



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



Wetland Evaluation Report (WER)

**Segment 3: State Road 400 (SR 400)/Interstate 4 (I-4)
from One Mile East of SR 434 to East of SR 15-600/US 17-92**

Seminole County (77160), Florida

July 2016

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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 (SR) 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, for 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 segments will update the original PD&E study. This wetland evaluation report (WER) was prepared for Segment 3 of the I-4 BtU PD&E study and contains and details the wetland and other surface water information that fulfills the purpose and need for the SR 400 (I-4) Segment 3, from one mile East of SR 434 to East of SR 15-600/US 17-92, Project Development and Environment (PD&E) study.

The purpose of this wetland evaluation report is to document the potential wetland and/or other surface water involvement based on design changes in support of the PD&E update for the I-4 BtU Segment 3 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 the 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 buildout of I-4 to its ultimate condition through Central Florida, including segments in Polk, Osceola, Orange, Seminole and Volusia Counties. The project limits for the segment analyzed in this report are within an approximate 10-mile segment of I-4 which extends from east of SR 434 (Milepost 4.050) to east of US 17-92 (Milepost 14.135) in Seminole County (herein referred to as I-4 Segment 3), as shown in Figure 1.1 and Appendix A, Exhibit 1.

The concept design proposes the addition of two new express lanes in each direction, resulting in a total of ten dedicated lanes for the majority of the I-4 Segment 3 corridor [6 general use lanes (GUL) + 4 express lanes (EL)]. The section of I-4 from the begin project limits to just south of Lake Mary Boulevard will have three GUL and one auxiliary lane in each direction, resulting in a 12-lane section (6 GUL + 2 Aux + 4 EL) through this portion of the corridor. Although the interstate is a designated east-west corridor, the alignment follows a southwest to northeast orientation through the limits of Segment 3. The study area in this section from east of SR 434 to east of US 17-92 includes interchanges at Lake Mary Boulevard, CR 46A, SR 417 (Seminole Expressway)/SR 429 (future Wekiva Parkway), SR 46 and US 17-92. Figure 1.2 illustrates the proposed mainline typical sections for I-4 Segment 3.

1.2 Purpose and Need

The proposed improvements to I-4 include widening the existing six-lane divided urban interstate to a 10- or 12-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 Greenway/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.

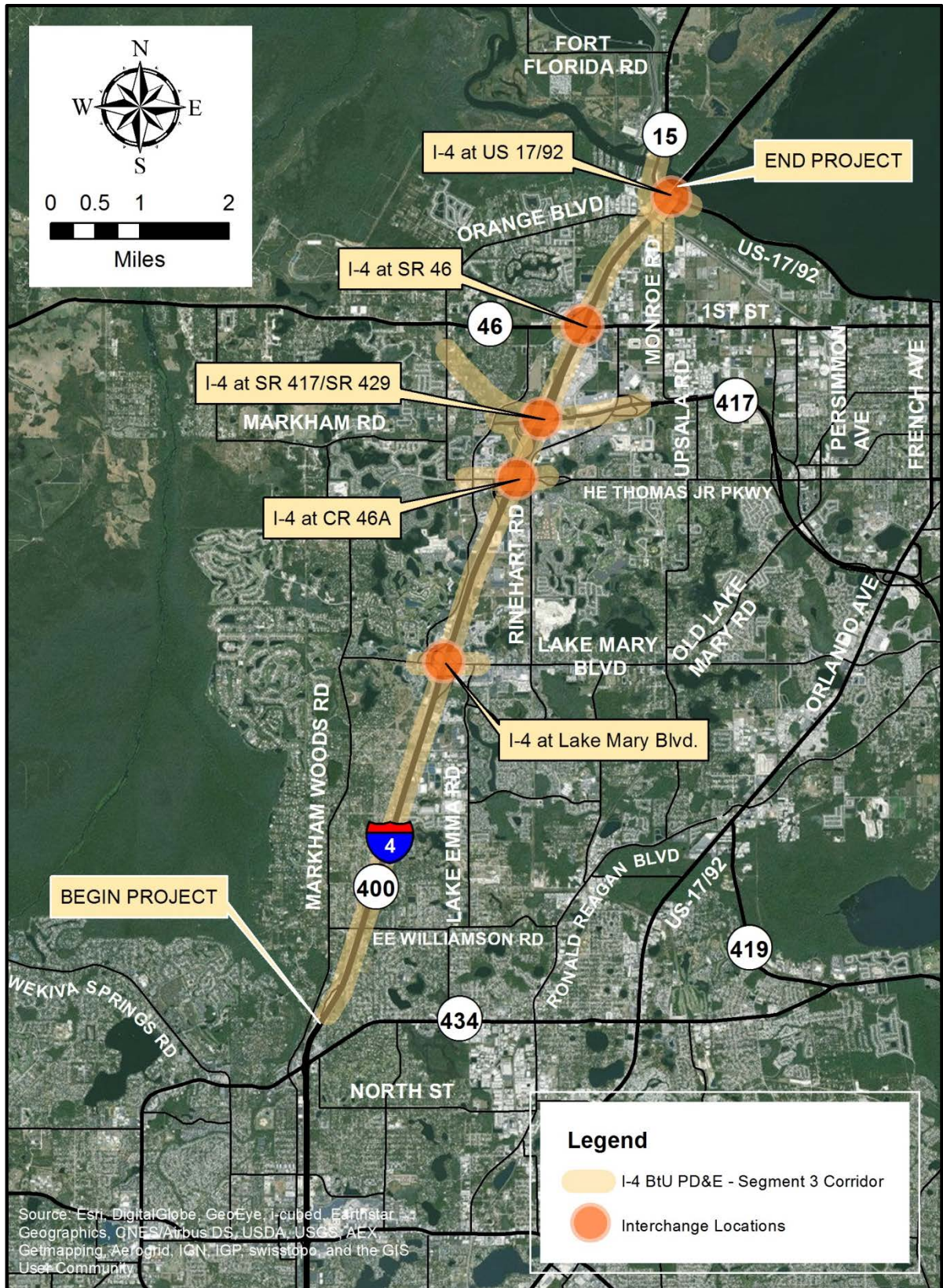
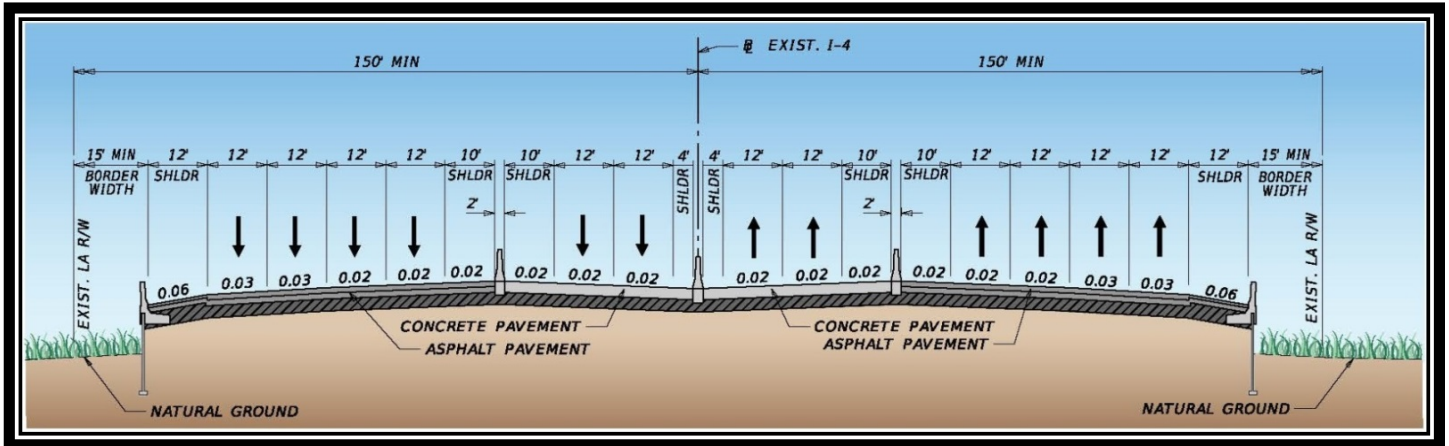
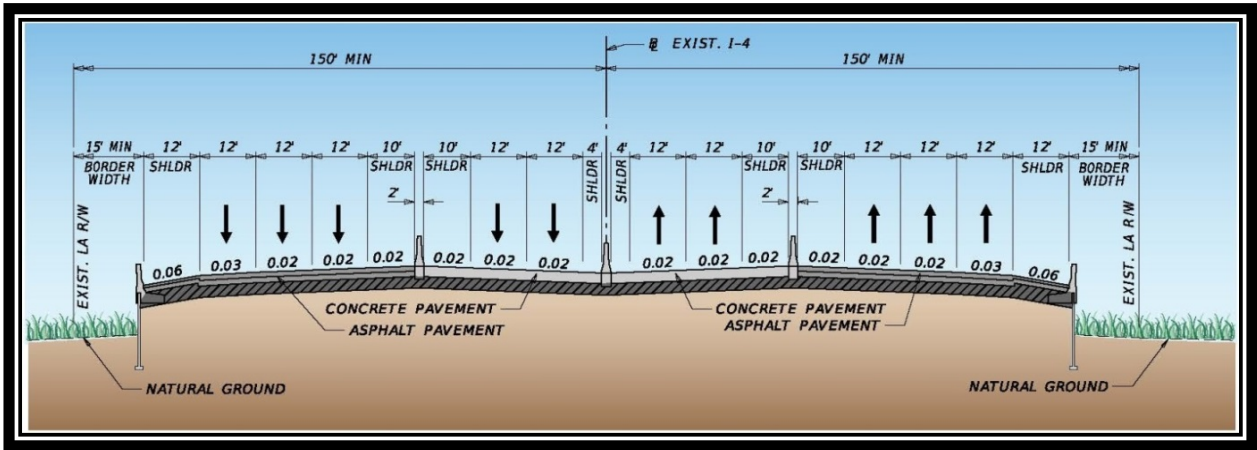


Figure 1.1 – Project Location Map



Typical Section SR 400 (Interstate 4)
 MP 4.725 to MP 7.843 (Seminole County)
 Station 2079+37.30 to Station 2244+00.00
 Design Speed = 70 MPH



Typical Section SR 400 (Interstate 4)
 MP 7.843 to MP 14.178 (Seminole County)
 Station 2244+00.00 to Station 2578+48.33
 Design Speed = 70 MPH

Figure 1.2 - I-4 Segment 3 Proposed Typical Sections

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.

The jurisdictional wetland and other surface water limits for I-4 Segment 3 were previously identified in the May 2000 Wetland Evaluation Report (WER) as a part of the PD&E study. In addition, the report addressed the potential for wetland and other surface water impacts, it addressed an alternative analysis and avoidance and minimization, as well as conducted a WET II Functional Analysis to assess the impacts and the conceptual mitigation plan. Commitments made at that time included: (1) Minimization and avoidance of wetland impacts, where possible, would be used based on safe and sound engineering and construction constraints. (2) Agency coordination will continue during the permitting phase. (3) Adverse wetland impacts will be mitigated based on coordination with agencies during the permitting phase.

This WER reevaluates the jurisdictional limits of wetlands and other surface waters within the project, assesses the potential for wetland and other surface water involvement, proposes conceptual mitigation needs using the Uniform Mitigation Assessment Method (Chapter 62-345.100, Florida Administrative Code) and updates previous project commitments. This report has been prepared following guidelines presented in the Project Development and Environmental (PD&E) Manual, Part 2, Chapter 18 (FDOT, 4/24/2013) to identify jurisdictional wetlands and other surface waters along the project corridor and to document potential project related impacts.

The Interstate 4 Segment 3 corridor contains both wetland and other surface water communities. These communities were evaluated for their qualitative and quantitative condition for providing habitat for wetland dependent wildlife species. The roadway corridor improvements will involve work in, on or over wetlands and other surface water communities located within limits of Interstate 4 from one mile east of SR 434 to east of SR 15-600/US 17-92.

2.0 Methodology and Assessment

The existing right-of-way (ROW) of I-4 Segment 3 and newly proposed pond locations made up the corridor area in which the jurisdictional extent of onsite wetlands, and other surface water systems were evaluated. The evaluation included a review of current and historic aerial photography of the study area, and ground-truthing 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 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 Plain Region* and the *State of Florida's Delineation of the Landward Extent of Wetlands and Surface Waters* (Chapter 62-340, Florida Administrative Code). 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. The landward extent of other surface water systems was recognized to be at the top-of-bank for ditches with side slopes of 1-foot vertical to 4-feet horizontal or steeper or using the seasonal high for swales with side slopes flatter than 1-foot vertical to 4-feet horizontal. Wetlands and other 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 November 2015 using handheld Global Positioning Systems (GPS) devices. In the field, wetlands and other surface waters were generally delineated from the western project limits to the eastern project limits within the existing ROW of I-4 and all proposed stormwater pond area locations. Photographic representation of the 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, religious 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 Method (UMAM) (Chapter 62-345.100, Florida Administrative Code) was used to qualify each jurisdictional system’s current condition. The UMAM is a matrix developed by the Florida Department of Environmental Protection (FDEP) 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 criteria: 1) Location and Landscape Support, 2) Water Environment and 3) Community Structure, where applicable. 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 a wetland).

For the I-4 Segment 3 project, UMAM scoring for wetlands and surface water functional loss were summarized by assigning a criterion of Low, Moderate or 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 3 includes roadway and proposed pond sites.

EASTBOUND I-4

Wetlands

Wetland 1(E)

Wetland 1(E) (WL-1(E)) is located along the eastbound travel lanes of I-4, approximately 0.70-miles east of I-4 and SR 434 interchange near Station 2050. The surrounding land uses of this system consist of roads and highways, stormwater ponds, upland forest, open land and residential development.

WL-1(E) is best classified as a Mixed Wetland Hardwoods (FLUCFCS 6170) of low quality. This system is vegetated by red maple (*Acer rubrum*), sweet bay (*Persea palustris*), cabbage palm (*Sabal palmetto*), Carolina willow (*Salix caroliniana*), muscadine grapevine (*Vitis rotundifolia*), poison ivy (*Toxicodendron radicans*), saw palmetto (*Serenoa repens*), and wax myrtle (*Myrica cerifera*). WL-1(E) is part of a larger system that extends outside of the improvement areas, approximately 0.07 acres lay within limits of the existing I-4 ROW.

WL-1(E) receives runoff from the eastbound I-4 travel lanes, surrounding natural lands, and residential developments. No wildlife was observed during site evaluations; however, it is anticipated that this system could support foraging opportunities for wetland dependent species, in particular avian species.

It is anticipated that approximately 0.07 acres of WL-1(E) will be impacted from I-4 Segment 3 improvements.

Wetland 1A(E)

Wetland 1A(E) (WL-1A(E)) is located along the I-4 eastbound exit ramp to Lake Mary Boulevard, near Station 2250. The surrounding land uses of this system include an existing stormwater management pond, disturbed forested uplands, and roads and highways.

WL-1A(E) is best classified as a Freshwater Marsh (FLUCFCS 6410) of moderate quality. Vegetation found within this system consists of redroot (*Lachnanthes caroliana*), fringed meadowbeauty (*Rhexia petiolata*), chalky bluestem (*Andropogon virginicus*), maidencane (*Panicum* sp.), Elliott's lovegrass (*Eragrostis elliottii*), *Eupatorium* sp., and St. John's-wort (*Hypericum* sp.). Approximately 0.91 acres lie within the limits of the existing I-4 ROW.

WL-1A(E) receives runoff from the adjacent land uses consisting of disturbed uplands, and roads and highways, including the eastbound I-4 travel lanes. No wildlife was observed during site evaluations; however, it is anticipated that this system could support foraging opportunities for wetland dependent species, in particular avian species.

It is anticipated that impacts to WL-1A(E) can be avoided and will not result from I-4 Segment 3 improvements.

Wetland 2(E)

Wetland 2(E) (WL-2(E)) is located along the eastbound travel lanes of I-4, approximately 0.70-miles east of I-4 and the Lake Mary Boulevard interchange near Station 2300. The surrounding land uses of this system includes

maintained open land, a stormwater pond, upland forests, and disturbed open land being used for off road vehicle activity.

WL-2(E) is best classified as a Freshwater Marsh (FLUCFCS 6410) of low quality, and is dominated by Carolina willow. Other vegetation within the system includes Chinese tallow (*Triadica sebifera*), cabbage palm (at the fringe), and ragweed (*Abrosia artemisifolia*). This system totals approximately 4.75 acres in size and is located immediately adjacent to the existing I-4 ROW, no portion of WL-2(E) is within the I-4 Segment 3 ROW.

WL-2(E) receives runoff from the adjacent berm, I-4 eastbound travel lanes and the surrounding natural lands. No wildlife was observed during site evaluations; however, it is anticipated that this system could support foraging opportunities for wetland dependent species, in particular avian species.

An existing stormwater pond, Pond 308, is adjacent to WL-2(E); however, no impacts to jurisdictional wetlands are anticipated.

Wetland 2A(E)

Wetland 2A(E) (WL-2A(E)) is located along the I-4 eastbound travel lanes, near Station 2500; approximately 0.2 miles east of the I-4 and SR 46 interchange. Surrounding land uses of this system consists of roads and highways, commercial development, open land, forested uplands, and ditches.

W-2A(E) is best classified as Willow and Elderberry (FLUCFCS 6180), of low quality, and is dominated by Carolina willow and primrose willow (*Ludwigia* sp.), with scattered red maple, ragweed, and duck potato (*Sagittaria lancifolia*). W-2A(E) is approximately 0.96 acres in size and lies immediately adjacent to the existing I-4 ROW. This system receives runoff from the I-4 eastbound travel lanes and surrounding commercial developments.

During site evaluations, no wildlife was observed using this system; however, it is anticipated that foraging opportunities for wetland dependent species is supported by W-2A(E).

No impacts are anticipated from the I-4 Segment 3 improvements.

Wetland 3(E)

Wetland 3(E) (WL-3(E)) is located at the southeast quadrant of Monroe Road and US 17/92 access ramp to I-4 eastbound near Station 2550. This system is contiguous with Surface Water 24(E) and outfalls to Lake Monroe via a culvert. Surrounding land uses consist of access ramps, roads and highways, stormwater ponds, ditches, and open land.

This system is best classified as a Mixed Wetland Hardwoods (FLUCFCS 6170) of moderate quality. Dominant features of WL-3(E) include hackberry (*Celtis occidentalis*), cabbage palm, red maple, Carolina willow, primrose willow, wax myrtle, common reed (*Phragmites australis*), dog fennel (*Eupatorium capillifolium*), elderberry (*Sambucus canadensis*), saw palmetto, swamp fern (*Blechnum serrulatum*), water hyacinth (*Eichhorhria crassipes*), and open water. WL-3(E) encompass approximately 4.83 acres.

WL-3(E) receives runoff from the I-4 eastbound travel lanes, Monroe Road, and access ramps. No wildlife was observed using this wetland system during site reconnaissance. However, it is anticipated that foraging, resting and roosting opportunities for wetland dependent wildlife species is present, in particular wading birds.

No impacts to this system are anticipated to result from the I-4 Segment 3 improvements.

Wetland 4(E)

Wetland 4(E) (WL-4(E)) is located near the southeast quadrant of the US 17/92 and I-4 interchange. Surrounding land uses consist of mixed wetland hardwoods, open land, ditches, upland forests, roads, and Lake Monroe.

This system is best classified as Mixed Wetland Hardwoods (FLUCFCS 6170) and is of a moderate quality. Vegetation present includes a dense canopy of cypress (*Taxodium* sp.), cabbage palm, sweet bay, sweet gum (*Liquidambar styraciflua*), red maple, and American elm (*Ulmus americana*), with an understory of saw palmetto, wax myrtle, swamp fern, and cinnamon fern (*Osmunda cinnamomea*) vegetation. Approximately 0.43 acres of WL-4(E) lie within the ROW of I-4 improvements.

WL-4(E) is contiguous with a wetland-cut ditch (SW-27(E)) and receives runoff from the surrounding roadway. No wildlife was observed using the system; however, foraging, resting, denning, and roosting opportunities for wetland dependent wildlife species could be supported by WL-4(E).

No impacts are anticipated from the I-4 Segment 3 improvements.

Wetland 5(E)

Wetland 5(E) (WL-5(E)) is located within the infield of the US 17/92 and I-4 eastbound off ramp to US 17/92. WL-5(E) is best characterized as Mixed Wetland Hardwoods (FLUCFCS 6170) of moderate quality. The vegetative composition of this system is similar to that of WL-4(E) consisting of cypress, cabbage palm, sweet bay, sweet gum, red maple, and American elm, with an understory of saw palmetto, wax myrtle, swamp fern and cinnamon fern. WL-5(E) encompasses approximately 2.33 acres with the I-4 ROW.

During site reviews, no wildlife was observed using the system, but it is anticipated that WL-5(E) provides resting, foraging, and roosting opportunities for wetland dependent avian wildlife species.

No impacts to this system are anticipated from the I-4 Segment 3 improvements.

Wetland 6(E)

Wetland 6(E) (WL-6(E)) is located in the northeast quadrant of I-4 and US 17/92 interchange and include the shoreline of Lake Monroe. Surrounding land uses consist of Lake Monroe, mixed wetland hardwoods, and roads and highways.

WL-6(E) is best classified as mixed wetland forested (FLUCFCS 6170) of moderate quality. This wetland system was historically connected to a larger floodplain system to the south that was bisected by US 17/92. The vegetative composition of this system is similar to WL-4(E) and includes a dense canopy of cypress, cabbage palm, sweet bay,

sweet gum, red maple, and American elm, with an understory of saw palmetto, wax myrtle, swamp fern, and cinnamon fern vegetation. Approximately 0.58 acres of WL-6(E) lie within the ROW of I-4 improvements.

WL-6 (E) is contiguous with Lake Monroe and receives runoff from US 17/92 and the I-4 eastbound travel lanes.

No wildlife was observed using this system during site reconnaissance; however, foraging, resting, denning, and roosting opportunities for wetland dependent wildlife species could be supported by WL-6(E), in particular avian species.

No impacts are anticipated from the I-4 Segment 3 improvements.

SURFACE WATER COMMUNITIES

Ditches

Most ditch systems within the project corridor are similar in condition, vegetative structure, and hydrological condition. These systems were individually reviewed in the field, but are being reported collectively due to their similarity.

Surface Water(s) (SW)- 3(E), 6(E), 16(E), 17(E), 18(E), 20(E), 22(E), 22A(E), 22B(E), 24(E) and 27(E)

SW-3(E), SW-6(E), SW-16(E), SW-17(E), SW-18(E), SW-20(E), SW-22(E), SW-22A(E), SW-22B(E), SW-24(E) and SW-27(E) are located along the existing eastbound travel lanes of I-4 from east of SR 434 to east US 17/92 (Please reference Surface Water and Wetland Maps, Exhibits 5). These systems are low quality habitat and are located within the existing 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, disturbed forested uplands, forested/herbaceous wetlands, lakes and open land.

These other surface waters are best characterized as Streams and Waterways, upland-cut ditches (FLUCFCS 5130), and are of low quality. During site reconnaissance these systems were either inundated or saturated. Dominant vegetation inhabiting these habitats include taro (*Colocasia esculenta*), primrose willow, foxtail (*Alopecurus* sp.), bidens (*Bidens alba*), pennywort (*Hydrocotyle* sp.), bahiagrass (*Paspalum notatum*), wax myrtle, saltbush (*Baccharis halimifolia*), fleabane (*Erigeron quercifolius*), cattail (*Typha* sp.), elderberry, sedges (*Carex* sp.), dog fennel, ragweed, *Bacopa* (*Bacopa monnieri*), torpedograss (*Panicum repens*), water hemlock (*Cicuta maculate*), pickerel weed (*Pontederia cordata*), maidencane (*Panicum hemitomom*), and carpetweed (*Phyla nodiflora*). These systems encompass approximately 1.84 acres within the ROW of the I-4 improvements, of which 0.85 acres are proposed for impacts associated with the I-4 Segment 3 improvements.

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. One federally protected species, the wood stork (*Mycteria americana*), one little blue heron (*Egretta caerulea*) and three white Ibis (*Eudocimus albus*), both state listed species of special concern, were observed foraging in surface waters within the study area. No other protected species were observed using these systems; however, it is anticipated that foraging opportunity for wetland dependent avian species may be present.

Other wildlife species observed during site reviews include: raccoons (*Procyon lotor*), great egrets (*Ardea alba*), ospreys (*Pandion haliaetus*), great blue herons (*Ardea Herodias*), mallards (*Anas platyrhynchos*), anhingas (*Anhinga anhinga*), eastern mud turtle (*Kinosternon subrubrum*), American coots (*Fulica americana*) and moorhens (*Gallinula galeata*).

Swales

Surface Water(s) (SW)- 19(E) and Surface Water 21(E)

SW-19(E) and SW-21(E) are located along the ROW of the eastbound travel lanes of I-4 from east of SR 434 to east of US 17/92 (See Surface Water and Wetland Map-Exhibits 5). These systems are located within the maintained ROW and are subject to routine maintenance. Surrounding land uses consist of I-4 travel lanes, Orange Boulevard, Monroe Road, and railway.

These systems are best classified as Streams and Waterways, upland-cut swales (FLUCFCS 5130), of low quality, and are seasonally saturated or inundated. Vegetation present includes torpedograss, maidencane, pennywort, bidens, fleabane, coinwort (*Centella asiatica*), and bahiagrass. These systems total approximately 0.07 acres.

SW-19(E) and SE-22(E) receive runoff from surrounding roads and highways, and are connected to other ditches or outfall to stormwater ponds. No wildlife was observed.

It is anticipated that 0.07 acres will be impacted as a result of I-4 improvements associated with Segment 3.

Lakes

Surface Water 2(E)

Surface Water 2 (SW2-(E)) is contiguous with WL-1(E) and is located along the eastbound travel lanes of I-4, approximately 0.7-miles east of SR 434 and I-4 interchange near Station 2060.

SW-2(E) is best classified as Lakes less than 10 acres, which are dominant features, (FLUCFCS 5240), and is of moderate quality. SW-2(E) is vegetated by submerged and emergent aquatic plants. This system lies just beyond the existing ROW of I-4 and should not experience impacts (direct or indirect) from I-4 improvements.

No wildlife was observed using the system during site evaluations; however, it is anticipated that foraging opportunities for wetland dependent avian species is present.

No wetland or other surface water impacts are anticipated from the I-4 Segment 3 improvements.

Surface Water (SW)- 5(E)

Surface Water (SW-5(E)) is located along the eastbound travel lanes of I-4, approximately 0.12-miles north of EE Williamson Road overpass at I-4 near Station 2120. Surrounding land uses are best classified as forested wetlands, I-4 eastbound travel lanes, open land, residential development, and roads and highways.

This system is best described as lakes larger than 10 acres, but less than 100 acres with a Mixed Wetland Hardwoods fringe (FLUCFCS 5230/6170), and of moderate quality. Dominant vegetation includes cabbage palm,

elderberry, cattail, Carolina willow, torpedograss, and maidencane. Approximately 1.33 acres of SW-5(E) lies within the ROW of I-4 improvements.

This system is isolated and receives runoff from the surrounding landscape that includes I-4 travel lanes, natural open lands, and residential developments.

No wildlife species were observed using these systems during site evaluations; however, it is anticipated that foraging opportunity for avian wetland dependent species may be present.

It is anticipated that 1.33 acres will be impacted as a result of I-4 Segment 3 improvements.

Existing Stormwater Ponds¹

Surface Water(s) (SW)- 1(E), 4(E), 7(E), 8(E), 9(E), 10(E), 11(E), 12(E), 13(E), 14(E), 15(E), 18A(E), 23(E), 25(E) and 26(E)

SW-1(E), SW-4(E), SW-7(E), SW-8(E), SW-9(E), SW-10(E), SW-11(E), SW-12(E), SW-13(E), SW-14(E), SW-15-(E), SW-18A(E), SW-23(E), SW-25(E), and SW-26(E) systems are located along the eastbound travel lanes of I-4 (See Surface Water and Wetland Map Exhibits 5). Surrounding land use types include ramps, roads and highways, forested/herbaceous wetlands and other surface waters, commercial and residential development, open land and upland forests.

These surface waters are best described as reservoirs less than 10 acres which are dominant features (FLUCFCS 5340), and are further identified as stormwater management ponds with well-defined, maintained banks and control structures, or with defined littoral zones and control structures.

Dominant vegetation present within these stormwater management ponds includes cattail, ragweed, Carolina willow, primrose willow, duck potato, torpedograss, dog fennel, wax myrtle, elderberry, taro, common reed and sedges. These systems provide treatment for the existing I-4 travel lanes and adjacent open lands.

During site reconnaissance, open water and maintained bahiagrass (pond side slopes) were observed in association with these systems. Ruderal and weedy vegetation (e.g. ragweed, dog fennel, Mexican clover (*Richardia scabra*), etc.) was occasionally observed within the littoral zone or along the berms, as well as emergent vegetation and planted cypress, wax myrtle, ornamentals and pine trees. These systems total approximately 41.82 acres.

Three little blue herons and four white Ibis, state listed species of special concern were observed foraging in the study area. Common wildlife species including great egrets, ospreys, great blue herons, mallards, anhinga, eastern mud turtles, American coots and moorhens were observed using these systems.

No other listed wildlife species were observed; however, it is anticipated that foraging opportunity for avian wetland dependent species may be present.

¹ 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.

WESTBOUND I-4

Wetlands

Wetland 1(W)

Wetland 1(W) (WL 1(W)) is located along the westbound travel lanes of SR 46 near the intersection of the SR 46 underpass at I-4 near Station 50 along SR 46. Surrounding land uses include roads and highways, commercial development, maintained open land, other surface waters and forested wetlands.

WL-1(W) is best classified as a Mixed Wetland Hardwoods (FLUCFCS 6170) of moderate quality. Dominant vegetation includes sweetgum, cabbage palm, Carolina willow, red maple, sweet bay, water oak (*Quercus nigra*), hackberry, wax myrtle and primrose willow; with an understory of saw palmetto, canopy saplings, broomsedge (*Andropogon virginicus*), cinnamon fern, lizard's tail (*Saururus cernuus*), taro and green briar (*Smilax* sp.). Approximately 0.07 acres of WL-1(W) are located within the existing ROW of the I-4 improvements.

WL-1(W) is isolated and receives runoff from the adjacent roads. No wildlife was observed using the system.

No impacts are anticipated as a result of I-4 improvements associated with Segment 3.

Wetland 2(W)

Wetland 2(W) (WL-2(W)) is located east of WL-1(W) near the intersection of the SR 46 underpass at I-4, near Station 50 along SR 46. Surrounding land uses consist of roads and highways, maintained open land and other surface waters.

WL-2(W) is best classified as a Mixed Wetland Hardwoods (FLUCFCS 6170), of low quality. Dominant vegetation within this portion of the system consists of sweet bay, red maple, slash pine (*Pinus elliottii*), Carolina willow primrose willow and saw palmetto, with an open water component that includes pickerelweed, taro and duckweed (*Lemna minor*). Approximately 0.09 acres of WL-2(W) are located within the ROW of the I-4 improvements.

This system is contiguous with adjacent surface waters and receives runoff from the surrounding roads and highways. One Florida cottonmouth (*Agkistrodon piscivorus*) was observed using the system during site reconnaissance. No other wildlife was observed; however, foraging opportunity of wetland dependent avian species could be anticipated.

No impacts to WL-2(W) are anticipated as a result of I-4 Segment 3 improvements.

Wetland 3(W)

Wetland 3(W) (WL-3(W)) is located in the southwest quadrant of the US 17/92 and I-4 interchange, between Stations 2550 and 2600. Surrounding land uses consist of railway, roads and highways, Lake Monroe, forested wetlands, open land and stormwater ponds. WL-3(W) is contiguous with Lake Monroe and receives runoff from the adjacent railway, US 17/92 and the US 17/92 and I-4 westbound interchange.

WL-3(W) is best classified as a Mixed Wetland Hardwoods (FLUCFCS 6170) of moderate quality. WL-3(W) is dominated by cypress trees, American elm, cabbage palm, red maple, duckweed, hackberry, Carolina willow, Brazilian pepper (*Schinus terebinthifolius*), saw palmetto, muscadine grapevine and standing water. This system totals approximately 11.06 acres within the I-4 ROW.

No wildlife species were observed using this system during site reconnaissance activities; however, resting, foraging and roosting opportunities for wetland dependent avian wildlife species is anticipated to be available.

It is anticipated that 11.06 acres of WL-3(W) will be impacted as a result of I-4 improvements associated with Segment 3.

Wetland 4(W)

Wetland 4(W) (WL-4(W)) is located within the infield of I-4 and the off ramp from I-4 westbound to US 17/92 just south of WL-3(W). Surrounding land uses consist of roads and highways.

This system is best classified as a Cypress (FLUCFCS 6210) and is of moderate quality. Dominant features within this system consist of cypress trees, red maple, sweet gum, duckweed, royal fern (*Osmunda regalis*), cinnamon fern vegetation and open water.

WL-4(W) is 5.14 acres in size and is an isolated system receiving runoff from surrounding ramps, roads and highways. No wildlife was observed; however, it is anticipated that foraging, resting and roosting opportunities for wetland dependent wildlife species is present, in particular wading birds.

It is anticipated that 0.73 acres of WL-4(W) will be impacted as a result of I-4 Segment 3 improvements.

Wetland 5(W)

Wetland 5(W) (WL-5(W)) is located along the lakeshore of Lake Monroe, adjacent to the westbound travel lanes of I-4 at the US 17/92 underpass. Surrounding land uses consist of roads and highways, Lake Monroe and a public park/boat ramp access facility to Lake Monroe.

WL-5(W) is best classified as Streams and Lake Swamps (Bottomland) (FLUCFCS 6150). This system is of moderate quality with vegetation consisting of red maple, cypress, sweetgum, cabbage palm, hackberry, giant cane (*Arundinaria gigantea*), Carolina willow, primrose willow, bamboo (*Bambusa vulgaris*) with scattered canopy saplings, sedges, smartweed (*Polygonum* sp.), maidencane and foxtail. Approximately 2.34 acres of this system lie within the ROW of the I-4 improvements.

WL-5(W) is contiguous with Lake Monroe and receives runoff from US 17/92 and I-4 westbound travel lanes. One osprey was observed foraging within WL-5(W) at the shore of Lake Monroe during site reconnaissance. It is anticipated that foraging, resting, denning and roosting opportunities for wetland dependent wildlife species could be supported by this wetland, in particular avian species.

Impacts to WL-5(W) are not anticipated to result for I-4 improvements associated with Segment 3.

SURFACE WATER COMMUNITIES

Ditches

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

Surface Water(s) (SW)- 10(W), 10A(W), 10B(W), 12(W), 15(W), 17A(W), 17B(W), 19(W), 21(W) and 23(W)

SW-10(W), SW-10A(W), SW-10B(W), SW-12(W), SW-15(W), SW-17A(W), SW-17B(W), SW-19(W), SW-21(W) and SW-23(W) are located along the existing westbound travel lanes of I-4 from east of SR 434 to east US 17/92 (See Surface Water and Wetland Maps, Exhibit 5). These systems are located within the existing maintained ROW and are subject to routine maintenance. Surrounding land uses that encompass these systems include major roads and highways, railway, commercial and residential developments, other surface waters, disturbed forested uplands, forested/herbaceous wetlands, lakes and open land.

