Natural Resources Evaluation

Florida's Turnpike Enterprise

Turnpike Mainline Widening
Project Development and Environment Study

From Jupiter to Fort Pierce

Palm Beach, Martin, and St. Lucie Counties, Florida

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Executive Summary

The Florida Department of Transportation (FDOT), Florida's Turnpike Enterprise (FTE), is conducting a Project Development and Environment (PD&E) study to evaluate the widening of Florida's Turnpike mainline (SR 91) from Jupiter to Fort Pierce in Palm Beach, Martin, and St. Lucie Counties, Florida. The project also includes the improvement of six (6) interchanges and incorporation of a stormwater management system. The total project length is approximately 37 miles. The purpose of this PD&E Study is to evaluate engineering and environmental data and document information that will support the FTE in determining the type, preliminary design and location of the proposed improvements.

This Natural Resources Evaluation (NRE) is being prepared as part of this PD&E study. This report reviews the potential impacts to federal- and state-protected species, wetland systems and essential fish habitat. The identification of measures to avoid, minimize and mitigate for any potential impacts is also discussed. The preferred alternative was assessed for the purposes of this evaluation. A summary of the analysis of potential project impacts for the proposed Turnpike Mainline Widening is presented below.

Protected Species

The project study area was evaluated for potential occurrences of federal- and state-protected plant and animal species in accordance with Section 7 of the Endangered Species Act of 1973, as amended, and Chapters 5B-40 and 68A-27 of the Florida Administrative Code (F.A.C.). The evaluation included coordination with the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the Florida Fish and Wildlife Conservation Commission (FWC), and the Florida Natural Areas Inventory (FNAI). The evaluation also included literature and database reviews, as well as field assessments of the project study area to identify the potential occurrence of protected species and/or presence of federal-designated critical habitat. Project biologists conducted field evaluations of the project area and adjacent habitats in July, September, and October 2017, with follow-up visits in February and March 2020. An analysis was conducted to assess potential protected species impacts associated with each pond site of the proposed stormwater system. The Pond Siting Evaluation Memorandum is discussed in **Section 7.2**.

Based on evaluation of collected data and field reviews, the federal- and state-protected species included in **Table ES-1** and **Table ES-2** were observed or were determined to have the potential to occur within or adjacent to the project study area. Technical assistance meetings were held with the USFWS, NMFS, and the FWC, resulting in an effect determination being made for each of these federal- and state-protected species based on an analysis of the potential impacts of the proposed project on each species. Agency technical assistance meetings are discussed in **Section 8.5**.

Table ES-1 Federal Protected Species Effect Determinations

Project Effect Determination	Federal Protected Species
"No effect"	American Alligator (*Alligator mississippiensis*)
	Okeechobee Gourd (*Cucurbita okeechobeensis*)
"May affect, but is not likely to adversely affect"	Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)
	Eastern Indigo Snake (*Drymarchon couperi*)
	Wood Stork (*Mycteria americana*)
	Smalltooth sawfish (*Pristis pectinata*)
	West Indian Manatee (*Trichechus manatus*)
"May affect"	Florida Scrub-jay (*Aphelocoma coerulescens*)
	Crested Caracara (*Caracara cheriway*)
	Florida Bonneted Bat (*Eumops floridanus*)
	Red-cockaded Woodpecker (*Leuconotopicus borealis*)
	Everglade Snail Kite (*Rostrhamus sociabilis*)

Table ES-2 State Protected Species Effect Determinations

Project Effect Determination	State Protected Species
"No effect anticipated"	Golden Leather Fern (*Acrostichum aureum*)
	Meadow Jointvetch (*Aeschynomene pratensis* var. *pratensis*)
	Many-flowered Grass-pink (*Calopogon multiflorus*)
	Piedmont Joint Grass (*Coelorachis tuberculosa*)
	Cutthroat Grass (*Coleataenia abscissa*)
	Florida Tree Fern (*Ctenitis sloanei*)
	Cuplet Fern (*Dennstaedtia bipinnata*)
	Night-scented Orchid (*Epidendrum nocturnum*)
	Redberry Eugenia (*Eugenia confusa*)
	Coastal Vervain (*Glandularia maritima*)
	Spreading Pinweed (*Lechea divaricata*)
	Celestial Lily (*Nemastylis floridana*)
	Giant Sword Fern (*Nephrolepis biserrata*)
	Scrub Bluestem (*Schizachyrium niveum*)
	Ray Fern (*Schizaea pennula*)
	Southern Ladies'-tresses (*Spiranthes torta*)
	Banded Wild-pine (*Tillandsia flexuosa*)
	Scentless Vanilla (*Vanilla mexicana*)
	Redmargin Zephyrlily (*Zephyranthes simpsonii*)

Project Effect Determination	State Protected Species
"No adverse effect anticipated"	Hand Fern (*Ophioglossum palmatum*)
	Toothed Maiden Fern (*Thelypteris serrata*)
	Gopher Tortoise (*Gopherus polyphemus*)
	Florida Pine Snake (*Pituophis melanoleucus mugitus*)
	Florida Sandhill Crane (*Antigone canadensis pratensis*)
	Florida Burrowing Owl (*Athene cunicularia floridana*)
	Little Blue Heron (*Egretta caerulea*)
	Tricolored Heron (*Egretta tricolor*)
	Southeastern American Kestrel (*Falco sparverius paulus*)
	Roseate Spoonbill (*Platalea ajaja*)
	Least Tern (*Sternula antillarum*)

Wetland and Other Surface Water Evaluation

For the purposes of this document, wetlands are defined in accordance with Chapter 62-340 F.A.C., Section 373.019(27) Florida Statutes (F.S.), and *Corps of Engineers Wetland Delineation Manual* (1987) with *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010). Other surface waters are defined as open water bodies and manmade drainage features.

Although unavoidable wetland impacts will occur as a result of the proposed build alternatives, these wetlands are located within the proposed road right-of-way (ROW) and were previously disturbed by agricultural activities, residential development, roadway construction, maintenance activities, the invasion of nuisance and exotic species, and other land use conversions. **Table ES-3** provides wetland habitat types proposed to be impacted by construction include mixed wetland hardwoods, exotic wetland hardwoods, cypress, hydric pine, wetland forested mixed, wetland scrub, and freshwater marshes. Other surface water habitat types proposed to be impacted include reservoirs and natural and manmade streams and waterways (**Table ES-3**). Other surface water crossings throughout the project area are listed in **Table ES-4** along with special designations and involvement associated with each.

Impacts associated with the preferred alternative total 429.81 acres and are comprised of 62.67 acres of wetlands and 367.14 acres of other surface waters, of which 9.30 acres are natural other surface waters. A description of land use, dominant vegetation, soil type, and other descriptors regarding these communities is provided in subsequent sections of this report. A Uniform Mitigation Assessment Method (UMAM) analysis was performed on representative wetland impact areas by wetland type. **Table 4-9** provides the estimated UMAM functional loss from wetland and natural other surface water impacts of the preferred alternative. Construction of the preferred alternative results in a loss of 39.25 functional units. An analysis was conducted to assess potential wetland impacts associated with each pond site of the proposed stormwater system. The Pond Siting Evaluation Memorandum is discussed in **Section 7.2**.

Table ES-3 Preferred Alternative Wetland and Other Surface Water Impacts

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	USFWS Classification[2]	Preferred Alternative Impact Acreage
Other Surface Waters	510	Streams and Waterways	E1UBLx, PEM1Cx, PEM1Hx, PFO1Cx, PSS1Cx, PSS1Hx, PUB2Cx, PUB2Hx, R2UB2Hx	307.81
	511	Natural River, Stream, Waterway	E1UBL, PFO1/4C, R2UB2H	9.30
	530	Reservoirs	L1UBHx, PEM1Hx, PSS1Hx, PUB2Hx	50.03
			Total Natural Other Surface Water Impacts[3]	**9.30**
			Total Other Surface Water Impacts	**367.14**
Wetlands	617	Mixed Wetland Hardwoods	PFO1C, PFO1R	6.61
	619	Exotic Wetland Hardwoods	PFO3C	2.93
	621	Cypress	PFO2C, PFO2F	1.33
	625	Wet Pinelands Hydric Pine	PFO4C	1.93
	630	Wetland Forested Mixed	PFO1/4C	1.31
	631	Wetland Scrub	PSS1C, PSS1Cx	48.44
	641	Freshwater Marshes	PEM1B, PEM1C, PEM1Cx	0.12
			Total Wetland Impacts	**62.67**
			Total Wetland and Natural Other Surface Water Impacts	**71.97**
			Total Wetland and Other Surface Water Impacts	**429.81**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999
[2] Cowardin, *et al.* 1979
[3]Natural Other Surface Waters include Natural Rivers, Streams, and Waterways (FLUCFCS 511)
USFWS Classifications:
E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal
E1UBLx: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal, Excavated
L1UBHx: Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Excavated
PEM1B: Palustrine, Emergent, Persistent, Saturated
PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
PEM1Hx: Palustrine, Emergent, Persistent, Permanently Flooded, Excavated
PFO1/4C: Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded
PFO1C: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded
PFO1Cx: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded, Excavated
PFO1R: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded-Tidal
PFO2C: Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded
PFO2F: Palustrine, Forested, Needle-leaved Deciduous, Semipermanently Flooded
PFO3C: Palustrine, Forested, Broad-leaved Evergreen, Seasonally Flooded
PFO4C: Palustrine, Forested, Needle-leaved Evergreen, Seasonally Flooded
PSS1C: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded
PSS1Cx: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated
PSS1Hx: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Permanently Flooded, Excavated
PUB2Cx: Palustrine, Unconsolidated Bottom, Sand, Seasonally Flooded, Excavated
PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated
R2UB2H: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded
R2UBHx: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated

Wetland impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. § 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

Technical assistance meetings were held with the U.S. Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD) to discuss potential wetlands impacts resulting from the project. Final determination of jurisdictional boundaries, in addition to mitigation requirements, will be coordinated between FTE and permitting agencies during the final design phase of the project. The results of this PD&E study indicate there are no practicable alternatives to the proposed impacts due to the need to increase roadway capacity and safety considerations. In accordance with Presidential Executive Order (EO) 11990, the FTE has undertaken all actions to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Nonetheless, the FTE has determined that there is no practicable alternative to construction impacts occurring in wetlands.

The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function. Furthermore, all wetland impacts will be avoided and minimized to the greatest extent possible and have been limited to those areas of previous disturbance and those which are required to meet minimum safety requirements.

Critical Habitat

A portion of West Indian Manatee Critical Habitat is located within the one (1) mile buffer of the southern portion of the project study area, but does not intersect the limits of the preferred alternative. As a result, there will be no direct impacts to critical habitat resulting from the project. The project crosses waterways that flow directly into areas of West Indian Manatee Critical Habitat. The Loxahatchee River is a Wild and Scenic River and Outstanding Florida Water at the Turnpike crossing. As a result, the project must meet the more stringent water quality criteria for Outstanding Florida Waters at the Loxahatchee River crossing and extra measures will be taken to prevent degradation of water resources and habitat. Based on this information, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" West Indian Manatee Critical Habitat.

Essential Fish Habitat

The Turnpike crosses eight (8) waterways identified by the NMFS as potential essential fish habitat (EFH; **Table ES-4**). These crossings provide potential habitat for species managed by the South Atlantic Fishery Management Council (SAFMC) and Atlantic States Marine Fisheries Commission (ASMFC). These managed species include the white shrimp, members of the snapper grouper complex, spiny lobster, and red drum.

Based on technical assistance with the NMFS, a review of habitat types present within the project area was conducted to identify EFH for each of the SAFMC managed species and highly migratory species to assess their potential to occur in the project area. The NMFS identified specific EFH of particular interest as including seagrasses, mangroves, and vegetated and unvegetated canal and stream bottom habitats for juvenile white shrimp. The NMFS also indicated that the presence of EFH should be confirmed by review of existing tidal and stream gauge information.

A review of water quality and stage elevation data available from the SFWMD and the U.S. Geological Survey (USGS) for the waterway crossings was also performed to identify salinity and tidal regimes occurring in potential EFH located within the project limits. Additionally, National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS) tidal data was reviewed for tidal stations in the project vicinity, to further evaluate tidal regimes within the project area. These water stage and tidal elevation data were also compared to the high water elevations included on the existing structure plans for Turnpike bridge crossings. Other collateral data sources (e.g., FDEP Retained Waters Mapping Tool – Approximate Tidal Waters) were also included in these analyses of tidal and water regimes occurring within the project area.

Based on the review of stage elevation and tidal data, many of the waterway crossings appear to be located at an elevation above the influence of the tides and may not be accessible, or only temporarily accessible, to managed species. For the purposes of this evaluation, the entirety of these freshwater systems within the preferred alternative right-of-way was assessed for EFH impacts. Therefore, these preliminary estimates of potential EFH involvement should be considered conservative and can likely be substantially reduced as project concepts advance to design.

Construction of the proposed project has the potential to impact a total of 6.10 acres of designated EFH, including 3.49 acres of forested wetlands and 2.61 acres of other surface waters (**Table ES-5**). Potential impacts include direct impacts such a fill placement for roadway widening and bridge approaches, pile placement, bridge pier construction and indirect impacts such as shading of vegetated habitats, principally forest wetlands. Potential impacts to EFH, as well as differentiation between direct and indirect impacts, can be further assessed at each waterway crossing as bridge concepts are advanced, and the project proceeds through the design process. EFH impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C §1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements. Available opportunities to replace EFH functions within systems with similar salinity regimes, connectivity, and habitat types will be investigated and evaluated for implementation.

Table ES-4 Preferred Alternative Waterway Crossings

Waterway Crossing Name	Special Designations and Involvement
Loxahatchee River	WSR, OFW, EFH[1], SSL
Unnamed Tributary to Cypress Creek	EFH[1]
Cypress Creek	EFH[1]
Unnamed Tributary to South Fork St. Lucie River #1	None identified
Unnamed Tributary to South Fork St. Lucie River #2	None identified
Roebuck Creek	EFH[2]
St. Lucie Canal (C-44 Canal)	EFH[1], SSL, SFWMD ROW
Unnamed Tributary to Mapps Creek	EFH[1]
Mapps Creek	None identified
Danforth Creek	None identified
Unnamed Tributary to Bessy Creek	None identified
Bessy Creek	None identified
County Line Canal (C-23 Canal)	SFWMD ROW
Winters Creek	None identified
Blakeslee Creek	None identified
Rim Ditch (C-24 Canal)	EFH[1], SFWMD ROW
Tenmile Creek	EFH[1], SSL

Note: Locations and names of waterway crossings referenced in this table are provided in **Figure 1-1** and on appendices graphics.
WSR = Wild and Scenic River
OFW = Outstanding Florida Water
EFH[1] = Essential Fish Habitat (Source: NMFS ETDM Comment)
EFH[2] = Essential Fish Habitat (Source: NMFS GIS Data)
SSL = Sovereign Submerged Land
SFWMD ROW = South Florida Water Management District Right-of-Way

Table ES-5 Estimated EFH Impacts for the Preferred Alternative Bridge and Culvert Crossings and Associated Approach Fill

Waterway Crossing[1]	Bridge No.	Estimated EFH Impact Acreage[2] by FLUCFCS Habitat Type					Estimated EFH Impact Acreage	
		Other Surface Waters		Wetlands			Other Surface Waters	Wetlands
		510	511	617	621	630		
Loxahatchee River	930241		0.08		0.14		0.08	0.14
Unnamed Tributary to Cypress Creek	Culvert		1.24				1.24	0.00
Cypress Creek	890079					0.21	0.00	0.21
Roebuck Creek	890066 and 891000[3]			1.74			0.00	1.74
St. Lucie Canal (C-44 Canal)			0.23				0.23	0.00
Unnamed Tributary to Mapps Creek	Culvert	0.70		0.06			0.70	0.06
Rim Ditch (C-24 Canal)	940049 and 940082	0.25					0.25	0.00
Tenmile Creek	940072		0.11	1.34			0.11	1.34
Estimated EFH Impacts							**2.61**	**3.49**
Total Estimated EFH Impacts							**6.10**	

[1] EFH source for the Loxahatchee River, Unnamed Tributary to Cypress Creek, Cypress Creek, St. Lucie Canal (C-44), Unnamed Tributary to Mapps Creek, Rim Ditch (C-24) and Tenmile Creek was NMFS ETDM comments. EFH source for the Roebuck Creek crossing was NMFS GIS Data.
[2]Wetland and other surface water EFH impacts associated with each bridge/waterway crossing were estimated using the increase in overwater footprint and area of potential fill for bridge approaches. Where applicable, impact estimates also included the potential impacts to wetlands abutting waterway crossings that were identified as potential EFH on the western side of the existing roadway, where widening is proposed to occur. Impacts associated with culverted waterway crossings include all wetlands and other surface waters identified within the preferred alternative right-of-way on the western side of the existing roadway as potential EFH.
[3]The St. Lucie Canal and Roebuck Creek cross the project area under different portions of the Thomas B. Manuel Bridge.

FLUCFCS Habitats Types:
510 – Streams and Waterways
511 – Natural River, Stream, Waterway
617 – Mixed Wetland Hardwoods
621- Cypress
630 – Wetland Forested Mixed

The potential impacts to EFH in the project area have been avoided and minimized to the extent practicable. This has been accomplished by locating the widening and/or replacement of bridge structures as close as possible to existing structures and utilizing existing filled causeways for bridge approaches and roadway to the extent feasible. Stormwater treatment is an essential feature of the proposed project. Surficial runoff from additional impervious areas will be treated to prevent increased water quality degradation as a result of the proposed transportation improvements. This includes compliance with the additional treatment requirements at the Loxahatchee River, an Outstanding Florida Water. Due to the incorporation of stormwater treatment facilities, the

proposed project will not result in the degradation of water quality in the identified EFH. Additionally, sedimentation and erosion control measures (i.e., silt fences, turbidity barriers) will be utilized during construction to minimize exposure of soil and siltation into the water column, further reducing adverse impacts to EFH.

