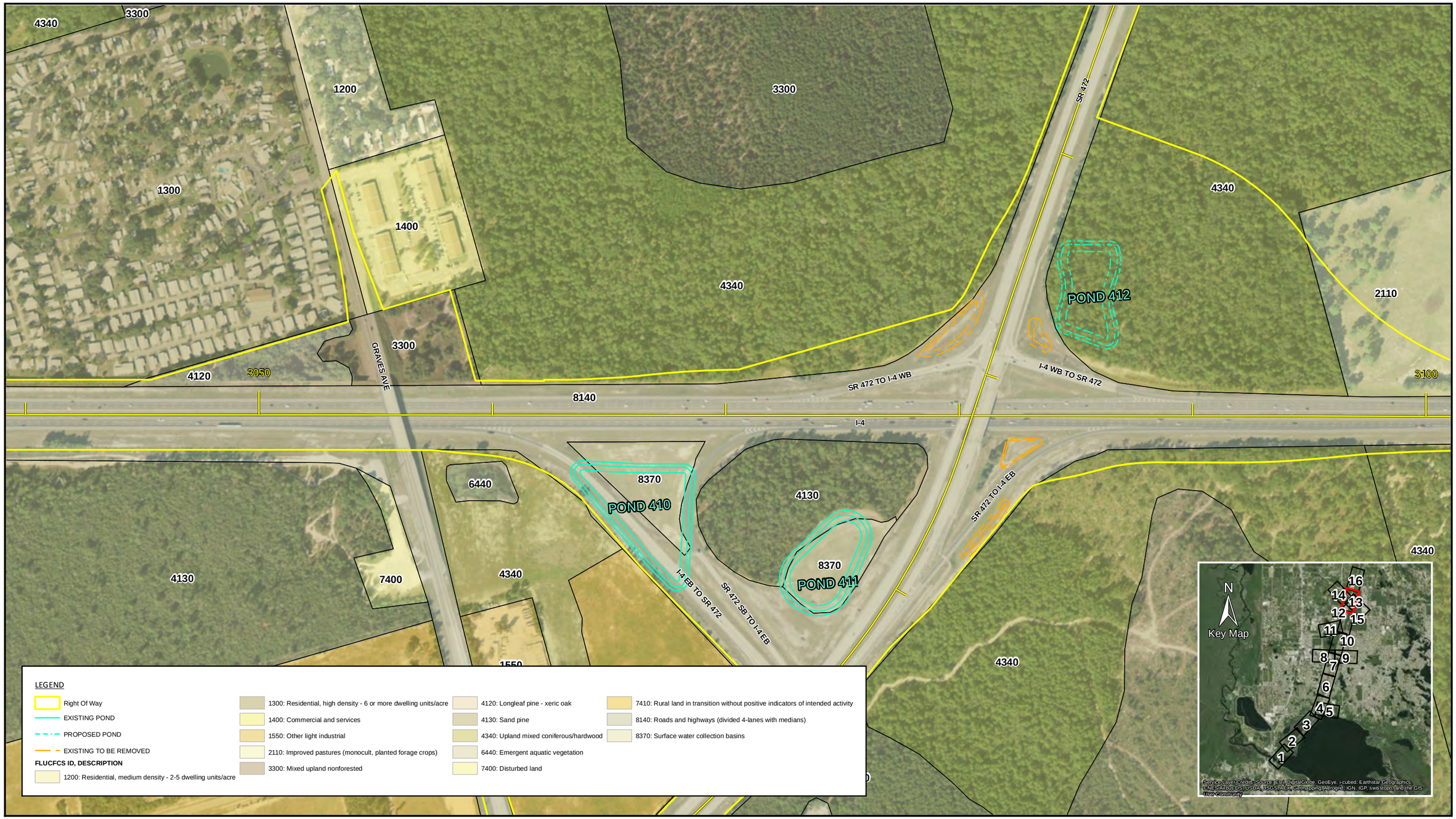

N
0
200
400
Feet
4340
3300
1200
1300
1400
4340
3300
SR 472
4340
POND 412
2110
3100
4120
3050
GRAVES AVE
3300
SR 472 TO I-4 WB
I-4 WB TO SR 472
8140
I-4
6440
8370
POND 410
4130
SR 472 TO I-4 EB
4340
4130
7400
4340
I-4 EB TO SR 472
SR 472 SB TO I-4 EB
8370
POND 411
4340
1550
4340
Key Map
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
1550: Other light industrial
2110: Improved pastures (monocult, planted forage crops)
3300: Mixed upland nonforested
4120: Longleaf pine - xeric oak
4130: Sand pine
4340: Upland mixed coniferous/hardwood
6440: Emergent aquatic vegetation
7400: Disturbed land
7410: Rural land in transition without positive indicators of intended activity
8140: Roads and highways (divided 4-lanes with medians)
8370: Surface water collection basins
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Exhibit 4.13

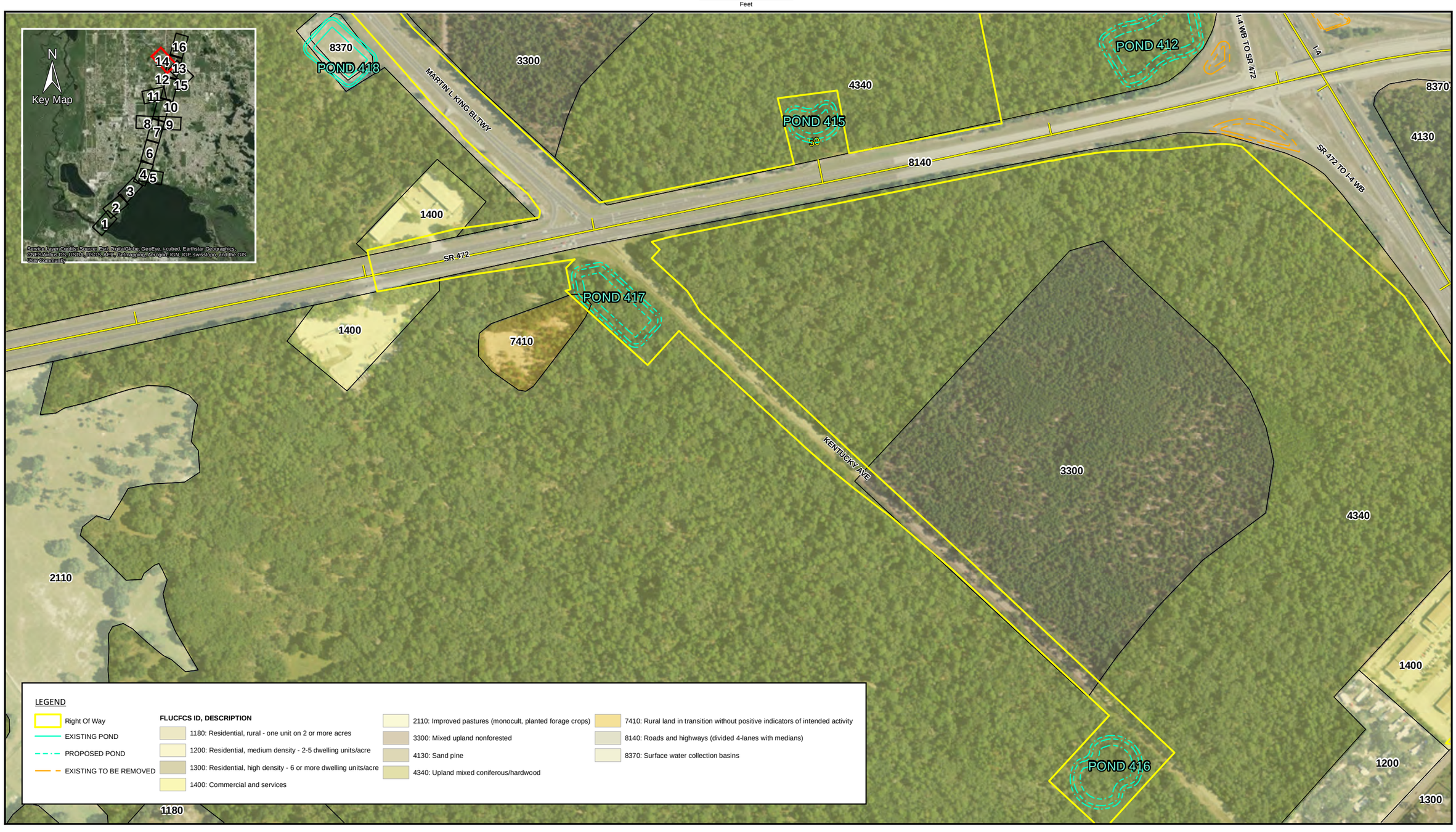

N
0
200
400
Feet
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
POND 418
8370
3300
MARTIN L KING BLTWY
4340
POND 415
50
POND 412
I-4 WB TO SR 472
I-4
8370
4130
8140
SR 472 TO I-4 WB
1400
SR 472
POND 417
1400
7410
3300
KENTUCKY AVE
4340
2110
1400
POND 416
1200
1300
1180
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
FLUCFCS ID, DESCRIPTION
1180: Residential, rural - one unit on 2 or more acres
1200: Residential, medium density - 2-5 dwelling units/acre
1300: Residential, high density - 6 or more dwelling units/acre
1400: Commercial and services
2110: Improved pastures (monocult, planted forage crops)
3300: Mixed upland nonforested
4130: Sand pine
4340: Upland mixed coniferous/hardwood
7410: Rural land in transition without positive indicators of intended activity
8140: Roads and highways (divided 4-lanes with medians)
8370: Surface water collection basins

Exhibit 4.14

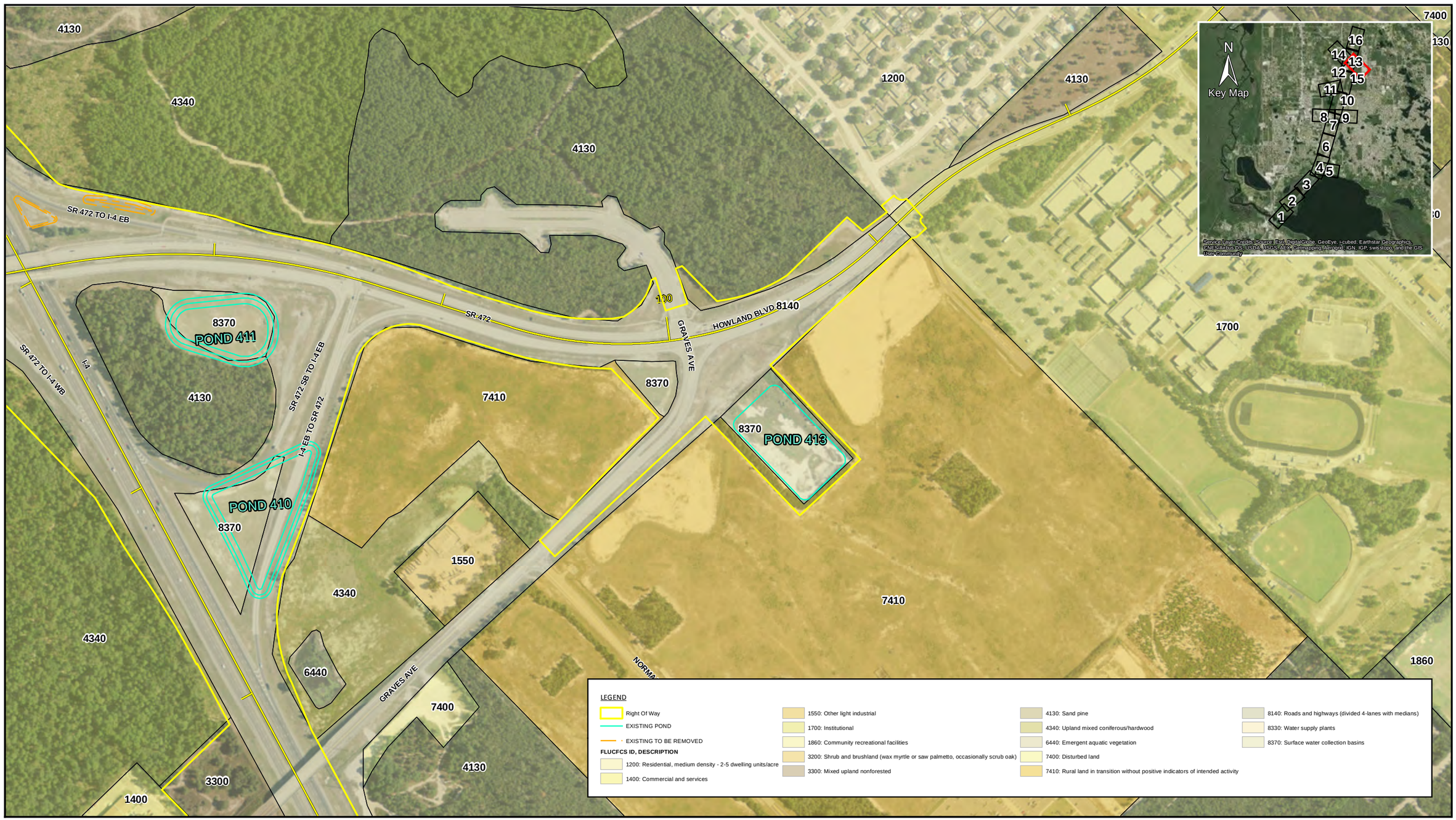

N
0
200
400
Feet
4130
4340
4130
1200
4130
7400
SR 472 TO I-4 EB
SR 472
HOWLAND BLVD
8140
GRAVES AVE
8370
POND 411
4130
SR 472 TO I-4 WB
I-4
SR 472 SB TO I-4 EB
I-4 EB TO SR 472
7410
8370
8370
POND 413
1700
8370
POND 410
1550
4340
4340
6440
GRAVES AVE
7400
4130
7410
3300
1400
1860
Key Map
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
LEGEND
Right Of Way
EXISTING POND
EXISTING TO BE REMOVED
FLUCFCS ID, DESCRIPTION
1200: Residential, medium density - 2-5 dwelling units/acre
1400: Commercial and services
1550: Other light industrial
1700: Institutional
1860: Community recreational facilities
3200: Shrub and brushland (wax myrtle or saw palmetto, occasionally scrub oak)
3300: Mixed upland nonforested
4130: Sand pine
4340: Upland mixed coniferous/hardwood
6440: Emergent aquatic vegetation
7400: Disturbed land
7410: Rural land in transition without positive indicators of intended activity
8140: Roads and highways (divided 4-lanes with medians)
8330: Water supply plants
8370: Surface water collection basins

Exhibit 4.15


N
0
200
400
Feet
Key Map
16
14
13
12
15
11
10
8
9
7
6
4
5
3
2
1
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
4340
2320
2320
4340
4340
4340
1100
1100
2110
2110
4340
CASSADAGA RD
4340
2130
2130
END STUDY
3100
88140
I-4
POND 414
6410
4340
6410
4340
4340
3100
3100
4340
4340
4340
4340
4340
4340
1200
1100
2210
LEGEND
Right Of Way
EXISTING POND
FLUCFCS ID, DESCRIPTION
1100: Residential, low density - less than 2 dwelling units/acre
1200: Residential, medium density - 2-5 dwelling units/acre
2110: Improved pastures (monocult, planted forage crops)
2130: Woodland pastures
2210: Citrus groves
2320: Poultry feeding operations
3100: Herbaceous upland nonforested
4130: Sand pine
4340: Upland mixed coniferous/hardwood
6410: Freshwater marshes
8140: Roads and highways (divided 4-lanes with medians)

Exhibit 4.16

EXHIBIT 5
SURFACE WATER AND WETLAND MAP


N
0
200
400
Feet
St. Johns River
(Canaveral Marshes to Wekiva)
Lake Monroe
US-17/92
US 17/92
TO I-4 WB
I-4 WB TO
US 17/92
BEGIN STUDY
WL-1(W)
SW-1(W)
SW-1(E)
WL-2(W)
WL-3(W)
WL-1(E)
I-4
I-4 EB TO US 17/92
MONROE RD
US-17/92
2575
2580
2585
2590
2595
2600
2605
2610
2615
2620
2625
2630
2635
POND 400
SW-1A(W)
Key Map
St. Johns River
(Wekiva to Welaka)
St. Johns River
(Canaveral Marshes
to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
LEGEND
EXISTING POND
Right Of Way
SURFACE WATER LINE
WETLAND LINE
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.1