These systems are best characterized as Streams and Waterways, upland-cut ditches (FLUCFCS 5130), and are of low quality. Vegetation observed in these systems include: taro, primrose willow, foxtail, bidens, pennywort, bahiagrass, wax myrtle, saltbush, fleabane, cattail, elderberry, sedges, dog fennel, ragweed, bacopa, torpedograss, duck potato, canna (*Canna* sp.), Carolina willow, vasey grass (*Paspalum urvillei*), red ludwigia (*Ludwigia repens*), pickerel weed, maidencane and carpetweed. These systems total approximately 4.08 acres.

During site reconnaissance, these community types were either inundated or saturated. These upland-cut ditches function as conveyance of stormwater runoff from existing travel lanes, access ramps and open lands within the existing ROW. Four little blue heron and seven white ibis, state listed species of special concern, were observed foraging in surface water habitats within the study area. No other listed species were observed using these systems.

Other species observed utilizing these systems include American crows (*Corvus brachyrhynchos*), mockingbirds (*Mimus polyglottos*), grackles (*Quiscalus quiscula*), great egrets and great blue herons.

It is anticipated that 3.78 acres of upland-cut ditches will be impacted as a result of I-4 improvements associated with Segment 3.

Swales

Surface Water(s) (SW)- 4(W), 11(W), 16(W), 18(W) and 22(W)

SW-4(W), SW-11(W), SW-16(W), SW-18(W) and SW-22(W) are located along the ROW of the westbound travel lanes of I-4 from east of SR 434 to east US 17/92 (See Surface Water and Wetland Map, Exhibits 5.1-5.15). These systems are located within the ROW of I-4, and are subject to routine maintenance. Surrounding land uses include the existing I-4 travel lanes, roads, commercial development, ditches, stormwater ponds, forested uplands, forested and herbaceous wetlands, and open land.

These systems are best classified as Streams and Waterways, upland-cut swales (FLUCFCS 5130) and are of low quality. These swale systems are seasonally saturated or inundated and are vegetated with torpedograss, maidencane, pennywort, duck potato, carpetweed, bidens, fleabane, vasey grass, coinwort and bahiagrass species. These systems total approximately 0.72 acres.

These swales receive runoff from surrounding roads and highways and are connected to surface waters or outfall to stormwater ponds. No wildlife was observed.

It is anticipated that 0.72 acres of swales will be impacted as a result of I-4 improvements associated with Segment 3.

Existing Stormwater Ponds²

Surface Water(s) (SW)- 1(W), 2(W), 3(W), 5(W), 6(W), 7(W), 8(W), 9(W), 9A(W), 13(W), 14(W), 17(W), 17C(W), 20(W), 24(W) and 25(W)

SW-1(W), SW-2(W), SW-3(W), SW-5(W), SW-6(W), SW-7(W), SW-8(W), SW-9(W), SW-9A(W), SW-13(W), 14(W), SW-17(W), SW-17C(W), SW-20(W), SW-24(W) and SW-25(W) are best described as Reservoirs less than 10 acres which are dominant features (FLUCFCS 5340). These systems are located along the westbound travel lanes of I-4 within the existing I-4 ROW. Best characterized as stormwater management ponds, these systems have well-defined and maintained banks, open water and control structures. Surrounding land use types includes access ramps/interchanges, roads and highways, forested or herbaceous wetlands, other surface waters, commercial and residential development, open land and forested uplands.

These stormwater management ponds feature 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 emergent vegetation and planted cypress, ornamentals, wax myrtle, and pine trees. These systems total approximately 53.59 acres.

Two Florida sandhill cranes (*Grus Canadensis pratensis*), a state designated threatened species, one little blue heron, one tri-colored heron (*Egretta tricolor*), and four white Ibis, state listed species of special concern, were observed foraging within these ponds. Other species observed included eastern mosquito fish (*Gambusia holbrooki*), mallards, Florida softshell turtle (*Apalone ferox*), eastern mud turtles, anhinga, American coot and moorhens.

Existing and Proposed Pond Locations

Stormwater management for the I-4 Segment 3 improvements will be accommodated by existing ponds, expanding existing ponds, or constructing new ponds. Existing ponds will be regraded, enlarged, or unchanged to meet design criteria. Below is a summary of proposed management ponds.

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

Pond HH

Pond HH is located along the eastbound travel lanes of I-4 approximately 0.70 miles east of I-4 and State Road 434 interchange near Station 2050. This existing stormwater management pond is identified as SW-1(E) and no proposed changes are anticipated.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this existing pond for I-4 Segment 3 improvements.

Pond II

Pond II is located along the westbound travel lanes of I-4 approximately 0.70 miles west of EE Williamson Road near Station 2070 at the I-4 westbound rest area. This site includes an existing stormwater pond (SW-1(W)) and herbaceous upland habitat.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this existing pond for I-4 Segment 3 improvements.

Pond 300

Pond 300 is located along the eastbound travel lanes of I-4, approximately 0.15-miles east of EE Williamson Road overpass at I-4, near Station 2110. This proposed pond reconfigures an existing stormwater pond (SW-4(E)) and will likely involve work within SW-5(E).

Impacts of 1.33 acres to SW-5(E) are anticipated to result in the expansion of this pond site.

FPC 300-A (Recommended)

FPC 300-A is located along the I-4 eastbound travel lanes, just east of Pond 300, near Station 2130. This newly proposed pond is for compensating storage for floodplain encroachment. Habitat communities present includes forested uplands and SW-7(E) along the southern fringe.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

FPC 300-B

FPC 300-B is located along the westbound travel lanes of I-4, opposite that of Pond 300, near Station 2110. This newly proposed pond provides compensating storage for floodplain encroachments and will be constructed entirely in forested uplands.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 301

Pond 301 is located within the existing ROW of I-4 along the eastbound travel lanes, approximately 0.60-miles east of EE Williamson Road overpass I-4, near Station 2140. This existing pond will be regraded and enlarged.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 302

Pond 302 is located along the westbound travel lanes of I-4, northeast of Pond 300B, near Station 2150. This is an existing dry retention area that will be regraded and enlarged.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 303-A1 (Recommended)

Pond 303A1 is located along the eastbound travel lanes of I-4 within the existing ROW, near Station No. 2180. This is an existing dry retention pond that will be regraded and enlarged.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 303-A2 (Alternative)

Pond 303-A2 is located immediately adjacent to 303-A1 and includes SW-7(E). SW-7(E) is an existing stormwater management pond that will be regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 303-B2 (Alternative)

Proposed pond 303-B2 is located along the westbound travel lanes of I-4, opposite that of Pond 303-A2, near Station 2180. This newly proposed pond consists of upland habitat with open land and scattered upland trees.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 304

Pond 304 is located within the ROW of I-4 along the westbound travel lanes, approximately 1 mile west of I-4 and Lake Mary Boulevard interchange, near Station 2220. The land use is an existing maintained dry retention pond that will be expanded and regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 305

Pond 305 is located along the eastbound travel lanes of I-4 within the infield of I-4 eastbound and the exit ramp to Lake Mary Boulevard, near Station 2250. This area is an existing dry retention pond that will be reduced in size and regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 305A

Pond 305A is located along the eastbound travel lanes of I-4 within the infield of I-4 eastbound and the exit ramp to Lake Mary Boulevard, near Station 2250, and adjacent to Pond 305. This area is an existing dry retention pond that will be enlarged in size and regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 306

Pond 306 is located within the infield area of I-4 westbound and the off ramp of I-4 westbound to Lake Mary Boulevard, near Station 2280+00. This system is an existing dry retention pond that will be expanded and regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 307

Pond site 307 is located along the eastbound travel lanes of I-4 near Station 2300. This pond location encompasses and existing stormwater treatment system, SW-8(E), which will not be modified.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 308

Pond 308 is located within the ROW of I-4 eastbound, approximately 0.50 miles east of the I-4 and Lake Mary Boulevard interchange, near Station 2310. This proposed pond is an existing stormwater management pond (SW-9(E)) that will be regraded and enlarged. Improvements within SW-9(E) will not warrant consideration for adverse impacts to wetlands or other surface waters.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 309

Pond 309 is located along the westbound travel lanes of I-4 within the infield of I-4 westbound and the access ramp from CR 46A to I-4 westbound, near Station 2370. This includes existing stormwater ponds (SW-2(W) and SW-3(W)) that will be expanded and regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 310

Pond 310 is located along the off ramp from the I-4 eastbound travel lanes to CR 46A, near Station 2380. This is an existing pond (SW-10(E)) that will be expanded and regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 311

Pond 311 is located along the eastbound travel lanes of I-4 near Station 2390 and 2400. This is an existing stormwater management system identified as SW-11(E).

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 312

Pond 312 is located near Station 2450 along the westbound travel lanes of I-4. This is an existing stormwater management pond (SW-9A(W)), which is planned for modification by others during the design of Wekiva Parkway (SR 429) project. However, no adverse impacts to jurisdictional wetlands or other surface waters are anticipated to result.

Pond 313

Pond 313 is located within the infield of the I-4 westbound off ramp to SR 46, near Station 2490. This pond site is an existing stormwater pond, SW-14(W), and provides treatment for the existing facility. This system functions as a part of the current stormwater management for I-4 and will not require modification to the existing condition.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 313A

Pond 313A is located just south of Pond 313, near Station 2490. This pond site is a part of the existing stormwater management system and includes SW-13(W). No modifications to this pond are proposed.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 314

Pond site 314 is located along the eastbound travel lanes of I-4, near Station 2510. This pond site is an existing stormwater pond, SW-15(E), and provides treatment for the existing facility. No modifications to this pond are proposed.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 315

Pond site 315 is located west of the westbound travel lanes of I-4, near Station 2520. This pond site is an existing stormwater pond, SW-17(W). This system functions as a part of the current stormwater management for I-4 and will not require modification from the existing condition.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 316

Pond site 316 is located along the eastbound travel lanes of I-4, near Station No. 2540. This system is an existing stormwater pond (SW-18A(E)) and serves the current stormwater management system for I-4 and will not require modification from the existing condition.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 317A

Pond 317A is located within the infield of I-4, US 17/92 and the rail system. This pond site includes existing stormwater ponds, SW-24(W), SW-25(W) and wetlands, WL-3(W). The existing pond will be enlarged.

It is anticipated that 11.06 acres of wetland impacts (WL-3(W)) will result from the construction of this pond for I-4 Segment 3 improvements.

Pond 317B

Pond 317B is located within the infield of I-4 and US 17/92, in between WL-3(E) and WL-5(E). This pond site includes existing stormwater ponds identified as SW-25(E) and SW-26(E). This system functions as a part of the current stormwater management for roadways and will not require modification from its existing condition.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in utilizing this pond for I-4 Segment 3 improvements.

Pond 317C

Pond 317C lies within the infield of I-4 and US 17/92, in between Monroe Road and the I-4 eastbound off ramp to US 17/92. This pond location includes existing stormwater pond SW-23(E) and will be regraded.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 318A

Pond 318A is located just east of Monroe Road and Orange Boulevard intersection. This pond site includes an existing stormwater pond, SW-23A(E) and will require modification (i.e. regrading) from its existing condition.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Pond 318B

Pond 318B lies just west of Pond 318A near the Monroe Road and Orange Boulevard intersection. This proposed pond consists of an upland habitat community of ruderal herbaceous and small woody plant species.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 improvements.

Swales 313A

Swales 313A is a proposed system located near Station 2480, adjacent to the eastbound travel lanes of I-4. This proposed swale is a part of the proposed stormwater management system and includes a land use type of open land and paved surfaces.

It is anticipated that no jurisdictional wetland or other surface waters impacts will result in the construction of this pond for I-4 Segment 3 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.

ID	USFWS Classification*	FLUCFCS Code**	Description/ Vegetation Summary
SW-2(E)	L1AB34	5240	Lake
SW-3(E)	PEM2E	5130	Upland-cut ditch
SW-5(E)	L2EM2/PFO4A	5230/6170	Lake/Mixed Forested Wetland
SW-6(E)	PEM2E	5130	Upland-cut ditch

Table 1
 Summary of Jurisdictional Wetlands and Other Surface Waters

ID	USFWS Classification*	FLUCFCS Code**	Description/ Vegetation Summary
SW-16(E)	PEM2E	5130	Upland-cut ditch
SW-17(E)	PEM2E	5130	Upland-cut ditch
SW-18(E)	PEM2E	5130	Upland-cut ditch
SW-19(E)	PEM2E	5130	Upland-cut swale
SW-20(E)	PEM2E	5130	Upland-cut ditch
SW-21(E)	PEM2E	5130	Upland-cut swale
SW-22(E)	PEM2E	5130	Upland-cut ditch
SW-22A(E)	PEM2E	5130	Upland-cut ditch
SW-22B(E)	PEM2E	5130	Upland-cut ditch
SW-24(E)	PEM2E	5130	Upland-cut ditch
SW-27(E)	PEM2E	5130	Upland-cut ditch
WL-1(E)	PFO67E	6170	Mixed Wetland Hardwoods
WL-1A(E)	PEM1E	6410	Freshwater Marsh
WL-2(E)	PEM1E	6410	Freshwater Marsh
WL-2A(E)	PSS67E	6180	Willow and Elderberry
WL-3(E)	PFO67E	6170	Mixed Wetland Hardwoods
WL-4(E)	PFO67E	6170	Mixed Wetland Hardwoods
WL-5(E)	PF067E	6170	Mixed Wetland Hardwoods
WL-6(E)	PFO67E	6170	Mixed Wetland Hardwoods
SW-4(W)	PEM2E	5130	Upland-cut swale
SW-10(W)	PEM2E	5130	Upland-cut ditch
SW-10A(W)	PEM2E	5130	Upland-cut ditch
SW-10B(W)	PEM2E	5130	Upland-cut ditch
SW-11(W)	PEM2E	5130	Upland-cut swale
SW-12(W)	PEM2E	5130	Upland-cut ditch
SW-15(W)	PEM2E	5130	Upland-cut ditch
SW-16(W)	PEM2E	5130	Upland-cut swale
SW-17A(W)	PEM2E	5130	Upland-cut ditch
SW-17B(W)	PEM2E	5130	Upland-cut ditch
SW-18(W)	PEM2E	5130	Upland-cut swale
SW-19(W)	PEM2E	5130	Upland-cut ditch

Table 1
 Summary of Jurisdictional Wetlands and Other Surface Waters

ID	USFWS Classification*	FLUCFCS Code**	Description/ Vegetation Summary
SW-21(W)	PEM2E	5130	Upland-cut ditch
SW-22(W)	PEM2E	5130	Upland-cut swale
SW-23(W)	PEM2E	5130	Upland-cut ditch
WL-1(W)	PFO67E	6170	Mixed Wetland Hardwoods
WL-2(W)	PFO67E	6170	Mixed Wetland Hardwoods
WL-3(W)	PFO67E	6170	Mixed Wetland Hardwoods
WL-4(W)	PFO36F	6210	Cypress
WL-5(W)	PFO67E	6150	Streams and Lake Swamps (Bottomland)
*US Fish and Wildlife Service (USFWS) CLASSIFICATIONS: PEM2E: Palustrine/Emergent/Non-persistent/Seasonally Flooded/Saturated PUBHx: Palustrine/Unconsolidated Bottom/Permanently flooded/Excavated L2EM2: Lacustrine/Littoral/Emergent/Non-persistent PFO67E: Palustrine/Forested/Deciduous/Evergreen/Seasonally flooded/Saturated PFO36F: Palustrine/Forested/Broad-Leaved Evergreen/Deciduous/Semipermanently Flooded PFO4A: Palustrine/Forested/Needle-Leaved Evergreen/Temporarily Flooded PEM1H: Palustrine/Emergent/Persistent/Permanently Flooded PEM1E: Palustrine/Emergent/Persistent/Seasonally Flooded/Saturated PSS67E: Palustrine/Scrub-Shrub/Deciduous/Evergreen/Seasonally Flooded/Saturated PFO67H: Palustrine/Forested/Deciduous/Evergreen/Permanently Flooded L1AB34: Lacustrine/Limnetic/Aquatic Bed/Rooted Vascular/Floating Vascular			
**Florida Land Use Cover and Forms Classification System (FLUCFCS Code): 5130: Streams and Waterways (Ditch/Swale) 5230: Lakes larger than 10 acres, but less than 100 acres 5240: Lakes less than 10 acres verify this system 5330: Reservoirs larger than 10 acres, but less than 100 acres 5340: Reservoirs less than 10 acres 6150: Streams and Lake Swamps (Bottomland) 6170: Mixed wetland hardwoods 6180: Willow and elderberry 6210: Cypress 6410: Freshwater marshes			

3.0 Wetland Impact Assessment

Preliminary estimates suggest that 6.75 acres of jurisdictional other surface waters and 11.86 acres of wetland communities will be impacted by proposed improvements associated with I-4 Segment 3 improvements, please reference Table 2. These estimates are based on field assessment of jurisdictional limits and plan preparation for design. Impacts to jurisdictional areas will be refined as design details are finalized. The impact areas, quality of each system, and likelihood of requiring mitigation for adverse impacts are summarized in Table 2.

Impacts to other surface waters and wetlands during construction will also be classified as temporary or permanent, depending on the proposed level of disturbance. The type and amount of mitigation for adverse 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)	6170	0.07	0.07	Low	Y
WL-1A(E)	6410	0.91	0.00	Moderate	N/A

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)
WL-2(E)	6410	0.00	0.00	Low	N/A
WL-2A(E)	6180	0.00	0.00	Low	N/A
WL-3(E)	6170	4.83	0.00	Moderate	N/A
WL-4(E)	6170	0.43	0.00	Moderate	N/A
WL-5(E)	6170	2.33	0.00	Moderate	N/A
WL-6(E)	6170	0.58	0.00	Moderate	N/A
WL-1(W)	6170	0.07	0.00	Moderate	N/A
WL-2(W)	6170	0.09	0.00	Moderate	N/A
WL-3(W)	6170	11.06	11.06	Moderate	Y
WL-4(W)	6210	5.14	0.73	Moderate	Y
WL-5(W)	6150	2.34	0.00	Moderate	N/A
Subtotal Acres		27.85			
Subtotal Impacts			11.86		
Other Surface Waters (Lakes, Upland-Cut Ditches, Swales)					
SW-2(E)	5240	0.00	0.00	Low	N/A
SW-3(E)	5130	0.31	0.31	Low	N
SW-5(E)	5230/6170	1.33	1.33	Moderate	Y
SW-6(E)	5130	0.02	0.02	Low	N
SW-16(E)	5130	0.01	0.00	Low	N
SW-17(E)	5130	0.04	0.04	Low	N
SW-18(E)	5130	0.33	0.33	Low	N
SW-19(E)	5130	0.06	0.06	Low	N
SW-20(E)	5130	0.11	0.11	Low	N
SW-21(E)	5130	0.01	0.01	Low	N
SW-22(E)	5130	0.02	0.02	Low	N
SW-22A(E)	5130	0.02	0.02	Low	N
SW-22B(E)	5130	0.41	0.00	Low	N/A
SW-24(E)	5130	0.16	0.00	Low	N/A
SW-27(E)	5130	0.41	0.00	Low	N/A
SW-4(W)	5130	0.15	0.15	Low	N
SW-10(W)	5130	0.08	0.08	Low	N
SW-10A(W)	5130	0.02	0.02	Low	N
SW-10B(W)	5130	0.12	0.12	Low	N
SW-11(W)	5130	0.32	0.32	Low	N
SW-12(W)	5130	0.50	0.50	Low	N
SW-15(W)	5130	1.78	1.78	Low	N
SW-16(W)	5130	0.09	0.09	Low	N
SW-17A(W)	5130	0.00	0.00	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-17B(W)	5130	0.08	0.00	Low	N
SW-18(W)	5130	0.09	0.09	Low	N
SW-19(W)	5130	0.80	0.80	Low	N
SW-21(W)	5130	0.41	0.41	Low	N
SW-22(W)	5130	0.07	0.07	Low	N
SW-23(W)	5130	0.07	0.07	Low	N
Subtotal Acres		7.82			
Subtotal Impacts			6.75		
Project Total		35.67	18.61		
*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 summarizes jurisdictional wetland and other surface water impacts associated with the mainline and I-4 Interchange at US 17/92.

Table 3 Summary of Impacts Along the Mainline and I-4 Interchange at 17/92			
ID	Forested Wetlands (acres)	Freshwater Wetlands (acres)	Other Surface Waters (acres)
Mainline	0.07	--	--
I-4 Interchange at US 17/92	11.79	--	--
Totals	11.86	--	--

Table 4 summarizes jurisdictional wetland and other surface water impacts, anticipated to require mitigation, by community type (forested wetlands vs. freshwater wetlands) for the Segment 3 design and includes the hydrologic basin where impacts are located.

Hydrologic Basin	Forested Wetlands (acres)	Freshwater Wetlands (acres)	Other Surface Waters (Acres)
Wekiva River Basin	0.07	--	--
Lake Jesup Basin		--	1.33
St. Johns River (Canaveral Marshes to the Wekiva)	11.79	--	--

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 CR 46A, SR 46, and US 17/92. As such, the build scenario of the I-4 mainline includes improvements to those land areas within the existing ROW, thus rendering a single design for the mainline and alternative designs for the interchanges. Both the mainline and interchange configuration design will likely result in impacts to jurisdictional wetland and other surface water communities.

Proposed interchange configurations at CR 46A and SR 46 involve work limited to the existing ROW, with exception of pond locations. Land use types within CR 46A and SR 46 ROW are maintained upland habitat, forested wetlands, ditches and existing stormwater ponds. It is anticipated that the chosen interchange configuration at CR 46A and SR 46 with I-4 will result in impacts to jurisdictional wetland or other surface water communities.

The US 17/92 interchange with I-4 has undergone several design concept development, reviews, and modifications. 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 other surface waters. The current interchange layouts represent the best design alternative when considering engineering constraints, health and human welfare and the environment. Table 5 provides a summary of interchange design alternatives that were evaluated and the extent of jurisdictional wetland involvement.

Interchange Configuration	Wetland Impacts (acres)
Base	4.47
Diamond	6.17

Interchange Configuration	Wetland Impacts (acres)
Loop	6.28
SPUI	6.25
SPUI-TEE	4.05
Partial Cloverleaf	3.59
Diverging Diamond Interchange	4.60
Elevated TUDI	6.60

The recommended interchange layout represents the best design alternative when considering engineering constraints, health and human welfare and the environment.

5.0 Avoidance and Minimization of Impacts

The proposed construction and widening of I-4 from east of SR 434 to east of US 17/92 is intended to improve the level of service and enhance safety for the general public. Due to the FDOT and the American Association of State Highway and Transportation Standards (AASHTO) design criteria, the ultimate condition buildout of the I-4 mainline presents little opportunities to avoid or minimize adverse wetland impacts within the existing I-4 ROW and interchange designs. In addition, a majority of the wetlands and other surface water systems within the mainline ROW are of low to medium quality, mostly located within historically altered environment or have been constructed through upland soils.

Site planning modifications include the use of existing stormwater management ponds, relocation of proposed stormwater management ponds and the reconfiguration of ponds to avoid wetland impacts. It is anticipated that jurisdictional systems within the I-4 Segment 3 ROW improvement corridor 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 evaluated during the design and construction phases. Appropriate mitigation will be provided based on the final roadway, interchange design and pond locations that will offset adverse impacts to jurisdictional wetlands or other surface waters.

6.0 Secondary and Cumulative Impacts

It is anticipated that improvements along the mainline of I-4 could result in adverse secondary and cumulative impacts in meeting the intent of 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 3.1 acres (75-foot into a wetland system) to 4 acres (100 feet into a wetland system from I-4 Segment 3 improvements (Please reference Appendix A – Exhibit 6).

It is presumed that secondary and 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), Lake Jesup, and Wekiva River 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 assessment for I-4 Segment 3 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 related to the proposed stormwater management pond locations.

A mitigation plan that adequately offsets adverse impacts will be developed and implemented. 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 completed through the use of mitigation banks and/or any other mitigation options that satisfy state and federal requirements.

Estimates suggest that 11.86 acres of low to moderate quality wetland impacts and 1.33 acres of low to moderate quality other surface water impacts associated with Segment 3 could require approximately 8.30 mitigation credits (based on average UMAM score of 0.7). Mitigation Bank service areas and mitigation credit available for the St. Johns River (Canaveral Marshes to Wekiva), Lake Jesup and Wekiva River basins are provided in Table 6.

Mitigation Bank (MB)	Mitigation Service Area	Credit Availability*
LAKE MONROE MB	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA)	46.55
BARBERVILLE MB	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA)	3.98
COLBERT CAMERON MB	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & LAKE JESUP	147.09
FARMTON NORTH MB	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & LAKE JESUP	822.69
FARMTON SOUTH MB	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & LAKE JESUP	433.61
FARMTON WEST MB	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & LAKE JESUP	348.63
TM ECON MB (PHASE I, II, III) UMAM	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & LAKE JESUP	388.14

Mitigation Bank (MB)	Mitigation Service Area	Credit Availability*
TM ECON MB (PHASE IV)	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	164.83
BLACKWATER CREEK MB	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & WEKIVA RIVER	15.75
WEKIVA RIVER MB	WEKIVA RIVER & A PORTION OF ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA)	30.0

*Based on June 2014/October 2015 mitigation credit ledger data and coordination with Mitigation Marketing Resources, LLC (2016)

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 proposed project improvements and an Environmental Resource Permit from the St. Johns Water Management District (SJRWMD) 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.

A meeting was conducted at the Maitland Service Center of the St. Johns River Water Management District on Wednesday November 13, 2013. 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 other surface water involvement. Minutes from the meeting are provided in Appendix C- Agency Correspondence.

9.0 Discussion and Commitments

This wetland evaluation was conducted for I-4 PD&E Study Segment 3: east of SR 434 to east of US 17/92 in compliance with Executive Order 11990, Protection of Wetlands, 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 11.86 acres and the total impacts to jurisdictional other surface waters anticipated to require mitigation is 1.33 acres. Sufficient mitigation to offset adverse impacts is currently available at the Lake Monroe, Colbert Cameron, Barberville, Farmton, TM Econ, Blackwater Creek, and Wekiva River Mitigation Banks.

I-4 Segment 3 is located within two 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 3 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



Exhibit 1

EXHIBIT 2
USGS TOPOGRAPHIC QUADRANGLE MAP

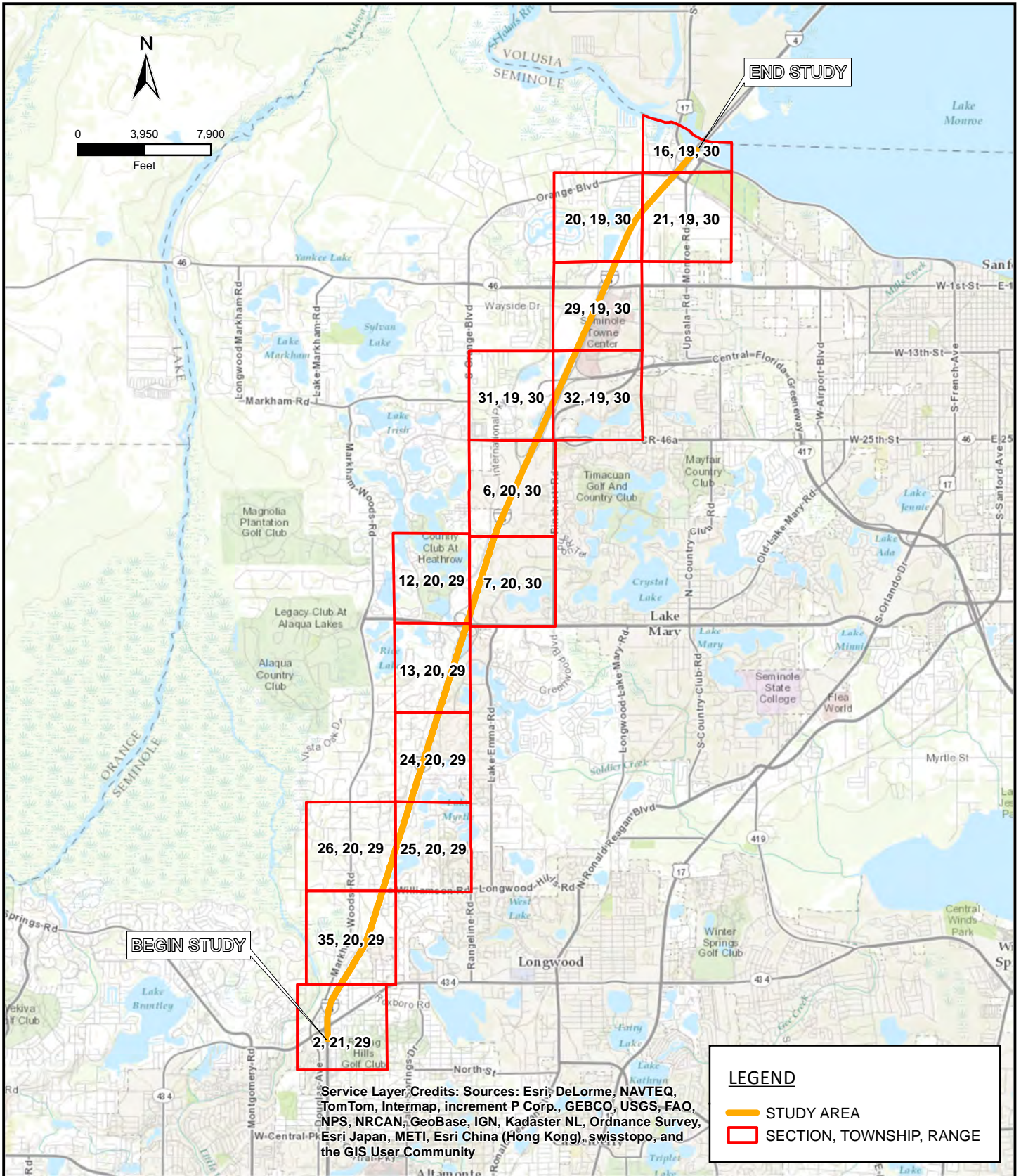
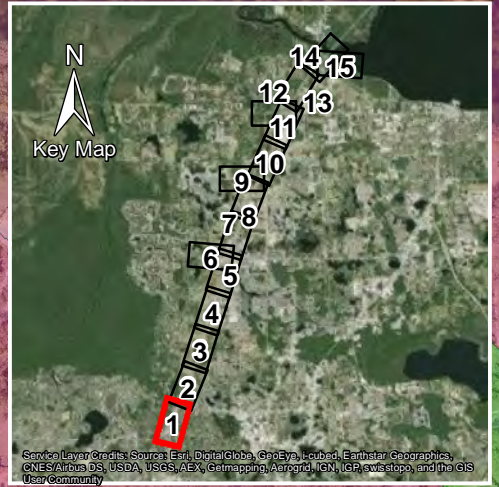
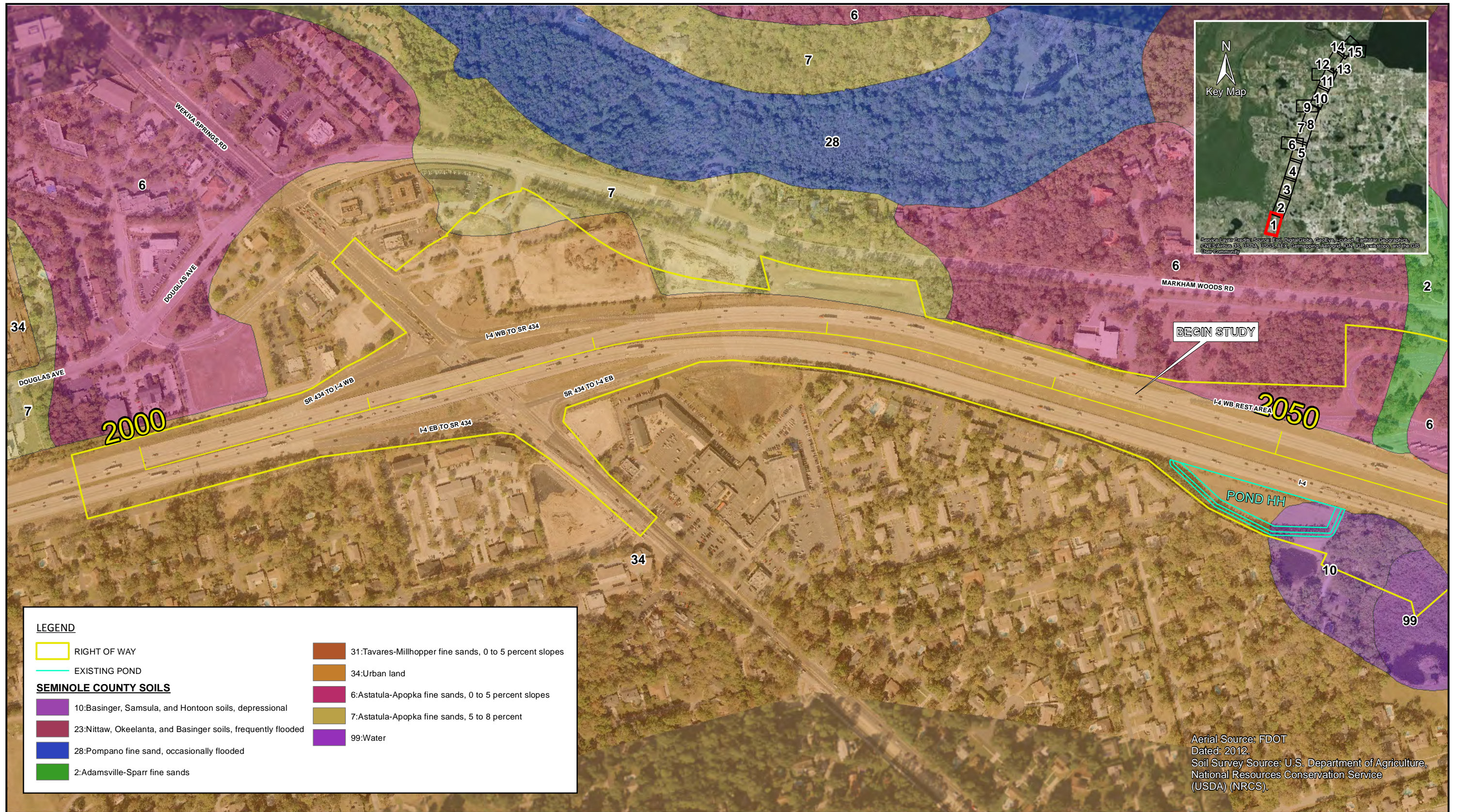
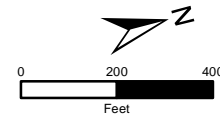