The proposed impacts to areas of EFH within the preferred alternative do not contain any submerged aquatic vegetation and will occur in areas that have been previously disturbed by construction of the existing roadway, culverts, and bridge crossings. Additionally, the EFH within the project area is comprised of the furthest landward extent of the designated EFH habitat and the salinity regimes do not meet the requirements for the majority of SAFMC managed species. Further, due to the topography of the forested wetland systems, portions of these habitats exist at an elevational position beyond the landward most influence of the tides. This may preclude or substantially limit access and recruitment of life history stages of managed species.

As a result, it is anticipated that the proposed project will not have significant direct or indirect adverse impacts on EFH, based on the relatively minor impact to EFH within its local surroundings, resulting in no representative species or life stages of a species being significantly impacted. Based on this information, no populations of SAFMC or ASMFC managed species with potential to occur within the project area are expected to be adversely affected by the proposed project. The project is anticipated to have a **"more than minimal but less than substantial"** potential for adverse effects on EFH.

Special Designations

The Loxahatchee River at the Turnpike crossing is designated as a Wild and Scenic River and Outstanding Florida Water and must meet more stringent water quality criteria for Outstanding Florida Waters. The project will include stormwater treatment to minimize adverse effects on water quality and wetland-dependent species. The Loxahatchee River-Lake Worth Creek Aquatic Preserve is located downstream of the project area.

Additionally, projects involving Wild and Scenic Rivers require consultation with the National Park Service (NPS) in accordance with Section 7 of the Wild and Scenic Rivers Act (WSRA). Technical assistance meetings were held with the NPS to discuss potential project impacts to the Loxahatchee River. The NPS is the administrating agency and will be responsible for making a Section 7 determination for the Loxahatchee River crossing. The Turnpike crosses the Loxahatchee River in a river segment designated as "Scenic". The NPS must conclude, based on information provided by the project proponent that the project will not have a "direct and adverse" effect on the free flowing condition, water quality, or the outstandingly remarkable values for which the Loxahatchee River was designated. As the project moves forward, further evaluation in accordance with Section 7(a) of the WSRA and coordination with the NPS will be required.

Section 1.0 Introduction

1.1 Project Description

The FDOT's FTE is conducting a PD&E study to evaluate the widening of Florida's Turnpike mainline (SR 91) from Jupiter to Ft. Pierce, located in Palm Beach, Martin, and St. Lucie Counties, Florida. The study will evaluate widening the Florida's Turnpike mainline (SR 91) from Jupiter, beginning approximately a half mile north of the West Indiantown Road interchange and terminating at Fort Pierce, approximately one (1) mile north of the Okeechobee Road (SR 70) interchange. The project also includes improvements to six (6) interchanges and incorporation of a stormwater management system. The project location is shown in **Figure 1-1**. The results of the study will support determination of the type, preliminary design and location of the proposed improvements.

The study evaluates the need for capacity improvements and provides engineering and environmental documentation and analysis to establish the optimal alternative for the widening of Florida's Turnpike mainline (SR 91) from Jupiter to Ft. Pierce. Other components of the PD&E study include a preliminary engineering report, concept plans, environmental studies, a public involvement program and other information for use in the development of this project.

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #14295. An ETDM *Programming Screen Summary Report* containing comments from the Environmental Technical Advisory Team (ETAT) was published on May 19, 2017. The ETAT evaluated the project's effects on various natural, physical and social resources. ETAT comments are summarized in **Section 2.4**.

1.2 Purpose and Need

The purpose of this study is to evaluate the widening of Florida's Turnpike mainline (SR 91) from Jupiter to Ft. Pierce to add capacity that will accommodate future traffic volumes of freight and passenger vehicles linked to the projected growth in population and industry. Based on county-wide growth totals developed by the Bureau of Economic and Business Research at the University of Florida, the population of St. Lucie County is anticipated to grow by almost 65% and employment is expected to increase by approximately 58% between 2010 and 2040, with the fastest job growth occurring in the industrial sector.

The purpose of the project is to enhance the integrity of the highway while accommodating future traffic demands, improving overall safety, and meeting current design standards. New interchange access locations will be evaluated as part of this study, as well as operational improvements to the existing interchanges.

Figure 1-1 Project Location Map



The need for the project is based on the following criteria:

The primary purpose of the widening of SR 91 from north of Indiantown Road to north of Okeechobee Road is to add capacity that will accommodate future traffic volumes of freight and passenger vehicles linked to the projected growth in population and employment. The SR 91 corridor is located within the Palm Beach, Martin and St. Lucie Counties.

From April 1, 2018, the population in Palm Beach County is estimated to reach over 1.8 million by year 2045, which represents a 26.3% increase. From April 1, 2018, the population in St. Lucie County is expected to increase by 35.6% by year 2045 to nearly 410,000. From April 1, 2018, the population in Martin County is expected to increase by 22.7% by year 2045 to nearly 190,000. As the city and county populations increase, traffic will increase on area roadways as well. By 2040, the Treasure Coast (including Martin, St. Lucie, and Indian River Counties) is expected to add an additional 104,000 workers, for an increase of 42%, according to data compiled for the Treasure Coast Regional Planning Model. St. Lucie County is projected to experience the largest gross gains in the workforce from 2010 to 2040. Key industries in the region set to experience the most growth include professional, health, retail, and construction.

Within the project limits, existing roadway segments along SR 91 are all currently operating at an acceptable Level of Service (LOS) D or better and existing ramp roadways are currently operating under capacity with volume-to-capacity ratios less than 1.0. In the future, four lanes of travel in each direction will be required on SR 91 between SW Martin Highway and SE Becker Road by year 2033. SR 91 will require three lanes of travel in each direction by year 2025 south of SE Becker Road, by year 2042 between SE Becker Road and SW Port St. Lucie Boulevard, and by year 2035 north of SW Port St. Lucie Boulevard.

Establishment of two Freight Logistics Zones in St. Lucie County around the Treasure Coast International Airport and the Port of Ft. Pierce and a 1,200-acre Intermodal Logistics Center located just north of the airport have the potential to significantly increase freight traffic to and from these areas in northern St. Lucie County.

A total of 516 crashes were observed for the study area within the 2012-2016 study period occurring along SR 91. Among the total 516 crashes, 325 were property damage only crashes, 182 were injury related crashes, and 16 crashes involved at least one fatality. Of the total crashes, 103 (20.0%) were due to front to rear, 79 (15.3%) involved hitting a concrete traffic barrier, 58 (11.2%) involved hitting a guardrail face, and 56 (10.9%) were due to sideswipe in the same direction, all of which are heavily influenced by congestion. Adding lanes to increase capacity and other operational enhancements at interchanges are anticipated to greatly improve the safety of the corridor. However, all portions of Florida's Turnpike within the project limits contain crash rates lower than the statewide average for similar facility types.

One intersection in the project area that will be impacted by proposed improvements at the SW Martin Highway interchange has a crash rate higher than the statewide average for similar facilities (1.572). This intersection is at SW Martin Highway and SW High Meadow Road and had 46 crashes. From 2012 to 2016, the most common crash type was front to rear with 24 crashes

(52.2%), followed by six angle crashes (13.0%), and six unknown crashes (13.0%). Sixteen of the 24 rear end crashes occurred during the AM and PM peak periods, indicating that congestion may be a leading cause of these crashes. While there were no fatalities or severe injuries, there were 27 crashes which resulted in property damage only (58.7%), 15 crashes which resulted in minor injuries (32.6%), and four crashes which resulted in moderate injuries (8.7%).

Additionally, SR 91 is identified as a "critical transportation facility" in the Treasure Coast Regional Planning Council's (TCRPC) Evacuation Transportation Analysis as part of the Statewide Regional Evacuation Study Program. Critical transportation facilities play an important role for all evacuation scenarios. For the Evacuation Level A Operational Scenario (the most minor storm event evaluated), portions of the study corridor are identified as "critical segments with highest vehicle queues." For Evacuation Levels B through E Operational Scenarios (with E being the highest level of evacuation), all of the study area segments are identified as "critical segments with highest vehicle queues."

1.3 Proposed Improvements

1.3.1 No-Build Alternative

The No-Build Alternative remains a viable option throughout the study process. It assumes that both normal and evacuation traffic volumes continue to increase in the future without improvements to the roadway. The No-Build Alternative minimizes right-of-way and construction costs along with environmental impacts. However, it does not accomplish the purpose and need for this project.

1.3.2 Preferred Alternative

For the mainline, two (2) project alternatives, one (1) Build and one (1) No-Build, were assessed as a part of this PD&E study. Additionally, for each of six (6) interchanges along the mainline, three (3) project alternatives, two (2) Build and one (1) No-Build, were evaluated. **Appendix A** provides the conceptual interchange design alternatives. These conceptual design alternatives do not include the full project footprint (limits of construction). As a result, the alternatives analysis for each interchange includes the furthest limits of each alternative. The footprint within which the environmental impacts were evaluated for each interchange Build Alternative are presented in **Figures 1-2** through **1-7**.

These interchanges include:

- SW Martin Highway
- SE Becker Road
- SW Port St. Lucie Boulevard (Note: Same footprint for both alternatives with different designs)
- Crosstown Parkway
- W Midway Road
- Okeechobee Road (SR 70)

The preferred alternative was selected based on the natural, physical, social, and right-of-way information. A detailed alternatives analysis and conceptual designs are included in the Preliminary Engineering Report. The preferred alternative includes the mainline Build Alternative, SW Martin Highway Alternative 7B, SE Becker Road Alternative 1, SW Port St. Lucie Boulevard Alternative 2, Crosstown Parkway Alternative 3, W Midway Road Alternative 1, and Okeechobee Road (SR 70) Alternative 4.