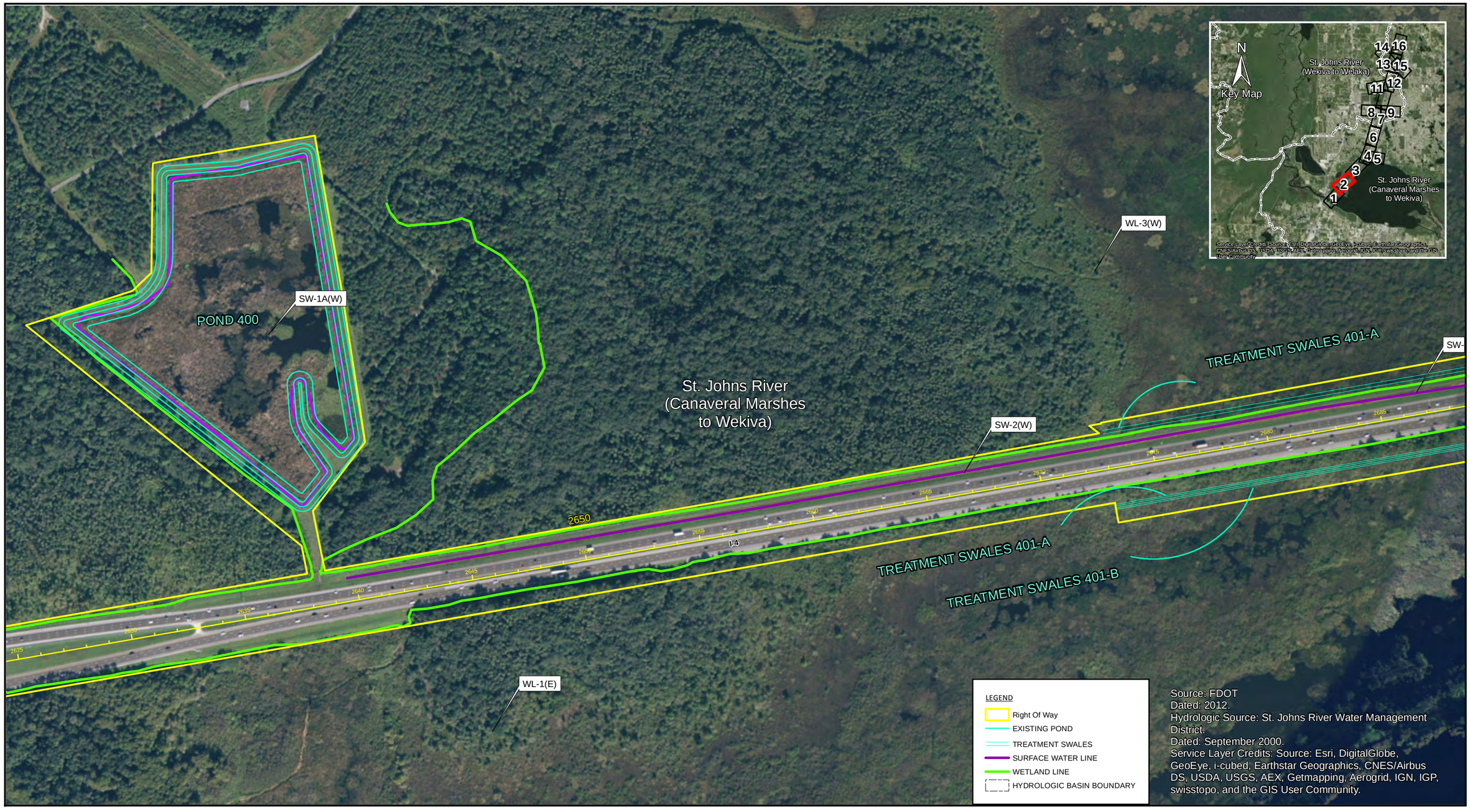

0
200
400
Feet
N
Key Map
St. Johns River
(Wekiva to Welaka)
St. Johns River
(Canaveral Marshes
to Wekiva)
1
2
3
4 5
6
7
8 9
11
12
13 15
14 16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
POND 400
SW-1A(W)
WL-3(W)
St. Johns River
(Canaveral Marshes
to Wekiva)
TREATMENT SWALES 401-A
SW-2(W)
2650
2655
2660
2665
2670
2675
2680
2685
2645
2640
2635
2630
2625
TREATMENT SWALES 401-A
TREATMENT SWALES 401-B
WL-1(E)
LEGEND
Right Of Way
EXISTING POND
TREATMENT SWALES
SURFACE WATER LINE
WETLAND LINE
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.2

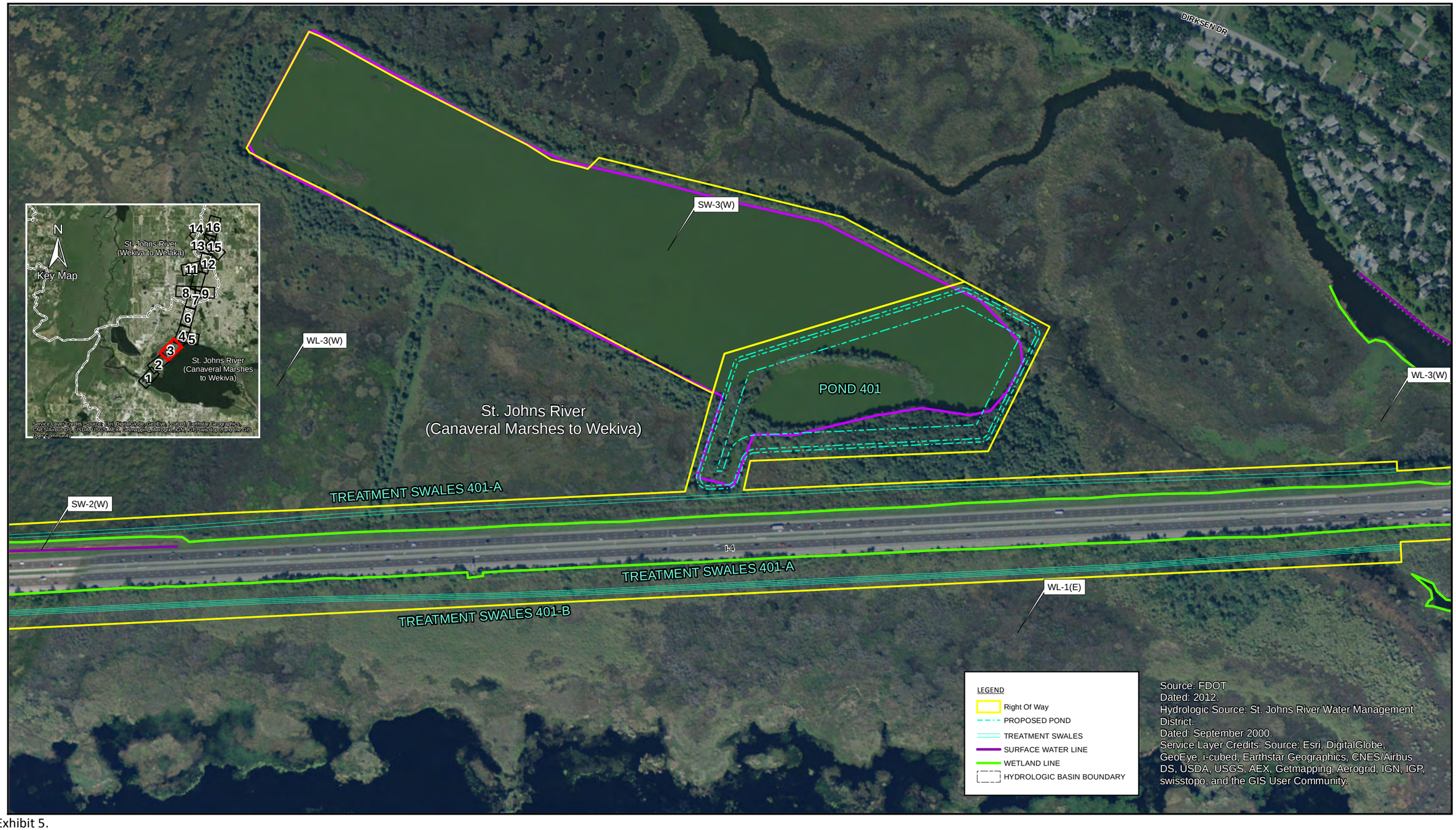

N
0
200
400
Feet
DIRKSEN DR
SW-3(W)
WL-3(W)
POND 401
St. Johns River
(Canaveral Marshes to Wekiva)
WL-3(W)
TREATMENT SWALES 401-A
SW-2(W)
I-4
TREATMENT SWALES 401-A
WL-1(E)
TREATMENT SWALES 401-B
Key Map
St. Johns River
(Wekiva to Welaka)
St. Johns River
(Canaveral Marshes
to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
PROPOSED POND
TREATMENT SWALES
SURFACE WATER LINE
WETLAND LINE
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.

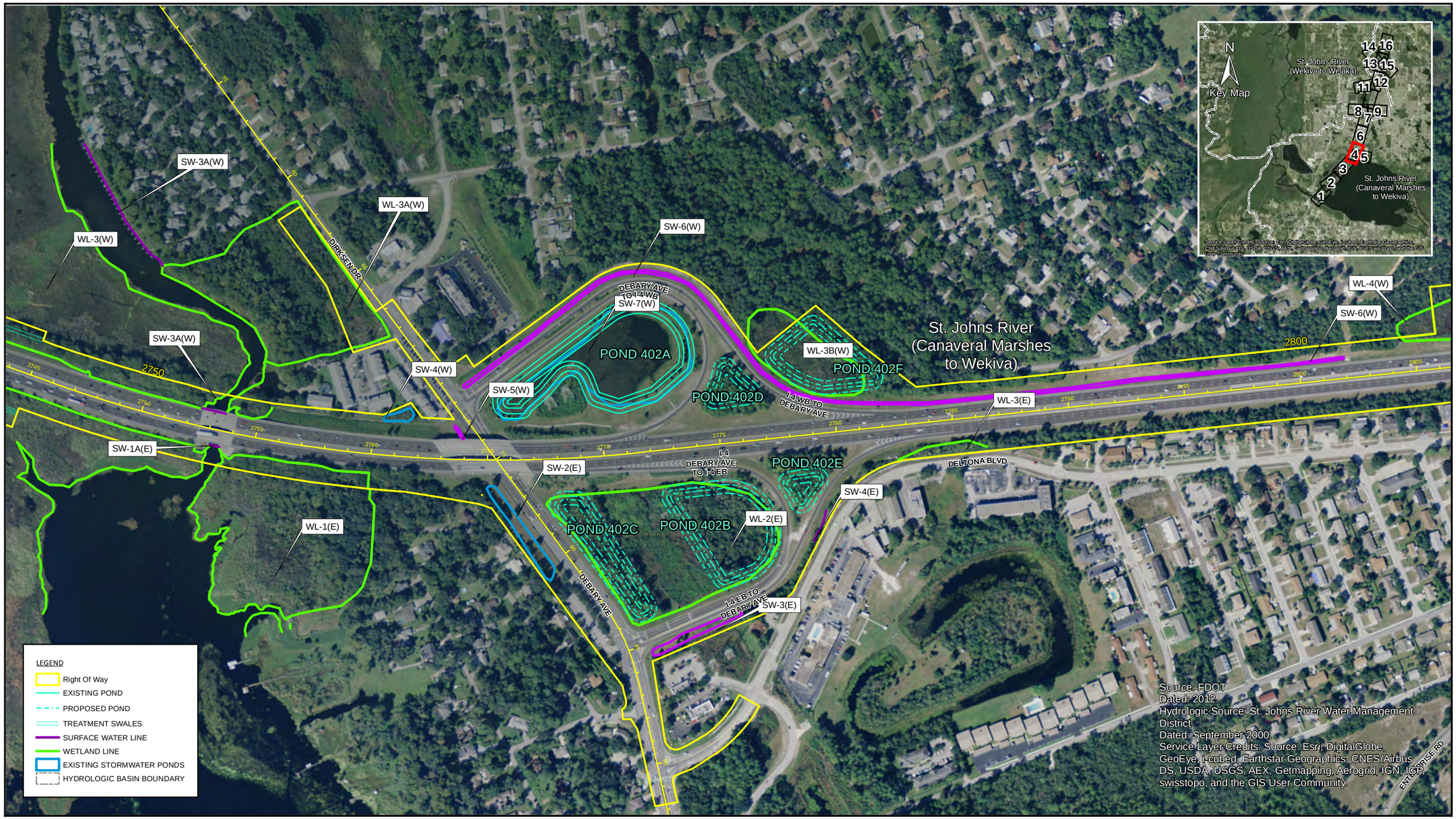

N
0
200
400
Feet
Key Map
St. Johns River (Wekiva to Wekaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
SW-3A(W)
WL-3(W)
WL-3A(W)
SW-6(W)
DEBARY AVE TO I-4 WB
SW-7(W)
POND 402A
SW-4(W)
SW-5(W)
POND 402D
I-4 WB TO DEBARY AVE
WL-3B(W)
POND 402F
St. Johns River (Canaveral Marshes to Wekiva)
WL-4(W)
SW-6(W)
WL-3(E)
SW-1A(E)
SW-2(E)
I-4 DEBARY AVE TO I-4 EB
POND 402E
DELTONA BLVD
SW-4(E)
WL-1(E)
POND 402C
POND 402B
WL-2(E)
DEBARY AVE
I-4 EB TO DEBARY AVE
SW-3(E)
ENTERPRISE RD
DIRKSEN DR
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
TREATMENT SWALES
SURFACE WATER LINE
WETLAND LINE
EXISTING STORMWATER PONDS
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.4

N

0 200 400

Feet

WL-3(E)

WL-3B(W)

POND 402F

POND 402E

SW-4(E)

DELTONA BLVD

I-4 EB TO DEBARY AVE

DEBARY AVE TO I-4 EB

I-4 WB TO DEBARY AVE

DEBARY AVE TO I-4 WB

POND 402D

WL-2(E)

SW-3(E)

SW-6(W)

POND 402B

POND 402A

SW-7(W)

POND 402C

DEBARY AVE

ENTERPRISE RD

LAKEFRONT CT

JACOB BROCK AVE

SW-2(E)

SW-5(W)

WL-3A(W)

ORKSEN DR

SW-4(W)

I-4

WL-1(E)

St. Johns River
(Canaveral Marshes to Wekiva)