Exhibit 2

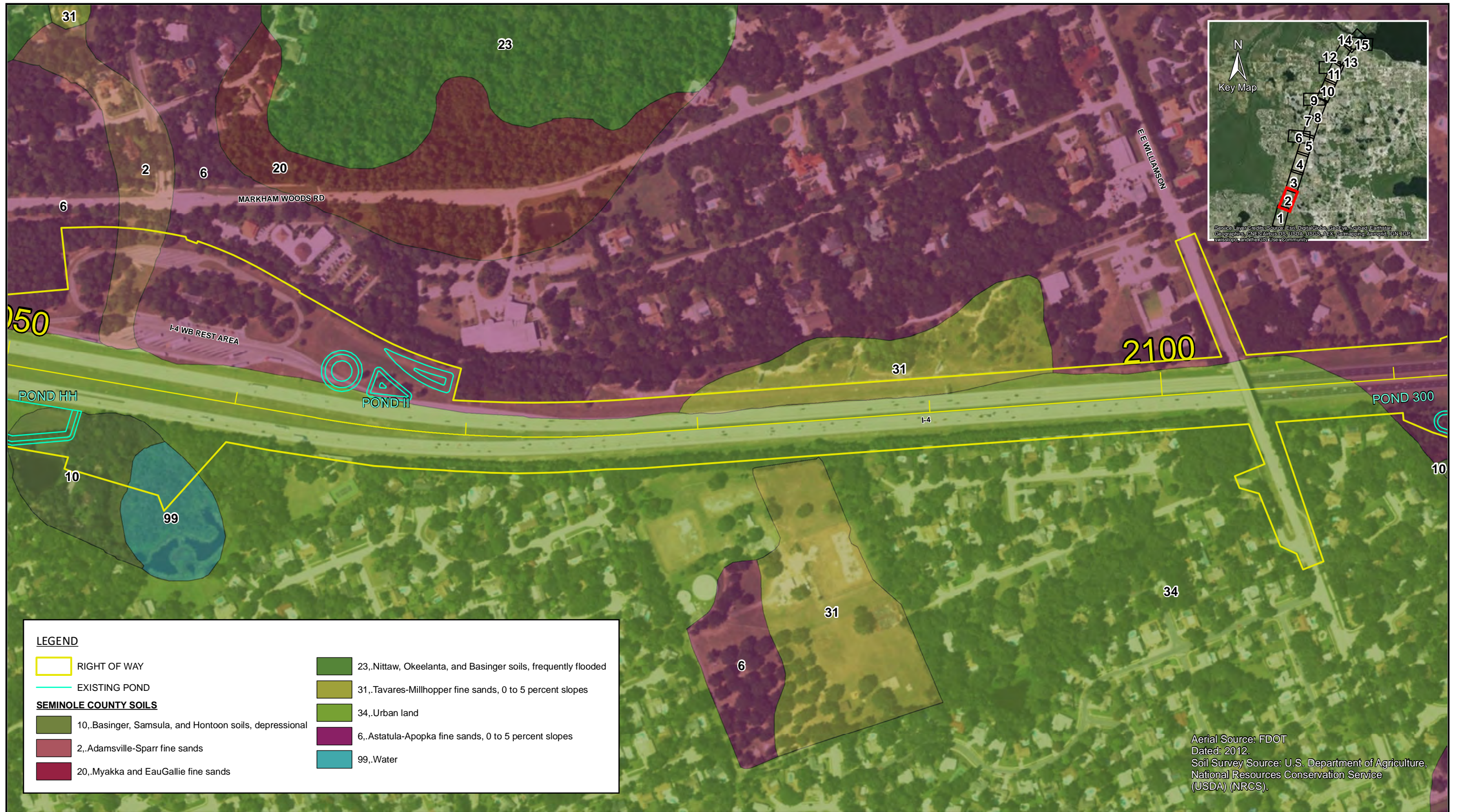
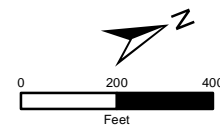
EXHIBIT 3
NRCS SOIL SURVEY MAP



LEGEND	
	RIGHT OF WAY
	EXISTING POND
SEMINOLE COUNTY SOILS	
	10: Basinger, Samsula, and Hontoon soils, depressional
	23: Nittaw, Okeelanta, and Basinger soils, frequently flooded
	28: Pompano fine sand, occasionally flooded
	2: Adamsville-Sparr fine sands
	31: Tavares-Millhopper fine sands, 0 to 5 percent slopes
	34: Urban land
	6: Astatula-Apopka fine sands, 0 to 5 percent slopes
	7: Astatula-Apopka fine sands, 5 to 8 percent
	99: Water

Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.1



LEGEND

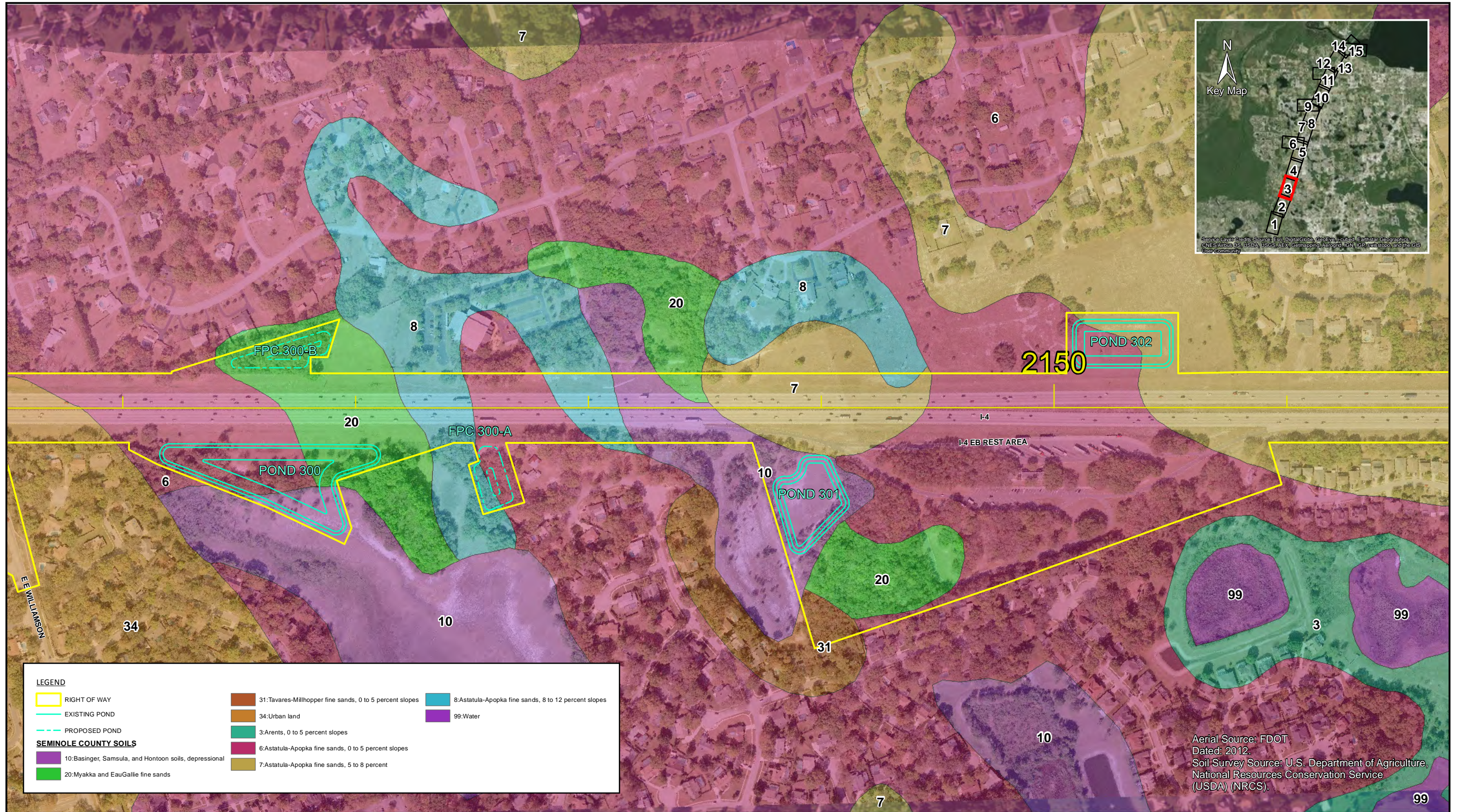
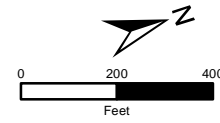
- RIGHT OF WAY
- EXISTING POND

SEMINOLE COUNTY SOILS

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Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.2



LEGEND			
	RIGHT OF WAY		
	EXISTING POND		
	PROPOSED POND		
SEMINOLE COUNTY SOILS			
	10: Basinger, Samsula, and Hontoon soils, depressional		8: Astatula-Apopka fine sands, 8 to 12 percent slopes
	20: Myakka and Eau Gallie fine sands		31: Tavares-Millhopper fine sands, 0 to 5 percent slopes
	3: Arents, 0 to 5 percent slopes		99: Water
	6: Astatula-Apopka fine sands, 0 to 5 percent slopes		
	7: Astatula-Apopka fine sands, 5 to 8 percent		
	34: Urban land		

Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA) (NRCS).

Exhibit 3.3

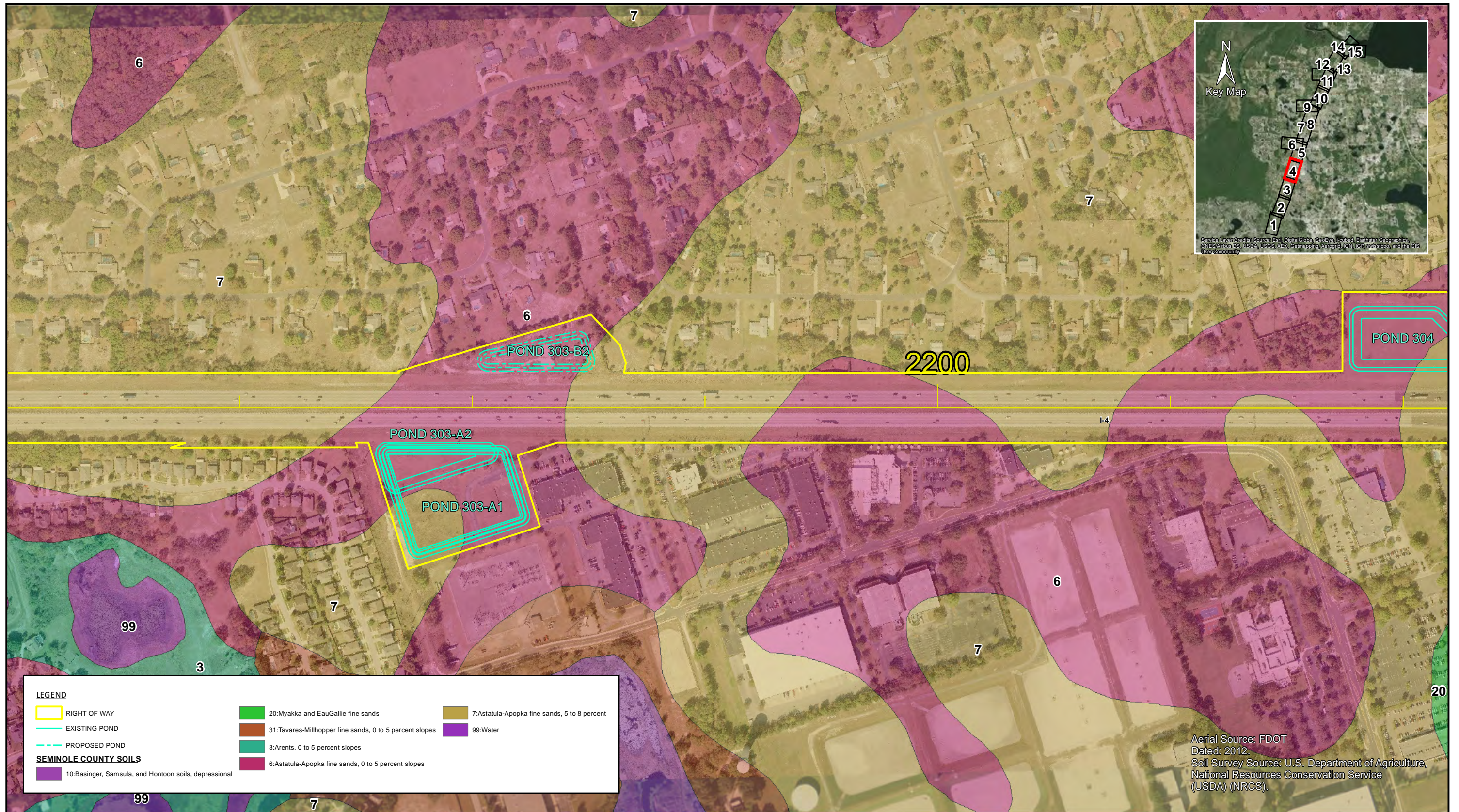
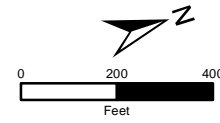
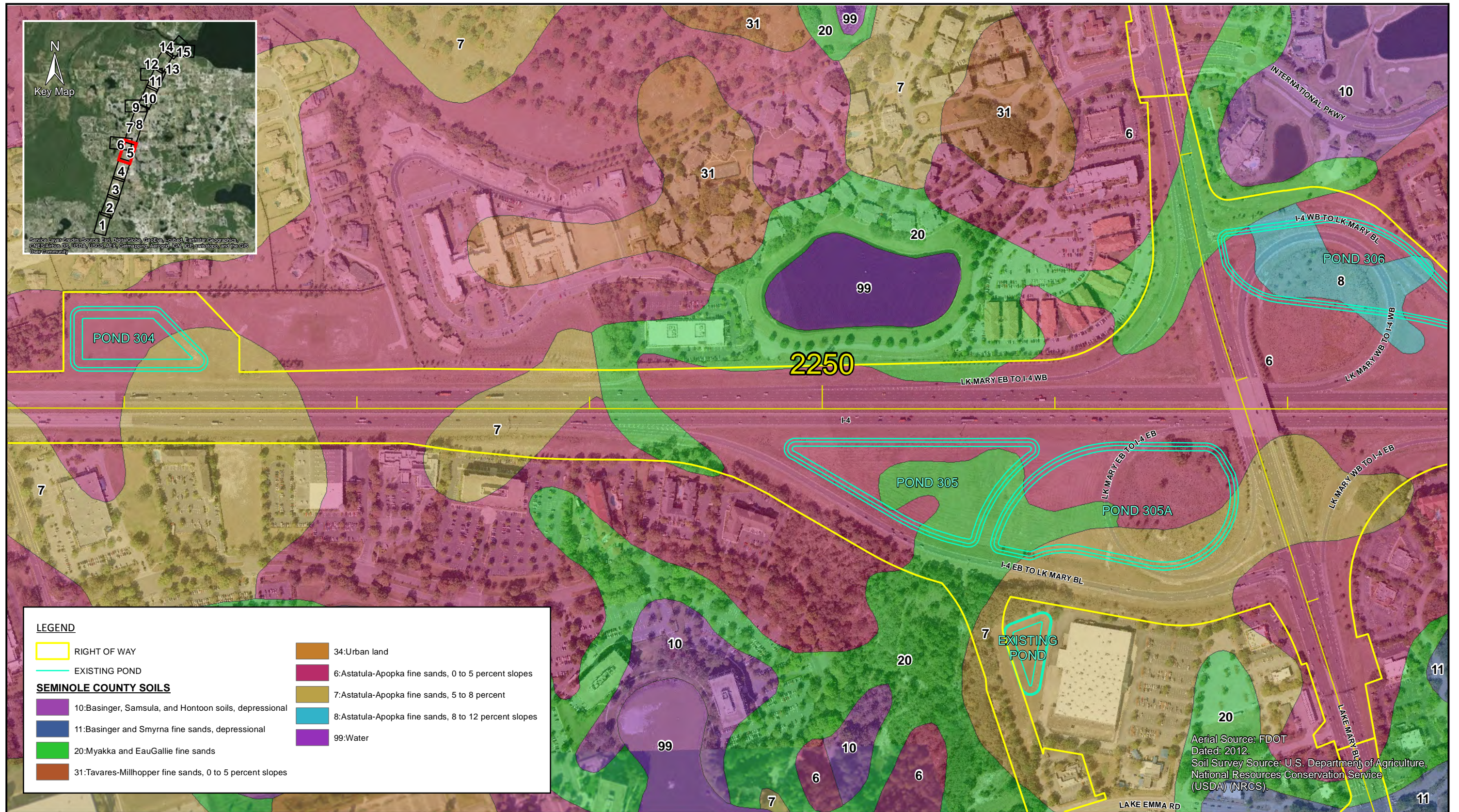
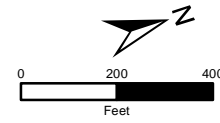


Exhibit 3.4



LEGEND

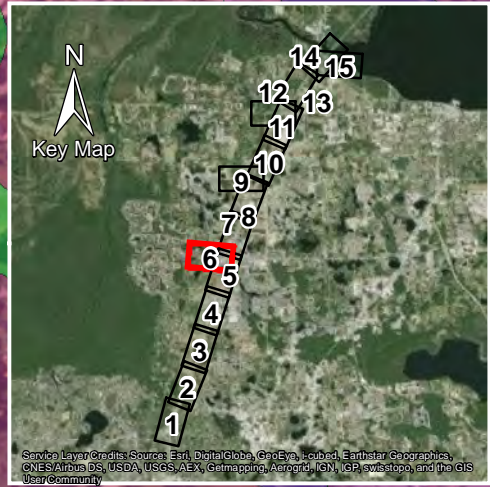
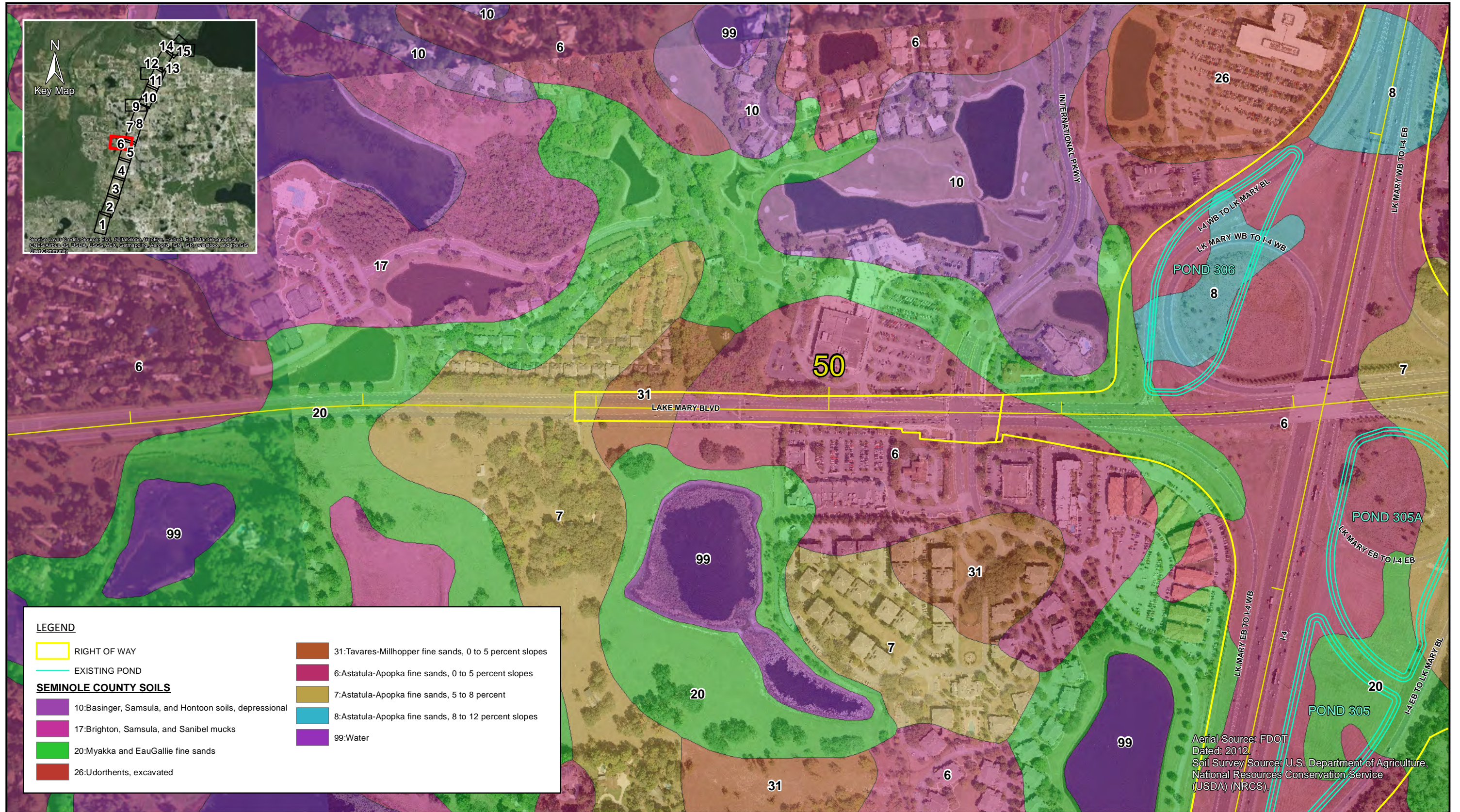
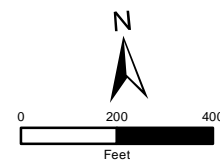
- RIGHT OF WAY
- EXISTING POND

SEMINOLE COUNTY SOILS

<ul style="list-style-type: none"> 10: Basinger, Samsula, and Hontoon soils, depressional 11: Basinger and Smyrna fine sands, depressional 20: Myakka and EauGallie fine sands 31: Tavares-Millhopper fine sands, 0 to 5 percent slopes 	<ul style="list-style-type: none"> 34: Urban land 6: Astatula-Apopka fine sands, 0 to 5 percent slopes 7: Astatula-Apopka fine sands, 5 to 8 percent 8: Astatula-Apopka fine sands, 8 to 12 percent slopes 99: Water
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Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.5



LEGEND

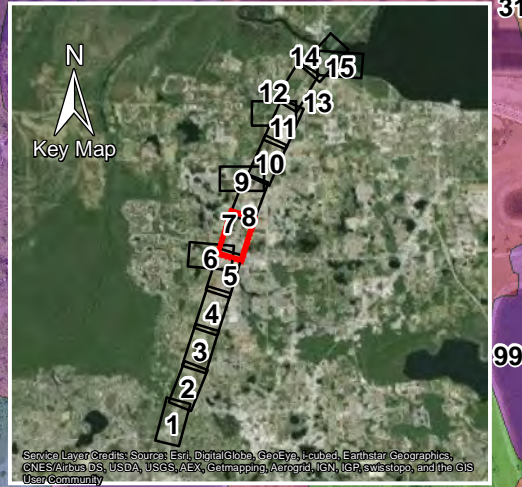
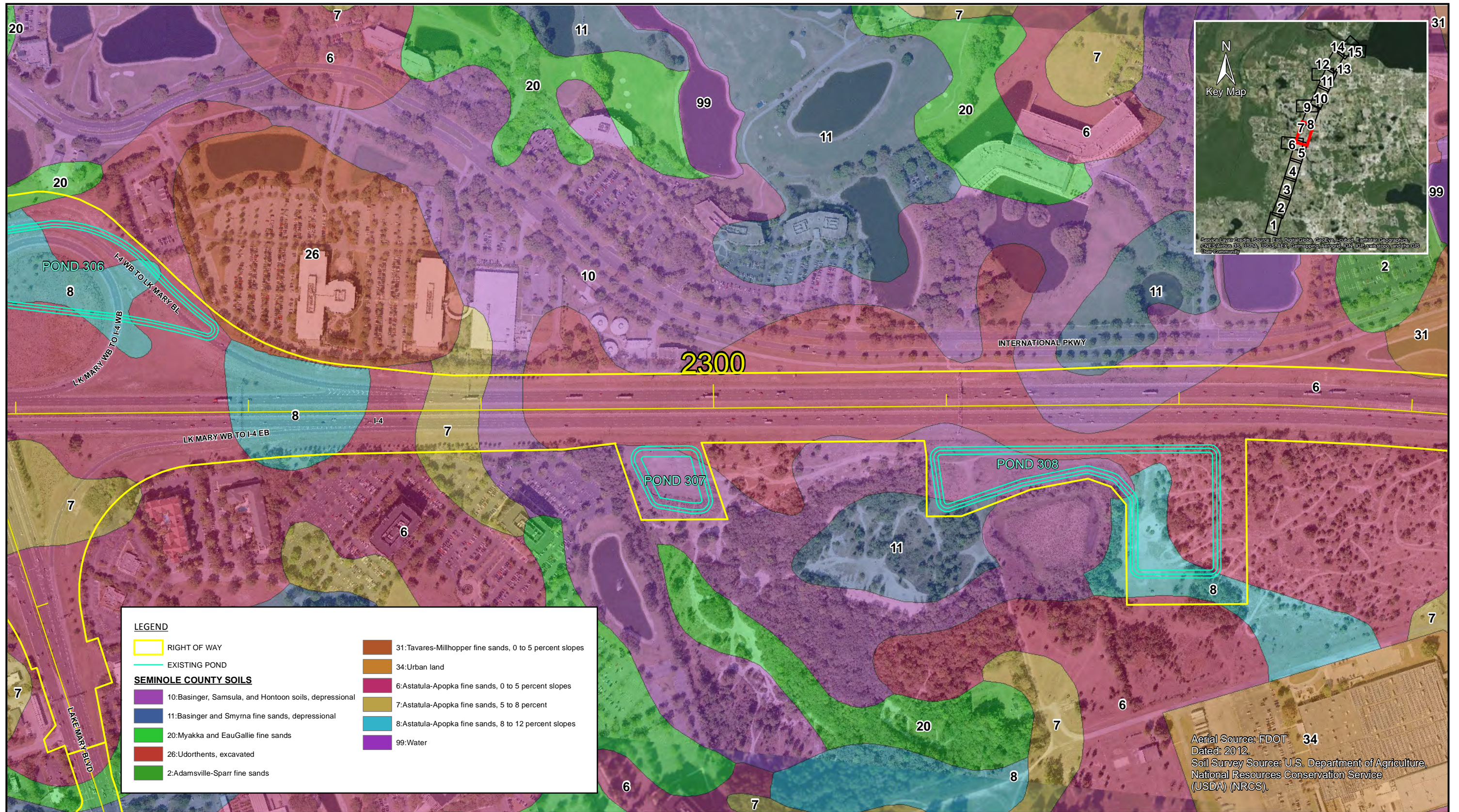
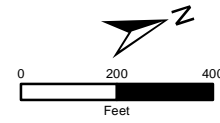
- RIGHT OF WAY
- EXISTING POND

SEMINOLE COUNTY SOILS

<ul style="list-style-type: none"> 10: Basinger, Samsula, and Hontoon soils, depressional 17: Brighton, Samsula, and Sanibel mucks 20: Myakka and EauGallie fine sands 26: Udorthents, excavated 	<ul style="list-style-type: none"> 31: Tavares-Millhopper fine sands, 0 to 5 percent slopes 6: Astatula-Apopka fine sands, 0 to 5 percent slopes 7: Astatula-Apopka fine sands, 5 to 8 percent 8: Astatula-Apopka fine sands, 8 to 12 percent slopes 99: Water
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Aerial Source: FDOT
 Dated: 2012
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

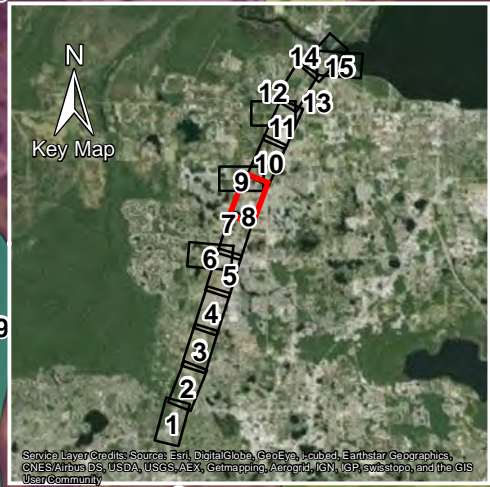
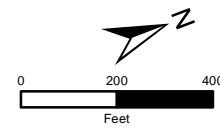
Exhibit 3.6



LEGEND	
	RIGHT OF WAY
	EXISTING POND
SEMINOLE COUNTY SOILS	
	10: Basinger, Samsula, and Hontoon soils, depressional
	11: Basinger and Smyrna fine sands, depressional
	20: Myakka and Eau Gallie fine sands
	26: Udorthents, excavated
	2: Adamsville-Sparr fine sands
	31: Tavares-Millhopper fine sands, 0 to 5 percent slopes
	34: Urban land
	6: Astatula-Apopka fine sands, 0 to 5 percent slopes
	7: Astatula-Apopka fine sands, 5 to 8 percent
	8: Astatula-Apopka fine sands, 8 to 12 percent slopes
	99: Water

Aerial Source: FDOT 34
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture, National Resources Conservation Service (USDA) (NRCS).

Exhibit 3.7



LEGEND

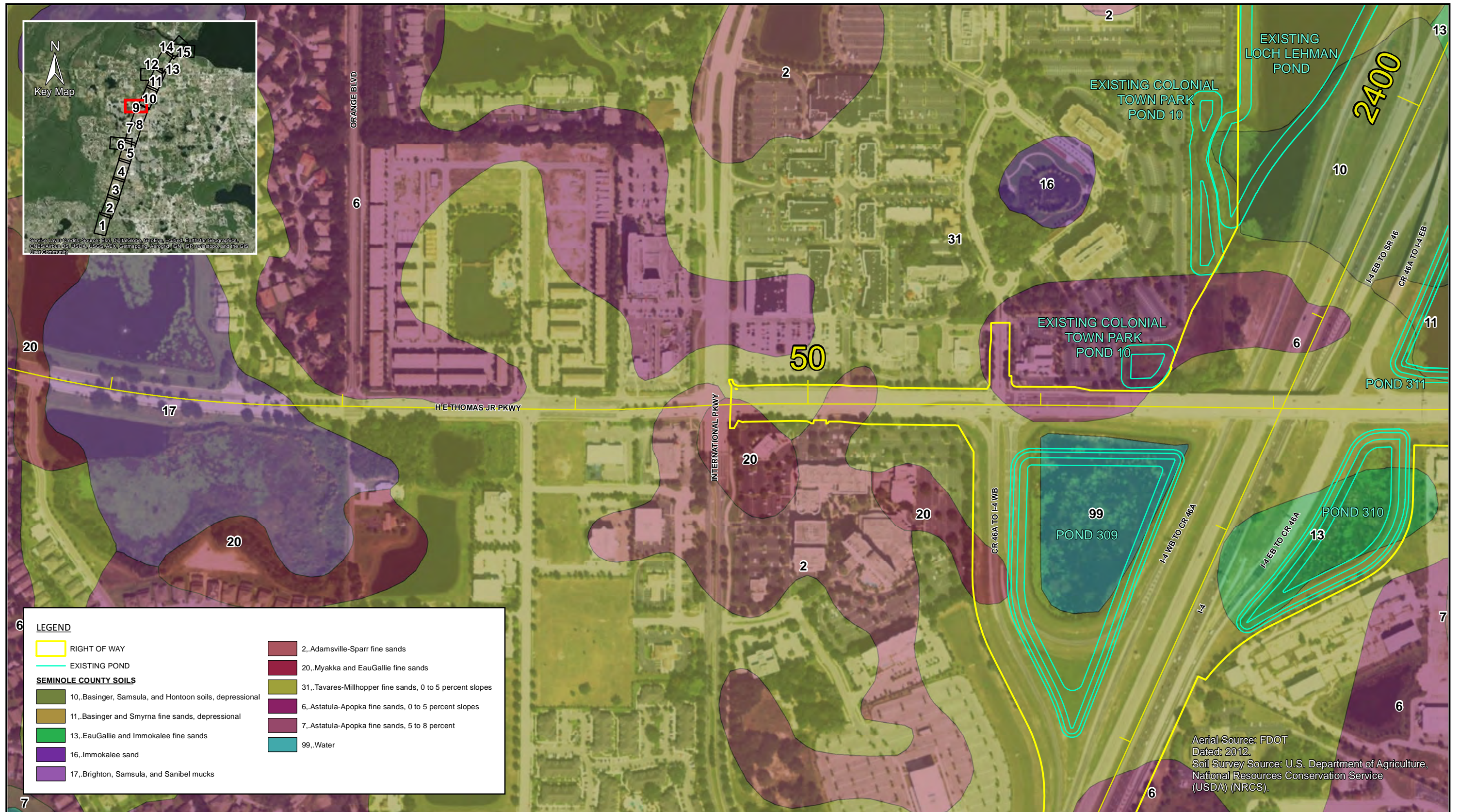
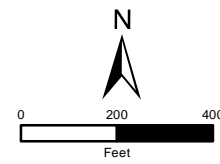
- RIGHT OF WAY
- EXISTING POND

SEMINOLE COUNTY SOILS

- 13.,EauGallie and Immokalee fine sands
- 2.,Adamsville-Sparr fine sands
- 20.,Myakka and EauGallie fine sands
- 31.,Tavares-Millhopper fine sands, 0 to 5 percent slopes
- 34.,Urban land
- 6.,Astatula-Apopka fine sands, 0 to 5 percent slopes
- 7.,Astatula-Apopka fine sands, 5 to 8 percent
- 8.,Astatula-Apopka fine sands, 8 to 12 percent slopes
- 99.,Water

Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

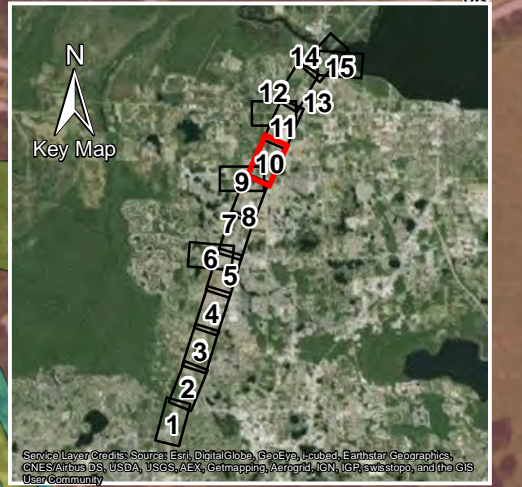
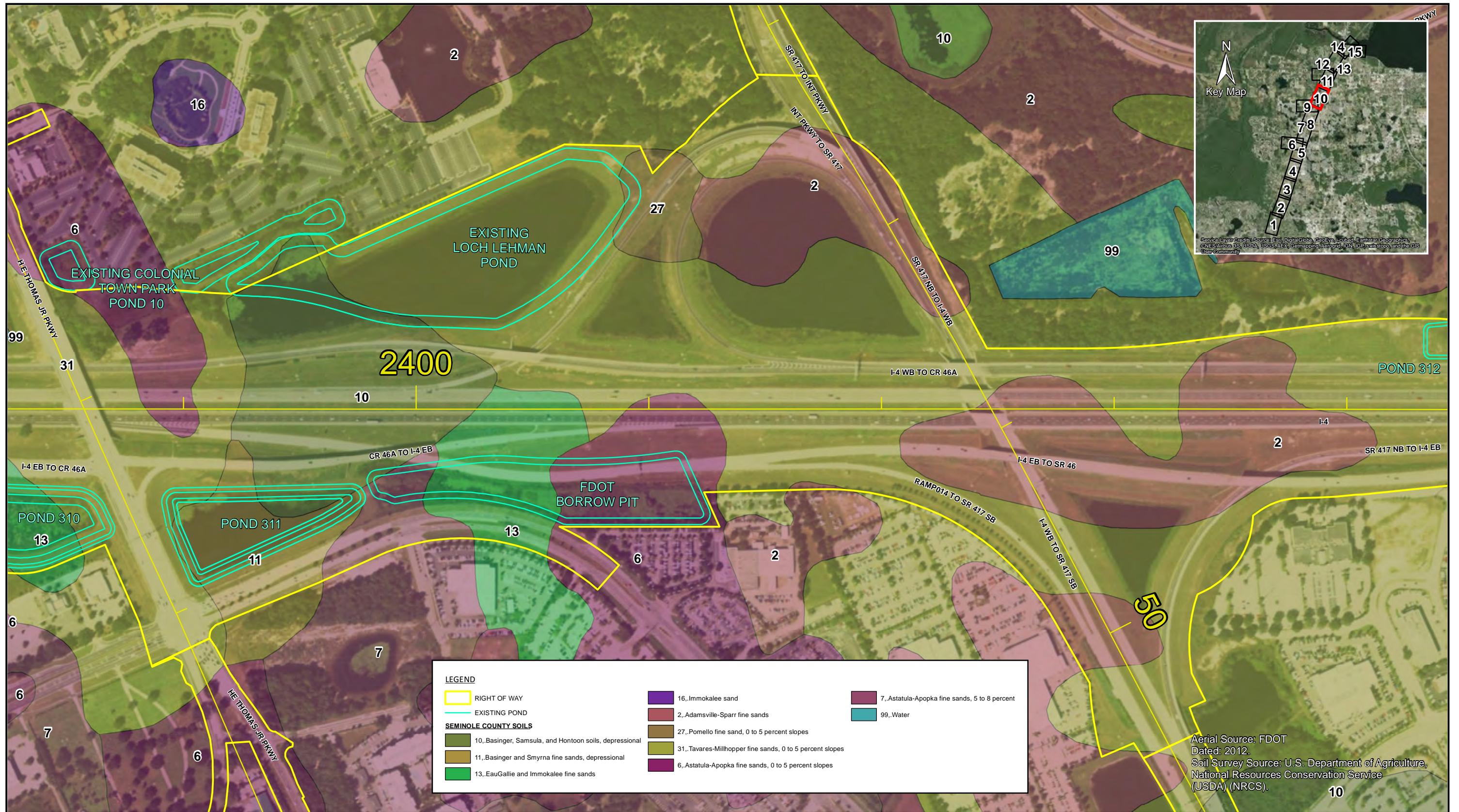
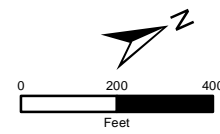
Exhibit 3.8