Figure 1-2 SW Martin Highway Interchange Alternatives

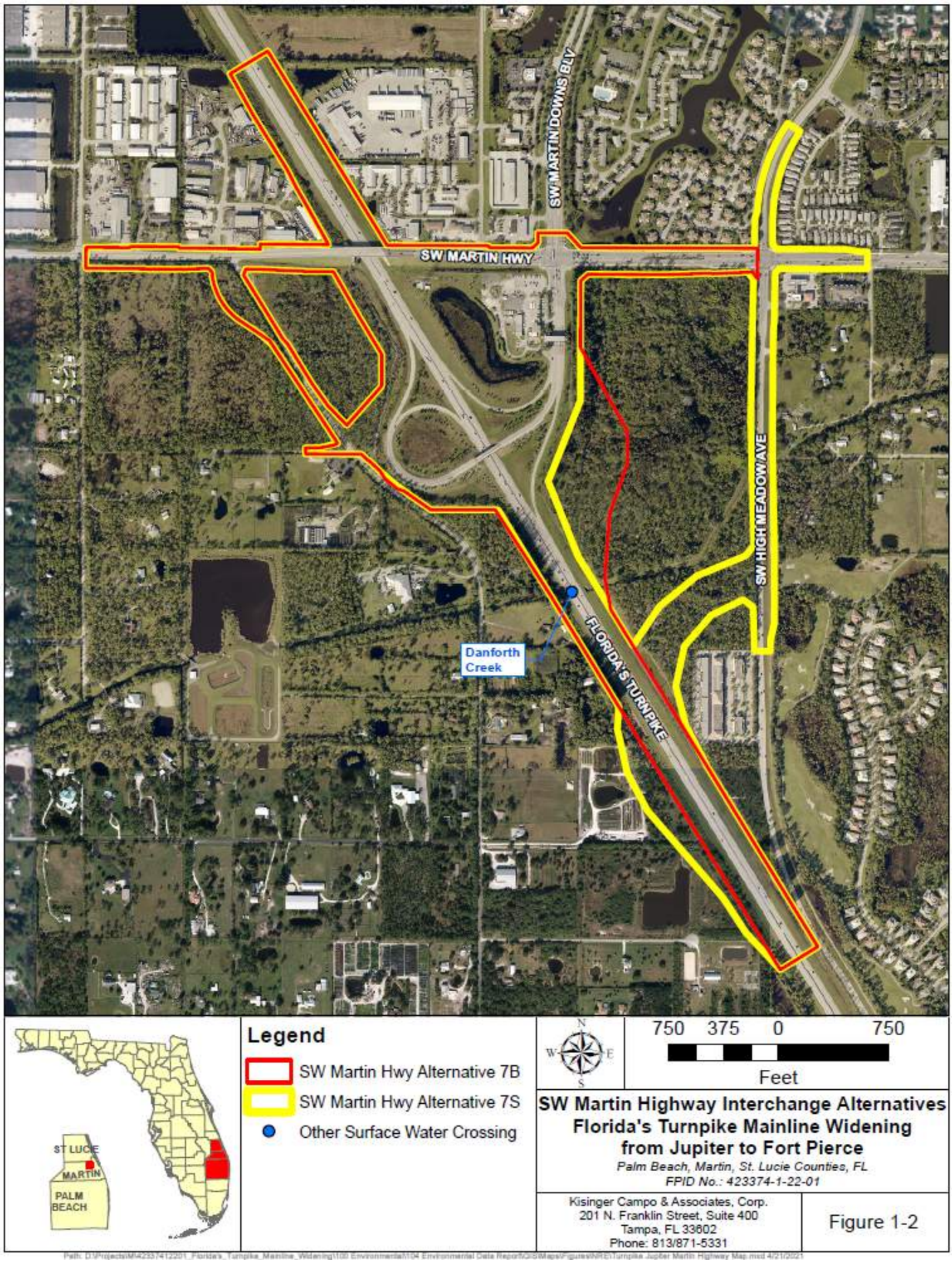


Figure 1-3 SE Becker Road Interchange Alternatives

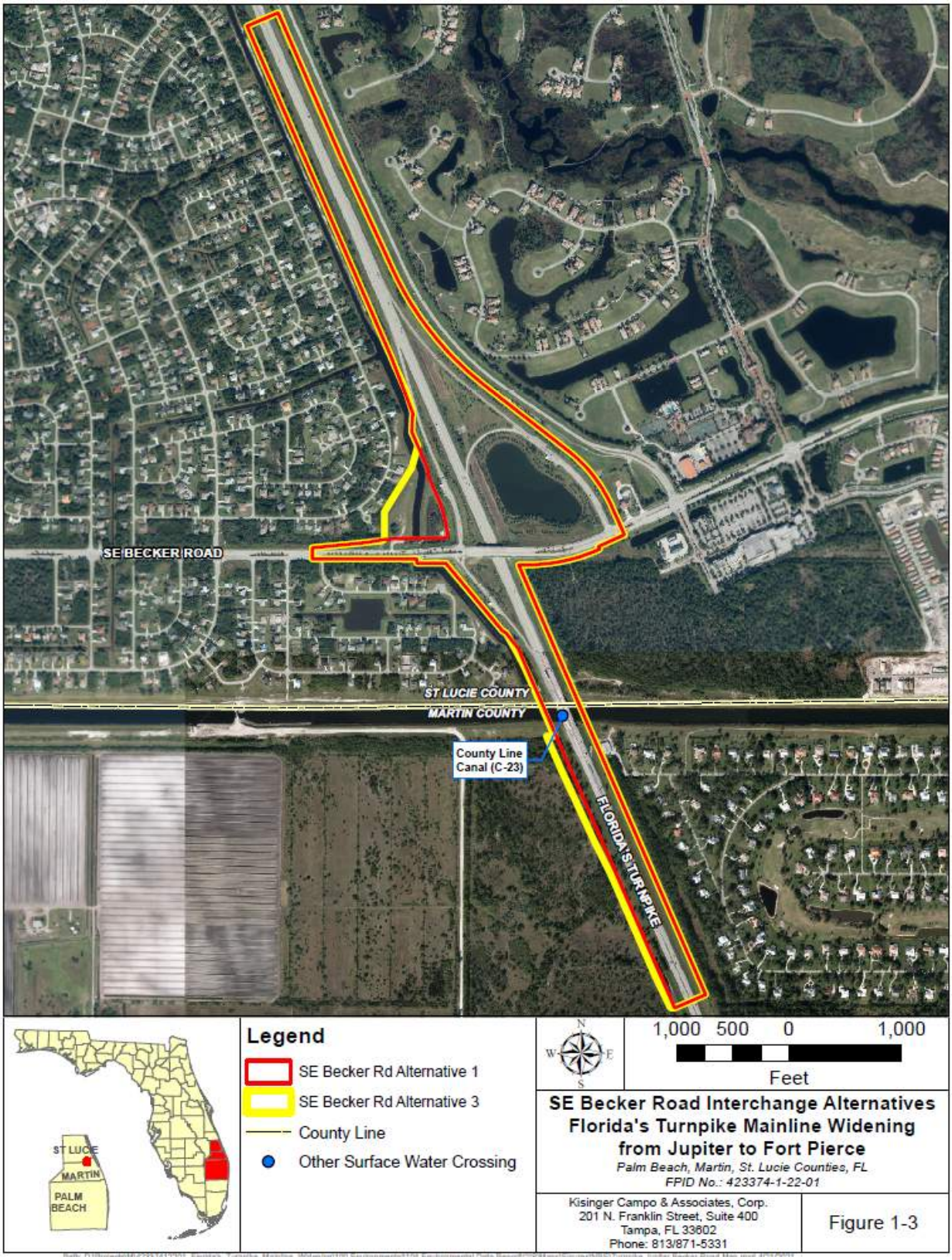


Figure 1-4 SW Port St. Lucie Boulevard Interchange Alternatives

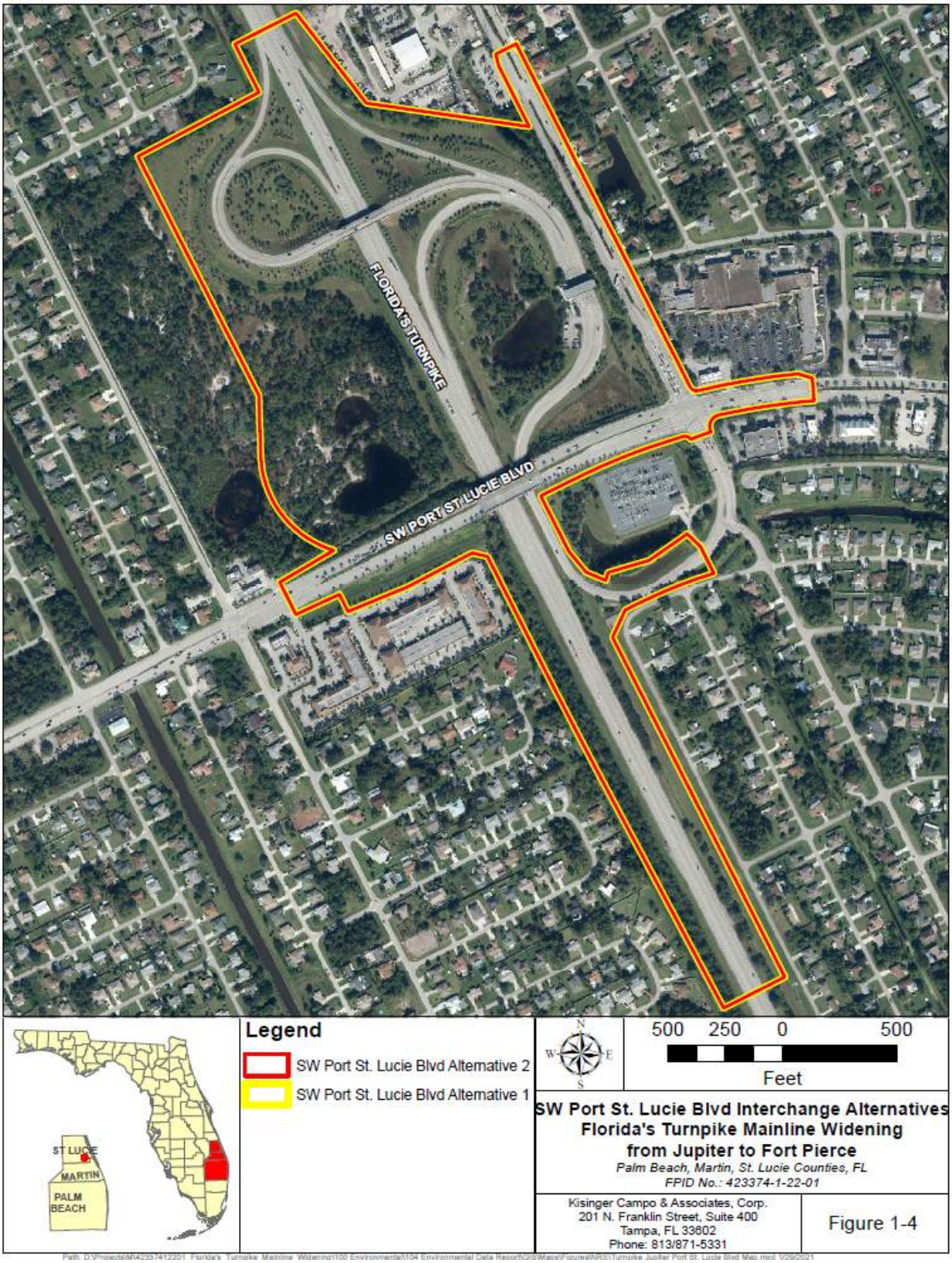


Figure 1-5 Crosstown Parkway Interchange Alternatives

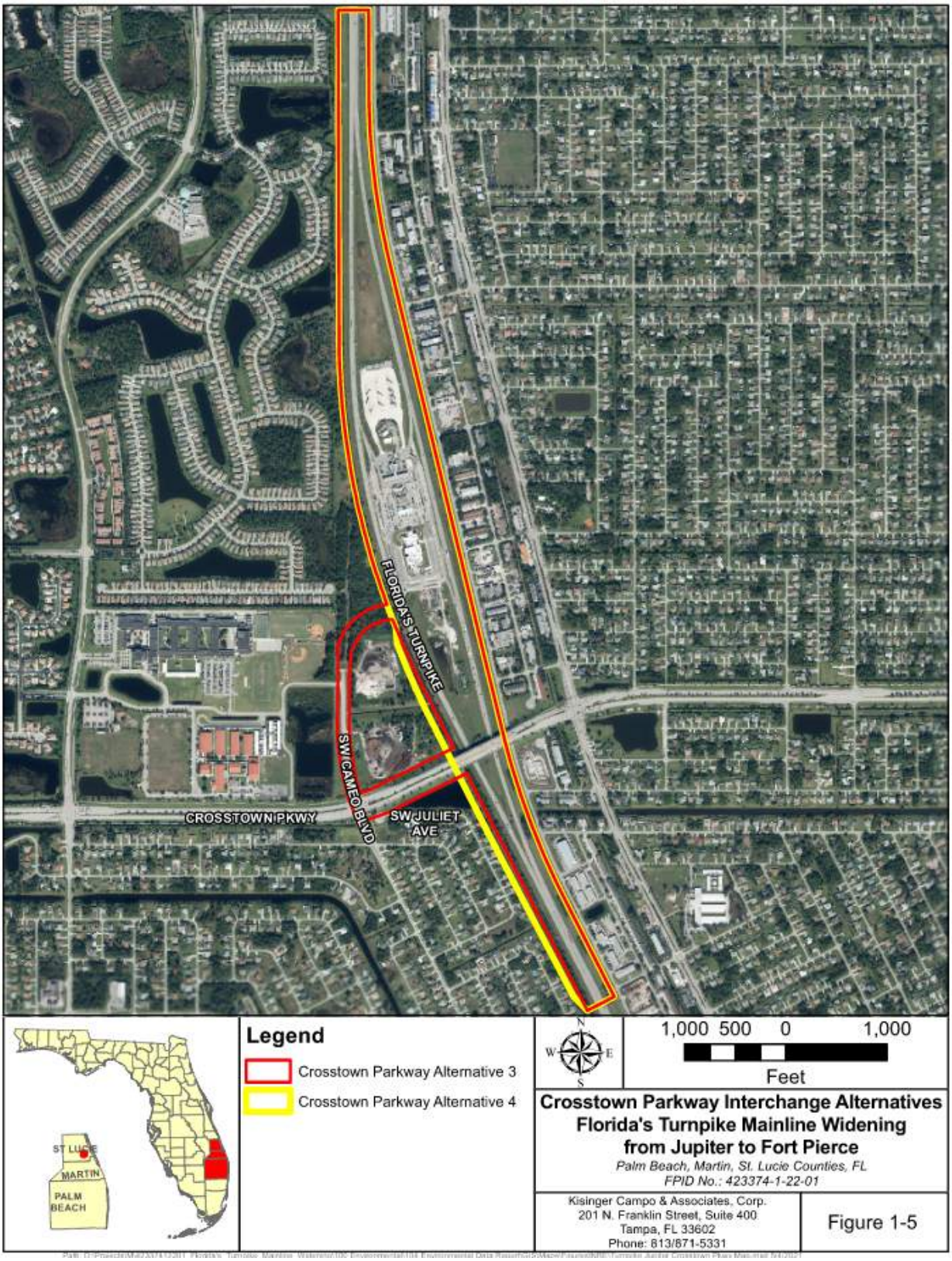


Figure 1-6 W Midway Road Interchange Alternatives

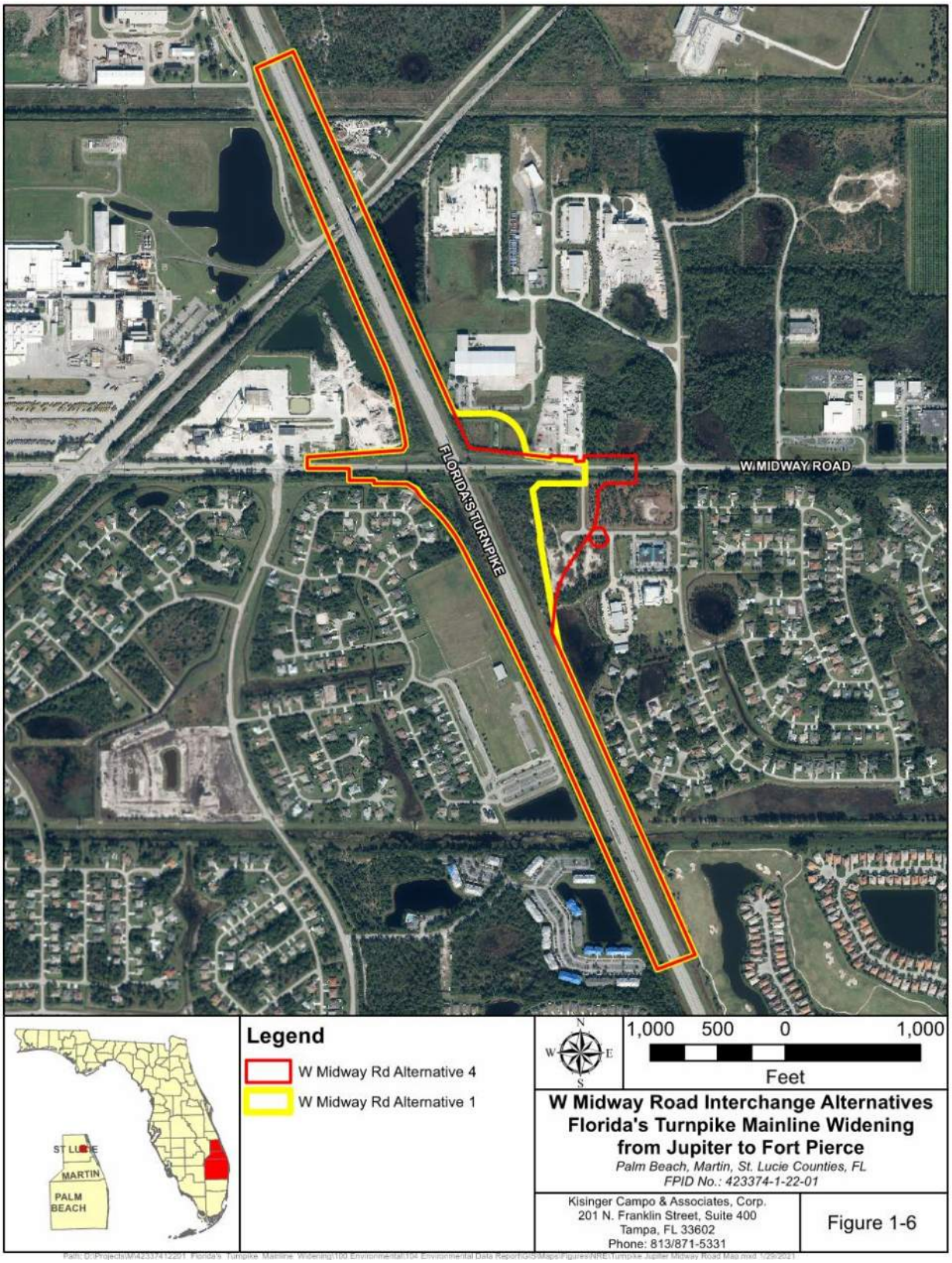
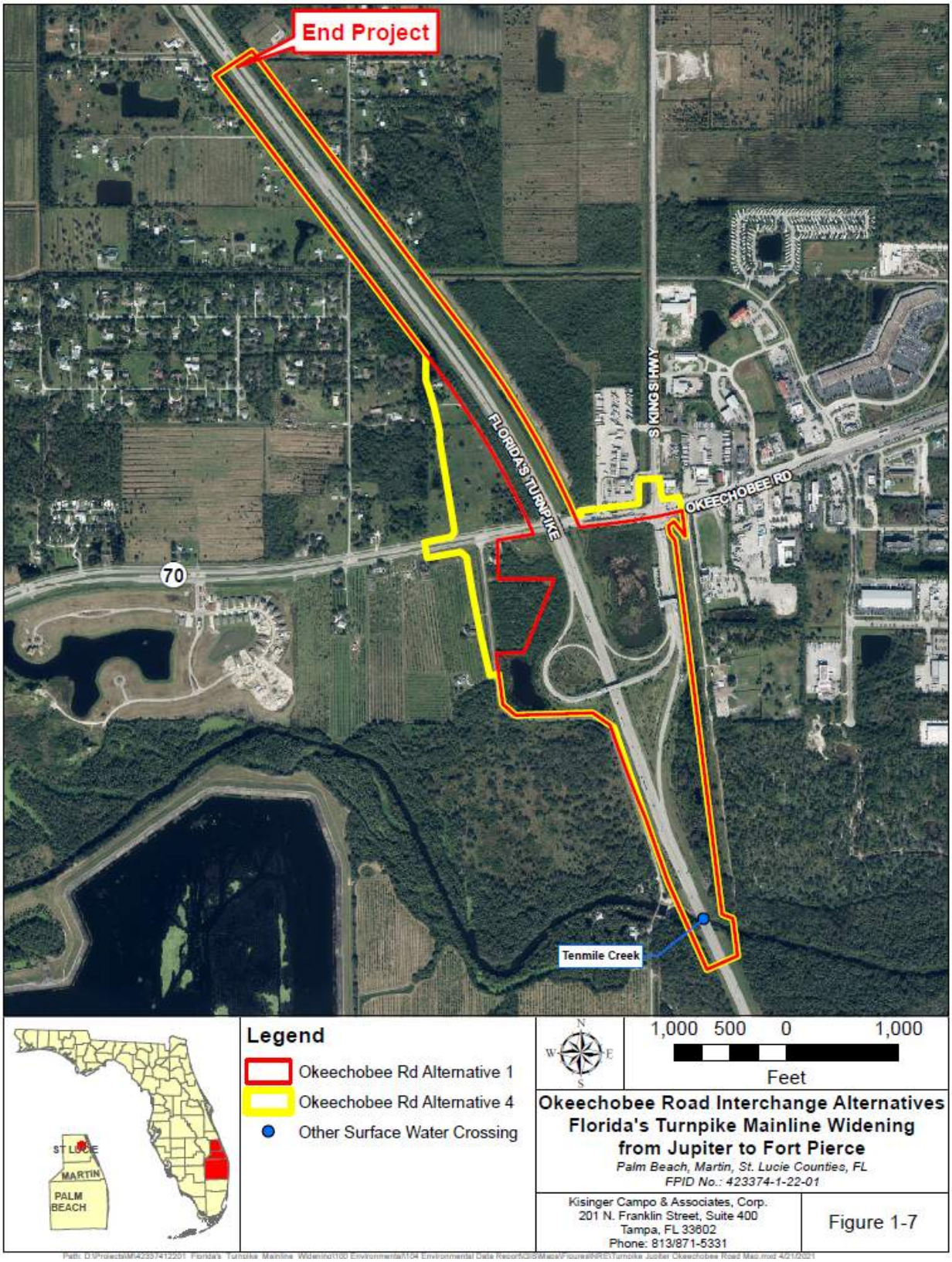


Figure 1-7 Okeechobee Road (SR 70) Interchange Alternatives



1.3.3 Typical Section

The Turnpike currently has a four-lane divided typical section as shown in **Figure 1-8**. The current typical section has two (2) 12-foot travel lanes in each direction, a median barrier, 8- to 10-foot paved inside shoulders, and 10-foot paved outside shoulders. The majority of the existing right-of-way (ROW) varies, but is approximately 300 feet wide. The posted speed limit for the Turnpike is 70 miles per hour (mph) throughout the length of the proposed project.

The proposed build alternative is also provided in **Figure 1-9**. This typical section has four (4) 12-foot travel lanes in each direction, a median barrier, 12-foot paved inside shoulders, and 12-foot outside shoulders. This typical section is offset to the west within the 300-foot ROW to avoid impacts and involvement with existing Florida Gas Transmission (FGT) pipelines and I-95.

