



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



Endangered Species Biological Assessment

**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 400 (SR 400)/Interstate 4 (I-4). The project limits in the original PD&E studies were:

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

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

The project limits of the current SR 400 (I-4) PD&E reevaluation, herein referred to as I-4 Beyond the Ultimate (BtU) PD&E Reevaluation Study, include a total of approximately 43 miles of roadway sections east and west of the 21-mile, I-4 Ultimate project. The I-4 Ultimate project, which began construction in early 2015, is reconstruction to include new express lanes, of the section of I-4 that extends from west of SR 435 (Kirkman Road) to east of SR 434. For analysis purposes, the current I-4 BtU PD&E study has been divided into the following five 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 1 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 ½ Mile East of SR 472 - Volusia County (79110)
- 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 and 4, the current PD&E BtU study for these three segments will update the original PD&E study. This Endangered Species Biological Report was prepared for Segment 3 of the I-4 BtU PD&E study and contains detailed information that fulfills the purpose and need for 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 report is to document 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 environmental analysis of the original design concept, which showed six general use lanes (GULs) and two high occupancy vehicle (HOV) lanes (6+2), to the current proposed design, which includes six GULs and four express lanes (EL) operating under a variable price toll plan (6+4). Other changes being reanalyzed include stormwater management, access plan and interchange configurations.

1.1 Description of Proposed Action

FDOT is proposing to reconstruct and widen I-4 as part of the I-4 BtU concept. This involves the build-out of I-4 to its ultimate condition through Central Florida, including segments in Polk, Osceola, Orange, Seminole and Volusia Counties. The 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**.

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 the 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.

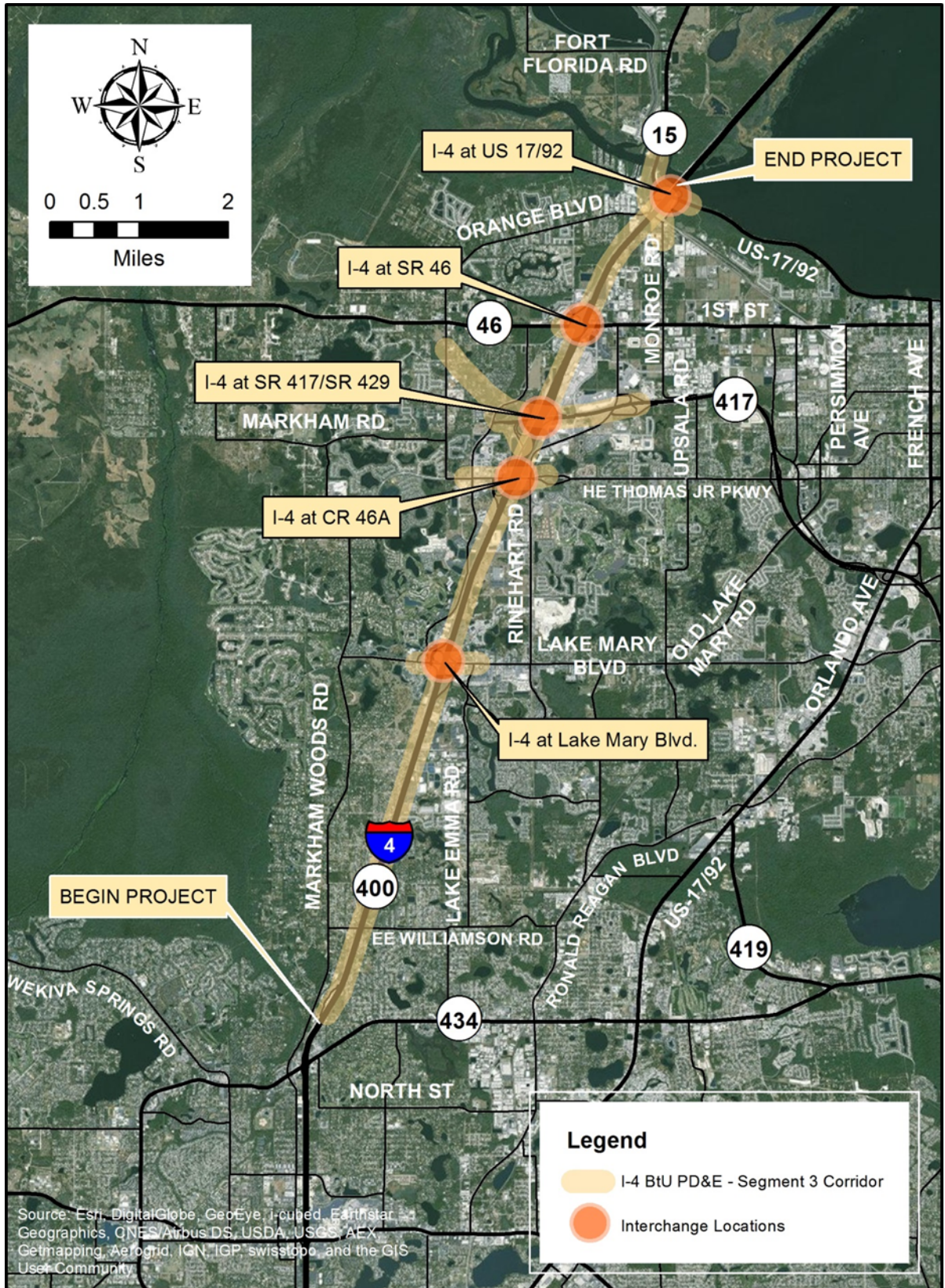
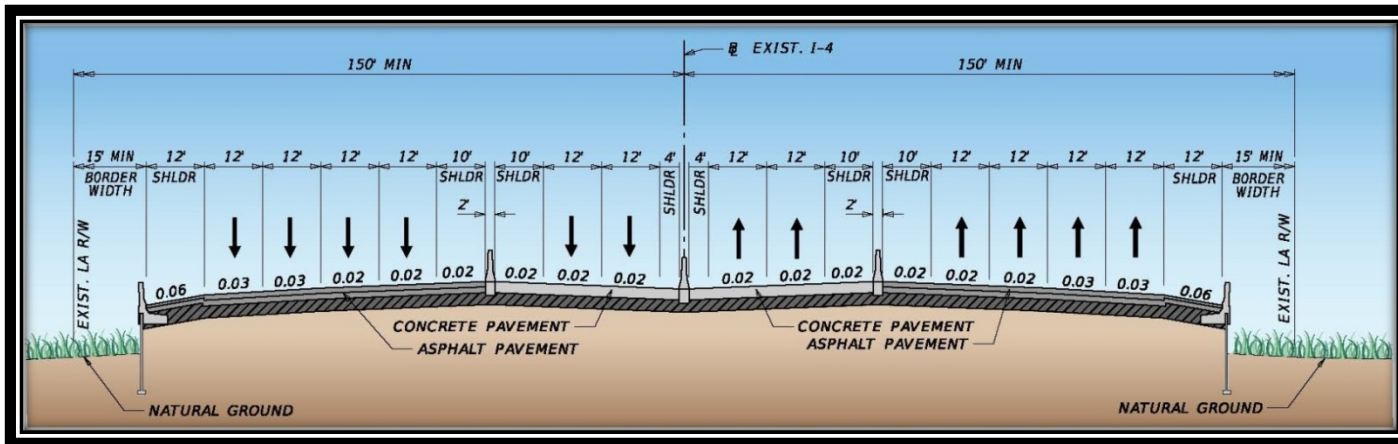
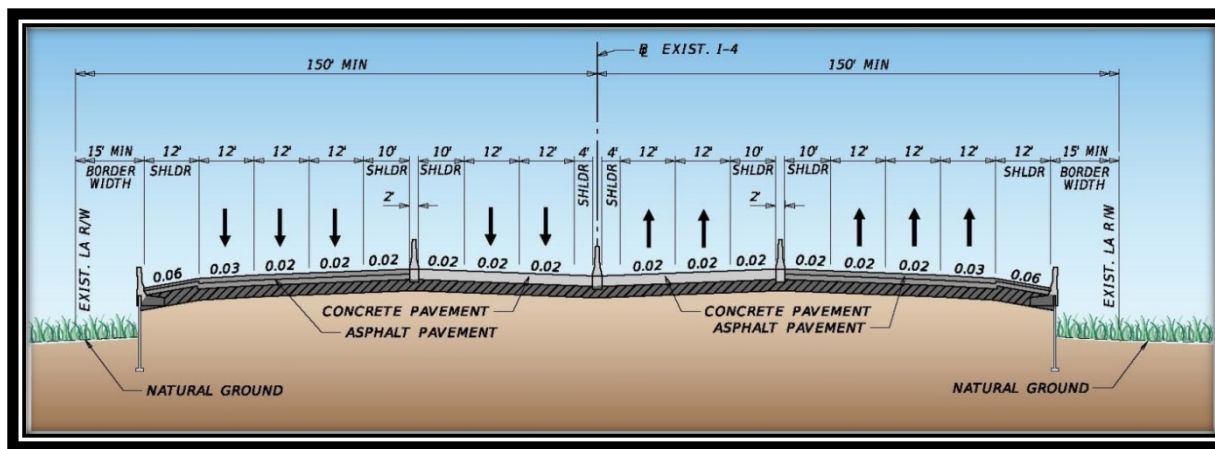


Figure 1.1 – Project Location Map



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

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.

I-4 serves as the primary corridor for 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 Studios, Sea World, 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.

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 and 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.

In order for this project to proceed, potential environmental impacts must be identified, including impacts to wildlife and natural habitat. This report has been prepared following guidelines presented in the Project Development and Environment (PD&E) Manual, Part 2, Chapter 27 (FDOT, 10/1/91) to identify wildlife species of known or potential occurrence and natural habitat types along the project corridor and to document potential project-related impacts. Particular attention has been given to species that have been provided regulatory protection such as federal or state listed endangered, threatened, or otherwise sensitive species, as well as suitable habitat for those species.

The purpose of this Endangered Species Biological Assessment is to present the findings of the studies conducted for this project, describe the results of the evaluation and document the justification for the recommended improvements. This document describes the potential occurrence of natural habitats and wildlife within the proposed project corridor, and the likelihood of potential impacts from the project to listed species and their habitats. The study area for the project corridor included all potential pond sites, the existing right-of-way of I-4, and a buffer of 500 feet beyond the boundary of the current right-of-way (see **Project Maps in Appendix A**).

2.0 Methodology

2.1 Literature Search

Prior to the initiation of fieldwork, a background records and literature search was conducted to identify federal and state protected plant and animal species of known or potential occurrence in Seminole County, FL (Seminole County). The key information source for this effort was a compilation of all the observation and distribution records published by the Florida Natural Areas Inventory (FNAI), the Florida Committee on Rare and Endangered Plants and Animals (FCREPA), the Florida Fish and Wildlife Conservation Commission (FFWCC), the U.S. Fish and Wildlife Service (USFWS), and information gathered from relevant scientific literature. A database for this report is included in the project files and was last updated in April 2014.

Appendix B provides a list of animal (see Table 1) and plant (see Table 2) species of known or potential occurrence within Seminole County, and a summary of the habitat type(s) typically utilized by each. 45 species of animals and 43 species of plants have been identified as potentially occurring in Seminole County, though suitable habitat may not be available for all of them along the project corridor. Of these, 7 are federally listed animals, 2 are federally listed plants, 23 are state listed animals, and 43 are state listed plants.

2.2 Agency Coordination

Information regarding the I-4 Ultimate PD&E project was provided to Jane Monaghan representing the USFWS North Florida Ecological Services Office and to Jane Chabre representing the FFWCC Office of Conservation Planning Services. Proposed wildlife survey methods and a species list were included within the information provided, and are included in **Appendix D**.

2.3 Field Survey

The project area includes approximately 10.21 linear miles of right-of-way including 30 proposed stormwater ponds and 3 swales. Ground-based biological surveys were conducted in April, May, and September of 2013, and April and October of 2015 to identify natural habitat types, anthropogenic land use types and to investigate wildlife (including listed species) occurrence along the project corridor. Habitat and land use types were categorized according to the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (FDOT, 1999). Results of the habitat and land use evaluation, including descriptions of types observed along the project corridor, are provided in Section 3.1.2.

Wildlife surveys were conducted during daylight hours and followed species specific survey guidelines as outlined by FFWCC and USFWS. During the field visits, all observations of listed plant and wildlife species or indicators of their presence (i.e., remnants, tracks, burrows, calls, scat) within the study corridor were noted by staff biologists. General wildlife observations were also documented during the field visits.

In order to ensure a thorough assessment of potential impacts to state and federal listed plant species, project team scientists conducted the field surveys within all suitable habitat in the proposed widening area and proposed stormwater pond sites. Prior to onset of the surveys, typical habitat and other relevant life history information were gathered for each of the listed plant species of potential occurrence along the project corridor. Aerial photographic maps and ground-truthing were used to delineate the different habitat types present along the corridor. Site surveys generally consisted of meandering transects that covered at least 25% of each site. In areas where listed plant species were discovered, the location was recorded using a sub-meter global positioning system (GPS) unit, for later depiction on aerial photographic maps. Section 3.2 provides a summary of wildlife, including listed species, of known or potential occurrence.

2.3.1 Scrub-Jay Survey

A scrub-jay survey was conducted during the original PD&E (Final Environmental Impact Statement (FEIS) for I-4 from SR 528 Beachline Expressway to SR 472, May 2000 with field work from 1996 – 1998) within this alignment corridor. Several stations were sampled for the presence of scrub-jays at the Lake Mary Boulevard interchange: 4 stations along the I-4 westbound right-of-way south of Lake Mary Boulevard, and 2 stations along the off-ramp from I-4 eastbound to Lake Mary Blvd. Field investigations conducted during this study indicated that these areas no longer contained any suitable habitat. The areas along I-4 westbound have been developed into multi-family residential units with no natural vegetation remaining, and the area along the eastbound off-ramp has been developed into a Gander Mountain store, with planted pines as a buffer from the road. Typically, a standard survey is conducted in accordance with the techniques outlined by the FFWCC (Florida Scrub-Jay Survey Guidelines, updated 08/24/2007). The survey consists of the playback of recorded scrub-jay vocalizations throughout all potential habitats. This includes the “classic” xeric oak scrub, along with scrubby pine flatwoods, sand pine scrub, and any other type of habitat containing scrub oaks. Due to the development since the previous surveys were conducted, no potential habitat was identified in any of these locations, or in any other area within this segment of the project. As such, no formal scrub-jay survey was conducted.

2.3.2 Gopher Tortoise Survey

A gopher tortoise survey was conducted in April, May, and June of 2013 and April and October 2015 in accordance with the FFWCC technical publication titled Gopher Tortoise Permitting Guidelines, April 2008, revised April 2013 (and subsequently revised in February 2015). Habitats that were suspected of supporting tortoise populations because of the nature of the vegetation, hydrology and soils, were selected for the survey, as well as cleared areas within the right-of-way and along the right-of-way fence line with suitable soil conditions. The activity classification and GPS location of all burrows within the I-

4 right-of-way and potential pond sites were collected for post-processing and mapping. Burrows found during the survey were classified as Potentially Occupied (PO) or Abandoned (AB). Those classified as PO were further described as either Active (POA) or Inactive (POI): Active burrows are in good repair, with the classic half-moon shaped entrance, and appear to be in use by a tortoise. They have obvious tortoise tracks or shell scraping signs on the burrow floor or the mound, often contain loose soil on the burrow floor, and may contain recently excavated soil. Inactive burrows are in good repair, but do not show recent tortoise use. They have the classic half-moon shaped entrance, but the soil on the burrow floor is usually hard packed, as is the burrow mound. There are no tortoise tracks or shell scraping signs, no recently excavated soil, and the burrow mound may have vegetation growing on it or be partially covered with fallen leaves. The POI classification of burrows has the potential to change due to seasonal dormancy, inactivity due to weather conditions, and the affinity of the gopher tortoise to utilize more than one burrow. Activity classification can and often does change from survey to survey. Both POI and AB burrows can serve as a refuge for burrow commensals, including gopher frogs, Florida mice, and indigo snakes, and should be considered in the same manner as active burrows. The location of each burrow was depicted on an aerial to indicate its location (see Species Location Map, **Figure D, Appendix A**). Survey methods were developed to cover 100% of the suitable habitat within the right-of-way and 50% of suitable habitat within each proposed pond site.

2.3.3 Listed Plant Survey

A survey for listed plant species was performed during May 2013 and April 2015 to coincide with the flowering period of most Florida plants. The survey was conducted using pedestrian transects that covered 100% of the existing right-of-way and at least 25% of each pond site location. Any listed plants or obvious indicators of the possible presence of listed plants were noted. In the event that listed plants were encountered during field surveys, their position was marked using sub-meter GPS technology. Species observational data was collected in field books, describing the condition, density, and areal coverage. Any recorded data related to listed plant species was projected on an aerial map.

3.0 Results

3.1 Natural Habitat and Human Land Use Assessment

3.1.1 Soils

According to the Soil Survey of Seminole County, Florida (1990), the proposed project (I-4 with 500 ft. buffer) area consists of nineteen mapped soil types including Adamsville-Sparr fine sands (2), Arents, 0 to 5 percent slopes (3), Astatula-Apopka fine sands, 0 to 5 percent slopes (6), Astatula-Apopka fine sands, 5 to 8 percent slopes (7), Astatula Apopka fine sands, 8 to 12 percent slopes (8), Basinger and Delray fine sands (9), Basinger, Samsula, and Hontoon soils, depressionnal (10), Basinger and Smyrna fine sands, depressionnal (11), EauGallie and Immokalee fine sands (13), Felda and Manatee mucky fine sands, depressionnal (15), Myakka and EauGallie fine sands (20), Nittaw mucky fine sand, depressionnal (21), Nittaw, Okeelanta, and Basinger soils, frequently flooded (23), Pineda fine sand (25), Udorthents, excavated (26), Pompano fine sand, occasionally flooded (28), St. Johns and EauGallie fine sands (29), Tavares-Millhopper fine sands, 0 to 5 percent slopes (31), and Urban land, 0 to 12 percent slopes (34).

A brief description of each of the mapped soil types occurring within the project site is provided below (**Figure B, Appendix A** contains the NRCS Soils maps).

Adamsville-Sparr fine sands (2) – Adamsville-Sparr fine sands soils are somewhat poorly drained, level to nearly level soils found on the low ridges in uplands and on low knolls in flatwoods. Typically, the surface layer is grayish brown fine sand about 4 inches thick. The upper part of the underlying material is light grayish brown and very pale brown fine sand with brownish yellow mottles to a depth of about 45 inches. The lower part of the underlying material is light gray fine sand to a depth of about 80 inches.

The water table is seasonally at its highest within 12 to 36 inches of the surface for up to 6 months and deeper during dry periods. The natural vegetation consists mostly of longleaf pine, slash pine, laurel oak, live oak, water oak, blackjack oak, and turkey oak. The understory includes scattered saw palmetto, pineland threeawn, gallberry, and wax myrtle.

Arents, 0 to 5 percent slopes (3) – Arents soils consist of material dug from several areas that have different kinds of soil. It is fill material as the result of earth moving operations and is used to fill, cover, or level terrain. In many areas, Arents soil has a surface layer about 30 to 50 inches thick of very dark gray, dark gray, dark grayish brown, and yellowish brown fine sand or sand mixed with discontinuous strata of grayish brown and light brownish gray loamy material. Below this is undisturbed soil that is commonly black fine sand to a depth of about 52 inches. The next layer is light gray or gray fine sand to a depth of about 72 inches. The lower part is black or very dark brown sandy clay loam to a depth of about 80 inches.

Arents soils are highly variable because the high water table varies with the amount of fill material and presence of artificial drainage. The water table can be at a depth of 24 to 36 inches for 2 to 4 months but can be deeper than 5 feet below the surface during extended dry periods. Arents soil is mainly used for urban development but the existing vegetation consists of slash pine and various scattered weeds.

Astatula-Apopka fine sands, 0 to 5 percent slopes (6) – Astatula-Apopka fine sands soils, 0 to 5 percent slopes are nearly level to gently sloping and excessively to well drained and well drained soils found on hillsides and ridges in the uplands. Astatula soil is excessively drained and Apopka soil is well drained. Typically, Astatula soil has a surface layer of grayish brown fine sand about 4 inches thick. The underlying material to a depth of about 80 inches is very pale brown fine sand. Typically, Apopka soil has a surface layer of gray fine sand about 3 inches thick. The subsurface layer extends to a depth of about 64 inches, with the upper part being pale brown fine sand, and the lower part very pale brown fine sand. The subsoil layer to a depth of about 80 inches is yellowish brown sandy clay loam.

The water table is typically below 80 inches deep for this soil type. The natural vegetation consists of bluejack oak, Chapman oak, laurel oak, turkey oak, scattered live oak, slash pine, and longleaf pine. The understory includes dog fennel, eastern bracken fern, grassleaf goldaster, lopsided indiagrass, dwarf huckleberry, creeping bluestem, and pineland threeawn.

Astatula-Apopka fine sands, 5 to 8 percent slopes (7) – Astatula-Apopka fine sands soils, 5 to 8 percent slopes are excessively to well drained, sloping soils found on hillsides in the uplands. Astatula soil is excessively drained and Apopka soil is well drained. Typically, Astatula soil has a surface layer of gray fine sand about 3 inches thick. The next layer is light yellowish brown fine sand to a depth of about 6 inches. The underlying material of Astatula soil is pale to very pale brown fine sand to a depth of about 80 inches. Typically, Apopka soil has a surface layer of gray fine sand about 6 inches thick. The upper part of the subsurface layer is yellow fine sand to a depth of about 20 inches, and the lower part is very pale brown fine sand with a few lamellae to a depth of about 65 inches. The subsoil layer of Apopka soil is reddish yellow sandy clay loam to a depth of about 80 inches.

The water table is typically below 80 inches deep for this soil type. The natural vegetation consists of bluejack oak, Chapman oak, laurel oak, turkey oak, scattered live oak, slash pine, and longleaf pine. The understory includes dog fennel, eastern bracken fern, grassleaf goldaster, lopsided indiagrass, dwarf huckleberry, creeping bluestem, and pineland threawn.

Astatula-Apopka fine sands, 8 to 12 percent slopes (8) – Astatula-Apopka fine sands soils, 8 to 12 percent slopes are excessively to well drained, strongly sloping soils found on hillsides in the uplands. Astatula soil is excessively drained and Apopka soil is well drained. Typically, Astatula soil has a surface layer of light gray fine sand about 3 inches thick. The underlying material is very pale brown fine sand to a depth of about 80 inches. Typically, Apopka soil has a surface layer of dark gray fine sand about 4 inches thick. The subsurface layer is very pale brown fine sand to a depth of about 65 inches, and the subsoil is a brownish yellow sandy clay loam to a depth of about 80 inches.

The water table is typically below 80 inches deep for this soil type. The natural vegetation consists of bluejack oak, Chapman oak, laurel oak, turkey oak, scattered live oak, slash pine, and longleaf pine. The understory includes dog fennel, eastern bracken fern, grassleaf goldaster, lopsided indiagrass, dwarf huckleberry, creeping bluestem, and pineland threawn.

Basinger and Delray fine sands (9) – Basinger and Delray fine sands soils are poorly to very poorly drained, nearly level soils found in sloughs and poorly defined drainage ways. Basinger soil is poorly drained and Delray soil is very poorly drained. Typically, Basinger soil has a surface layer of very dark gray fine sand about 5 inches thick. The subsurface layer is light gray fine sand to a depth of about 30 inches. The subsoil is dark grayish brown and light gray fine sand that has weakly cemented bodies to a depth of about 50 inches. The substratum is gray fine sand to a depth of about 80 inches. Typically, Delray soil has a surface layer of black fine sand to a depth of about 12 inches. The subsurface layer is light gray fine sand to a depth of about 50 inches, and the subsoil is a gray sandy loam to a depth of about 80 inches.

The water table is seasonally at its highest within 12 inches of the surface for 6 months or more and lower during extended dry periods. The natural vegetation consists mostly of cabbage palm, scattered live and laurel oaks, sweetgum, and slash and longleaf pines. Some areas are dominated by maidencane, giant cutgrass, sawgrass, and rushes.

Basinger, Samsula, and Hontoon soils, depressional (10) – Basinger, Samsula, and Hontoon soils, depressional, are very poorly drained, nearly level soils found in swamps and depressions. Typically, Basinger soil has a surface layer of very dark gray mucky fine sand about 6 inches thick. The subsurface layer is light gray fine sand to a depth of about 18 inches. The subsoil is dark grayish brown and light brownish gray fine sand to a depth of about 35 inches, and the substratum is light gray fine sand to a depth of about 80 inches. Typically, Samsula soil has a surface layer of muck about 30 inches thick that is dark reddish brown in the upper part and black in the lower part. Below the muck is dark gray fine sand to a depth of about 45 inches. The underlying material is gray fine sand to a depth of about 80 inches. Typically, Hontoon soil has a surface layer of reddish brown muck to about 18 inches deep and below that a layer of very dark brown muck to a depth of about 48 inches. The lower layer is black muck to a depth of about 80 inches.

In most years, the undrained areas of these soils are ponded for 6 to 9 months or more. The organic material in the Samsula and Hontoon soils will rapidly lose thickness when soils are drained or during extended dry periods. The natural vegetation consists mostly of mixed stands of cypress, red maple, sweetgum, cabbage palm, sweetbay, and blackgum. The understory includes cutgrass, maidencane, sawgrass, sedges, ferns, and other water-tolerant grasses.

Basinger and Smyrna fine sands, depressional (11) – Basinger and Smyrna fine sands, depressional are very poorly drained, nearly level sandy soils found in depressions. Typically, Basinger soil has a surface layer of black mucky fine sand about 5 inches thick. The subsurface layer is light gray fine sand to a depth of about 15 inches. The subsoil is dark grayish brown and light gray fine sand to a depth of about 25 inches. The substratum is grayish brown fine sand to a depth of about 80 inches. Typically, Smyrna soil has a surface layer of black fine sand about 2 inches thick. The subsurface layer is light gray fine sand to a depth of about 15 inches. The upper part of the subsoil is very dark grayish brown to a depth of about 17 inches and the lower part is dark brown fine sand that has distinct black mottles to a depth of about 25 inches. The upper part of the substratum is light yellowish brown fine sand to a depth of about 40 inches and the lower part is light gray and gray fine sand to a depth of about 80 inches.

In most years, the undrained areas of these soils are ponded for 6 to 9 months of the year. The natural vegetation consists of mixed stands of cypress, sweetgum, blackgum, and scattered pond pine. The understory includes chalky bluestem, blue maidencane, and other water tolerant grasses and sedges.

EauGallie and Immokalee fine sands (13) – EauGallie and Immokalee fine sands are poorly drained, nearly level soils found on broad plains on the flatwoods. Typically, EauGallie soil has a surface layer of very dark gray fine sand about 6 inches thick. The subsurface layer is light gray fine sand to a depth of about 24 inches. The upper part of the subsoil is black, very dark grayish brown, and pale brown fine sand to a depth of 54 inches and the lower part is gray sandy loam to a depth of about 80 inches. Typically, Immokalee soil has a surface layer of dark gray fine sand about 4 inches thick. The upper part of the subsurface layer is gray fine sand to a depth of about 7 inches and the lower part is light gray fine sand to a depth of about 42 inches. The upper part of the subsoil is black fine sand to a depth of about 62 inches and the lower part is dark yellowish brown fine sand to a depth of about 80 inches.

The water table is seasonally at its highest within 12 inches of the surface for between 1 and 4 months during most years. The natural vegetation consists mostly of longleaf and slash pines and scattered live and laurel oaks. The understory includes saw palmetto, running oak, inkberry, fetterbush, creeping bluestem, chalky bluestem, lopsided indiagrass, pineland threawn, and wax myrtle.

Felda and Manatee mucky fine sands, depressional (15) – Felda and Manatee mucky fine sands, depressional are very poorly drained, nearly level soils found in depressions and are ponded if undrained. Typically, Felda soil has a surface layer of very dark grayish brown mucky fine sand about 4 inches thick. The subsurface layer is light brownish gray and gray fine sand to a depth of about 28 inches. The subsoil is grayish brown sandy clay loam and gray loam fine sand to a depth of about 46 inches. The substratum is light gray fine sand to a depth of about 80 inches. Typically, Manatee soil has a surface layer that is about 19 inches thick consisting of black mucky fine sand in the upper part and very dark gray loamy sand in the lower part. The subsoil goes to a depth of about 50 inches and consists of dark gray sandy loam in the upper part and dark gray fine sandy loam in the lower part. The substratum is gray loamy fine sand to a depth of about 80 inches.