6 LEGEND	
	RIGHT OF WAY
	EXISTING POND
SEMINOLE COUNTY SOILS	
	10., Basinger, Samsula, and Hontoon soils, depressional
	11., Basinger and Smyrna fine sands, depressional
	13., Eau Gallie and Immokalee fine sands
	16., Immokalee sand
	17., Brighton, Samsula, and Sanibel mucks
	2., Adamsville-Sparr fine sands
	20., Myakka and Eau Gallie fine sands
	31., Tavares-Millhopper fine sands, 0 to 5 percent slopes
	6., Astatula-Apopka fine sands, 0 to 5 percent slopes
	7., Astatula-Apopka fine sands, 5 to 8 percent
	99., Water

Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

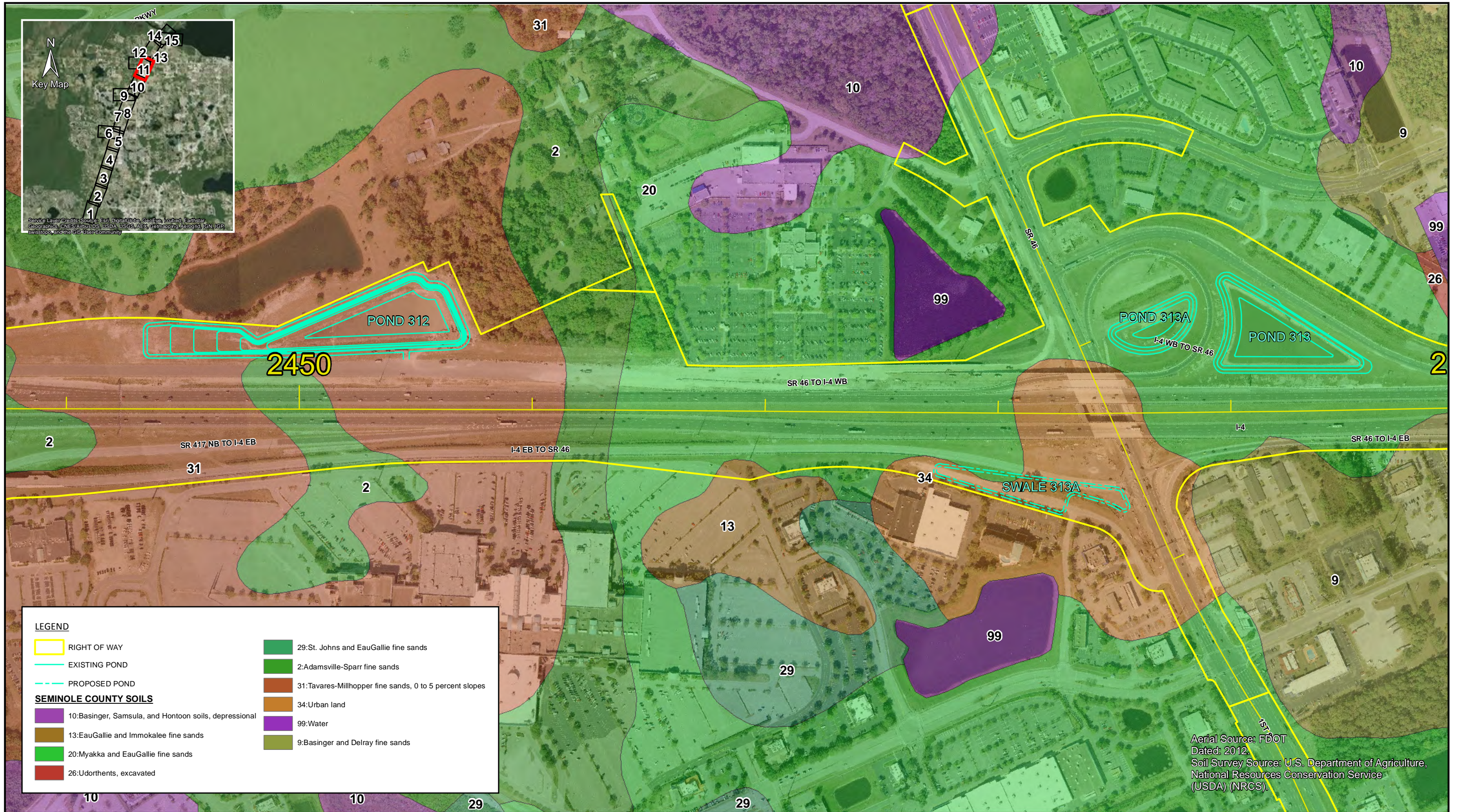
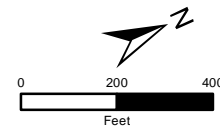
Exhibit 3.9



LEGEND		
	RIGHT OF WAY	
	EXISTING POND	
SEMINOLE COUNTY SOILS		
	10..Basinger, Samsula, and Hontoon soils, depressional	
	11..Basinger and Smyrna fine sands, depressional	
	13..EauGallie and Immokalee fine sands	
	16..Immokalee sand	
	2..Adamsville-Sparr fine sands	
	27..Pomello fine sand, 0 to 5 percent slopes	
	31..Tavares-Milhopper fine sands, 0 to 5 percent slopes	
	6..Astatula-Apopka fine sands, 0 to 5 percent slopes	
	7..Astatula-Apopka fine sands, 5 to 8 percent	
	99..Water	

Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.10



LEGEND

- RIGHT OF WAY
- EXISTING POND
- PROPOSED POND

SEMINOLE COUNTY SOILS

<ul style="list-style-type: none"> 10: Basinger, Samsula, and Hontoon soils, depressional 13: EauGallie and Immokalee fine sands 20: Myakka and EauGallie fine sands 26: Udorthents, excavated 	<ul style="list-style-type: none"> 29: St. Johns and EauGallie fine sands 2: Adamsville-Sparr fine sands 31: Tavares-Millhopper fine sands, 0 to 5 percent slopes 34: Urban land 99: Water 9: Basinger and Delray fine sands
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Aerial Source: FDOT
 Dated: 2012
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.11

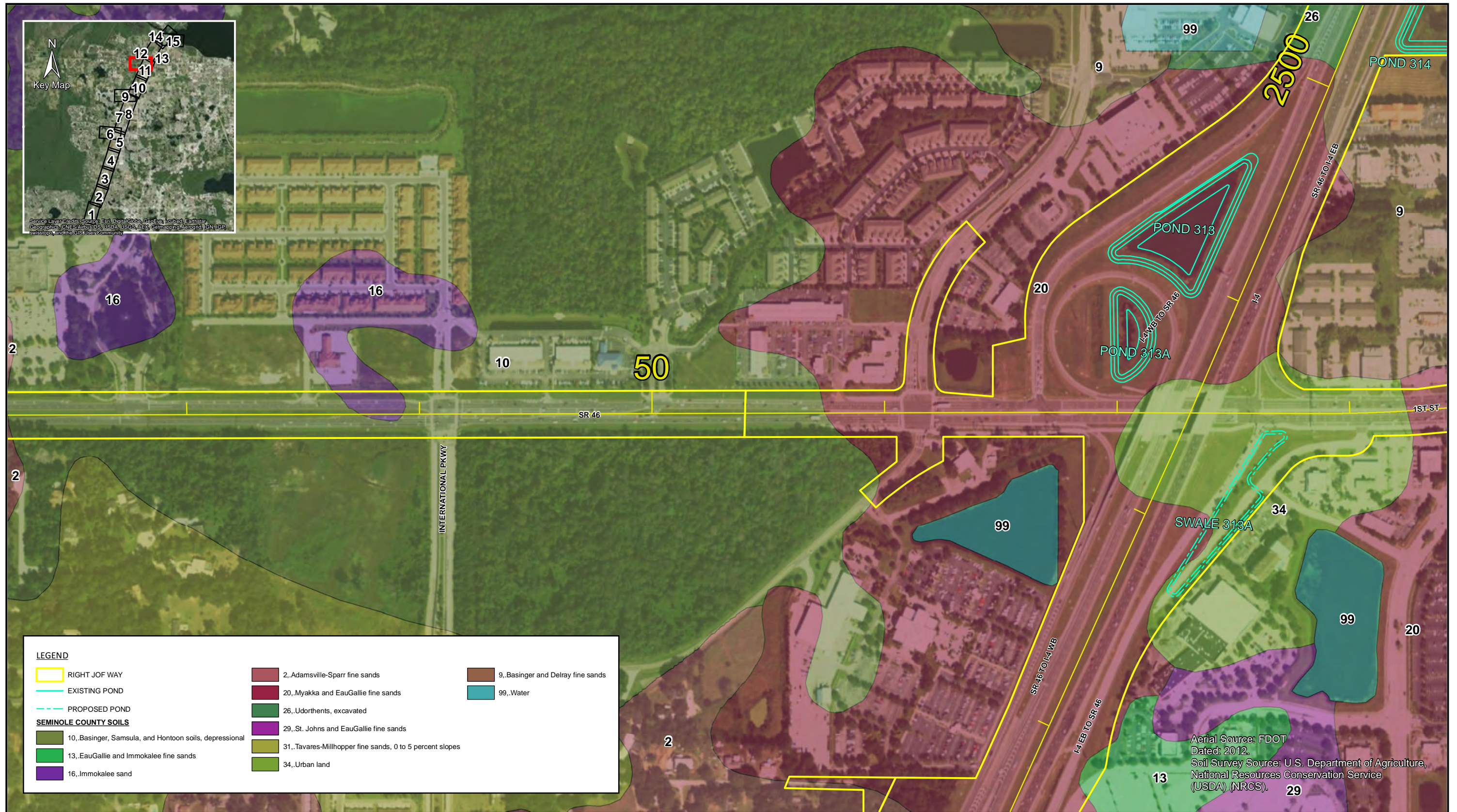
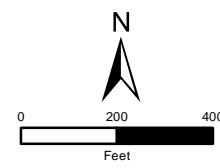
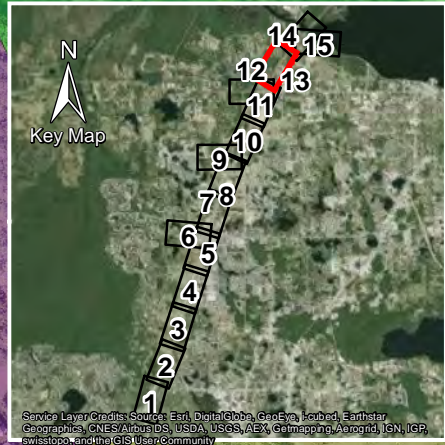
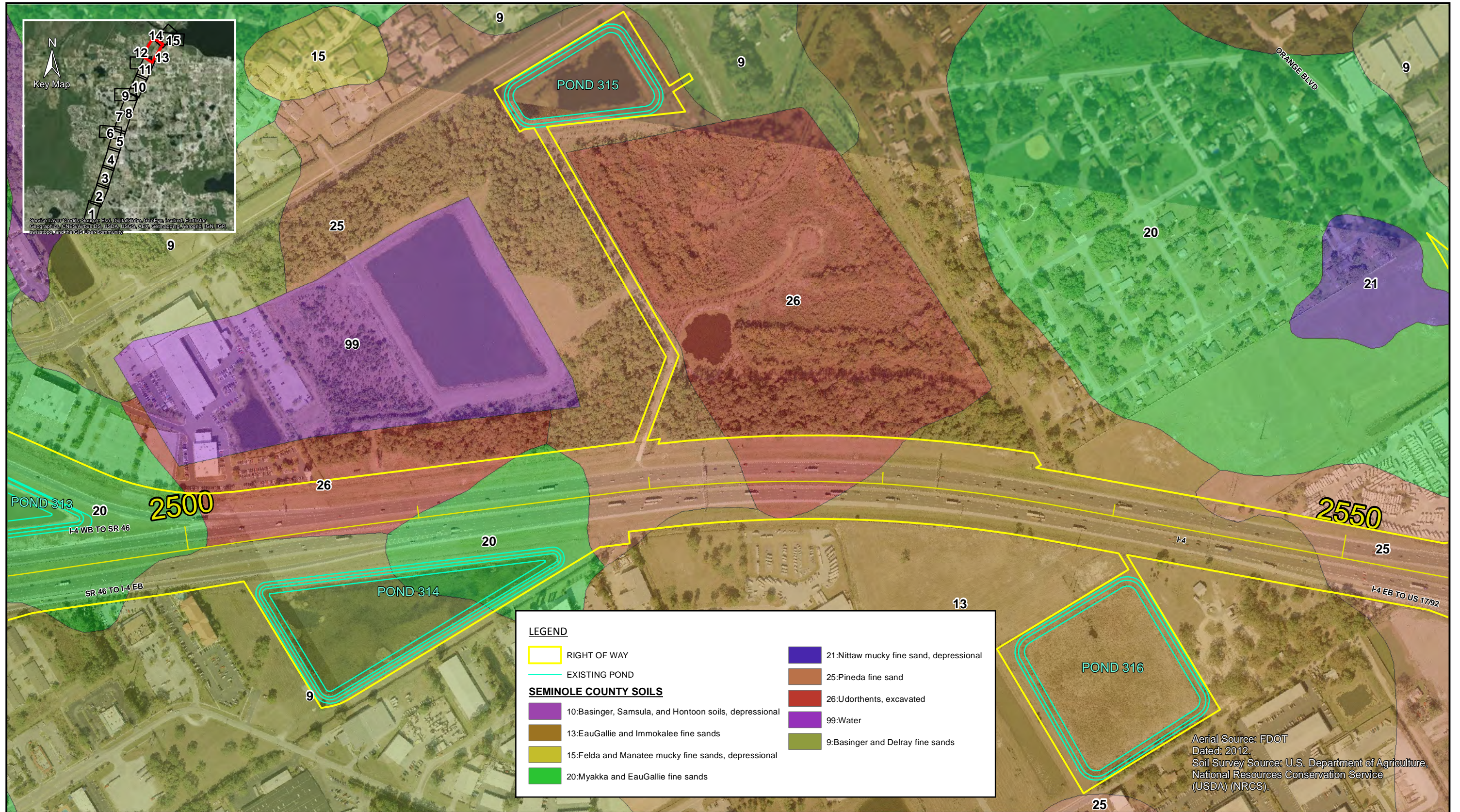
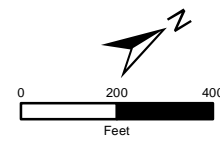


Exhibit 3.12



LEGEND	
	RIGHT OF WAY
	EXISTING POND
SEMINOLE COUNTY SOILS	
	10: Basinger, Samsula, and Hontoon soils, depressional
	13: Eau Gallie and Immokalee fine sands
	15: Felda and Manatee mucky fine sands, depressional
	20: Myakka and Eau Gallie fine sands
	21: Nittaw mucky fine sand, depressional
	25: Pineda fine sand
	26: Udorthents, excavated
	99: Water
	9: Basinger and Delray fine sands

Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.13

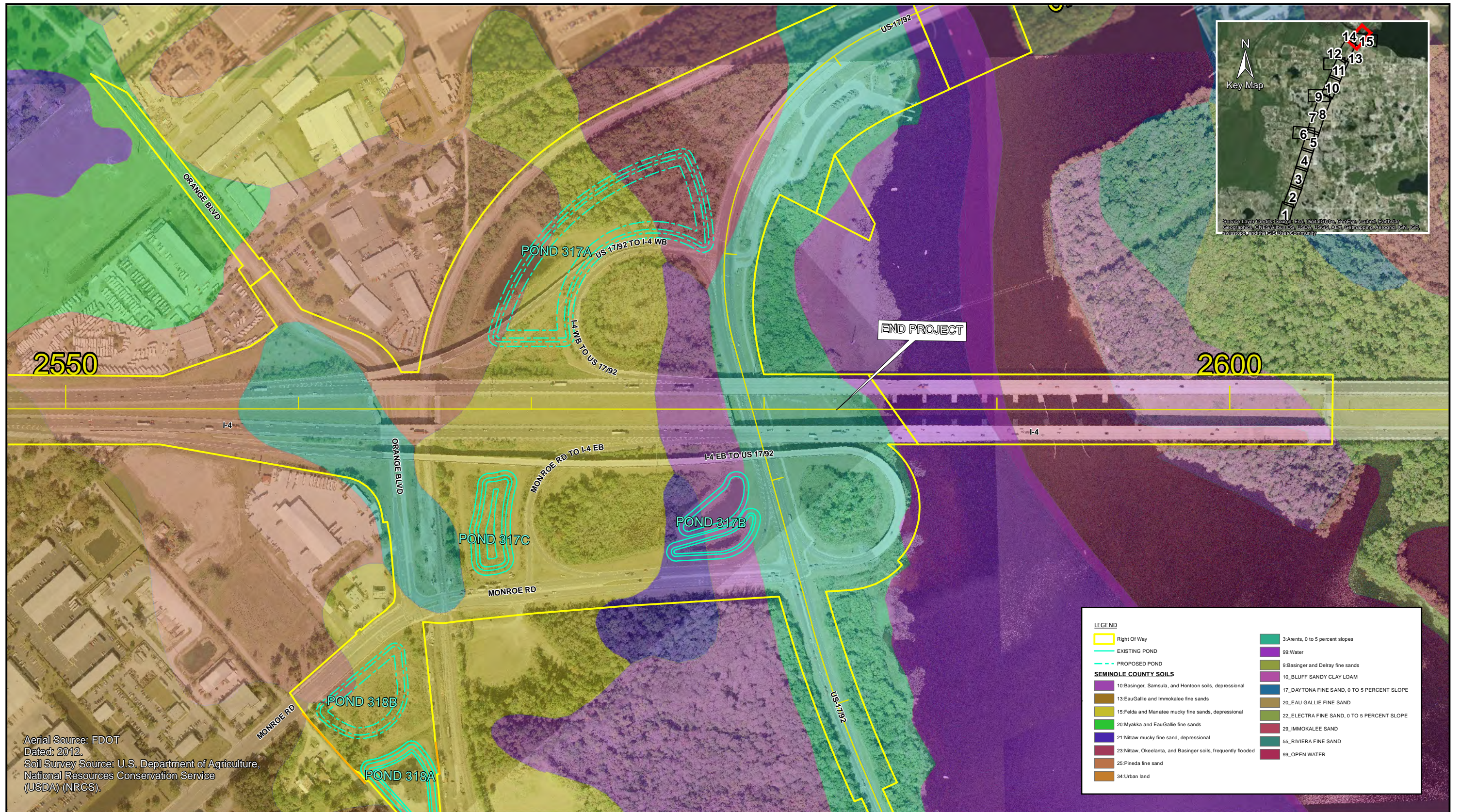
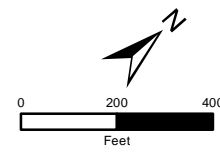
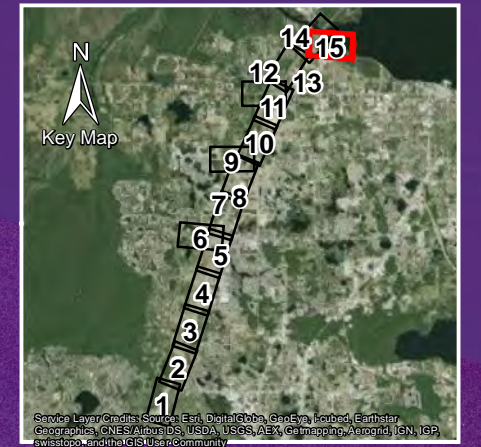
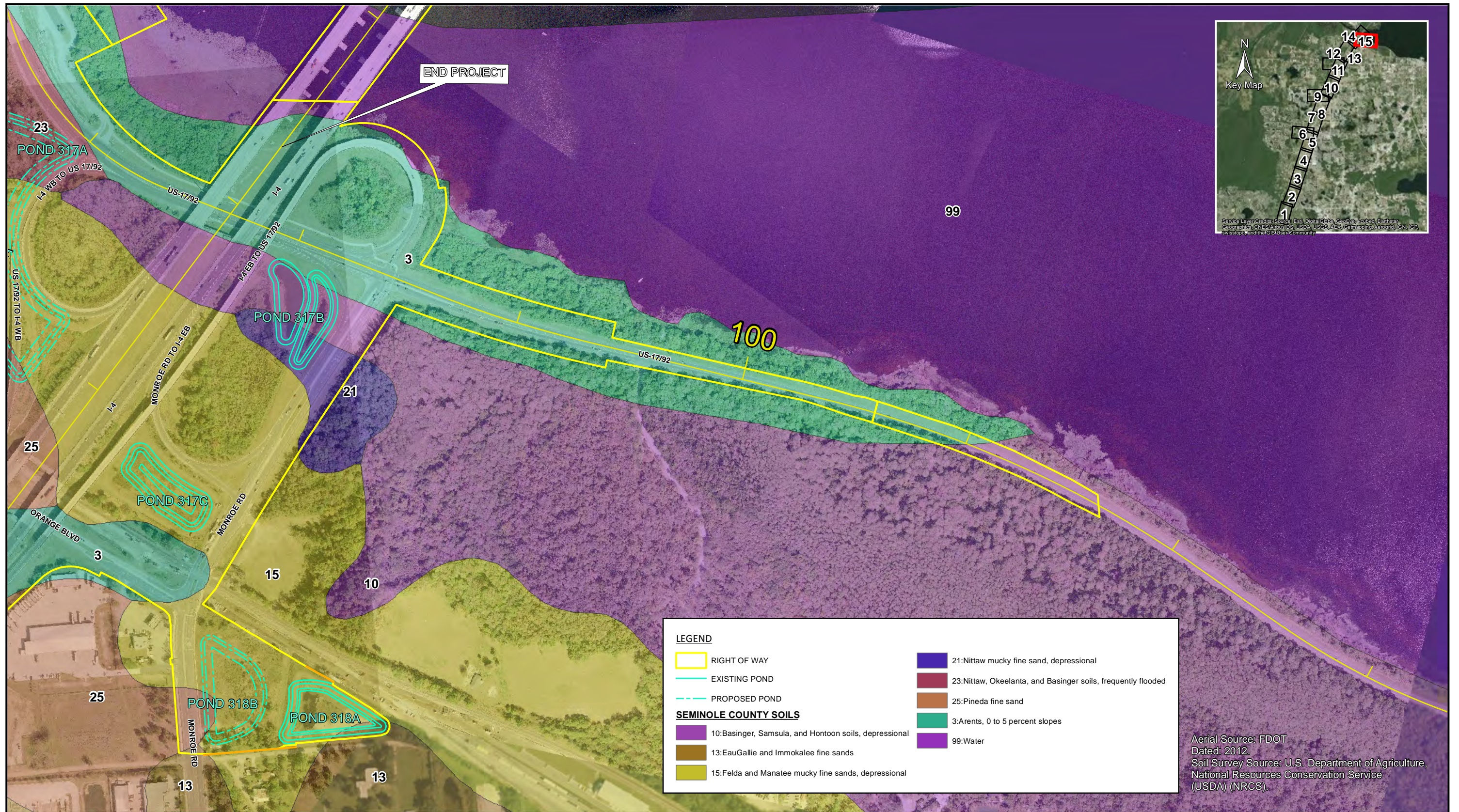
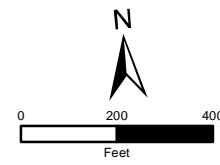


Exhibit 3.14



LEGEND

- RIGHT OF WAY
- EXISTING POND
- PROPOSED POND

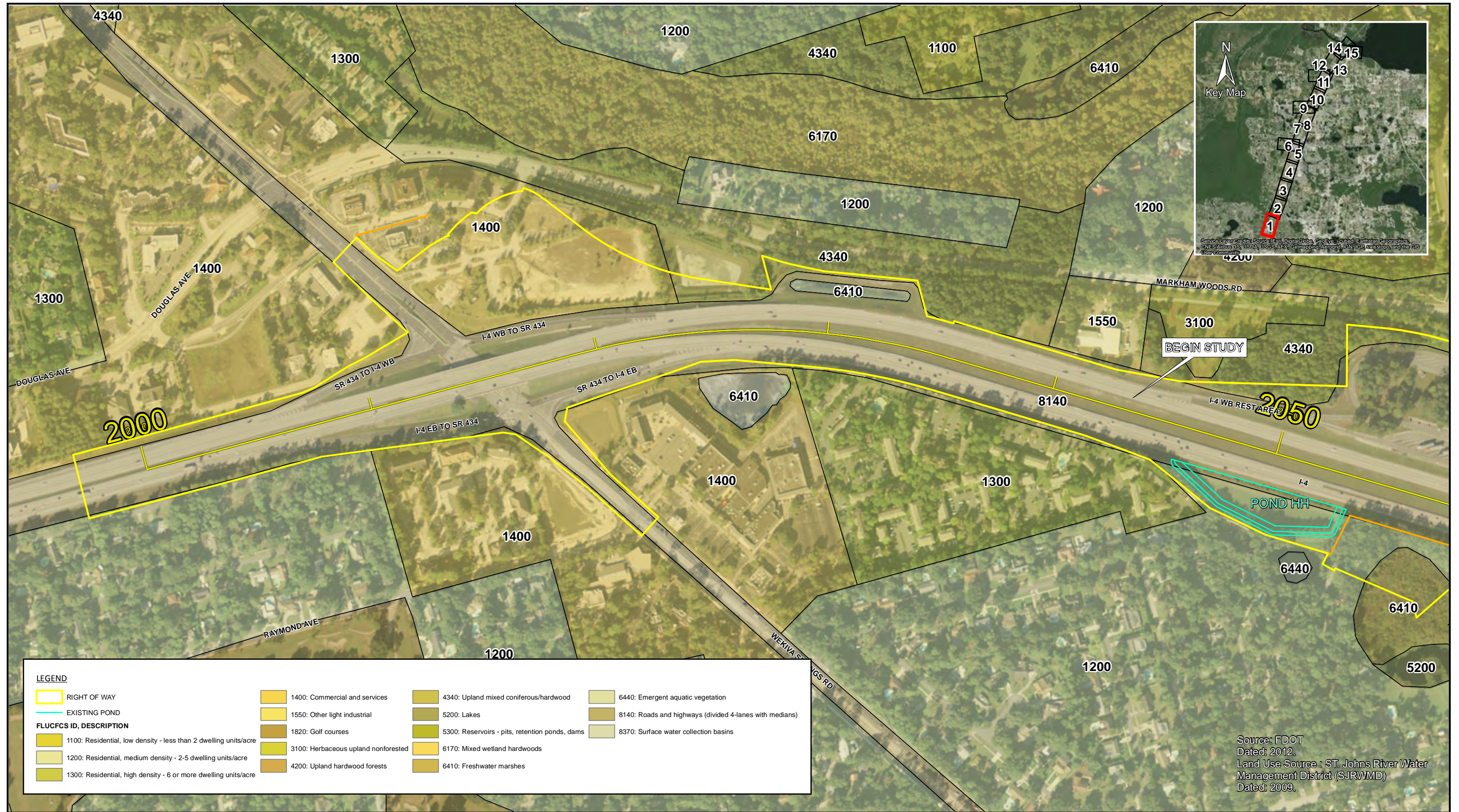
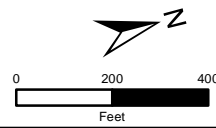
SEMINOLE COUNTY SOILS

<ul style="list-style-type: none"> 10: Basinger, Samsula, and Hontoon soils, depressional 13: Eau Gallie and Immokalee fine sands 15: Felda and Manatee mucky fine sands, depressional 	<ul style="list-style-type: none"> 21: Nittaw mucky fine sand, depressional 23: Nittaw, Okeelanta, and Basinger soils, frequently flooded 25: Pineda fine sand 3: Arents, 0 to 5 percent slopes 99: Water
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Aerial Source: FDOT
 Dated: 2012.
 Soil Survey Source: U.S. Department of Agriculture,
 National Resources Conservation Service
 (USDA) (NRCS).

Exhibit 3.15

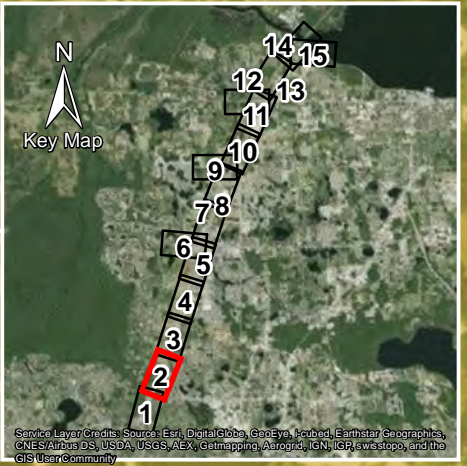
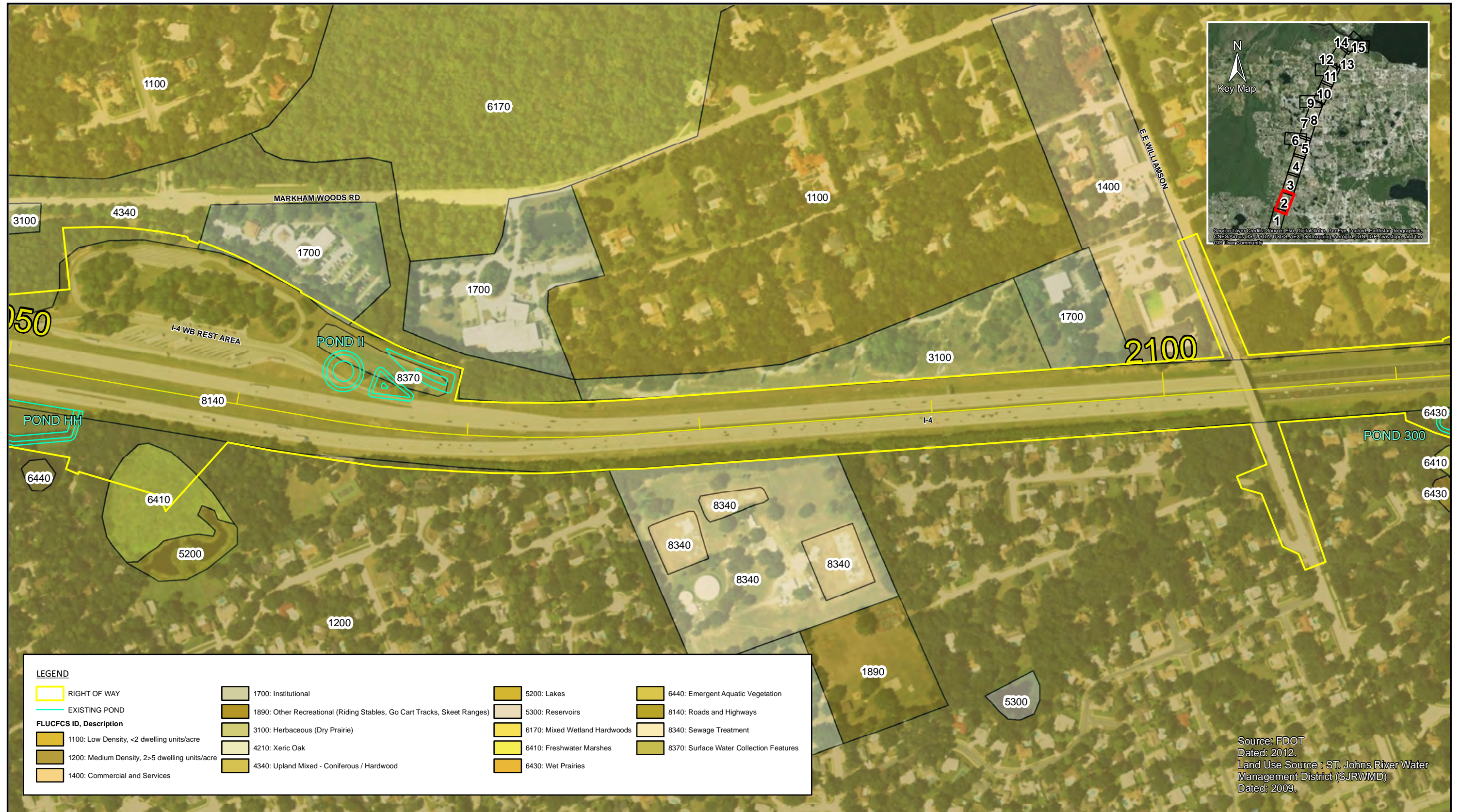
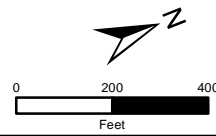
EXHIBIT 4
FLUCFCS MAP



LEGEND			
	RIGHT OF WAY		1400: Commercial and services
	EXISTING POND		1550: Other light industrial
FLUCFCS ID, DESCRIPTION			
	1100: Residential, low density - less than 2 dwelling units/acre		4340: Upland mixed coniferous/hardwood
	1200: Residential, medium density - 2-5 dwelling units/acre		5200: Lakes
	1300: Residential, high density - 6 or more dwelling units/acre		5300: Reservoirs - pits, retention ponds, dams
	1400: Commercial and services		6170: Mixed wetland hardwoods
	1550: Other light industrial		6410: Freshwater marshes
	1820: Golf courses		6440: Emergent aquatic vegetation
	3100: Herbaceous upland nonforested		8140: Roads and highways (divided 4-lanes with medians)
	4200: Upland hardwood forests		8370: Surface water collection basins