Figure 1-8 Existing Typical Section

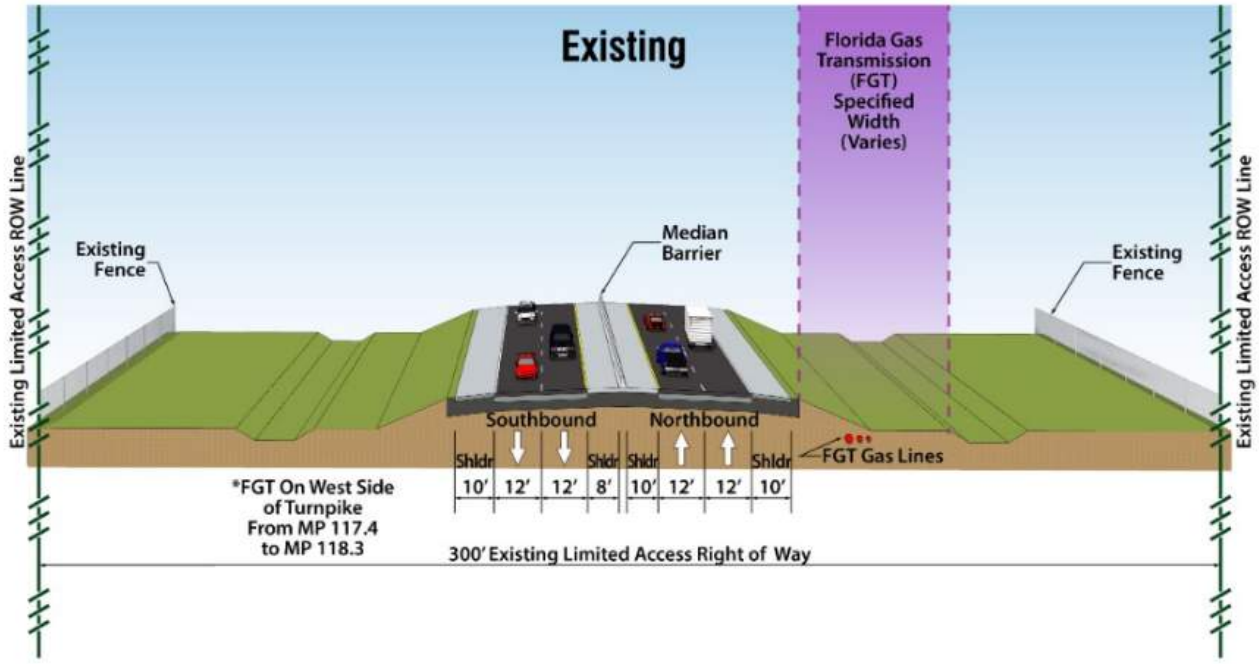
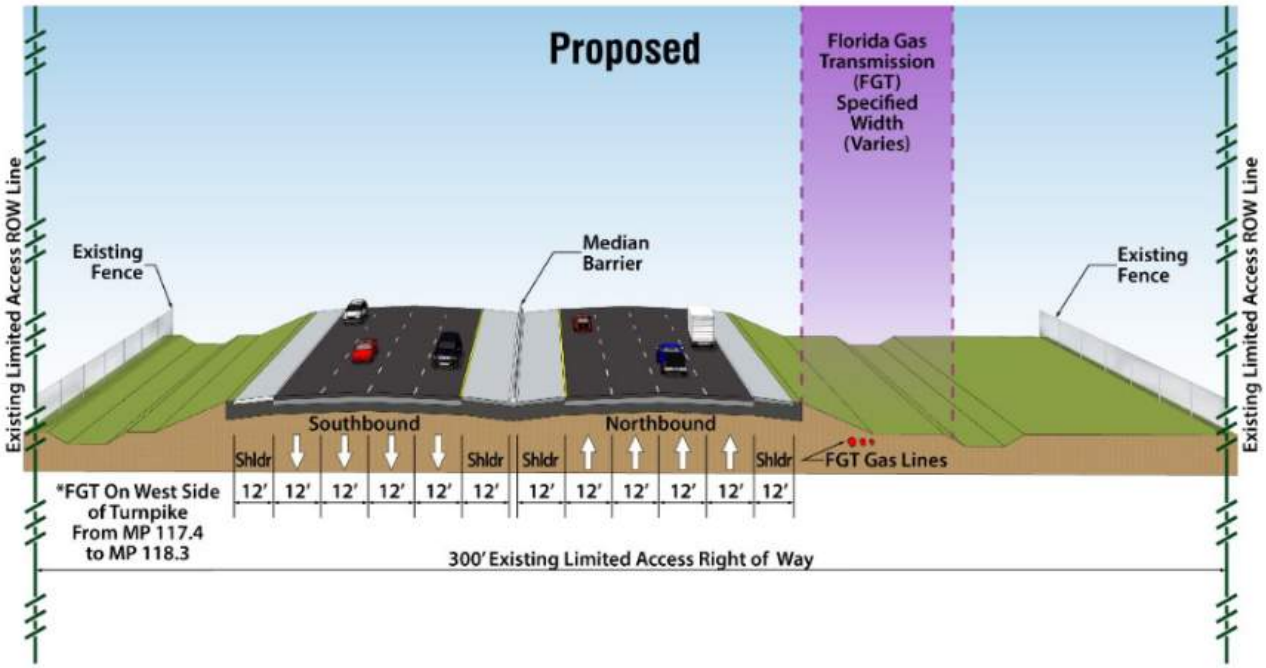


Figure 1-9 Proposed Typical Section



1.4 Purpose of Report

The purpose of this report is to document wetlands, essential fish habitat, and protected species within the project study area. In accordance with Part 2, Chapter 9 – Wetlands and Other Surface Waters, and Part 2, Chapter 17 - Essential Fish Habitat, of the FDOT PD&E Manual, two (2) project alternatives, one (1) Build and one (1) No-Build, were assessed for the mainline to determine the potential wetland impacts associated with construction of each alternative. Additionally, for each of six (6) interchanges along the mainline, three (3) project alternatives, two (2) Build and one (1) No-Build, were assessed to determine the potential wetland impacts associated with construction of each alternative. The No-Build Alternative for the mainline and interchanges will result in no impacts to wetlands or other surface waters.

This report documents existing wildlife resources and includes an assessment of existing habitat types found within the project study area, in addition to the potential occurrence of federal- and state-protected plant and animal species in accordance with Part 2, Chapter 16 – Protected Species and Habitat of the FDOT PD&E Manual. Potential impacts to protected species and critical habitat that may support these species are also addressed in this report.

Section 2.0 Existing Conditions

2.1 Introduction

This section presents a description of existing conditions within the project study area, including soils and upland and wetland land use cover types. **Section 3.0** presents a description of the potential impacts to federal- and state-protected species and proposed conservation measures to offset these impacts. **Section 4.0** presents a description of wetland and other surface water impacts that would result from the construction of the preferred alternative and a discussion of the mitigation options to offset these impacts.

2.2 Methodology

In order to assess the approximate locations and boundaries of existing wetland and upland communities within the project area, the following site-specific data was collected and reviewed:

- Aerial photographs, (scale 1" = 200') ESRI 2018;
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th ed., (Hurt et al. 2007);
- Florida Department of Transportation (FDOT), Florida Land Use Cover, and Forms Classification System (FLUCFCS) Handbook, 3rd ed., January 1999;
- SFWMD, Florida Land Use, Cover and Forms Classification System GIS Database, (SFWMD 2016);
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Martin County, Florida, 1981;
- USDA, NRCS, Soil Survey of Palm Beach County, Florida, 1978;
- USDA, NRCS, Soil Survey of St. Lucie County, Florida, 1980;
- USDA, NRCS Web Soil Survey, (February 2020);
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), Wetlands Online Mapper (July 2017); and
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

For the purposes of this document, wetlands are defined in accordance with Chapter 62-340 F.A.C., Section 373.019(27), F.S., and *Corps of Engineers Wetland Delineation Manual* (1987) with *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010). Other surface waters are defined as open water bodies and manmade drainage features.

Environmental scientists familiar with Florida's natural communities conducted field reviews of the study area in July, September, and October 2017, with follow-up visits in February and March 2020. Field reviews consisted of pedestrian transects throughout natural habitat types found within the project study area. The purpose of these reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photographic interpretation. During field investigations, wetland and other surface water habitat type within the project study area were visually inspected and photographed. Attention was given to identifying plant species and composition for each community. Exotic plant infestations and other disturbances such as soil subsidence, clearing, canals, power lines, etc., were noted. Attention was also given to identifying wildlife and signs of wildlife utilization in each wetland and adjacent upland habitats within the project study area.

For the purposes of this report, the project study area is defined as the right-of-way and mainline alignment with a 200-foot buffer, approximately 300 feet from the edge of existing pavement, and the furthest limits of the interchange alternatives. Where the project corridor parallels I-95, the project study area does not extend into I-95, except for the southern limits of the mainline alignment, which encompasses a portion of I-95.

2.3 Results

Based on site-specific data searches and field evaluations, a total of 42 soil types, 44 upland habitat types, and 11 wetland and other surface water habitat types were identified within the study area. The following subsections describe the soils, upland and wetland community types, and individual wetlands and other surface waters that occur within the project study area.

2.3.1 Soils

Based on the *Soil Survey of Martin County, Florida* (NRCS, 1981), *Soil Survey of Palm Beach County, Florida* (NRCS, 1978), and *Soil Survey of St. Lucie County, Florida* (NRCS, 1980), the study area is comprised of 42 soil types. **Appendix B** provides an aerial map depicting the boundaries and the descriptions of each soil type within the project study area. According to the *NRCS Web Soil Survey*, 16 soil types reported within the project study area are classified as hydric and 26 are listed as non-hydric. Of the 26 non-hydric soils, 12 are reported as having possible hydric soil inclusions. Mapped hydric soils comprise 578.39 acres (18.44 percent) and non-hydric soils cover 2,487.91 acres (79.31 percent) of the study area. The remaining 70.60 acres (2.25 percent) of the project study area is designated as open water.

Table 2-1 lists the soil types reported within the study area, their hydric ranking, and the approximate acreage and percentage within the project study area.

Table 2-1 NRCS Soil Types and Coverage within the Turnpike Mainline Widening Study Area

County	Soil Number	Soil Type	Hydric (Y/N)	Acreage within the Project Study Area	Percent of Project Study Area
Martin	4	Waveland and Immokalee Fine Sands	N*	0.47	0.01%
	9	Pomello Sand, 0 to 5 Percent Slopes	N	5.28	0.17%
	17	Wabasso Sand	N*	268.85	8.51%
	21	Pineda and Rivera Fine Sands	Y	218.24	6.95%
	23	Urban Land	N	6.59	0.21%
	36	Arents, 0 to 2 Percent Slopes	N	55.45	1.77%
	38	Floridana Fine Sand, Depressional	Y	5.78	0.18%
	44	Boca Fine Sand	N*	1.45	0.05%
	47	Pinellas Fine Sand	N*	11.49	0.37%
	49	Riviera Fine Sand, Depressional	Y	145.47	4.63%
	52	Malabar Fine Sand, High	N*	3.88	0.12%
	53	Udorthents, 0 to 35 Percent Slopes	N	6.93	0.22%
	55	Basinger Fine Sand	Y	5.28	0.17%
	56	Wabasso and Oldsmar Fine Sands, Depressional	Y	19.21	0.61%
	61	Hobe Fine Sand, 0 to 5 Percent Slopes	N	49.05	1.56%
	63	Nettles Sand	N*	795.18	25.37%
	67	Kesson Sand, Tidal	Y	22.83	0.73%
	99	Water	N/A	17.02	0.54%
Palm Beach	8	Basinger and Myakka Sands, Depressional	Y	2.55	0.08%
	18	Immokalee Fine Sand	N*	61.67	1.97%
	25	Oldsmar Sand	N*	4.29	0.14%
	33	Pomello Fine Sand, 0 to 5 Percent Slopes	N*	10.38	0.33%
	50	Winder Fine Sand	Y	8.04	0.26%
	99	Water	N/A	3.78	0.12%
St. Lucie	2	Ankona and Farmton Sands	N	454.01	14.49%
	4	Arents, 0 to 5 Percent Slopes	N	15.68	0.50%
	5	Arents, 45 to 65 Percent Slopes	N	50.94	1.62%
	11	Chobee Loamy Sand, Depressional	Y	3.37	0.11%
	12	Electra Fine Sand, 0 to 5 Percent Slopes	N	25.98	0.83%
	14	Fluvaquents, Frequently Flooded	Y	18.42	0.59%
	16	Hilolo Loamy Sand	Y	0.92	0.03%
	17	Hobe Sand, 0 to 5 Percent Slopes	N	6.23	0.20%

County	Soil Number	Soil Type	Hydric (Y/N)	Acreage within the Project Study Area	Percent of Project Study Area
St. Lucie	19	Jonathan Sand, 0 to 5 Percent Slopes	N	2.16	0.07%
	25	Nettles and Oldsmar Sands	N*	405.90	12.96%
	26	Oldsmar Sand, Depressional	Y	18.73	0.60%
	29	Pendarvis and Pomello Sands, 0 to 5 Percent Slopes	N	2.31	0.07%
	31	Pepper and Eaugallie Sands	N*	7.76	0.25%
	32	Pineda Sand	Y	86.17	2.75%
	38	Riviera Fine Sand	Y	15.12	0.48%
	39	Salerno and Punta Sands	N	24.73	0.79%
	40	Samsula Muck, Depressional	Y	2.44	0.08%
	44	Tantile and Pomona Sands	N	37.48	1.19%
	47	Urban Land	N	11.34	0.36%
	48	Wabasso Sand	N*	65.32	2.08%
	50	Waveland and Immokalee Fine Sands	N	96.31	3.07%
	51	Waveland-Lawnwood Complex, Depressional	Y	5.82	0.19%
	55	Winder Loamy Sand	N*	0.80	0.03%
	99	Water	N/A	49.80	1.59%
			Total Hydric	**578.39**	**18.44%**
			Total Non-Hydric	**2487.91**	**79.31%**
			Total Water	**70.60**	**2.25%**
			Total	**3136.90**	**100.00%**

*May have hydric soil inclusions

2.3.2 Land Use

A total of 44 upland, eight (8) wetland and three (3) other surface water habitat types were found within the project study area. Aerial maps depicting existing land uses and habitats within the project study area are provided in **Appendix C**. **Appendix C** also includes descriptions of each land use and habitat type. Each land use type within the project study area was classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS; FDOT 1999) and the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979), if applicable. **Table 2-2** provides land use and habitat types, their classifications, total acreage and percent coverage within the project study area.

Upland communities comprise 2,425.33 acres (77.32 percent) of the project study area. Developed uplands include residential development, commercial and services, industrial areas, and institutional and recreational facilities. Undeveloped uplands of the project study area consist of open land, pastures, agriculture, dry prairie, rangeland, shrub and brushland, pine flatwoods, upland hardwood forests, hardwood-conifer mixed uplands, and disturbed land. Infrastructure

within the project study area consists predominantly of transportation, with communications facilities and sewage treatment areas.

Wetland and other surface water communities comprise 711.57 acres (22.68 percent) of the project study area. Based on collected field data and in-house reviews, a total of 11 wetland and other surface water habitat types, including eight (8) wetland and three (3) other surface waters types were identified within the project study area. Wetland and other surface water habitats include natural and manmade streams and waterways, reservoirs, mixed wetland hardwoods, exotic wetland hardwoods, cypress, cypress/pine/cabbage palm mixed, hydric pine, wetland forested mixed, wetland scrub, and freshwater marshes.

Appendix D provides aerial maps depicting the location of wetland and other surface water habitats within the project study area. The Turnpike crosses the Loxahatchee River, a designated Wild and Scenic River and Outstanding Florida Water, near the project southern terminus, in Palm Beach County. This Wild and Scenic River is discussed in detail in **Section 6.0**. Representative photographs of wetland and other surface water community types are provided in **Appendix E**.

Table 2-2 Land Use Types within the Turnpike Mainline Widening Study Area

Habitat Type	FLUCFCS Code[1]	FLUCFCS Description	USFWS Classification[2]	Acreage within Project Study Area	Percent of Project Study Area
Developed	110	Residential Low Density (<2 units/acre)	N/A	4.19	0.13%
	111	Fixed Single Family Units - Low Density	N/A	15.50	0.49%
	121	Fixed Single Family Units - Medium Density	N/A	154.87	4.95%
	129	Medium Density Under Construction	N/A	47.07	1.50%
	132	Mobile Home Units	N/A	4.74	0.15%
	133	Multiple Dwelling Units, Low Rise	N/A	9.78	0.31%
	140	Commercial and Services	N/A	101.70	3.24%
	141	Shopping Centers	N/A	4.38	0.14%
	142	Wholesale Sales & Services - Junk Yards	N/A	0.05	0.00%
	155	Other Light Industrial	N/A	11.88	0.38%
	156	Other Heavy Industrial	N/A	3.76	0.12%
	170	Institutional	N/A	1.30	0.04%
	171	Educational Facilities	N/A	13.52	0.43%
	182	Golf Course	N/A	47.13	1.50%
	184	Marinas and Fish Camps	N/A	2.52	0.08%
	185	Parks and Zoos	N/A	2.69	0.09%

Habitat Type	FLUCFCS Code[1]	FLUCFCS Description	USFWS Classification[2]	Acreage within Project Study Area	Percent of Project Study Area
Undeveloped	190	Open Land	N/A	2.16	0.07%
	194	Other Open Land	N/A	0.31	0.01%
	211	Improved Pastures	N/A	20.4	0.65%
	212	Unimproved Pastures	N/A	37.16	1.18%
	214	Row Crops	N/A	76.29	2.43%
	221	Citrus Groves	N/A	2.23	0.07%
	224	Abandoned Groves	N/A	37.39	1.19%
	240	Nurseries and Vineyards	N/A	3.72	0.12%
	241	Tree Nurseries	N/A	0.45	0.01%
	251	Horse Farms	N/A	0.42	0.01%
	254	Aquaculture	N/A	0.34	0.01%
	310	Herbaceous (Dry Prairie)	N/A	13.46	0.43%
	320	Upland Shrub and Brushland	N/A	17.64	0.56%
	330	Mixed Rangeland	N/A	8.61	0.27%
	411	Pine Flatwoods	N/A	344.28	10.99%
	420	Upland Hardwood Forests	N/A	16.64	0.53%
	422	Brazilian Pepper	N/A	13.79	0.44%
	424	Melaleuca	N/A	4.29	0.14%
	434	Upland Mixed Coniferous / Hardwood	N/A	69.86	2.23%
	740	Disturbed Land	N/A	5.10	0.16%
Infrastructure	810	Transportation	N/A	0.11	0.00%
	814	Roads and Highways	N/A	1,232.90	39.32%
	820	Communications	N/A	3.92	0.12%
	831	Electrical Power Facilities	N/A	4.73	0.15%
	832	Electrical Power Transmission Lines	N/A	3.55	0.11%
	834	Sewage Treatment	N/A	52.95	1.69%
	835	Solid Waste Disposal	N/A	26.88	0.86%
	836	Other Treatment Pond	N/A	0.67	0.02%
			Total Uplands	**2,425.33**	**77.32%**
Other Surface Waters	510	Streams and Waterways	E1UBLx, PEM1Cx, PEM1Hx, PFO1Cx, PSS1Cx, PSS1Hx, PUB2Cx, PUB2Hx, R2UB2Hx	399.69	12.74%
	511	Natural River, Stream, Waterway	E1UBL, PFO1/4C, R2UB2H	17.91	0.57%
	530	Reservoirs	L1UBHx, PEM1Hx, PSS1Hx, PUB2Hx	91.03	2.90%
Wetlands	617	Mixed Wetland Hardwoods	PFO1C, PFO1R	31.53	1.01%
	619	Exotic Wetland Hardwoods	PFO3C	2.93	0.09%