In most years, the undrained areas of these soils are ponded for 6 to 9 months of the year. The natural vegetation consists of mixed stands of cypress, red maple, sweetgum, blackgum, sweetbay, and cabbage palm. The understory includes cutgrass, maidencane, sawgrass, sedges, ferns, and other water-tolerant grasses.

Myakka and EauGallie fine sands (20) – Myakka and EauGallie fine sands are poorly drained, nearly level soils found on broad plains in the flatwoods. Typically, Myakka soil has a surface layer of black fine sand about 5 inches thick. The subsurface layer is light gray fine sand to a depth of about 28 inches. The upper part of the subsoil is black fine sand to a

depth of about 30 inches and the lower part is dark brown fine sand to a depth of about 45 inches. The substratum is brown fine sand to a depth of about 80 inches. Typically, EauGallie soil has a surface layer of dark gray fine sand to a depth of about 5 inches thick. The subsurface layer is light gray fine sand to a depth of about 18 inches. The upper part of the subsoil is black and dark brown fine sand to a depth of about 37 inches, the middle layer is light brownish gray fine sand to a depth of about 41 inches, and the lower part is a very pale brown sandy clay loam to a depth of about 60 inches. The substratum is light brownish gray loamy sand that has pockets of fine sand and sandy loam to a depth of about 80 inches.

The water table is seasonally at its highest within 12 inches of the surface for between 1 and 4 months during most years. The natural vegetation consists mostly of longleaf and slash pines and live and laurel oaks. The understory includes lopsided indiagrass, inkberry, saw palmetto, pineland threeawn, wax myrtle, bluestem, panicum, and other grasses.

Nittaw mucky fine sand, depressional (21) – Nittaw mucky fine sand, depressional, is a very poorly drained, nearly level soil found in depressions, freshwater marshes, and swamps. Undrained areas are ponded. Typically, this soil has a surface layer that is about 10 inches thick consisting of an upper part that is black mucky fine sand and black fine sand in the lower part. The subsoil is very dark gray sandy clay in the upper part and dark gray sandy clay in the lower part, extending to a depth of about 50 inches. The substratum is light gray fine sand to a depth of about 80 inches.

In most years, the undrained areas of these soils are ponded for 6 to 9 months of the year except during extended dry periods. The natural vegetation consists of pond cypress, red maple, sweetbay, and blackgum. The understory includes wax myrtle, greenbrier, wild grape, and other water-tolerant forbs and grasses.

Nittaw, Okeelanta, and Basinger soils, frequently flooded (23) – Nittaw, Okeelanta, and Basinger soils, frequently flooded are poorly to very poorly drained, nearly level soils found on flood plains and are frequently flooded following prolonged rains. Nittaw and Okeelanta soils are very poorly drained and Basinger soils are poorly to very poorly drained. Typically, Nittaw soil has a surface layer of black muck that is about 4 inches thick that is underlain by black mucky fine sand to a depth of about 9 inches. The subsoil is very dark gray, dark gray, and gray clay to a depth of about 80 inches. Typically, Okeelanta soil has a surface layer of black muck about 42 inches thick underlain by black and light gray fine sand to a depth of about 80 inches. Typically, Basinger soil has a surface layer of very dark gray sand about 4 inches thick. The subsurface layer is light brownish gray fine sand that has mottles to a depth of about 22 inches. The subsoil is light brownish gray and very dark brown fine sand to a depth of about 38 inches. The substratum is gray fine sand to a depth of about 80 inches.

The water table is seasonally at its highest within 12 inches of the surface but the soils are subject to frequent flooding during periods of heavy rains. The natural vegetation consists mostly bald cypress, red maple, sweetgum, cabbage palm, water oak, and hickory. The understory includes wax myrtle, Carolina willow, primrose willow, cattail, and other water-tolerant grasses.

Pineda fine sand (25) – Pineda fine sand is a poorly drained, nearly level soil found on low hammocks, poorly drained drainage ways, and in sloughs. Typically, this soil has a surface layer of black fine sand about 2 inches thick which is underlain by light gray sand to a depth of about 18 inches. The upper part of the subsoil is pale brown fine sand to a depth of about 26 inches and the lower part is dark gray sandy loam with about 20 percent tongues of light gray fine sand to a depth of about 68 inches. The substratum is greenish gray loamy sand mixed with shell fragments to a depth of about 80 inches.

In most years, the water table reaches its seasonable high within 12 inches of the surface for 2 to 6 months. However, the water table may be above the surface for short periods of time during heavy rainfall. The natural vegetation consists mostly cabbage palm, scattered longleaf pine, and slash pine. The understory includes wax myrtle, blue maidencane, chalky bluestem, bluejoint panicum, scattered saw palmetto, pineland threeawn, and various weeds and grasses.

Udorthents, excavated (26) – Udorthents, excavated (also called borrow pits) are areas of unconsolidated or heterogeneous soil and geologic materials which have been removed mainly for road construction or fill material. Most areas of Udorthents, excavated are between 5 and 40 feet deep and may be seasonally ponded at the bottom or hold water.

Pompano fine sand, occasionally flooded (28) – Pompano fine sand, occasionally flooded is a poorly drained, nearly level soil found on flood plains. Typically, this soil has a surface layer of gray sand about 4 inches thick. The underlying material is pale brown and light gray fine sand to a depth of about 80 inches.

In most years, the water table reaches its seasonable high within 12 inches of the surface for 2 to 6 months. However, the water table may be above the surface for short periods of time during heavy prolonged rainfall. The natural vegetation consists mostly of cypress, longleaf pine, slash pine, cabbage palm, and laurel oak. The understory includes wax myrtle, inkberry, scattered saw palmetto, blue maidencane, pineland threeawn, sand cordgrass, low panicum, and various weeds and grasses.

St. Johns and EauGallie fine sands (29) – St. Johns and EauGallie fine sands are poorly drained, nearly level soils found on low broad plains in the flatwoods. Typically, St. Johns soil has a surface layer of black fine sand about 12 inches thick and underlain by gray fine sand to a depth of about 22 inches. The subsoil is black and very dark gray fine sand to a depth of about 54 inches. The substratum is grayish brown fine sand to a depth of about 80 inches. Typically, EauGallie soil has a surface layer of black fine sand about 3 inches thick and underlain by light gray fine sand to a depth of about 17 inches. The upper part of the subsoil is very dark gray and pale brown fine sand and the lower part is grayish brown sandy loam extending to a depth of 73 inches. The substratum is gray loamy sand to a depth of about 80 inches.

The water table is seasonally at its highest within 12 inches of the surface for between 1 and 4 months during most years. The natural vegetation consists mostly of longleaf pine and slash pine. The understory includes lopsided indiagrass, inkberry, saw palmetto, pineland threeawn, wax myrtle, bluestem, panicum, and other grasses.

Tavares-Millhopper fine sands, 0 to 5 percent slopes (31) – Tavares-Millhopper fine sands, 0 to 5 percent slopes are moderately well drained, nearly level to gently sloping soils found on low ridges and knolls in the uplands. Typically, Tavares soil has a surface layer of very dark grayish brown fine sand about 6 inches thick. The underlying material is yellowish brown, light yellowish brown, very pale brown, and white fine sand to a depth of about 80 inches. Typically, Millhopper soil has a surface layer of gray fine sand about 7 inches thick and underlain by very pale brown and pale brown fine sand to a depth of about 45 inches. The upper part of the subsoil is very pale brown sandy loam to a depth of about 54 inches and the lower part is light gray sandy clay loam to a depth of about 80 inches.

The water table reaches its seasonal high between 36 and 60 inches below the surface for 2 to 6 months. The natural vegetation consists mostly of laurel oak, turkey oak, live oak, slash pine, and longleaf pine. The understory includes creeping bluestem, lopsided indiagrass, panicum, and pineland threeawn.

Urban land, 0 to 12 percent slopes (34) – Urban land, 0 to 12 percent slopes is a miscellaneous area covered by urban facilities including shopping centers, parking lots, industrial buildings, houses, streets, sidewalks, and airports. The natural soil cannot be observed and the depth to seasonal high water table is dependent on the functionality of established drainage systems.

3.1.2 Land Use Types

Land use classifications were determined utilizing the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) Level III, 3rd Edition (1999) and the land use mapping files from the St. Johns River Water Management District (2004) (See **Figure C, Appendix A** for Land Use and Habitat Coverage Maps). Wildlife Occurrence rankings were made based upon habitat type, location within the overall landscape, and types of wildlife with the potential to occur within the project area. The land use types identified as occurring within the study area are described below.

Residential (1000-1300) – This range of land use codes consists of areas containing low, medium, and high density residential housing. These areas are found on both sides of the right-of-way from the vicinity of SR 434 to just south of Emma Oaks Trail, west of the right-of-way from the vicinity of East Crowley Circle to West Lake Mary Boulevard, small town home communities along International Parkway, at the south end of North Oregon Street, and along the west of the right-of-way, south of Orange Boulevard. The most densely populated areas are in the Huntington Pointe Subdivision south of Emma Oaks Trail, the Notting Hill Condominiums off of West Lake Mary Boulevard, and several town home communities. This land use has a low likelihood for wildlife occurrence.

Commercial and Services (1400) – This land use was observed over a large portion of the project corridor along SR 434, West Lake Mary Boulevard, CR 46A, and SR 46. It includes numerous types of businesses in malls, strip malls and as stand-alone establishments along the corridor. Numerous automobile dealerships are located between CR 46A and just north of SR 46. This land use has a low likelihood for wildlife occurrence.

Retail Sales and Services (1410) – This land use was observed over a large portion of the project corridor which consisted of office complexes, shopping centers, and other service/retail oriented businesses along the adjacent roadways. Big-box stores like Gander Mountain, Home Depot, Target and Sam’s Club are located along the corridor, and numerous other stores and restaurants can be found from West Lake Mary Boulevard to SR 46. This land use has a low likelihood for wildlife occurrence.

Professional Services (1430) – Medical offices, dental offices, veterinary offices, banks, and other professional offices are located throughout the corridor, primarily at the SR 434 interchange and between West Lake Mary Boulevard and SR 46. This land use has a low likelihood for wildlife occurrence.

Tourist Services (1450) – There are a number of hotels located along the corridor, especially along Greenwood Boulevard to the east of I-4, at Lake Mary Boulevard, and at the CR 46a and SR 46 Interchanges. This land use has a low likelihood for wildlife occurrence.

Institutional (1700) – This land use consists of schools and institutions such as ITT Technical Institute, Wekiva Christian School, and The Remington College of Nursing. This land use has a low likelihood for wildlife occurrence.

Improved Pasture (2110) – This category of land use consists of land which has been cleared, tilled, reseeded with specific grass types and periodically improved with brush control and fertilizer application. A large swath of land on the western

side of I-4 between the SR 417 interchange and SR 46 has been converted to improved pasture. This land use has a moderate likelihood for wildlife occurrence.

Herbaceous- Dry Prairie (3100) – This land use consists of open, dry treeless areas containing grasses, forbs, sedges, rushes and other herbaceous vegetation. This habitat was observed within several areas between SR 434 and EE Williamson Boulevard. This land use has a high likelihood for wildlife occurrence.

Pine Flatwoods (4110) – This land use consists of natural pine flatwoods, and is located along I-4 between SR 46 and US 17/92. This land use has a high likelihood for wildlife occurrence.

Hardwood-Conifer Mixed (4340) – Vegetation within this land use consists of oaks, pine, and other species with no clear canopy dominance between hardwoods and conifers. Several patches were observed between SR 434 and Lake Mary Boulevard. This land use has a high likelihood for wildlife occurrence.

Reservoirs (5300) – This land use designates all retention ponds and other artificial impoundments used for irrigation and flood control along the project corridor and within residential developments. This land use has a high likelihood for wildlife occurrence.

Cypress (6210) – Dominant vegetation consisted of cypress and was observed at US 17/92 along Lake Monroe and the St. Johns River. This land use has a high likelihood for wildlife occurrence.

Freshwater Marsh (6410) – Vegetated non-forested wetlands which are usually defined as low-lying areas or depressions in the landscape, they can be found adjacent to the roadway in several places between SR 434 and Lake Mary Boulevard and within the interchanges at Lake Mary Boulevard and US 17/92. This land use has a high likelihood for wildlife occurrence.

Roads and Highways (8140) – This land use designates all major and minor roads throughout the project corridor. This land use has a low likelihood for wildlife occurrence, though the right-of-way does support habitat for gopher tortoise burrows in some locations.

Water Supply Plants (8330) – There is a water supply plant west of the westbound lanes of I-4 north of Lake Mary Boulevard off of International Parkway. This land use has a low likelihood for wildlife occurrence.

Sewage Treatment Facilities (8340) – There is a sewage treatment facility east of I-4 between SR 434 and EE Williamson Boulevard. This land use has a low likelihood for wildlife occurrence.

3.1.3 Existing and Proposed Right-of-Way

The existing unpaved right-of-way within the project corridor consists primarily of areas of maintained grass. The right-of-way is lined with intermittent patches of landscaped vegetation, as well as other smaller areas of natural vegetation. Some forested areas occur within the interchange around US 17/92, but these are not connected to systems outside of the right-of-way.

The project is developing alternatives for the proposed expansion, all of which will be assumed to impact the existing right-of-way in its entirety. In order to achieve the goals of the project (expansion to 8 general use lanes plus 4 express lanes), the designers must utilize as much of the existing right-of-way as possible, though the potential for the need to acquire minimal amounts of additional right-of-way for the improvements remains. New right-of-way for pond sites will be

required as the existing right-of-way does not contain sufficient areas to provide the necessary treatment and retention, along with the capacity expansions.

3.1.4 Proposed Stormwater Management Areas

Thirty-one (31) potential stormwater management facilities were evaluated for this segment, ten (10) are existing facilities which were previously permitted and are not being changed. Fifteen (15) are existing facilities which were previously permitted and are being modified or enlarged to meet the requirements of the project. Five (5) new pond sites and one (1) new swale are proposed in several areas and are described in detail below. The proposed pond sites are depicted on the Land Use and Habitat Coverage Maps (**See Figure C, in Appendix A**) and photographs of each pond site is included in **Appendix C**. Wildlife Occurrence rankings were made based upon habitat type, location within the overall landscape, and types of wildlife with the potential to occur within the project area.

The existing pond sites that will not require modifications are pond sites HH, II, 307, 312, 313, 313A, 314, 315, 316, and 317B.

Pond Site HH

Pond Site HH is located north of the SR 434 interchange, on the east side of the right-of-way opposite the westbound rest area. This is an existing pond site. The existing site is a stormwater catchment pond dominated by Bahia grass with mixed herbaceous species. The eastern portion of the pond site is composed of planted pines, some laurel oak, and a few planted cypress trees. A row of wax myrtle is present along the western portion of the pond site. There is a moderate likelihood for wildlife occurrence on this pond site.

Pond Site II

Pond Site II is located north of the SR 434 interchange, at the northern part of the westbound rest area. This is an existing stormwater facility consisting of three separate basins. The existing site is partially the paved ramp for the entrance to the rest area and partially the existing stormwater feature. The site is dominated by Bahia grass with mixed herbaceous species and several pines and oaks along the ramp. Two active gopher tortoise burrows were identified within the footprint of the pond and several other active gopher tortoise burrows were observed in the vicinity of the existing stormwater feature. There is a high likelihood for wildlife occurrence on this pond site.

Pond Site 307

Pond Site 307 is located along the eastern edge of the right-of-way, north of Lake Mary Boulevard, in an undeveloped area. This is an existing pond and no modifications or expansions are proposed. There is evidence that the site is being used by off-road recreational vehicles as a driving area. The pond is mostly exposed dirt with Bahia grass, but the surrounding berm is heavily vegetated with Bahia grass and various weed species. This pond site has a moderate likelihood for wildlife occurrence.

Pond Site 312

Pond Site 312 is located south of the interchange with State Road 46, on the west side of the right-of-way. This is an existing pond and no modifications or expansions are proposed. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The pond is mostly open water with a few patches of willow, cattail, and torpedo grass along the edges. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 313

Pond Site 313 is located within the interchange with SR 46, in the northwest quadrant. This is an existing pond and no modifications or expansions are proposed. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The pond is mostly open water with a few patches of cattail, alligator weed, and torpedo grass along the edges. Some submerged patches of hydrilla were observed along the edges of the pond. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 313A

Pond Site 313A is located within the interchange with SR 46, in the northwest quadrant. This is an existing pond and no modifications or expansions are proposed. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The pond is mostly open water with sparse patches of cattails, alligator weed, and torpedo grass along the edges. Some submerged patches of hydrilla were observed along the edges of the pond. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 314

Pond Site 314 is located north of the interchange with SR 46, on the east side of the right-of-way. This is an existing pond and no modifications or expansions are proposed. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The perimeter of the pond is primarily cattail, and the rest of the pond is almost entirely hydrilla, which can be seen from the surface. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 315

Pond Site 315 is located north of the interchange with SR 46, on the west side of the right-of-way along North Oregon Street. This is an existing pond and no modifications or expansions are proposed. The sloped rim of the pond primarily consists of unmaintained Bahia grass and other herbaceous species. Some patches of cogon grass were observed along the dry edges of the pond. The perimeter of the pond is almost entirely cattails, and a large percentage of the rest of the pond is hydrilla. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 316

Pond Site 316 is located south of the interchange with US 17/92, on the east side of the right-of-way along North Elder Road. This is an existing pond and no modifications or expansions are proposed. The sloped rim of the pond primarily consists of unmaintained Bahia grass and other herbaceous species. There is a swath of open water completely around the edge of the pond, but the rest of the pond consists almost entirely of cattails. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 317B

Pond Site 317B is located east of the roadway in the southwest quadrant of the intersection of the eastbound I-4 ramp and Monroe Road with US 17/92. This pond site consists of two separate existing basins and no modifications or expansions are proposed. The existing basins are composed of open water with a mix of cattail, reeds, sedges, torpedo grass, primrose, fire flag, and alligator weed encroaching from the margins. There is a high likelihood for wildlife occurrence on this proposed pond site.

The existing pond sites that will require modifications for project include ponds 300, 301, 302, 303A1, 303A2, 304, 305, 305A, 306, 308, 309, 310, 311, 317C, and 318A.

Pond Site 300

Pond Site 300 is located north of the SR 434 interchange, and south of the eastbound rest area on the east side of the right-of-way. A pond is already present on the site, but expansion of the pond into the forested area to its east is proposed. The current pond site is dominated by Bahia grass with mixed herbaceous species. The area for the proposed expansion of the pond site consists primarily of oak forest. There is a moderate likelihood for wildlife occurrence on this proposed pond site.

Pond Site 301

Pond Site 301 is located north of the SR 434 interchange, at the south end of the eastbound rest area on the east side of the right-of-way. An expansion of the existing pond has been proposed. The pond site is primarily maintained Bahia grass, but is surrounded by oak forest and patches of planted palmettos. Thirteen gopher tortoise burrows were observed on this pond site and one tortoise was observed foraging near the mouth of a burrow. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 302

Pond Site 302 is located north of the SR 434 interchange, across the roadway from the eastbound rest area on the west side of the right-of-way. An expansion of the existing pond has been proposed. The pond site is primarily maintained Bahia grass, with several oak trees growing in the southwest corner of the site. Three gopher tortoise burrows were observed along the western edge of this pond site, and a pair of sandhill cranes was observed foraging. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 303A1 (Recommended)

Pond Site 303A1 is located south of the interchange with Lake Mary Boulevard, just north of the eastbound rest area, on the east side of the right-of-way. This site is part of a proposed expansion of the existing Pond Site 303-A2. The site consists of un-maintained Bahia grass and other herbaceous species. There were three gopher tortoise burrows observed on this pond site. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 303A2

Pond Site 303A2 is located south of the interchange with Lake Mary Boulevard, just north of the eastbound rest area, on the east side of the right-of-way. This is an existing pond that had been proposed to be re-graded and possibly combined with Pond Site 303-A1 as described above. The pond site is entirely mowed Bahia grass. There is a high likelihood for wildlife to utilize the habitat on this proposed pond site.

Pond Site 304

Pond Site 304 is located south of the interchange with Lake Mary Boulevard, on the west side of the right-of-way. This is an existing pond proposed to be enlarged and re-graded. The pond site is entirely maintained Bahia grass. There were five gopher tortoise burrows observed on this pond site. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Sites 305 and 305A

Pond Sites 305 and 305A are located within the interchange with Lake Mary Boulevard, in the southeast quadrant. This is an existing pond that has will be expanded and split into two proposed ponds. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The bottom of the pond, which was dry and had been

mowed when it was observed, consists of torpedo grass, arrowhead, and pennywort. This site has shallow standing water during periods of heavy rainfall. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 306

Pond Site 306 is located within the interchange with Lake Mary Boulevard, in the northwest quadrant. This is an existing pond that has been proposed to be enlarged and reconfigured. The pond site is primarily maintained Bahia grass, with some planted live oak and cabbage palm along the margins of the pond. Killdeer were observed nesting at this site. This pond site has a moderate likelihood for wildlife occurrence.

Pond Site 308

Pond Site 308 is located along the eastern edge of the right-of-way, north of Lake Mary Boulevard, in an undeveloped area. The existing pond has been proposed to be re-graded and enlarged. There is evidence that the site is being used by off-road recreational vehicles as a driving area. The existing pond primarily consists of un-maintained Bahia grass and various weed species with some wax myrtle and saltbush. The pond is proposed to be expanded to the north and northeast of the existing pond into an area of abandoned citrus grove which is primarily composed of live oak, cabbage palm, fallow citrus trees and Brazilian pepper with patches of mixed weedy vegetation. Two active gopher tortoise burrows were observed near the northern edge of this proposed pond site and several other inactive or abandoned burrows were observed. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 309

Pond Site 309 is located within the interchange with CR 46A, in the southwest quadrant. This is an existing pond which has been proposed to be re-graded and expanded. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The pond is almost entirely surrounded by cattails, torpedo grass, and a few willow. Hydrilla and white water lily were observed in portions of the open water. Several species of wading birds were observed at this existing pond site. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 310

Pond Site 310 is located within the interchange with CR 46A, in the southeast quadrant. This is an existing pond proposed to be enlarged and re-graded. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The pond is almost entirely covered with cattails and white water lily, with some willow and primrose along the edges. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 311

Pond Site 311 is located within the interchange with CR 46A, in the northeast quadrant. This is an existing pond proposed to be regraded. The sloped rim of the pond primarily consists of mowed Bahia grass and other herbaceous species. The majority of the pond is open water, but it is mostly surrounded by cattails, with patches of torpedo grass and white water lily. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 317C

Pond Site 317C is located east of the roadway between Orange Boulevard and the ramps from Monroe Road to eastbound I-4, just north of the railroad tracks. This is an existing pond which is proposed to be modified. The existing pond is almost entirely vegetated with primrose and willow, with heavy growth of planted cypress, broomsedge, and salt bush growing along the edges. There is a moderate likelihood for wildlife occurrence on this proposed pond site.

Pond Site 318A

Pond Site 318A is located east of the roadway north of School Street. This is an existing pond which is proposed to be modified. The existing pond is composed of open water with heavy growth of hydrilla, a mix of primrose, torpedo grass, cattail, and alligator weed growing in a thick band along the edges, and mowed Bahia grass on the sloped banks. Several wading birds, along with ducks and an alligator were observed at this site. There is a high likelihood for wildlife occurrence on this proposed pond site.

Newly proposed ponds include ponds FPC 300A, FPC 300B, 303B2, 317A, and 318B.

Pond Site FPC 300A (Recommended)

Pond Site FPC 300A is located north of the SR 434 interchange, and south of the eastbound rest area on the east side of the right-of-way. The site is proposed as a new floodplain compensation pond. The majority of the site is forested with oaks, but a patch of cleared sand and Bahia grass is located at the northwest corner of the proposed site. The terrain is sloping from southeast to northwest. There is a moderate likelihood for wildlife to utilize the habitat on this proposed pond site.

Pond Site FPC 300B

Pond Site FPC 300B is located north of the SR 434 interchange and south of the eastbound rest area on the west side of the right-of-way. The site is proposed as a new floodplain compensation pond. The pond is located behind residential houses on Sunshine Tree Boulevard and just south of the soccer field at Markham Woods Church and Christian Academy. The area is primarily forested with oak and cabbage palm, but is very overgrown with air potato vines. The vegetation is very dense with no open areas and limited ground cover. During the field inspection, fresh tracks from a Florida black bear were observed on the site. There is a moderate likelihood for wildlife occurrence on this proposed pond site.

Pond Site 303B2

Pond Site 303B2 is located south of the interchange with Lake Mary Boulevard, just north of the eastbound rest area, on the west side of the right-of-way. This is a proposed new pond site. The site is generally sloping up-gradient to the northeast and is primarily vegetated with maintained Bahia, mixed weed species, and scattered cabbage palms. A billboard is present on the site, and there is an unmaintained asphalt service road that leads from the south side of the site to the middle. There were eight gopher tortoise burrows observed on this proposed pond site. There is a high likelihood for wildlife occurrence on this proposed pond site.

Swale 313A

Swale 313A is located at South Oregon Avenue, just south of North Towne Road, to the east of the roadway. This is a proposed new swale. The existing site is primarily paved roadway with some landscaped vegetation to the east and a mix of grasses, sedges, and various weedy herbaceous species on either side of the South Oregon Avenue. There is a low likelihood for wildlife occurrence on this proposed pond site.

Pond Site 317A

Pond Site 317A is located west of the roadway at the US 17/92 interchange. This is a proposed new pond site. The existing site is composed partially of the exit and entrance ramps of I-4 westbound, and existing stormwater pond, and an area of floodplain forest. The ramps are bordered by landscaped bushes and trees with mowed grasses. The existing pond is primarily open water surrounded by cattail, primrose, willow, and sedges with mowed grasses along the berms and near the roadway. The floodplain forest area comprises approximately the northern half of the proposed pond site and is composed primarily of cabbage palm with some live oak, red maple, slash pine, sweetgum, and hackberry. Some cypress

trees are located in the wetland towards the northeast of the proposed pond site. There is a high likelihood for wildlife occurrence on this proposed pond site.

Pond Site 318B

Pond Site 318B is located east of the roadway along the eastern side of Monroe Street, to the north of School Street. This is a proposed new pond site. The existing site is composed of patches of open unmaintained grasses and dog fennel with areas of thick vegetation composed primarily of salt bush, castor bean, and blackberry. There is a low likelihood for wildlife occurrence on this proposed pond site.

3.2 Wildlife, Including Listed Species

During the field investigation, individuals or evidence of at least forty-six (46) different mammal, bird, and reptile species were identified along the project corridor (See Species Location Map, **Figure D, Appendix A**). Of those species, the following species appear on protected species lists developed by the USFWS, the FFWCC, FNAI or FCREPA:

Aramus guarana – limpkin
Egretta caerulea – little blue heron
Egretta thula – snowy egret
Elanoides forficatus – American swallow-tailed kite
Eudocimus albus -- white ibis
Gopherus polyphemus -- gopher tortoise
Grus canadensis pratensis -- Florida sandhill crane
Pandion haliaetus – osprey
Ursus americanus floridanus – Florida black bear

Additional wildlife species observed during the field investigations included:

<i>Agelaius phoeniceus</i> – red-winged blackbird	<i>Coragyps atratus</i> – black vulture
<i>Anas fulvigula</i> – mottled duck	<i>Dasyus novemcinctus</i> – armadillo
<i>Anas platyrhynchos</i> – mallard duck	<i>Didelphis virginiana</i> - opossum
<i>Anhinga anhinga</i> - anhinga	<i>Dumetella carolinensis</i> - catbird
<i>Anolis carolinensis</i> – green anole	<i>Fulica americana</i> – American coot
<i>Anolis sagrei</i> – Cuban brown anole	<i>Gallinula galeata</i> – common gallinule
<i>Apalone ferox</i> – Florida soft-shell turtle	<i>Himantopus mexicanus</i> – black-necked stilt
<i>Ardea alba</i> – great egret	<i>Lanius ludovicianus</i> – loggerhead shrike
<i>Ardea herodias</i> – great blue heron	<i>Lontra canadensis</i> – river otter
<i>Bubulcus ibis</i> – cattle egret	<i>Nerodia taxipilota</i> – brown water snake
<i>Buteo jamaicensis</i> – red-tailed hawk	<i>Phalacrocorax auritus</i> – double-crested cormorant
<i>Buteo lineatus</i> – red-shouldered hawk	<i>Podilymbus podiceps</i> – pied-billed grebe
<i>Butorides virescens</i> – green heron	<i>Procyon lotor</i> – raccoon
<i>Canis latrans</i> – coyote	<i>Pseudemys concinna floridana</i> – Florida cooter
<i>Cathartes aura</i> – turkey vulture	<i>Quiscalus quiscula</i> – grackle
<i>Cnemidophorus sexlineatus</i> – six-lined racerunner	<i>Sciurus carolinensis</i> – gray squirrel
<i>Coluber constrictor</i> – black racer	<i>Strix varia</i> – barred owl
<i>Columba livia</i> – rock dove	<i>Sylvilagus floridanus</i> – eastern cottontail
<i>Corvus brachyrhynchos</i> – American crow	

Numerous other wildlife and plant species, many of which are protected, have the potential to occur in Seminole County (See Tables 1 & 2 in **Appendix B**). Although evidence of the occurrence of those species was not observed during field inspections of the existing right-of-way or proposed pond sites, suitable habitat exists in those areas. A discussion of species that might be impacted by the proposed project is provided below in Section 4.0.