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

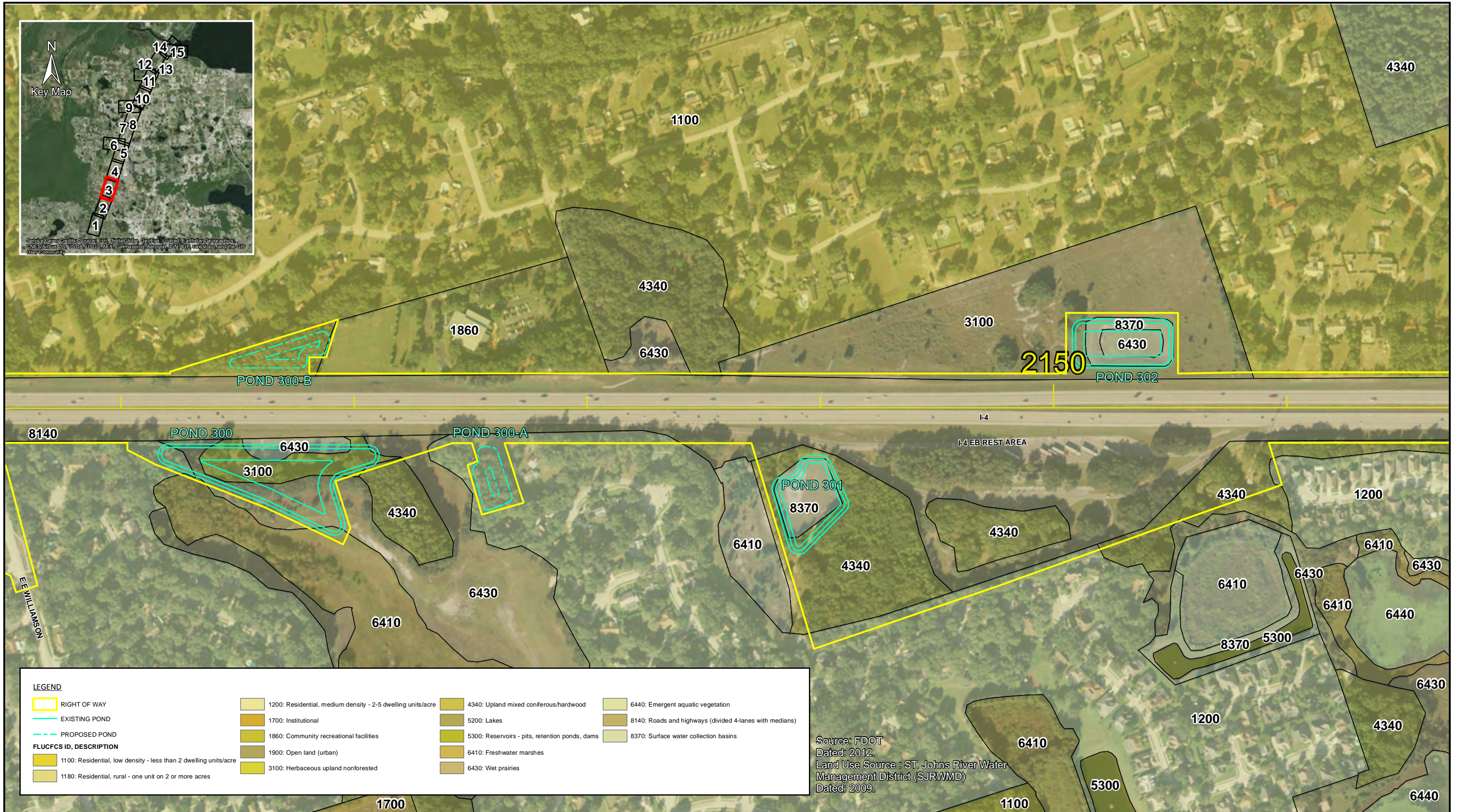
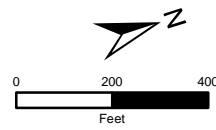
Exhibit 4.1



LEGEND			
	RIGHT OF WAY		1700: Institutional
	EXISTING POND		1890: Other Recreational (Riding Stables, Go Cart Tracks, Skeet Ranges)
FLUCFCS ID, Description			
	1100: Low Density, <2 dwelling units/acre		3100: Herbaceous (Dry Prairie)
	1200: Medium Density, 2-5 dwelling units/acre		4210: Xeric Oak
	1400: Commercial and Services		4340: Upland Mixed - Coniferous / Hardwood
	5200: Lakes		5300: Reservoirs
	6170: Mixed Wetland Hardwoods		6410: Freshwater Marshes
	6430: Wet Prairies		8370: Surface Water Collection Features
	6440: Emergent Aquatic Vegetation		8140: Roads and Highways
	8140: Roads and Highways		8340: Sewage Treatment

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

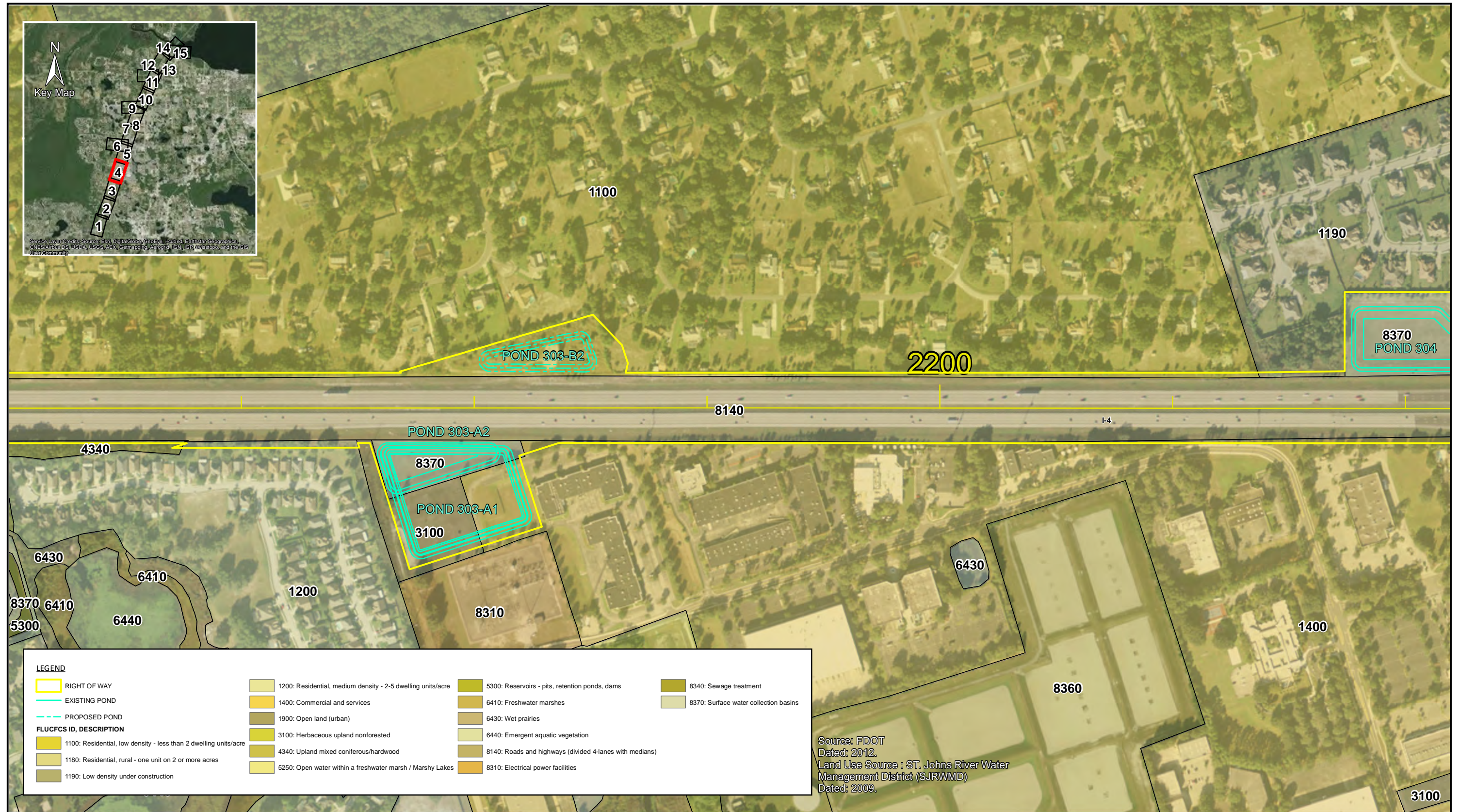
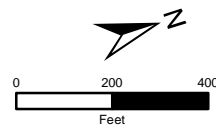
Exhibit 4.2



LEGEND			
	RIGHT OF WAY		1200: Residential, medium density - 2-5 dwelling units/acre
	EXISTING POND		1700: Institutional
	PROPOSED POND		1860: Community recreational facilities
FLUCFCS ID, DESCRIPTION			
	1100: Residential, low density - less than 2 dwelling units/acre		5200: Lakes
	1180: Residential, rural - one unit on 2 or more acres		5300: Reservoirs - pits, retention ponds, dams
	3100: Herbaceous upland nonforested		6410: Freshwater marshes
	4340: Upland mixed coniferous/hardwood		6430: Wet prairies
	6440: Emergent aquatic vegetation		8140: Roads and highways (divided 4-lanes with medians)
	8370: Surface water collection basins		

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.3



LEGEND			
	RIGHT OF WAY		1200: Residential, medium density - 2-5 dwelling units/acre
	EXISTING POND		1400: Commercial and services
	PROPOSED POND		1900: Open land (urban)
FLUCFCS ID, DESCRIPTION			
	1100: Residential, low density - less than 2 dwelling units/acre		3100: Herbaceous upland nonforested
	1180: Residential, rural - one unit on 2 or more acres		4340: Upland mixed coniferous/hardwood
	1190: Low density under construction		5250: Open water within a freshwater marsh / Marshy Lakes
	5300: Reservoirs - pits, retention ponds, dams		6410: Freshwater marshes
	6430: Wet prairies		6440: Emergent aquatic vegetation
	8140: Roads and highways (divided 4-lanes with medians)		8310: Electrical power facilities
	8340: Sewage treatment		8370: Surface water collection basins

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.4

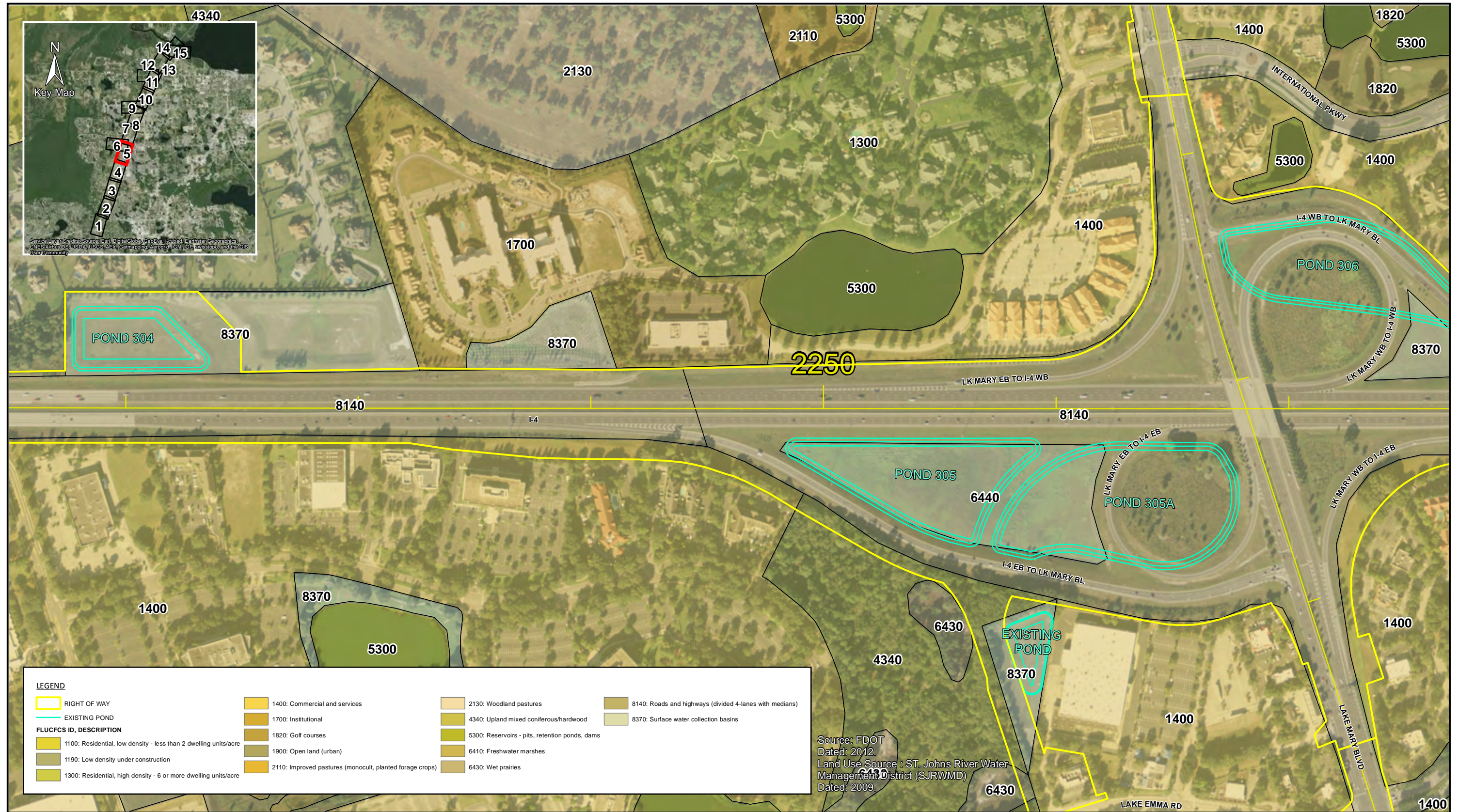
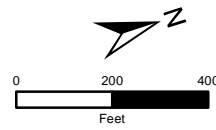
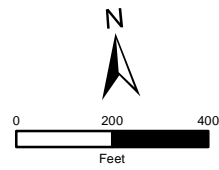


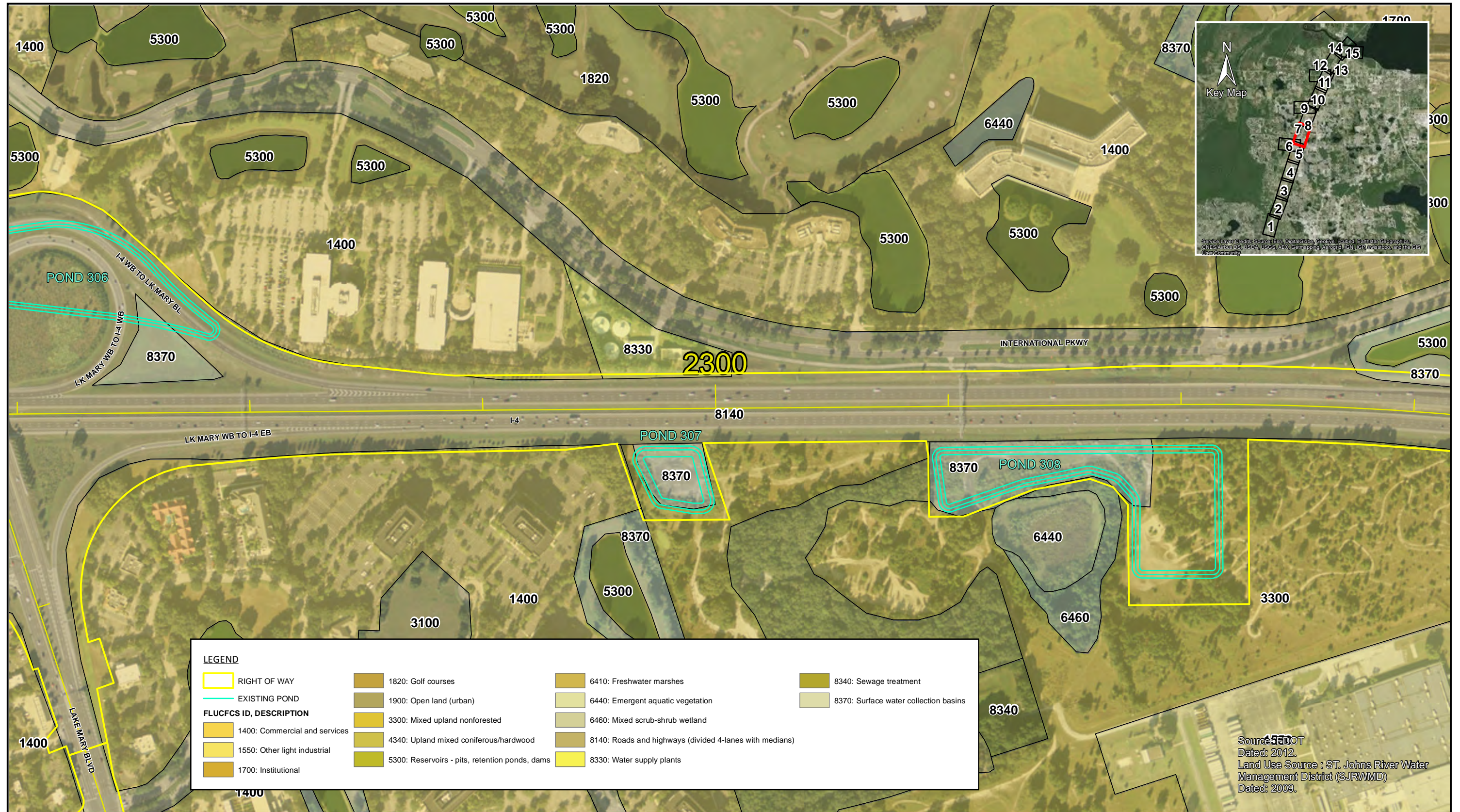
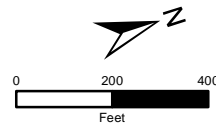
Exhibit 4.5



LEGEND			
	RIGHT OF WAY		1820: Golf courses
	EXISTING POND		1860: Community recreational facilities
FLUCFCS ID, DESCRIPTION			
	1100: Residential, low density - less than 2 dwelling units/acre		6170: Mixed wetland hardwoods
	1200: Residential, medium density - 2-5 dwelling units/acre		6250: Hydric pine flatwoods
	1300: Residential, high density - 6 or more dwelling units/acre		6300: Wetland forested mixed
	1400: Commercial and services		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
			2110: Improved pastures (monocult, planted forage crops)
			2130: Woodland pastures
			4340: Upland mixed coniferous/hardwood
			5300: Reservoirs - pits, retention ponds, dams

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.6



LEGEND			
	RIGHT OF WAY		1820: Golf courses
	EXISTING POND		1900: Open land (urban)
FLUCFCS ID, DESCRIPTION			
	1400: Commercial and services		3300: Mixed upland nonforested
	1550: Other light industrial		4340: Upland mixed coniferous/hardwood
	1700: Institutional		5300: Reservoirs - pits, retention ponds, dams
	6410: Freshwater marshes		6440: Emergent aquatic vegetation
	6440: Emergent aquatic vegetation		6460: Mixed scrub-shrub wetland
	8340: Sewage treatment		8140: Roads and highways (divided 4-lanes with medians)
	8370: Surface water collection basins		8330: Water supply plants

Source: AEDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.7

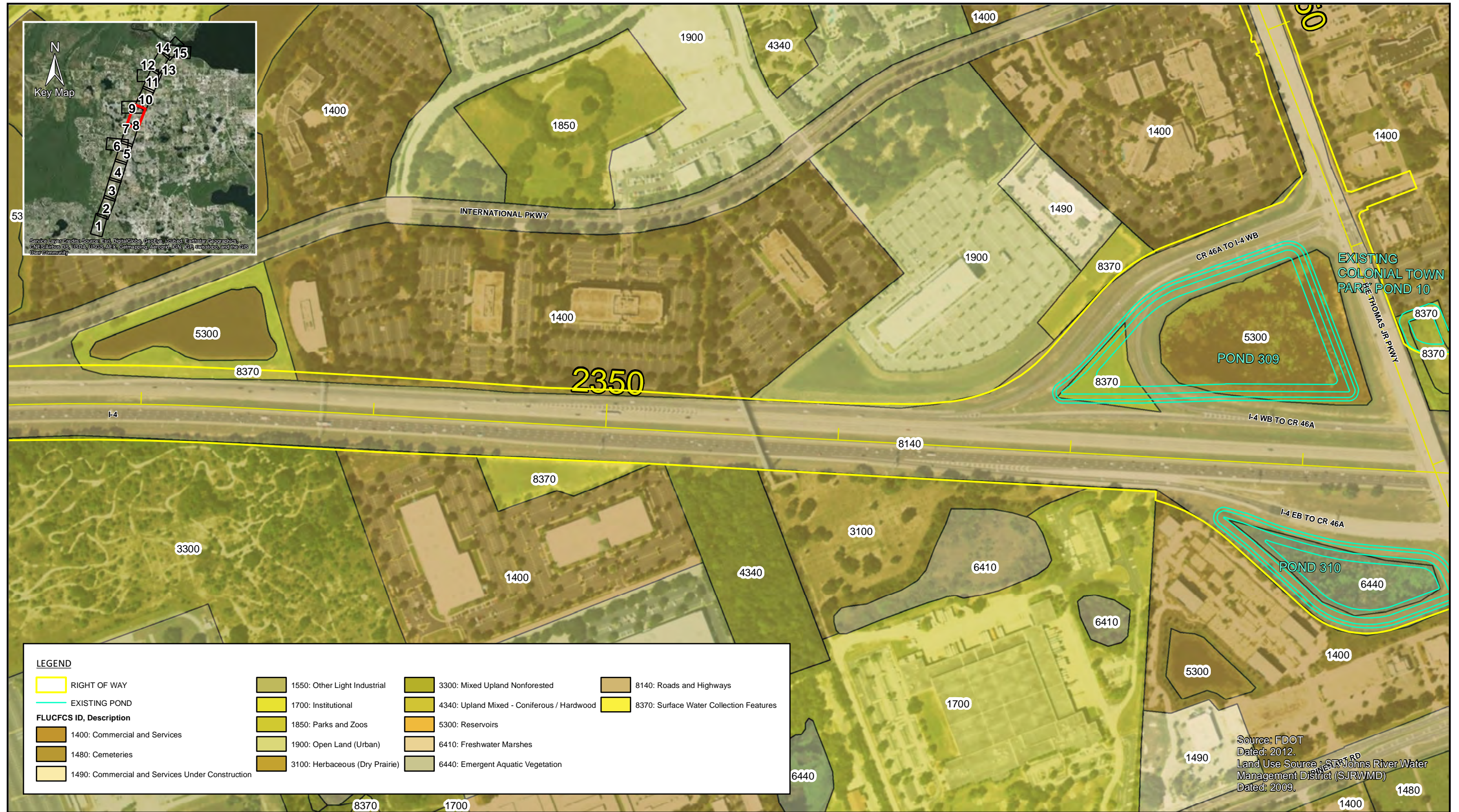
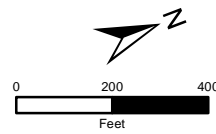


Exhibit 4.8

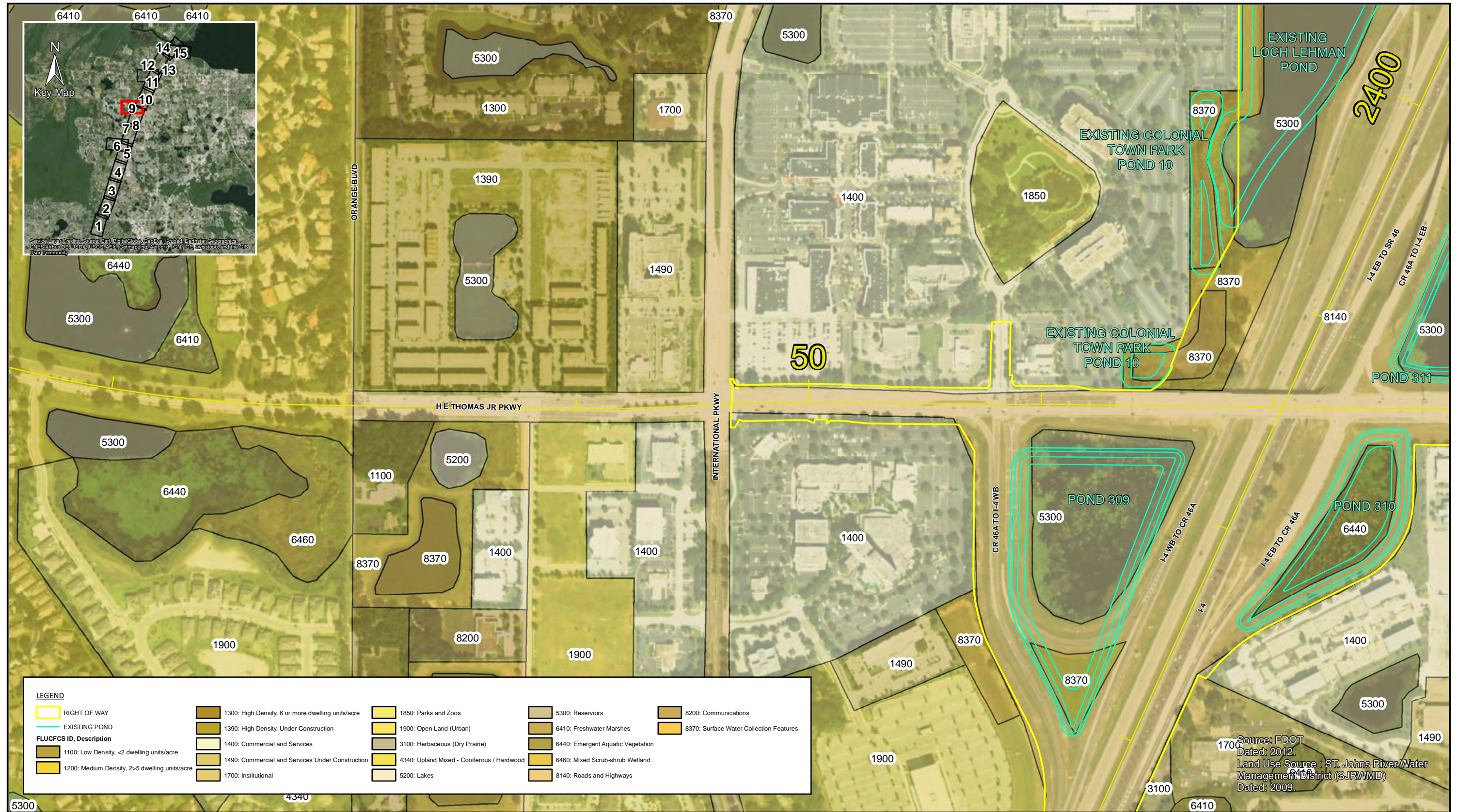
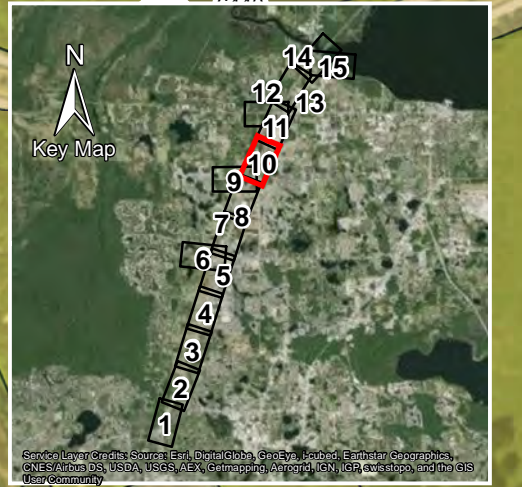
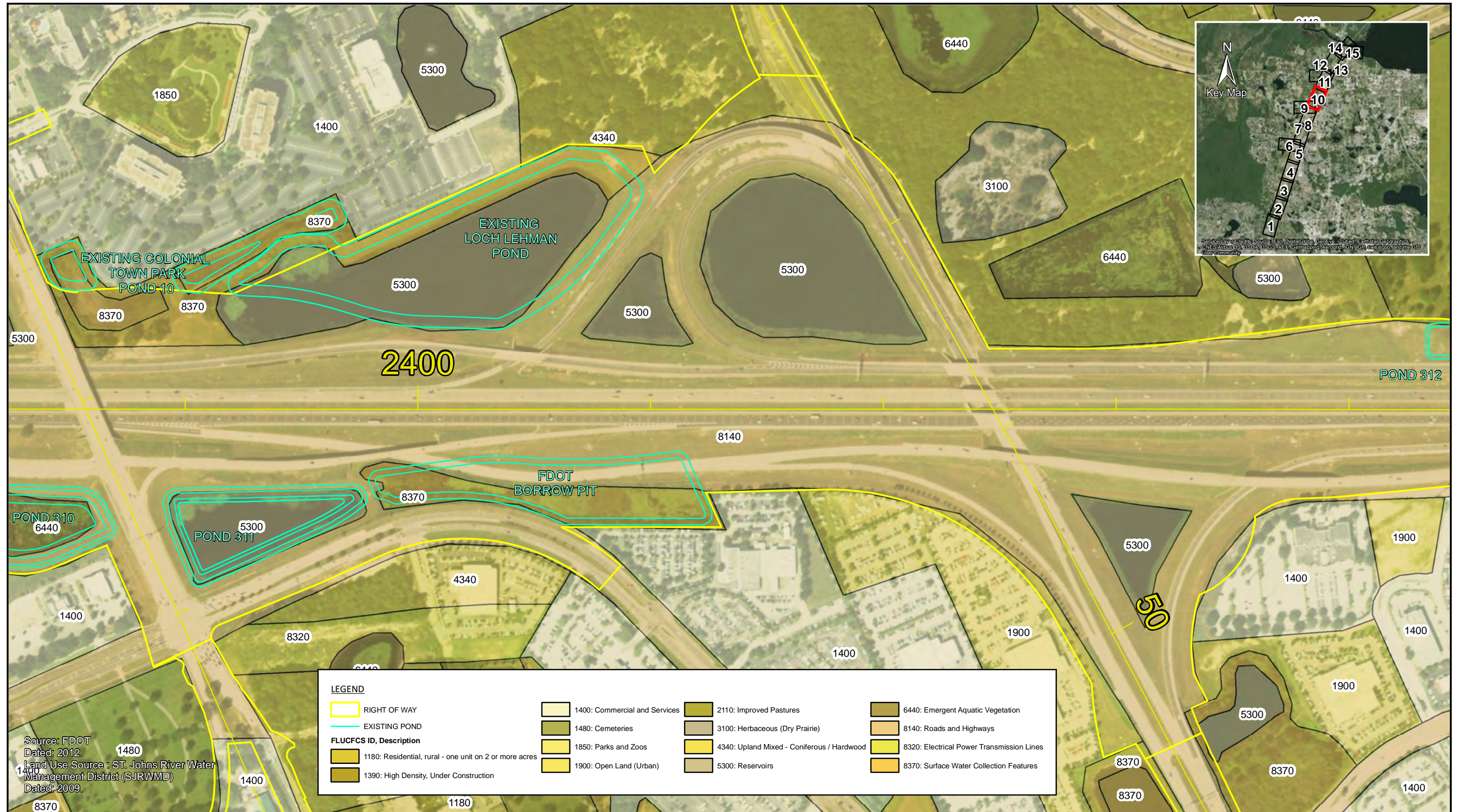
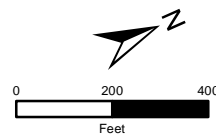


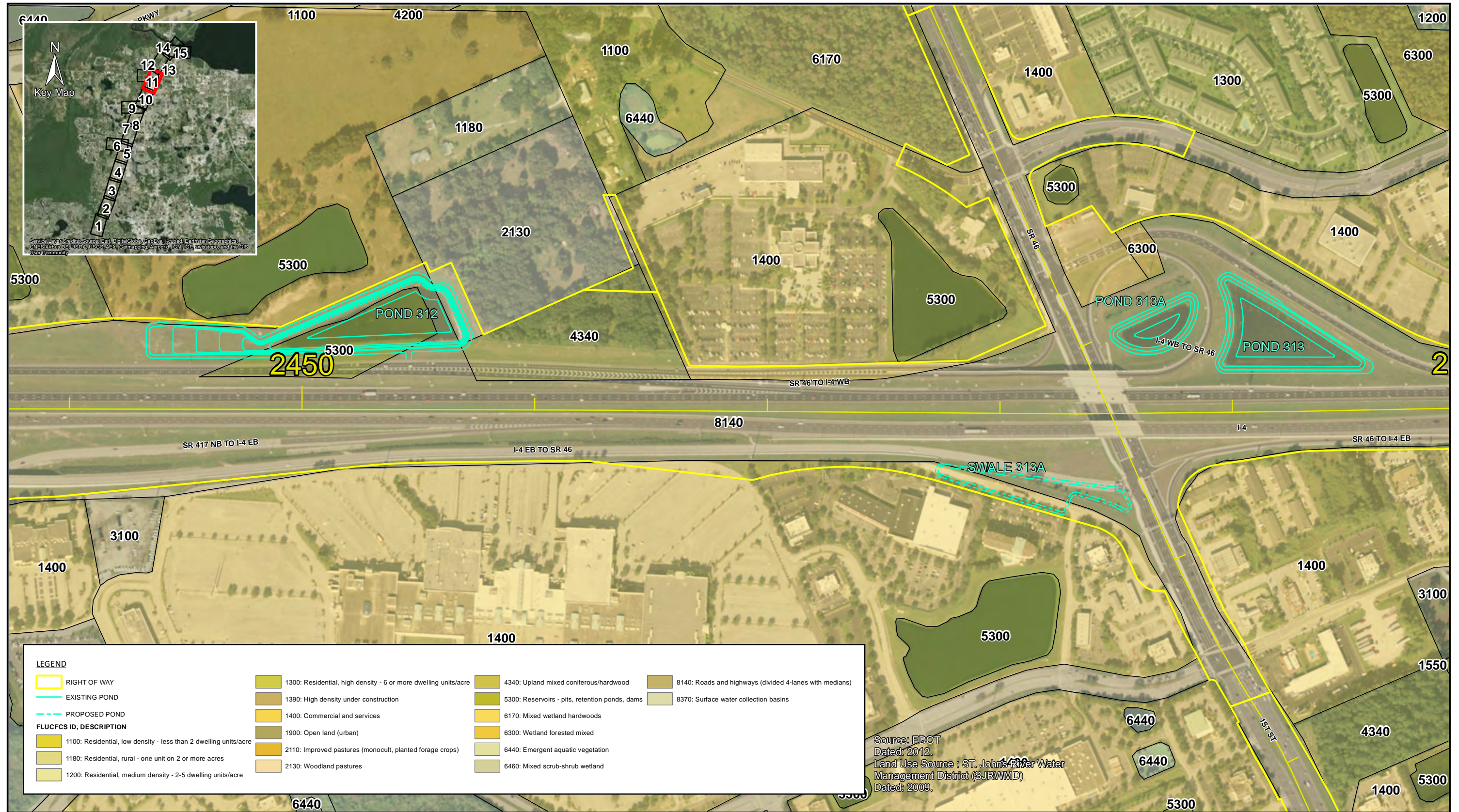
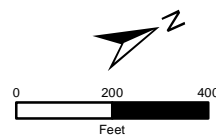
Exhibit 4.9



LEGEND		
RIGHT OF WAY	1400: Commercial and Services	2110: Improved Pastures
EXISTING POND	1480: Cemeteries	3100: Herbaceous (Dry Prairie)
FLUCFCS ID, Description	1850: Parks and Zoos	4340: Upland Mixed - Coniferous / Hardwood
1180: Residential, rural - one unit on 2 or more acres	1900: Open Land (Urban)	5300: Reservoirs
1390: High Density, Under Construction		6440: Emergent Aquatic Vegetation
		8140: Roads and Highways
		8320: Electrical Power Transmission Lines
		8370: Surface Water Collection Features

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

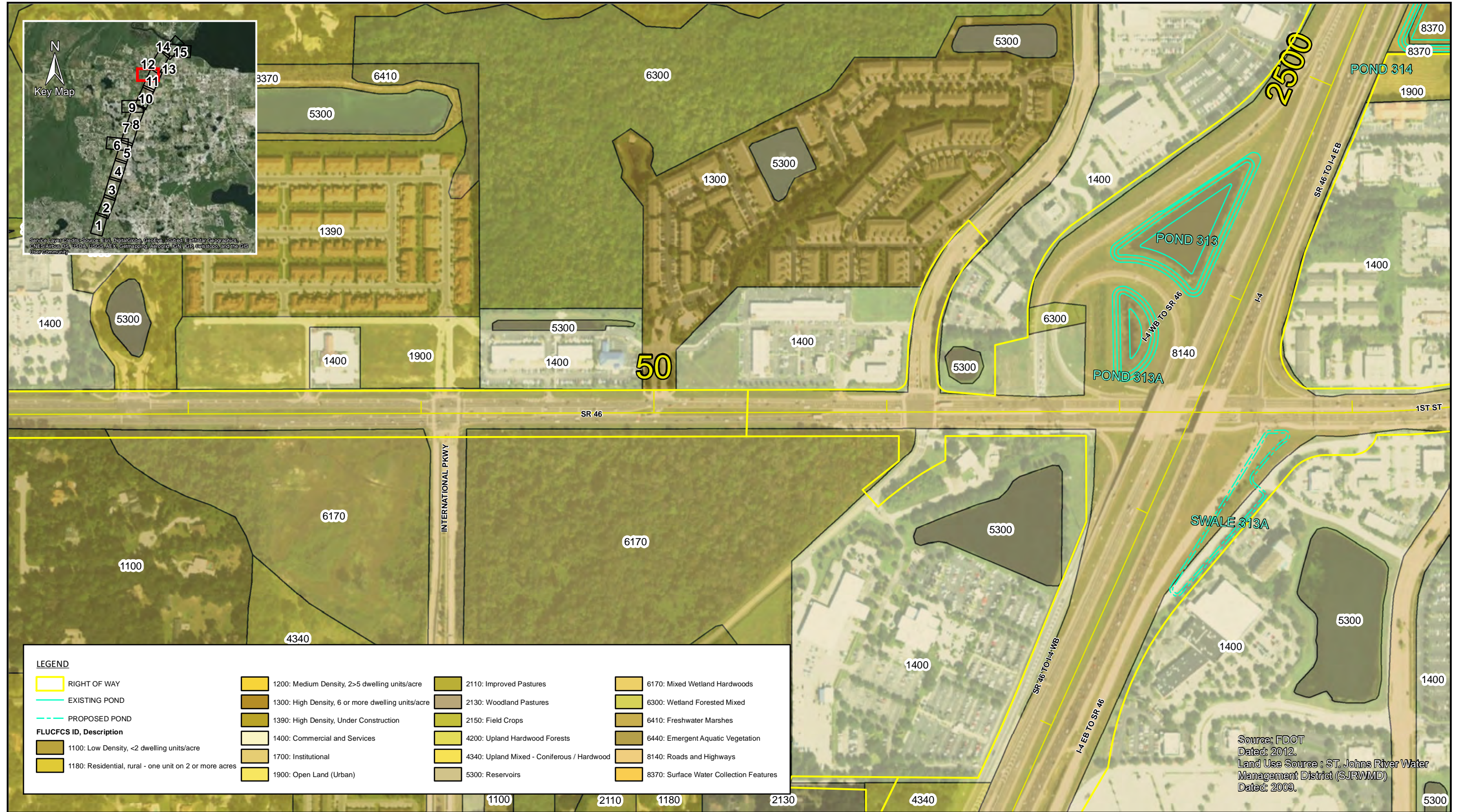
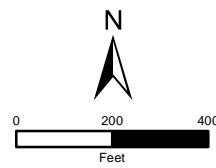
Exhibit 4.10



LEGEND		
	RIGHT OF WAY	
	EXISTING POND	
	PROPOSED POND	
FLUCFCS ID, DESCRIPTION		
	1100: Residential, low density - less than 2 dwelling units/acre	
	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	
	1390: High density under construction	
	1400: Commercial and services	
	1900: Open land (urban)	
	2110: Improved pastures (monocult, planted forage crops)	
	2130: Woodland pastures	
	4340: Upland mixed coniferous/hardwood	
	5300: Reservoirs - pits, retention ponds, dams	
	6170: Mixed wetland hardwoods	
	6300: Wetland forested mixed	
	6440: Emergent aquatic vegetation	
	6460: Mixed scrub-shrub wetland	
	8140: Roads and highways (divided 4-lanes with medians)	
	8370: Surface water collection basins	

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWD)
 Dated: 2009.