LEGEND

- Right Of Way
- EXISTING POND
- PROPOSED POND
- SURFACE WATER LINE
- WETLAND LINE
- HYDROLOGIC BASIN BOUNDARY

Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.5

N

0 200 400

Feet

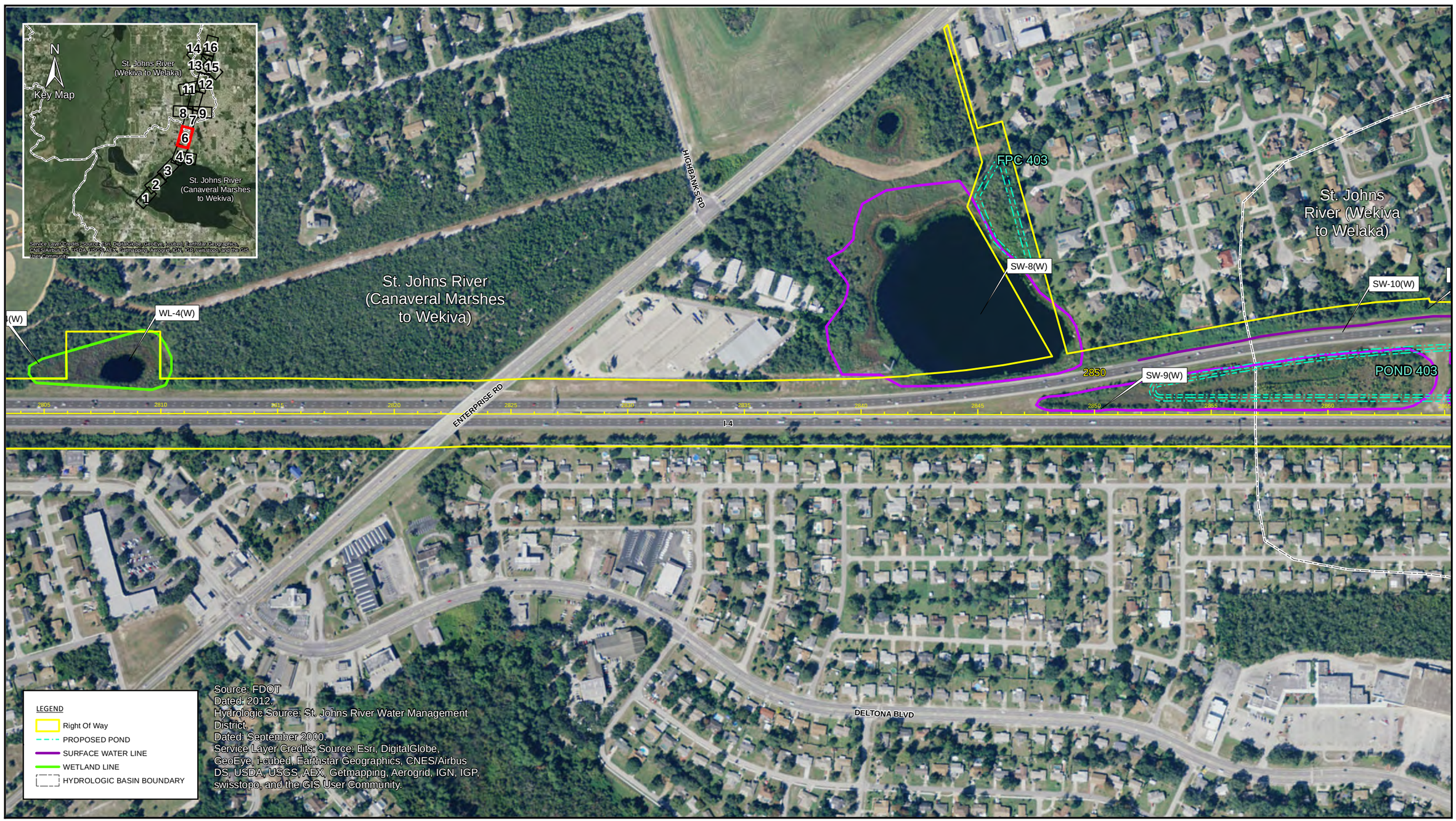


Exhibit 5.6

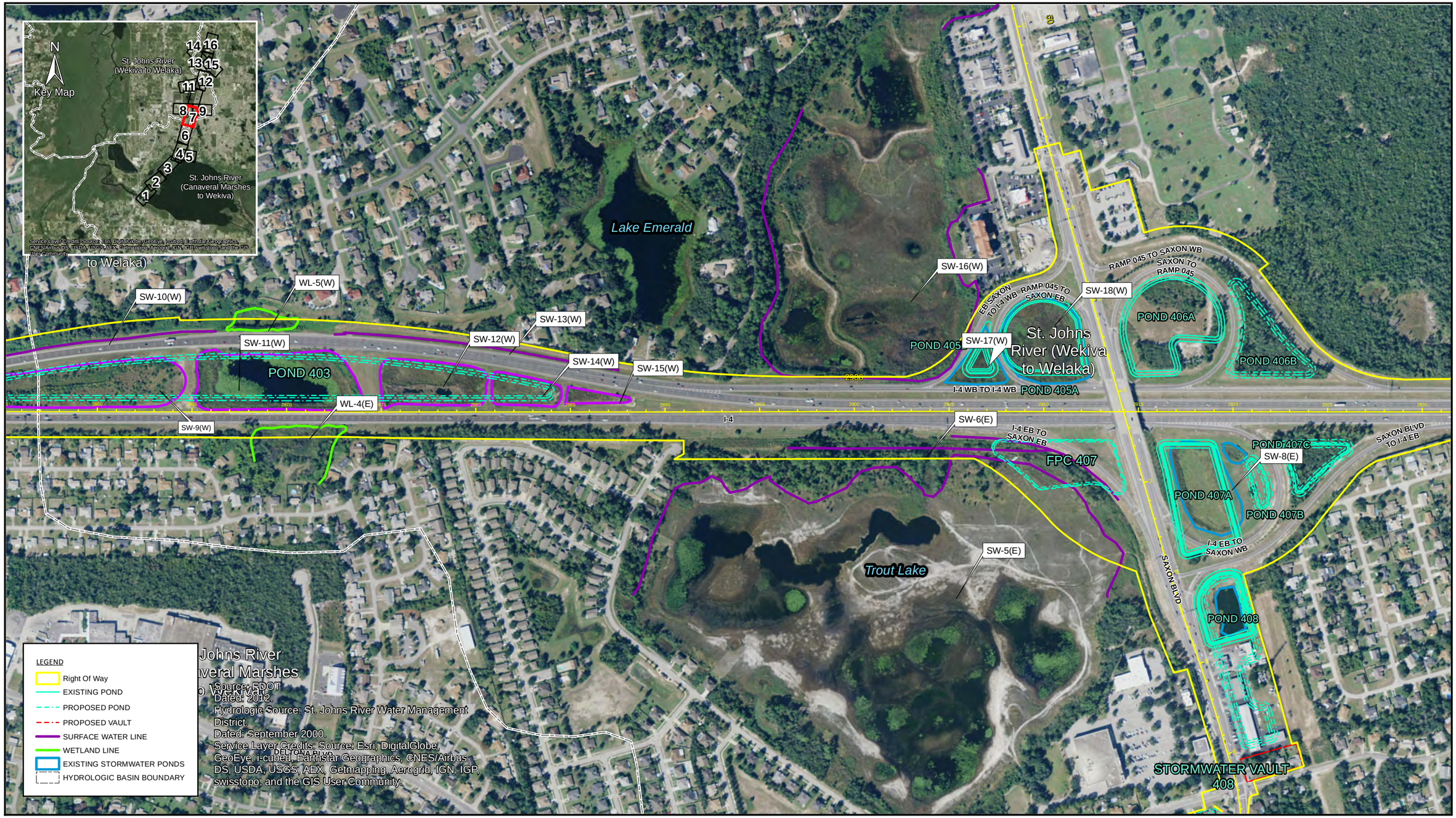

N
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
to Welaka)
Lake Emerald
WL-5(W)
SW-10(W)
SW-11(W)
SW-12(W)
SW-13(W)
SW-14(W)
SW-15(W)
SW-16(W)
SW-17(W)
SW-18(W)
POND 403
POND 405
POND 405A
POND 406A
POND 406B
St. Johns River (Wekiva to Welaka)
RAMP 045 TO SAXON WB
SAXON TO RAMP 045
EB SAXON TO I-4 WB
RAMP 045 TO SAXON EB
I-4 WB TO I-4 WB
I-4
WL-4(E)
SW-9(W)
SW-6(E)
I-4 EB TO SAXON EB
FPC 407
POND 407C
SW-8(E)
POND 407A
POND 407B
SAXON BLVD TO I-4 EB
I-4 EB TO SAXON WB
SAXON BLVD
SW-5(E)
Trout Lake
POND 408
STORMWATER VAULT 408
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
PROPOSED VAULT
SURFACE WATER LINE
WETLAND LINE
EXISTING STORMWATER PONDS
HYDROLOGIC BASIN BOUNDARY
Johns River
veral Marshes
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.
0
200
400
Feet

Exhibit 5.7

N

0 200 400

Feet

Exhibit 5.8


N
0
200
400
Feet
I-4 WB TO I-4 WB
I-4
POND 407C
I-4 EB TO SAXON WB
SW-10(E)
POND 407B
SW-8(E)
POND 407A
SW-9(E)
SAXON BLVD TO I-4 EB
POND 408
STORMWATER VAULT 408
St. Johns River (Wekiva to Welaka)
100
SAXON BLVD
POND 408B
POND 408-D1
I-4 EB TO SAXON EB
FPC 407
SW-5(E)
Trout Lake
NORMANDY BLVD
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
PROPOSED VAULT
SURFACE WATER LINE
EXISTING STORMWATER PONDS
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Exhibit 5.9


N
Key Map
St. Johns River
(Wekiva to Welaka)
St. Johns River
(Canaveral Marshes
to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
St. Johns River
(Wekiva to Welaka)
POND 406B
RAMP 045 TO
SAXON WB
I-4 WB TO I-4 WB
2950
I-10(E)
2925
2930
2935
2940
2945
2950
2955
2960
2965
2970
2975
2980
I-4
SAXON BLVD
TO I-4 EB
POND 407C
POND 407B
I-4 EB TO
SAXON WB
POND 409-A2
POND 409-A1
NORMANDY
BLVD
0
200
400
Feet
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management
District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe,
GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus
DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,
swisstopo, and the GIS User Community.

Exhibit 5.10

N

0 200 400

Feet

NOTE:
IMPACT AREAS ASSOCIATED WITH RHODE ISLAND IMPROVEMENTS.

RHODE ISLAND AVE

VETERANS MEM PKWY

WL-6B(W)

St. Johns River (Wekiva to Welaka)

POND A

FPC A

POND B

POND B1

WL-6A(W)

WL-6(W)

POND 409-B1

I-4

N

Key Map

St. Johns River (Wekiva to Welaka)

St. Johns River (Canaveral Marshes to Wekiva)

1 2 3 4 5 6 7 8 9 11 12 13 14 15 16

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND

- Right Of Way
- PROPOSED POND
- WETLAND LINE
- HYDROLOGIC BASIN BOUNDARY

Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.11

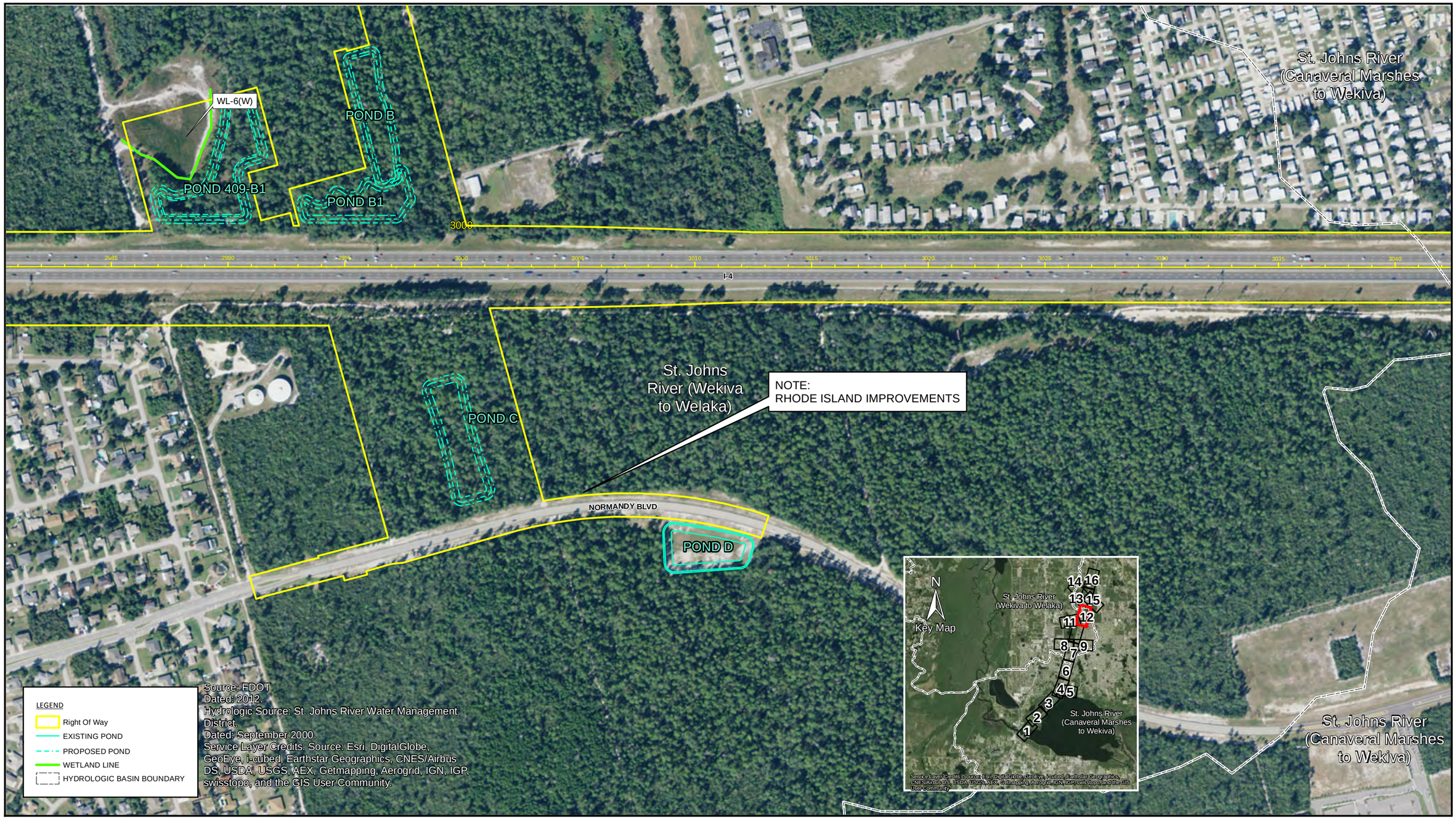

N
0
200
400
Feet
WL-6(W)
POND B
POND 409-B1
POND B1
3000
2985
2990
2995
3000
3005
3010
3015
3020
3025
3030
3035
3040
I-4
St. Johns River (Canaveral Marshes to Wekiva)
St. Johns River (Wekiva to Welaka)
NOTE:
RHODE ISLAND IMPROVEMENTS
POND C
NORMANDY BLVD
POND D
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
WETLAND LINE
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.12

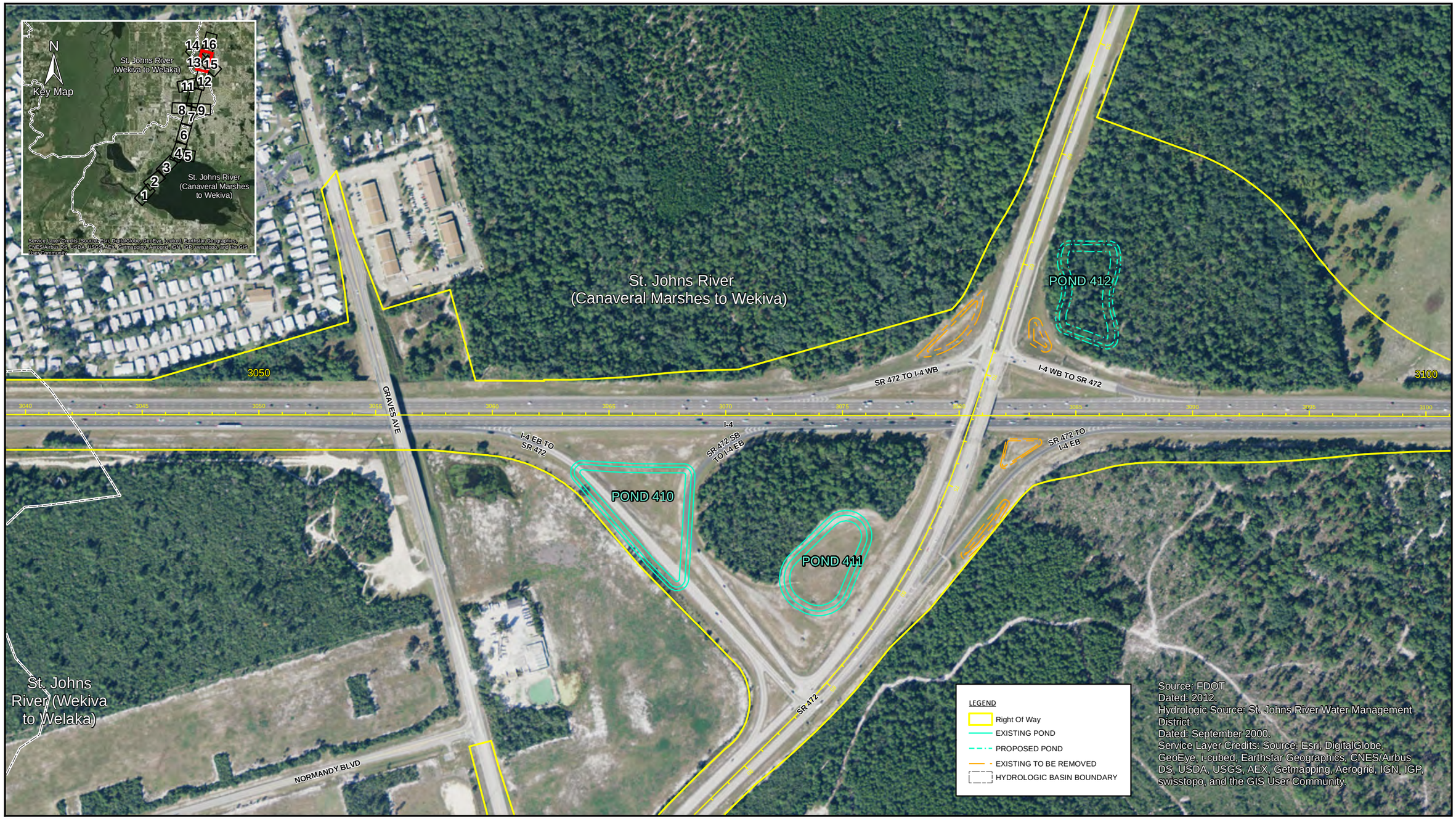

N
0
200
400
Feet
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
St. Johns River (Canaveral Marshes to Wekiva)
POND 412
POND 410
POND 411
3050
3100
GRAVES AVE
I-4
SR 472 TO I-4 WB
I-4 WB TO SR 472
I-4 EB TO SR 472
SR 472 SB TO I-4 EB
SR 472 TO I-4 EB
SR 472
NORMANDY BLVD
St. Johns River (Wekiva to Welaka)
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.13


N
0
200
400
Feet
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
POND 418
POND 415
POND 412
POND 417
POND 416
MARTIN L KING BLTWY
SR 472
SR 472 TO I-4 WB
I-4 WB TO SR 472
I-4
KENTUCKY AVE
GRAVES AVE
St. Johns River (Canaveral Marshes to Wekiva)
St. Johns River (Wekiva to Welaka)
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.14


N
0
200
400
Feet
St. Johns River (Canaveral Marshes to Wekiva)
SR 472 TO I-4 EB
SR 472
POND 411
I-4 EB TO SR 472
HOWLAND BLVD
SR 472 TO I-4 WB
SR 472 SB TO I-4 EB
POND 410
I-4
GRAVES AVE
POND 413
GRAVES AVE
NORMANDY BLVD
N
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
LEGEND
Right Of Way
EXISTING POND
EXISTING TO BE REMOVED
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 5.15