4.0 Impact Analysis

4.1 Potentially Impacted Listed Species and Other Sensitive Species

During field investigations, wildlife and plant surveys were conducted in potential impact areas such as proposed pond site areas and the existing right-of-way that contain habitat for one or more listed species. Listed below are those species with the potential to occur within the study limits and potentially be impacted by the project.

4.1.1 Federally Listed Species

Informal Consultation for federally listed species was completed with USFWS and documented in the letter dated February 28, 2016 in which the USFWS concurred with the proposed effects determinations described below. All federally listed species within the segment were granted either “No Effect” or “May Affect, But not Likely to Adversely Affect”.

Reptiles

Eastern Indigo Snake (*Drymarchon corais couperi*) – The eastern indigo snake, listed by both the FFWCC and the USFWS as Threatened, is a habitat generalist, using a variety of habitats from mangrove swamps to xeric uplands. These snakes are cold-sensitive and require gopher tortoise burrows, other animal holes, or stumps for protection during winter months. These snakes require large tracts of natural, undisturbed habitat, and prefer to forage in and around wetlands for their preferred prey – other snakes. Numerous burrows were located within the project area and the potential for indigo snakes is moderate, though no indigo snakes were observed during field studies and the closest documented sighting is located approximately 6 miles to the northwest (2008 sighting near Blue Springs State Park). If an eastern indigo snake is observed during construction, the contractor will be required to cease any operation that might cause harm to the snake. If the eastern indigo snake does not move away from the construction area, both the FFWCC and USFWS will be contacted for further guidance. An effects determination was made by utilizing the USFWS Programmatic Key for the Eastern Indigo Snake (January 2010, updated August 2013). In accordance with the key, the project will implement the Standard Protection Measures for the Eastern Indigo Snake (USFWS, 2013), will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) but has more than 25 active and inactive gopher tortoise burrows. Therefore, the project would receive a **may affect** determination under the key. However, the FDOT will make the commitment to have permits conditioned such that all active and inactive gopher tortoise burrows will be evacuated prior to site manipulation in the vicinity of the burrow. In addition, the project occurs in a highly urbanized area with limited contiguous habitat to support this animal. USFWS has advised that for these reasons, they would support a finding of **may affect, but not likely to adversely affect** for the eastern indigo snake (See email from Jane Monaghan, USFWS, **Appendix D**).

Avian

Florida Scrub-Jay (*Aphelocoma coerulescens*) – The Florida scrub-jay, listed as Threatened by both the FFWCC and USFWS, is an endemic species found in Florida scrub habitats. This gregarious jay is a habitat specialist and typically lives in scrub

and scrubby flatwoods habitats. No suitable scrub habitat is located within the project corridor. During the initial PD&E field work in 1996-1998, several stations were sampled for the presence of scrub-jays at the Lake Mary Boulevard interchange: 4 stations along the I-4 westbound right-of-way south of Lake Mary Boulevard, and 2 stations along the off-ramp from I-4 eastbound to Lake Mary Boulevard. Field investigations conducted during this study indicated that these areas no longer contained any suitable habitat. The areas along I-4 westbound have been developed into multi-family residential units with no natural vegetation remaining, and the area along the eastbound off-ramp has been developed into a Gander Mountain store, with planted pines as a buffer from the road. Regardless, cursory surveys for scrub-jays were conducted in September of 2013 to evaluate the potential for presence of this species. No scrub-jays were observed within any proposed right-of-way or pond site areas of Segment 3. The proposed widening and stormwater ponds are not expected to have any direct impact on scrub-jays or scrub-jay habitat. Therefore, this project will have **no effect** on this species.

Red-Cockaded Woodpecker (*Picooides borealis*) – This species is listed as Endangered by the USFWS and Threatened by the FFWCC. The colonial red-cockaded woodpecker (RCW) is a habitat specialist, requiring stands of over-mature pine that have contracted the red-heart disease. RCW's require diseased trees for cavity building, which they use for nest and roost cavities. Preferred pine stands need to have a fairly open canopy, with a sparse subcanopy to allow easy flight. RCWs must also have ample foraging habitat consisting of younger pines surrounding the cavity trees. No suitable nesting habitat was observed in the impact area within the project limits. The project occurs within the designated USFWS consultation area, though is not documented as having any nesting birds recorded within the project vicinity. The previous PD&E Study (May 2000) indicated no suitable habitat was observed or any documented RCW sightings occurred within the proposed right-of-way or pond sites. Additionally, no suitable habitat for nesting or foraging was identified within the vicinity of the project during field surveys. Therefore, this project will have **no effect** on the red-cockaded woodpecker.

Snail kite (*Rostrhamus sociabilis plumbeus*) – The snail kite is listed as Endangered by both the USFWS and the FFWCC. This non-migratory, medium-sized raptor utilizes large open freshwater marsh habitats and lakes with shallow water. Nests are usually located in a low tree or shrub at the water's edge. The main staple of their diet is the apple snail, lending to their name. The project does occur within the USFWS consultation area for the snail kite though no observations have been documented within or near the project corridor. No adequate nesting or foraging habitat was located adjacent to the project area, within the proposed right-of-way, or pond site areas. Therefore, this project will have **no effect** the snail kite.

Wood Stork (*Mycteria americana*) – This species, now listed as Threatened by both the USFWS and the FFWCC, is the only true species of stork nesting in the United States. This reclassification does not change any conservation or protection measures for the wood stork under the Endangered Species Act (ESA), rather it recognizes the recovery and the positive impact that conservation efforts have had on breeding populations of storks. Feeding areas for wood storks include marshes, pools, or ditches in which fish congregate. This species typically nests in mixed woodlands comprised of such overstory species as cypress, gum, and southern willow; pond apple and mangrove swamps may also be utilized for nesting.

Based upon the updated colony map prepared by the USFWS in June 2014, the project is located within the 15-mile Core Foraging Area (CFA) of two wood stork colonies (See Species Location Map, **Figure D, in Appendix A**). Foraging areas within the study area are limited to drainage features, small water bodies, and stormwater ponds, though several marshes occur adjacent to the project corridor. Utilizing the *Corps of Engineers and U. S. Fish and Wildlife Service Effect Determination Key for the Wood Stork in Central and North Peninsular Florida* (2008), the project is not within 2,500 feet of

an active colony site, will likely impact Suitable Foraging Habitat (SFH) of greater than 0.5 acres, and is located within the CFA of two wood stork colonies (*Lawne Lake, Hontoon Island*). The estimated direct impacts to wetlands include approximately **11.86 acres** of forested systems, and **6.75 acres** of other surface waters.

Additionally, FDOT commits to provide SFH compensation within the Service Area of a Service-approved wetland mitigation bank(s) within the CFA, and the Project is not contrary to the Service's *Habitat Management Guidelines for the Wood Stork in the Southeast Region* and in accordance with the Clean Water Act section 404(b)(1) guidelines. There are five currently permitted mitigation banks that include the project corridor within the bank service area that have credits available to offset impacts to SFH. FDOT will coordinate with the permitting agencies during the permitting phase of the project on compensatory mitigation and minimization of impacts to suitable foraging habitat. These actions should result in no net loss of foraging habitat; therefore, the project **may affect but is not likely to adversely affect** the wood stork.

Southern Bald Eagle (*Haliaeetus leucocephalus*) – The southern bald eagle was delisted from both the U.S. Endangered Species Act and FFWCC imperiled list, though it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS issued the National Bald Eagle Management Guidelines in May 2007 while Florida adopted a Bald Eagle Management Plan (BEMP) in April 2008, written closely to follow the federal guidelines. The BEMP provides guidelines and recommendations to help people avoid violating state and federal eagle laws. The BEMP also outlines strategies to maintain the Florida population of bald eagles at or above current levels. The BEMP goal is to, “maintain a stable or increasing population of eagles in Florida in perpetuity.” Bald eagles almost always nest in the tops of living or dead tall trees along or very near lakes and rivers; these water bodies provide fish, typically their preferred food. Bald eagles generally avoid areas with extensive human activity, so management guidelines must be considered before any construction can be initiated within 660 feet of an active southern bald eagle nest. Three bald eagle nests are recorded to be in the general vicinity (within 1 mile) of the project corridor (SE 029, SE 030, and SE 069). However, none of these nests are located within 660 feet of the proposed right-of-way or any of the proposed pond sites. For that reason, the project will have **no effect** on the southern bald eagle.

Mammals

Florida Manatee (*Trichechus manatus latirostris*) - This species is listed as Endangered by both the USFWS and the FFWCC and has designated critical habitat along the St. Johns River and within the western and northern shores of Lake Monroe. Florida manatees are found in freshwater, brackish, and marine environments. Typical coastal and inland habitats include coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms. As herbivores, manatees feed on the wide range of aquatic vegetation that these habitats provide. Shallow seagrass beds, with ready access to deep channels, are generally preferred feeding areas in coastal and riverine habitats (Smith 1993). Manatees use springs and freshwater runoff sites for drinking water; secluded canals, creeks, embayments, and lagoons for resting, cavorting, mating, calving and nurturing their young; and open waterways and channels as travel corridors. Manatees occupy different habitats during various times of the year, with a focus on warm water sites during winter. Manatees have also adapted to changing ecosystems in Florida. Industrial warm water discharges and deep-dredged areas are used as wintering sites, stormwater/freshwater discharges provide manatees with drinking water, and the imported exotic plant, *Hydrilla* spp. has become an important food source at some wintering sites. This segment of the project does not propose any work within the St. Johns River, Lake Monroe, or any areas that are connected to these water bodies where manatees could gain access, and therefore, according the Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida (April 2013) will have **no effect** on the Florida manatee.

FEDERALLY LISTED PLANT SPECIES

A review of agency databases and a field review of the project corridor indicate that there have been few reported occurrences of federally listed plant species within the proposed project area. USFWS currently shows that one federally listed species has been demonstrated to have the potential to occur within Seminole County, the pygmy fringe tree (*Chionanthus pygmaeus*) though other sources have listed the potential for the Okeechobee gourd (*Cucurbita okeechobeensis*) to occur (see Table 2, **Appendix B**). Information from the previous PD&E Study (May 2000) indicated that no listed plants were observed in this segment. A follow up protected plant field survey covering the area of proposed right-of-way widening and pond sites was conducted in May 2013 and again in April 2015 by project botanists and other biologists. No federally listed plant species were identified within the proposed widening impact area or pond sites during the field investigations; though a potential sighting of the Okeechobee gourd was made in the floodplain between I-4 and the Wayside Park boat ramp, outside of the proposed project area near the St. Johns River. Confirmation was not definitively made as the observation was not made during flowering season. There is no appropriate habitat for any federal listed plant species within the project right-of-way or proposed ponds sites. No direct or indirect impacts to federally listed plant species are likely to occur and this project should have **no effect** on any of the federally listed plant species.

4.1.2 State Listed Species

Mammals

Florida Mouse (*Podomys floridanus*) – This mouse, listed as a Species of Special Concern by the FFWCC, is one of the two mammal species that are endemic to Florida. It typically lives within gopher tortoise burrows in fire-maintained, xeric uplands. Sub-optimal habitat exists in the xeric uplands that contain gopher tortoise burrows, such as mesic flatwoods (4110), sand pine scrub (4130), and sand pine plantations (4410). Numerous gopher tortoise burrows were located within the project area, but no Florida mice were observed during field surveys. If gopher tortoise burrows are proposed to be impacted, then the relocation of gopher tortoises and their burrow commensals will be conducted prior to construction. Because of this, the project is **not likely to adversely affect** the Florida mouse.

Sherman's Fox Squirrel (*Sciurus niger shermani*) – The Sherman's fox squirrel, listed by the FFWCC as a Species of Special Concern, is the largest of the three fox squirrel subspecies that occur in Florida. They have large ranges that can span over 80 acres. Optimum habitat for this subspecies is predominantly longleaf pine-turkey oak sandhills, although they are also reported to occur in mesic forested areas, as well. Some potential habitat is present within the project area, although Sherman's fox squirrels were not observed during the site investigations for this project. The amount of potential habitat for this species impacted by the project will be minimal. Therefore, the proposed project is **not likely to adversely affect** the Sherman's fox squirrel.

Florida Black Bear (*Ursus americanus floridanus*) – The Florida black bear is a very wide-ranging species formerly listed as Threatened by the FFWCC. Preferred habitat of the black bear includes dense forest, both upland and wetland, but the bear is often encountered in other areas during its seasonal movements. The bear was removed from the list in August 2012 after the approval of the Florida Black Bear Management Plan. The plan was implemented to set a strategy in place to address challenges in bear management, to manage for a sustainable bear population state-wide, and reduce human-bear conflicts. Going forward, FFWCC will continue to engage with landowners and regulating agencies to guide future land use to be compatible with the objectives of the Bear Management Plan. The plan divides the state into seven Bear

Management Units (BMU's) which support the seven sub-populations of bear across the state. The project occurs within the Central BMU, which includes Alachua, Bradford, Brevard, Clay, Flagler, Lake, Marion, Orange, Putnam, Seminole, St. Johns, Sumter, and Volusia counties and contains the Ocala/St. Johns subpopulation, named after the Ocala National Forest and St. Johns River watershed. The Central BMU is the only BMU with a subpopulation estimated at 1,000 bears (the highest in the state), which is one of the criteria that determine a species risk for extinction. Evidence of bear passage was observed during field surveys (black fur on fences, tracks at Pond Site 300-B). Numerous calls to FFWCC come in every year related to bear sightings in Longwood, especially to the west of the project corridor that is adjacent to the Wekiva River Management Area, and at least 22 bear road kills on this segment of I-4 have been recorded since 1989. As no further fragmentation of bear habitat is proposed, the project **is not likely to adversely affect** the Florida black bear.

Reptiles

Gopher Tortoise (*Gopherus polyphemus*) – The occurrence of this species, listed as Threatened by the FFWCC (and designated as a Candidate species for listing by the USFWS), is a key factor in the determination of habitat suitability for certain other listed species because of the large number of other animals that use tortoise burrows for one or more of their life requisites. While it is common to find gopher tortoise burrows in most types of upland communities, the preferred habitats include xeric uplands and disturbed, ruderal areas.

Approximately 140 burrows were observed along the corridor within the right-of-way and proposed potential pond sites. It is likely that impacts to these areas cannot be avoided; therefore relocation of the tortoises and their commensals will be necessary. A conservation permit should be applied for from the FFWCC, and the relocation of any burrows to be impacted should be carried out within 30 days of construction (See Species Location Map **Figure D, Appendix A**). As FDOT will make the commitment to relocate all potentially impacted gopher tortoise burrows, the project **is not likely to adversely affect** the gopher tortoise.

Florida Pine Snake (*Pituophis melanoleucus mugitus*) – This snake, listed as a Species of Special Concern by the FFWCC, is another tortoise burrow commensal organism, utilizing both tortoise burrows and the tunnels of pocket gophers (*Geomys pinetis*) for feeding and shelter. Preferred habitat of the pine snake is xeric uplands, and to a lesser extent, flatwoods and other mesic uplands. Some habitat is available within the project, especially where gopher tortoise burrows and pocket gopher mounds were observed (see **Figure D, Appendix A**). Both the pocket gophers and the pine snakes live nearly their whole lives underground and are very hard to observe directly. Earth work in suitable habitat may impact subterranean pine snakes. With relocation of commensal organisms from gopher tortoise burrows if impacted, the project **is not likely to adversely affect** the Florida pine snake.

Short-tailed snake (*Stilosoma extenuatum*) – The short-tailed snake, listed as Threatened by the FFWCC, belongs to a monotypic genus that is endemic to Florida. Rarely seen due to its earth-burrowing tendencies, it is restricted to xeric uplands, primarily longleaf pine-turkey oak sandhills and sand pine scrub, for its habitat requirements. Herpetologist Paul Moler (FFWCC) reports short-tailed snakes occur in a wider range of ecosystems than indicated in the scant literature on the species, and may be found where prey (small snakes) and loose soils occur in North-Central Florida. Suitable habitat (sand pine scrub) is not present on this project, nor were any of these snakes observed during any field surveys. Due to the lack of xeric habitat, it is anticipated that this project is **not likely to adversely affect** the short-tailed snake.

Amphibians

Gopher Frog (*Rana capito*) – The gopher frog, listed by the FFWCC as a Species of Special Concern, is a gopher tortoise burrow commensal organism, using tortoise burrows for shelter. Prime gopher frog habitat includes xeric uplands, especially longleaf pine-turkey oak associations with nearby (i.e. within one mile) seasonally flooded marshes or ponds. Field biological surveys have shown that gopher tortoise burrows were located throughout the project corridor, though no gopher frogs were observed. If gopher tortoise burrows are impacted, then this species could be impacted as well, though the excavation of any potentially occupied burrows and the relocation of any gopher tortoises and their burrow commensals should offset any impacts to this species. Therefore, the project **is not likely to adversely affect** the gopher frog.

Avian

Florida Sandhill Crane (*Grus canadensis pratensis*) – This non-migratory subspecies, listed as Threatened by the FFWCC, can often be seen foraging in improved pastures, open fields and along the roadside. During the winter months, it is distinguished from its migratory northern cousins by its smaller size and more delicate stature. Sandhill cranes nest in freshwater marshes and feed in adjacent fields and pastures. Some adequate nesting habitat is found within the freshwater marshes located adjacent to the project corridor, and foraging habitat was found within the project limits. Sandhill cranes were observed flying over the project area several times during multiple surveying events, and were observed foraging at Pond Site 302. No evidence of nests was observed within the project area. The proposed project **is not likely to adversely affect** the sandhill crane.

Southeastern American Kestrel (*Falco sparverius paulus*) – This resident subspecies of the kestrel, listed as Threatened by the FFWCC, can be distinguished from its cousin, *F. s. sparverius*, a winter migrant, by its smaller size. The Southeastern American kestrel requires three components for optimal habitat: large, open fields for foraging, snags for nesting, and snags, fence lines or telephone poles as perching sites from which to hunt. No areas that meet these three standards have been identified within the project corridor. No kestrels were observed along the project corridor, nor within any pond sites or along the portion of the project to be widened. Therefore, this project **is not likely to adversely affect** this species.

Least tern (*Sterna antillarum*) – Historically, least terns nested on sandy beaches and lakeshores, but presently, they nest almost exclusively on man-made substrates such as spoil islands and gravel rooftops. This small tern, listed as Threatened by the FFWCC, is still fairly common in localized areas. However, none have been reported in the project study area. Prime nesting areas are minimal, so this species has only a low possibility of occurring along the project corridor, therefore the proposed project will have **no effect** on the least tern.

Wading Birds – Wading bird rookeries were not observed and are not known to occur within or adjacent to the study area. Potential foraging habitat for limpkin (*Aramus guarana*), little blue heron (*Egretta caerulea*), roseate spoonbill (*Ajaia ajaja*), white ibis (*Eudocimus albus*), tri-colored heron (*Egretta tricolor*), and snowy egret (*Egretta thula*), all classified as Species of Special Concern (SSC) by the FFWCC, occurs within the limits of the study area. Little blue heron, snowy egret, limpkin and white ibis were observed during field surveys. No wetlands providing critical foraging or nesting habitat for these avian species will be impacted by the proposed project and indirect impacts to wading birds are not anticipated. Therefore, the proposed project **is not likely to adversely affect** the wading bird population in the region.

STATE LISTED PLANT SPECIES

A review of available information revealed that 43 state listed plant species have the potential to occur within the habitats located within the project area in Seminole County (see Table 2, **Appendix B**). No state listed plant species were observed during the field assessment of project area or during the previous PD&E Study (May 2000). No state-listed plant species were identified within the proposed widening impact area or pond sites during the field investigations, and no appropriate habitat for state listed plants was observed within the project right-of-way or proposed ponds sites. Therefore, the proposed project **is not likely to adversely affect** state listed plant species.

4.1.3 Other Sensitive Species

MIGRATORY BIRDS

The Migratory Bird Conservation Commission was established on February 18, 1929 by the passage of the Migratory Bird Conservation Act. It was created and authorized to consider and approve any areas of land and/or water recommended by the Secretary of the Interior for purchase or rental by the U.S. Fish and Wildlife Service under the Act. In 1989, the Commission acquired the additional responsibility to approve project funding under the North American Wetland Conservation Act. This Act provides for Federal funding to encourage partnerships to protect, enhance, restore, and manage wetland and other habitats for migratory birds and other fish and wildlife to carry out the North American Waterfowl Management Plan. Waterfowl are the most prominent and economically important group of migratory birds of the North American Continent. National Migratory Bird Areas in Florida include Arthur R. Marshall, Caloosahatchee, Cedar Key, Chassahowitzka, Egmont Key, Great White Heron, Hobe Sound, J.N. Ding Darling, Lake Woodruff, Matlacha Pass, Merritt Island, Okefenokee, Pine Island, Pinellas, St. Marks, and St. Vincent. None of these National Migratory Bird Areas are located within a one-mile radius of the project corridor. If the project results in direct impacts to wetland habitat or surface water features (i.e. roadside ditches) that could be utilized by migratory birds there may be an impact on these species. Impacts to wetlands will be mitigated for at approved mitigation sites within the affected watershed and will offset any potential impacts to migratory birds from this project.

5.0 Conclusions, Recommendations, and Commitments

The proposed project will avoid and minimize impacts to wildlife and their habitat to the greatest practicable extent. Unavoidable impacts will be mitigated through a combination of actions designed to enhance local and regional ecological and hydrologic connectivity where possible. Those actions constitute the current recommendations developed and refined by staff and consulting environmental scientists representing various federal and state agencies and nongovernmental organizations, using the most current record and project specific scientific information available. The FDOT routinely reevaluates PD&E Study results and commitments prior to and during the project design phase, and again prior to right-of-way acquisition and construction. Therefore, the wildlife and recommendations proposed herein will be subject to reevaluation in the future. Appropriate modifications to the recommended actions may be made in the event that the latest science, design constraints or other relevant changes in circumstance so dictate.

Project Commitments

The following specific wildlife and habitat commitments will be incorporated into all appropriate project PD&E documents and will be carried over into the design phases.

1. As required by FDOT Standard Specifications, the construction of equipment staging areas for storage of oils, greases, fuel, road bed material, and equipment maintenance will be sited in previously disturbed areas not adjacent to any streams, wetlands, or surface water bodies. The staging areas will be surveyed for listed species prior to their use, also as required by FDOT Standard Specifications, if protected species are identified unexpectedly within the construction area during construction, coordination will be initiated with the appropriate resource agencies to avoid or mitigate impacts.
2. Eastern indigo snake habitat has been identified within the project limits. Utilize the US Fish and Wildlife Service Standard Protection Measures for the Eastern Indigo Snake, at the US Fish and Wildlife Service Link: http://www.fws.gov/northflorida/IndigoSnakes/20130812_Eastern_indigo_snake_Standard_Protection_Measures.htm.
3. During permitting, all potential gopher tortoise habitat that could be impacted by the project will be systematically surveyed according to the current guidelines published by the Florida Fish and Wildlife Conservation Commission. If gopher tortoise burrows are found, all practicable design measures will be employed to avoid impacts to the burrows. For burrows which cannot be avoided, a permit will be obtained from FWC for relocation of gopher tortoises and commensals, and relocation will be performed at a time as close as practicable to the start of construction activities at the site of the burrows.
4. 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*.