Habitat Type	FLUCFCS Code[1]	FLUCFCS Description	USFWS Classification[2]	Acreage within Project Study Area	Percent of Project Study Area
Wetlands	621	Cypress	PFO2C, PFO2F	18.08	0.58%
	624	Cypress - Pine - Cabbage Palm	PFO2/4C	0.66	0.02%
	625	Wet Pinelands Hydric Pine	PFO4C	27.40	0.87%
	630	Wetland Forested Mixed	PFO1/4C	4.34	0.14%
	631	Wetland Scrub	PSS1C, PSS1Cx	99.4	3.17%
	641	Freshwater Marshes	PEM1B, PEM1C, PEM1Cx	18.60	0.59%
Total Wetlands and Other Surface Waters				**711.57**	**22.68%**
Total				**3,136.90**	**100.00%**

[1] FDOT 1999

[2] Cowardin, *et al*. 1979

USFWS Classifications:

E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal

E1UBLx: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal, Excavated

L1UBHx: Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Excavated

PEM1B: Palustrine, Emergent, Persistent, Saturated

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded

PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated

PEM1Hx: Palustrine, Emergent, Persistent, Permanently Flooded, Excavated

PFO1/4C: Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded

PFO1C: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded

PFO1Cx: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded, Excavated

PFO1R: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded-Tidal

PFO2/4C: Palustrine, Forested, Needle-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded

PFO2C: Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded

PFO2F: Palustrine, Forested, Needle-leaved Deciduous, Semipermanently Flooded

PFO3C: Palustrine, Forested, Broad-leaved Evergreen, Seasonally Flooded

PFO4C: Palustrine, Forested, Needle-leaved Evergreen, Seasonally Flooded

PSS1C: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded

PSS1Cx: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated

PSS1Hx: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Permanently Flooded, Excavated

PUB2Cx: Palustrine, Unconsolidated Bottom, Sand, Seasonally Flooded, Excavated

PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated

R2UB2H: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded

R2UBHx: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated

2.4 ETDM Coordination

The project was evaluated through FDOT's ETDM process as project No.: 14295. An ETDM *Programming Screen Summary Report* containing comments from the ETAT was published on May 19, 2017. The ETAT evaluated the project's effects on various natural, physical and social resources. Comments from the ETAT related to wetlands, other surface waters, and protected species are summarized in the sections below. Additional agency coordination and technical assistance meetings were conducted with the NPS, USACE, SFWMD, USFWS, National Marine Fisheries Service (NMFS), U.S. Coast Guard (USCG), and the FWC. Further discussion of agency coordination and technical assistance meetings is provided in **Section 8.5.**

2.4.1 Wetlands and Other Surface Waters

National Park Service

The NPS noted that the Loxahatchee River, crossed by the Florida's Turnpike mainline, is one (1) of two (2) rivers in Florida designated as a Wild and Scenic River. The NPS also identified two (2) Land and Water Conservation Fund (LWCF) sites within the 200- and 500-foot buffers, as well as two (2) LWCF sites within one (1) mile of the proposed project. Any right-of-way that converts the use of these sites to any use other than public outdoor recreation will constitute a Section 6(f)(3) conversion, which will require replacement property of equal or greater financial and ecological value in accordance with 36 CFR 59.3. The NPS also recommended an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) and 4(f) evaluation be prepared. Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966, as amended (49 United States Code [U.S.C.] § 303) does not apply to this project since it is state-funded.

U.S. Army Corps of Engineers

The USACE stated that approximately 382 acres of Palustrine wetlands, 51 acres of Riverine wetlands, 35 acres of Lacustrine wetlands and 17 acres of Estuarine wetlands are within the 500-foot project buffer. The USACE also noted that National Inventory of Dams data indicates that there is one Major Dam located within the 500-foot project buffer (Control Structure #2/Gordy Road Structure). Control Structure #2 is owned by St. Lucie County and is within the North St. Lucie Water Control District. Due to the proposed project's impacts to waters of the United States, it was stated that a Section 404 permit would be required.

South Florida Water Management District

The SFWMD noted additional criteria will be required for protecting the Loxahatchee River, an Aquatic Preserve. It also indicated that the Loxahatchee River and Ten Mile Creek area are both part of Comprehensive Everglades Restoration Plan (CERP) projects and will require additional coordination with CERP leadership. The SFWMD stated that there are wetlands and mitigation areas along the Turnpike in Palm Beach, Martin and St. Lucie Counties. Additionally, there are wetlands on state park and other state and county preserve lands adjacent to or near the Turnpike in these counties. Wetlands associated with rivers and creeks are of concern due to downstream connectivity for water, fish and wildlife. The SFWMD noted that reduction and elimination of

impacts, particularly in the Loxahatchee River and other river/creek systems are important. The project must meet the criteria in the ERP Applicant's Handbook Vol. I, Section 10 and additional criteria for Outstanding Florida Waters and Aquatic Preserves, including mitigation. It was also stated that impacts to wetlands under conservation easement may require additional mitigation.

The SFWMD also commented that an Environmental Resource Permit (ERP) will be required for this project and existing SFWMD Permit 43-00568-S in Martin County may be modified.

U.S. Fish and Wildlife Service

The USFWS noted that wetlands provide important habitat for fish and wildlife. Wetlands may occur within and near the project site. They recommend that these valuable resources be avoided to the greatest extent practicable. If impacts to these wetlands are unavoidable, they recommended the FDOT provide mitigation that fully compensates for the loss of important resources.

National Marine Fisheries Service

The NMFS noted that according to the Magnuson-Stevens Act and Fish and Wildlife Coordination Act, essential fish habitat (EFH) for white shrimp (*Litopenaeus setiferus*) is located where the Turnpike crosses the follow waterbodies:

- The Loxahatchee River and its tributary crossings at the following three (3) locations: 26.954450, -80.165199 (Loxahatchee River); 26.964772, -80.173156 (Unnamed Tributary to Cypress Creek); and 26.972063, - 80.178423 (Cypress Creek).
- The South Fork of the St. Lucie River at 27.117673, -80.274832 (St. Lucie Canal, C-44).
- The tributary to the South Fork of the St. Lucie River at 27.128295, -80.282304 (Unnamed Tributary to Mapps Creek).
- The South Florida Water Management District canal at 27.262455, -80.352264 (Rim Ditch, C-24).
- Ten Mile Creek at 27.402611, -80.397842.
- The FTE included the Roebuck Creek crossing as potential EFH for the purposes of this assessment based on NMFS GIS data.

The South Atlantic Fishery Management Council (SAFMC) designates forested palustrine wetlands as EFH for juvenile white shrimp. It was stated that these habitats vary in quality from low to very high and impacts to these wetlands should be sequentially avoided, minimized, and compensated with in-kind mitigation. The NMFS noted that they are not aware of a mitigation bank servicing the area providing tidal freshwater credits and freshwater wetlands not receiving tidal influence impacted by the project may be offset at mitigation banks after avoidance and minimization have taken place. Upon further review, the NMFS may issue EFH conservation recommendations.

The NMFS stated that, due to the replacement/expansion of impervious surfaces, surface and stormwater runoff into the surrounding waters may result and the discharge of hydrocarbons and other contaminants may degrade water quality. Subsequently, NOAA trust resources located in the receiving waters could be adversely affected. They recommend, to the extent practicable, runoff should be treated before being discharged into the canal.

During this PD&E Study, a wetland evaluation was prepared and documented in this NRE report in accordance with Part 2, Chapter 9 Wetlands and Other Surface Waters of the FDOT PD&E Manual to determine the potential adverse impacts to wetlands. All necessary measures will be taken to avoid and/or minimize impacts to wetlands to the greatest extent practicable during project design. Should avoidance and/or minimization not be practicable, a mitigation plan will be prepared. Please refer to the Pond Siting Report for details on the design and implementation of stormwater treatment systems. The FTE conducted technical assistance meetings with the NPS, USACE, USCG, SFWMD, USFWS, and the NMFS during this PD&E study, and will continue to coordinate with these agencies throughout the project's design phase, as applicable.

2.4.2 Wildlife and Habitat

South Florida Water Management District

The SFWMD commented that several rivers, creeks and canals connect to coastal waters. However, coastal resources (mangroves, seagrasses) are minimal in the project area due to low salinity. They also noted that water bodies crossed by the Turnpike may be accessible to manatees and additional criteria will apply for any in-water work.

Florida Fish and Wildlife Conservation Commission

The Florida Fish and Wildlife Conservation Commission (FWC) noted that primary wildlife issues associated with this project include: potential loss of valuable floodplain swamp habitat within Jonathan Dickinson State Park resulting from expansion of the Loxahatchee River Bridge and the Cypress Creek Bridge; potential loss of public conservation lands and valuable wildlife habitat via expansion of the ROW; potential adverse effects to a moderate number of species listed by the Federal Endangered Species Act as Endangered or Threatened, or by the State of Florida as Threatened or Species of Special Concern; potential impacts to manatees from in-water work associated with construction of numerous bridges over waterways with manatee access; potential for increased wildlife roadkill; and potential water quality degradation as a result of additional stormwater runoff from the expanded impervious surface draining into adjacent wetlands, streams, canals, the Loxahatchee River, the St. Lucie River, and the Indian River Lagoon.

Florida Department of Agriculture and Consumer Services

The Florida Department of Agriculture and Consumer Services (FDACS) designated the proposed project with a Degree of Effect of 0 (None), noted No Involvement under Coordination Document, and provided no comments.

U.S. Fish and Wildlife Service

The USFWS stated that the project corridor is in the Core Foraging Area (CFA) of five (5) active nesting colonies of the threatened wood stork. They recommend that any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. The USFWS commented that the following federally listed species have the potential to occur in or near the project site: eastern indigo snake, Florida scrub-jay, Audubon's crested caracara, West Indian manatee, Everglade snail kite, wood stork, and Federally listed plants. USFWS recommends that

a Biological Assessment (Natural Resources Evaluation [NRE]) for the project be prepared during the PD&E Study. The USFWS also recommended that the FDOT consider incorporating native flowering plants and native shrubs and trees into the landscaping for the proposed roadway to benefit pollinators.

This NRE has been prepared in accordance with Part 2, Chapter 16 of the PD&E Manual. As needed, design phase surveys will be conducted for the listed species potentially occurring within the project study area and the effects on listed species will be re-evaluated. Avoidance, minimization and mitigation for unavoidable impacts will be assessed during the alternatives development to avoid and minimize effects on protected species and wetlands. The FTE will continue to coordinate with the SFWMD, FWC, FDACS and the USFWS throughout the project's design phase, as applicable.

Section 3.0 Protected Species

3.1 Introduction

Listed species are afforded special protective status by federal and state agencies. This special protection is federally administered by the United States Department of the Interior, USFWS, and National Oceanic and Atmospheric Administration – National Marine Fisheries Services (NOAA-NMFS) pursuant to the Endangered Species Act (ESA) of 1973 (as amended). The USFWS administers the federal list of animal species (50 CFR 17) and plant species (50 CFR 23). Critical Habitat for federally listed species is defined in Section 3(5)(A) of the ESA and 50 CFR Part 424.

Administered by the Florida Fish and Wildlife Conservation Commission (FWC), the State of Florida affords special protection to animal species identified as state-designated threatened or state species of special concern, pursuant to Chapter 68A-27, F.A.C. The state of Florida also protects and regulates plant species designated as endangered, threatened or commercially exploited as identified on the Regulated Plant Index (5B-40.0055, F.A.C.), which is administered by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry, pursuant to Chapter 5B-40, F.A.C.

This report evaluates impacts to protected species and critical habitat with potential to occur within the project study area. The following sections describe the methodology used to assess the potential for occurrence of protected species and to identify the effects that implementation of the preferred alternative may have on protected species.

3.2 Methodology

In order to determine the potential for occurrence of federal- and state-protected plant and animal species within the project study area, available site-specific data was collected and evaluated. Literature reviewed and databases searched as part of this evaluation included:

- Aerial photographs, (scale 1"=200') ESRI 2018;
- Audubon EagleWatch Program, Florida EagleWatch Nest Map website (2019) (https://cbop.audubon.org/conservation/about-eaglewatch-program), March 2020;
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th Edition (Hurt 2007);
- Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service, Florida's Federally Listed Plant Species website (2010) (https://www.fdacs.gov/Divisions-Offices/Plant-Industry/Bureaus-and-Services/Entomology-Nematology-Plant-Pathology/Botany/Florida-s-Endangered-Plants/Endangered-Threatened-and-Commercially-Exploited-Plants-of-Florida);
- FDACS, Florida Forest Service, Notes on Florida's Endangered and Threatened Plants: Botany Contribution No. 38, 5th edition, (2010);

- Florida Department of Environmental Protection (FDEP), White, Puri and Vernon Physiographic Map of Florida Data Layer (2018);
- Florida Department of Transportation (FDOT*),* Florida Land Use Cover, and Forms Classification System (FLUCFCS) Handbook, 3rd ed., January 1999;
- Florida Fish and Wildlife Conservation Commission (FWC), Florida's Endangered and Threatened Species, December 2018;
- Florida Natural Areas Inventory (FNAI) Standard Data Report, January 2020;
- FNAI Biodiversity Matrix Map Server (http://www.fnai.org/biointro.cfm), November 2019;
- FWC, Eagle Nest Locator website (https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx), November 2019;
- FWC, Wading Bird Rookeries website (http://ocean.floridamarine.org/TRGIS/Description_Layers_Terrestrial.htm), September 1999;
- South Florida Water Management District (SFWMD), Florida Land Use, Cover and Forms Classification System GIS Database; (SFWMD 2016);
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Martin County, Florida, 1981;
- USDA, NRCS, Soil Survey of Palm Beach County, Florida, 1978;
- USDA, NRCS, Soil Survey of St. Lucie County, Florida, 1980;
- USDA, NRCS Web Soil Survey, (February 2020);
- U.S. Fish and Wildlife Service (USFWS), Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12, June 2007;
- USFWS, 2018 Wood Stork Nesting Colonies Data (http://www.fws.gov/northflorida/woodstorks/wood-storks.htm), November 2019;
- USFWS, Critical Habitat Portal website (http://criticalhabitat.fws.gov/crithab/), November 2019; and
- USFWS, Information for Planning and Consultation (IPaC) Mapper (https://ecos.fws.gov/ipac/location/index), November 2019.

Environmental scientists familiar with Florida natural communities conducted field reviews of the project area and adjacent habitats in July, September, and October 2017, with follow-up visits in February and March 2020. Field reviews consisted of pedestrian transects throughout the natural habitat types located within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photographic interpretation. During field investigations, upland and

wetland communities within the project study area were visually inspected. Attention was given to identifying dominant plant species and composition for each community. Additional attention was given to identifying potential wildlife and signs of wildlife usage in each wetland and upland community within the study area. The FNAI was contacted for documented occurrences of listed species within one (1) mile of the project study area (**Appendix F**).

Based on the evaluation of collected data, field reviews, FNAI data, and database searches, the federal- and state-protected species discussed in **Section 3.3** were considered as having the potential to occur within or adjacent to the study area. Protected species documented occurrence locations were obtained from project specific requests and publicly available data sources from the USFWS, FNAI and FWC. For a species to be considered to occur, the project study area must be within the species' distribution range and potentially suitable habitat must occur. An effect determination was made for each federal- and state-protected species based on an analysis of the potential impacts of the preferred alternative on each species and technical assistance meetings held with the USFWS, NMFS and the FWC (see **Section 8.5**).

3.3 Results

Based on the information collected and field reviews in July, September, and October 2017, with follow-up visits in February and March 2020, a list of protected species with the potential to occur within the project study area was developed. This list includes a total of 42 federal- and state-protected species that have the potential to occur within the project study area. **Table 3-1** presents a list of protected species with the potential to occur within the project study area, their federal or state protection status, preferred habitat, and ranking of potential occurrence. Locations of all listed species documented within one (1) mile of the project study area as well as the locations of protected species observed during field reviews are also provided in **Appendix G**. **Appendix G** also provides a table of suitable habitat for protected species within the preferred alternative based on FLUCFCS.

The potential for occurrence for each species was designated as Low, Moderate or High based on the habitat types present within the project study area, their relative condition, if the species has been previously documented within proximity of the project study area or if the species was observed in the project study area during field reviews. A *Low* rating indicates that habitat for that species is present within the project study area, but meets little to none of the habitat requirements of the species and the species has not been documented within proximity to the project study area. A *Moderate* rating indicates that suitable habitat exists, and it is reasonable to assume the species is present within the project study area or has been documented within proximity to the project study area. A *High* rating indicates that suitable habitat exists, and the species was observed during field reviews.

While the proposed project has taken all practicable measures to avoid and minimize impacts to potentially occurring protected species and their habitats, unavoidable impacts may occur as a result of roadway and pond site construction. A determination of the anticipated project "effect" on protected species was made based on their probability of occurrence within the project study

area, the proposed changes to their habitat quality, quantity and availability as a result of project construction and how each species is expected to respond to anticipated habitat changes. Listed in **Sections 3.3.1** and **3.3.2** are the "effect" determinations for each species. Protected plant species associated strictly with xeric ridge habitat were eliminated from further review based on evaluation and review of physiography data (FDEP 2018).