0 200 400
Feet

Exhibit 5.16

EXHIBIT 6
SURFACE WATER/WETLAND IMPACT MAP

SEGMENT 4

SURFACE WATER & WETLAND IMPACT MAP

Exhibit 6.1

0 200 400
Feet

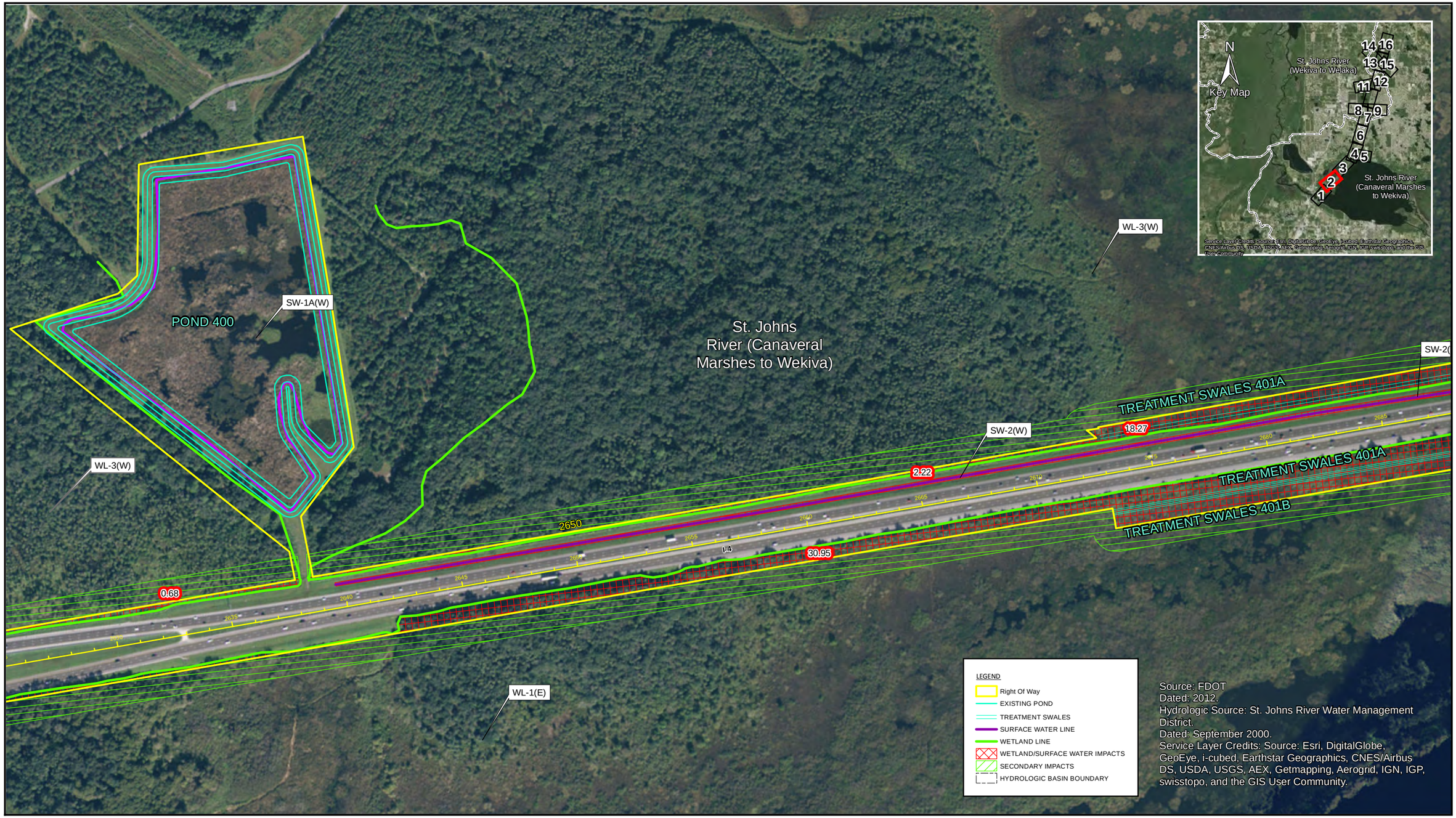


Exhibit 6.2

SEGMENT 4

SURFACE WATER & WETLAND IMPACT MAP

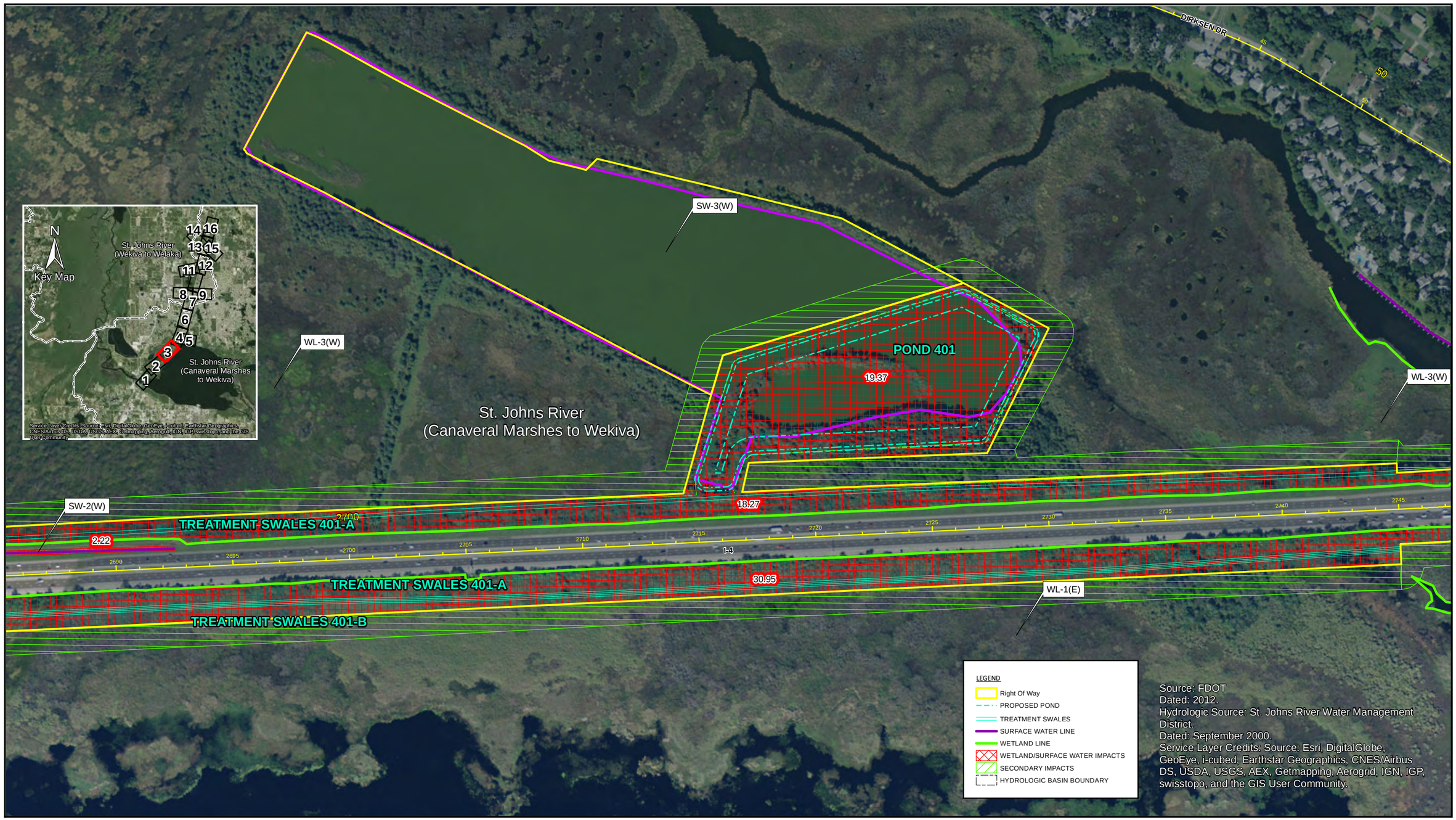


Exhibit 6.3

0 200 400
Feet

St. Johns River (Canaveral Marshes to Wekiva)

SW-3A(W)
WL-3A(W)
WL-3(W)
SW-6(W)
WL-3B(W)
WL-4(W)
SW-3A(W)
SW-7(W)
SW-4(W)
SW-5(W)
WL-3(E)
SW-2(E)
SW-4(E)
WL-2(E)
SW-1A(E)
WL-1(E)
SW-3(E)

POND 402A
POND 402B
POND 402C
POND 402D
POND 402E
POND 402F

1.85
18.27
0.22
0.27
30.95
0.12
0.96
0.02
0.03
1.73
1.99
0.93
0.35
0.06
8.84
0.28

DIRKSEN DR
I-4 WB TO DEBARY AVE
I-4 DEBARY AVE TO I-4 EB
I-4 EB TO DEBARY AVE
DEBARY AVE
DELTONA BLVD
ENTERPRISE RD

2745 2750 2755 2760 2765 2770 2775 2780 2785 2790 2795 2800 2805

Key Map
St. Johns River (Wekiva to Wekaka)
St. Johns River (Canaveral Marshes to Wekiva)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND
- Right Of Way
- EXISTING POND
- PROPOSED POND
- TREATMENT SWALES
- SURFACE WATER LINE
- WETLAND LINE
- EXISTING STORMWATER PONDS
- WETLAND/SURFACE WATER IMPACTS
- SECONDARY IMPACTS
- HYDROLOGIC BASIN BOUNDARY

Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.4

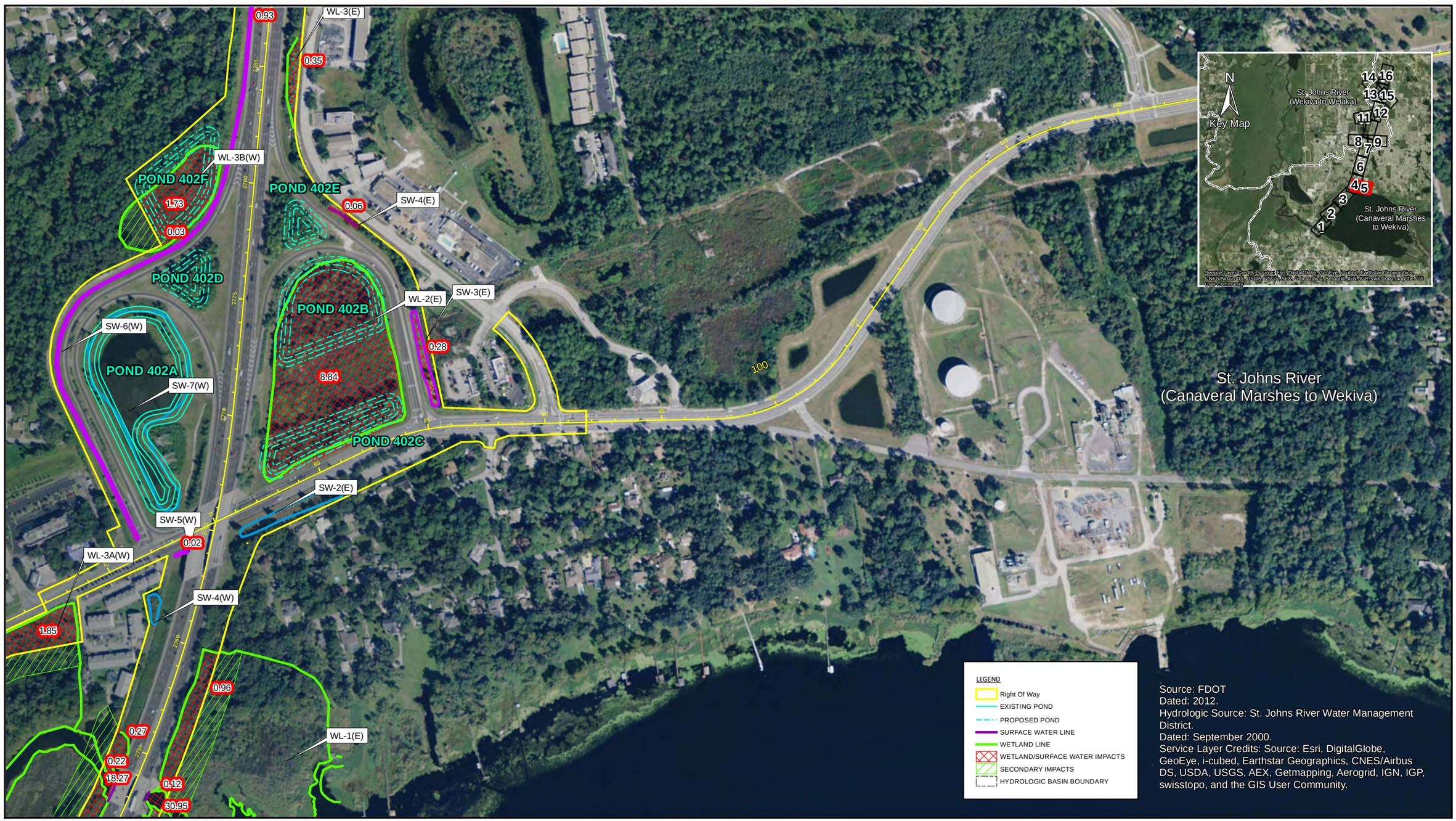

N
0
200
400
Feet
0.93
WL-3(E)
0.35
WL-3B(W)
POND 402F
1.73
0.03
POND 402E
0.06
SW-4(E)
POND 402D
POND 402B
WL-2(E)
SW-3(E)
0.28
SW-6(W)
POND 402A
SW-7(W)
8.84
POND 402C
SW-2(E)
SW-5(W)
0.02
WL-3A(W)
SW-4(W)
1.85
0.96
0.27
0.22
18.27
0.12
30.95
WL-1(E)
St. Johns River
(Canaveral Marshes to Wekiva)
Key Map
St. Johns River
(Wekiva to Welaka)
St. Johns River
(Canaveral Marshes
to Wekiva)
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SURFACE WATER LINE
WETLAND LINE
WETLAND/SURFACE WATER IMPACTS
SECONDARY IMPACTS
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.5

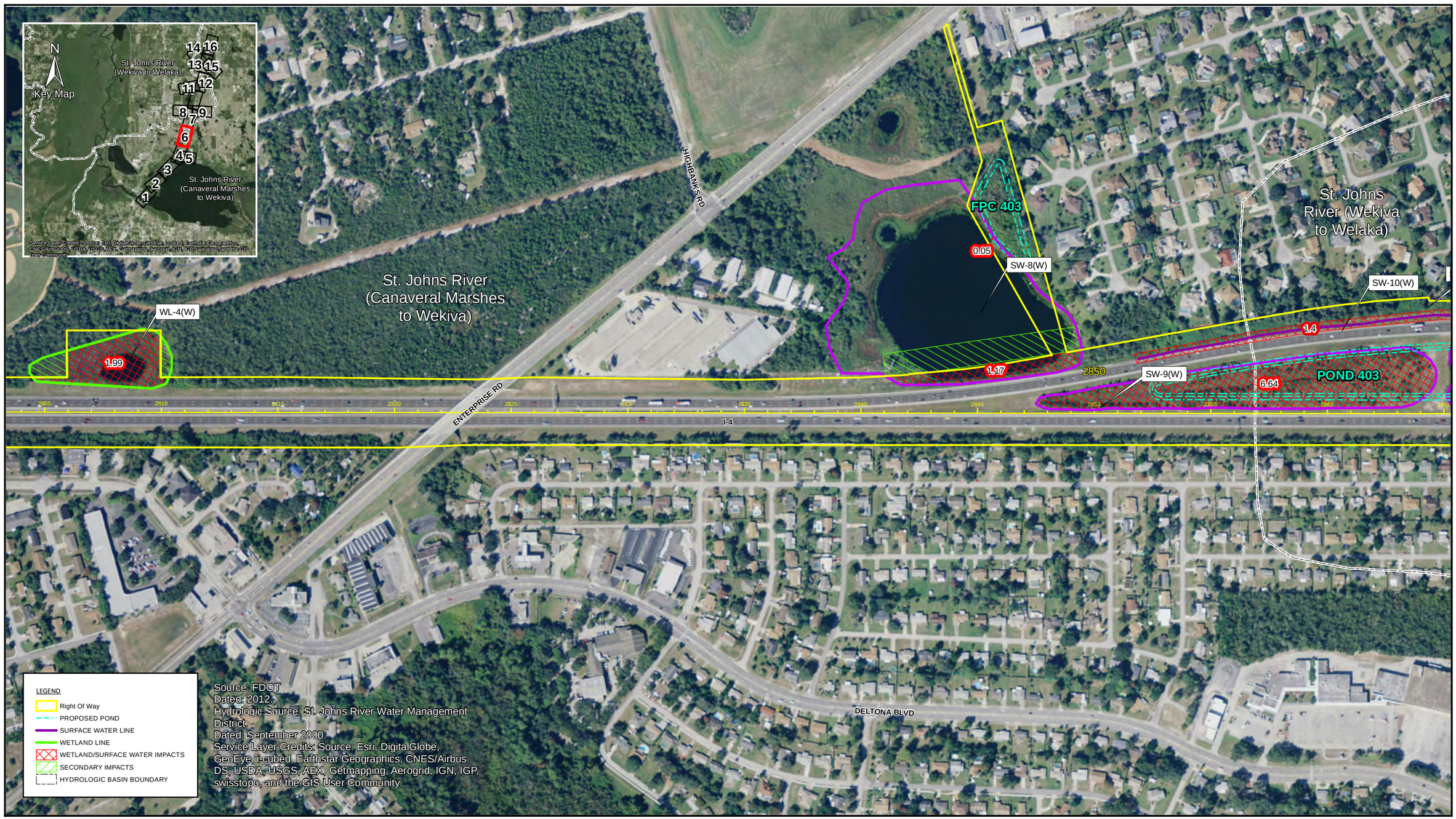

N
0
200
400
Feet
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
HIGHBANKS RD
ENTERPRISE RD
I-4
DELTONA BLVD
FPC 403
POND 403
WL-4(W)
SW-8(W)
SW-9(W)
SW-10(W)
1.99
0.05
1.17
1.4
6.64
2850
LEGEND
Right Of Way
PROPOSED POND
SURFACE WATER LINE
WETLAND LINE
WETLAND/SURFACE WATER IMPACTS
SECONDARY IMPACTS
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.6


N
0
200
400
Feet
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
Lake Emerald
St. Johns River (Wekiva to Welaka)
Trout Lake
St. Johns River (Canaveral Marshes to Wekiva)
SW-10(W)
WL-5(W)
SW-11(W)
SW-12(W)
SW-13(W)
SW-14(W)
SW-15(W)
SW-16(W)
SW-17(W)
SW-18(W)
SW-9(W)
WL-4(E)
SW-6(E)
SW-7(E)
SW-8(E)
SW-5(E)
SW-9(E)
1.4
0.45
1.07
6.64
5.7
2.84
1.22
0.44
0.47
0.58
0.07
0.46
0.49
POND 403
POND 405A
POND 405B
POND 406A
POND 406B
POND 407A
POND 407B
POND 407C
POND 408
FPC 407
RAMP 045 TO SAXON WB
SAXON TO RAMP 045
EB SAXON TO I-4 WB
RAMP 045 TO SAXON EB
WB TO I-4 WB
I-4 EB TO SAXON EB
I-4 EB TO SAXON WB
SAXON BLVD TO I-4 EB
SAXON BLVD
I-4
DELTONA BLVD
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
SURFACE WATER LINE
WETLAND LINE
EXISTING STORMWATER PONDS
WETLAND/SURFACE WATER IMPACTS
SECONDARY IMPACTS
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.7

SEGMENT 4

SURFACE WATER & WETLAND IMPACT MAP

N

0 200 400

Feet

Exhibit 6.8

N

0 200 400

Feet

Exhibit 6.9


0
200
400
Feet
N
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
St. Johns River (Wekiva to Welaka)
POND 406B
RAMP 045 TO SAXON WB
I-4 WB TO I-4 WB
2950
I-10(E)
2925
2930
2935
2940
2945
2950
2955
2960
2965
2970
2975
2980
I-4
SAXON BLVD TO I-4 EB
POND 407C
I-4 EB TO SAXON WB
POND 409-A2
POND 409-A1
NORMANDY BLVD
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.10

N

0 200 400

Feet

NOTE:
RHODE ISLAND IMPROVEMENTS.