The utilization of these commitments and mitigation measures for unavoidable impacts are recommended to minimize the overall impacts to wildlife from this project

6.0 References

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Florida Fish and Wildlife Conservation Commission, Florida Black Bear Management Plan, June 2012

Florida Fish and Wildlife Conservation Commission, Gopher Tortoise Permitting Guidelines, April 2013

Florida Fish and Wildlife Conservation Commission Website

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US Fish and Wildlife Service, Wood Stork Key for Central and North Peninsular Florida, September 2008

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URS Greiner Woodward Clyde, Endangered Species Biological Assessment for the PD&E Study for Interstate 4, Section 2, from SR 528 to SR 472, May 2000

APPENDIX A
PROJECT MAPS AND FIGURES

I-4 (SR 400) PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDY
BEYOND THE ULTIMATE

SEGMENT 3

FDOT FM NO. 432100-1-22-01

ENDANGERED SPECIES BIOLOGICAL ASSESSMENT

SEMINOLE/VOLUSIA COUNTY
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 5

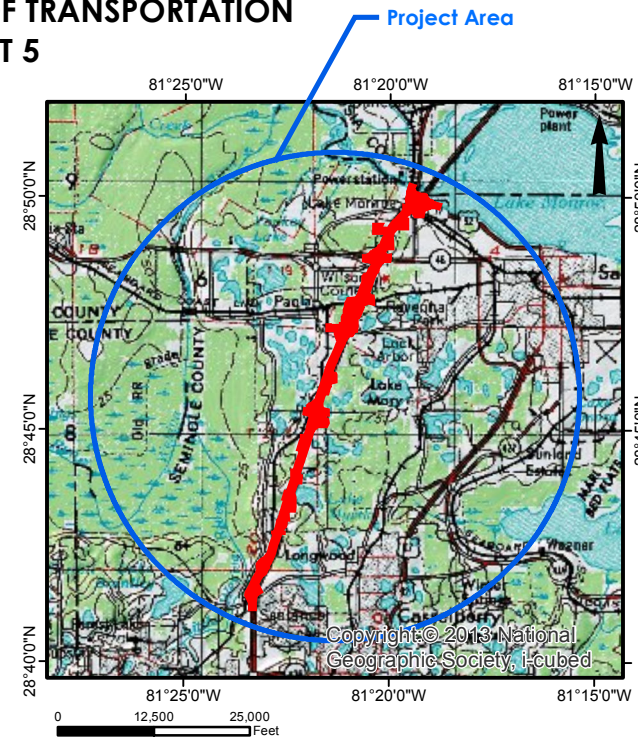
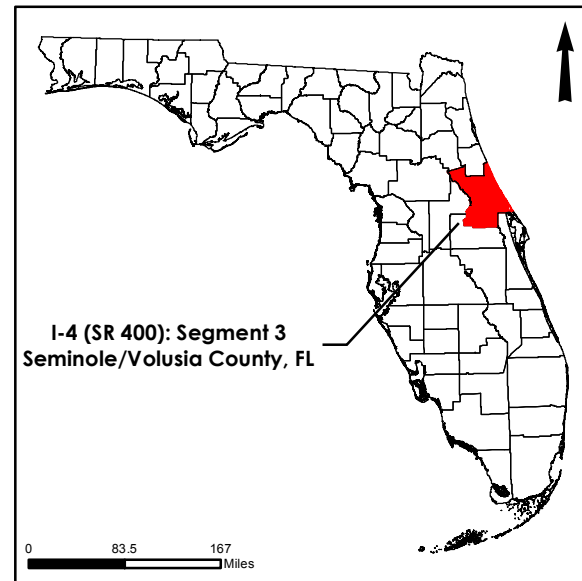


FIGURE NO.	SHEET NO.	TITLE
Figure A	Single Sheet	USGS Topographical Map
Figure B	Sheets 1-7	NRCS Soils Map
Figure C	Sheets 1-7	Land Use and Habitat Coverage Map
Figure D	Single Sheet	Species Location Map

PROJECT DETAILS

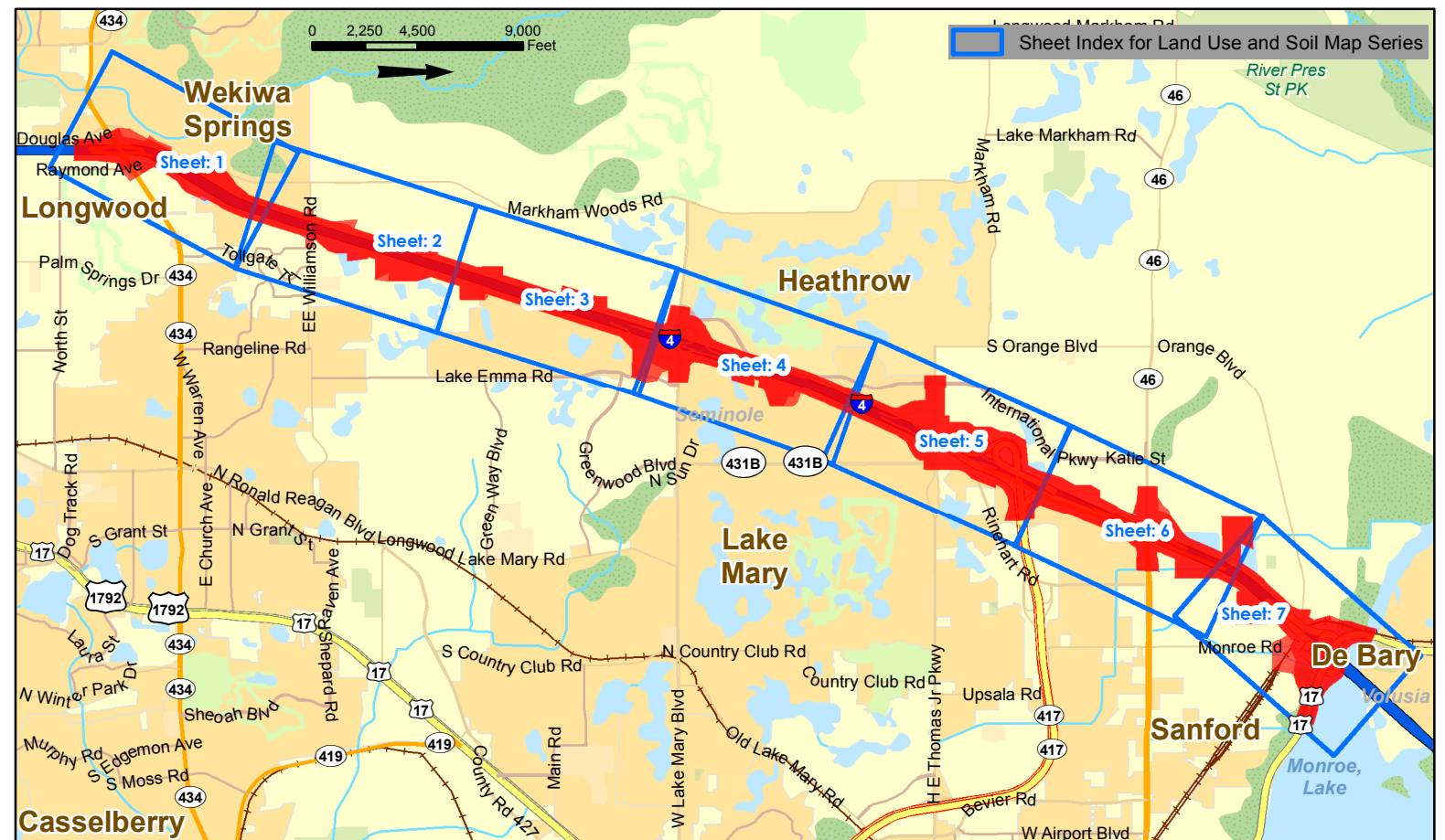
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT:
Segment 3 - Report Maps

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

77160 Seminole County 79110 Volusia County

STA 2043+71.32 (Begin) - MP 4.05 STA 2578+48.33 (Begin) - MP 0.00

STA 2578+48.33 (End) - MP 14.135 STA 2583+0.00 (End) - MP 0.086





Map Key

SR 400 (I-4) PD&E - Segment 3 Limits

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- I-4 Beyond the Ultimate-Segment 3 Study Area (Hatch)
- Pond Sites (12/10/2015)

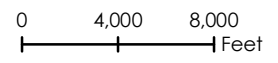
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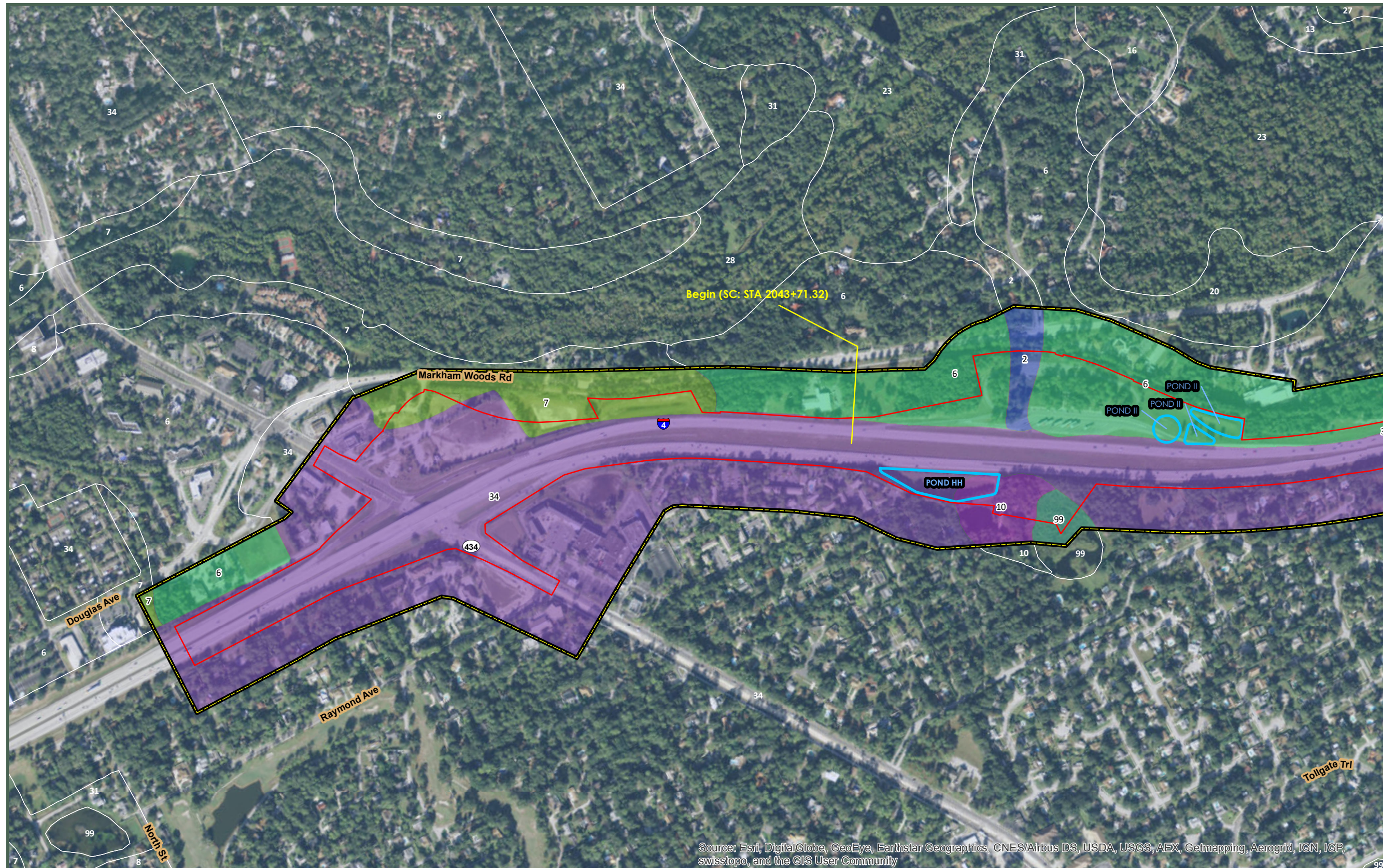
Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

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 Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

Figure A: USGS Topographical Map





Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 R/W (12/11/2015)
- Pond Sites (12/10/2015)

NRCS Soil Units

- 10: BASINGER
- 11: BASINGER
- 13: EAUGALLIE
- 15: FELDA
- 20: MYAKKA
- 21: NITAW
- 23: NITAW
- 25: PINEDA
- 26: UDORTENTS
- 27: POMELLO
- 29: ST. JOHNS
- 2: ADAMSVILLE
- 31: TAVARES
- 34: URBAN LAND
- 3: ARENTS
- 6: ASTATULA
- 7: ASTATULA
- 8: ASTATULA
- 99: WATER
- 9: BASINGER

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

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - NRCS Soils Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

Prepared by: mLeonard 12/21/2015
 Technical Review by: mDrauer 12/21/2015
 Independent Review by: JMoore 12/21/2015

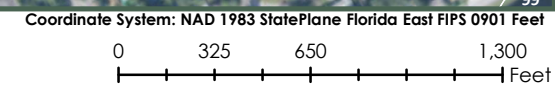
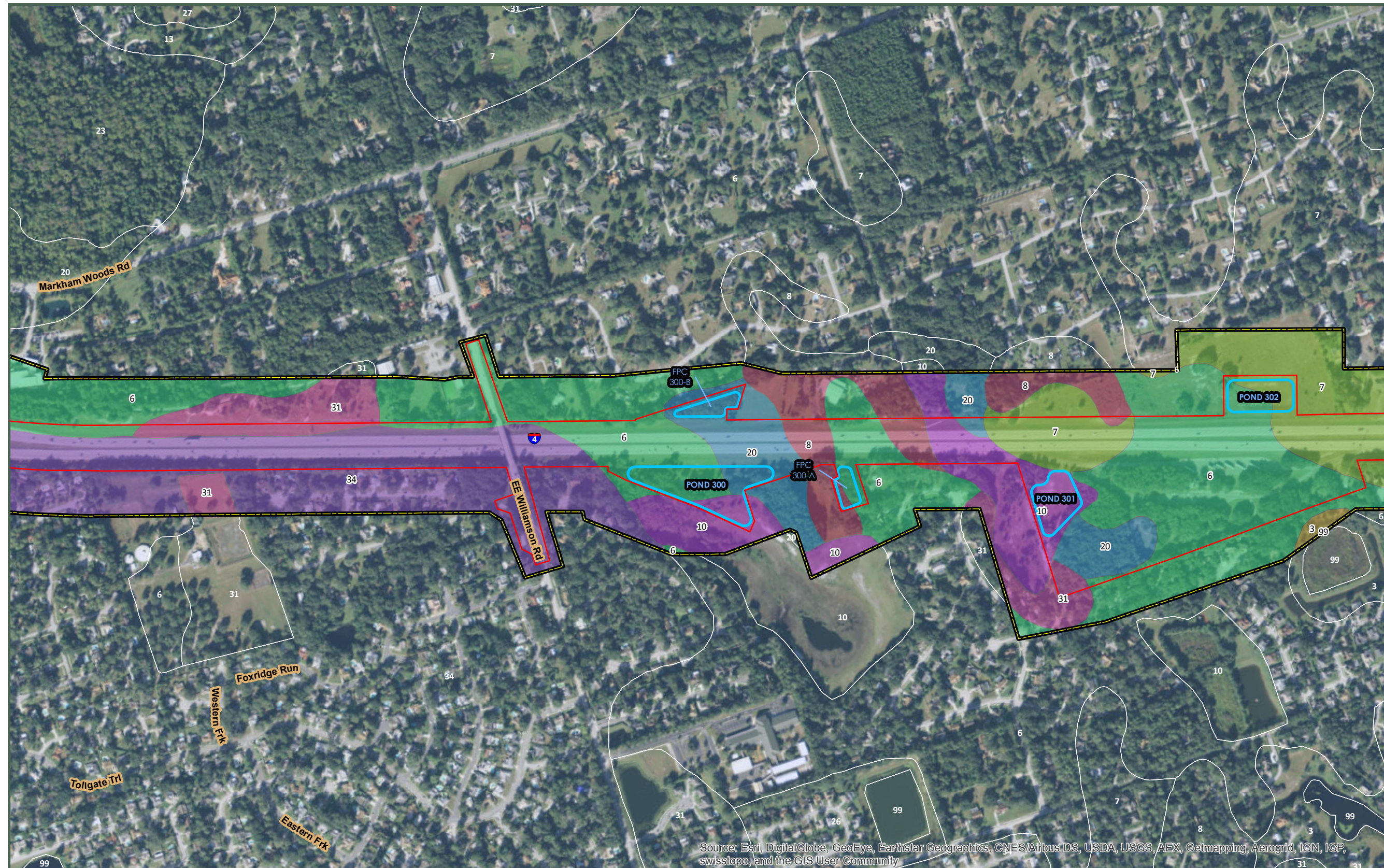


Figure B - Sheet 1 of 7: NRCS Soils Map



Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 R/W (12/11/2015)
- Pond Sites (12/10/2015)

NRCS Soil Units

- 10: BASINGER
- 11: BASINGER
- 13: EAUGALLIE
- 15: FELDA
- 20: MYAKKA
- 21: NITAW
- 23: NITAW
- 25: PINEDA
- 26: UDORTHENTS
- 27: POMELLO
- 29: ST. JOHNS
- 2: ADAMSVILLE
- 31: TAVARES
- 34: URBAN LAND
- 3: ARENTS
- 6: ASTATULA
- 7: ASTATULA
- 8: ASTATULA
- 99: WATER
- 9: BASINGER

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

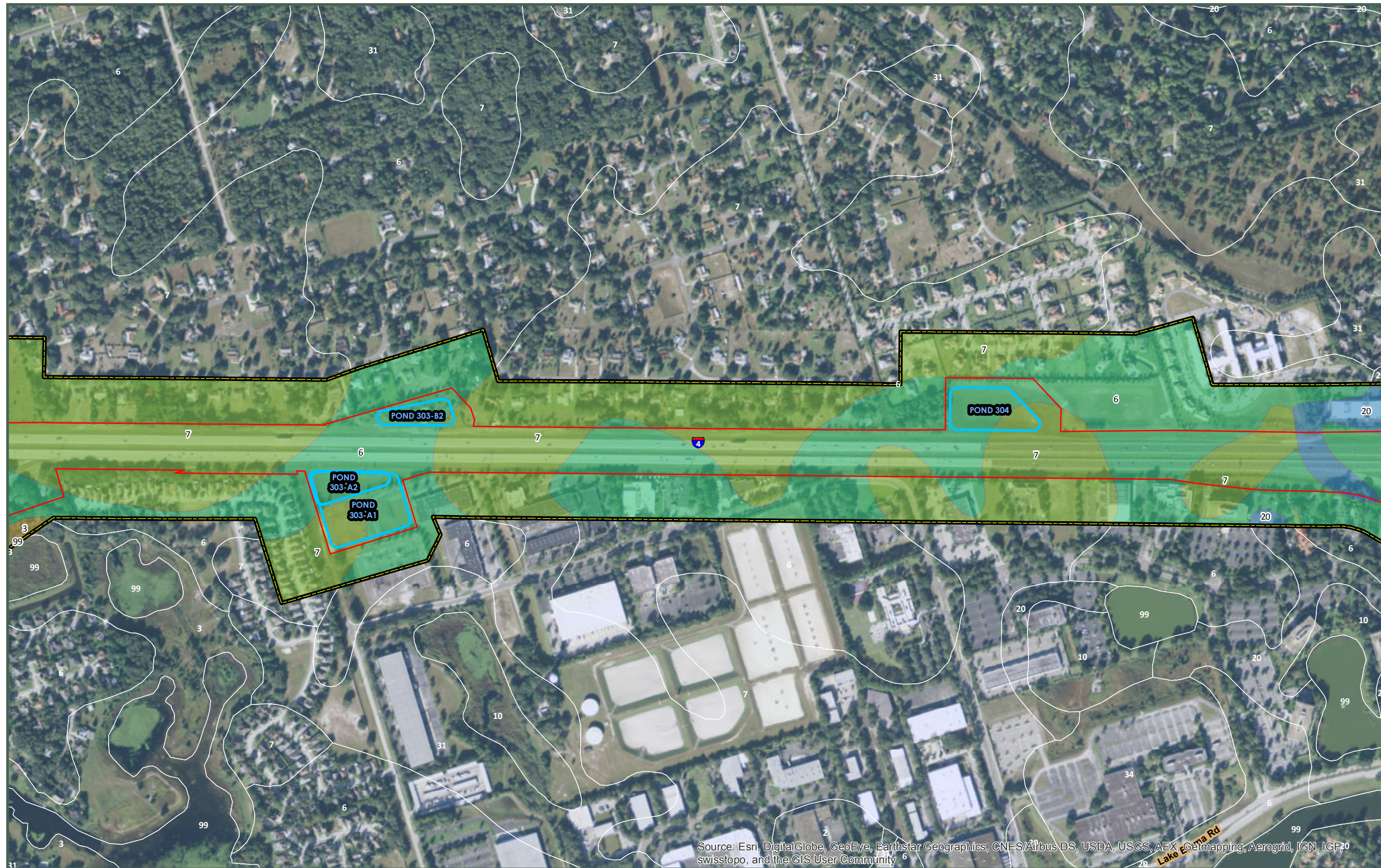
Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

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

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

Prepared by: mLeonard 12/21/2015
 Technical Review by: mDrauer 12/21/2015
 Independent Review by: JMoore 12/21/2015

Figure B - Sheet 2 of 7: NRCS Soils Map



Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 R/W (12/11/2015)
- Pond Sites (12/10/2015)

NRCS Soil Units

- 10: BASINGER
- 11: BASINGER
- 13: EAUGALLIE
- 15: FELDA
- 20: MYAKKA
- 21: NITAW
- 23: NITAW
- 25: PINEDA
- 26: UDORTHENTS
- 27: POMELLO
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- 6: ASTATULA
- 7: ASTATULA
- 8: ASTATULA
- 99: WATER
- 9: BASINGER

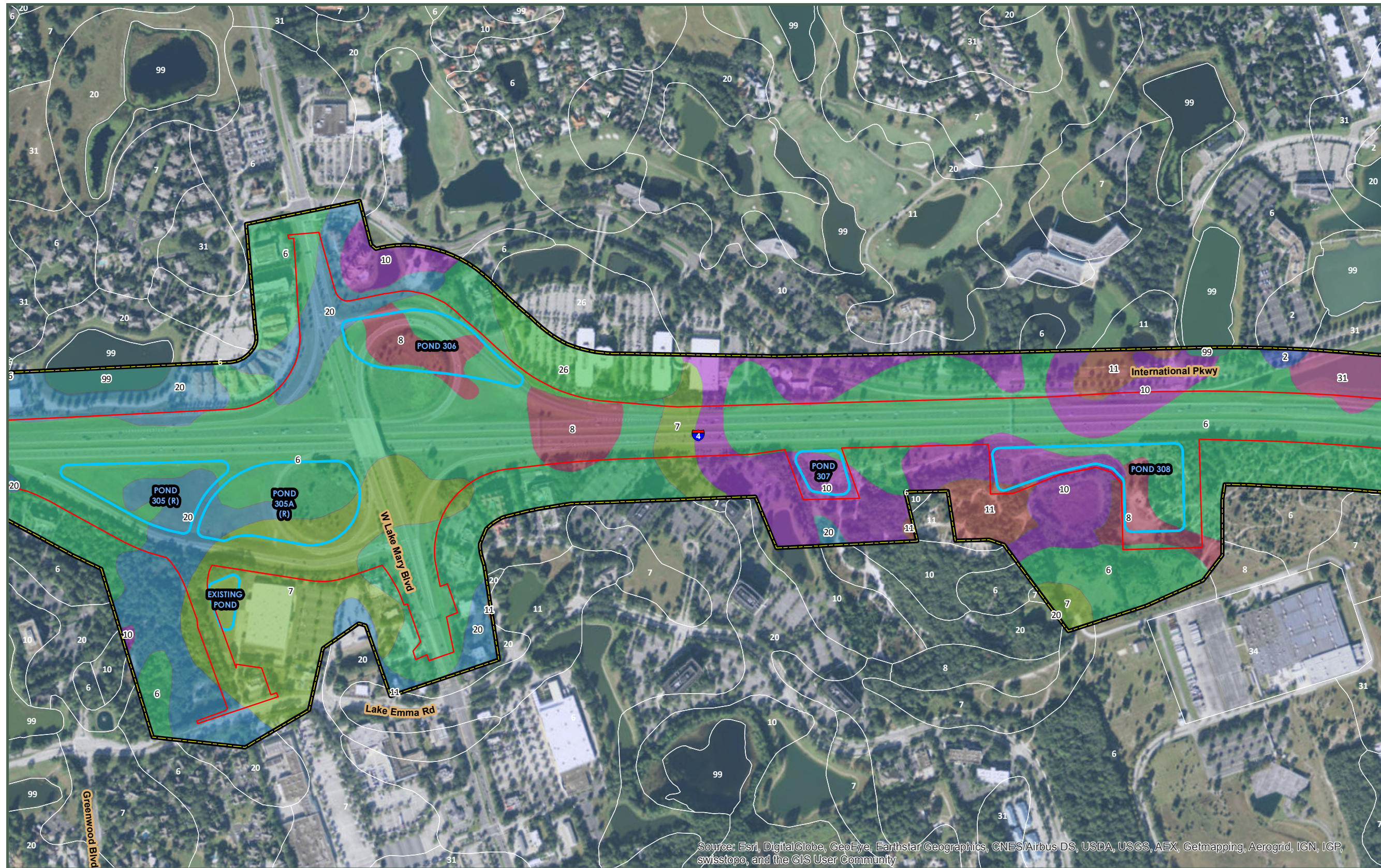
Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

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

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

Figure B - Sheet 3 of 7: NRCS Soils Map



Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 R/W (12/11/2015)
- Pond Sites (12/10/2015)

NRCS Soil Units

- 10: BASINGER
- 11: BASINGER
- 13: EAUGALLIE
- 15: FELDA
- 20: MYAKKA
- 21: NITAW
- 23: NITAW
- 25: PINEDA
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- 7: ASTATULA
- 8: ASTATULA
- 99: WATER
- 9: BASINGER

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - NRCS Soils Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

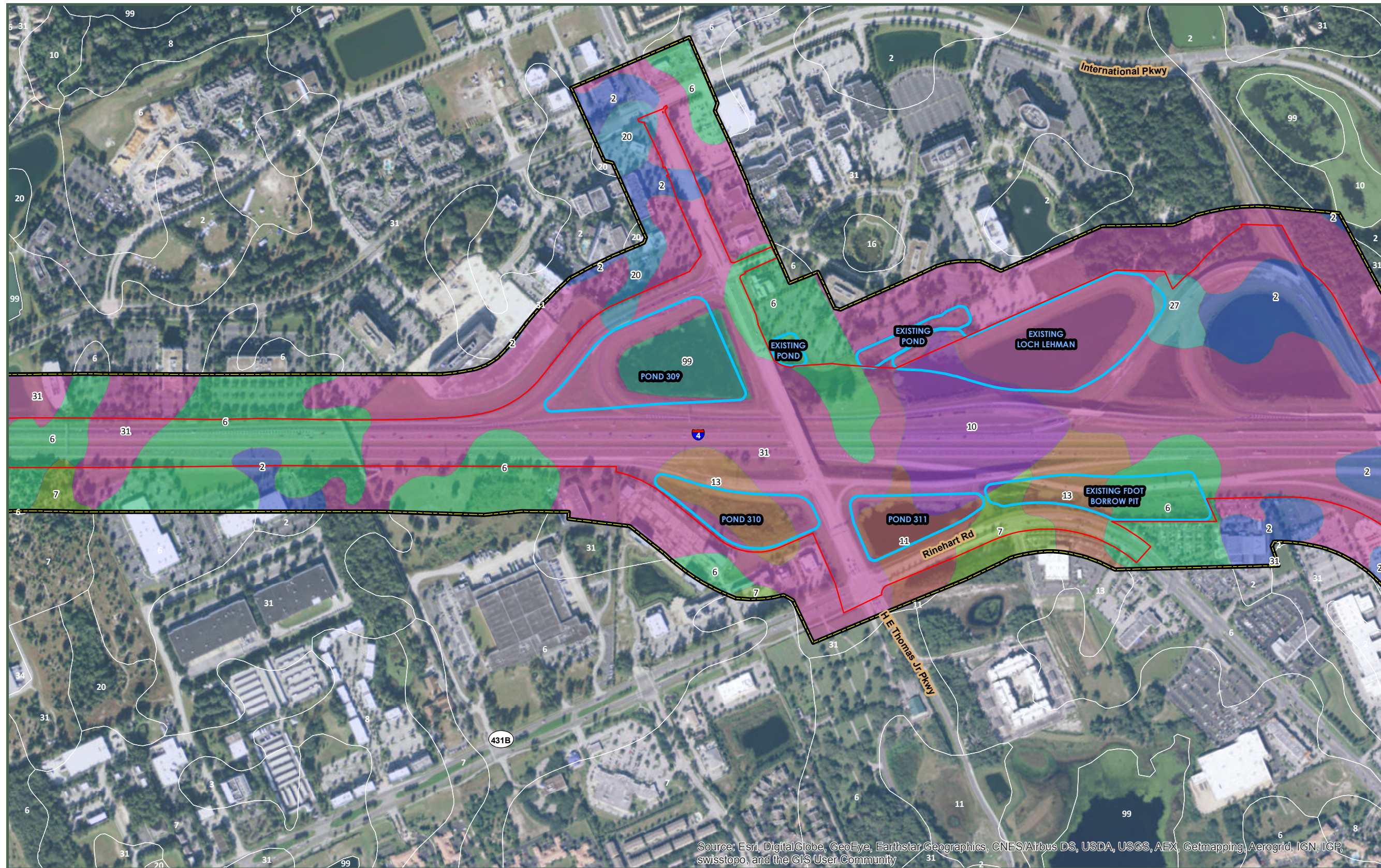
Project Location:
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 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

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

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

Prepared by: mLeonard 12/21/2015
 Technical Review by: mDrauer 12/21/2015
 Independent Review by: jMoore 12/21/2015

Figure B - Sheet 4 of 7: NRCS Soils Map



Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 R/W (12/11/2015)
- Pond Sites (12/10/2015)

NRCS Soil Units

- 10: BASINGER
- 11: BASINGER
- 13: EAUGALLIE
- 15: FELDA
- 20: MYAKKA
- 21: NITAW
- 23: NITAW
- 25: PINEDA
- 26: UDORTHENTS
- 27: POMELLO
- 29: ST. JOHNS
- 2: ADAMSVILLE
- 31: TAVARES
- 34: URBAN LAND
- 3: ARENTS
- 6: ASTATULA
- 7: ASTATULA
- 8: ASTATULA
- 99: WATER
- 9: BASINGER

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - NRCS Soils Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

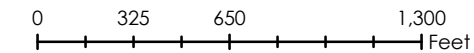
Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