Table 3-1 Protected Species Potential for Occurrence

Species Name		Designated Status			Habitat Preference	Potential for Occurrence
Common	**Scientific**	**Federal**	**State**	**FDACS**		
Flora						
Golden Leather Fern	*Acrostichum aureum*	-	-	T	Freshwater and brackish marshes and the landward side of mangrove forests.	Low
Meadow Jointvetch	*Aeschynomene pratensis* var. *pratensis*	-	-	E	Marl prairie, cypress domes, and swales.	Low
Many-flowered Grass-pink	*Calopogon multiflorus*	-	-	T	Dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto.	Low
Piedmont Joint Grass	*Coelorachis tuberculosa*	-	-	T	Margins of lakes and ponds or in wet savanna swales.	Low
Cutthroat Grass	*Coleataenia abscissa*	-	-	E	Slopes receiving moisture from scrub at higher elevation, around small seasonal ponds in scrubby flatwoods, depression marshes and ponds in wet flatwoods.	Low
Florida Tree Fern	*Ctenitis sloanei*	-	-	E	Inland hammock forests with deep shade, tropical hammocks, and in humus over limestone.	Low
Okeechobee Gourd	*Cucurbita okeechobeensis*	E	-	E	Pond apple swamps; typically found in mucky soils on Lake Okeechobee shores and islands and along floodplains of the St. Johns River.	Low
Cuplet Fern	*Dennstaedtia bipinnata*	-	-	E	Hydric hammock, wet woods.	Low
Night-scented Orchid	*Epidendrum nocturnum*	-	-	E	Cypress swamps, moist hammocks, and mangroves; Epiphytic.	Low
Redberry Eugenia	*Eugenia confusa*	-	-	E	Hammocks and dry rocky limestone woodlands.	Low

Species Name		Designated Status			Habitat Preference	Potential for Occurrence
Common	Scientific	Federal	State	FDACS		
Coastal Vervain	*Glandularia maritima*	-	-	E	Sandy clearings in coastal dune swales, scrub, pinelands, and open live oak-cabbage palm woods.	Low
Spreading Pinweed	*Lechea divaricata*	-	-	E	Scrub and scrubby flatwoods.	Low
Celestial Lily	*Nemastylis floridana*	-	-	E	Wet flatwoods, prairies, marshes, and cabbage palm hammock edges.	Low
Giant Sword Fern	*Nephrolepis biserrata*	-	-	T	Thickets, forest margins, clearings, and roadside banks. Pendant from tree trunks, the axils of palm leaves, or cliffs near waterfalls.	Low
Hand Fern	*Ophioglossum palmatum*	-	-	E	Typically found in "boots," or old leaf bases, of cabbage palms in maritime hammocks, wet hammocks, and forested wetlands.	Moderate
Scrub Bluestem	*Schizachyrium niveum*	-	-	E	Rosemary scrub, sand pine scrub, and oak scrub.	Low
Ray Fern	*Schizaea pennula*	-	-	E	Typically occurs on rotting stumps or at the base of the royal fern in swamps or marshes.	Low
Southern Ladies'-tresses	*Spiranthes torta*	-	-	E	Flatwoods, pine rockland, marl prairie, edges of rockland hammock.	Low
Toothed Maiden Fern	*Thelypteris serrata*	-	-	E	Cypress swamps, sloughs, and floodplains.	Moderate
Banded Wild-pine	*Tillandsia flexuosa*	-	-	T	Hammocks and cypress swamps.	Low
Scentless Vanilla	*Vanilla mexicana*	-	-	E	Hammocks and swamps, often is associated with cabbage palm.	Low
Redmargin Zephyrlily	*Zephyranthes simpsonii*	-	-	T	Black, highly organic sands of wet pine flatwoods, meadows, pastures, roadsides, and glade borders.	Low

Species Name		Designated Status			Habitat Preference	Potential for Occurrence
Common	Scientific	Federal	State	FDACS		
Fish						
Smalltooth Sawfish	*Pristis pectinata*	E	-	-	Tropical seas and estuaries of the Atlantic Ocean. Prefer shallow, coastal waters, and sometimes enter the lower reaches of freshwater river systems.	Low
Reptilian						
American Alligator	*Alligator mississippiensis*	SAT	-	-	Freshwater and brackish marshes, ponds, lakes, rivers, swamps, bayous, canals, and large spring runs.	High (Observed 2020)
Eastern Indigo Snake	*Drymarchon couperi*	T	-	-	Mesic flatwoods, upland pine forests, swamps, wet prairies, xeric pinelands, and scrub habitats.	Moderate
Gopher Tortoise	*Gopherus polyphemus*	C	T	-	Dry upland habitats including sandhills, scrub, xeric oak hammock, and dry pine flatwoods. Commonly uses disturbed habitats such as pastures, old fields, and road shoulders.	High (Observed 2017)
Florida Pine Snake	*Pituophis melanoleucus mugitus*	-	T	-	Dry sandy soils with open canopies. Sandhill, sand pine scrub, and scrubby flatwoods.	Low
Avian						
Florida Grasshopper Sparrow	*Ammodramus savannarum floridanus*	E	-	-	Areas of frequently burned dry prairie habitat with patchy open areas for foraging.	Low
Florida Sandhill Crane	*Antigone canadensis pratensis*	-	T	-	Shallow freshwater areas including pastures, wet and dry prairies, marshes, and open woods habitats.	High (Observed 2017)
Florida Scrub-jay	*Aphelocoma coerulescens*	T	-	-	Early successional stages of fire-dominated xeric oak communities on well-drained, sandy soils. Scrub oaks 3 to 10 feet tall, with open sand and clumps of herbaceous vegetation.	Low

Species Name		Designated Status			Habitat Preference	Potential for Occurrence
Common	Scientific	Federal	State	FDACS		
Florida Burrowing Owl	*Athene cunicularia floridana*	-	T	-	Areas of short, herbaceous groundcover, including prairies, sandhills, and farmland.	Moderate
Crested Caracara	*Caracara cheriway*	T	-	-	Dry prairie and pasture lands with scattered cabbage palm, cabbage palm/live oak hammocks, and shallow ponds and sloughs.	Moderate
Little Blue Heron	*Egretta caerulea*	-	T	-	Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps.	High (Observed 2017)
Tricolored Heron	*Egretta tricolor*	-	T	-	Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps.	Moderate
Southeastern American Kestrel	*Falco sparverius paulus*	-	T	-	Pine scrub, dry prairies, mixed pine hardwood forests, and pine flatwoods.	Moderate
Red-cockaded Woodpecker	*Leuconotopicus borealis*	E	-	-	Mature pine woodlands that have a diversity of grass, forb, and shrub species. Longleaf and slash pine flatwoods.	Low
Wood Stork	*Mycteria americana*	T	-	-	Fresh and saltwater habitats such as fresh and saltwater marshes, tidal flats, wet prairies, cypress swamps, and agricultural environments.	High (Observed 2017)
Roseate Spoonbill	*Platalea ajaja*	-	T	-	Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps.	Moderate
Everglade Snail Kite	*Rostrhamus sociabilis*	E	-	-	Large, open freshwater marshes and lakes or open water areas without emergent vegetation.	Moderate

Species Name		Designated Status			Habitat Preference	Potential for Occurrence
Common	**Scientific**	**Federal**	**State**	**FDACS**		
Least Tern	*Sternula antillarum*	-	T	-	Coastal waters, lakes, and rivers.	Moderate
Mammals						
Florida Bonneted Bat	*Eumops floridanus*	E	-	-	Roosts in palms and hollow trees and in buildings. Forages over natural as well as human-altered landscapes.	Moderate
West Indian Manatee	*Trichechus manatus*	T	-	-	Shallow coastal waters, estuaries, bays, rivers, and lakes.	Moderate

Notes:
C = Federal candidate species for listing, E = endangered, T = threatened, SAT = Federal threatened due to similarity of appearance

3.3.1 Federal Species

3.3.1.1 Plants

Okeechobee Gourd (*Cucurbita okeechobeensis*)

The Okeechobee gourd is listed as ***endangered*** by the **USFWS**. Although there is potentially suitable habitat for this species within the project area, the habitat within the preferred alternative has been disturbed by construction of the Turnpike and associated roadways, ROW maintenance, development, nuisance/exotic species invasion, and other land use conversions. As a result, the remaining natural communities within the proposed project footprint meet little to none of the habitat requirements for this species and acreage of suitable habitat for this species within the preferred alternative was not approximated. Additionally, the Okeechobee gourd had not been documented within one (1) mile of the project study area within the past 15 years, was not observed during field reviews, and it is unlikely that it will inhabit these disturbed areas of nonpreferred habitat. Based on the disturbed suitable habitat available within the project study area and lack of documented occurrences, it has been determined that the proposed project will have "**no effect**" on the Okeechobee gourd.

3.3.1.2 Fish

Smalltooth sawfish (*Pristis pectinata*)

The smalltooth sawfish is a large, cartilaginous fish with a long, flattened, toothed rostrum that extends outward from its flattened head. This species is listed as ***endangered*** by the **NMFS**. Though there is a lack of documented occurrences of the smalltooth sawfish within the proximity of the project area, approximately 4.50 acres of suitable habitat is available for the species within the preferred alternative (**Appendix G**). To minimize potential adverse impacts to the smalltooth

sawfish, the NOAA-approved Sea Turtle and Smalltooth Sawfish Construction Conditions (revised March 2006) will be implemented during work within waters accessible to the species. With the implementation of these measures, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the smalltooth sawfish.

3.3.1.3 Reptiles

American Alligator (*Alligator mississippiensis*)

The American alligator is a large, rounded-snout crocodilian listed as ***threatened*** by the **USFWS** due to its similarity of appearance to the American crocodile (*Crocodylus acutus*). Alligators thrive in a wide variety of wetland habitats including streams, ponds, lakes, freshwater marshes, and ditches. The American alligator's exceptional adaptability would allow it to utilize the freshwater wetland and other surface water systems within the project area. Approximately 429.81 acres of suitable habitat is available for the American alligator within the preferred alternative and the species was observed during field reviews (**Appendix G**). Since the species is listed due to similarity of appearance to the American crocodile and the project area is not within the American Crocodile Critical Habitat or Consultation Area, it has been determined that the proposed project "**no effect**" on the American alligator.

Eastern Indigo Snake (*Drymarchon couperi*)

The eastern indigo snake is a large, glossy black snake that is listed as ***threatened*** by the **USFWS**. This species can be found in a variety of habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, as well as human-altered habitats. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range. Approximately 193.95 acres of suitable habitat is available for the eastern indigo snake within the preferred alternative (**Appendix G**). While there is suitable habitat for this species throughout the project area and gopher tortoise burrows were observed during field reviews, the species was not observed during field reviews and no individuals have been documented within one (1) mile of the project study area.

To minimize potential adverse impacts to the eastern indigo snake, the FTE will implement the USFWS-approved *Standard Protection Measures for the Eastern Indigo Snake* (updated August 2013) during the proposed roadway widening. Additionally, the FTE will survey the project area prior to construction to determine the presence and location of gopher tortoise burrows within the project area. If gopher tortoises or burrows are found within 25 feet of the limits of construction, the FTE will initiate technical assistance with the FWC to secure a Gopher Tortoise Relocation Permit to relocate the tortoises and associated commensal species. The path followed through the Eastern Indigo Snake Determination of Effect Key was A>B>C>may affect (**Appendix H**); however, there are no known documentation of the species within one (1) mile of the project area. Based on this information and with the implementation of these measures, it has been determined

that the project "**may affect, but is not likely to adversely affect**" the eastern indigo snake. The FTE will reinitiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design and the implementation of specific protection actions and measures.

3.3.1.4 Birds

Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)

The Florida grasshopper sparrow is a small, short-tailed, flat-headed sparrow that is listed as ***endangered*** by the **USFWS**. This species requires large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging; however, it may persist in pasture lands that have not been intensively managed. While the project area lies within the USFWS Florida Grasshopper Sparrow Consultation Area (**Appendix G**), suitable habitat within the project area is not subject to routine fire management and only meets the minimal habitat requirements of this species. Approximately 16.36 acres of potentially suitable habitat for the Florida grasshopper sparrow is available within dry prairies and pastures of the preferred alternative (**Appendix G**). According to FNAI data, the Florida grasshopper sparrow has not been documented within one (1) mile of the project study area and the closest Florida grasshopper sparrow population documented by the USFWS is at Kissimmee Prairie Preserve State Park (Okeechobee County), which is located more than 30 miles from the proposed project. No Florida grasshopper sparrows were observed during field reviews and suitable habitat considered within the preferred alternative does not meet the habitat requirements for the species. Based on this information and technical assistance from the USFWS, it has been determined that the project "**may affect, but is not likely to adversely affect**" the Florida grasshopper sparrow and surveys for the species are not proposed.

Florida Scrub-jay (*Aphelocoma coerulescens*)

The Florida scrub-jay is similar to the common blue jay in size and shape, with a pale blue crestless head, nape, wings, and tail. It is listed as ***threatened*** by the **USFWS**. Optimal scrub-jay habitat consists of low growing, scattered scrub species with patches of bare sandy soil such as those found in sand pine scrub and scrubby flatwoods habitats that are occasionally burned. In areas where these types of habitats are unavailable, Florida scrub-jays may be found in less optimal habitats such as pine flatwoods and scattered oaks. The preferred alternative contains approximately 16.85 acres of potentially suitable habitat for the Florida scrub-jay (**Appendix G**). No individuals have been documented within one (1) mile of the project study area and no observations were made during field reviews. Additionally, the FWC Scrub Jay Habitat Distribution Map (1992 -1993), which mapped Florida scrub jay populations, occupied habitat, and suitable/restorable habitat at the time, does not have any areas mapped as habitat within one (1) mile of the project study area.

Since the project area is located within the USFWS Florida Scrub-jay Consultation Area (**Appendix G**), the FTE will reinitiate technical assistance with the USFWS during the project's

design phase to determine the need and extent for additional surveys pursuant to USFWS Florida Scrub-jay General Survey Guidelines and Protocol (2016). Based on this information, a preliminary determination of "**may affect**" has been designated for the Florida scrub-jay and will be updated once surveys are conducted in appropriate habitat.

Crested Caracara (*Caracara cheriway*)

The crested caracara is a large, boldly patterned raptor with a crest that is listed as ***threatened*** by the **USFWS**. This species often inhabits open country, such as dry prairie and pasture lands with scattered cabbage palms, cabbage palm/live oak hammocks, and shallow ponds and sloughs. It also requires cabbage palms or live oaks with low-growing surrounding vegetation for nesting. The project area falls within the USFWS Crested Caracara Consultation Area and there is approximately 51.27 acres of suitable habitat within the preferred alternative (**Appendix G**). The Crested Caracara Telemetry data obtained from the USFWS provide documentation of a crested caracara within one (1) mile of the project study area; however, this documentation is from 1995 and no individuals were observed during field reviews (**Appendix G**).

The FTE will reinitiate technical assistance with the USFWS during the project's design phase to determine the need and extent for additional surveys pursuant to USFWS Crested Caracara Draft Survey Protocol (2016). Based on this information, a preliminary determination of "**may affect**" has been designated for the crested caracara and will be updated once surveys are conducted in the appropriate habitat.

Red-cockaded Woodpecker (*Leuconotopicus borealis*)

The red-cockaded woodpecker is a small woodpecker that is listed as ***endangered*** by the **USFWS**. The red-cockaded woodpecker is found primarily in open, mature pine woodlands that have a diversity of grasses and forbs. The project area is located within the USFWS Red-cockaded Woodpecker Consultation Area and there are approximately 79.50 acres of potentially suitable habitat within the preferred alternative (**Appendix G**). However, these areas meet only minimal requirements for red-cockaded woodpeckers due to fire suppression. Additionally, no individuals have been documented within one (1) mile of the project study area and no observations were made during field reviews.

The FTE will reinitiate technical assistance with the USFWS during the project's design phase to determine the need and extent for additional surveys pursuant to USFWS Red Cockaded Woodpecker Survey Protocol (2003). Based this information, a preliminary determination of "**may affect**" has been designated for the red-cockaded woodpecker and will be updated once surveys are conducted in appropriate habitat.

Wood Stork (*Mycteria americana*)

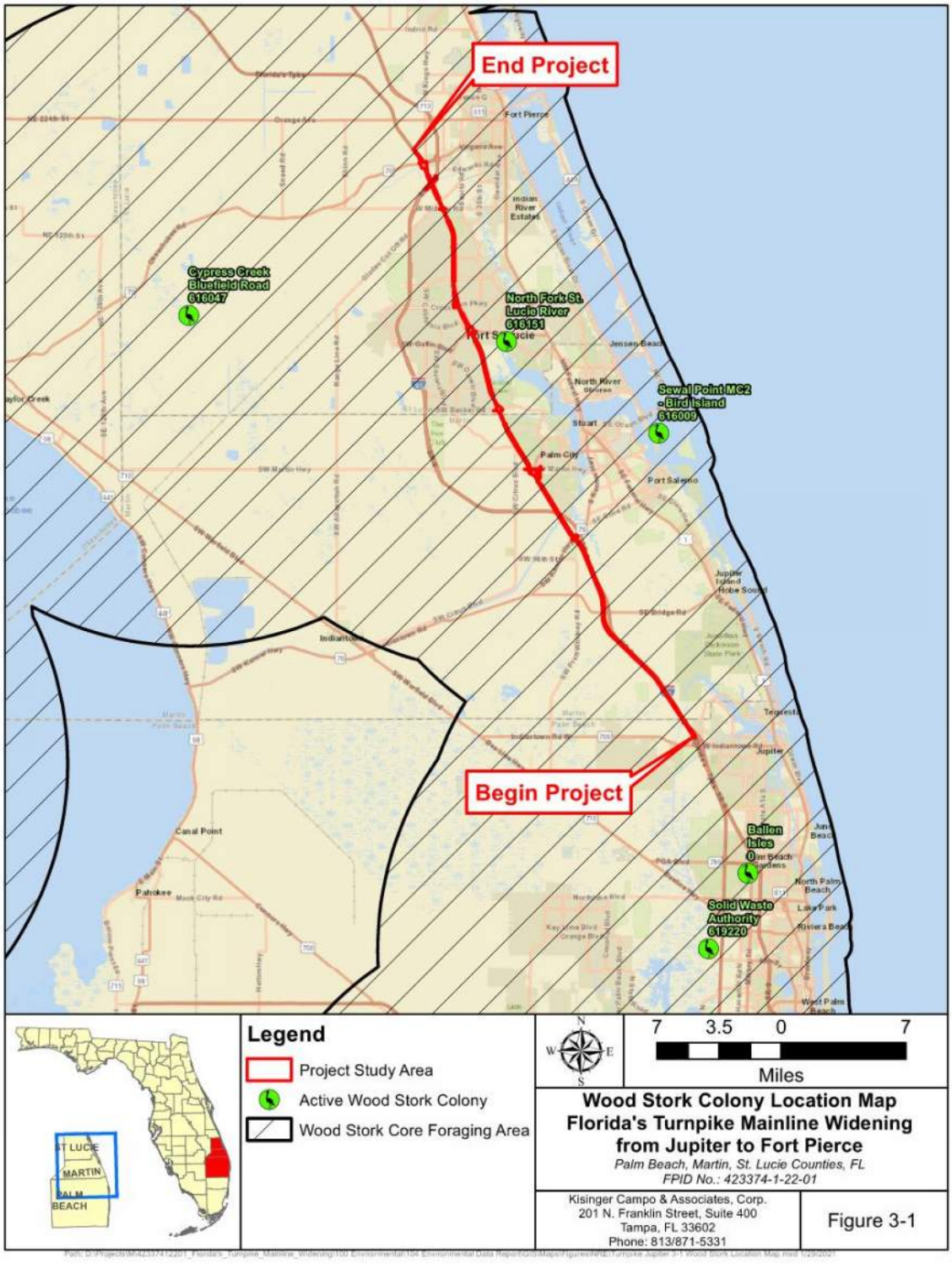
The wood stork is a large, white, wading bird that is listed as ***threatened*** by the **USFWS**. The wood stork is opportunistic and utilizes various habitat types including freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures, and ditches. Water that is relatively calm,

uncluttered by dense aquatic vegetation, and with a permanent or seasonal water depth between 2 and 15 inches is considered suitable foraging habitat for this species. Foraging habitat for the wood stork is present within the project study area and several individuals were observed foraging in roadside ditches and in-flight during field reviews (**Appendix G**).