RHODE ISLAND AVE

VETERANS MEM PKWY

1.3

WL-6B(W)

St. Johns River (Wekiva to Welaka)

POND A

FPC A

POND B

POND B1

WL-6A(W)

WL-6(W)

POND 409-B1

I-4

Key Map

St. Johns River (Wekiva to Welaka)

St. Johns River (Canaveral Marshes to Wekiva)

1 2 3 4 5 6 7 8 9 11 12 13 14 15 16

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND

- Right Of Way
- PROPOSED POND
- WETLAND LINE
- WETLAND/SURFACE WATER IMPACTS
- Secondary Impacts
- HYDROLOGIC BASIN BOUNDARY

Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.11


N
0
200
400
Feet
WL-6(W)
POND B
POND B1
POND 409-B1
POND C
POND D
3000
2985
2990
2995
3000
3005
3010
3015
3020
3025
3030
3035
3040
I-4
NORMANDY BLVD
St. Johns River (Canaveral Marshes to Wekiva)
St. Johns River (Wekiva to Welaka)
NOTE:
RHODE ISLAND IMPROVEMENTS
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
WETLAND LINE
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

Exhibit 6.12

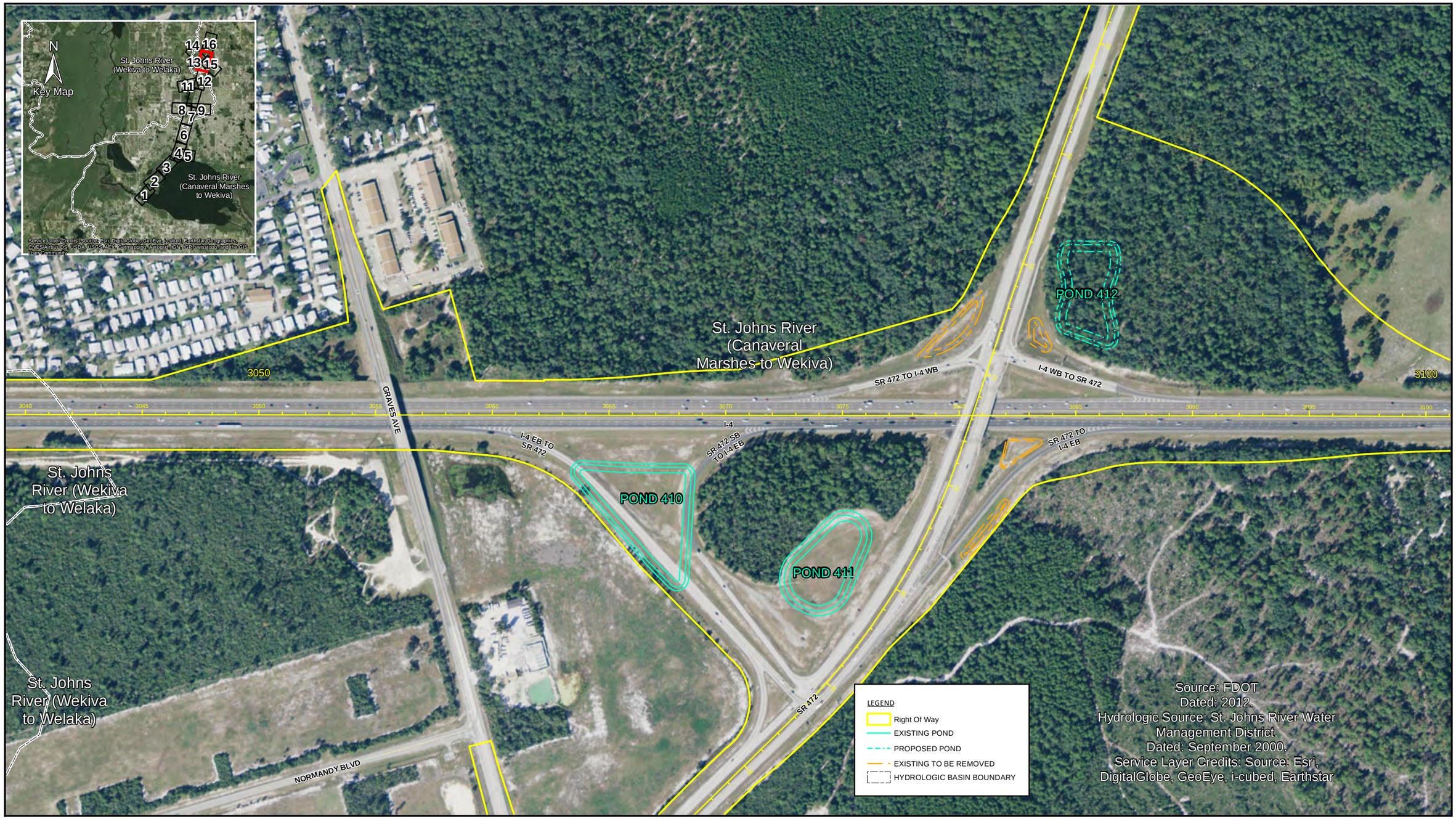

N
0
200
400
Feet
Key Map
St. Johns River (Wekiva to Welaka)
St. Johns River (Canaveral Marshes to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
St. Johns River (Canaveral Marshes to Wekiva)
POND 412
POND 410
POND 411
3050
3100
GRAVES AVE
I-4
SR 472 TO I-4 WB
I-4 WB TO SR 472
I-4 EB TO SR 472
SR 472 SB TO I-4 EB
SR 472 TO I-4 EB
SR 472
NORMANDY BLVD
St. Johns River (Wekiva to Welaka)
St. Johns River (Wekiva to Welaka)
LEGEND
Right Of Way
EXISTING POND
PROPOSED POND
EXISTING TO BE REMOVED
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar

Exhibit 6.13

N

0 200 400

Feet

Exhibit 6.14

N

0 200 400
Feet

Exhibit 6.15


N
0
200
400
Feet
CASSADAGA RD
END STUDY
St. Johns River
(Canaveral Marshes
to Wekiva)
3100
I-4
POND 414
Key Map
St. Johns River
(Wekiva to Welaka)
St. Johns River
(Canaveral Marshes
to Wekiva)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
LEGEND
Right Of Way
EXISTING POND
HYDROLOGIC BASIN BOUNDARY
Source: FDOT
Dated: 2012.
Hydrologic Source: St. Johns River Water Management District.
Dated: September 2000.
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar

Exhibit 6.16

APPENDIX B
SITE PHOTOGRAPHS

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo:	Date:
1	6/20/2013

Description:
SW-2(W)
Typical swale located along the ROW of I-4 westbound travel lanes, north of US 17/92 looking south.

Photo:	Date:
2	6/21/2013

Description:
WL-1(W)
Lake Monroe's littoral zone located north of US 17/92 and within the ROW of I-4 westbound looking northwest.

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo: 3	Date: 6/13/2013

Description: WL-1(E) Lake Monroe floodplain wetland located along the ROW of I-4 eastbound looking east.

Photo: 4	Date: 6/14/2013

Description: WL-1(E) Floodplain wetland located along the ROW of I-4 eastbound in between US 17/92 and Dirksen Drive looking east.

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo: 5	Date: 6/20/2013

Description: WL-3(W) Willow and marsh hibiscus wetland located along the ROW of I-4 westbound in between US 17/92 and Dirksen Drive looking west.

Photo: 6	Date: 6/20/2013

Description: WL-3(W) Floodplain wetland located along the ROW of I-4 westbound in between US 17/92 and Dirksen Drive looking west.

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo:	Date:
7	6/18/2013

Description:
WL-4(W)
Highly disturbed wetland located within the ROW of I-4 westbound and east of the exit ramp to Enterprise Road looking northwest.

Photo:	Date:
8	6/20/2013

Description:
SW-3(W)
Upland-cut ditch located on the southwest quadrant of Dirksen Drive and I-4 westbound looking east.

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo: 9	Date: 6/12/2013

Description: Wildlife Utilization within the project study area.

Photo: 10	Date: 6/20/2013

Description: SW-4(W) Conveyance ditch located along the exit ramp from I-4 westbound to Dirksen Drive looking southwest.

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo:	Date:
11	6/14/2013

Description:
Lake Monroe along I-4 eastbound looking east.

Photo:	Date:
12	6/26/2013

Description:
SW-8(W)
Stormwater pond located in between I-4 east and westbound, north of Enterprise Road looking northwest.

Photographic Log

Client Name:	Project Name:	Project Location:	3E Project No.:
FDOT- District 5	I-4 from US 17/92 to SR 472	Seminole & Volusia County	1386-001

Photo: 13	Date: 6/26/2013

Description: SW-11(W) Stormwater pond located in between I-4 east and westbound and north of Enterprise Road looking west.

Photo: 14	Date: 6/18/2013

Description: SW-9(W) Conveyance ditch located along the ROW of I-4 westbound and south of Saxon Boulevard looking southwest.

APPENDIX C
PERMIT INFORMATION

64105-1

Technical Staff Report 1729

14

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INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT
TECHNICAL STAFF REPORT
October 4, 2001

Applicant: Tadd Kasbeer
Florida Department of Transportation
719 South Woodland Boulevard
DeLand FL 32720

Consultant: Tracy Hood, P.E.
HDR Engineering, Inc.
2202 N. Westshore Boulevard, Suite 250
Tampa FL 32607

Jim Basset
Environmental Management Systems, Inc.
Crane's Roost
393 Whooping Loop, #1483
Altamonte Springs, FL 32701

County: Volusia & Seminole **Project Name:** I-4 expansion: St. Johns River to Saxon Blvd.

Section: 39 **Township:** 19 S **Range:** 30 E
Section: 2,10,11,15,16 **Township:** 19 S **Range:** 30 E
Section: 24,25,35,36 **Township:** 18 S **Range:** 30 E

Acres Owned: 449.8 **Project Acreage:** 449.8

General Description of Application Number 4-127-64105-1:
This application requests authorization to implement a 'Design-Build' process to expand Interstate Highway 4 from four to eight lanes over 6.7 miles. The initial permit would authorize all wetland/surface water impacts (106.7 acres) and a mitigation plan; initial earthwork (clearing, filling, and excavation); and construction of bridge foundations and substructure (pile caps, piles, pier caps, etc.) over the St. Johns River and Padgett Creek.

Authority: Chapters 373, F.S., and 40C-4.041(2)(b) 1., 2., 4., 8., F.A.C.

Existing Land Use: riparian marsh & swamp; hydric/mesic floodplain pasture; St. Johns River; borrow lake; isolated marsh; cypress swamp; interstate highway; mesic hardwood forest; live-oak forest; sand-pine forest

Hydrologic Basin: Lake Monroe (4D) & Lake Woodruff (5A)

Receiving Water Body: St. Johns River; Padgett Creek; & Lakes Monroe, Gasline, Emerald, Goose, & Trout **Class**: all III

Easements/Restrictions: No

Operation and Maintenance Entity: permittee

Staff Comments:

SITE DESCRIPTION:

Interstate Highway 4 is a four-lane, restricted-access road constructed during the 1960s between Daytona Beach and Tampa. The present project will expand I-4 over a 6.7-mile interval between Orange Boulevard (northwest Seminole County) to the Saxon Boulevard interchange (east of Orange City; southwest Volusia County; Figure 1). Twenty-four discrete wetland areas and ten ditch segments (106.7 acres total) were delineated within the project area (although many of the "wetlands" are fragments of larger bodies that were disjointed by historical road construction; Table 1). The project landscape is dominated by the broad St. Johns River floodplain along the west shore of Lake Monroe. The project was divided into two segments; the South Segment lies mostly within this floodplain (Figure 1).

Wetland ecological value varies widely within the project area. All wetlands have been diminished by initial highway construction that antedates effective water resource regulation. Road construction isolated many wetlands from historical watersheds so that hydroperiods have been diminished and food webs disjointed through reduced animal movement . For example, wetlands #21, #22, and #23 once comprised a single deep marsh that was fragmented into three bodies by the divided highway. Habitat fragmentation and isolation are especially severe where the interchanges have completely encircled some wetland relicts (e.g., #6, #9, #14, #15; Table 1).

However, the extensive Lake Monroe floodplain (#10; Table 1) and a 51-acre borrow lake (#13) that comprise most of the project's wetland area continue to function as well as any intact habitat. Though grazed and mildly infested by nuisance plants, the floodplain remains a diverse mosaic of deep-, shallow-, and intermittent marsh types that slope up into mature hydric-hardwood hammocks. There has been no obvious hydroperiod loss in the floodplain even though it has been isolated from the river/lake by I-4 (no culverts drain beneath the interstate except where Padgett Creek flows into Lake Monroe).

The borrow lake was dug to fill the I-4 roadbed in the 1960s. Historic aerial photographs suggest the lake was dug from an oak-forested island although some work occurred in the floodplain marsh. Although the borrow lake is an artificial body, it has good water quality and high wildlife value. Stable water depths in the west lake (mostly

3 - 7 feet) are optimal to support a permanent aquatic community at the base of a complex food web. The system is sufficiently developed to support capstone predators (at least six, large [≥ six feet total length] alligators were seen during a brief site visit). We observed dozens of Little Blue Herons roosting among scattered cattail stands in the marshy west end of the lake. Bobcats appear to forage on a nearly continuous upland berm around the lake that has evolved as a mesic cabbage palm thicket. The borrow lake's ecological value is enhanced further by its landscape position: it is surrounded by the expansive floodplain and connects hydraulically to Padgett Creek through a breach in the berm.

PROJECT DESCRIPTION:

This application requests authorization to implement a Design-Build process to expand I-4 from four to eight lanes over 6.7 miles. This application also seeks authorization of the first phase of construction of the I-4 widening. The initial permit would authorize all wetland impacts (106.7 acres) and a mitigation plan; initial earthwork (clearing, filling, and excavation); and construction of bridge foundations and substructure (pile caps, piles, pier caps, etc.) over the St. Johns River and Padgett Creek. The project area includes an expanded 300-foot wide right-of-way (that includes the existing 200-foot wide highway) and six future wet detention systems within Basins QQ, RR, and SS. This application does not include the placement of impervious surfaces.

A design-build process is one in which a single firm has responsibility for both the design and construction of a project. It is primarily used for fast-track projects when it is desirable to commence construction of initial phases of a project before design has been completed, in order to meet the projects owner's time constraints. State agencies are governed by statutes that set forth requirements for use of a design-build process. The state agency is required to develop a design criteria package or scope of services document to use in selection of the design-build firm to bid or prepare a proposal in response to an agency solicitation. The design criteria package must specify performance-based criteria for the project, including provisions for stormwater management.

No final construction plans have been prepared for the proposed road widening and bridge replacements. Final design will be based on the preliminary information submitted as a part of this permit application, which will be utilized in the Scope of Service documents to be provided to the design-build contractor team. The FDOT will be required to obtain, at a minimum, Standard General Environmental Resource Permits for each phase of construction, provided such phase is consistent with the plan outlined in this permit application. Consistency with District criteria must be demonstrated in future permit applications.

STORMWATER MANAGEMENT SYSTEM:

I-4 was constructed prior to any regulatory requirements to treat and attenuate the runoff from the development. Existing drainage characteristics associated with this segment of the I-4 corridor include both median and roadside ditches conveying onsite and offsite runoff primarily to Lake Monroe.

With the application, FDOT has supplied preliminary stormwater design calculations. After construction, the overall drainage flows and basin divides will remain essentially as they are in the existing condition. Stormwater runoff will be conveyed to one of six proposed wet detention systems for treatment and discharge rate attenuation prior to discharge in the pre-development direction.

FDOT proposes to incorporate an existing borrow pit as one of the proposed wet detention systems, Pond RR-2. FDOT has provided information on the depths of the existing pit and has provided reasonable assurance that the depths will meet the depth requirements for wet detention systems.

The proposed surface water management system outlined in this material has been preliminarily designed to meet the criteria of the District using the best available information. Detailed stormwater design calculations and construction plans for the stormwater management system will be submitted by the design-build team under a separate permit application.

SOVEREIGN SUBMERGED LANDS:

Lake Monroe and the St. Johns River Bridge are considered State Owned Sovereign Submerged Lands. The proposed bridge foundation and substructure construction will be performed within an existing sovereign submerged land easement granted to FDOT.

WETLAND IMPACTS:

This permit would authorize the loss of all 93.7 acres of wetlands and 13.0 acres of surface waters that occur within the project area (Table 1). "Surface water" impacts include 4.7 acres of roadside ditches that do not require mitigation and 8.3 acres of water quality degradation to the borrow lake (#13) when its east end is incorporated into the I-4 surface water management system. Impact acreages range from 0.1 to 42.1; the median value is 1.2 impact-acres (Table 1). Most of the project impacts (74%, 70.6 acres) will occur in the project's South Segment (Figure 1) where almost half (45%; 42.1 acres) of the project's wetland impacts will occur when I-4 is expanded by 50 feet on each side into the St. Johns River/Lake Monroe floodplain (wetland #10, Table 1). In contrast, only 8.9 wetland acres in the North Segment will be filled to expand the ROW there (there will be other impacts there to construct the interchange and ponds, however).