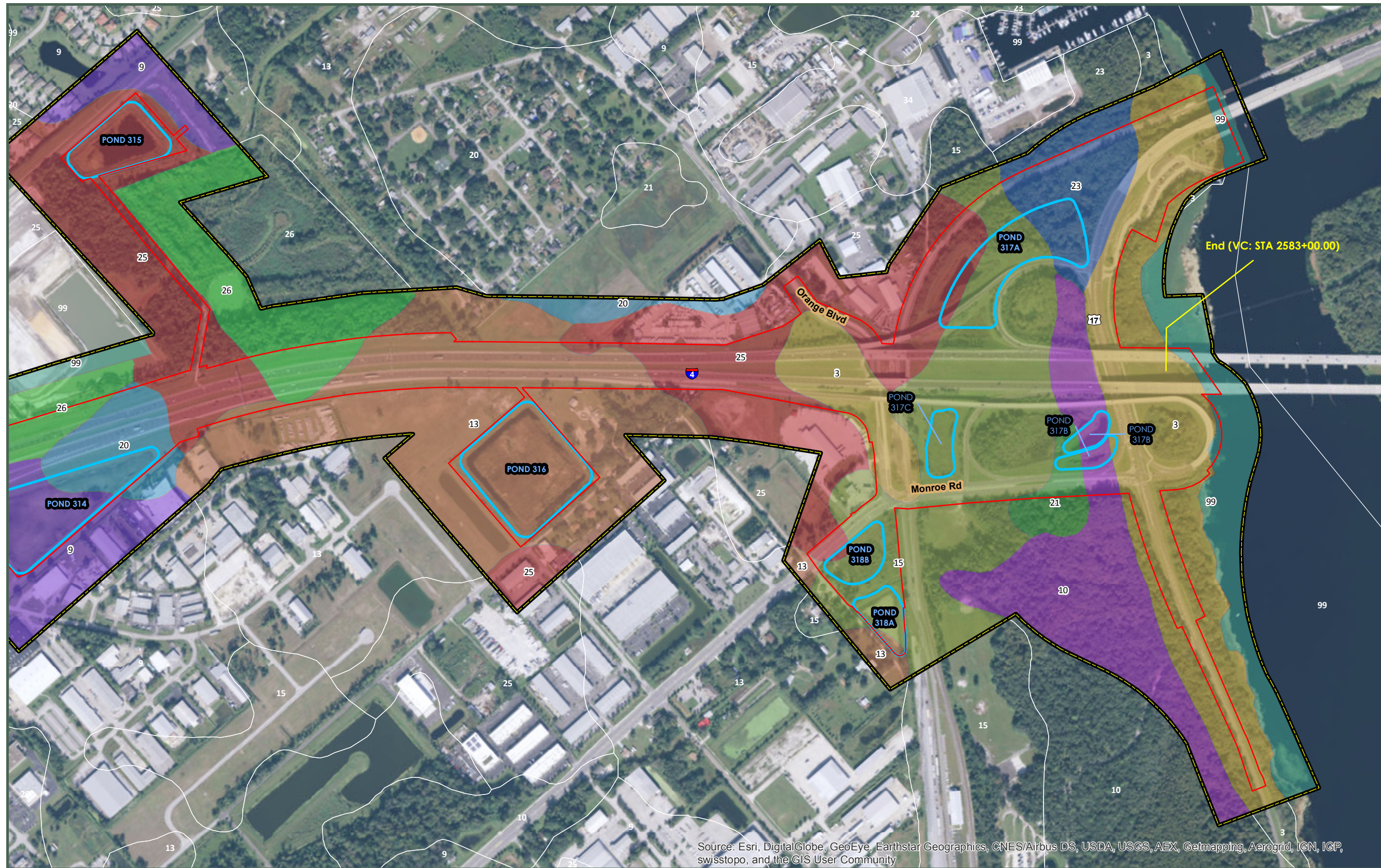
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Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

Prepared by: mLeonard 12/21/2015
 Technical Review by: mDrauer 12/21/2015
 Independent Review by: JMoore 12/21/2015

Figure B - Sheet 5 of 7: NRCS Soils Map





Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 R/W (12/11/2015)
- Pond Sites (12/10/2015)

NRCS Soil Units

- 10: BASINGER
- 11: BASINGER
- 13: EAUGALLIE
- 15: FELDA
- 20: MYAKKA
- 21: NITAW
- 23: NITAW
- 25: PINEDA
- 26: UDORTHENTS
- 27: POMELLO
- 29: ST. JOHNS
- 2: ADAMSVILLE
- 31: TAVARES
- 34: URBAN LAND
- 3: ARENTS
- 6: ASTATULA
- 7: ASTATULA
- 8: ASTATULA
- 99: WATER
- 9: BASINGER

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

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - NRCS Soils Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

Prepared by: mLeonard 12/21/2015
 Technical Review by: mDrauer 12/21/2015
 Independent Review by: JMoore 12/21/2015

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

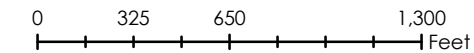


Figure B - Sheet 7 of 7: NRCS Soils Map



Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 RW (12/11/2015)
- Pond Sites (12/10/2015)

Land Use and Habitat Coverage

- 1100: Residential, LD
- 1200: Residential, MD
- 1300: Residential, HD
- 1400: Commercial and Services
- 1550: Other Light Industrial
- 1700: Institutional
- 1840: Marinas & Fish Camps
- 1850: Parks & Zoos
- 1860: Recreational
- 1900: Open land
- 2100: Cropland & Pastureland
- 3100: Herbaceous
- 3300: Mixed Rangeland
- 4110: Pine flatwoods
- 4300: Upland Hardwood Forests
- 5100: Streams & Waterways
- 5200: Lakes
- 5300: Reservoirs
- 6170: Mixed Wetland Hardwoods
- 6210: Cypress
- 6300: Wetland Forested Mixed
- 6400: Vegetated Non-Forested Wetlands
- 8120: Railroads
- 8140: Roads and Highways
- 8310: Power Facilities
- 8320: Power Transmission Lines
- 8330: Water supply plants
- 8340: Sewage treatment
- 8370: Surface water collection basins

ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - Land Use and Habitat Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

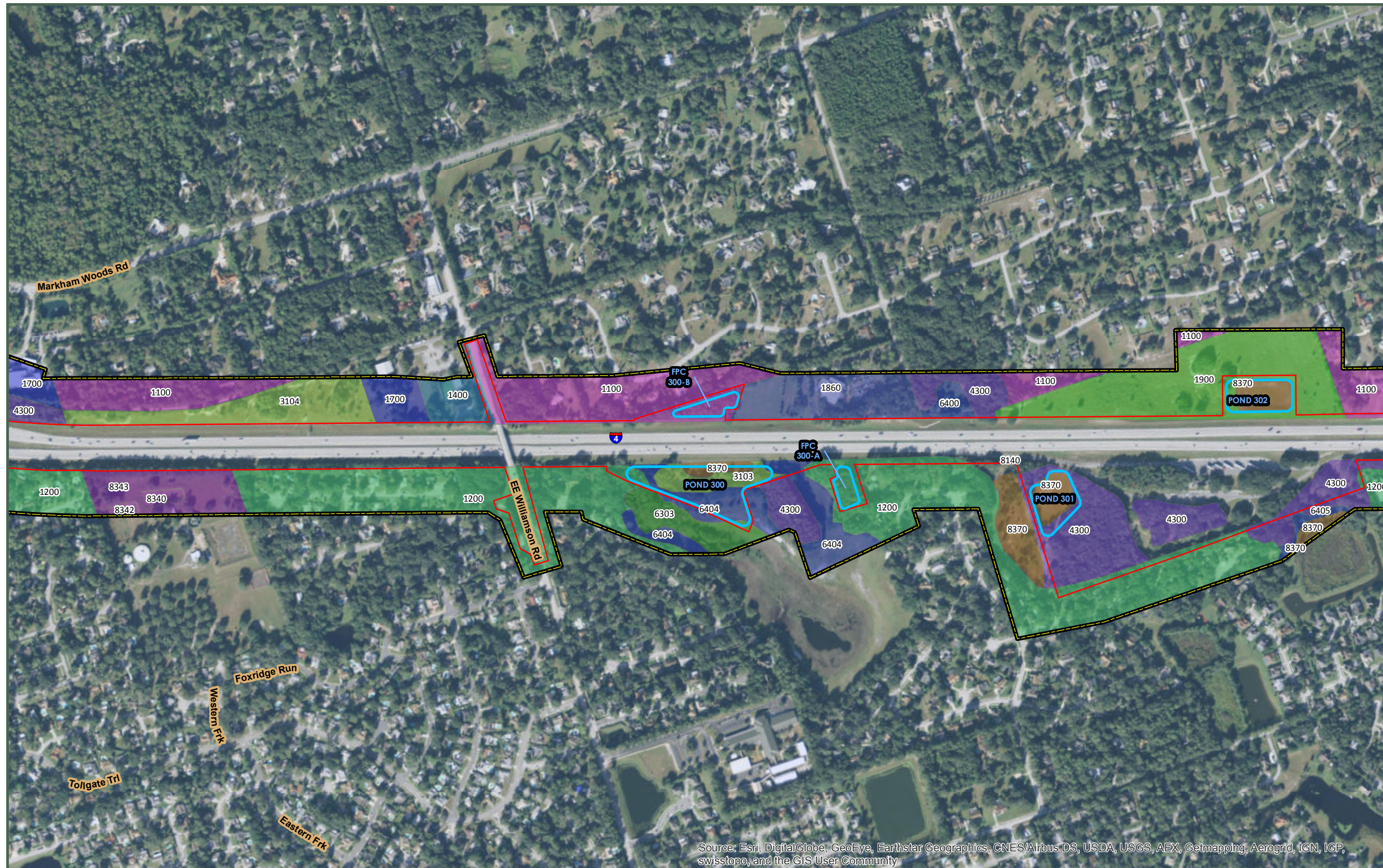
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

0 325 650 1,300 Feet

Prepared by: mLeonard 1/11/2016
 Technical Review by: mDrauer 1/11/2016
 Independent Review by: jmoore 1/11/2016

Figure C - Sheet 1 of 7: Land Use and Habitat Coverage Map



Map Key

- SR 400 Beyond the Ultimate Segment 3 Study Area
- SR 400 Segment 3 RW (12/11/2015)
- Pond Sites (12/10/2015)

Land Use and Habitat Coverage

- 1100: Residential, LD
- 1200: Residential, MD
- 1300: Residential, HD
- 1400: Commercial and Services
- 1550: Other Light Industrial
- 1700: Institutional
- 1840: Marinas & Fish Camps
- 1850: Parks & Zoos
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- 4110: Pine flatwoods
- 4300: Upland Hardwood Forests
- 5100: Streams & Waterways
- 5200: Lakes
- 5300: Reservoirs
- 6170: Mixed Wetland Hardwoods
- 6210: Cypress
- 6300: Wetland Forested Mixed
- 6400: Vegetated Non-Forested Wetlands
- 8120: Railroads
- 8140: Roads and Highways
- 8310: Power Facilities
- 8320: Power Transmission Lines
- 8330: Water supply plants
- 8340: Sewage treatment
- 8370: Surface water collection basins

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - Land Use and Habitat Map

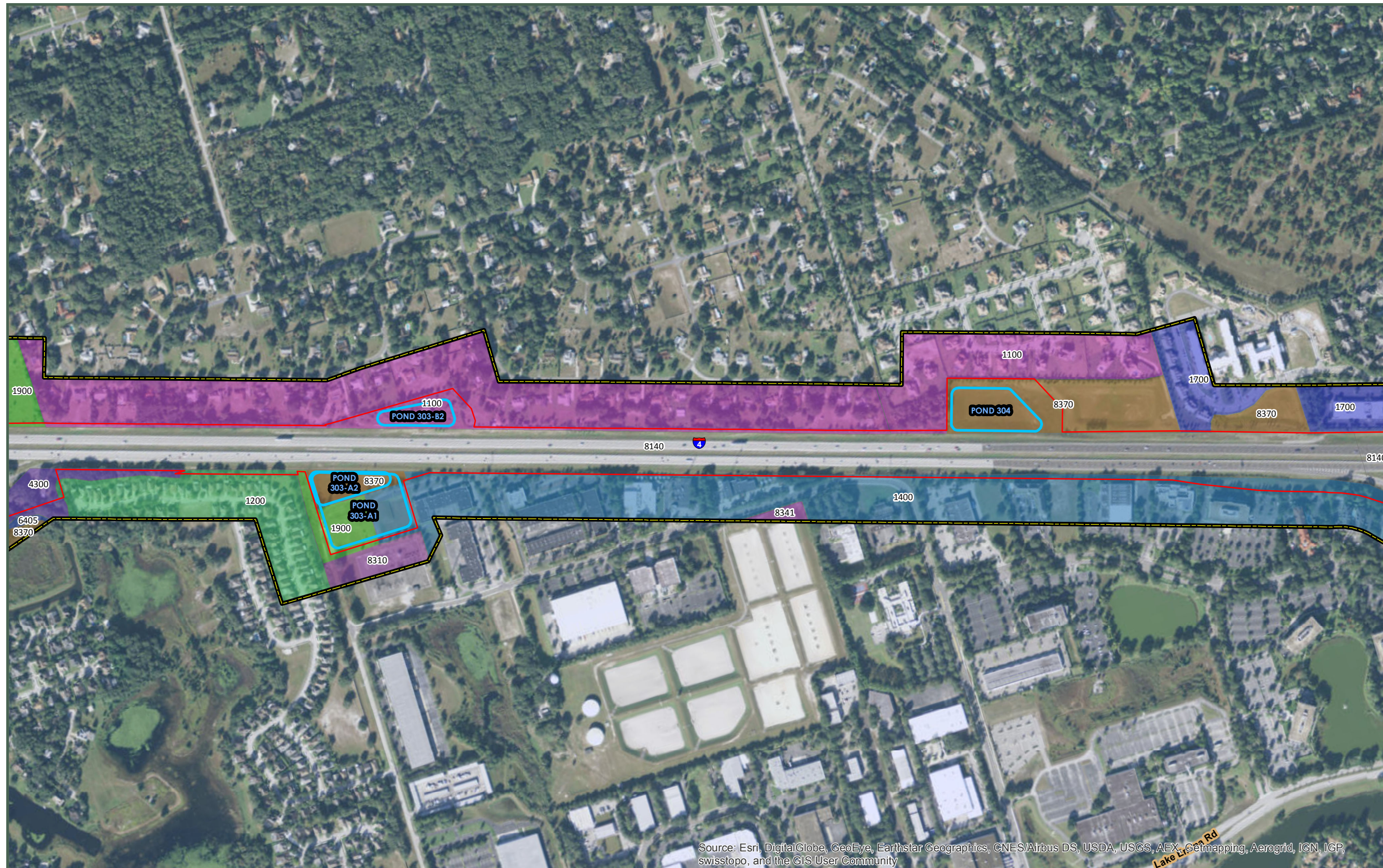
Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

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

Prepared by: mLeonard 1/11/2016
 Technical Review by: mDrauer 1/11/2016
 Independent Review by: jmoore 1/11/2016

Figure C - Sheet 2 of 7: Land Use and Habitat Coverage Map



Map Key

- SR 400 Beyond the Ultimate-Segment 3 Study Area
- SR 400 Segment 3 RW (12/11/2015)
- Pond Sites (12/10/2015)

Land Use and Habitat Coverage

- 1100: Residential, LD
- 1200: Residential, MD
- 1300: Residential, HD
- 1400: Commercial and Services
- 1550: Other Light Industrial
- 1700: Institutional
- 1840: Marinas & Fish Camps
- 1850: Parks & Zoos
- 1860: Recreational
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- 4300: Upland Hardwood Forests
- 5100: Streams & Waterways
- 5200: Lakes
- 5300: Reservoirs
- 6170: Mixed Wetland Hardwoods
- 6210: Cypress
- 6300: Wetland Forested Mixed
- 6400: Vegetated Non-Forested Wetlands
- 8120: Railroads
- 8140: Roads and Highways
- 8310: Power Facilities
- 8320: Power Transmission Lines
- 8330: Water supply plants
- 8340: Sewage treatment
- 8370: Surface water collection basins

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - Land Use and Habitat Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

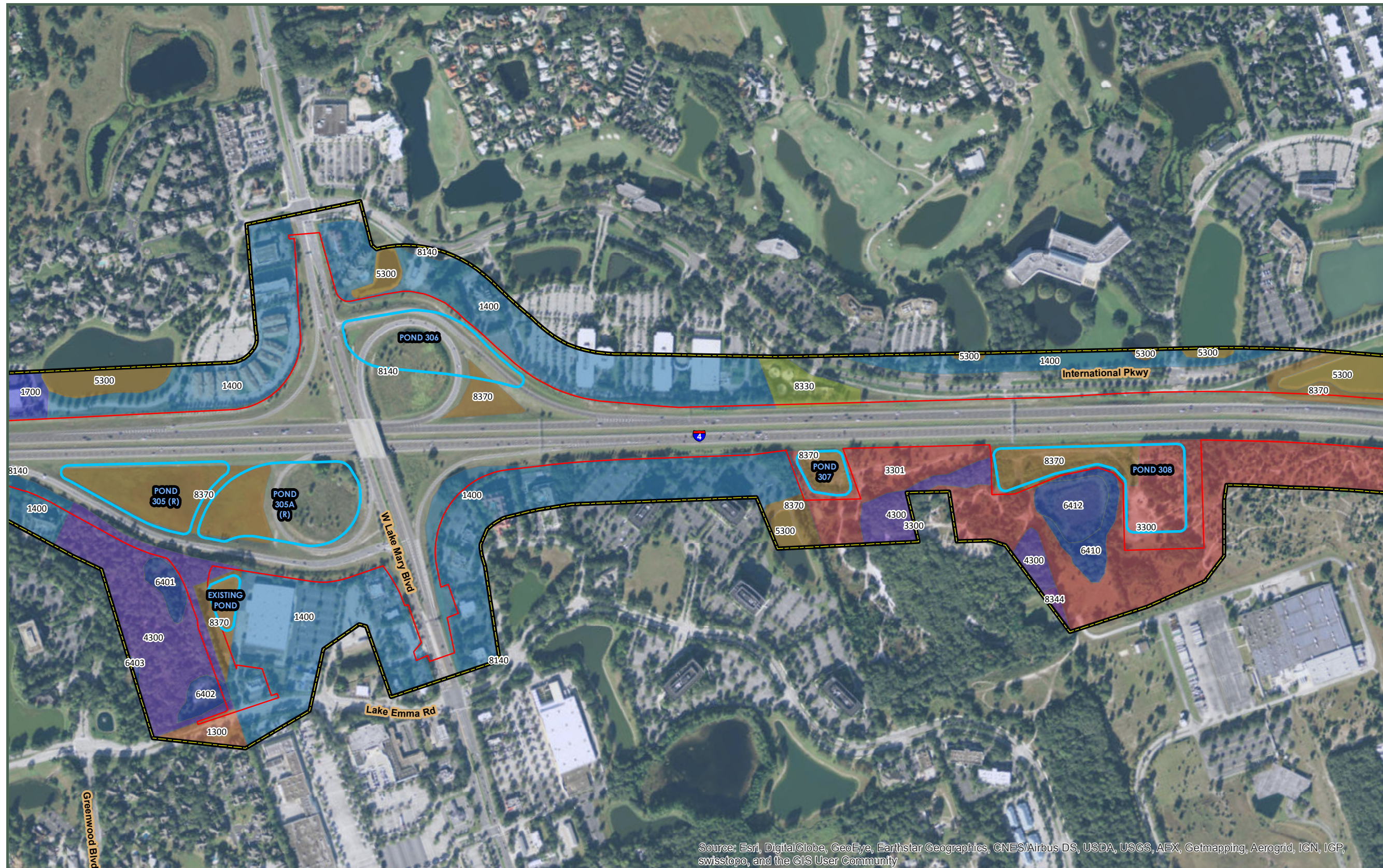
Project Location:
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 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

Prepared by: mLeonard 1/11/2016
 Technical Review by: mDrauer 1/11/2016
 Independent Review by: Moore 1/11/2016

Figure C - Sheet 3 of 7: Land Use and Habitat Coverage Map



Map Key

- SR 400 Beyond the Ultimate Segment 3 Study Area
- SR 400 Segment 3 RW (12/11/2015)
- Pond Sites (12/10/2015)

Land Use and Habitat Coverage

- 1100: Residential, LD
- 1200: Residential, MD
- 1300: Residential, HD
- 1400: Commercial and Services
- 1550: Other Light Industrial
- 1700: Institutional
- 1840: Marinas & Fish Camps
- 1850: Parks & Zoos
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- 5300: Reservoirs
- 6170: Mixed Wetland Hardwoods
- 6210: Cypress
- 6300: Wetland Forested Mixed
- 6400: Vegetated Non-Forested Wetlands
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- 8140: Roads and Highways
- 8310: Power Facilities
- 8320: Power Transmission Lines
- 8330: Water supply plants
- 8340: Sewage treatment
- 8370: Surface water collection basins

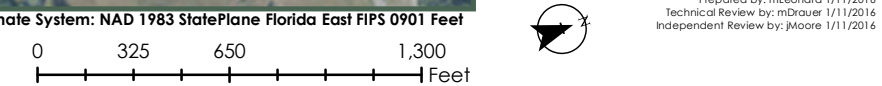
Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - Land Use and Habitat Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

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

Figure C - Sheet 4 of 7: Land Use and Habitat Coverage Map



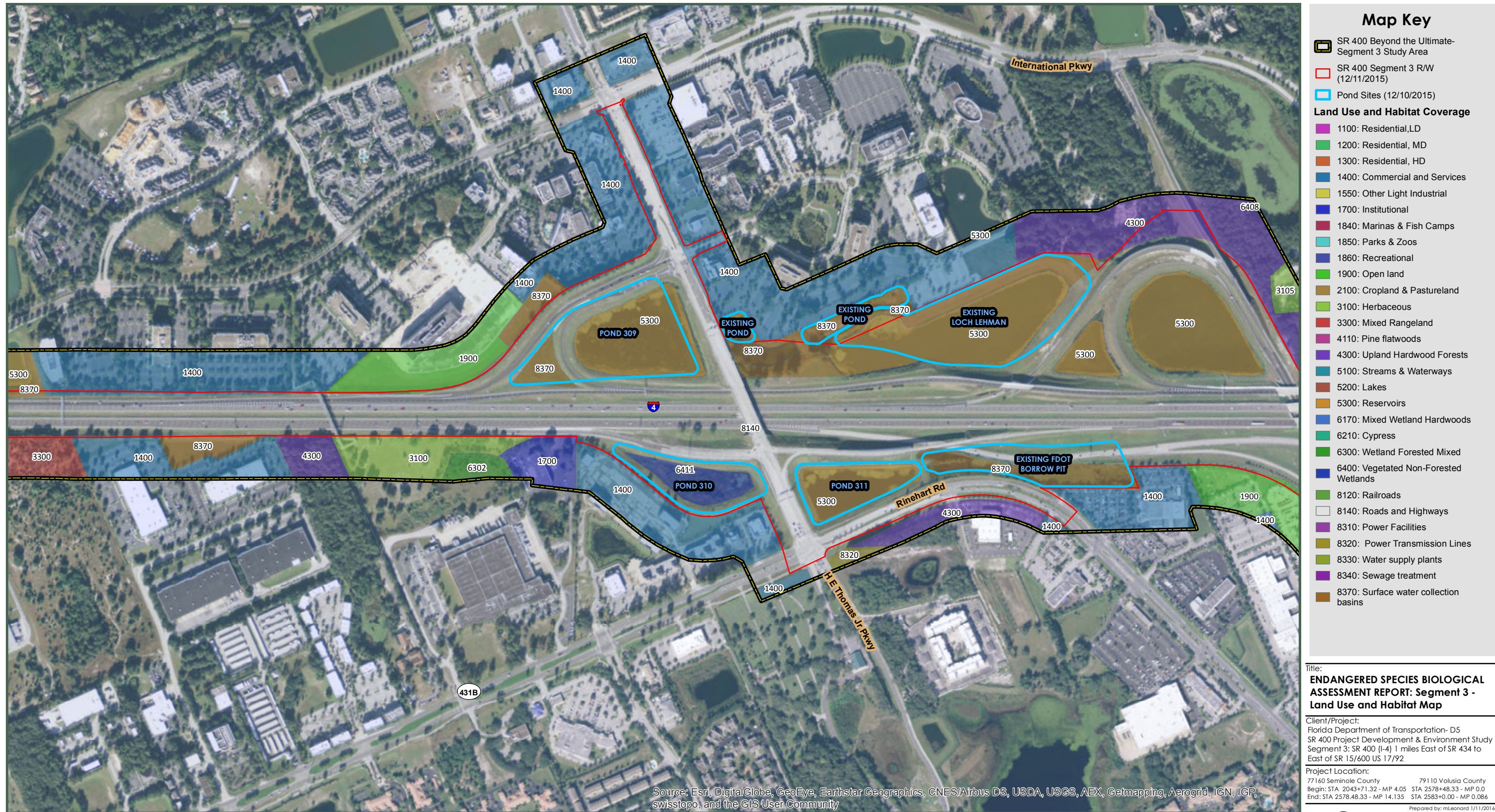
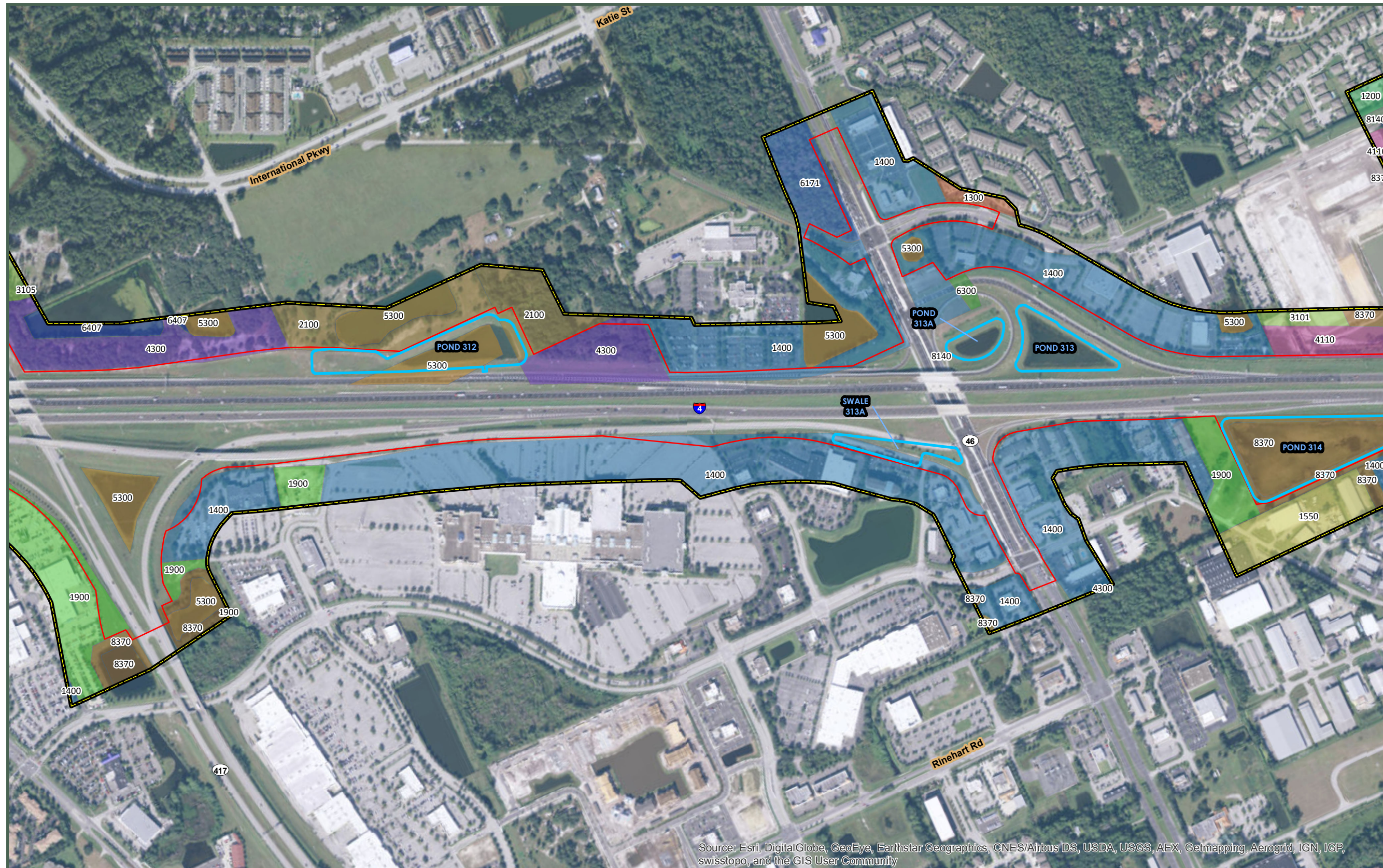


Figure C - Sheet 5 of 7: Land Use and Habitat Coverage Map

1" = 650'

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

20242301.68



Map Key

- SR 400 Beyond the Ultimate Segment 3 Study Area
- SR 400 Segment 3 RW (12/11/2015)
- Pond Sites (12/10/2015)

Land Use and Habitat Coverage

- 1100: Residential, LD
- 1200: Residential, MD
- 1300: Residential, HD
- 1400: Commercial and Services
- 1550: Other Light Industrial
- 1700: Institutional
- 1840: Marinas & Fish Camps
- 1850: Parks & Zoos
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- 6210: Cypress
- 6300: Wetland Forested Mixed
- 6400: Vegetated Non-Forested Wetlands
- 8120: Railroads
- 8140: Roads and Highways
- 8310: Power Facilities
- 8320: Power Transmission Lines
- 8330: Water supply plants
- 8340: Sewage treatment
- 8370: Surface water collection basins

Title:
ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT: Segment 3 - Land Use and Habitat Map

Client/Project:
 Florida Department of Transportation- D5
 SR 400 Project Development & Environment Study
 Segment 3: SR 400 (I-4) 1 miles East of SR 434 to East of SR 15/600 US 17/92