According to the USFWS wood stork colony website, the project study area is located with the 18.6-mile buffer of five (5) active wood stork nesting colonies; however, none are located within one (1) mile of the project study area (**Figure 3-1**). One of the primary concerns for this species is loss of suitable foraging habitat within the CFA of wood stork colony. In the preferred alternative, there are 429.81 acres of wetlands and other surface waters that have potential to be utilized by the wood stork for foraging (**Appendix G**). Though it is not documented in the FWC Wading Rookery Database, an active wading bird rookery was observed in the reservoir located in the southeast quadrant of the Okeechobee Road (SR 70) interchange (**Appendix G**). Based on field reviews, this rookery appeared to be occupied solely by great egrets (*Ardea alba*). Though this reservoir is within the ROW limits of the preferred alternative for this interchange, only minimal impact will occur along its western edge (**Appendix A**). Additionally, where active nesting was observed during field reviews is not in the current design footprint of the project.

The path followed through the Wood Stork Determination of Effect Key for South Florida was A>B>C>E>NLAA (**Appendix H**). During the design and permitting phases of this project based on design segments, a Wood Stork Foraging Analysis in accordance with the USFWS methodology will be conducted to determine the amount of biomass lost from wetland and other surface water impacts. As part of this project, impacts to wetlands within the project study area will be mitigated for within the CFA of one (1) or more of the affected rookeries or at a regional mitigation bank that has been approved by the USFWS or pursuant to Section 373.4137, F.S. Additionally, the FTE will reinitiate technical assistance with the USFWS during the project's design phase to determine the need develop a construction schedule to minimize impact to the wading bird rookery at the Okeechobee Road (SR 70) interchange. Based on the implementation of these measures, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the wood stork.

Figure 3-1 Wood Stork Colony Location Map



Everglade Snail Kite (*Rostrhamus sociabilis*)

The Everglade snail kite is a medium-sized raptor that is listed as ***endangered*** by the **USFWS**. The snail kite is found primarily in lowland freshwater marshes in tropical and subtropical America from Florida, Cuba, and Mexico south to Argentina and Peru. Nesting almost always occurs over water, which deters predation. The project study area lies within the USFWS Snail Kite Consultation Area (**Appendix G**) and the preferred alternative contains approximately 367.26 acres of suitable habitat for the species. Although there were no snail kites observed during field reviews and the project area is outside of the USFWS mapped critical habitat for the species, data obtained from the USFWS has documented observations and nesting locations in the reservoirs at the northern end of the project, in the northwest quadrant of Turnpike – I-95 crossing (**Appendix G**).

The FTE will reinitiate technical assistance with the USFWS during the project's design phase to determine the need and extent for additional surveys pursuant to USFWS Snail Kite Survey Protocol (USFWS 2004). Based on this information, a preliminary determination of "**may affect**" has been designated for the Everglade snail kite and will be updated once surveys are conducted in appropriate habitat.

3.3.1.5 Mammals

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat is a large, free-tailed bat with joined ears that varies in color from dark gray to brownish gray or cinnamon brown that is listed as ***endangered*** by the **USFWS**. Precise roosting and foraging habitat requirements are unknown; however, the species forages in open areas and is closely associated with forested communities due to their roosting habits. They are thought to nest in tree cavities or building crevices. The project study area is within the USFWS Florida Bonneted Bat Consultation Area and approximately 152.25 acres of suitable roosting habitat is available within the preferred alternative (**Appendix G**). According to FNAI data, the Florida bonneted bat has not been documented within one (1) mile of the project study area. Additionally, no observations of roosting bats were made during field reviews.

The FTE will perform design-phase acoustic and/or roost surveys to verify activity and occupancy status of the Florida bonneted bat within the project area. The path followed through the Florida bonneted bat determination of effect key was 1a>2a>3b> Conduct Full Acoustic/Roost Surveys, but cannot be completed until design-phase surveys are complete (**Appendix H**). With the implementation of these measures, preliminarily, it has been determined that the proposed project "**may affect**" the Florida bonneted bat. The FTE will reinitiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design and the implementation of specific actions and measures.

West Indian Manatee (*Trichechus manatus*)

The West Indian manatee is a large, dark gray, long-lived marine mammal that is listed as ***threatened*** by the **USFWS**. This species is found in marine, brackish, and freshwater systems in coastal and riverine areas throughout Florida. Preferred habitats include areas near the shore featuring underwater vegetation like seagrass, eelgrass, and other aquatic plants, which are also a large part of their diet. According to FWC mortality data, there are numerous documented manatee mortalities within one (1) mile of the project study area, predominantly along the St. Lucie Canal (**Appendix G**). Portions of the project area are also with the USFWS Consultation Area for the West Indian Manatee, State Manatee Protection Zone, and there is USFWS critical habitat for the species mapped outside of the preferred alternative, but within one (1) mile of the project study area (**Appendix G**).

While there were no manatee observations made during field reviews, 3.87 acres of suitable habitat exists within the preferred alternative. To minimize potential adverse impacts to the West Indian manatee, the FTE will implement the *Standard Manatee Construction Conditions for In-water Work* (2011) during project construction in waters accessible to manatees. The path followed through the West Indian manatee determination of effect key for Florida was A>B>C>G>N>O>P>MANLAA (**Appendix H**). Based on this information, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" the West Indian manatee. The FTE will reinitiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design and the implementation of specific actions and measures.

3.3.2 State Species

3.3.2.1 Plants

Golden Leather Fern (*Acrostichum aureum*), Meadow Jointvetch (*Aeschynomene pratensis* var. *pratensis*), Many-flowered Grass-pink (*Calopogon multiflorus*), Piedmont Joint Grass (*Coelorachis tuberculosa*), Cutthroat grass (*Coleataenia abscissa*), Florida Tree Fern (*Ctenitis sloanei*), Cuplet Fern (*Dennstaedtia bipinnata*), Night-scented Orchid (*Epidendrum nocturnum*), Redberry Eugenia (*Eugenia confusa*), Coastal Vervain (*Glandularia maritima*), Spreading Pinweed (*Lechea divaricata*), Celestial Lily (*Nemastylis floridana*), Giant Sword Fern (*Nephrolepis biserrata*), Scrub Bluestem (*Schizachyrium niveum*), Ray Fern (*Schizaea pennula*), Southern Ladies'-tresses (*Spiranthes torta*), Banded Wild-pine (*Tillandsia flexuosa*), Scentless Vanilla (*Vanilla mexicana*), and Redmargin Zephyrlily (*Zephyranthes simpsonii*)

The above species are listed as either ***threatened*** or ***endangered*** by the **FDACS** (**Table 3-1**). These plant species are discussed collectively due to their assigned ***low*** potential for occurrence based on the effects of the existing ROW on habitat within the project study area and lack of documented occurrences within the last 15 years. During the project's evaluation through FDOT's ETDM process as project No.: 14295, an ETDM *Programming Screen Summary Report* containing

comments from the ETAT was published on May 19, 2017. The FDACS noted no involvement for this project.

Although there is suitable habitat for these species within the project study area, this habitat has been disturbed by construction of the Turnpike and associated roadways, ROW maintenance, development, nuisance/exotic species invasion and other land use conversions. As a result, the remaining natural communities within the proposed project footprint meet little to none of the habitat requirements for these species and acreage of suitable habitat for this species within the preferred alternative was not approximated. Additionally, none of these species have been documented or observed within one (1) mile of the project study area and it is unlikely that they will inhabit the disturbed areas of nonpreferred habitat that remain within the proposed project area. Based this information, it has been determined that the proposed project will have "**no effect anticipated**" on the above listed species.

Hand Fern (*Ophioglossum palmatum*)

The hand fern is a fern with flat, fleshy, drooping evergreen leaves with up to 7 lobes and long leaf stalks of the adder's tongue (*Ophioglossaceae*) family that is listed as ***endangered*** by the **FDACS**. This species is found at old leaf bases of cabbage palms or saw palmettos in maritime hammocks, wet hammocks, and forested wetlands. Though the species was not observed during field reviews, FNAI data has documented the hand fern within one (1) mile of the project study area (**Appendix F**). There are approximately 14.11 acres of available suitable habitat for the hand fern within the preferred alternative; however, this habitat has been disturbed by construction of the Turnpike and associated roadways, ROW maintenance, development, nuisance/exotic invasion, and other land use conversions (**Appendix G**).

As needed, during the design and permitting phases of this project, the FTE will conduct a general plant survey and if any protected plant species are found within 25 feet of construction limits, coordination will occur with the FDACS to secure any necessary permits. In an effort to mitigate impacts to protected plant species within the project area, the FTE will coordinate with the FDACS and public parks (e.g., Jonathan Dickinson State Park) prior to construction for possible relocation of protected plants. Based on the disturbed suitable habitat available within the project area, it has been determined that the project will have "**no adverse effect anticipated**" on the hand fern.

Toothed Maiden Fern (*Thelypteris serrata*)

Toothed maiden fern is a fern with large, evergreen fronds reaching 2 to 6 feet in height of the maiden or marsh fern (*Thelypteridaceae*) family that is listed as ***endangered*** by the **FDACS**. The toothed maiden fern is known to inhabit cypress swamps, sloughs, and floodplains. Though the species was not observed during field reviews, FNAI data has documented the toothed maiden fern within one (1) mile of the project study area (**Appendix F**). There are approximately 14.11 acres of available suitable habitat for the toothed maiden fern within the preferred alternative; however, this habitat has been disturbed by construction of the Turnpike and associated roadways, ROW

maintenance, development, nuisance/exotic invasion, and other land use conversions (**Appendix G**).

As needed, during the design and permitting phases of this project, the FTE will conduct a general plant survey and if any protected plant species are found within 25 feet of construction limits, coordination will occur with the FDACS to secure any necessary permits. In an effort to mitigate impacts to protected plant species within the project area, the FTE will coordinate with the FDACS and public parks (e.g., Jonathan Dickinson State Park) prior to construction for possible relocation of protected plants. Based on the disturbed suitable habitat available within the project area, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the toothed maiden fern.

3.3.2.2 Reptiles

Gopher Tortoise (*Gopherus polyphemus*)

The gopher tortoise is a large, terrestrial tortoise that is listed as a ***candidate*** species by the **USFWS** and as ***threatened*** by the **FWC**. This species requires well-drained and loose sandy soils for burrowing, and low-growing herbs and grasses for food. These conditions are best found in sandhill (longleaf pine-xeric oak) communities, although tortoises are known to use many other habitats including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods, and ruderal sites. Approximately 793.01 acres of suitable habitat are available for the gopher tortoise throughout the preferred alternative (**Appendix G**). Additionally, during field reviews of the project area, potentially occupied gopher tortoise burrows were documented, and an adult individual was observed (**Appendix G**).

The FWC Gopher Tortoise Permitting Guidelines (Revised 2020) will be implemented for gopher tortoise burrows found within 25 feet of the limits of construction. The FTE will initiate technical assistance with the FWC to secure a Gopher Tortoise Relocation Permit to relocate the tortoises and associated commensal species if the gopher tortoise burrows cannot be avoided. With the implementation of these measures, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the gopher tortoise.

Florida Pine Snake (*Pituophis melanoleucus mugitus*)

The Florida pine snake is a large, stocky, tan or rusty colored snake with an indistinct pattern of blotches that is listed as ***threatened*** by the **FWC**. The species requires habitats with open canopies and dry sand soils in sandhill, sand pine scrub, and scrubby flatwoods, in which it burrows and often coexists with pocket gophers and gopher tortoises. The preferred alternative contains approximately 121.47 acres of suitable habitat available for the Florida pine snake (**Appendix G**). According to FNAI data, this species has the potential to occur in within the project study area, but has not been documented within one (1) mile. Additionally, this species was not observed during field reviews.

The FTE will survey the selected build alternative for gopher tortoise burrows prior to construction and will initiate technical assistance with the FWC to secure a Gopher Tortoise Relocation Permit to relocate gopher tortoises and associated commensal species prior to construction. With the implementation of these measures, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the Florida pine snake.

3.3.2.3 Birds

Florida Sandhill Crane (*Antigone canadensis pratensis*)

The Florida sandhill crane is a tall, long-necked, long-legged crane that is listed as ***threatened*** by the **FWC**. This species requires wet and dry prairies, marshes, and marshy lake edges. Nests are generally a mound of herbaceous plant material in shallow water or on the ground in marshy areas. Approximately 439.32 acres of suitable habitat is available for the Florida sandhill crane within the preferred alternative (**Appendix G**). According to FNAI data, the Florida sandhill crane has been documented within one (1) mile of the project study area (**Appendix F**). Additionally, the species and an active nest location was observed several times during field reviews (**Appendix G**).

The FTE will survey areas of suitable nesting habitat prior to construction if construction activities take place during the nesting season (January through July), and will initiate technical assistance with the FWC if active nests are identified within 400 feet of the project's construction limits. With the implementation of these measures, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the Florida sandhill crane.

Florida Burrowing Owl (*Athene cunicularia floridana*)

The Florida burrowing owl is a small, ground-dwelling owl that is listed as ***threatened*** by the **FWC**. This species requires areas of short, herbaceous groundcover such as prairies, sandhills, and farmland. Burrowing owls may also utilize gopher tortoise burrows for shelter. While there are 17.48 acres of suitable habitat for this species within the pasturelands, dry prairies, and open land of the preferred alternative, the Florida burrowing owl was not observed during field reviews and has not been documented within one (1) mile of the study area (**Appendix G**).

The FTE will reinitiate technical assistance during the project's design phase to determine the need and extent for pre-construction surveys pursuant to the FWC Imperiled Species Management Plan and Permitting Guidelines for the Florida burrowing owl. If burrowing owls are found, technical assistance with the FWC will establish avoidance, minimization, and permitting options. With the implementation of these measures, it has been determined that the project will have "**no adverse effect anticipated**" on the Florida burrowing owl.

Wading Birds – Little Blue Heron (*Egretta caerulea*), Tricolored Heron (*Egretta tricolor*), and Roseate Spoonbill (*Platalea ajaja*)

The little blue heron, tricolored heron, and roseate spoonbill are listed as ***threatened*** by the **FWC**. While each species is distinct, wading birds are discussed collectively since they occupy similar habitats and have similar feeding patterns. These wading birds nest and forage among both fresh and saltwater habitats such as freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies and bay swamps. The populations of these species have been primarily impacted by the destruction of wetlands for development, the drainage of wetlands for flood control, and agriculture. Approximately 429.81 acres of suitable habitat for these wading birds are available throughout the preferred alternative and the little blue heron was observed throughout the project study area during field reviews (**Appendix G**).

Though it is not documented in the FWC Wading Rookery Database, an active wading bird rookery was observed in the reservoir located in the southeast quadrant of the Okeechobee Road (SR 70) interchange (**Appendix G**). Based on field reviews, this rookery appeared to be occupied solely by great egrets (*Ardea alba*). Though this reservoir is within the ROW limits of the preferred alternative for this interchange, only minimal impact will likely occur along its western edge (**Appendix A**). Additionally, where active nesting was observed during field reviews is not in the current design footprint of the project.

The FTE will reinitiate technical assistance with the FWC during the project's design phase to determine the need develop a construction schedule to minimize impact to the wading bird rookery at the Okeechobee Road (SR 70) interchange. Additionally, all wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Based on the implementation of these measures, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the little blue heron, tricolored heron, and roseate spoonbill.

Southeastern American Kestrel (*Falco sparverius paulus*)

The southeastern American kestrel is the smallest falcon species found in the United States and is listed as ***threatened*** by the **FWC**. This species inhabits pine scrub habitat, dry prairies, mixed pine hardwood forests, and pine flatwoods. Nests are typically built in tall dead trees or utility poles with an unobstructed view of surroundings. Approximately 130.54 acres of suitable habitat for the southeastern American kestrel are present throughout the preferred alternative (**Appendix G**). According to FNAI data, the species has not been documented within one (1) mile of the project study area. Additionally, the southeastern American kestrel was not observed during field reviews.