Eleven impacts (32.2 acres total) will occur to wetlands that are contained entirely within the existing highway interchanges or its median (e.g., wetlands #2 - #6, #14 - #16, #21 - #23; Table 1). Not less than 20.4 acres alone will be filled to reconfigure the US 17-92 interchange on the west river bank.

The project will result in significant secondary impacts to wetlands that will abut the expanded ROW. The I-4 corridor is presently associated with a zone of disturbance where substrate disruption (through littering, dumping, ROW fence maintenance, mowing, etc.) and nuisance plant invasion is facilitated. This zone will be pushed father into the floodplain under this application. Wildlife roadkills are likely to increase with the construction of two more high-speed traffic lanes.

We concur with the Florida State Historic Preservation Officer (SHPO) that the project "will have an adverse effect on the Lake Monroe Outlet Midden, a property eligible for listing in the *National Register of Historic Places*." The 4000- to 6000-year old aboriginal settlement (site #8VO53) has been excavated for study under a 1999 Memorandum of Agreement between the FDOT and SHPO (Table 2). The applicant has agreed to delay project construction until the archaeological study has been completed as determined by a future Memorandum of Understanding between FDOT and SHPO (see permit condition below).

No impacts are expected to any protected, wetland-dependent species (pers. comm. dated December 29, 1999; D.L. Hankla, U.S. Fish & Wildlife Service). Whereas the project coincides with habitat of West Indian manatee *Trichechus manatus*, "no adverse impacts to [manatee] habitat are expected" if the permittee implements the manatee-protection measures described by the "Other Conditions" below (pers. comm. dated May 3, 2000; C. Knox, Fish & Wildlife Conservation Commission). Explosives are specifically banned during bridge demolition to further minimize manatee impacts.

Because this is a design/build project, the ultimate design of the surface water management system remains undetermined. District regulatory staff suggested to FDOT that it may be appropriate to reduce water quality impacts to the borrow lake by relocating much the surface water management system to other parts of the floodplain prior to lake discharge. We propose to work with subsequent design consultants to minimize further the fish and wildlife and water quality impacts. This coordination is essential, given the location of the stormwater system within the mitigation site. Final design may include provisions for pre-treatment prior to discharge to the aquatic system and/or provisions for compensating treatment in other portions of the road project.

MITIGATION:

There are three parts to the I-4 mitigation plan. Most project impacts (all associated with the South Segment; Figure 1) will be addressed using FDOT mitigation funds that were provided to the District according to a 1998 interagency agreement between the District and FDOT (parts I and II, below; also see Appendix A). The FDOT will mitigate

any remaining impacts (i.e., the North Segment that was not covered by the agreement) by acquiring credits from the Lake Monroe Mitigation Bank (part III).

(I) Gemini Springs Addition (GSA)

In 1998, the District initiated the Gemini Springs Addition regional mitigation project for FDOT primarily in anticipation of this project. The Gemini Springs Addition (GSA) includes the acquisition and management of a 957.0-acre tract next to an existing 209.0-acre public park (Gemini Springs Park). The District can complete the entire GSA project with mitigation funding provided by the present application.

The applicant will fund the acquisition and management of about 849.0 acres on the 957.0-acre GSA. The GSA includes two parcels:

- Hugh West Tract (acquisition #LA 98-71), 815.0 acres. This tract includes Lake Monroe floodplain marsh (ca. 400 acres); pasture (ca. 150 acres); a natural lake (Mullet Lake, ca. 60 acres); streams (including most of Padgett Creek); and forests (mostly mixed-forested temperate hardwoods with associations of pine-mesic oak, live oak, cabbage palm, xeric oak, and slash pine; ca. 200 acres).

- Woodruff Tract, (#LA 91-54), 162 acres. This parcel is primarily comprised of mature mesic/hydric hammock and cypress/hardwood forest.

The GSA remains remote from urbanization and retains many natural features. Wildlife use of the GSA is high and includes several listed species (e.g., alligator, little blue heron, great egret, bald eagle, sandhill crane). Nonetheless, historical ranching practices have altered native habitats by grazing, deforestation, introduction of non-native grasses, and eutrophication by animal wastes. Parts of the site have moderate infestation of non-native or invasive plants such as Chinese tallow tree, Brazilian pepper, chinaberry, camphor tree, cattails, primrose willow, Carolina willow and tropical soda apple. Bermuda grass now dominates the intermittently inundated floodplain savanna.

The site will be managed to enhance and restore natural communities to offset some of the adverse effects of the roadway project. The grazing lease on Hugh West Tract has expired and will not be renewed. This will allow for recovery of the plant community from grazing and will reduce the nutrient loading to Mullet Lake, Padgett Creek and the rest of the floodplain. Nuisance-plant removal has already begun and will continue to prevent further proliferation of exotics. Other problematic species (e.g., cattail) will be controlled to the maximum extent feasible. Cattails that now occlude a Padgett Creek channel will be cleared mechanically. The use of fire as a management tool is being evaluated and will be implemented to the extent possible. Proximity to I-4 may limit the use of this option for certain portions of the site, so physical plant-removal may be needed to produce the same restorative effects as fire.

Other physical disturbances onsite will be corrected. For example, the District will remove a low berm that diverts a natural flow way along a fill road between the Hugh West and Woodruff Tracts. The high berm that defines the borrow-lake (#13) perimeter may be leveled along the floodplain to improve high-flood stage flow between the lake and downstream waters. (The extent of berm-removal depends on the ultimate surface water management system as determined by subsequent ERPs.)

Other parts of the GSA will be cultivated with indigenous plants. For example, the north shore of Mullet Lake, nowmaintained as improved pasture, will be planted with native marsh plants.

The site will be jointly managed with Volusia County as a recreation area. Most improvements to the property associated with the recreational use will be minor trails for passive recreational use, however the county has plans for an equestrian area in ca. 40 acres of the improved pasture. An additional 20.0 acres of the pasture will be reserved for an I-4 stormwater pond (Pond RR-1; this pond area has been excluded from the mitigation acreage). Remaining portions of the upland pasture will be planted and managed to eventually restore the historic ecological communities.

(II) Additional mitigation:

The District will use remaining FDOT mitigation funds to:

- acquire and manage an additional 170 acres (or more) of St. Johns River floodplain habitat. The parcel would be preserved adjacent to Lake Monroe or the St. Johns River between Lake Harney and the Wekiva River. No less than 20 upland acres would be included in the purchase. The District will enhance and manage the property like the GSA (i.e., remove cattle, control exotic and nuisance vegetation, restore native plant communities, etc.) to enhance wildlife habitat and water quality; and

- purchase 16.4 credits from a mitigation bank. The District would competitively shop for credits among three banks: East Central Florida Mitigation Bank, Colbert Cameron Mitigation Bank, or Farmton Mitigation Bank (West Bank). Each of these banks abuts the St. Johns River floodplain and provides water resources similar to those adversely affected by the I-4 project.

In the event that the additional land acquisition cannot be finalized within two years from the commencement of construction authorized by this permit, the District will purchase an additional 20 credits from one of the mitigation banks specified above. A proportional combination of credits and acquisition may also be used.

(III) Lake Monroe Mitigation Bank

The applicant also will obtain 14.2 credits from the Lake Monroe Mitigation Bank (Table 3). The bank occurs on the east floodplain of Lake Monroe and about ten miles from the impact site. The bank is managed to restore and enhance nearby St. Johns River floodplain resources that are comparable in form and function to the I-4 impact wetlands. Use of a mitigation bank is an appropriate and permittable mitigation option when the mitigation bank will offset the adverse impacts of the project and on-site mitigation opportunities are not expected to have comparable long-term viability due to such factors as ecologically incompatible existing adjacent land uses or future land uses (12.4.2(a), ERP A.H.). In this case, it is probably not appropriate to mitigate along the North Segment. There are no expansive tracts where mitigation could occur there (as occurs in the South Segment) and I-4 poses an obvious threat to wildlife that would reside or forage in any roadside mitigation habitats.

SUMMARY:

The mitigation plan provides for perpetual preservation of wildlife habitat with effective buffers from expected future urbanization. For example, the local comprehensive plan has zoned GSA uplands as "mixed-use" that could allow for development of up to eight homes per acre. Given the current growth patterns in the area, we believe it likely that such development would have occurred soon if the District had not acquired these parcels under the Special Agreement with FDOT.

Secondary project impacts can not be easily addressed by any mitigation type. Migrating animals seem unlikely to use 300-foot long, dark, narrow passages (e.g., 4-foot diameter pipes) that would be needed to traverse the ROW. It is not practical to erect larger crossings to approach the limited floodplain habitat on the southeast side of the road (e.g., 4-foot pipe installation alone under the 300-foot ROW was estimated to cost $1,000,000). Instead, the mitigation plan will increase natural community function (and thus animal populations) so that increased traffic mortality may be offset. Introduced exotics will be controlled (but probably never eliminated) within the disturbance zone of most parts of the project wetlands (i.e., within the GSA floodplain).

The mitigation plan will occur almost entirely within the impact basin (Lake Monroe, 4A) or another affiliated St. Johns River sub-basin. Thus, no cumulative effects will result from wetland losses. The proposed mitigation will increase the extent of ecological functions provided by the St. Johns River/Lake Monroe floodplain through the restoration of significant wetland and upland habitat, reconnection of severed ecological systems, and protection of important water resources. Acquisition of these habitats provides protection for the valuable recharge areas for the aquifer.

The applicant has provided reasonable assurances that the proposed project meets all applicable conditions for permit issuance pursuant to sections 40C-4.301 and 40C-4.302, F.A.C.

Wetland Inventory:

Project: I-4 expansion: St. Johns River to Saxon Blvd. roadway

	acres
Total Wetlands/Surface Waters On Project Site:	106.7
• includes all bodies within 500-ft wide ROW and limits of 2 ponds	
• surface waters, 13.0	
• wetlands, 93.7	
Impacts That Require Mitigation:	102.0
Wetlands:	
• South Segment, 70.6	
• North Segment, 23.1	
Surface waters:	
• water quality degradation to borrow lake, 8.3	
• assumes no shading effects by span over mid-river	
Impacts That Require No Mitigation (all surface waters):	4.7
• roadside ditches	
Mitigation:	ca. 1050.0*
• acquisition, restoration, & management of GSA tracts, 849.0*	
• Lake Monroe Mitigation Bank credits, 14.2*	
acquisition & management of other St. Johns River lands, ≥170.0*	
• 16.4 credits from other mitigation banks	
*includes uplands & wetlands	

Recommendation: Approval

Conditions for Application Number 4-127-64105-1 :

General ERP CONDITIONS (See Condition Sheet): 1 - 19

Special MSSW CONDITIONS (See Condition Sheet): 1, 10, 13

Tables: N/A

Other Conditions:

1. This permit authorizes a design-build process for the Interstate 4 expansion over a 6.7-mile interval between Orange Boulevard to the Saxon Boulevard interchange, as set forth in the design criteria package received by the District on February 11, 2000 and as amended by the information submitted on April 21, 2000. If the permittee elects to not utilize the design-build process, a modification to this permit must be obtained.

2. The construction activities authorized by this permit are limited to demolition and related preliminary site preparation activities within the project area, as this area is defined in the permit application package received by the District on February 11, 2000, and to the extent those activities are consistent with those set forth in the permit application package. The authorized activities include the following: installation of erosion control measures, wetland impacts, clearing and grubbing of the proposed construction area in the existing right-of-way, rough grading of surface water pond facilities, bridge foundation construction, implementation of a traffic maintenance plan, installation of barrier walls to protect the construction area, and removal of existing improvements within the project area.

3. A Standard General or an Individual permit must be obtained from the District prior to commencement of any construction not specified in the condition above. A Standard General Environmental Permit may be obtained for any phase of construction provided the phase is consistent with the design specifications as set forth in the design package received by the District on February 11, 2000. The permittee must submit, as part of the permit application submittal, complete construction plans and supporting material to demonstrate the proposed activity will meet District criteria and be consistent with the assumptions set forth in the design criteria package.

4. This permit authorizes no work north or east of station 3285+00. This excluded zone includes Pond CP-4 and any work on the Saxon interchange (e.g., the "TT ponds").

5. This permit does not authorize placement of any impervious surfaces on the site.

6. The permittee must submit a detailed erosion, sediment, and turbidity control plans to the District at least 30 days prior to commencement of construction for District review and written approval. The District will respond as to the sufficiency of the erosion, sediment, and turbidity control plan, in writing, within 14 days of receipt of the plan.

7. The permittee must submit the design-build Scope of Service documents to the District at least 60 days prior to commencement of construction. If the District

are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatees Sanctuary Act.

c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible. No vessels shall operate and all in-water work will cease whenever manatee observation becomes ineffective (e.g., after sunset).

e. If manatee(s) are seen within 100 yards of the active daily construction operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee(s). These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

f. A collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL FMP (1-800-342-5367). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-407-562-3909) in south Florida.

g. Temporary signs concerning manatees shall be posted prior to and during all construction activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 feet by 4 feet that reads **"Caution: Manatee Area"** will be posted in a location prominently visible to water-related construction crews. A second sign measuring at least 8 ½ inches by 11 inches should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should read **"Caution: Manatee Habitat"**. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. A collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL FMP (1-800-342-5367). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580).

determines that the documents are inconsistent with the District's design criteria, then the permittee must obtain a modification to this permit prior to construction.

8. Insufficient technical data were provided to assess interactions between wetland hydroperiods and the ultimate surface water management system (e.g., Pond RR-3). Thus, this permit authorizes no such hydroperiod impacts. Future construction applications will be reviewed for hydroperiod-impacts. Adverse hydroperiod-impacts could require additional mitigation.

9. Prior to initiating any construction within the wetlands, the District must receive a letter of verification from the Lake Monroe Mitigation Bank stating that a transaction regarding the transfer of 14.2 mitigation credits has been completed.

10. In the event that the permittee does not successfully complete the transaction to obtain 14.2 mitigation credits from the Lake Monroe Mitigation Bank, the permittee must obtain a permit modification to provide alternative mitigation for the wetland impacts.

11. The District may revoke this permit if it determines that the permittee has submitted inaccurate information to the District regarding the delineation of surface waters or wetlands on the project site.

12. No project construction (including land clearing) may occur until the permittee has executed a Memorandum of Understanding with the state Division of Historical Resources to preclude or otherwise manage impacts on all historical features in the project area. The permittee must provide a copy of this document prior to commencing construction. If, in the Division's opinion, the project will result in unacceptable loss of historical resources, then the permit may require modification to mitigate for historical impacts.

13. To ensure the protection of manatees within the project construction area, the permittee shall comply with the standard manatee construction conditions recommended by the Florida Department of Environmental Protection, Bureau of Protected Species Management. Specifically, the permittee shall comply with the following manatee protection construction conditions:

    a. The permittee shall instruct all personnel associated with the project of potential presence of manatees and the need to avoid collisions with manatees. At least one person shall be designated as a manatee observer when in-water work is performed. The observer shall have experience in manatee observation and must be equipped with polarized sunglasses to enhance viewing. The observer must be onsite during all in-water construction and will advise construction personnel to cease construction when ever a manatee is sighted within 50 feet of the work.

    b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which

14. This permit does not authorize any filling of wetlands or surface waters that may occur as a result of demolition activities at the existing bridges. It is assumed that unwanted parts the existing bridges will be dismantled and removed entirely to uplands. The permittee must modify this permit if any fill is to be placed, willfully or incidentally, beyond the limits that are approved for impacts by this permit.

15. During the bridge foundation and substructure construction activities, the permittee must monitor turbidity upstream and immediately downstream of the construction activity (including any turbidity measures).

    The background sample must not be taken within any visible plume. Samples must be collected two times daily with a morning and afternoon sample at least four hours apart during the bridge foundation and substructure construction activities.

    Before removal of the turbidity control measures, the turbidity levels within the area surrounded by the turbidity control measures must be sampled to ensure no release of turbid water once the turbidity control measures are removed. The turbidity control measures may not be removed until the sample data indicates levels that do not exceed the State Water Quality Standards. This sample data must be included within the weekly turbidity data report.

16. If at any time the downstream turbidity level exceeds the State Water Quality Standards, then all measures required to reduce the turbidity including stopping all bridge foundation and substructure construction activities, must be taken. The bridge foundation and substructure construction must not resume until the turbidity has returned to acceptable levels. Any such violation must be reported immediately to the District's Orlando Office.

17. All turbidity data must be submitted to the District's Orlando Office weekly. The data must contain the following information:

    - permit number;
    - date and time of sampling and analysis;
    - statement describing collection, handling, storage, and analysis methods;
    - a map indicating the location of the samples taken;
    - depth of sample;
    - antecedent weather conditions; and,
    - tidal stage and/or flow direction.

Reviewers: M. Cook, Kissick, Grant

STANDARD GENERAL ENVIRONMENTAL RESOURCE PERMIT
AND STATE LANDS APPROVAL
TECHNICAL STAFF REPORT
October 05, 2001
APPLICATION #: 40-127-64105-3

DATE RECEIVED:	DATE COMPLETED:	21ST DAY:	28TH DAY:
March 09, 2001	September 05, 2001	September 26, 2001	October 03, 2001

Applicant: Florida Department of Transportation
C/O Tadd Kasbeer
719 South Woodland Blvd.
Deland, FL
32720
(800) 780-7102

Consultant: URS Corporation
C/O Carol Barker, P.E.
315 E. Robinson St., Suite 245
Orlando, FL
32801-11949
(407) 422-0353

Project Name: I-4 St. Johns River Bridge Replacement
Project Acreage: 449.830
Planning Unit: Lake Monroe Unit
Special Basin Criteria: N/A
Receiving Water Body: St. Johns River **Class:** III Fresh.
Trout Lake III Fresh.
County: Volusia
Correct Fee Submitted: Yes **Amount Received:** $1,500.00

Authority: 40C-4.041(2)(b)1, 40C-4.041(2)(b)2, 40C-4.041(2)(b)4, 40C-4.041(2)(b)8

Type of Treatment: Dry Detention with Underdrain, Retention, Wet Detention
Type of Development: Roadway
Type of System: Modification to an Existing System
Final O&M Entity: FDOT
Pre/Post Peak Rate Attenuation Provided: Yes
Pre/Post Volume Attenuation Provided: Yes
Mean Annual Storm Attenuation Provided: N/A
Recovery of Water Quality Vol. Within Req. Time: Yes
Recovery of Peak Attenuation Vol. Within Req. Time: Yes

LOCATION AND BRIEF DESCRIPTION OF SYSTEM:

This application is for the widening of I-4 from west of Orange Boulevard to west of Saxon Boulevard from four lanes to six lanes. The widening will consist of adding two lanes (one in each direction) toward the median.