Project Location:
 77160 Seminole County 79110 Volusia County
 Begin: STA 2043+71.32 - MP 4.05 STA 2578+48.33 - MP 0.0
 End: STA 2578.48.33 - MP 14.135 STA 2583+0.00 - MP 0.086

Prepared by: mLeonard 1/11/2016
 Technical Review by: mDrauer 1/11/2016
 Independent Review by: Moore 1/11/2016

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

Coordinate System: NAD 1983 StatePlane Florida East FIPS 0901 Feet

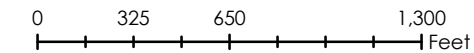


Figure C - Sheet 6 of 7: Land Use and Habitat Coverage Map

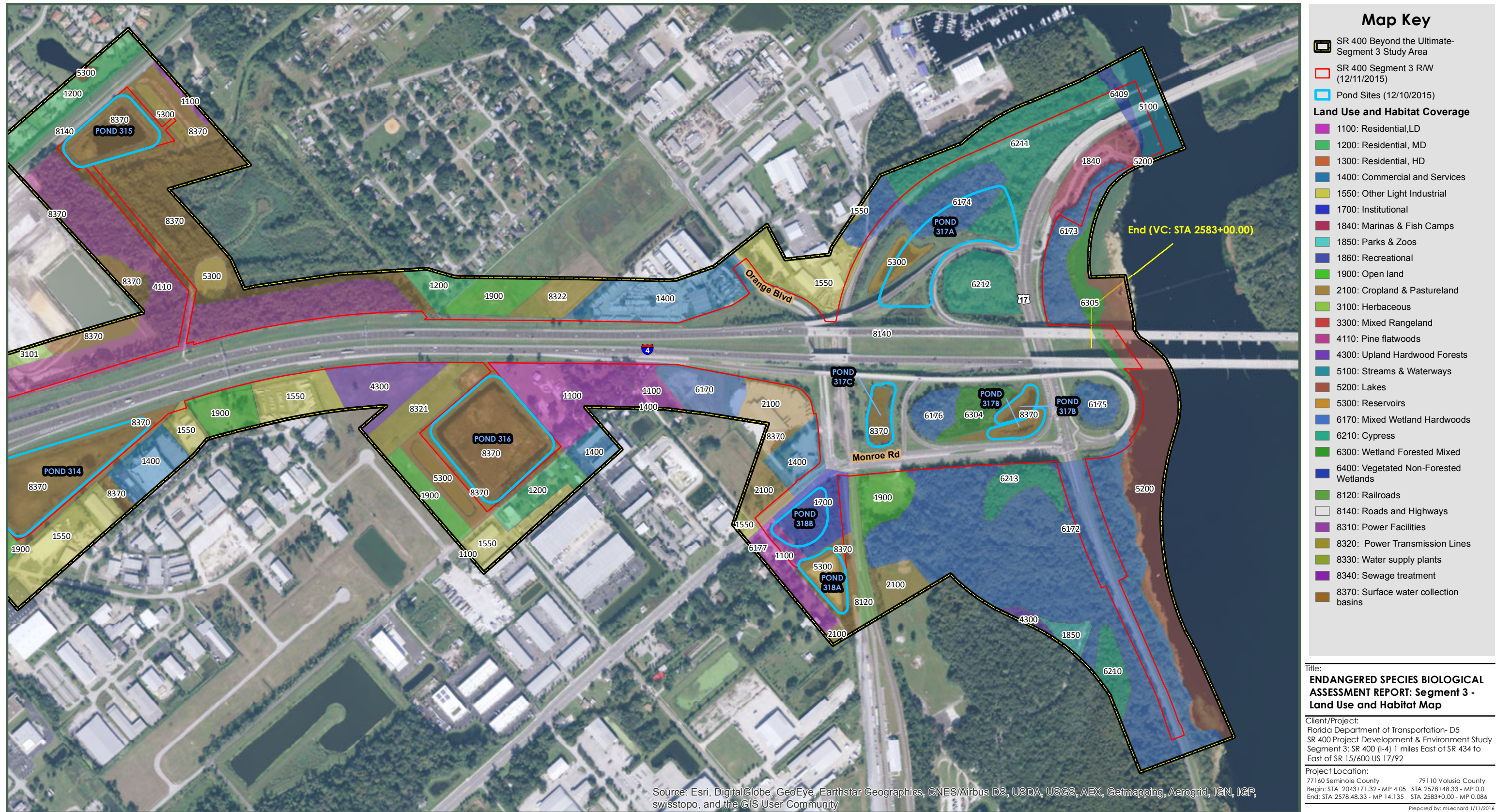


Figure C - Sheet 7 of 7: Land Use and Habitat Coverage Map

APPENDIX B
LISTED SPECIES TABLES

Table 1: Protected wildlife species with the potential to occur in Seminole County, Florida.

<u>Species Name</u>	<u>Common Name</u>	<u>FFWCC</u>	<u>USFWS</u>	<u>FNAI</u>	<u>FCREPA</u>	<u>Likelihood of Occurrence</u>	<u>Habitat</u>
<i>Ameiurus brunneus</i>	snail bullhead			S3		low	In St. Johns River February - July
<i>Alligator mississippiensis</i>	American alligator	T (S/A)	T(S/A)	S4		mod	Various aquatic habitats
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	T	T	S3	T	low	Scrub and scrubby flatwoods
<i>Aramus guarana</i>	Limpkin	SSC		S3	SSC	obs	Swamps, forested floodplains, mangrove swamps & marshes
<i>Ardea alba</i>	Great egret			S4	SSC	high	Marshes, swamps, lakes, ponds, ditches and estuaries
<i>Buteo brachyurus</i>	Short-tailed hawk			S1	R	low	Open country and forested areas; avoids dense forest
<i>Calidris canutus rufa</i>	Red knot	T	T	S2	E	low	coastal
<i>Corynorhinus rafinesquii</i>	Southeastern big-eared bat			S2		low	Floodplains, pine flatwoods, mixed oak/pine areas
<i>Crotalus adamanteus</i>	Eastern diamond back rattlesnake			S3		mod	Sandhills, flatwoods, pine forest, dry prairie, and hammocks
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T	T	S3	SSC	mod	Wide variety of habitats
<i>Egretta caerulea</i>	Little blue heron	SSC		S4	SSC	mod	Marshes, ponds, lakes, meadows, streams and mangroves
<i>Egretta thula</i>	Snowy egret	SSC		S3	SSC	mod	Marshes, lakes, ponds and shallow, coastal habitats
<i>Egretta tricolor</i>	Tricolored heron	SSC		S4	SSC	mod	Marshes, ponds and rivers
<i>Elanoides forficatus</i>	American swallow-tailed kite			S2	T	obs	Lowland forests
<i>Eudocimus albus</i>	White ibis	SSC		S4	SSC	obs	Marshes, mangroves, lakes and estuaries
<i>Falco columbarius</i>	Merlin			S2		low	herbaceous wetlands
<i>Falco peregrinus tundrius</i>	Arctic peregrine falcon			S2	E	low	Wide variety of open habitats
<i>Falco sparverius paulus</i>	Southeastern American kestrel	T		S3	T	mod	Open, or partly open habitats with scattered trees
<i>Gopherus polyphemus</i>	Gopher tortoise	T	C	S3	T	obs	Sandhills, scrub, hammocks, dry prairies, flatwoods, and ruderal
<i>Grus canadensis pratensis</i>	Florida sandhill crane	T		S2S3	T	obs	Shallow wetlands, freshwater marshes and wet prairies
<i>Haliaeetus leucocephalus leucocephalus</i>	Southern bald eagle			S3	T	mod	Coasts, rivers and large lakes in open areas
<i>Ixobrychus exilis</i>	least bittern			S4		low	marshes, brackish, mangroves
<i>Lampropeltis extenuatum</i>	Short-tailed snake	T		S3	T	low	Longleaf pine-turkey oak, sand pine scrub and xeric hammocks
<i>Lampropeltis getula</i>	common kingsnake			S3		low	wide variety of habitats
<i>Laterallus jamaicensis</i>	black rail			S3?		low	herbaceous wetlands, salt marshes
<i>Mustela frenata peninsulae</i>	Florida weasel			S3?	R	low	Scrub, sandhills, flatwoods, swamps and hammocks
<i>Mycteria americana</i>	Wood stork	T	T	S2	E	high	Marshes, swamps, streams and mangroves
<i>Neofiber alleni</i>	Round-tailed muskrat			S3	SSC	low	Shallow freshwater and salt marshes
<i>Notophthalmus perstriatus</i>	Striped newt		C	S2S3	R	low	Sinkhole ponds in sandhills, marsh & bay ponds in pine flatwood
<i>Nyctanassa violacea</i>	Yellow-crowned night-heron			S3?	SSC	mod	Marshes, swamps, lakes, lagoons, tidal mudflats, & mangroves
<i>Nycticorax nycticorax</i>	Black-crowned night-heron			S3?	SSC	mod	Marshes, swamps, ponds, lagoons, mangroves & wet prairies
<i>Pandion haliaetus</i>	osprey			S3S4		obs	nest on poles, trees, other areas along waterbodies

<i>Peucaea aestivalis</i>	Bachman's sparrow			S3		low	Open pine woods, dry prairies and old fields
<i>Picoides borealis</i>	Red-cockaded woodpecker	T	E	S2	E	low	Open, mature pine woodlands
<i>Picoides villosus</i>	Hairy woodpecker			S3?	SSC	low	Deciduous and coniferous woods
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	SSC		S3	SU	low	Sandhills, scrubby flatwoods, xeric hammocks & ruderal habitats
<i>Platalea ajaja</i>	Roseate spoonbill	SSC		S2	R	mod	Marshes, swamps, ponds, rivers and lagoons
<i>Plegadis falcinellus</i>	Glossy ibis			S2	SSC	mod	Marshes and swamps
<i>Podomys floridanus</i>	Florida mouse	SSC		S3	T	mod	Scrub, flatwood, longleaf pine-turkey oak sandhills, & hammocks
<i>Pteronotopis welaka</i>	Bluenose Shiner	SSC		S4	SSC	low	Riverine; quiet, weedy pools and holes
<i>Rana(=Lithobates) capito</i>	Gopher frog	SSC		S3	T	mod	Xeric uplands and pine flatwoods
<i>Sciurus niger shermani</i>	Sherman's fox squirrel	SSC		S3	T	low	Longleaf pine-turkey oak sandhills, mesic flatwoods, & baygalls
<i>Sternula antillarum</i>	Least tern	T		S3	T	low	Open, flat beaches, river and lake margins
<i>Trichechus manatuslatirostris</i>	Florida manatee	E	E, *CH	S2	E	low	Spring-runs, alluvial streams, and coastal estuaries
<i>Ursus americanus floridanus</i>	Florida black bear			S2	T	high	Variety of forested landscapes

Notes:

FFWCC = Florida Fish and Wildlife Conservation Commission

E= Endangered; T= Threatened; SSC= Species of Special Concern

USFWS = US Fish and Wildlife Service

E= Endangered; T= Threatened; (S/A)= Similarity of Appearance; (E/P)= Experimental Population; *CH = Critical Habitat; C = Candidate for Listing

FNAI = Florida Natural Areas Inventory

S1= Critically Imperiled Due to Extreme Rarity; S2= Imperiled Due to Rarity; S3= Very Rare and Local;

S4= Apparently Secure; SH= Historical Occurrence; ?= Tentative Ranking

FCREPA = Florida Committee on Rare and Endangered Plants and Animals

E= Endangered; T= Threatened; SSC= Species of Special Concern; R= Rare; SU= Status Undetermined

Likelihood of Occurrence

Low= Low likelihood; Mod= Moderate likelihood; High= High likelihood; Obs= Observed by Stantec;

Obs*= Observed by Others

Source: Stantec Endangered Species Database, 2014.

Table 2: Protected plant species with the potential to occur in Seminole County, Florida.

<u>Species Name</u>	<u>Common Name</u>	<u>FDA</u>	<u>USFWS</u>	<u>FNAI</u>	<u>Likelihood of Occurrence</u>	<u>Habitat</u>
<i>Calopogon multiflorus</i>	Many-flowered grass pink	T		S2S3	low	Pine flatwoods, esp. recently burned
<i>Carex chapmanii</i>	Chapman's sedge			S2	low	Well drained hammock woodlands, blackwater streams
<i>Centrosema arenicola</i>	Sand butterfly pea	E		S2	low	Sandhills and scrubby flatwoods
<i>Ctenitis submarginalis</i>	Comb fern	E			low	Wet hammocks
<i>Cucurbita okeechobeensis</i>	Okeechobee gourd	E	E	S1	obs	Hammocks
<i>Dennstaedtia bipinnata</i>	Cuplet fern	E		S1	low	Dense hammocks
<i>Encyclia tampensis</i>	Butterfly orchid	CE			low	Mangrove, cypress and hardwood swamps; hammocks
<i>Epidendrum conopseum</i>	Greenfly orchid	CE			low	Moist hammocks, cypress and hardwood swamps; epiphytic
<i>Garberia heterophylla</i>	Garberia	T			low	Sand pine and oak scrub
<i>Harrisella filiformis</i>	Orchid	T			low	Cypress and hardwood swamps, old citrus groves; epiphytic
<i>Illicium parviflorum</i>	Yellow star anise	E		S2	low	Wet woods and swamps
<i>Lechea cernua</i>	Nodding pinweed	T		S3	low	Scrub
<i>Lechea divaricata</i>	Spreading pinweed; pine pinweed	E		S2	low	Pinelands
<i>Lilium catesbaei</i>	Catesby's lily	T		S3	low	Moist pine flatwoods and savannahs
<i>Lobelia cardinalis</i>	Cardinal flower	T			low	Streams, riverbanks and spring runs
<i>Lycopodiella cernua</i>	Nodding clubmoss	CE			low	Wet pinelands
<i>Nemastylis floridana</i>	Fall-flowering ixia; celestial lily	E		S2	low	Swamps, marshes and wet pine flatwoods
<i>Nolina atopoarpa</i>	Florida beargrass	E		S2	low	Wet pine flatwoods
<i>Ophioglossum palmatum</i>	Hand adder's tongue fern	E		S2	low	Hammocks; epiphytic on Sabal palmetto
<i>Osmunda cinnamomea</i>	Cinnamon fern	CE			obs	Wet woods and swamps
<i>Osmunda regalis</i>	Royal fern	CE			obs	Wet woods and swamps
<i>Pecluma (=Polypodium) plumula</i>	Polypody fern	E		S2	low	Hammocks; epiphytic
<i>Pecluma (=Polypodium) ptiliodon</i>	swamp plume fern	E		S2	low	Hammocks
<i>Pinguicula caerulea</i>	Blue butterwort	T			low	Wet, acid pinelands
<i>Platanthera blephariglottis</i>	Large white fringed orchid	T			low	Marshes, and wet, open, grassy areas
<i>Platanthera cristata</i>	Golden fringed orchid	T			low	Marshes and wet, pine flatwoods
<i>Platanthera flava</i>	Southern tuberclad orchid	T			low	Cypress and hardwood swamps
<i>Platanthera nivea</i>	Snowy orchid; bog torch	T			low	Wet pine flatwoods
<i>Pogonia ophioglossoides</i>	Rose pogonia	T			low	Marshes and wet, pine flatwoods
<i>Pteroglossaspis ecristata</i>	Wild coco; giant orchid	T		S2	low	Sand pine scrub and sandhills
<i>Pycnanthemum floridanum</i>	Florida mountain mint	T		S3	low	Wet pine flatwoods, wet prairies
<i>Rhapidophyllum hystrix</i>	Needle palm	CE			low	Wet to mesic woods and hammocks

<i>Rhododendron canescens</i>	Pink azalea	CE		low	Streambanks and swamp margins
<i>Salix floridana</i>	Florida willow	E	S2	low	Wet woods and stream banks
<i>Sarracenia minor</i>	Hooded pitcherplant	T		low	Wet, open, acid pinelands and bogs
<i>Scaevola plumieri</i>	Inkberry	T		low	Coastal strands
<i>Spiranthes laciniata</i>	Lace-lip ladies' tresses	T		low	Marshes and cypress swamps
<i>Spiranthes longilabris</i>	Long-lip ladies' tresses	T		low	Marshes and wet pine flatwoods
<i>Spiranthes tuberosa</i>	Little ladies' tresses	T		low	Pine flatwoods
<i>Tillandsia utriculata</i>	Giant wild pine	E		mod	Hammocks and cypress swamps; epiphytic
<i>Zamia pumila</i>	Florida coontie	CE		low	Hammocks, pinelands and Indian middens
<i>Zephyranthes atamasca</i>	Rain lily	T		low	Wet pine flatwoods and meadows
<i>Zephyranthes simpsonii</i>	Simpson's zephyr lily	T	S2S3	low	Wet pine flatwoods and meadows

Notes:

FDA = Florida Department of Agriculture

E= Endangered; T= Threatened; CE= Commercially Exploited

USFWS = US Fish and Wildlife Service

E= Endangered; T= Threatened

FNAI = Florida Natural Areas Inventory

S1= Critically Imperiled Due to Extreme Rarity; S2= Imperiled Due to Rarity; S3= Very Rare and Local;
S4= Apparently Secure; SH= Historical Occurrence; ?= Tentative Ranking

Likelihood of Occurrence

Low= Low likelihood; Mod= Moderate likelihood; High= High likelihood; Obs= Observed by Stantec;
Obs*= Observed by Others

Source: Stantec Endangered Species Database, 2013.

APPENDIX C
PHOTOS

I-4 PD&E Segment 3 Pond Site Photographs



Pond Site HH



Pond Site II



Pond Site 300



Pond Site FPC 300-A



Pond Site FPC 300-B



Pond Site 301



Pond Site 302



Pond Sites 303-A1 and 303-A2



Pond Site 303-B2



Pond Site 304



Pond Site 305



Pond Site 306



Pond Site 307



Pond Site 308



Pond Site 308



Pond Site 309



Pond Site 309



Pond Site 310



Pond Site 311



Pond Site 313



Pond Site 313A



Swale 313A



Pond Site 314



Pond Site 315



Pond Site 316



Pond Site 317A



Pond Site 317B



Pond Site 317B



Pond Site 317C



Pond Site 318A



Pond Site 318B

APPENDIX D
AGENCY COORDINATION



United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log No. 04EF1000-2016-I-0204

February 28, 2016

William G. Walsh
Environmental Manager
Florida Department of Transportation, District 5
719 S. Woodland Blvd.
Deland, FL 32720

RE: SR 400 (I-4) Beyond the Ultimate Project Development and Environment Study -
Segments 2, 3, and 4
Orange, Seminole and Volusia Counties, Florida
Financial Management No. 432100-1-22-01

Dear Mr. Walsh:

The U.S. Fish and Wildlife Service (Service) has completed its review of the update for the Project Development and Environment (PD&E) Studies for the extension of proposed express lanes for SR 400 (I-4). The current I-4 Beyond the Ultimate (BtU) PD&E Study update includes a total of 41 miles of roadway sections, both east and west of the 21 -mile, I-4 Ultimate project that extends from west of SR 435 to east of SR 434. Segment 2 extends from West of SR 528 (Beachline Expressway) to West of SR 435 (Kirkman Road) in Orange County. Segment 3 extends from 1 Mile East of SR 434 to East of SR 15/600 (US 17 /92) in Seminole County. Segment 4 extends from East of SR 15/600 (US 17/92) in the Seminole/Volusia County Line to ½ Mile East of SR 472 in Volusia County. Endangered Species Biological Assessments (ESBA) was prepared for each of the individual BtU segments and based on the results of the determinations both informal consultation and formal consultation will be needed. The Service provides the following comments, in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), for the informal portion of the consultation. A separate request for formal consultation for the Florida scrub-jay has been received for segment 4 and will be addressed separately.

Sand Skink (*Neoseps reynoldsi*)

FDOT conducted cover board surveys between April 10 and May 6, 2014 in segment 2 to determine the presence of sand skinks. A report was submitted to the Service where the area and results were described. There weren't any skinks or tracks observed during the surveys. The Service has reviewed the information provided, as well as available observations and species

presence data and **concurs with a ‘may affect, but not likely to adversely affect’ determination for this species.**

Eastern indigo snake (*Drymarchon couperi*)

Gopher tortoise burrows were found in all three segments of the proposed project area. Eastern indigo snakes were not observed but habitat for the species exists along the corridor. FDOT is committed to implementing the Standard Protection Measures for the Eastern Indigo Snake and will have all permits conditioned so that all burrows are excavated prior to site manipulation. Segment 2 and segment 3 will impact less than 25 acres of xeric habitat and doesn't have more than 25 active or inactive gopher tortoise burrows. Segment 4 will potentially impact more than 25 acres of xeric habitat and may contain more than 25 active or inactive gopher tortoise burrows, however there weren't any eastern indigo snakes observed during any of the field reviews. The closest documented sighting is approximately four miles to the northwest. FDOT will excavate all burrows prior to construction. The Service has reviewed the available information and **concurs with a ‘may affect, but not likely to adversely affect’ determination for this species.** The Service requests that in the event that an eastern indigo snake is observed in the project area that work is halted immediately and the Service is contacted.

Wood Stork (*Mycteria americana*)

Segment 2 is located within the Core Foraging Areas (CFA) of two wood stork colonies (Lawne Lake, Gatorland); Segment 3 is located within the CFA of two wood stork colonies (Lawne Lake, Hontoon Island); and Segment 4 is located within the Hontoon Island CFA. The project is not within 2,500 feet of an active colony site, will likely impact Suitable Foraging Habitat (SFH) of greater than 0.5 acres, and is located within the CFA of three wood stork colonies (Lawne Lake, Gatorland, and Hontoon Island). FDOT commits to provide SFH compensation within the Service Area of a Service-approved wetland mitigation bank(s) within the CFA and will coordinate with the permitting agencies during the permitting phase of the project on compensatory mitigation and minimization of impacts to suitable foraging habitat. Details of the mitigation bank commitment will be included in the ESBA and EIS Update. The Service has reviewed the available information and FDOT's commitments for minimizing and mitigating impacts to the wood stork and **concurs with a ‘may affect, but not likely to adversely affect’ determination for this species.**

Florida Manatee (*Trichechus manatus latirostris*)

The Florida manatee has Critical habitat designated along the St. Johns River and within the western and northern shores of Lake Monroe (Segment 4). Impacts proposed along the roadway at Lake Monroe (Segment 4) are not expected to impact the lake directly but rather the adjacent wetlands which are largely inaccessible to the Florida manatee. After following the *Effect Determination Key for the Manatee in Florida* (April 2013), FDOT determined that this project may affect, but is not likely to adversely affect the Florida manatee. However, FDOT commits to placing grates on any culvert added to I-4 in this area and to following the *Standard Manatee Conditions for In-Water Work*. The Service has reviewed the available information and **concurs with a ‘may affect, but not likely to adversely affect’ determination for this species.**

Federally listed plant species

Federally listed plants were not observed in any of the three segments, Segments 2, 3 and 4, during any of the field reviews. In addition, habitat for the Rugel's pawpaw (*Deeringothamnus rugelii*) and the pigeon wings (*Clitoria fragrans*) was not identified in Segment 3. The scrub lupine (*Lupinus aridorum*) was observed in May of 2000 west of Turkey Lake Road but follow up surveys did not identify the plant in the proposed right-of-way impact zone. FDOT concludes that the proposed project will not have any direct or indirect impacts to federally listed plant species and has determined that the proposed project may affect, but will likely to adversely affect any of the federally listed plant species described in the ESBA. The Service has reviewed the available information and **concurs with a 'may affect, but not likely to adversely affect' determination for these species.**

Thank you for considering the effects of your proposed project on fish and wildlife, and the ecosystems upon which they depend. Although this does not represent a biological opinion as described in Section 7 of the Act, it does fulfill the requirements of the Act. Should changes to the proposed project occur or new information regarding fish and wildlife resources become available, further consultation with the Service should be initiated to assess any or further potential impacts. If you have any questions, please contact Lourdes Mena at (904)731-3119.

Sincerely,



Jay B. Herrington
Field Supervisor

cc: Cathy Kendall, FHWA
Casey Lyon, FDOT District 5



Florida Department of Transportation

RICK SCOTT
GOVERNOR

719 S. Woodland Blvd.
DeLand, FL 32720

JIM BOXOLD
SECRETARY

January 20, 2016

Dr. Heath Rauschenberger, Deputy Field Supervisor
U.S. Fish and Wildlife Service
North Florida Ecological Services Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517

Attention: Ms. Lourdes Mena, Fish and Wildlife Biologist

RE: **Request for Section 7 Informal Consultation**
SR 400 (I-4) Beyond the Ultimate Project Development and Environment Study -
Segments 2, 3, and 4 (Orange, Seminole and Volusia Counties)
Financial Management No. 432100-1-22-01

Dear Dr. Rauschenberger,

The FDOT is conducting an update of the Project Development and Environment (PD&E) Studies for the extension of proposed express lanes for SR 400 (I-4). The project limits in the original I-4 PD&E Studies, along with the corresponding environmental documents associated with these PD&E Studies, were:

- West of Memorial Boulevard (SR 546) to the Polk/Osceola County Line, (29.5 miles) – *Environmental Assessment/Finding of No Significant Impact (EA/FONSI) [FPN 201210, (1998)]*
- CR 532 (Polk/Osceola County Line) to West of SR 528 (Beachline Expressway) (13.7 miles) – *EA/FONSI [FPN 242526 and 242483, (1999)]*
- West of SR 528 (Beachline Expressway) to SR 472 (43 miles) - *Final Environmental Impact Statement (FEIS) [FPN 242486, 242592 and 242703, (2002)]*.

The I-4 Ultimate project consists of reconstruction to include new express lanes for the 21-mile section of I-4 that extends from west of SR 435 (Kirkman Road) to east of SR 434. It was approved under FPNs 242486, 242592 and 242703 (FEIS 09/03/2002, ROD 12/08/2005), and is currently under construction.

The current I-4 Beyond the Ultimate (BtU) PD&E Study update includes a total of approximately 41 miles of roadway sections, located both east and west of the 21-mile, I-4 Ultimate project. It has been divided into the following five segments (**see attached figure**):

- Segment 1: SR 400 (I-4) from West of CR 532 (Polk/Osceola County Line) to West of SR 528 (Beachline Expressway) - Osceola County and Orange County
- **Segment 2: SR 400 (I-4) from West of SR 528 (Beachline Expressway) to West of SR 435 (Kirkman Road) - Orange County**
- **Segment 3: SR 400 (I-4) from 1 Mile East of SR 434 to East of SR 15/600 (US 17/92) (Seminole/Volusia County Line) - Seminole County**
- **Segment 4: SR 400 (I-4) from East of SR 15/600 (US 17/92) (Seminole/Volusia County Line) to ½ Mile East of SR 472 - Volusia County**
- Segment 5: SR 400 (I-4) from West of SR 25/US 27 to West of CR 532 (Polk/Osceola County Line) - Polk County

As part of the PD&E Study update, Endangered Species Biological Assessments (ESBA) were prepared for each of the individual BtU segments. Because Segments 2, 3, and 4 are all part of the I-4 FEIS from West of SR 528 (Beachline Expressway) to SR 472, the results of these ESBA reports are being combined for FHWA's purposes of assessing the potential impacts from the FEIS project as a whole. (Note that ESBA's for Segments 1 and 5 will be submitted under separate cover.) Based upon the results of the individual species effects determinations described below, both informal and formal consultation with the U.S. Fish and Wildlife Service (USFWS) for potential impacts will be required.

*On December 17, 2015 a coordination meeting occurred with the USFWS, Federal Highway Administration (FHWA), FDOT District Five and project consultants to review the I-4 BtU segments and discuss the potential for project effects to the species described below. The ESBA's for **Segments 2, 3 and 4** along with an initial request for informal consultation letter were provided to USFWS. As a result of this meeting, it was agreed that this letter would be revised based on input provided by USFWS (Lourdes Mena) and FHWA (Cathy Kendall) and resubmitted by FDOT to USFWS for informal consultation. It was also determined that a subsequent submittal for formal consultation from FHWA to USFWS would occur for the Florida scrub-jay (Segment 4).*

The following is a description of the species that have the potential to be affected by one or more of the BtU **Segments 2, 3, and 4**, as well as the proposed Section 7 effects determinations discussed during the coordination meeting:

Reptiles

Sand Skink (*Neoseps reynoldsi*) – The sand skink is listed as Threatened by both the USFWS and Florida Fish and Wildlife Conservation Commission (FFWCC). The three most important factors in determining the presence of skinks are location, elevation, and suitable soils. Sand skinks occur on sandy ridges of interior Central Florida, including Orange County, typically at

elevations of 82 feet above sea level and higher. They occur in excessively drained, well-drained, and moderately well-drained sandy soils, with suitable soil types. These soil types typically support scrub, sandhill, or xeric hammock natural communities, though these may be degraded by impacts to overgrown scrub, pine plantation, citrus grove, old field, or pasture. Skinks have been documented to occur in all these degraded conditions where soil types are suitable, regardless of vegetative cover. This makes habitat condition of secondary importance in determining if skinks are present. If a site has suitable soils at the appropriate elevation within the counties where skinks are known to occur, there is a likelihood of presence, and potential effects to skinks should be considered.