Exhibit 4.11



LEGEND			
	RIGHT OF WAY		1200: Medium Density, 2-5 dwelling units/acre
	EXISTING POND		1300: High Density, 6 or more dwelling units/acre
	PROPOSED POND		1390: High Density, Under Construction
FLUCFCS ID, Description			
	1100: Low Density, <2 dwelling units/acre		2110: Improved Pastures
	1180: Residential, rural - one unit on 2 or more acres		2130: Woodland Pastures
	1400: Commercial and Services		2150: Field Crops
	1700: Institutional		4200: Upland Hardwood Forests
	1900: Open Land (Urban)		4340: Upland Mixed - Coniferous / Hardwood
			5300: Reservoirs
			6170: Mixed Wetland Hardwoods
			6300: Wetland Forested Mixed
			6410: Freshwater Marshes
			6440: Emergent Aquatic Vegetation
			8140: Roads and Highways
			8370: Surface Water Collection Features

Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.12

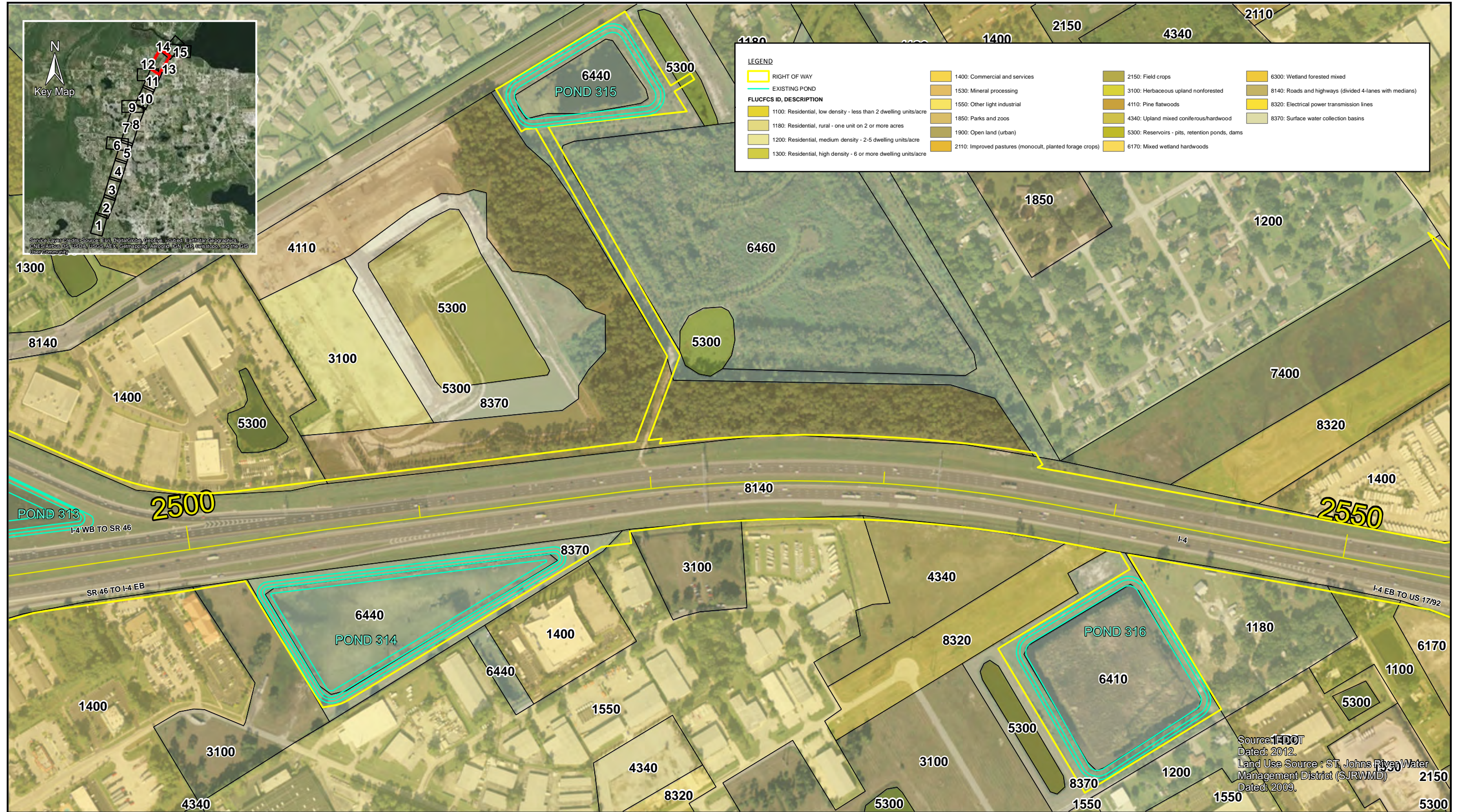
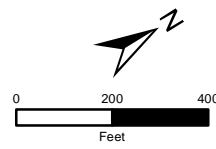
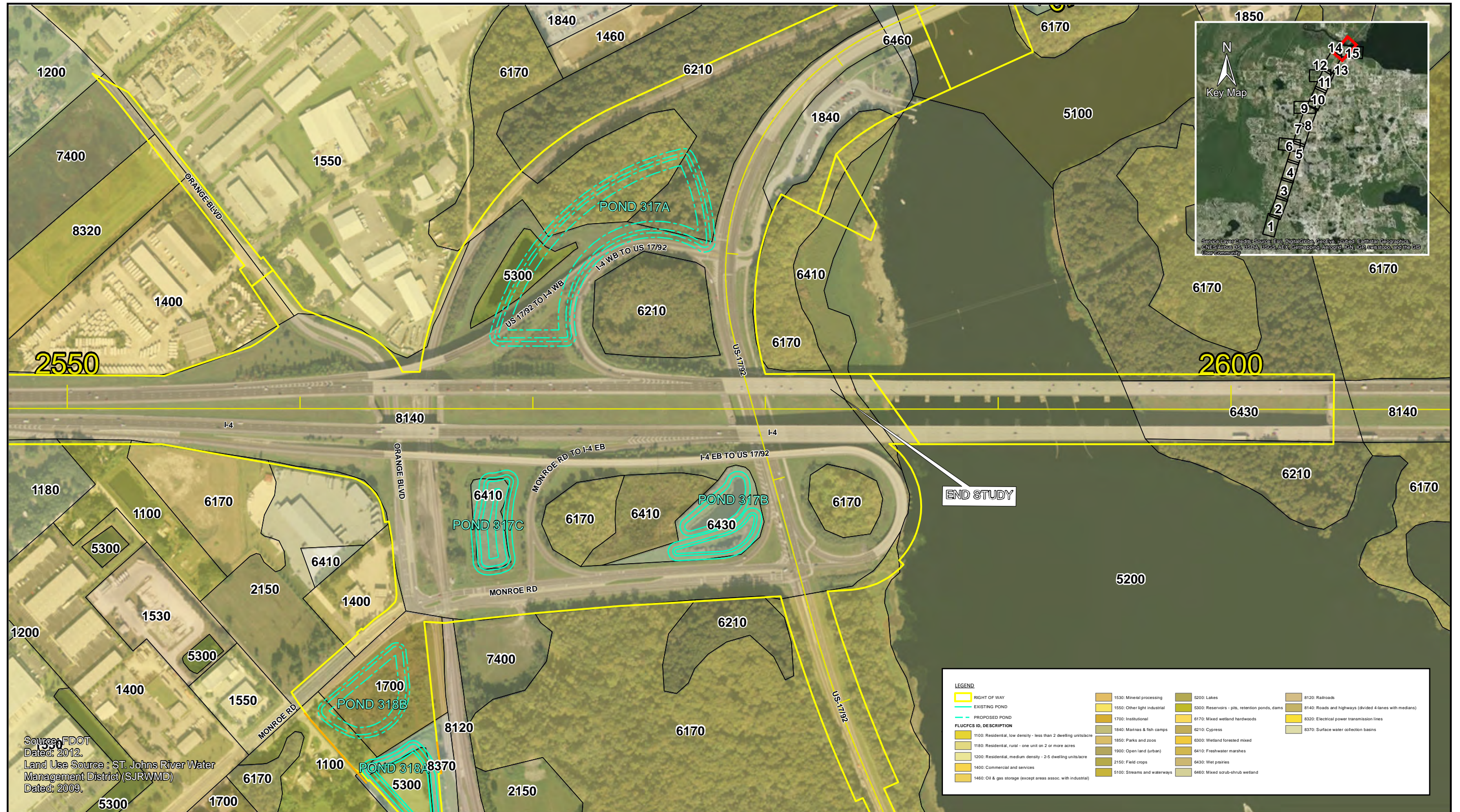
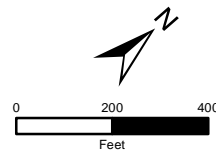
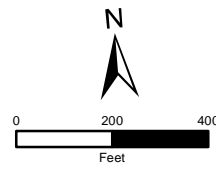


Exhibit 4.13



Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.14



Source: FDOT
 Dated: 2012.
 Land Use Source: ST. Johns River Water
 Management District (SJRWMD)
 Dated: 2009.

Exhibit 4.15

EXHIBIT 5
SURFACE WATER AND WETLAND MAP

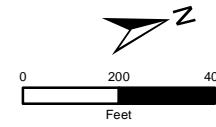


Exhibit 5.1

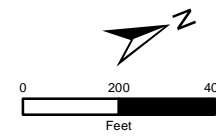


Exhibit 5.2

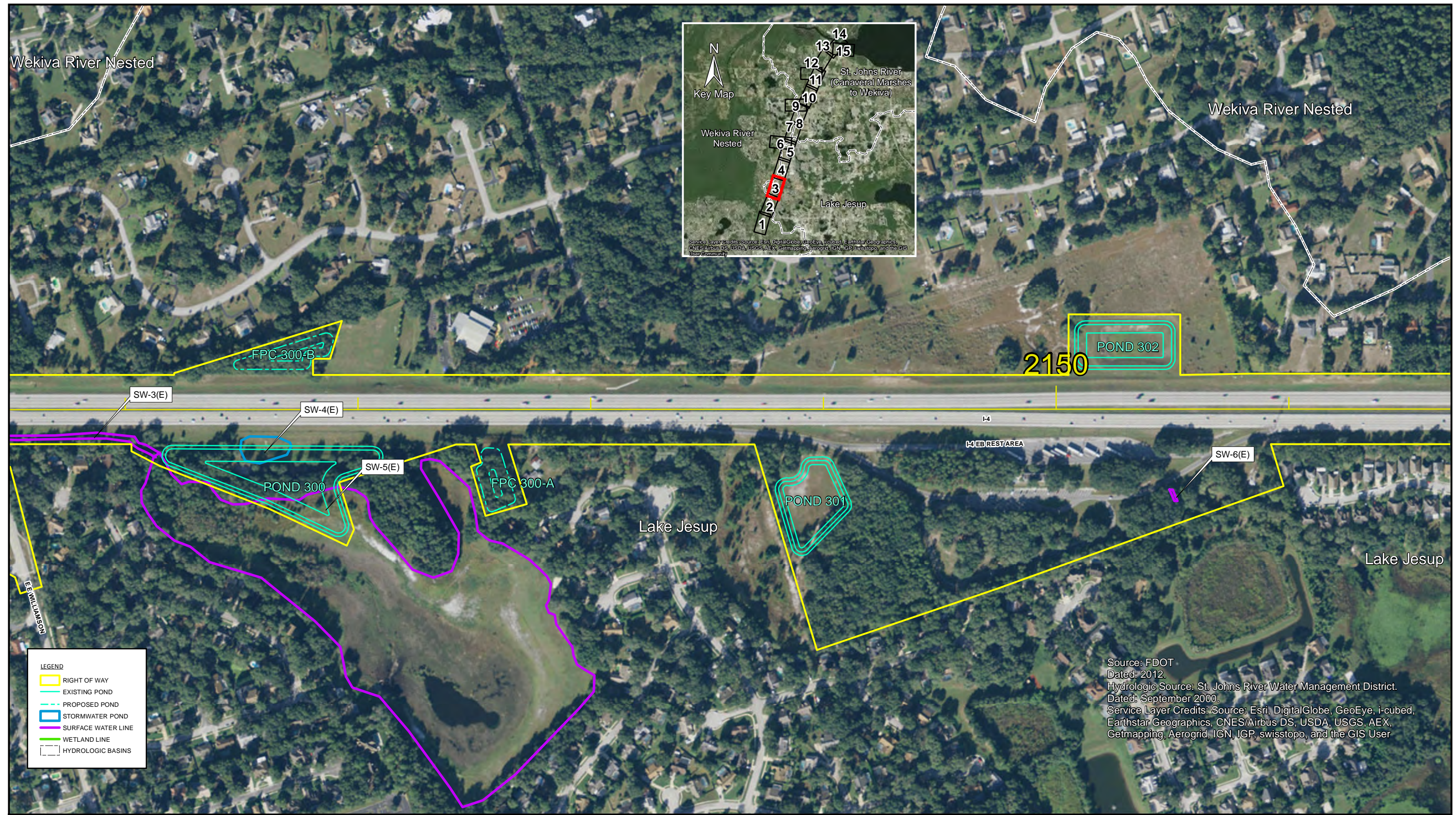
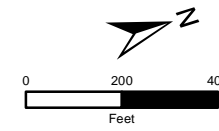


Exhibit 5.3

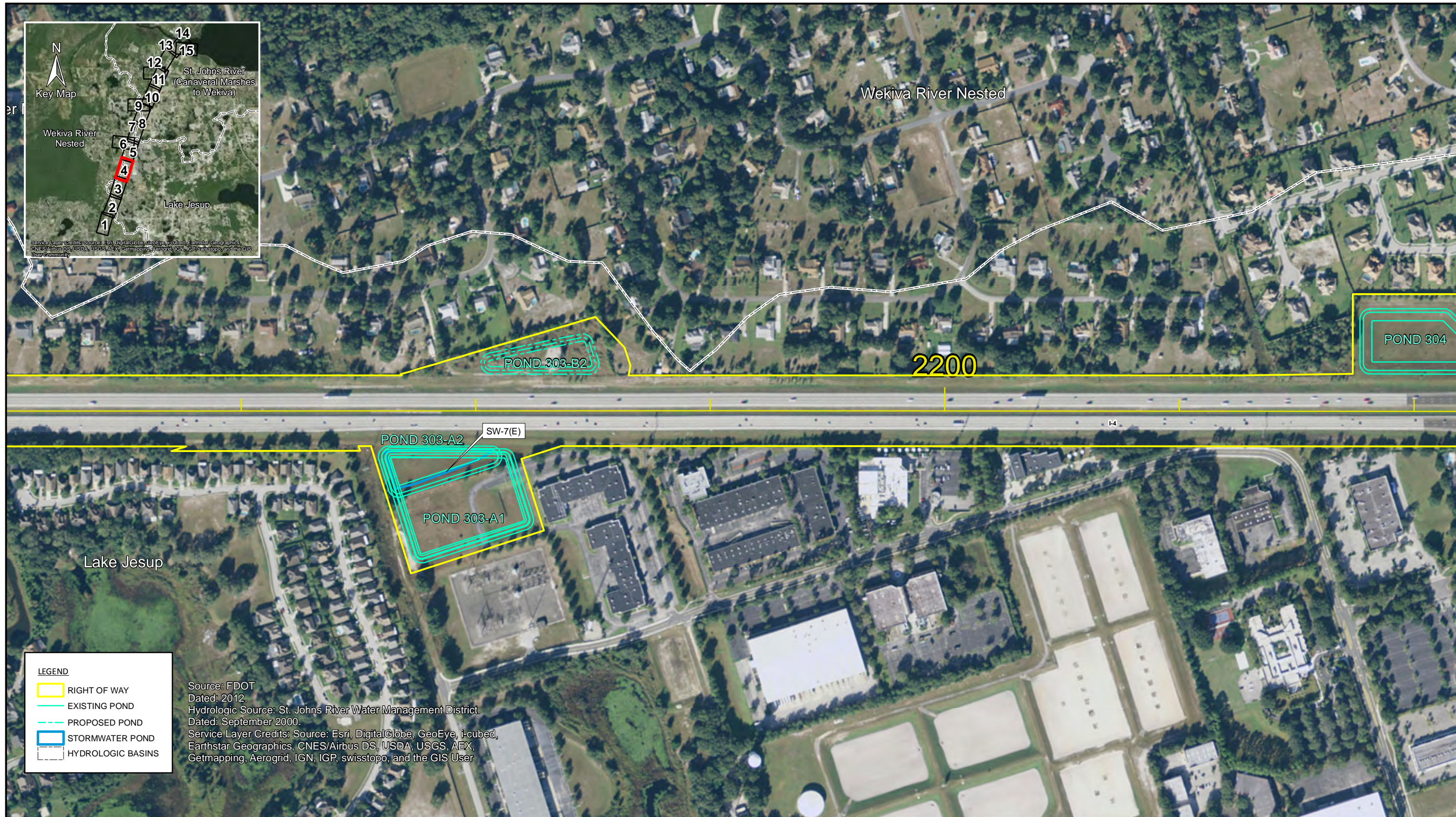
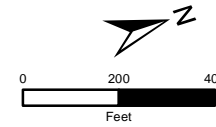


Exhibit 5.4

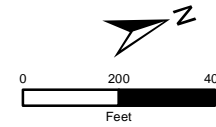


Exhibit 5.5

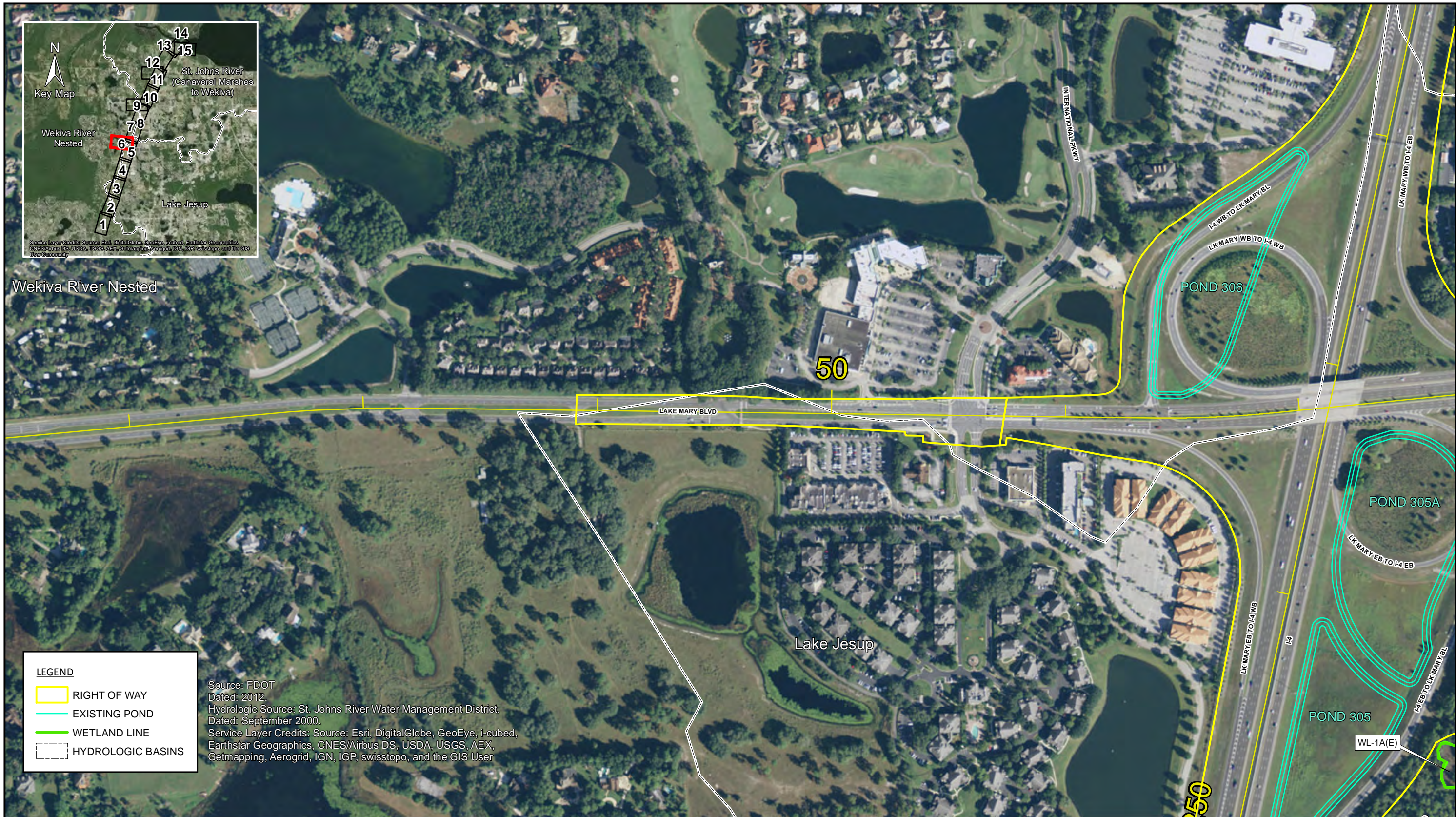
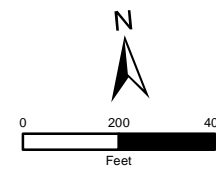


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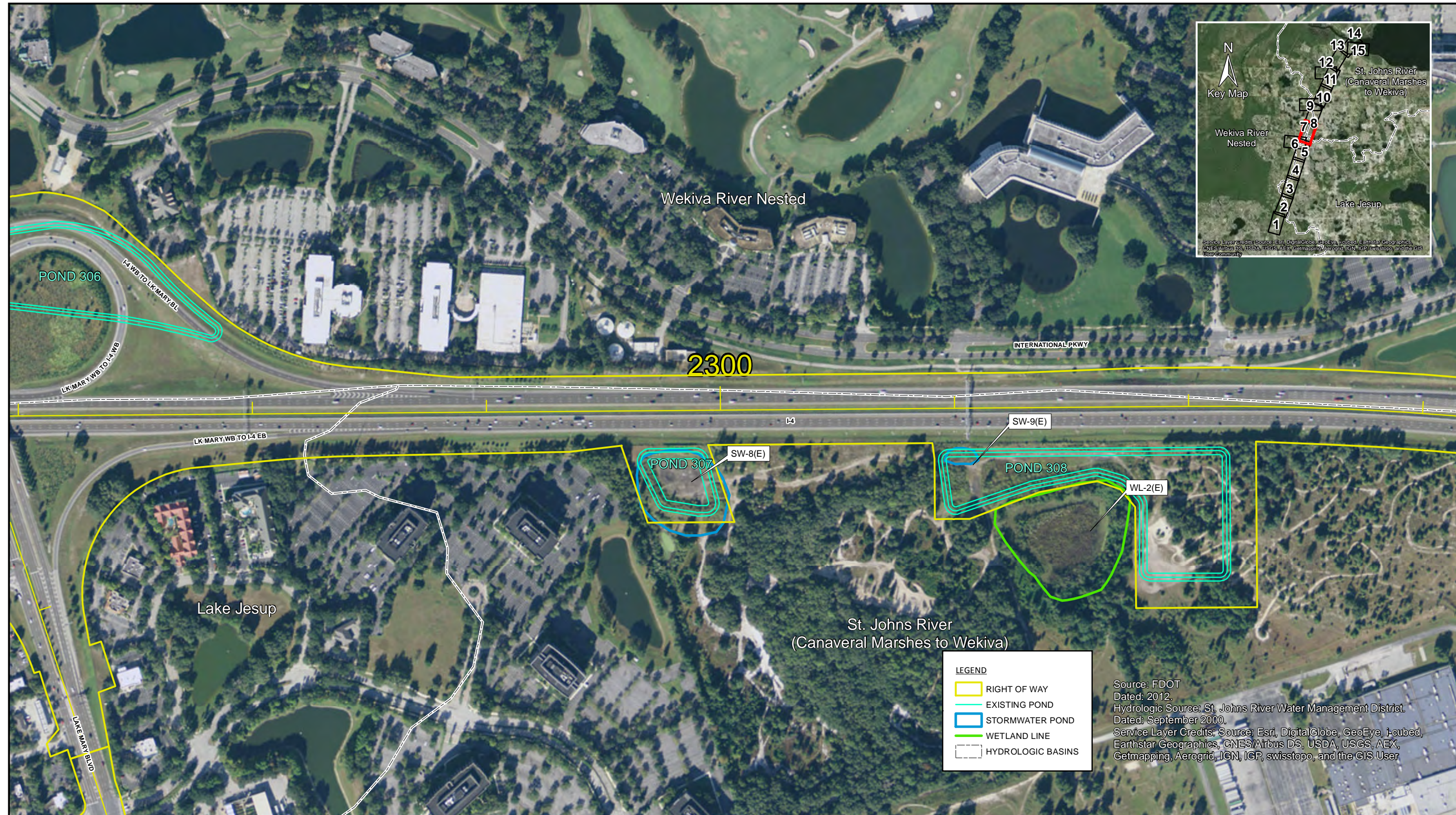
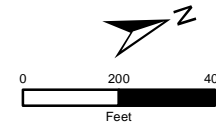
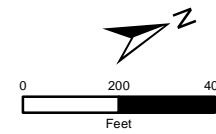


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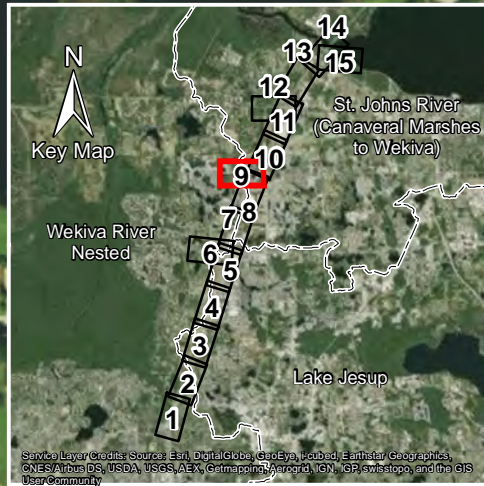
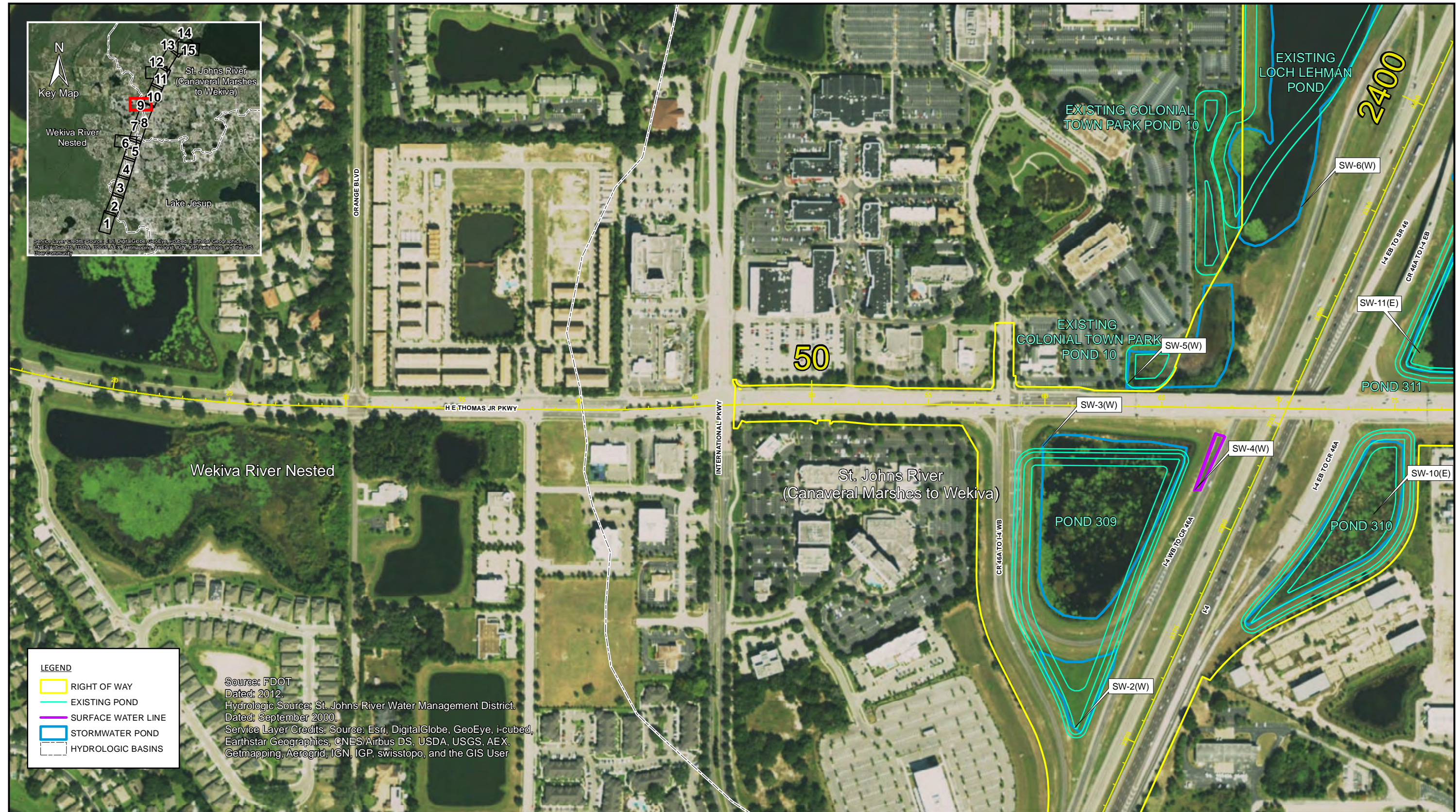
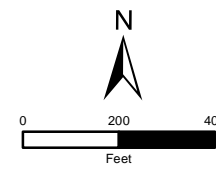