In June of 2000 the District issued Permit Number 4-127-64105-1 for the initial earthwork construction associated with replacing the Interstate 4 St. Johns River Bridge and the future widening of I-4 from West of U.S. 17/92 to West of Saxon Boulevard from four lanes to an ultimate eight-lane typical section. The initial permit authorized all wetland / surface water impacts and a mitigation plan; initial earthwork (clearing, filling, and excavation); and construction of bridge foundations and substructuresover the St. Johns River and Padgett Creek. The permit required that no impervious surface be constructed until the original permit is modified. The permit was conditions such that a Standard General ERP could be obtained for subsequent construction activities.

The expansion was initially approved by #4-127-64105-1 to use a design-build process. A design-build process is one in which a single firm has responsibility for both the design and construction of a project. It is primarily used for fast-track projects when it is desirable to commence construction of initial phases of a project before design has been completed, in order to meet the projects owner□s time constraints. State agencies are governed by statutes that set forth requirements for use of a design-build process. The state agency is required to develop a design criteria package or scope of services document to use in selection of the design-build firm to bid or prepare a proposal in response to an agency solicitation. The design criteria package must specify performance-based criteria for the project, including provisions for stormwater management.

The proposed surface water management system outlined in the June 2000 permit was preliminarily designed for the ultimate 8-laning to meet the criteria of the District using the best available information. No final construction plans were approved for the road widening and bridge replacements. Detailed stormwater design calculations and construction plans for the stormwater management system were required from the design-build team under future permit applications.

A PERMIT AUTHORIZING:
construction and operation of the widening of Interstate 4 from four lanes to six lanes from west of Orange Boulevard to west of Saxon Boulevard. The surface water management system includes two additional traveled lanes, dry retention systems, dry detention with underdrains, and wet detention systems. This application also includes the bridge replacements at the St. Johns River and Padgett Creek.

OTHER ENGINEERING COMMENTS:

I-4 was constructed prior to any regulatory requirements to treat and attenuate the runoff from the development. Existing drainage characteristics associated with this segment of the I-4 corridor include both median and roadside ditches conveying onsite and offsite runoff primarily to Lake Monroe. The westernmost portion of the roadway corridor drains to Trout Lake, a land-locked lake at the southeast intersection of I-4 and Saxon Boulevard.

After construction, the overall drainage flows and basin divides will remain essentially as they are in the existing condition. The two proposed additional traveled lanes will be added toward the median. The existing lanes slope toward the outside, with the proposed new lanes sloping toward a median swale.

Stormwater runoff will be conveyed to one of four proposed wet detention systems, dry retention / swale system, or a series of four inter-connected detention systems with underdrains for treatment and discharge rate attenuation (25-year 24-hour) prior to discharge in the pre-development direction. The applicant has demonstrated that the system that discharges to Trout Lake is sufficiently sized to retain the difference in runoff volume generated by the 25-year 96-hour storm event.

Under the original permit, FDOT proposed to incorporate an existing borrow pit lake as one of the proposed wet detention systems, Pond RR-2. Due to staff's concerns, the use of the existing borrow pit / lake has been eliminated from the design and replaced with a roadside dry retention swale.

Due to site constraints, runoff from a portion of the proposed roadway corridor cannot be conveyed to the proposed treatment system. FDOT has provided supporting calculations demonstrating that the overall stormwater management system provides a minimum of 80 percent pollutant removal from the proposed roadway corridor. This is accomplished by providing compensating treatment. One of the wet detention systems (RR-3) has been designed based on Outstanding Florida Water (OFW) criteria to provide a 95 percent pollutant removal from its contributing drainage basin ("overtreatment"). In addition treatment will be provided for a section of the existing two westbound lanes that could otherwise bypass the treatment system (compensating treatment).

The project, as proposed, is consistent with the master permit and the design criteria established under Chapters 40C-4 and 40C-42, F.A.C.

ENVIRONMENTAL COMMENTS:

All work will occur in uplands that were previously authorized for clearing or fillingby #4-127-64105-1 (issued June 2000) or by previous □non-substantial modifications.□ No new wetland or surface water impacts are proposed. All possible direct and secondary impacts were reviewed, mitigated, and approved by the Board under the June 2000 permit.

Interested Parties: No
Objectors: Yes

Conditions for Application Number 40-127-64105-3:

ERP General Conditions by Rule (October 03, 1995):
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19

ERP/MSSW/Stormwater Special Conditions (November 09, 1995):
1, 1, 10, 10, 13, 13, 28, 28

Other Conditions:

1. The surface water management system must be constructed and operated in accordance with the plans received by the District on September 5, 2001, as amended by Sheets 2.25, 2.26 and 2.62A, received by the District on October 4, 2001.

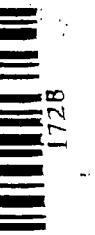
STATE LANDS AUTHORIZATION:

the replacement and expansion of the existing bridges over the St. Johns River and Padgett Creek within an existing SSL easement. The form of authorization is a letter of no objection.

State Lands Other Conditions:

Reviewers: Lee Kissick
Marjorie Cook

64105-1



Permit with conditions 1728

Henry Dean, Executive Director
John R. Wehle, Assistant Executive Director

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429
TELEPHONE 904-329-4500 1-800-451-7106 SUNCOM 904-860-4500
TDD 904-329-4450 TDD SUNCOM 860-4450
FAX (Executive) 329-4125 (Legal) 329-4485 (Permitting) 329-4315 (Administration/Finance) 329-4508

SERVICE CENTERS

618 E. South Street
Orlando, Florida 32801
407-897-4300
1-877-228-1658
FAX 407-897-4354
TDD 407-897-5960

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904-730-6270
1-800-852-1563
FAX 904-730-6267
TDD 904-448-7900

PERMITTING:
305 East Drive
Melbourne, Florida 32904
407-984-4940
1-800-295-3264
FAX 407-722-5357
TDD 407-722-5368

OPERATIONS:
2133 N. Wickham Road
Melbourne, Florida 32935-8109
407-752-3100
TDD 407-752-3102

June 13, 2000

Florida Department of Transportation
Attn: Tadd Kasbeer
719 South Woodland Blvd.
Deland, FL 32720

SUBJECT: Management and Storage of Surface Waters Individual
Permit Number 4-127-64105-1

Dear Sir:

Enclosed is your permit as authorized by the Governing Board of the St. Johns River Water Management District on June 13, 2000.

This permit is a legal document and should be kept with your other important documents. The attached MSSW/Stormwater As-Built Certification Form should be filled in and returned to the Palatka office within thirty days after the work is completed. By so doing, you will enable us to schedule a prompt inspection of the permitted activity.

In addition to the MSSW/Stormwater As-Built Certification Form, your permit also contains conditions which require submittal of additional information. All information submitted as compliance to permit conditions must be submitted to the Palatka office address.

Permit issuance does not relieve you from the responsibility of obtaining permits from any federal, state and/or local agencies asserting concurrent jurisdiction for this work.

In the event you sell your property, the permit will be transferred to the new owner, if we are notified by you within thirty days of the sale. Please assist us in this matter so as to maintain a valid permit for the new property owner.

Thank you for your cooperation and if this office can be of any further assistance to you, please do not hesitate to contact us.

Sincerely,

Quen Johnson

Quen Johnson, Data Control Technician
Permit Data Services Division

Enclosures: Permit with EN form(s), if applicable
cc: District Permit File
HDR Engineering, Inc.
Attn: Tracy Hood, P.E., 2202 N. Westshore Blvd., Suite 250, Tampa, FL, 33607

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO. 4-127-64105-1, **DATE ISSUED** JUNE 13, 2000

A PERMIT AUTHORIZING:

The implementation of a 'Design-Build' process to expand Interstate Highway 4 form four to eight lanes over 6.7 miles. This initial permit authorizes all wetland/surface water impacts (106.7 acres) and a mitigation plan; initial earthwork (clearing, filling, and excavation); and construction of bridge foundations and substructure (including pile caps, piles and pier caps,) over the St. Johns River and Padgett Creek.

LOCATION:	Section 39,	Township 19 South,	Range 30 East
	Section 2, 10, 11, 15, 16	Township 19 South,	Range 30 East
	Section 24, 25, 35, 36	Township 19 South,	Range 30 East
COUNTY:	Volusia		

ISSUED TO:
(owner)

Florida Department of Transportation
719 South Woodland Blvd.
Deland, FL 32720

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This Permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes:

PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated JUNE 13, 2000

AUTHORIZED BY: St. Johns River Water Management District

Department of Resource Management Governing Board

By:_____
(DIRECTOR)
JEFF ELLEDGE

By:_____
(ASSISTANT SECRETARY)
HENRY DEAN

"EXHIBIT A"

Florida Department of Transportation

June 13, 2000

4-127-64105-1

1. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activities and the conditions for undertaking that activity shall constitute a violation of this permit.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner, which do not cause violations of state water quality standards.

4. Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in Chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988), which are incorporated by reference, unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the specifications in Chapter 6 of the Florida Land Development Manual: A Guide To Sound Land and Water Management (Florida Department of Environmental Regulation 1988). The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

5. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

6. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District a Construction Commencement Notice Form No. 40C-4.900(3) indicating the actual start date and the expected completion date.

7. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual Status Report Form No. 40C-4.900(4). These forms shall be submitted during June of each year.

8. For those systems which will be operated or maintained by an entity which will require an easement or deed restriction in order to provide that entity with the authority necessary to operate or maintain the system, such easement or deed restriction, together with any other final operation or maintenance documents as are required by Subsections 7.1.1. through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, must be submitted to the District for approval. Documents meeting the requirements set forth in these Subsections of the Applicants Handbook will be approved. Deed restrictions, easements and other operation and maintenance documents which require recordation either with the Secretary of State or the Clerk of the Circuit Court must be so recorded prior to lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance operation of the system is accepted by the local governmental entity. Failure to submit the appropriate final documents referenced in this paragraph will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

9. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to a local government.

10. Within 30 days after completion of construction of the permitted system, or independent portion of the system, the certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing As-Built Certification Form 40C-1.81(13) or 40C-1.181(14) supplied with this permit. When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the District. Submittal of the completed form shall serve to notify the District that the system is ready for inspection. Statement of completion and certification shall be based on the on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor. The following information, at a minimum, shall be certified on the as-built drawings:

A. Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;

B. Locations, dimensions, and elevations of all filter, exfiltation, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;

C. Dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;

D. Dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directors and conveyance of runoff to the treatment system;

E. Dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;

F. Existing water elevations(s) and the date determined; and

G. Elevation and location of benchmark(s) for the survey.

11. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of general condition no. 9 above, the District determines the system to be in compliance with the permitted plans, and the entity approved by the District in accordance with Subsections 7.1.1. through 7.1.4 of the Applicants Handbook: Management and Storage of Surface Waters, accepts responsibility for operation and maintenance of the system. The permit may not be transferred to such an approved operation and maintenance entity until the operation phase of the permit become effective. Following inspection and approval of the permitted system by the District, the permittee shall request transfer of the permit to the responsible approved operation and maintenance entity, if different from the permittee. Until the permit is transferred pursuant to Section 7.1 of the Applicants Handbook: Management and Storage of Surface Waters, the permittee shall be liable for compliance with the terms of the permit.

12. Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the District of the changes prior to implementation so that a determination can be made whether a permit modification is required.

13. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40C-4 or Chapter 40C-40, F.A.C.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer or ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Section 40C-1.612, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to the sale conveyance or other transfer.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the District.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

20. This permit for construction will expire five years from the date of issuance.

21. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

22. Prior to construction, the permittee must clearly designate the limits of construction on-site. The permittee must advise the contractor that any work outside the limits of construction, including clearing, may be a violation of this permit.

23. This permit authorizes a design-build process for the Interstate 4 expansion over a 6.7-mile interval between Orange Boulevard to the Saxon Boulevard interchange, as set forth in the design criteria package received by the District on February 11, 2000 and as amended by the information submitted on April 21, 2000. If the permittee elects to not utilize the design-build process, a modification to this permit must be obtained.

24. The construction activities authorized by this permit are limited to demolition and related preliminary site preparation activities within the project area, as this area is defined in the permit application package received by the District on February 11, 2000, and to the extent those activities are consistent with those set forth in the permit application package. The authorized activities include the following: installation of erosion control measures, wetland impacts, clearing and grubbing of the proposed construction area in the existing right-of-way, rough grading of surface water pond facilities, bridge foundation construction, implementation of a traffic maintenance plan, installation of barrier walls to protect the construction area, and removal of existing improvements within the project area.

25. A Standard General or an Individual permit must be obtained from the District prior to commencement of any construction not specified in the condition above. A Standard General Environmental Permit may be obtained for any phase of construction provided the phase is consistent with the design specifications as set forth in the design package received by the District on February 11, 2000. The permittee must submit, as part of the permit application submittal, complete construction plans and supporting material to demonstrate the proposed activity will meet District criteria and be consistent with the assumptions set forth in the design criteria package.

26. This permit authorizes no work north or east of station 3285+00. This excluded zone includes Pond CP-4 and any work on the Saxon interchange (e.g., the "TT ponds").

27. This permit does not authorize placement of any impervious surfaces on the site, except as noted in previous conditions.

28. The permittee must submit a detailed erosion, sediment, and turbidity control plans to the District at least 30 days prior to commencement of construction for District review and written approval. The District will respond as to the sufficiency of the erosion, sediment, and turbidity control plan, in writing, within 14 days of receipt of the plan.

29. The permittee must submit the design-build Scope of Service documents to the District at least 60 days prior to commencement of construction. If the District determines that the documents are inconsistent with the District's design criteria, then the permittee must obtain a modification to this permit prior to construction.

30. Prior to initiating any construction within the wetlands, the District must receive a letter of verification from the Lake Monroe Mitigation Bank stating that a transaction regarding the transfer of 14.2 mitigation credits has been completed.

31. In the event that the permittee does not successfully complete the transaction to obtain 14.2 mitigation credits from the Lake Monroe Mitigation Bank, the permittee must obtain a permit modification to provide alternative mitigation for the wetland impacts.

32. No project construction (including land clearing) may occur until the permittee has executed a Memorandum of Understanding with the state Division of Historical Resources to preclude or otherwise manage impacts on all historical features in the project area. The permittee must provide a copy of this document prior to commencing construction. If, the project will result in unacceptable loss of historical resources, then the permit may require modification to mitigate for historical impacts.

33. To ensure the protection of manatees within the project construction area, the permittee shall comply with the standard manatee construction conditions recommended by the Florida Department of Environmental Protection, Bureau of Protected Species Management. Specifically, the permittee shall comply with the following manatee protection construction conditions:

    a. The permittee shall instruct all personnel associated with the project of potential presence of manatees and the need to avoid collisions with manatees. At least one person shall be designated as a manatee observer when in-water work is performed. The observer shall have experience in manatee observation and must be equipped with polarized sunglasses to enhance viewing. The observer must be onsite during all

in-water construction and will advise construction personnel to cease construction when ever a manatee is sighted within 50 feet of the work.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatees Sanctuary Act.

c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible. No vessels shall operate and all in-water work will cease whenever manatee observation becomes ineffective (e.g., after sunset).

e. If manatee(s) are seen within 100 yards of the active daily construction operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee(s). These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

f. A collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL FMP (1-800-342-5367). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-407-562-3909) in south Florida.

g. Temporary signs concerning manatees shall be posted prior to and during all construction activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 feet by 4 feet that reads **"Caution: Manatee Area"** will be posted in a location prominently visible to water-related construction crews. A second sign measuring at least 8 ½ inches by 11 inches should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should read **"Caution: Manatee Habitat"**. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. A collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL FMP (1-800-342-5367). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580).

34. This permit does not authorize any filling of wetlands or surface waters that may occur as a result of demolition activities at the existing bridges. It is assumed that unwanted parts of the existing bridges will be dismantled and removed entirely to uplands. The permittee must modify this permit if any fill is to be placed, willfully or incidentally, beyond the limits that are approved for impacts by this permit.

35. During the bridge foundation and substructure construction activities, the permittee must monitor turbidity upstream and immediately downstream of the construction activity (including any turbidity measures).

    The background sample must not be taken within any visible plume. Samples must be collected two times daily with a morning and afternoon sample at least four hours apart during the bridge foundation and substructure construction activities.

    Before removal of the turbidity control measures, the turbidity levels within the area surrounded by the turbidity control measures must be sampled to ensure no release of turbid water once the turbidity control measures are removed. The turbidity control measures may not be removed until the sample data indicates levels that do not exceed the State Water Quality Standards. This sample data must be included within the weekly turbidity data report.

36. If at any time the downstream turbidity level exceeds the State Water Quality Standards, then all measures required to reduce the turbidity including stopping all bridge foundation and substructure construction activities, must be taken. The bridge foundation and substructure construction must not resume until the turbidity has returned to acceptable levels. Any such violation must be reported immediately to the District's Orlando Office.