Because Segment 2 occurs within the USFWS Consultation Area for sand skink, both a pedestrian survey and full cover board survey were conducted between April 10 and May 6, 2014. No skinks or signs of skinks were observed within any of the survey areas. A memorandum documenting the survey results was submitted to the USFWS to determine if project impacts to the sand skink would occur. The USFWS advised (email from Jane Monaghan dated October 22, 2014) that due to the fact that no direct or indirect observations of sand skinks were made during the survey, a finding of **may affect, not likely to adversely affect** for the sand skink would be appropriate.

December 17, 2015 coordination meeting: FDOT confirmed with USFWS that no additional sand skink survey would be required for Segment 2, thus no commitment to resurvey will be included in the ESBA or EIS Update.

Eastern Indigo Snake (*Drymarchon corais couperi*) – The eastern indigo snake, listed by both the FFWCC and the USFWS as Threatened, is a habitat generalist, using a variety of habitats from mangrove swamps to xeric uplands. These snakes are cold-sensitive and require gopher tortoise burrows, other animal holes, or stumps for protection during winter months. They require large tracts of natural, undisturbed habitat, and prefer to forage in and around wetlands for their preferred prey – other snakes.

Numerous gopher tortoise burrows were located throughout the general project area (**all three segments**), and the potential for indigo snakes is moderate, though no indigo snakes were observed during field studies. During the construction phase of the project, FDOT will implement the USFWS Standard Protection Measures for the Eastern Indigo Snake, which contain specific provisions requiring the construction contractor to develop and implement an education plan concerning avoidance of eastern indigo snakes, as well as conduct post-construction reporting.

An effects determination was made by utilizing the USFWS Programmatic Key for the Eastern Indigo Snake (January 2010, updated August 2013). In accordance with this key, all three

segments will implement the Standard Protection Measures for the Eastern Indigo Snake (USFWS, 2013) and will have all permits conditioned such that all active and inactive gopher tortoise burrows will be excavated prior to site manipulation in the vicinity of the burrow.

Segment 2 will not impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods), nor does it contain more than 25 active or inactive gopher tortoise burrows, yielding a **may affect, not likely to adversely affect** determination for this segment individually. Segment 3 will not impact more than 25 acres of xeric habitat, but does have more than 25 active and inactive gopher tortoise burrows. Segment 3 is located in a highly urbanized area with little contiguous habitat that would support the eastern indigo snake, and the closest documented sighting is located approximately six miles to the northwest. In previous coordination with the USFWS (email from Jane Monaghan dated December 11, 2013), they advised that they would support a finding of **may affect, not likely to adversely affect** for this segment. Segment 4 may impact more than 25 acres of xeric habitat and may contain more than 25 active or inactive gopher tortoise burrows. Although this segment does receive a **may effect** determination using the key, there have been no eastern indigo snakes observed during any of the field reviews, the closest documented sighting is approximately four miles to the northwest, and all active and inactive gopher tortoise burrows will be excavated prior to construction. For these reasons, Segment 4 may qualify for a **may affect, not likely to adversely affect** determination.

When all the segments are combined (though they may be constructed at separate times), the project may impact more than 25 acres of xeric habitat and contains more than 25 active and inactive gopher tortoise burrows. However, since the segments individually may qualify for **may affect, not likely to adversely affect** determinations, a **may affect, not likely to adversely affect** determination may be appropriate for the project as a whole.

December 17, 2015 coordination meeting: USFWS indicated that FDOT's proposed mitigation for impacts to Florida scrub-jay (e.g., TNC contribution), as well as utilization of Standard Protection Measures for the Eastern Indigo Snake during construction and survey/relocation of Gopher Tortoises prior to construction should support the effects finding. FDOT confirmed with FHWA that these commitments will be included in the ESBA and EIS Update. FHWA indicated that the USFWS finding should not constitute a significant determination under NEPA.

Avians

Crested caracara (*Polyborus plancus audubonii* = *Caracara cheriway*) – The crested caracara is listed by both the USFWS and the FFWCC as Threatened. These large raptors inhabit Florida's prairies and rangelands, and forage on many kinds of insects, fish, reptiles, birds, and mammals. They will feed on live captured prey, but also on carrion. Nests are usually constructed within cabbage palms. Sensitivity to human disturbance varies in this species, with

many tolerating human activities, especially when human influence is already present within their home range. If a caracara nest is found to be within the project area, management practices outlined within the *Habitat Management Guidelines for Audubon's Crested Caracara in Central and Southern Florida* should be employed.

Segment 2 occurs at the northernmost edge of the USFWS Consultation Area for this species in Central Florida, though no nesting or foraging habitat has been documented within the project corridor. No caracara or their nests have been observed or were documented within the project corridor either during the current study or during the previous PD&E Study (May 2000). Therefore, this project will have **no effect** on this species.

Snail Kite (*Rostrhamus sociabilis plumbeus*) – The snail kite is listed as Endangered by both the USFWS and the FFWCC. This non-migratory, medium-sized raptor utilizes large open freshwater marsh habitats and lakes with shallow water. Nests are usually located in a low tree or shrub at the water's edge, and the main staple of their diet is the apple snail.

All three segments occur within the USFWS Consultation Area for the snail kite, though no observations have been documented within or near these segments. Nesting snail kites have been documented well to the east of Segment 2 in Kissimmee at both Lake Tohopekaliga and East Lake Toho. No adequate nesting or foraging habitat is located adjacent to the project area, within the proposed right-of-way or pond sites of Segments 2, 3, or 4. Therefore, this project will have **no effect** on this species.

Red-Cockaded Woodpecker (*Picoides borealis*) – This species is listed as Endangered by the USFWS and FFWCC. The colonial red-cockaded woodpecker (RCW) is a habitat specialist, requiring stands of over-mature pine that have contracted the red-heart disease. RCW's require diseased trees for cavity building, which they use for nest and roost cavities. Preferred pine stands need to have a fairly open canopy, with a sparse subcanopy to allow easy flight. RCWs must also have ample foraging habitat consisting of younger pines surrounding the cavity trees.

No suitable nesting habitat was observed in the impact area within the project limits. Segment 2 occurs near to (within 3.5 miles of) an area designated by USFWS as "Occurrence Area"; though the original PD&E Study indicated no suitable habitat or any documented RCW sightings within the proposed right-of-way or pond sites. No suitable habitat or any documented sightings were noted for Segments 3 or 4 during the current field studies. Therefore, this project will have **no effect** on this species.

Wood Stork (*Mycteria americana*) – The wood stork, now listed as Threatened by the USFWS, is the only true species of stork nesting in the United States. Feeding areas for wood storks include marshes, pools or ditches in which fish congregate. This species typically nests in mixed

woodlands comprised of such overstory species as cypress, gum, and southern willow; pond apple and mangrove swamps may also be utilized for nesting.

Based upon the updated colony map prepared by the USFWS in June 2014, Segment 2 is located within the Core Foraging Areas (CFA - 15 miles from an active nesting colony in Central Florida) of two wood stork colonies (Lawne Lake, Gatorland); Segment 3 is located within the CFA of two wood stork colonies (Lawne Lake, Hontoon Island); and Segment 4 is located within one CFA (Hontoon Island). A wood stork was observed within the Segment 2 project area during field surveys, though foraging areas are available throughout the study area, which include drainage features, small water bodies, stormwater ponds, and the wetlands and shoreline associated with Lake Monroe and the St. John's River.

Utilizing the *Corps of Engineers and U. S. Fish and Wildlife Service Effect Determination Key for the Wood Stork in Central and North Peninsular Florida* (2008), the project is not within 2,500 feet of an active colony site, will likely impact Suitable Foraging Habitat (SFH) of greater than 0.5 acres, and is located within the CFA of three wood stork colonies (Lawne Lake, Gatorland, and Hontoon Island). Additionally, FDOT commits to provide SFH compensation within the Service Area of a Service-approved wetland mitigation bank(s) within the CFA, and the Project is not contrary to the Service's *Habitat Management Guidelines for the Wood Stork in the Southeast Region* and in accordance with the Clean Water Act section 404(b)(1) guidelines. There are numerous currently permitted mitigation banks that include the project corridor within the bank service area that have credits available to offset impacts to SFH (nine banks covering Segment 2, five banks covering Segment 3, and six banks covering Segment 4). The FDOT will coordinate with the permitting agencies during the permitting phase of the project on compensatory mitigation and minimization of impacts to suitable foraging habitat. These actions should result in no net loss of foraging habitat; therefore, the project **may affect, but is not likely to adversely affect** the wood stork.

December 17, 2015 coordination meeting: USFWS indicated that FDOT's proposed mitigation for impacts to wood stork SFH should support this finding. FDOT was asked to provide details on the amount and type of wetland impacts (summarized from the Segments 2, 3, and 4 Wetland Evaluation Reports), as well as more specific details on proposed mitigation banks to be utilized for SFH impacts (see Attachment). FDOT confirmed with FHWA that the details of the mitigation bank commitment will be included in the ESBA and EIS Update.

Florida Scrub-Jay (*Aphelocoma coerulescens coerulescens*) – The Florida scrub-jay, listed as Threatened by both the FFWCC and USFWS, is an endemic species found in Florida scrub habitats. This gregarious jay is a habitat specialist and typically lives in scrub and scrubby flatwoods habitats.

During the original PD&E Study, surveys were conducted for scrub-jays in Segment 2 in two areas near Sand Lake Road and I-4. Since then, both of these areas have been developed and no longer contain any scrub or scrub-like habitat. Regardless, cursory surveys for scrub-jays were conducted in April and May of 2013 and April and May of 2014 to evaluate the presence of this species. No scrub-jays were observed within any proposed right-of-way or pond site areas of Segment 2.

Several stations were sampled for the presence of scrub-jays within Segment 3 during the original PD&E Study at the Lake Mary Boulevard interchange: four stations along the I-4 westbound right-of-way south of Lake Mary Boulevard, and two stations along the off-ramp from I-4 eastbound to Lake Mary Boulevard. Field investigations conducted during the present study indicated that these areas no longer contained any suitable habitat. The areas along I-4 westbound have been developed into multi-family residential units with no natural vegetation remaining, and the area along the eastbound off-ramp has been developed (into a Gander Mountain store), with planted pines as a buffer from the road. Regardless, cursory surveys for scrub-jays were conducted in September 2013 to evaluate the presence of this species. No scrub-jays were observed within any proposed right-of-way or pond site areas of Segment 3.

Within Segment 4, numerous stations were sampled for the presence of scrub-jays at the Saxon Boulevard and SR 472 interchanges, and along both sides of I-4 between the interchanges. cursory surveys for scrub-jays were conducted in September 2013 to evaluate the presence of this species. During these surveys, at least four scrub-jays were observed responding to a call-back recording north of Saxon Boulevard adjacent to I-4 eastbound, and two more responded when the call was played in the northeastern quadrant of the interchange at SR 472. Two scrub-jays were observed at Pond Site 409 A1/A2 as well. A full five-day scrub-jay survey was conducted in October 2014, to ascertain the population size and potential territory size of the scrub-jays within this segment; a supplemental survey of four additional pond sites was conducted in April 2015.

Based on the results of these formal surveys (Segment 4), scrub-jays were observed at 15 of the 119 stations. These scrub-jays comprise five separate families, of which four intersect with the existing or proposed FDOT right-of-way, including pond sites. Impacts to occupied habitat would occur at three of the locations: Family 1 at the westbound I-4 off-ramp to Saxon Boulevard would impact 0.90 acres of occupied territory; Family 2 along eastbound I-4 at Pond Site 409 A1/A2 would impact 1.22 acres of occupied territory; and Family 3 along I-4 eastbound at Pond Site 409 A1/A2 would impact 2.56 acres of occupied territory. The remaining scrub-jays either occur at a pond site that is not going to have any physical changes (Family 5), occur outside the right-of-way (Family 4), or were single incidental observations. Detailed analysis is provided in the Florida Scrub-jay Survey Technical Memorandum prepared for FDOT

(Appendix E, Segment 4 ESBA). The proposed widening and stormwater ponds may have a direct impact on scrub-jays or scrub-jay habitat. Therefore, based on these survey results (Segment 4), this project **may affect** the Florida scrub-jay.

December 17, 2015 coordination meeting: USFWS will coordinate with the Scrub-Jay recovery lead (Todd Mecklenborg) to verify that FDOT's proposed mitigation for direct/indirect impacts (e.g., TNC contribution for the southwest Volusia metapopulation) is still the preferred mitigation strategy. FDOT (Casey Lyon) suggested the use of construction commitments (e.g., no clearing/grubbing during the nesting season) to prevent actual take of scrub-jays. FDOT (Casey Lyon) confirmed with USFWS that resurvey for Segment 4 would be required, and then noted that because this is marginal habitat, in a few years scrub-jays may no longer be present, thus mitigation would no longer be applicable. Based on USFWS' mitigation input, FDOT will prepare a submittal for FHWA's formal consultation with USFWS on this species. FHWA indicated that the USFWS finding should not constitute a significant determination under NEPA.

Southern Bald Eagle (*Haliaeetus leucocephalus*) – The southern bald eagle was delisted by both the USFWS and FFWCC, though it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS issued the National Bald Eagle Management Guidelines in May 2007 while Florida adopted a Bald Eagle Management Plan (BEMP) in April 2008, written closely to follow the federal guidelines. The BEMP provides guidelines and recommendations to help people avoid violating state and federal eagle laws, and also outlines strategies to maintain the Florida population of bald eagles at or above current levels. Bald eagles almost always nest in the tops of living or dead tall trees along or very near lakes and rivers; these water bodies provide fish, typically their preferred food. Bald eagles generally avoid areas with extensive human activity, so management guidelines must be considered before any construction can be initiated within 660 feet of an active bald eagle nest.

Eleven bald eagle nests are recorded to be in the general vicinity (within one mile) of the project corridor: four within Segment 2 (OR014, OR015, OR047 and OR077), three within Segment 3 (SE 029, SE 030, and SE 069), and four within Segment 4 (SE061, VO014, VO073, and VO012). However, none of these nests is located within 660 feet of the proposed right-of-way or any of the proposed pond sites. For that reason, the project will have **no effect** on the southern bald eagle.

Mammals

Florida Manatee (*Trichechus manatus latirostris*) - This species is listed as Endangered by both the USFWS and the FFWCC and has designated critical habitat along the St. Johns River and within the western and northern shores of Lake Monroe (Segment 4). These herbivores are found in various types of freshwater, brackish, and marine environments, feeding on the wide

range of aquatic vegetation that these habitats provide. Shallow seagrass beds, with ready access to deep channels, are generally preferred feeding areas. Manatees use springs and freshwater runoff sites for drinking water; secluded canals, creeks, embayments, and lagoons for resting, cavorting, mating, calving and nurturing their young; and open waterways and channels as travel corridors. They occupy different habitats during various times of the year, with a focus on warm water sites during winter. Industrial warm water discharges and deep-dredged areas are used as wintering sites, and stormwater/freshwater discharges provide manatees with drinking water.

The impacts proposed along the roadway at Lake Monroe (Segment 4) will not directly impact the lake but rather the adjacent wetlands which are largely inaccessible to the manatee. Therefore, according to the Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida (April 2013), this project **may affect, but is not likely to adversely affect** the Florida manatee.

December 17, 2015 coordination meeting: FDOT noted that, although inaccessible to manatees, grates will be placed on any culverts being added to I-4 in this area (the culverts are proposed mitigation for white shrimp Essential Fish Habitat). FDOT confirmed with FHWA that the Standard Manatee Conditions for In-Water Work will be included as a commitment in the ESBA and EIS Update.

Federally listed plant species

Within Segment 2, a review of agency databases and field review of the project area indicate that there have been few reported occurrences of federally listed plant species. Twelve federally listed species have the potential to occur within Orange County, though not all habitat types are represented within the project area. Information from the previous PD&E Study (May 2000) indicated that one listed plant was observed, the scrub lupine (*Lupinus aridorum*). The observation was made west of Turkey Lake Road, to the west of the SR 528 Interchange at westbound I-4. Follow up protected plant field surveys covering the area of proposed right-of-way widening and pond sites were conducted in May 2013 and April 2014 (and in January 2015) by project botanists and other biologists. No federally listed plant species were identified within the proposed widening impact area or pond sites during the field investigations.

Within Segment 3, a review of agency databases and field review of the project area indicate that there have been few reported occurrences of federally listed plant species. USFWS currently shows that one federally listed species has been demonstrated to have the potential to occur within Seminole County, the pygmy fringe tree (*Chionanthus pygmaeus*), though other sources have listed the potential for the Okeechobee gourd (*Cucurbita okeechobeensis*) to occur. Information from the previous PD&E Study (May 2000) indicated that no listed plants were observed in this segment. Follow up protected plant field surveys covering the area of proposed

right-of-way widening and pond sites were conducted in May 2013 and April 2015 by project botanists and other biologists. No federally listed plant species were identified within the proposed widening impact area or pond sites during the field investigations; though a potential sighting of the Okeechobee gourd was reported in the floodplain between I-4 and the Wayside Park boat ramp, outside of the proposed project area near the St. Johns River. Confirmation was not definitively made as the observation was not made during flowering season; however, there is no appropriate habitat for this species within the project right-of-way or proposed pond sites.

Within Segment 4, a review of agency databases and field review of the project area indicate that there have been few reported occurrences of federally listed plant species. USFWS currently shows that two federally listed species have been demonstrated to have the potential to occur within Volusia County, the Okeechobee gourd and Rugel's pawpaw (*Deeringothamnus rugelii*). Information from the previous PD&E Study (May 2000) indicated that one listed plant was observed in this segment. Vegetation surveys conducted in 1997 by project scientists identified pigeon wings (*Clitoria fragrans*) in some scrubby areas outside of the right-of-way at the Saxon Boulevard and SR 472 interchanges. This plant is not listed as occurring within Volusia County according to current information provided on the USFWS website. A follow up protected plant field survey covering the area of proposed right-of-way widening and pond sites was conducted in May 2013 by project botanists and other biologists. Habitat for both pigeon wings and Rugel's pawpaw does exist along the project corridor, though considerable changes to the land uses where previous sightings were made have occurred since 1997. No federally listed plant species were identified within the proposed widening impact area or pond sites during the field investigations.

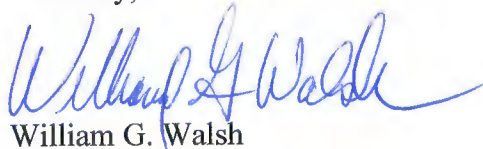
For Segments 2, 3 and 4, no federally listed plants were observed during any of the field reviews; therefore, no direct or indirect impacts to federally listed plant species are likely to occur. Thus, a finding of **may affect, not likely to adversely affect** is applicable for any of the federally listed plant species described above.

December 17, 2015 coordination meeting: FDOT noted that although the Federally-listed scrub lupine was not identified within Segment 2, it was identified within the adjacent Segment 1 (the ESBA for that segment will be transmitted to USFWS as a separate consultation).

Dr. Rauschenberger
January 20, 2016
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We ask that USFWS review the ESBA's for **Segments 2, 3 and 4** and provide concurrence with FDOT's determinations for these species. Note that for the Florida scrub-jay, a separate FHWA submittal for initiation of formal consultation will be provided. We appreciate the coordination effort and input already provided and look forward to continued consultation on this project. If you have any questions, feel free to contact either Catherine Owen at (386) 943-5383, catherine.owen@dot.state.fl.us or me at (386) 943-5411, william.walsh@dot.state.fl.us at your convenience. Thank you for your assistance with this project.

Sincerely,



William G. Walsh
Environmental Manager
FDOT, District Five

wgw/cbo

Cc: Cathy Kendall, FHWA
Casey Lyon, FDOT
Beata Stys-Palasz, FDOT
Mike Drauer, Stantec

Attachment (4 pages): Wetland Impact Breakdown and Available Wetland Mitigation

Wetland Impact Breakdown

Segment 2			
Summary of Proposed Jurisdictional Wetlands/Other Surface Water Impacts (Type and Hydrologic Basin)			
Hydrological Basin	Forested Wetlands (acres)	Herbaceous Wetlands (acres)	Other Surface Waters (acres)
Shingle Creek	4.43	0.00	9.32
Totals	4.43	0.00	9.32

Segment 3			
Summary of Proposed Jurisdictional Wetlands/Other Surface Water Impacts (Type and Hydrologic Basin)			
Hydrological Basin	Forested Wetlands (acres)	Herbaceous Wetlands (acres)	Other Surface Waters (acres)
Lake Jesup Basin	--	0.91	1.65
Wekiva River Basin	0.07	--	--
St. Johns River (Canaveral Marshes to Wekiva)	11.29	--	5.01
Totals	11.36	0.91	6.66

Segment 4			
Summary of Proposed Jurisdictional Wetlands/Other Surface Water Impacts (Type and Hydrologic Basin)			
Hydrological Basin	Forested Wetlands (acres)	Herbaceous Wetlands (acres)	Other Surface Waters (acres)
St. Johns River (Canaveral Marshes to Wekiva)	20.49	50.11	23.57
St. Johns River (Wekiva to Walaka)	0.00	2.06	17.62
Totals	20.49	52.17	41.19

Available Wetland Mitigation

SEGMENT 2		
AVAILABLE MITIGATION SERVICE AREAS & CREDITS WITHIN THE SHINGLE CREEK BASIN		
MITIGATION BANK (MB)	MITIGATION SERVICE AREA	CREDIT AVAILABILITY/TYPE
HATCHINEHA RANCH MITIGATION BANK	SHINGLE CREEK	50 FORESTED UMAM CREDITS
SOUTHPORT MITIGATION BANK	SHINGLE CREEK	170 FORESTED AND HERBACEOUS UMAM CREDITS
REEDY CREEK MITIGATION BANK	SHINGLE CREEK	60 FORESTED UMAM CREDITS
BULLFROG BAY MITIGATION BANK	SHINGLE CREEK	14 FORESTED AND HERBACEOUS UMAM CREDITS

SEGMENT 3		
AVAILABLE MITIGATION SERVICE AREAS & CREDITS WITHIN THE ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA), LAKE JESUP, WEKIVA RIVER BASINS		
MITIGATION BANK (MB)	MITIGATION SERVICE AREAS	CREDIT AVAILABILITY/TYPE
LAKE MONROE MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA)	46.55 FORESTED UMAM CREDITS
BARBERVILLE MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA)	3.98 FORESTED UMAM CREDITS
COLBERT CAMERON MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	147.09 FORESTED AND HERBACEOUS UMAM CREDITS
FARMTON NORTH MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	822.69 FORESTED AND HERBACEOUS UMAM CREDITS
FARMTON SOUTH MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	433.61 FORESTED AND HERBACEOUS UMAM CREDITS

SEGMENT 3		
AVAILABLE MITIGATION SERVICE AREAS & CREDITS WITHIN THE ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA), LAKE JESUP, WEKIVA RIVER BASINS		
MITIGATION BANK (MB)	MITIGATION SERVICE AREAS	CREDIT AVAILABILITY/TYPE
FARMTON WEST MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	348.63 FORESTED AND HERBACEOUS UMAM CREDITS
TM ECON MITIGATION BANK(PHASE I, II, III)	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	388.14 FORESTED AND HERBACEOUS UMAM CREDITS
TM ECON MITIGATION BANK (PHASE IV)	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & LAKE JESUP	164.83 FORESTED AND HERBACEOUS UMAM CREDITS
BLACKWATER CREEK MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) & WEKIVA RIVER	15.75 FORESTED AND HERBACEOUS UMAM CREDITS
WEKIVA RIVER MITIGATION BANK	WEKIVA RIVER & A PORTION OF ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA)	30.0 FORESTED AND HERBACEOUS UMAM CREDITS

SEGMENT 4		
AVAILABLE MITIGATION SERVICE AREAS & CREDITS WITHIN THE ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA) AND ST. JOHNS RIVER (WEKIVA TO WALAKA) HYDROLOIC BASINS		
MITIGATION BANK (MB)	MITIGATION SERVICE AREAS	CREDIT AVAILABILITY/TYPE
TOSOHATCHEE STATE RESERVE	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA)	32.54 FORESTED UMAM Credits
LAKE MONROE MITIGATION BANK	ST. JOHNS RIVER (CANAVERAL MARSHES TO WEKIVA)	46.55 FORESTED UMAM Credits

SEGMENT 4

AVAILABLE MITIGATION SERVICE AREAS & CREDITS WITHIN THE ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) AND ST. JOHNS RIVER (WEKIVA TO WALAKA) HYDROLOGIC BASINS

MITIGATION BANK (MB)	MITIGATION SERVICE AREAS	CREDIT AVAILABILITY/TYPE
BARBERVILLE MITIGATION BANK	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & ST. JOHNS RIVER (WEKIVA TO WALAKA)	3.98 FORESTED UMAM Credits
COLBERT CAMERON MITIGATION BANK	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA)	147.09 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits
FARMTON NORTH MITIGATION BANK	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & ST. JOHNS RIVER (WEKIVA TO WALAKA)	822.69 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits
FARMTON SOUTH MITIGATION BANK	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & ST. JOHNS RIVER (WEKIVA TO WALAKA)	433.61 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits
FARMTON WEST MITIGATION BANK	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA) & ST. JOHNS RIVER (WEKIVA TO WALAKA)	248.63 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits
TMECON MITIGATION BANK PHASES 1, 2 & 3	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA)	388.14 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits
TMECON MITIGATION BANK PHASE IV	ST. JOHNS RIVER (CANOVERAL MARSHES TO WEKIVA)	164.83 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits
BLACKWATER CREEK MITIGATION BANK	ST. JOHNS RIVER (WEKIVA TO WALAKA)	15.75 FORESTED AND HERBACEOUS UMAM CREDITS UMAM Credits

November 25, 2013
File: 2024.230168

Attention: Jane Chabre

Florida Fish and Wildlife Conservation Commission
Office of Conservation Planning Services
620 South Meridian Street, Mail Station 5B5
Tallahassee, FL 32399-1600

Via Email: FWCCConservationPlanningServices@myfwc.com

Reference: **SR 400 (I-4) Project Development and Environment (PD&E) Study
Segment 3: from east of SR 434 to US 17/92
Seminole County, FL**

Dear Ms. Chabre;

The Florida Department of Transportation (FDOT) District 5 is conducting a PD&E Study on SR 400 (I-4) as part of the overall corridor project for the I-4 Ultimate design. This segment of the study in Seminole County occurs within a highly developed corridor of the roadway, and includes the interchanges at Lake Mary Boulevard, CR 46a, SR 46, and US 17/92. A previous study was conducted in 1998, though a Record of Decision was not reached with the Federal Highway Administration. This segment along with three additional segments to the south of Orlando and the segment to the north are included in the larger PD&E study to enable FDOT to have completed Records of Decision or Findings of No Significant Impact on all potential segments of the I-4 Ultimate design. The project consists of the widening of the roadway from the current configuration of a nominal 4-lane divided interstate highway to a nominal 6-lane divided interstate highway with an additional two managed lanes in each direction.

At this time, we are seeking your concurrence with a species list for potential species and habitat along the project corridor that should be included in the ongoing investigation for this project. Stantec Consulting Services Inc. conducted a background literature search to determine the legally protected species that have the potential to occur in Seminole County as listed by the Florida Fish and Wildlife Conservation Commission (FFWCC) and the United States Fish and Wildlife Service (USFWS). Protected Species lists were compiled using Stantec's computer database containing species occurrence by county and habitat type. These species lists were then customized to include only the species that have the potential to occur within the habitats that occur on this Project site. The database was developed by reviewing current scientific literature and consulting the most current observation and distribution records maintained by the Florida Natural Areas Inventory (FNAI).