LEGEND

- RIGHT OF WAY
- EXISTING POND
- STORMWATER POND
- SURFACE WATER LINE
- WETLAND LINE
- HYDROLOGIC BASINS

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

Exhibit 5.8



LEGEND

- RIGHT OF WAY
- EXISTING POND
- SURFACE WATER LINE
- STORMWATER POND
- HYDROLOGIC BASINS

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

Exhibit 5.9

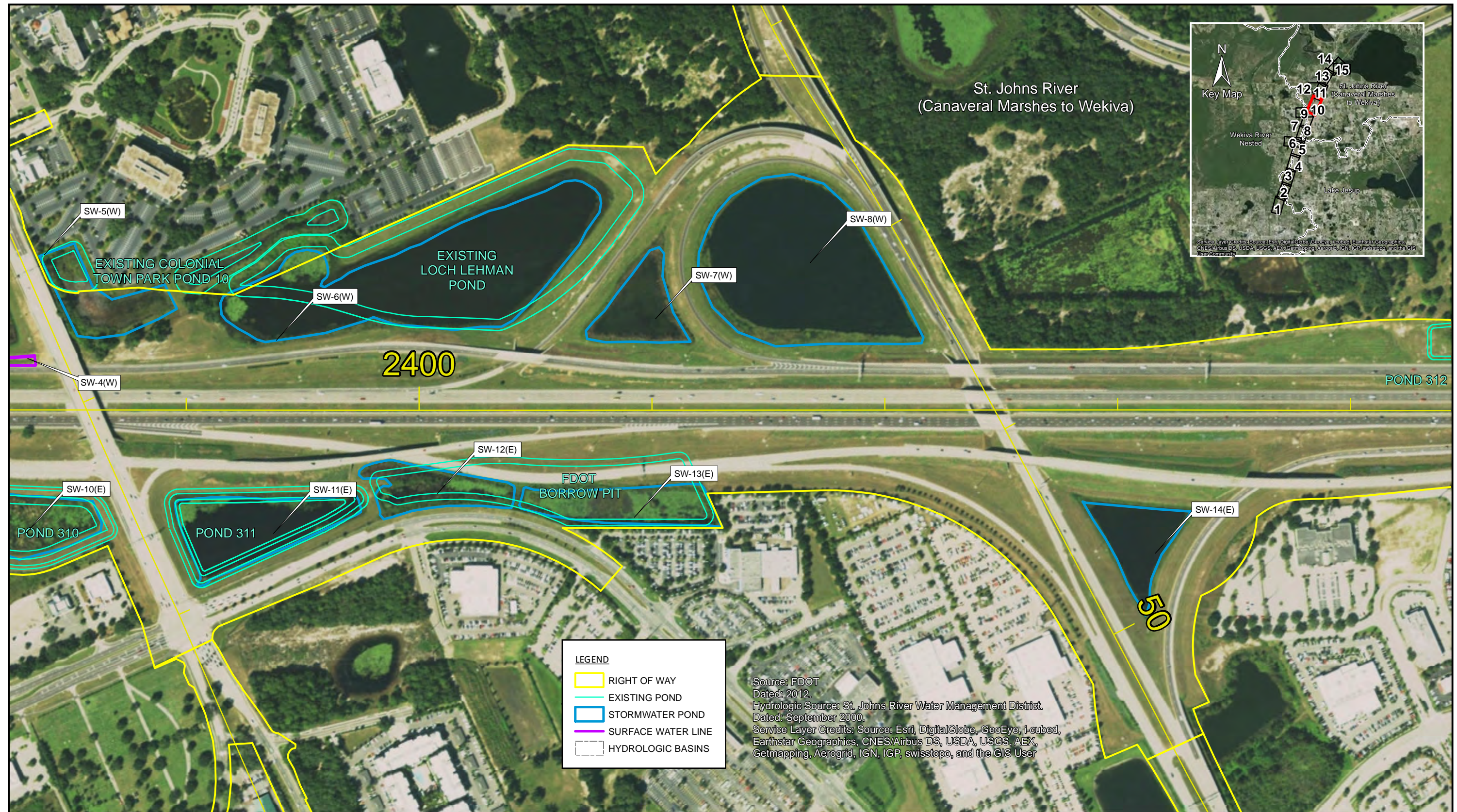
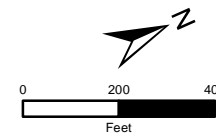
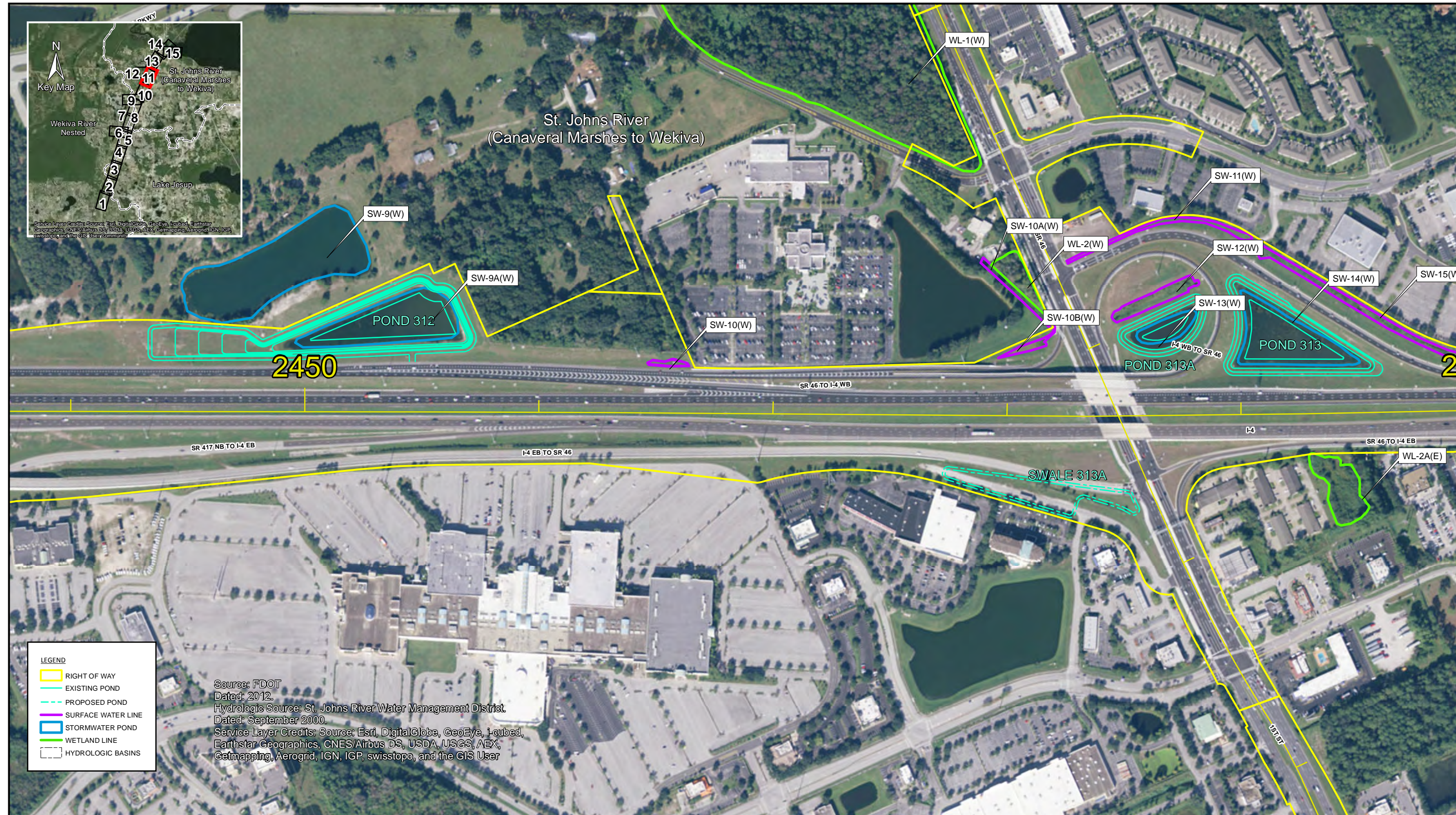
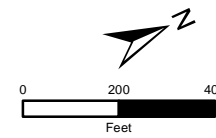


Exhibit 5.10

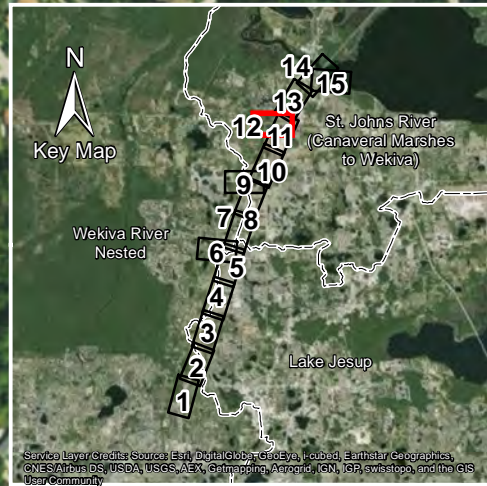
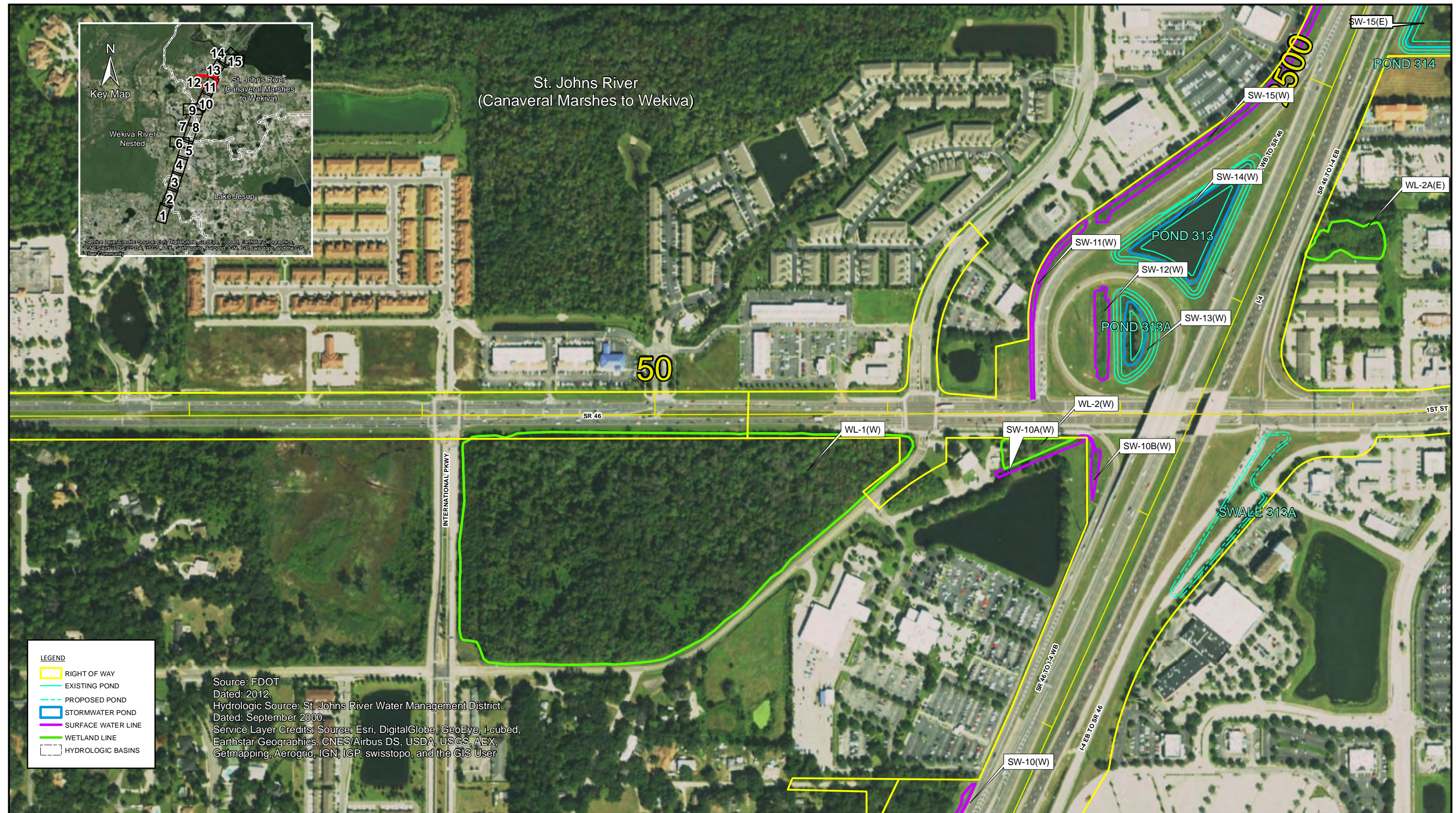
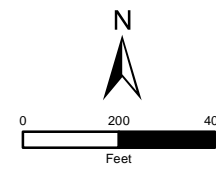


LEGEND

- RIGHT OF WAY
- EXISTING POND
- PROPOSED POND
- SURFACE WATER LINE
- STORMWATER POND
- WETLAND LINE
- HYDROLOGIC BASINS

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

Exhibit 5.11



LEGEND

- ▭ RIGHT OF WAY
- ▭ EXISTING POND
- ▭ PROPOSED POND
- ▭ STORMWATER POND
- ▭ SURFACE WATER LINE
- ▭ WETLAND LINE
- HYDROLOGIC BASINS

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

Exhibit 5.12

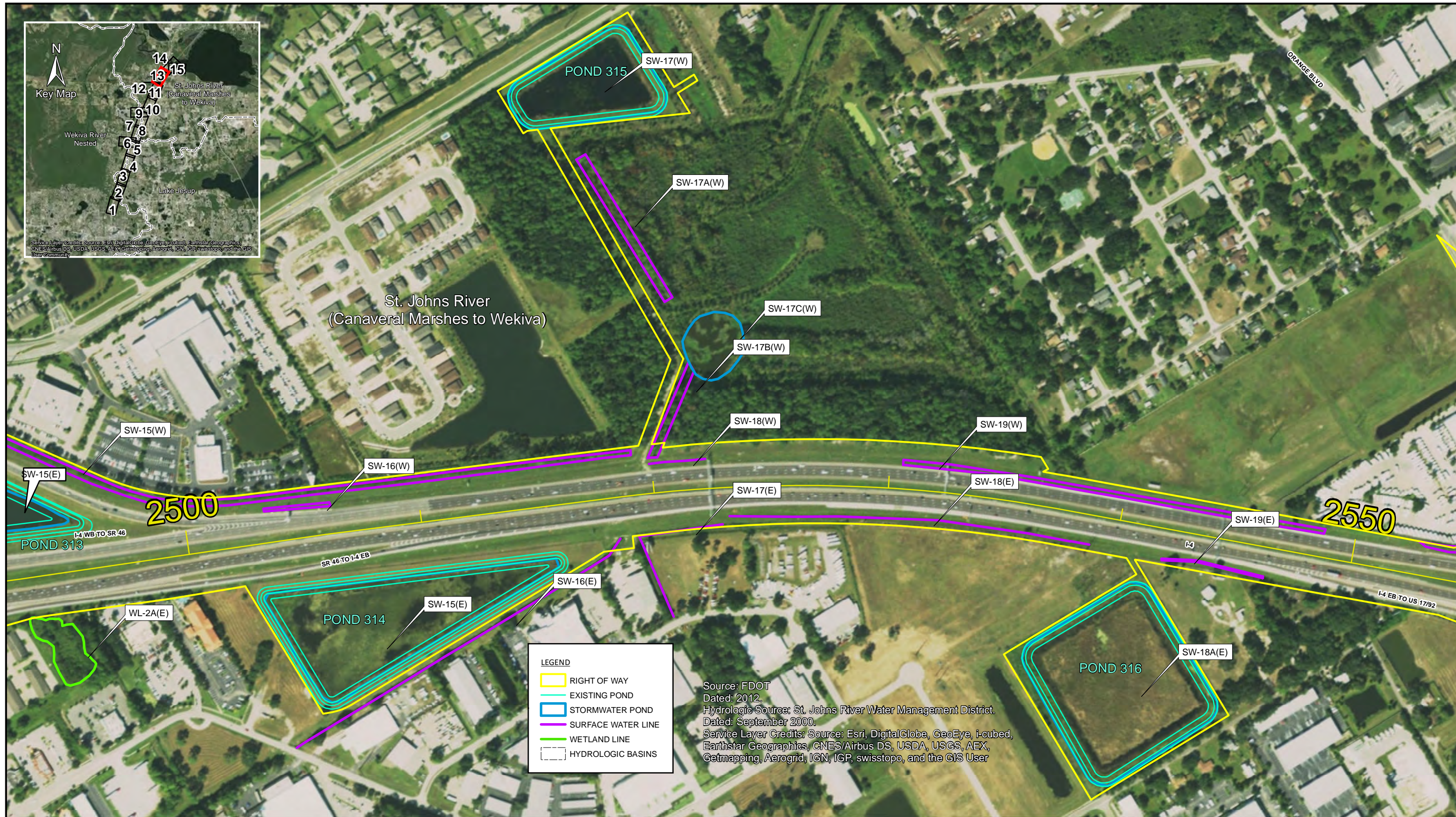
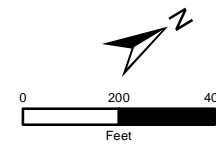
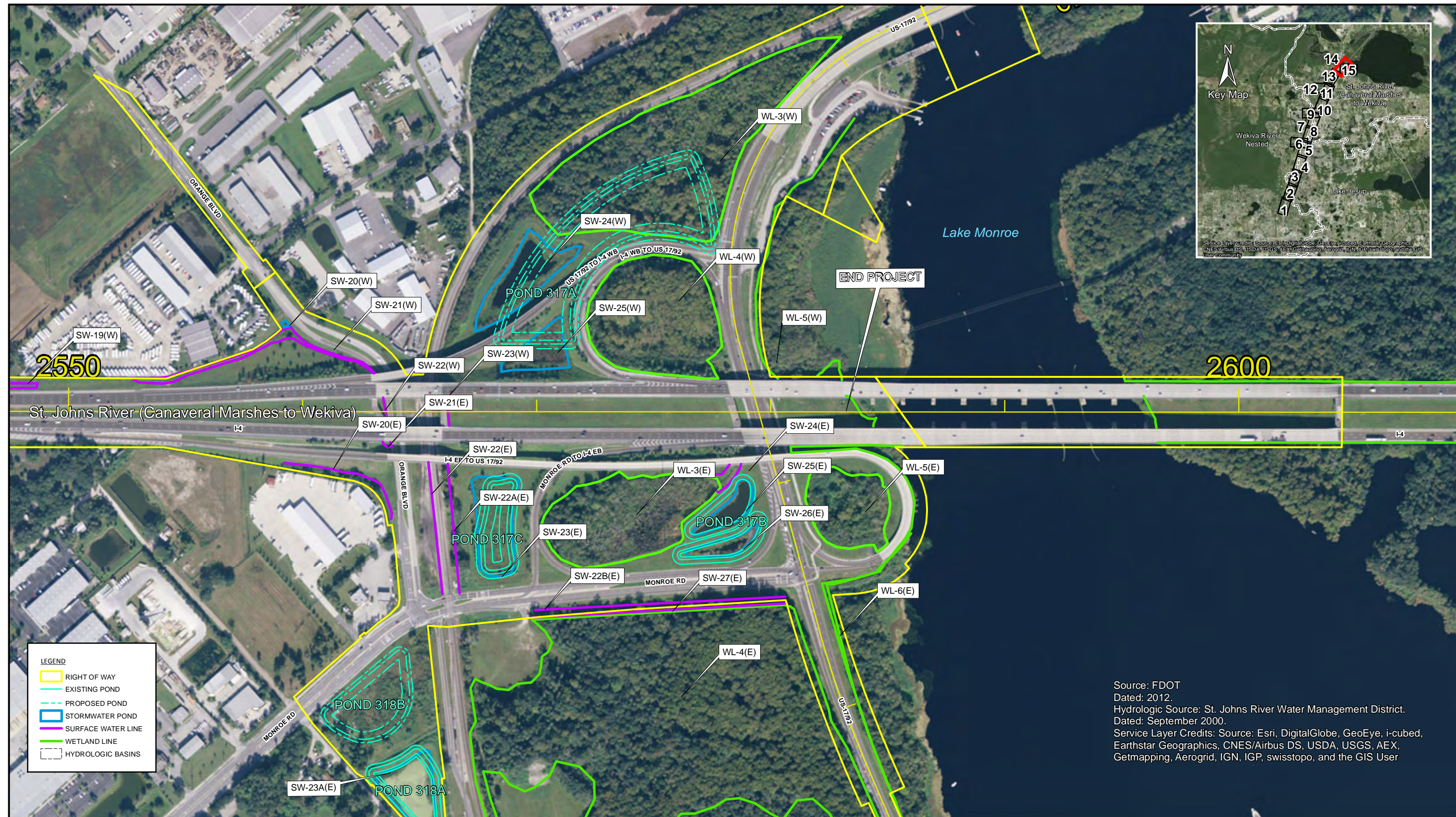
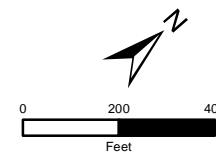


Exhibit 5.13



LEGEND

- RIGHT OF WAY
- EXISTING POND
- PROPOSED POND
- STORMWATER POND
- SURFACE WATER LINE
- WETLAND LINE
- HYDROLOGIC BASINS

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

Exhibit 5.14

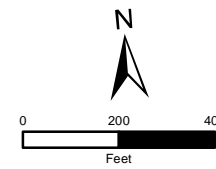


Exhibit 5.15

EXHIBIT 6
SURFACE WATER/WETLAND IMPACT MAP

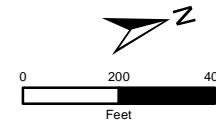
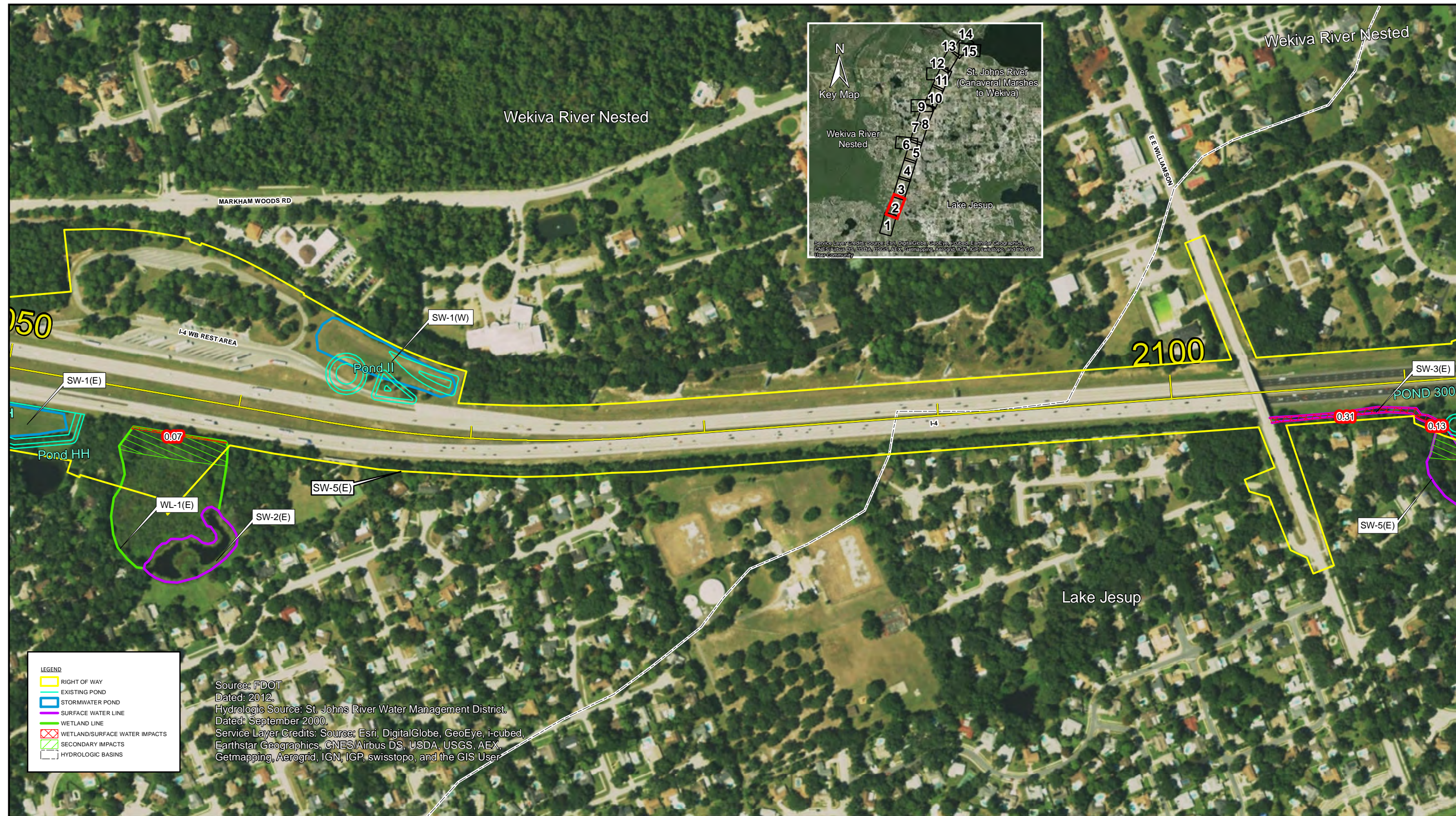
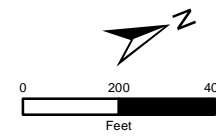


Exhibit 6.1



LEGEND

- RIGHT OF WAY
- EXISTING POND
- STORMWATER POND
- SURFACE WATER LINE
- WETLAND LINE
- WETLAND/SURFACE WATER IMPACTS
- SECONDARY IMPACTS
- HYDROLOGIC BASINS

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

Exhibit 6.2

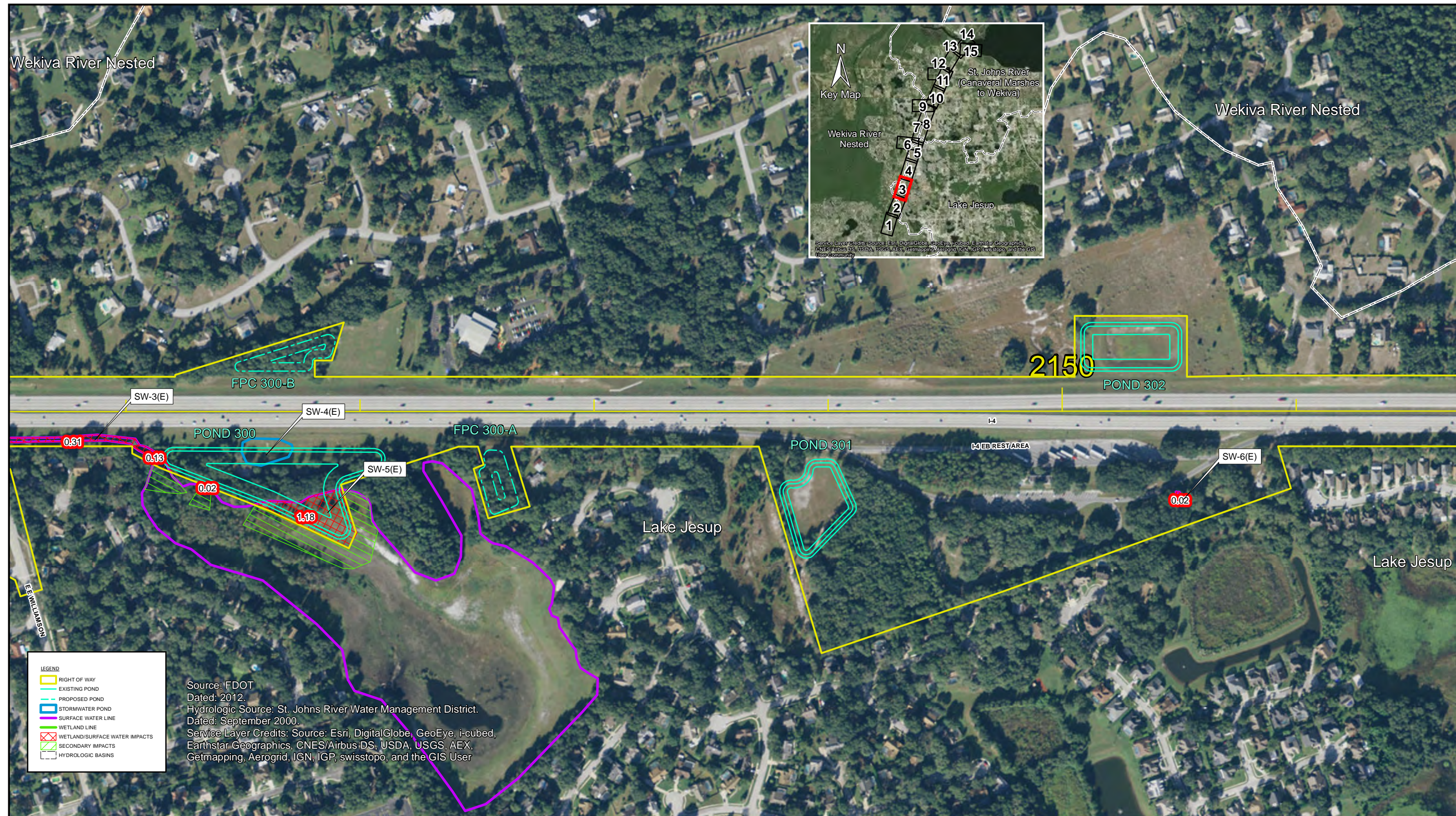
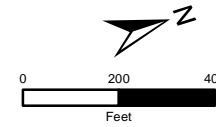


Exhibit 6.3

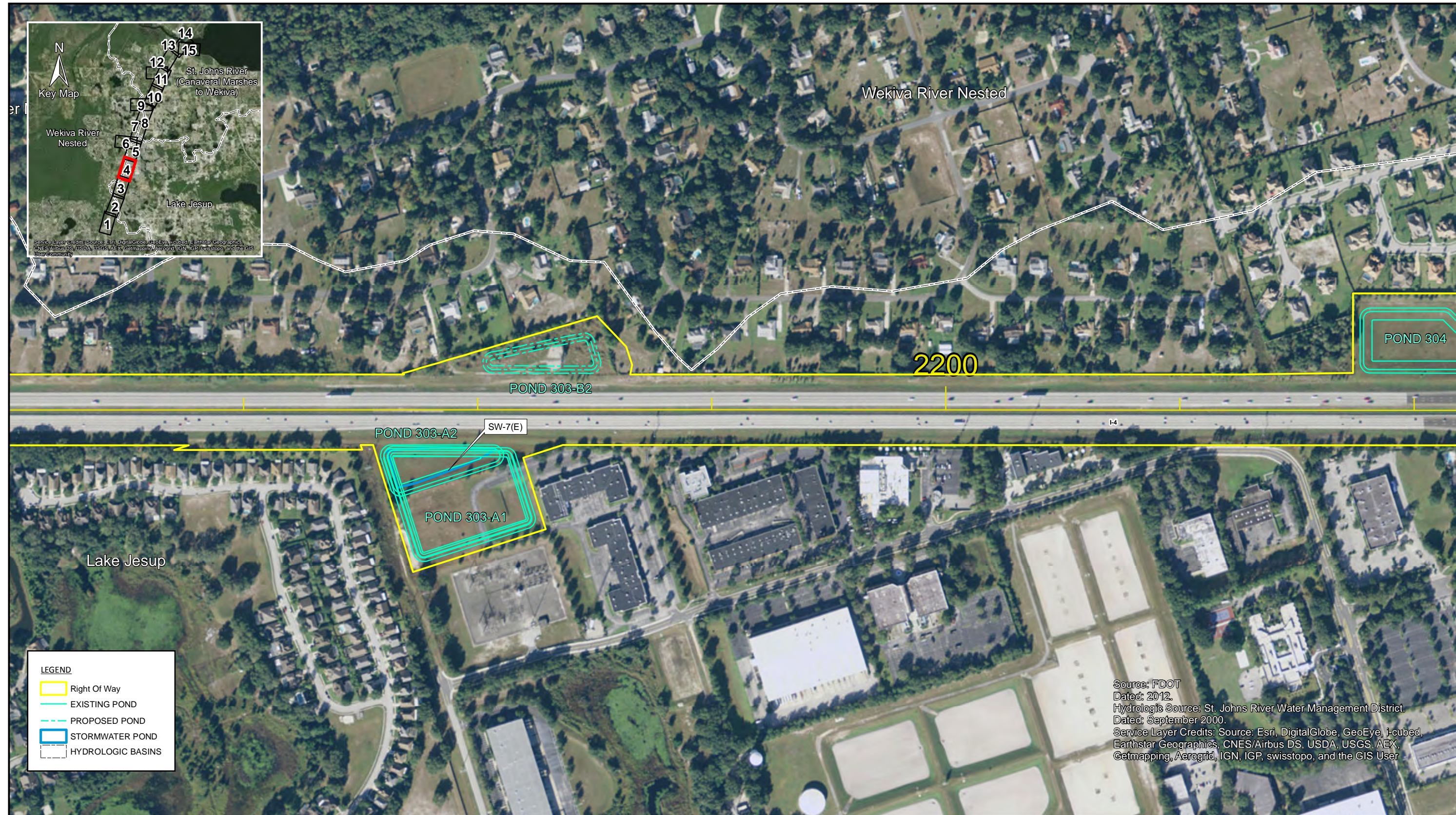
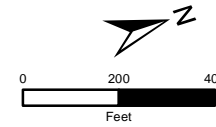
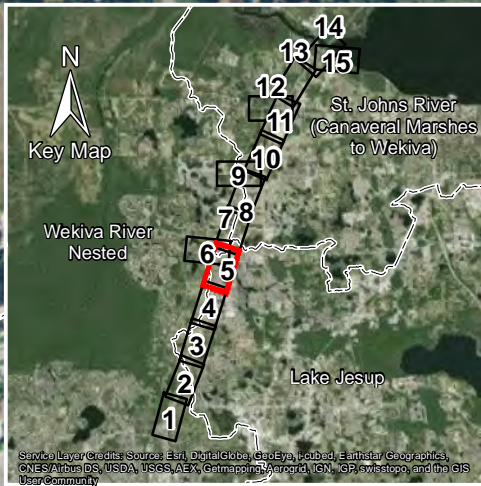
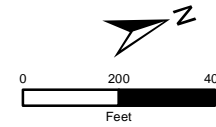