37. All turbidity data must be submitted to the District's Orlando Office weekly. The data must contain the following information:

    - permit number;
    - date and time of sampling and analysis;
    - statement describing collection, handling, storage, and analysis methods;
    - a map indicating the location of the samples taken;
    - depth of sample;
    - antecedent weather conditions; and,
    - tidal stage and/or flow direction.

38. The permittee must provide the District with a check or transfer of funds in accordance with the terms of amendment number one to the Joint Project Agreement as executed on May 25, 2000. The check must be sent to:

    St. Johns River Water Management District
    Department of Finance and Accounting
    Attn: Suzanne Gable
    P.O. Box 1429
    Palatka FL 32178-1429

The project name and permit number must be written on the check. A cover letter must be included stating that submittal of the funds satisfies the permit condition regarding the donation of funds to the District for mitigation purposes. Once submitted to the District, the funds are nonrefundable. This permit must be modified prior to beginning construction if the permittee chooses not to donate funds for mitigation purposes.

H:\pds\data\palpds4standardconditions.DOC

64105-3

Permit with conditions 1728

(12)

St. Johns River
Water Management District
Kirby B. Green III, Executive Director • John R. Wehle, Assistant Executive Director

Post Office Box 1429 • Palatka, FL 32178-1429 • (386) 329-4500

October 5, 2001

Florida Department of Transportation
719 South Woodland Blvd.
Deland, FL 32720

SUBJECT: Permit Number 40-127-64105-3
I-4 St. Johns River Bridge Replacement

Dear Sir/Madam:

Enclosed is your general permit as authorized by the staff of the St. Johns River Water Management District on October 5, 2001.

This permit is a legal document and should be kept with your other important documents. The attached MSSW/Stormwater As-Built Certification Form should be filled in and returned to the Palatka office within thirty days after the work is completed. By so doing, you will enable us to schedule a prompt inspection of the permitted activity.

In addition to the MSSW/Stormwater As-Built Certification Form, your permit also contains conditions which require submittal of additional information. All information submitted as compliance to permit conditions must be submitted to the Palatka office address.

Permit issuance does not relieve you from the responsibility of obtaining permits from any federal, state and/or local agencies asserting concurrent jurisdiction for this work.

Please be advised that the District has not published a notice in the newspaper advising the public that it is issuing a permit for this proposed project. Publication, using the District form, notifies members of the public (third parties) of their rights to challenge the issuance of the general permit. If proper notice is given by publication, third parties have a 21-day time limit on the time they have to file a petition opposing the issuance of the permit. If you do not publish, a party's right to challenge the issuance of the general permit extends for an indefinite period of time. If you wish to have certainty that the period for filing such a challenge is closed, then you may publish, at your own expense, such a notice in a newspaper of general circulation. A copy of the form of the notice and a list of newspapers of general circulation is attached for your use.

In the event you sell your property, the permit will be transferred to the new owner, if we are notified by you within thirty days of the sale and if you provide the information required by 40C-1.612, F.A.C. Please assist us in this matter so as to maintain a valid permit for the new property owner.

Thank you for your cooperation, and if this office can be of any further assistance to you, please do not hestitate to contact us.

Sincerely,

Marianella Pacheco

Marianella S Pacheco
Permit Data Technician
Division of Permit Data Services

Enclosures: Permit with As-built Certification Form
Notice of Rights
List of Newspapers for Publication

cc: District Permit File

Consultant: URS Corporation
315 E. Robinson St., Suite 245
Orlando, FL 32801-1949

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO. 40-127-64105-3 **DATE ISSUED:** October 5, 2001

PROJECT I-4 St. Johns River Bridge Replacement

A PERMIT AUTHORIZING:

construction and operation of the widening of Interstate 4 from four lanes to six lanes from west of Orange Boulevard to west of Saxon Boulevard. The surface water management system includes two additional traveled lanes, dry retention systems,dry detention with underdrains, and wet detention systems. This application also includes the bridge replacements at the St. Johns River and Padgett Creek.

LOCATION:

Section(s):	24, 25, 35, 36	Township(s):	18S	Range(s):	30E
	2, 10, 11, 15, 16		19S		30E

Volusia County

Florida Department of Transportation
719 South Woodland Blvd.
Deland, FL 32720

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor any rights of privileges other than those specified therein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes:

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes:

PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated October 5, 2001

AUTHORIZED BY: St. Johns River Water Management District
Department of Resource Management

By: _____
(Service Center Director - Orlando)
David A Dewey

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 40-127-64105-3
FLORIDA DEPARTMENT OF TRANSPORTATION
DATED OCTOBER 5, 2001

1. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.

4. Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988), which are incorporated by reference, unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental 1988). The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

5. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

6. At least 48 hours prior to commencement of activity authorized by this permit, the

permittee shall submit to the District a Construction Commencement Notice Form No. 40C-4.900(3) indicating the actual start date and the expected completion date.

7. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an Annual Status Report Form No. 50C-4.900(4). These forms shall be submitted during June of each year.

8. For those systems which will be operated or maintained by an entity which will require an easement or deed restriction in order to provide that entity with the authority necessary to operate or maintain the system, such easement or deed restriction, together with any other final operation or maintenance documents as are required by subsections 7.1.1 through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, must be submitted to the District for approval. Documents meeting the requirements set forth in these subsections of the Applicant's Handbook will be approved. Deed restrictions, easements and other operation and maintenance documents which require recordation either with the Secretary of State or the Clerk of the Circuit Court must be so recorded prior to lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local governmental entity. Failure to submit the appropriate final documents referenced in this paragraph will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

9. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by the portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to local government or other responsible entity.

10. Within 30 days after completion of construction of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing As Built Certification Form 40C-1.181(13) or 40C-1.181(14) supplied with this permit. When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the District. Submittal of the completed from shall

serve to notify the District that the system is ready for inspection. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor. The following information, at a minimum, shall be verified on the as-built drawings:

1. Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;

2. Locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;

3. Dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine state-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;

4. Dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system;

5. Dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;

6. Existing water elevation(s) and the date determined; and Elevation and location of benchmark(s) for the survey.

11. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of general condition 9 above, the District determines the system to be in compliance with the permitted plans, and the entity approved by the District in accordance with subsections 7.1.1 through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, accepts responsibility for operation and maintenance of the system. The permit may not be transferred to such an approved

operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall request transfer of the permit to the responsible approved operation and maintenance entity, if different from the permittee. Until the permit is transferred pursuant to section 7.1 of the Applicant's Handbook: Management and Storage of Surface Waters, the permittee shall be liable for compliance with the terms of the permit.

12. Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the District of the changes prior implementation so that a determination can be made whether a permit modification is required.

13. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and chapter 40C-4 or chapter 40C-40, F.A.C.

14. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 40C-1.612, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.

17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the District.

19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

20. This permit for construction will expire five years from the date of issuance.

21. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

22. Prior to construction, the permittee must clearly designate the limits of construction on-site. The permittee must advise the contractor that any work outside the limits of construction, including clearing, may be a violation of this permit.

23. The operation and Maintenance entity shall submit inspection reports to the District two years after the operation phase permit becomes effective and every two years thereafter on District Form EN-46. The inspection form must be signed and sealed by an appropriate registered professional.

24. The surface water management system must be constructed and operated in accordance with the plans received by the District on September 5, 2001, as amended by Sheets 2.25, 2.26 and 2.62A, received by the District on October 4, 2001.

Notice Of Rights

1. A person whose substantial interests are or may be determined has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District), or may choose to pursue mediation as an alternative remedy under Sections 120.569 and 120.573, Florida Statutes, before the deadline for filing a petition. Choosing mediation will not adversely affect the rights to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth in Sections120.569 and 120.57, Florida Statutes, and Rules 28-106.111 and 28-106.401-.405, Florida Administrative Code. Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka, Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) within twenty-six (26) days of the District depositing notice of District decision in the mail (for those persons to whom the District mails actual notice) or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail actual notice). A petition must comply with Chapter 28-106, Florida Administrative Code.

2. If the Governing Board takes action which substantially differs from the notice of District decision, a person whose substantial interests are or may be determined has the right to request an administrative hearing or may choose to pursue mediation as an alternative remedy as described above. Pursuant to District Rule 40C-1.1007, Florida Administrative Code,the petition must be filed at the office of the District Clerk at the address described above, within twenty-six (26) days of the District depositing notice of final District decision in the mail (for those persons to whom the District mails actual notice) or within twenty-one (21) days of newspaper publication of the notice of its final agency action (for those persons to whom the District does not mail actual notice).
   Such a petition must comply with Rule Chapter 28-106, Florida Administrative Code.

3. A substantially interested person has the right to a formal administrative hearing pursuant to Section 120.569 and 120.57(1), Florida Statutes, where there is a dispute between the District and the party reqarding an issue of material fact. A petition for formal hearing must comply with the requirements set forth in Rule 28-106.201, Florida Administrative Code.

4. A substantially interested person has the right to an informal hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

5. A petition for an administrative hearing is deemed filed upon delivery of the petition to the District Clerk at the District headquarters in Palatka, Florida.

6. Failure to file a petition for an administrative hearing, within the requisite time frame shall constitute a waiver of the right to an administrative hearing (Section 28-106.111, Florida Administrative Code).

7. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, and Chapter 28-106, Florida Administrative Code and Section 40C-1.1007, Florida Administrative Code.

Notice Of Rights

8. An applicant with a legal or equitable interest in real property who believes that a District permitting action is unreasonable or will unfairly burden the use of his property, has the right to, within 30 days of receipt of notice of the District's written desision regarding a permit application, apply for a special master proceeding under Section 70.51, Florida Statutes, by filing a written request for relief at the office of the District Clerk located at District headquarters, P. O. Box 1429, Palatka, FL 32178-1429 (4049 Reid St., Palatka, Florida 32177). A request for relief must contain the information listed in Subsection 70.51(6), Florida Statutes.

9. A timely filed request for relief under Section 70.51, Florida Statutes, tolls the time to request an administrative hearing under paragraph no. 1 or 2 above (Paragraph 70.51(10)(b), Florida Statutes). However, the filing of a request for an administrative hearing under paragraph no. 1 or 2 above waives the right to a special master proceeding (Subsection 70.51(10)(b), Florida Statutes).

10. Failure to file a request for relief within the requisite time frame shall constitute a waiver of the right to a special master proceeding (Subsection 70.51(3), Florida Statutes).

11. Any substantially affected person who claims that final action of the District constitutes an unconstitutional taking of property without just compensation may seek review of the action in circuit court pursuant to Section 373.617, Florida Statutes, and the Florida Rules of Civil Procedures, by filing an action in circuit court within 90 days of the rendering of the final District action, (Section 373.617, Florida Statutes).

12. Pursuant to Section 120.68, Florida Statutes, a person who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to the Florida Rules of Appellate Procedure within 30 days of the rendering of the final District action.

13. A party to the proceeding before the District who claims that a District order is inconsistent with the provisions and purposes of Chapter 373, Florida Statutes, may seek review of the order pursuant to Section 373.114, Florida Statutes, by the Florida Land and Water Adjudicatory Commission, by filing a request for review with the Commission and serving a copy on the Department of Environmental Protection and any person named in the order within 20 days of adoption of a rule or the rendering of the District order.

14. For appeals to the District Court of Appeal, a District action is considered rendered after it is signed on behalf of the District, and is filed by the District Clerk.

15. Failure to observe the relevant time frames for filing a petition for judicial review described in paragraphs #11 and #12, or for Commission review as described in paragraph #13, will result in waiver of that right to review.

Notice Of Rights

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing Notice of Rights has been sent by U.S. Mail to:

Florida Department of Transportation
719 South Woodland Blvd.
Deland, FL 32720

at 4:00 p.m. this 5th day of October, 2001.

Division of Permit Data Services
for Gloria Lewis, Director

St. Johns River Water Management District
Post Office Box 1429
Palatka, FL 32178-1429
(386) 329-4152

Permit Number: 40-127-64105-3

St. Johns River
Water Management District
Kirby B. Green III, Executive Director • John R. Wehle, Assistant Executive Director
David Dewey, Altamonte Service Center Director

975 Keller Road • Altamonte Springs, FL 32714-1618 • (407) 659-4800

October 4, 2001

Mr. Tadd Kasbeer
Florida Department of Transportation
719 South Woodland Boulevard
DeLand FL 32720

Re: I-4 St. Johns River and Padgett Creek Bridge Replacements
Permit Number 40-127-64105-3

Dear Mr. Kasbeer:

The St. Johns River Water Management District, as staff to the Board of Trustees of the Internal Improvement Trust Fund, have reviewed the proposed project that will occur over sovereign submerged lands and have no objection to the replacement and expansion of the existing bridges over the St. Johns River and Padgett Creek, as depicted on the plans received by the District on September 5, 2001. The proposed improvements are consistent with the use authorized under the Board of Trustees of the Internal Improvement Trust Fund Public Easement Number 271 and 24562, executed on March 31, 1958 and June 6, 1967, respectively.

Consider this the authority sought under Section 253.77, Florida Statues, to pursue this project. Please be aware that you will be required to obtain a regulatory permit pursuant to Chapter 403, Florida Statutes.

This letter in no way waives the authority and/or jurisdiction of any governmental entity nor does it disclaim any title interest that the State may have in this project site.

If you have any questions, please contact me at 407/659-4800.

Sincerely,

David A. Dewey, Director
Altamonte Springs Service Center

c: PDS/PC, Joan B. Budzynski, Margie Cook, Lee Kissick

APPENDIX D
AGENCY MEETING MINUTES

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

610 Crescent Executive Court
Suite 400
Lake Mary, FL 32746

Telephone (407) 805-0355
Facsimile (407) 805-0227
www.hntb.com

Meeting Date/Time: November 13, 2013

HNTB Project No. 59219

Meeting Name: I-4 SAMR SJRWMD Pre-Application Meeting

Location: SJRWMD, Maitland Office

Purpose: SJRWMD Pre-App for I-4 Ultimate PD&E

Attending: Luis Diaz, HNTB
Melinda Fischl, HNTB
Ken Lewis, SJRWMD
Lee Kissick, SJRWMD
Maurice Pearson, 3E
Gunda Griffin, 3E

The purpose of this meeting was to discuss the I-4 PD&E project and the drainage approach to the project. The following items were discussed:

- Project Overview:
  - 5 Sections and 5 Reports – 5)US 27 to Polk County Line, 1)Polk County Line to SR 528, 2)SR 528 to Kirkman Interchange, 3)SR 434 to SR46, and 4)SR 46 to SR 472
  - Sections 1, 2, and 5 are located in SFWMD
  - Sections 3 and 4 are located in SJRWMD
  - Design to be completed by end of 2014

- Project Team:
  - HNTB – Roadway, Structures, Drainage and Permitting
  - 3 E Consultants – Wetlands

- Areas of Interest:
  - Segment 3 – There was very little by way of wetlands
  - Segment 4 – Pond 411– the borrow pit is a very nice location because it has a connection to St. Johns
    - Would rather use somewhere than borrow lake (prior to this, the use of swales was suggested and they were talked out of it).
  - Padgett Creek – Melinda discussed the "Flushing Approach" and will send Lee and Ken the ACOE Study and the Power Point the FDOT wants to use as an approach. Lee was in agreement with this idea.
  - Ken pointed out overtreatment using OFW quantities is good or using compensating treatment of currently non-treated as long as it is within the same receiving water.

- Lee likes long, linear ponds and/or swales. He says the wetlands along the road within the right-of-way are very poor quality and he would give FDOT a break on using those (check the existing permit for the area between 17/92 and Padgett Creek).
    - There are 3 mitigation banks within this area and FDOT has a preference to use the banks.
    - Ken will send a mitigation map showing the basins.

- Engineering:
    - Recent list of impaired water bodies.
    - Stay within the easement of SSL and Tribe
    - The use of SSL for barge equipment is something to consider.
    - Luis stated that we are not doing anything in the water, just above it (in the area of the bridge over St. Johns/Lake Monroe).
    - Individual Permit:
        - The project area may slightly change, making it a major permit modification for fees impacted but not the way it is permitted.
        - CH 62-330
        - SWERP (Volume 1)
        - District Rules (Volume 2)

- Environmental Considerations:
    - 3E Consultants (3E) presented a general overview of how wetlands and surface waters were delineated throughout the corridor. Within the existing right-of-way (ROW) and potential pond locations, the limits of jurisdictional systems were identified using handheld Global Positioning System (GPS) devices. In locations outside of the existing ROW, GPS devices were used in combination with on the ground aerial interpretation.

    - The group discussed a proposed pond location just north of Padgett Creek on the west side of the existing ROW within a portion of a borrow pit. Lee indicated that he felt the quality of the borrow pit was good and that design considerations should look to avoid converting the pit into a stormwater pond. Lee discussed that he permitted I-4 improvements through this section of roadway near Padgett Creek and the borrow pit. During that permit review, FDOT avoided impacts to the borrow pit by doing a long linear stormwater system near the edge of the road. Lee suggested that consideration for such a treatment system should be considered again as a part of our planning. In this area of large wetland systems, Lee's preference is for a stormwater treatment facility that is a linear system through areas of disturbed wetland communities.

    - Melinda mentioned that the FDOT's approach to the possible addition of culverts under I-4 at Lake Monroe and Padgett Creek could create flushing of the creek. Lee indicated that mitigation value may be given for the improvements created by the culvert addition.

    - Maurice indicated that mitigation options are being explored including mitigation banking.

- Lee mentioned that the project should not have Riparian Habitat Protection Zone (RHPZ) involvement.
- Lee indicated that the project traverses three (3) hydrologic basins.

The project will likely require an Individual permit under the major modification.

Should any revisions, additions or clarifications of these notes be required, please advise Melinda Fischl at mfischl@hntb.com .