Federally Listed animal species (Under the US Endangered Species Act) with the potential to occur within the corridor include the following:

Aphelocoma coerulescens – Florida Scrub-Jay
Drymarchon corais couperi – Eastern Indigo Snake
Mycteria americana – Wood Stork
Picoides borealis – Red-cockaded Woodpecker
Trichechus manatus latirostris – Florida manatee

Other animal species with Federal Protection:

Haliaeetus leucocephalus leucocephalus – Southern Bald Eagle

Stantec

November 25, 2013

Page 2 of 2

Federally Listed plant species with the potential to occur within the corridor include the following:

Cucurbita okeechoeensis – Okeechobee gourd

State Listed animal species with the potential to occur within the project corridor include:

Aramus guarana – Limpkin
Egretta caerulea – Little Blue Heron
Egretta thula – Snowy Egret
Egretta tricolor – Tricolored Heron
Eudocimus albus – White Ibis
Falco sparverius Paulus – Southeastern American kestrel
Gopherus polyphemus – Gopher Tortoise
Grus canadensis pratensis – Florida Sandhill Crane
Lampropeltis extenuatum – Short-tailed Snake
Pituophis melanoleucus mugitus – Florida Pine Snake
Platalea ajaja – Roseate Spoonbill
Podomys floridanus – Florida Mouse
Rana capito – Gopher Frog
Sciurus niger shermani – Sherman's Fox Squirrel
Sterna antillarum – Least tern

This project is also being coordinated with the US Fish and Wildlife Service.

If you have any questions, please contact Mike Drauer at (407) 765-1661.

Thank you for taking the time to provide assistance with this project.

Regards,



Mike Drauer
Senior Project Manager
Tel: 407-585-0157
Fax: 407-585-0158
Mike.Drauer@stantec.com

Attachment: Figures



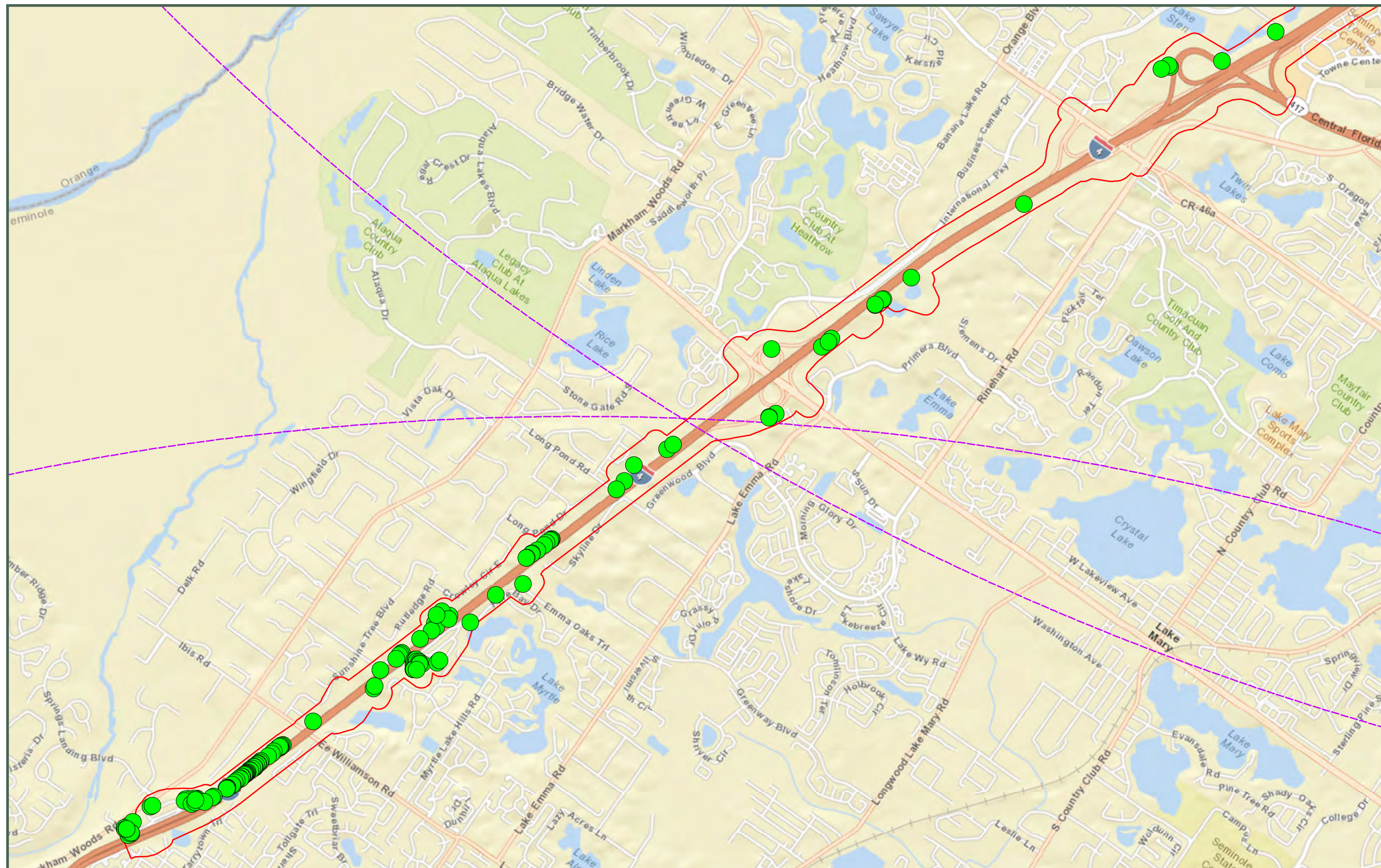
Map Key

- County Boundaries
- Segment 3: PD&E Study Limits
- USA Topo Maps

Figure A



1" = 10,000'



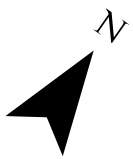
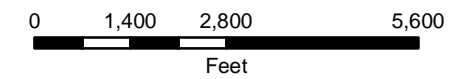
Map Key

- Segment 3: PD&E Study Limits
- Wood Stork 15 mile Buffer
- Gopher Tortoise Burrows

Species Notes:

1. Two active Wood Stork nests and two 15 mile CFA buffers have been identified
2. A total of 150 active and inactive Gopher Tortoise have been identified within the PD&E Study Limits or within 25 feet outside the PD&E Limits.

Figure E: Sheet 2 of 2



1" = 2,800'

November 25, 2013
File: 2024.230168

Attention: Jane Monaghan
U. S. Fish & Wildlife Service
North Florida Ecological Services Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517

**Reference: SR 400 (I-4) Project Development and Environment (PD&E) Study
Segment 3: from east of SR 434 to US 17/92
Seminole County, FL**

Dear Ms. Monaghan:

The Florida Department of Transportation (FDOT) District 5 is conducting a PD&E Study on SR 400 (I-4) as part of the overall corridor project for the I-4 Ultimate design. This segment of the study in Seminole County occurs within a highly developed corridor of the roadway, and includes the interchanges at Lake Mary Boulevard, CR 46a, SR 46, and US 17/92. A previous study was conducted in 1998, though a Record of Decision was not reached with the Federal Highway Administration. This segment along with three additional segments to the south of Orlando and the segment to the north are included in the larger PD&E study to enable FDOT to have completed Records of Decision or Findings of No Significant Impact on all potential segments of the I-4 Ultimate design. The project consists of the widening of the roadway from the current configuration of a nominal 4-lane divided interstate highway to a nominal 6-lane divided interstate highway with an additional two managed lanes in each direction.

At this time, we are seeking your concurrence with the species effects determinations that should be included in the ongoing investigation for this project. Stantec Consulting Services Inc. conducted a background literature search to determine the legally protected species that have the potential to occur in Seminole County as listed by the Florida Fish and Wildlife Conservation Commission (FFWCC) and the United States Fish and Wildlife Service (USFWS). Protected Species lists were compiled using the USFWS website and Stantec's computer database containing species occurrence by county and habitat type. These species lists were then customized to include only the species that have the potential to occur within the habitats that occur on this Project site. The database was developed by reviewing current scientific literature and consulting the most current observation and distribution records maintained by the Florida Natural Areas Inventory (FNAI).

Federally Listed animal species with the potential to occur within the corridor include the following:

Aphelocoma coerulescens – Florida Scrub-Jay
Drymarchon corais couperi – Eastern Indigo Snake
Mycteria americana – Wood Stork
Picoides borealis – Red-cockaded Woodpecker
Trichechus manatus latirostris – Florida manatee

Other animal species with Federal Protection:

Haliaeetus leucocephalus leucocephalus – Southern Bald Eagle

Federally Listed plant species with the potential to occur within the corridor include the following:

Cucurbita okeechoeensis – Okeechobee gourd

Eastern Indigo Snake (*Drymarchon corais couperi*) – The eastern indigo snake, listed by both the FFWCC and the USFWS as Threatened, is a habitat generalist, using a variety of habitats from mangrove swamps to xeric uplands. These snakes are cold-sensitive and require gopher tortoise burrows, other animal holes, or stumps for protection during winter months. These snakes require large tracts of natural, undisturbed habitat, and prefer to forage in and around wetlands for their preferred prey – other snakes. Numerous burrows were located within the project area and the potential for indigo snakes is moderate, though no indigo snakes were observed during field studies. If an eastern indigo snake is observed during construction, the contractor will be required to cease any operation that might cause harm to the snake. If the eastern indigo snake does not move away from the construction area, both the FFWCC and USFWS will be contacted prior to capture and relocation to suitable habitat. An effects determination was made by utilizing the USFWS Programmatic Key for the Eastern Indigo Snake (January 2010, updated August 2013). The project will implement the Standard Protection Measures for the Eastern Indigo Snake (USFWS, 2013), will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) but has more than 25 active and inactive gopher tortoise burrows. The Department will make the commitment to have permits conditioned such that all active and inactive gopher tortoise burrows will be evacuated prior to site manipulation in the vicinity of the burrow, so the project is **not likely to adversely affect** the eastern indigo snake.

Florida Scrub-Jay (*Aphelocoma coerulescens coerulescens*) – The Florida scrub-jay, listed as Threatened by both the FFWCC and USFWS, is an endemic species found in Florida scrub habitats. This gregarious jay is a habitat specialist and typically lives in scrub and scrubby flatwoods habitats. No suitable scrub habitat is located within the project corridor. During the initial PD&E field work in 1996-1998, several stations were sampled for the presence of scrub-jays at the Lake Mary Boulevard interchange: 4 stations along the I-4 westbound right-of-way south of Lake Mary Boulevard, and 2 stations along the off-ramp from I-4 eastbound to Lake Mary Boulevard. Field investigations conducted during this study indicated that these areas no longer contained any suitable habitat. The areas along I-4 westbound have been developed into multi-family residential units with no natural vegetation remaining, and the area along the eastbound off-ramp has been developed into a Gander Mountain store, with planted pines as a buffer from the road the only vegetation. Regardless, cursory surveys for scrub-jays were conducted in September of 2013 to evaluate the presence of this species. No scrub-jays have been observed within any proposed pond site areas or within the section of I-4 within this study. The proposed widening and stormwater ponds are not expected to have any direct impact on scrub-jays or scrub-jay habitat. Therefore, this project will have **no effect** on this species.

Red-Cockaded Woodpecker (*Picoides borealis*) – This species is listed as Endangered by the USFWS and Threatened by the FFWCC. The colonial red-cockaded woodpecker (RCW) is a habitat specialist, requiring stands of over-mature pine that have contracted the red-heart disease. RCW's require diseased trees for cavity building, which they use for nest and roost cavities. Preferred pine stands need to have a fairly open canopy, with a sparse subcanopy to allow easy flight. RCWs must also have ample foraging habitat consisting of younger pines surrounding the cavity trees. No suitable nesting habitat was observed in the impact area within the project limits. The project occurs within the designated range of the USFWS though is not documented as having any nesting birds recorded. The previous PD&E Study (May 2000) indicated no suitable habitat or any documented RCW sightings within the proposed right-of-way or pond sites. Therefore, this project will have **no effect** on the red-cockaded woodpecker.

Southern Bald Eagle (*Haliaeetus leucocephalus*) – The southern bald eagle was delisted from both the US Endangered Species Act and FFWCC imperiled list, though it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS issued the National Bald Eagle Management Guidelines in May 2007 while Florida adopted a Bald Eagle Management Plan (BEMP) in April 2008, written closely to follow the federal guidelines. The BEMP provides guidelines and recommendations to help people avoid violating state and federal eagle laws. The BEMP also outlines strategies to maintain the Florida population of bald eagles at or above current levels. The BEMP goal is to, "maintain a stable or increasing population of eagles in Florida in perpetuity." Bald eagles almost always nest in the tops of living or dead tall

trees along or very near lakes and rivers; these water bodies provide fish, typically their preferred food. Bald eagles generally avoid areas with extensive human activity, so management guidelines must be considered before any construction can be initiated within 660 feet of an active southern bald eagle nest. Three bald eagle nests are recorded to be in the general vicinity (within 1 mile) of the project corridor (SE 029, SE 030, and SE 069). However, none of these nests are located within 660 feet of the proposed right-of-way or any of the proposed pond sites. For that reason, the project will have **no effect** on the southern bald eagle.

Florida Manatee (*Trichechus manatus latirostris*) - This species is listed as Endangered by both the USFWS and the FFWCC and has designated critical habitat along the St. Johns River and within the western and northern shores of Lake Monroe. Florida manatees are found in freshwater, brackish, and marine environments. Typical coastal and inland habitats include coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms. As herbivores, manatees feed on the wide range of aquatic vegetation that these habitats provide. Shallow seagrass beds, with ready access to deep channels, are generally preferred feeding areas in coastal and riverine habitats (Smith 1993). Manatees use springs and freshwater runoff sites for drinking water; secluded canals, creeks, embayments, and lagoons for resting, cavorting, mating, calving and nurturing their young; and open waterways and channels as travel corridors. Manatees occupy different habitats during various times of the year, with a focus on warm water sites during winter. Manatees have also adapted to changing ecosystems in Florida. Industrial warm water discharges and deep-dredged areas are used as wintering sites, stormwater/freshwater discharges provide manatees with drinking water, and the imported exotic plant, *Hydrilla* sp. has become an important food source at some wintering sites. This segment of the project does not propose any work within the St. Johns River, Lake Monroe, or any areas that are connected to these water bodies where manatees could gain access, and therefore, according to the Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida (April 2013) will have **no effect** on the Florida manatee.

Wood Stork (*Mycteria americana*) – This species, listed as Endangered by both the USFWS and the FFWCC, is the only true species of stork nesting in the United States. Currently, a proposal by USFWS to downgrade the status of US breeding populations of wood storks from endangered to threatened is in under way. This proposed reclassification would not change any conservation or protection measures for the wood stork under the Endangered Species Act (ESA), rather it would recognize the recovery and the positive impact that conservation efforts have had on breeding populations of storks. Feeding areas for wood storks include marshes, pools, or ditches in which fish congregate. This species typically nests in mixed woodlands comprised of such overstory species as cypress, gum, and southern willow; pond apple and mangrove swamps may also be utilized for nesting.

According to the USFWS data, the project is located with the 15-mile Core Foraging Area (CFA) of two wood stork colonies. Foraging areas within the study area are limited to drainage features, small water bodies, and stormwater ponds, though several marshes occur adjacent to the project corridor. Compensation for wetland impacts that are unavoidable, including impacts to potential wood stork foraging habitat, will be mitigated for during permitting where wetland functional assessment results will compare the impacts with the proposed mitigation to ensure a balance is maintained in the drainage basin; therefore, there should be no net loss of wood stork foraging habitat. Utilizing the ACOE Wood Stork Key for Central and North Peninsular Florida (2008), the project will likely have impacts to Suitable Foraging Habitat within two CFA's. FDOT will commit to provide compensation for foraging area impacts via mitigation through a Service-approved site; therefore, this project is **not likely to adversely affect** the wood stork.

FEDERALLY LISTED PLANT SPECIES

A review of agency databases and a field review of the project corridor indicate that there have been few reported occurrences of federally listed plant species within the proposed project area. USFWS currently shows that no federally listed species have been demonstrated to have the potential to occur within Seminole County, though other sources have listed the potential for 1 species, the Okeechobee gourd (*Cucurbita okeechobeensis*) to occur (see Table 2, Appendix B). Information from the previous PD&E Study (May 2000) indicated that no

November 25, 2013

Page 4 of 4

listed plants were observed in this segment. A follow up protected plant field survey covering the area of proposed right-of-way widening and pond sites was conducted in May 2013 by project botanists and other biologists. No federally listed plant species were identified within the proposed widening impact area or pond sites during the field investigations; though a potential siting of the Okeechobee gourd was made in the floodplain between I-4 and the Wayside Park boat ramp. Confirmation was not definitively made as the observation was not made during flowering season. No direct or indirect impacts to federally listed plant species are likely to occur and this project should have **no effect** on any of the federally listed plant species.

This project is also being coordinated with the Florida Fish and Wildlife Conservation Commission.

If you have any questions, please contact Mike Drauer at (407)765-1661.

Thank you for taking the time to provide assistance with this project.

Regards,

A handwritten signature in black ink, appearing to read "Mike Drauer". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mike Drauer
Senior Project Manager
Tel:407-585-0157
Fax: 407-585-0158
Mike.Drauer@stantec.com

Attachment: Figures



Map Key

- County Boundaries
- Segment 3: PD&E Study Limits
- USA Topo Maps

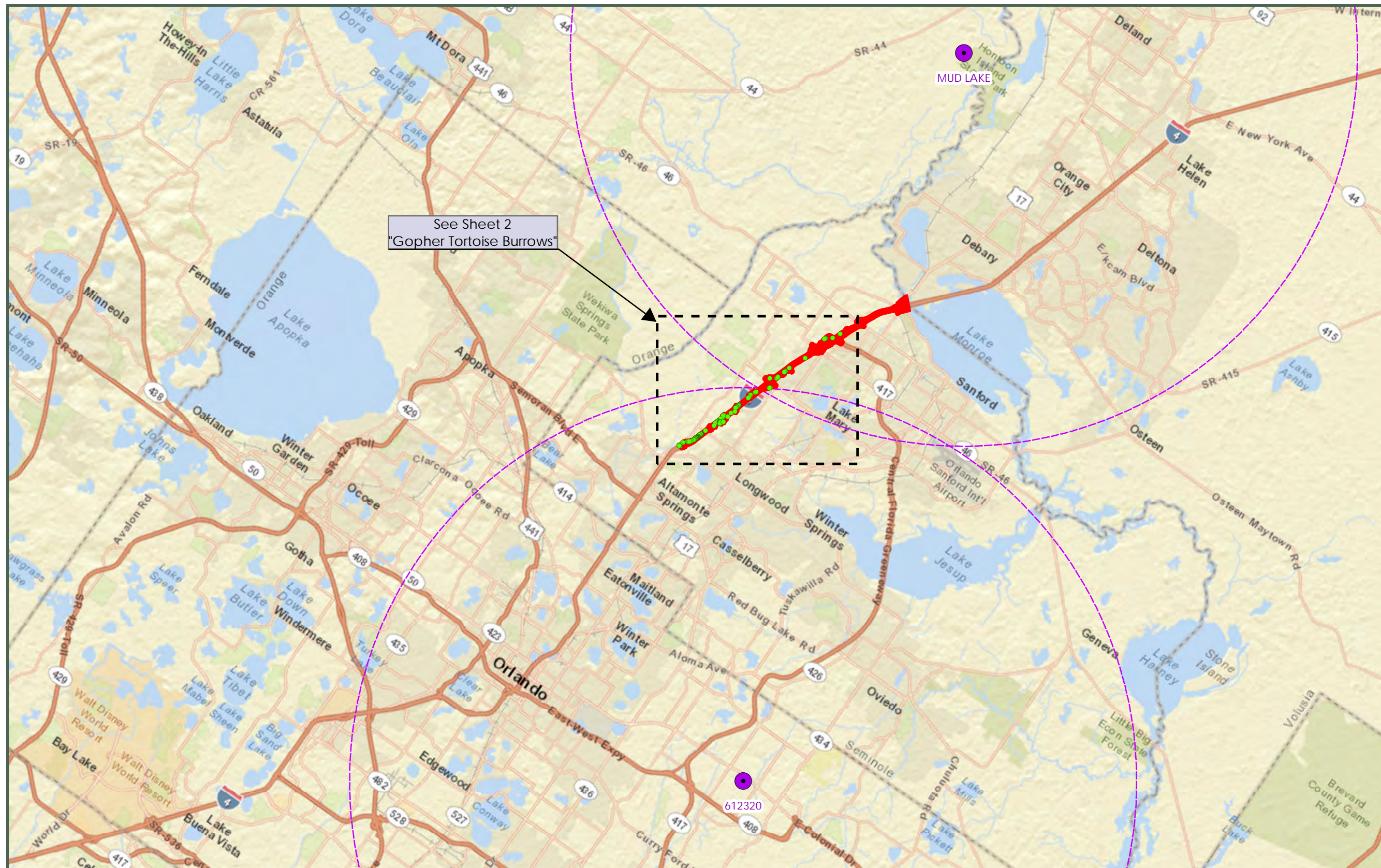
Segment 3: Start
Seminole MP 4.05

Segment 3: End
Volusia MP 0.086

Figure A



1" = 10,000'



Map Key

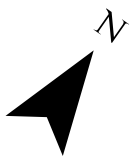
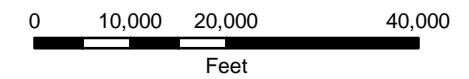
- Segment 3: PD&E Study Limits
- Wood Stork 15 mile Buffer
- Wood Stork Nests
- Gopher Tortoise Burrows

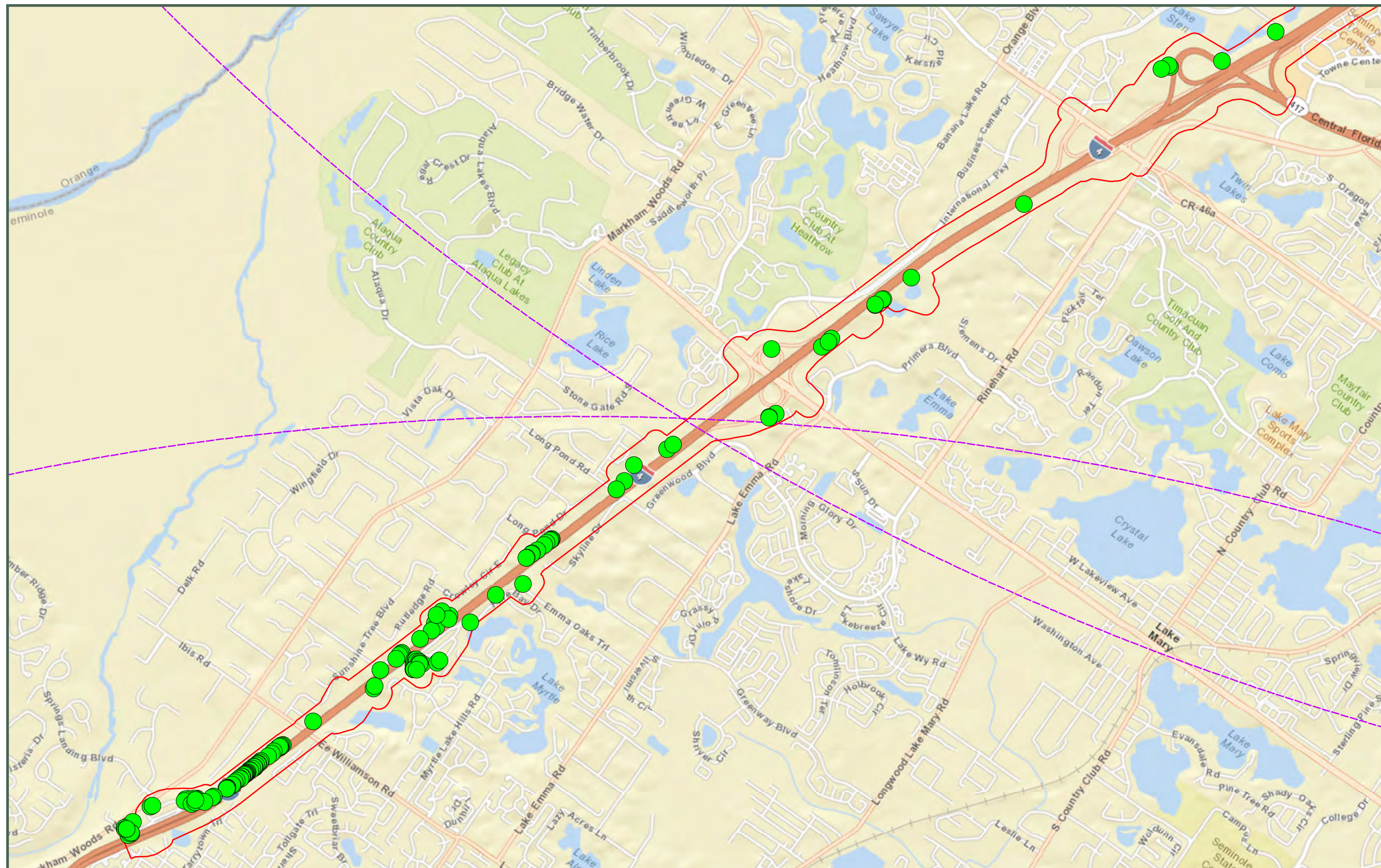
Species Notes:

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2. A total of 150 active and inactive Gopher Tortoise have been identified within the PD&E Study Limits or within 25 feet outside the PD&E Limits.

See Sheet 2
"Gopher Tortoise Burrows"

Figure E: Sheet 1 of 2





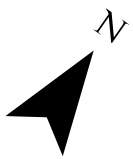
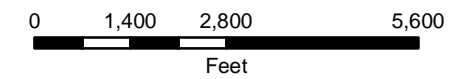
Map Key

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- Wood Stork 15 mile Buffer
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Figure E: Sheet 2 of 2



1" = 2,800'



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December 10, 2013

Mr. Mike Drauer
Senior Project Manager
Stantec Consulting Services, Inc.
615 Crescent Executive Court, Suite 248
Lake Mary, FL 32746
Mike.Drauer@Stantec.com

Re: SR 400 (I-4) Project Development and Environment (PD&E) Study, Segment 3: from east of SR 434 to US 17/92, Seminole County, potential list of protected species

Dear Mr. Drauer:

The Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the proposed list of protected species potentially affected by the above-referenced project, prepared as part of the Project Development and Environment Study, and we believe that it is complete. We look forward to the opportunity to review the Endangered Species Biological Report, or its equivalent, in the future.

Sincerely,

Jennifer D. Goff
Land Use Planning Program Administrator
Office of Conservation Planning Services

jdg/bb
ENV 1-13-2
SR 400 (I-4) PDE Segment 3 Project Coordination_18433_121013

Drauer, Mike

From: Monaghan, Jane <jane_monaghan@fws.gov>
Sent: Wednesday, December 11, 2013 9:42 AM
To: Drauer, Mike; Hannah Hernandez
Subject: Re: I-4 PD&E Segment 3 Species Effects Determination Review

Hi Mike

I have reviewed the information submitted for the widening of I-4 in Seminole County.

Using the EIS key you should come up with a 'May Affect' determination for indigo snakes because you have more than 25 GT burrows. Couplet D: ..'or more than 25 active and inactive GT burrows...'

However, we understand that this is a highly urbanized area with no contiguous natural habitat that could support EIS.

So our office would support a call of MANLAA, with a brief explanation, when the project is submitted to me by FDOT.

Federal agencies under Section 7 of the ESA are required to consult with USFWS..we cannot concur on a consult request letter submitted by a private company. We can offer technical assistance.

FDOT should request informal consultation and USFWS concurrence on their effect determinations for listed species. 'No effect' determinations do not need concurrence.

Bald eagle consults need to go through the Office of Migratory birds. The eagle is not listed under the ESA anymore but is protected by the BGEPA and new guidelines.

Thanks for coordinating with us.

Jane

On Mon, Nov 25, 2013 at 11:39 AM, Drauer, Mike <mike.drauer@stantec.com> wrote:

Jane – attached is a package for review for the FDOT D5 PD&E on I-4 in Seminole County. Preliminary Effects Determinations have been made for the project based upon the investigations for the ESBA.

Please let me know if you have any questions.

Thanks,

Mike Drauer

Senior Project Manager

Stantec
615 Crescent Executive Court, Suite 248

Lake Mary, FL 32746
Phone: (407) 585-0157

Cell: (407) 765-1661

mike.drauer@stantec.com



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904-731-3116 (main office)