Exhibit 6.4



LEGEND

- RIGHT OF WAY
- EXISTING POND
- WETLAND LINE
- HYDROLOGIC BASINS

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

Exhibit 6.5

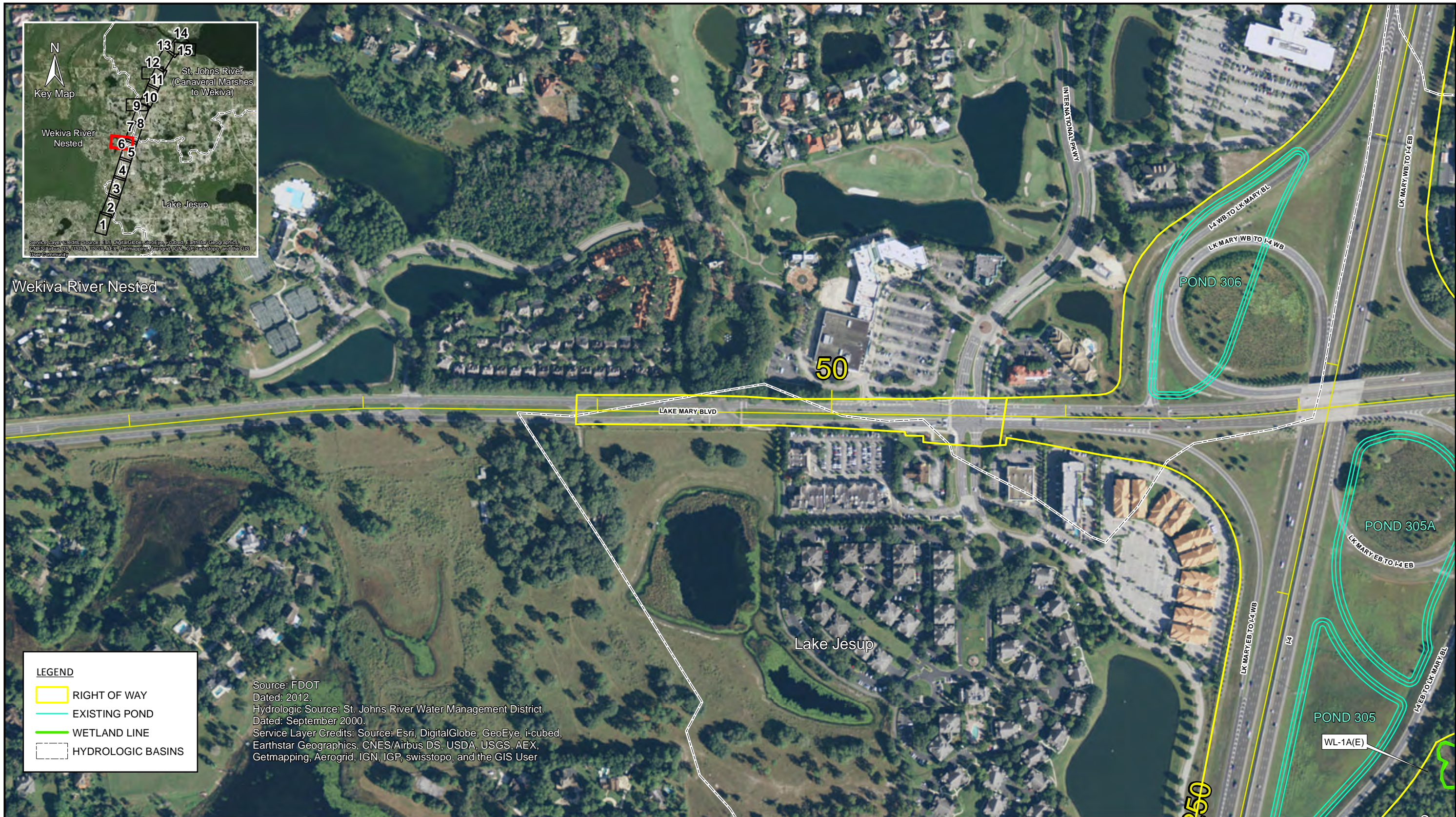
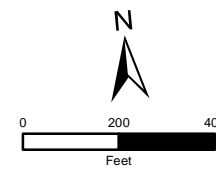


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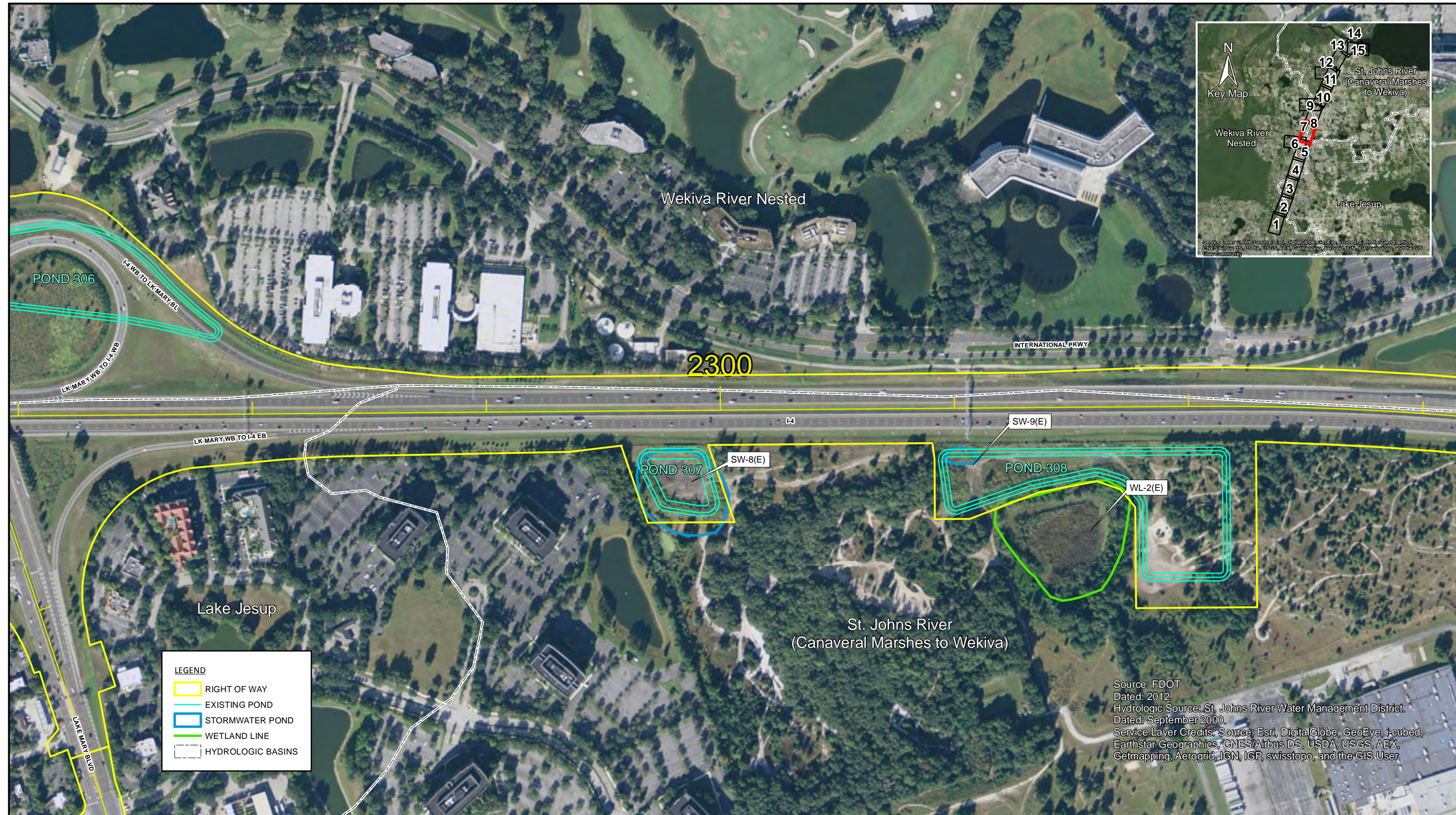
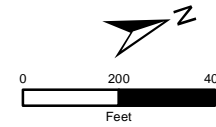
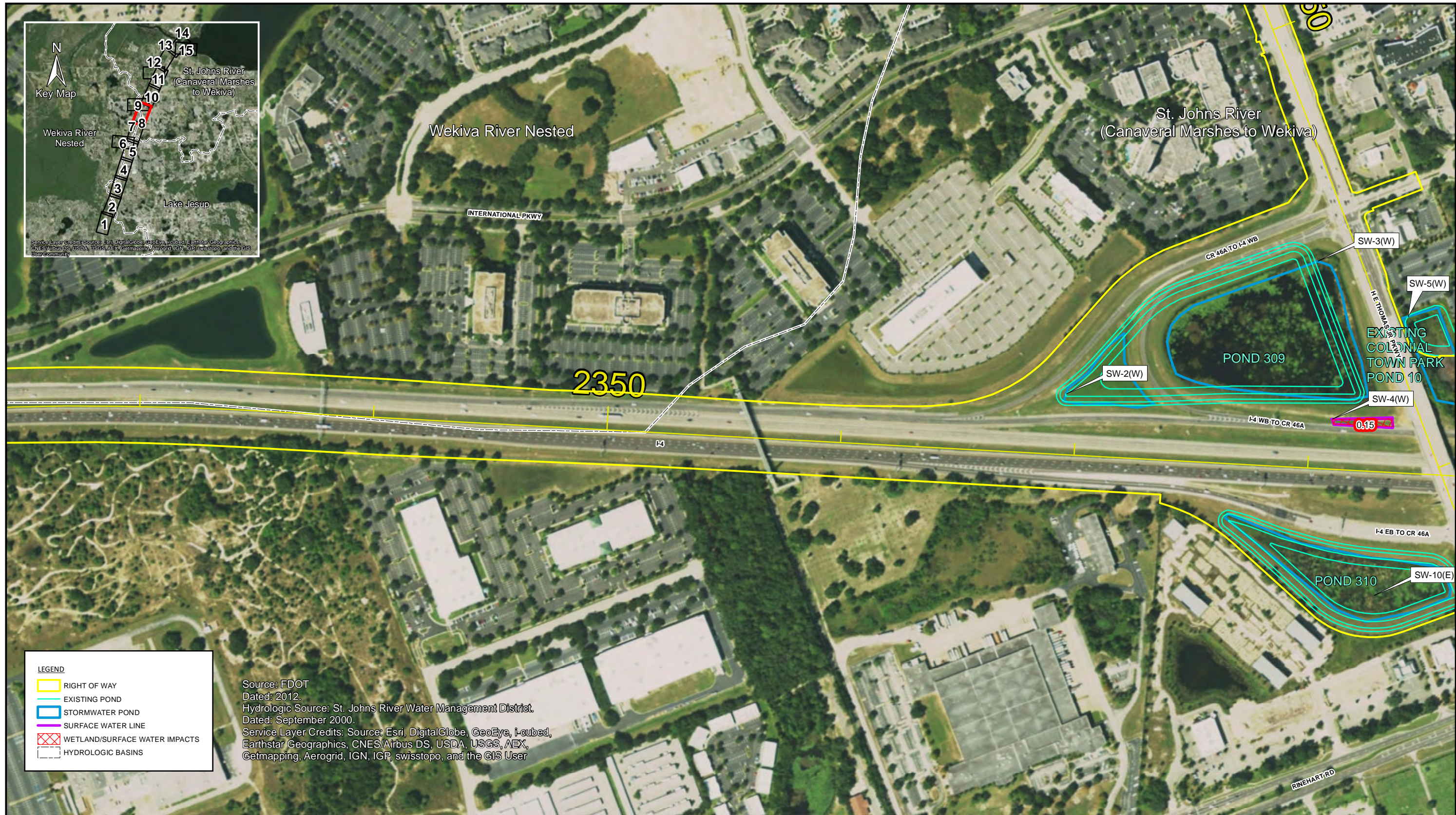
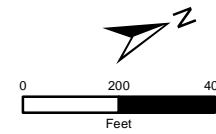


Exhibit 6.7



LEGEND

- RIGHT OF WAY
- EXISTING POND
- STORMWATER POND
- SURFACE WATER LINE
- WETLAND/SURFACE WATER IMPACTS
- HYDROLOGIC BASINS

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

Exhibit 6.8

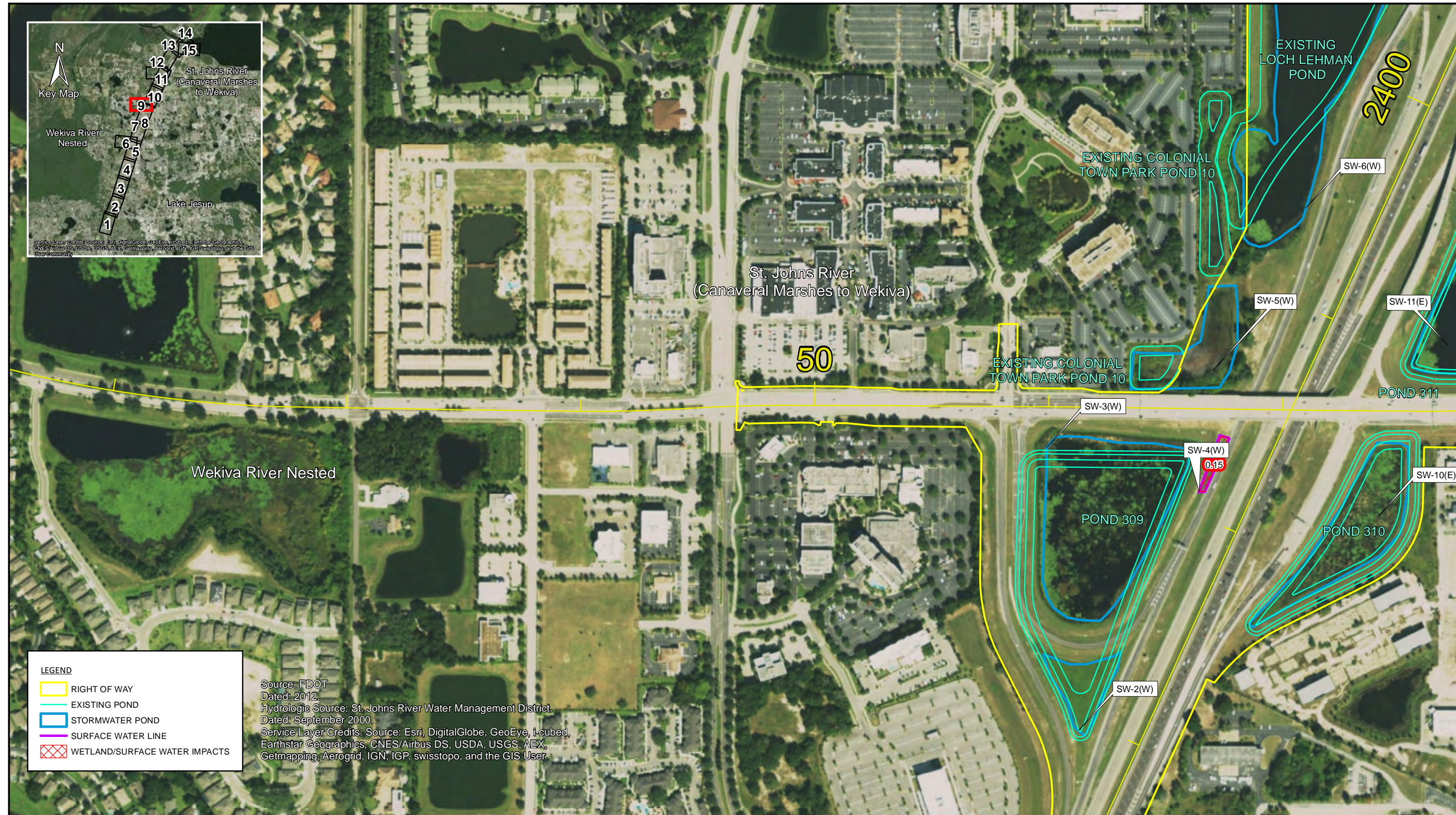
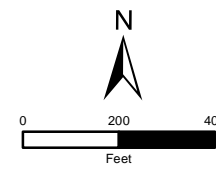


Exhibit 6.9

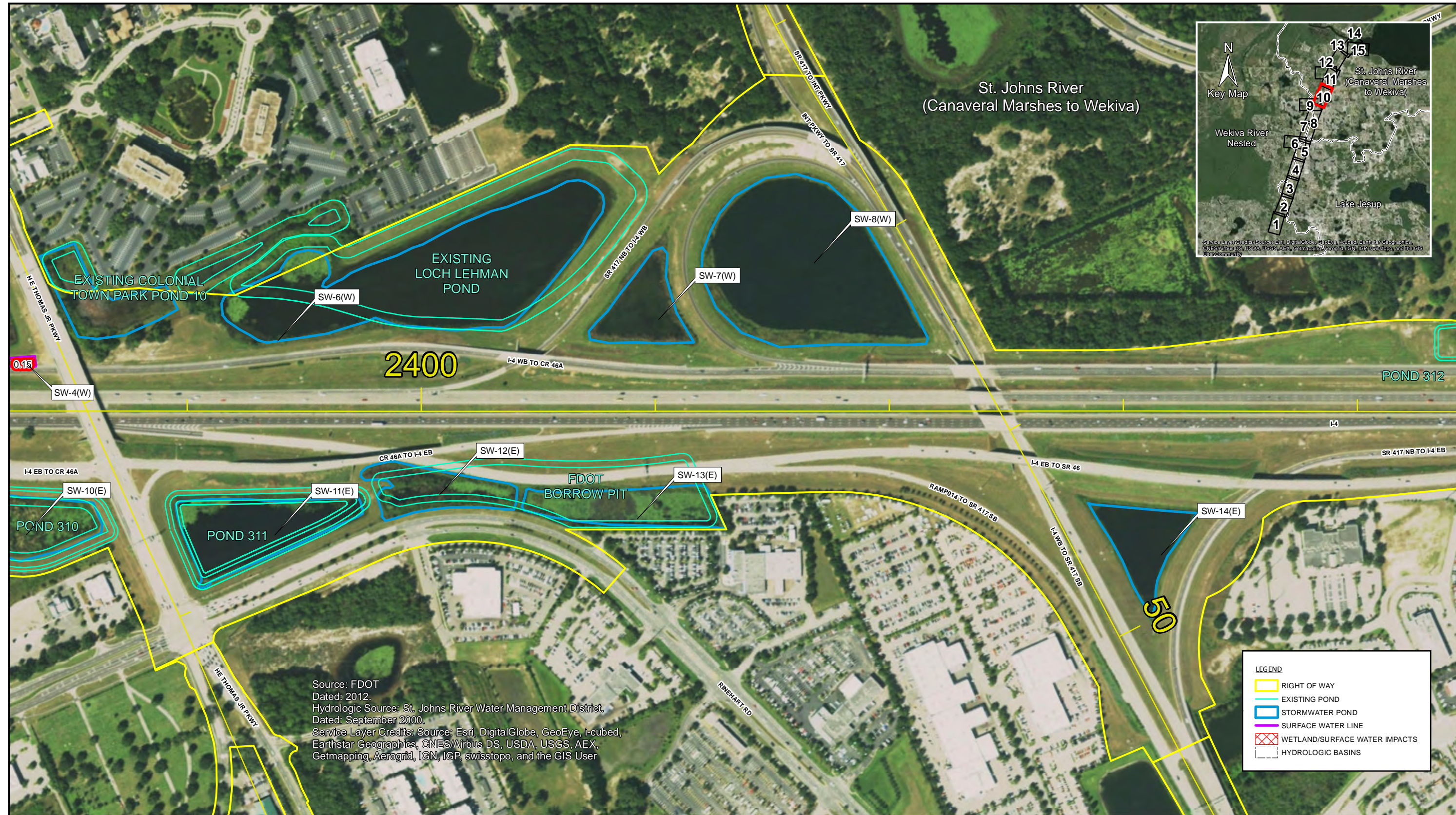
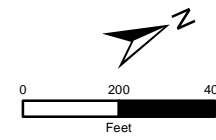
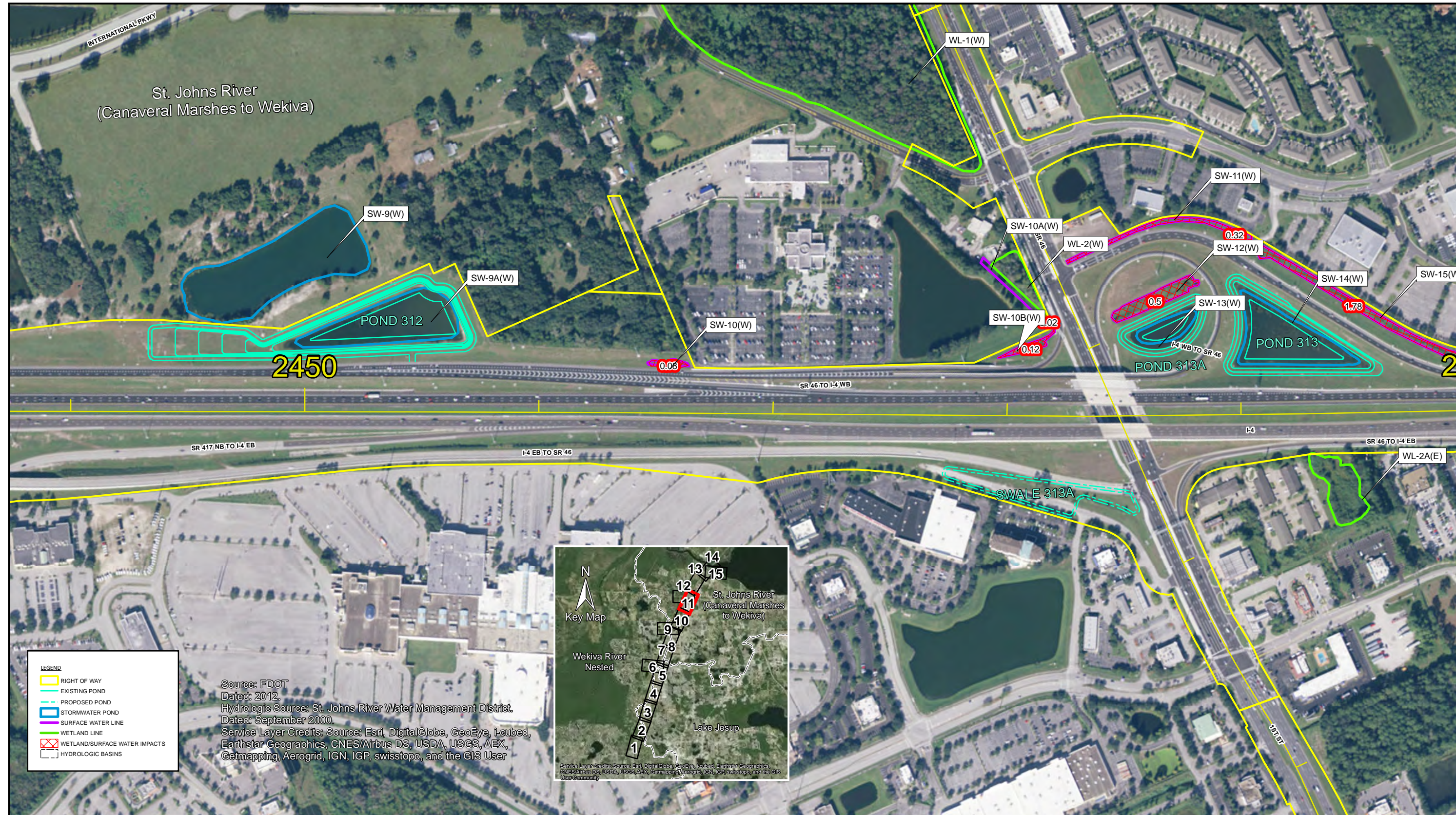
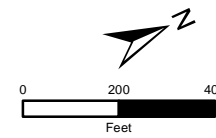
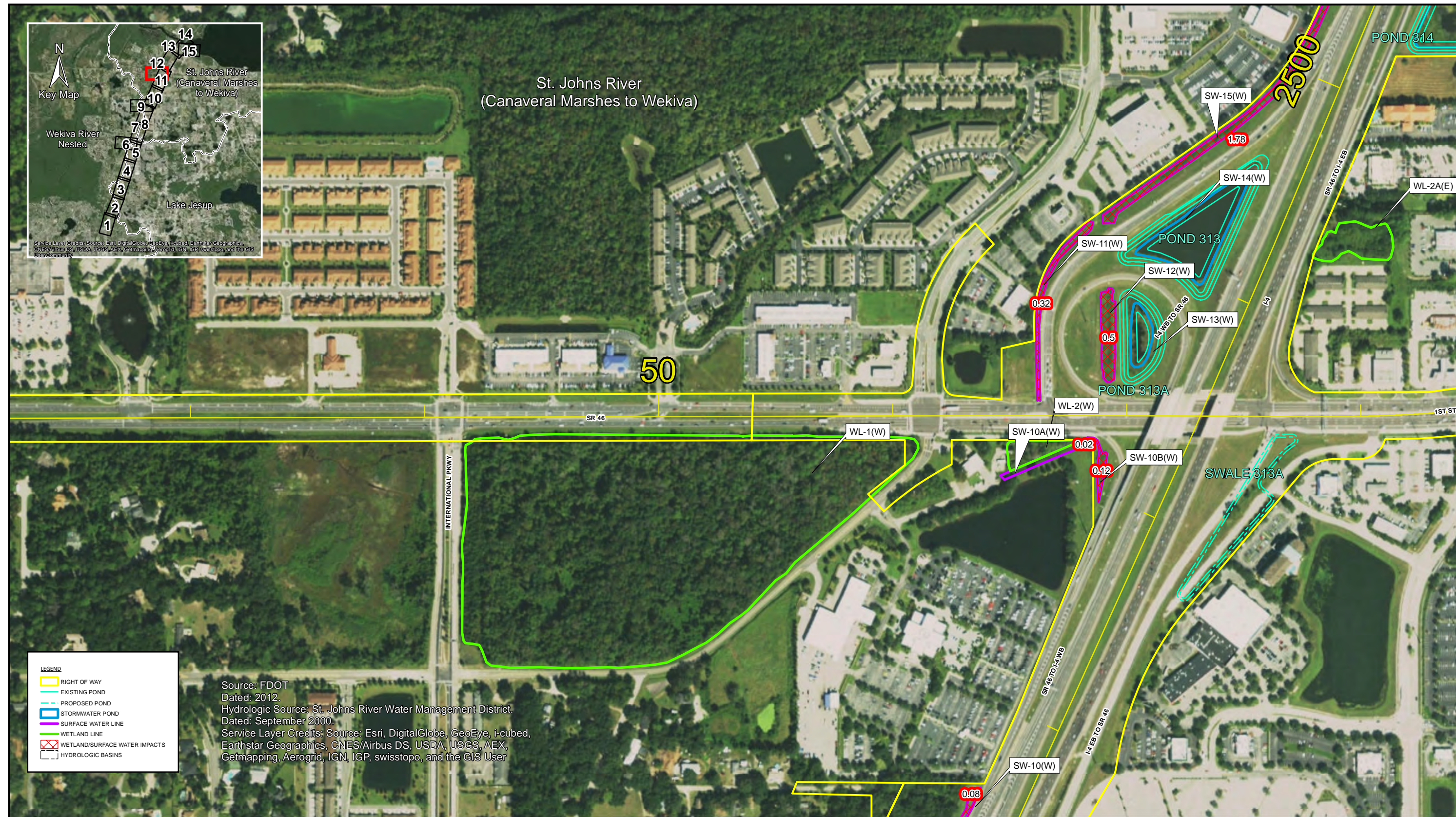
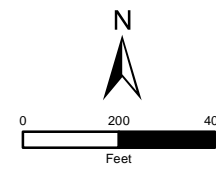


Exhibit 6.10



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

Exhibit 6.11

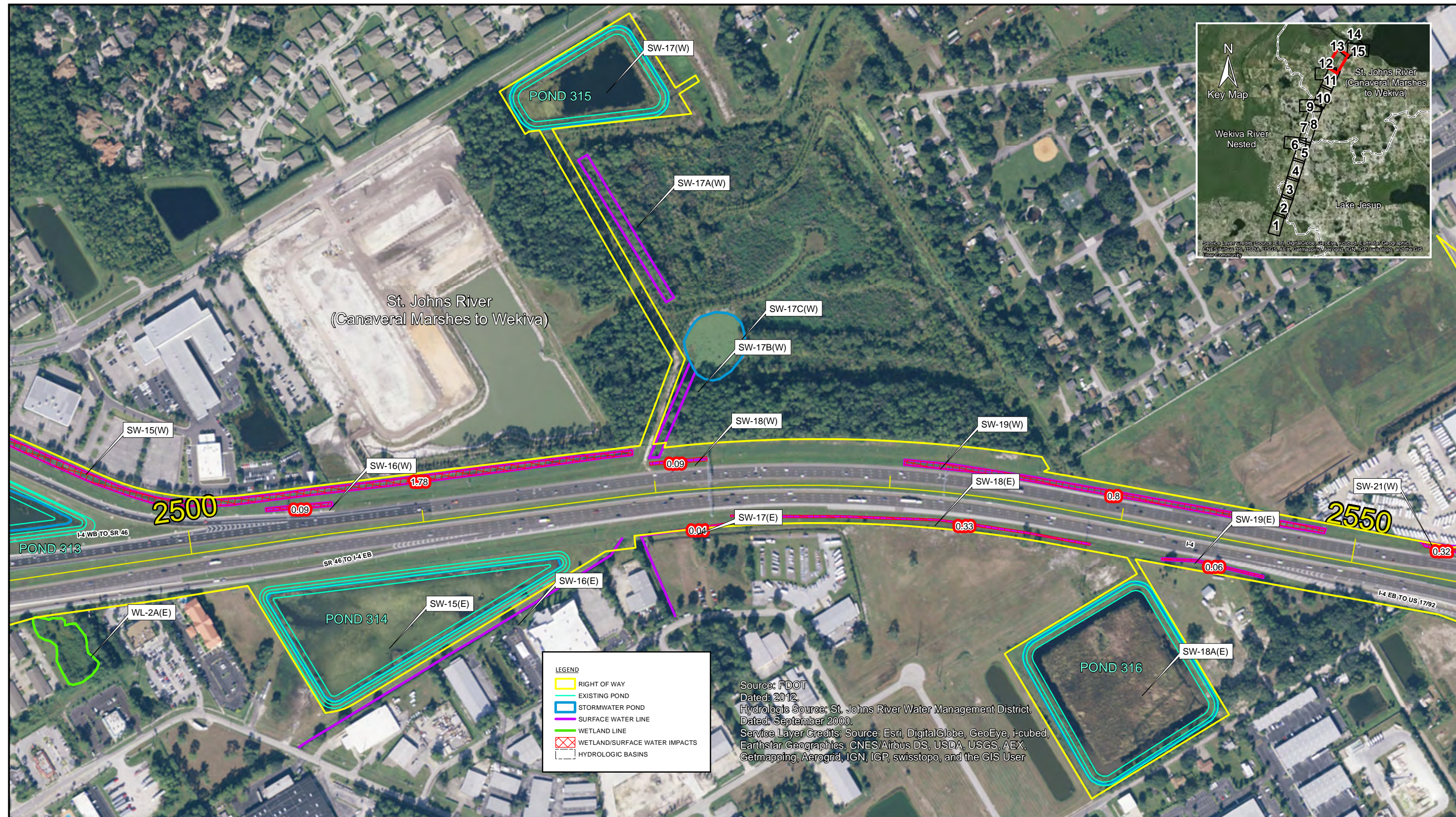
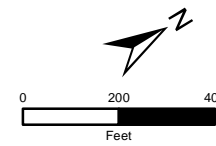


LEGEND

- RIGHT OF WAY
- EXISTING POND
- PROPOSED POND
- STORMWATER POND
- SURFACE WATER LINE
- WETLAND LINE
- WETLAND/SURFACE WATER IMPACTS
- HYDROLOGIC BASINS

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

Exhibit 6.12

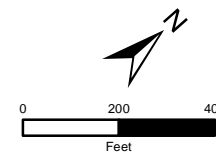


LEGEND

- RIGHT OF WAY
- EXISTING POND
- STORMWATER POND
- SURFACE WATER LINE
- WETLAND LINE
- WETLAND/SURFACE WATER IMPACTS
- HYDROLOGIC BASINS

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

Exhibit 6.13



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

Exhibit 6.14

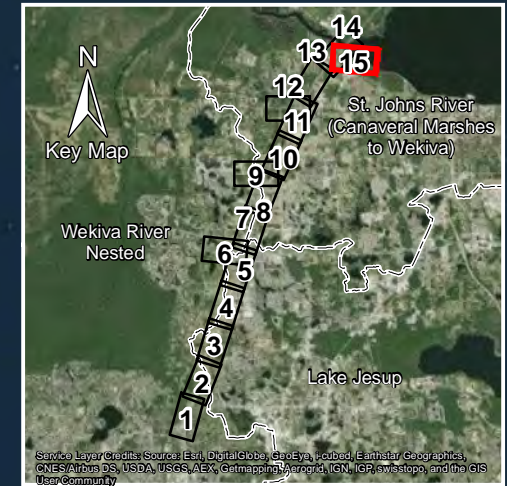
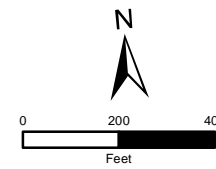


Exhibit 6.15

APPENDIX B
SITE PHOTOGRAPHS

Photographic Log

Client Name:

FDOT- District 5

Project Name:

I-4 south of SR 434 to US Highway 17-92

Project Location:

Seminole County

3E Project No.:

1386-001

Photo:

1

Date:

6/11/2013

Description:
SW-5(E)
Flowing creek located in the ROW of eastbound I-4 and north of EE Williamson Road looking northeast.



Photo:

2

Date:

6/11/2013

Description:
SW-5(E)
Flowing creek located in the ROW of eastbound I-4 and north of EE Williamson Road looking northeast.



Photographic Log

Client Name:

FDOT- District 5

Project Name:

I-4 south of SR 434 to US Highway 17-92

Project Location:

Seminole County

3E Project No.:

1386-001

Photo:

3

Date:

6/12/2013

Description:
SW-16(E)
Maintained Stormwater
Pond located in the
interchange of I-4
eastbound and SR 417
looking west



Photo:

4

Date:

6/12/2013

Description:
SW-16A(E)
Stormwater Pond located
north of SR 417 and east
of I-4 eastbound looking
south



Photographic Log

Client Name:

FDOT- District 5

Project Name:

I-4 south of SR 434 to US Highway 17-92

Project Location:

Seminole County

3E Project No.:

1386-001

Photo:

5

Date:

6/12/2013

Description:

SW-23(E)
Upland-cut ditch located on
the southeast corner of
Orange Boulevard and
eastbound I-4 looking
southwest



Photo:

6

Date:

6/12/2013

Description:

SW-19(E) Lockhart Smith
Canal located from the
eastbound I-4 ROW to
Upsala Road looking south



Photographic Log

Client Name:

FDOT- District 5

Project Name:

I-4 south of SR 434 to US Highway 17-92

Project Location:

Seminole County

3E Project No.:

1386-001

Photo:

7

Date:

6/13/2013

Description:
Wood stork utilizing an upland-cut ditch within the study area located east of I-4 eastbound and north of SR 46 looking east



Photo:

8

Date:

6/12/2013

Description:
WL-1A(E)
Disturbed wetland located on the north side of SR 417 and south of I-4 eastbound looking east



Photographic Log			
Client Name: FDOT- District 5	Project Name: I-4 south of SR 434 to US Highway 17-92	Project Location: Seminole County	3E Project No.: 1386-001

Photo: 9	Date: 6/21/2013
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Description:
 WL-2(W)
 Cypress dome located in the interchange of I-4 west bound and US 1792 looking southwest



Photo: 10	Date: 6/21/2013
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Description:
 SW-18(W)
 Lockhart Smith Canal located on the west side of I-4 and north of SR 46 looking northwest



Photographic Log

Client Name:

FDOT- District 5

Project Name:

I-4 south of SR 434 to US Highway 17-92

Project Location:

Seminole County

3E Project No.:

1386-001

Photo:

11

Date:

10/10/2013

Description:
SW-31A(E)
Wetland-cut ditch located on the east side of Monroe Road and south of 17-92 looking south



Photo:

12

Date:

10/10/2013

Description:
SW-21(W)
American alligator utilizing an upland-cut ditch located on the south side of Orange Boulevard and west of I-4 westbound looking east



APPENDIX C
AGENCY CORRESPONDENCE



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 .