The FTE will reinitiate technical assistance during the project's design phase to determine the need and extent for pre-construction surveys pursuant to the FWC Imperiled Species Management Plan and Permitting Guidelines for the southeastern American kestrel. If southeastern American kestrel nests are found, technical assistance with the FWC will establish avoidance, minimization, and permitting options. With the implementation of these measures, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the southeastern American kestrel.

Least Tern (*Sternula antillarum*)

The least tern is the smallest of all North American terns with a black cap, short white eye-stripe, and a yellow bill with a black tip. This species is listed as ***threatened*** by the **FWC**. Least terns occur on seacoasts, beaches, bays, estuaries, lagoons, lakes, and rivers and breed on sandy or gravelly beaches and banks. The preferred alternative contains 9.30 acres of suitable foraging habitat for the least tern (**Appendix G**). The FWC's Florida Shorebird Database provides least tern documented observations and nesting activity on rooftops (FLUCFCS 140 – Commercial and Services) within one (1) mile of the project study area (**Appendix G**). These structures and suitable nesting habitat are not within the limits of the preferred alternative and the species was not observed during field reviews. Based on this information, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the least tern.

3.3.3 Critical Habitat

The study area was evaluated for the occurrence of Critical Habitat as defined by the Endangered Species Act of 1973 as amended and 50 CFR Part 424. The USFWS is the authority for protection of critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of listed species. Critical Habitat is defined as the specific areas within the geographical area occupied by a species on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protections.

A portion of West Indian Manatee Critical Habitat is located within the one (1) mile buffer of the southern portion of the project study area, but does not intersect the limits of the preferred alternative. As a result, there will be no direct impacts to critical habitat resulting from the project. The project crosses waterways that flow directly into areas of West Indian Manatee Critical Habitat. The Loxahatchee River is a Wild and Scenic River and Outstanding Florida Water at the Turnpike crossing. As a result, the project must meet the more stringent water quality criteria for Outstanding Florida Waters at the Loxahatchee River crossing and extra measures will be taken to prevent degradation of water resources and habitat. Based on this information, it has been determined that the proposed project "**may affect, but is not likely to adversely affect**" West Indian Manatee Critical Habitat.

3.3.4 Wildlife Crossings

It is well documented that roads can directly impact or fragment habitats and hinder wildlife movement. To reduce the effects of the existing roadway and the proposed widening of this roadway on wildlife connectivity, the FTE will consider wildlife crossings and habitat connections throughout the design of the proposed project, in accordance with the FDOT Wildlife Crossing Guidelines (FDOT 2018).

The FTE will primarily consider wildlife habitat connectivity options associated with waterway crossings. Natural habitat remains at Jonathan Dickinson State Park on both sides of the roadway

at the Loxahatchee River crossing, and the FTE is considering adding a dry wildlife shelf underneath the bridge at this location. Additional consideration will be given to other waterway crossings of the project where there is sufficient clearance for wildlife during the dry season, including Cypress Creek.

3.4 Indirect, Secondary, and Cumulative Impacts

Indirect and secondary effects are those that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Potential secondary effects include increased noise, traffic, and development, which could impact wildlife or result in a change in wildlife migration patterns. Cumulative effects include the effects on the environment that results from the incremental impact of the action when added to other past, present, and future state, local, or private actions that are reasonably certain to occur in the project area. Cumulative effects can result from individually minor but collectively significant actions taking place over time. Indirect, secondary, and cumulative impacts will be further defined and addressed through agency technical assistance during the project's design phase.

3.4.1 Preferred Alternative

Indirect, secondary, and cumulative impacts associated with the proposed project are anticipated to be minor because the interchanges and roadway alignment already exist. Indirect, secondary, and cumulative effects are anticipated to impact land use, transportation, and population changes.

Indirect and Secondary Impacts

Indirect impacts resulting from construction of the preferred alternative include secondary wetland and natural other surface water impacts in the proposed project area in addition to increased noise, traffic, and development. These impacts are anticipated to be minor since they are already associated with the existing roadway and interchanges and unlikely to further impact wildlife movement patterns and behavior. Habitat along the edge of the existing roadway and interchanges was disturbed when these areas were constructed and have since experienced constant disturbance from ROW maintenance and exposure to nuisance/exotic species. This "edge effect" will remain with the construction of the proposed project, but would migrate to the new transitional area between remaining habitat and new construction. Therefore, impacts to wildlife associated with these disturbed edges are not expected to increase in areas where the roadway and interchanges already exist.

Cumulative Impacts

Natural communities associated with the mainline of the preferred alternative have been subject to long-term disturbance from the construction and maintenance of the existing roadway and interchanges throughout the length of the project. These areas within the corridor are surrounded by development, agriculture, and pastureland. The project area is an existing facility and will not increase access to areas suitable for development. Additionally, the proposed project will occur

within existing ROW throughout the entire length of the project with the exception of the six (6) interchanges being assessed for improvements. Impacts to natural communities and wetlands at these interchange locations have the potential to contribute to cumulative impacts.

The FTE will minimize direct and indirect impacts to all extent practicable to reduce potential contribution to the cumulative effects of existing conditions. Unavoidable impacts to wetland function and value will be offset at an approved mitigation bank within the service area and drainage basin of the impacts. The entire ROW will remain fenced, continuing to minimize adverse encounters between wildlife and vehicles. Proper maintenance of fences and other barriers will continue in the proposed condition, ensuring impacts to wildlife, including protected species, will be minimized. Additionally, if practicable, native species will be considered during landscaping design for the proposed improvements.

3.4.2 No-Build Alternative

There are no indirect, secondary, or cumulative impacts to wildlife associated with the No-Build Alternative.

Section 4.0 Wetland Evaluation

4.1 Introduction

During field reviews of the project study area, environmental scientists delineated the approximate boundaries of existing wetland and other surface water communities on 1" = 200' true-color aerial photographs. Each wetland and other surface water habitat within the project study area was classified using FLUCFCS (FDOT 1999) and the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al. 1979). Approximate wetland boundaries were identified in accordance with the *State of Florida Wetlands Delineation Manual* (Chapter 62-340, Florida Administrative Code [F.A.C.]), the criteria found within the *U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1)* and *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20)*, EO 11990, and Part 2, Chapter 9 - Wetlands and Other Surface Waters of the FDOT PD&E Manual. Formal wetland boundaries were not determined as part of this study and will be completed based on design segments during the design and permitting phases of this project.

4.2 Methodology

In order to assess the approximate locations and boundaries of existing wetland and other surface water communities within the project area, the following site-specific data was collected and reviewed:

- FDOT, FLUCFCS Handbook, 3rd ed., January 1999;
- SFWMD, FLUCFCS GIS Database, (SFWMD 2016);
- USDA, NRCS, Soil Survey of Martin County, Florida, 1981;
- USDA, NRCS, Soil Survey of Palm Beach County, Florida, 1978;
- USDA, NRCS, Soil Survey of St. Lucie County, Florida, 1980;
- USDA, NRCS, Web Soil Survey, (March 2020);
- USFWS, NWI, Wetlands Online Mapper (January 2020); and
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

Environmental scientists familiar with Florida's natural communities conducted field reviews of the project study area in July, September, and October 2017, with follow-up visits in February and March 2020. Field reviews consisted of pedestrian transects throughout natural habitat types found within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. During field investigations, wetland and other surface water habitats within the project study area were visually inspected and photographed. Attention was given to identifying plant species and composition for each community. Exotic plant infestations and other disturbances such as soil subsidence, clearing, canals, power lines, etc., were noted.

4.3 Wetland and Other Surface Water Impacts

Potential direct impacts to wetlands and other surface waters were assessed for the preferred alternative of the proposed Turnpike mainline widening. **Table 4-1** through **Table 4-7** provide wetland and other surface water impacts for the mainline and each interchange alternative. **Table 4-8** shows the total wetland and other surface water acreages by FLUCFCS associated within the preferred alternative. Impacts associated with the preferred alternative total 429.81 acres and include 71.97 acres of wetlands and 367.14 acres of other surface waters, including 9.30 acres of natural other surface waters. A map showing the locations of the wetland and other surface waters within the preferred alternative is provided in **Appendix I**.

Table 4-1 Proposed Wetland and Other Surface Water Impacts within the Mainline

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage
Other Surface Waters	510	Streams and Waterways	231.90
	511	Natural River, Stream, Waterway	7.81
		Total Natural Other Surface Water Impacts[2]	**7.81**
		Total Other Surface Water Impacts	**239.71**
Wetlands	617	Mixed Wetland Hardwoods	4.45
	621	Cypress	1.33
	625	Wet Pinelands Hydric Pine	1.93
	630	Wetland Forested Mixed	1.31
	631	Wetland Scrub	48.30
	641	Freshwater Marshes	0.12
		Total Wetland Impacts	**57.44**
		Total Wetland and Natural Other Surface Water Impacts[2]	**65.25**
		Total Wetland and Other Surface Water Impacts	**297.15**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999
[2] Natural Other Surface Waters include Natural Rivers, Streams, and Waterways (FLUCFCS 511)

Table 4-2 Proposed Wetland and Other Surface Water Impacts within the SW Martin Highway Interchange

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage	
			Alternative 7B (preferred)	Alternative 7S
Other Surface Waters	510	Streams and Waterways	10.12	11.69
	511	Natural River, Stream, Waterway	0.26	0.24
	530	Reservoirs	7.99	8.00
		Total Natural Other Surface Water Impacts[2]	**0.26**	**0.24**
		Total Other Surface Water Impacts	**18.37**	**19.93**
Wetlands	625	Wet Pinelands Hydric Pine	0.00	0.16
	631	Wetland Scrub	0.14	0.56
		Total Wetland Impacts	**0.14**	**0.72**
		Total Wetland and Other Surface Water Impacts[2]	**0.40**	**0.96**
		Total Wetland and Other Surface Water Impacts	**18.51**	**20.65**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999
[2] Natural Other Surface Waters include Natural Rivers, Streams, and Waterways (FLUCFCS 511)

Table 4-3 Proposed Wetland and Other Surface Water Impacts within the SE Becker Road Interchange

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage	
			Alternative 1 (preferred)	Alternative 3
Other Surface Waters	510	Streams and Waterways	5.15	6.60
	530	Reservoirs	8.14	8.92
		Total Other Surface Water Impacts	**13.29**	**15.52**
Wetlands	617	Mixed Wetland Hardwoods	0.00	0.30
		Total Wetland Impacts	**0.00**	**0.30**
		Total Wetland and Other Surface Water Impacts	**13.29**	**15.82**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999

Table 4-4 Proposed Wetland and Other Surface Water Impacts within the SW Port St. Lucie Boulevard Interchange

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage	
			Alternative 1	Alternative 2 (preferred)
Other Surface Waters	510	Streams and Waterways	9.77	9.77
	530	Reservoirs	7.96	7.96
		Total Other Surface Water Impacts	**17.73**	**17.73**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999

*No wetland impacts

Table 4-5 Proposed Wetland and Other Surface Water Impacts within the Crosstown Parkway Interchange

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage	
			Alternative 3 (preferred)	Alternative 4
Other Surface Waters	510	Streams and Waterways	14.30	15.18
	530	Reservoirs	8.12	8.23
		Total Other Surface Water Impacts	**22.42**	**23.41**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999

*No wetland impacts

Table 4-6 Proposed Wetland and Other Surface Water Impacts within the W Midway Road Interchange

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage	
			Alternative 1 (preferred)	Alternative 4
Other Surface Waters	510	Streams and Waterways	18.11	18.27
	530	Reservoirs	1.84	0.08
		Total Other Surface Waters Impacts	**19.95**	**18.35**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999

*No wetland impacts

Table 4-7 Proposed Wetland and Other Surface Water Impacts within the Okeechobee Road (SR 70) Interchange

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	Impact Acreage	
			Alternative 1	Alternative 4 (preferred)
Other Surface Waters	510	Streams and Waterways	17.49	18.46
	511	Natural River, Stream, Waterway	1.23	1.23
	530	Reservoirs	15.98	15.98
Total Natural Other Surface Water Impacts[2]			**1.23**	**1.23**
Total Other Surface Water Impacts			**34.70**	**35.67**
Wetlands	617	Mixed Wetland Hardwoods	2.16	2.16
	619	Exotic Wetland Hardwoods	2.93	2.93
Total Wetland Impacts			**5.09**	**5.09**
Total Wetland and Natural Other Surface Water Impacts[2]			**6.32**	**6.32**
Total Wetland and Other Surface Water Impacts			**39.79**	**40.76**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999

[2] Natural Other Surface Waters include Natural Rivers, Streams, and Waterways (FLUCFCS 511)

4.4 Uniform Mitigation Assessment Method Results

Functional loss was calculated by wetland and natural other surface water habitat type for the preferred alternative using the Uniform Mitigation Assessment Method (UMAM). The completed UMAM datasheets for each habitat type are provided in **Appendix J**. Construction of the preferred alternative results in a loss of 39.25 functional units. UMAM scores and functional loss are presented in **Table 4-9**. These scores are subject to agency review and may change during the permitting process.

4.5 Avoidance and Minimization

As part of this PD&E study, two (2) project alternatives, one (1) Build and one (1) No-Build, were evaluated for the mainline. Additionally, for each of six (6) interchanges along the mainline, three (3) project alternatives, two (2) Build and one (1) No-Build, were assessed. The preferred alternative was selected based on the natural, physical, social, and right-of-way information. Avoidance and minimization, to the greatest extent possible, of impacts to wetlands and other surface waters was considered in the selection of the preferred alternative. A detailed alternatives analysis is included in the Preliminary Engineering Report.

Avoidance and minimization measures include locating the widening and/or replacement of bridge structures as close as possible to existing structures, utilizing existing filled causeways for bridge approaches and roadway, and siting stormwater treatment facilities outside of wetland areas to the extent feasible. Additionally, impacts were minimized by adjusting slopes where safely possible and stormwater treatment locations will avoid wetlands when practicable. Surficial runoff from additional impervious areas will be treated to prevent increased water quality degradation as a result of the proposed transportation improvements. This includes compliance with the additional treatment requirements at the Loxahatchee River, an Outstanding Florida Water. Due to the incorporation of stormwater treatment facilities, the proposed project will not result in the degradation of water quality in the wetlands and other surface waters of the project area. Additionally, sedimentation and erosion control measures (i.e., silt fences, turbidity barriers) will

be utilized during construction to minimize soil exposure and siltation into the water column, further reducing adverse impacts to wetlands and other surface waters.

Table 4-8 Proposed Wetland and Other Surface Water Impacts within the Project Area for the Preferred Alternative

Impact Type	FLUCFCS Classification[1]	FLUCFCS Description	USFWS Classification[2]	Preferred Alternative Impact Acreage
Other Surface Waters	510	Streams and Waterways	E1UBLx, PEM1Cx, PEM1Hx, PFO1Cx, PSS1Cx, PSS1Hx, PUB2Cx, PUB2Hx, R2UB2Hx	307.81
	511	Natural River, Stream, Waterway	E1UBL, PFO1/4C, R2UB2H	9.30
	530	Reservoirs	L1UBHx, PEM1Hx, PSS1Hx, PUB2Hx	50.03
			Total Natural Other Surface Water Impacts[3]	**9.30**
			Total Other Surface Water Impacts	**367.14**
Wetlands	617	Mixed Wetland Hardwoods	PFO1C, PFO1R	6.61
	619	Exotic Wetland Hardwoods	PFO3C	2.93
	621	Cypress	PFO2C, PFO2F	1.33
	625	Wet Pinelands Hydric Pine	PFO4C	1.93
	630	Wetland Forested Mixed	PFO1/4C	1.31
	631	Wetland Scrub	PSS1C, PSS1Cx	48.44
	641	Freshwater Marshes	PEM1B, PEM1C, PEM1Cx	0.12
			Total Wetland Impacts	**62.67**
			Total Wetland and Natural Other Surface Water Impacts	**71.97**
			Total Wetland and Other Surface Water Impacts	**429.81**

[1] Florida Land Use Cover and Forms Classification System (FLUCFCS) FDOT 1999
[2] Cowardin, *et al.* 1979
[3] Natural Other Surface Waters include Natural Rivers, Streams, and Waterways (FLUCFCS 511)
USFWS Classifications:
E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal
E1UBLx: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal, Excavated
L1UBHx: Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Excavated
PEM1B: Palustrine, Emergent, Persistent, Saturated
PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
PEM1Hx: Palustrine, Emergent, Persistent, Permanently Flooded, Excavated
PFO1/4C: Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded
PFO1C: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded
PFO1Cx: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded, Excavated
PFO1R: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded-Tidal
PFO2C: Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded
PFO2F: Palustrine, Forested, Needle-leaved Deciduous, Semipermanently Flooded
PFO3C: Palustrine, Forested, Broad-leaved Evergreen, Seasonally Flooded
PFO4C: Palustrine, Forested, Needle-leaved Evergreen, Seasonally Flooded
PSS1C: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded
PSS1Cx: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated
PSS1Hx: Palustrine, Scrub-shrub, Broad-leaved Deciduous, Permanently Flooded, Excavated
PUB2Cx: Palustrine, Unconsolidated Bottom, Sand, Seasonally Flooded, Excavated
PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated
R2UB2H: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded
R2UBHx: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated

Table 4-9 Estimated UMAM[1] Functional Loss from Wetland and Natural Other Surface Water Impacts of the Preferred Alternative

FLUCFCS Classification[2]	FLUCFCS Description	USFWS Classification[3]	UMAM Delta	Total Impact Acres	Total Functional Loss
511	Natural River, Stream, Waterway	E1UBL, PFO1/4C, R2UB2H	0.67	9.30	6.23
617	Mixed Wetland Hardwoods	PFO1C, PFO1R	0.53	6.61	3.50
619	Exotic Wetland Hardwoods	PFO3C	0.40	2.93	1.17
621	Cypress	PFO2C, PFO2F	0.57	1.33	0.76
625	Wet Pinelands Hydric Pine	PFO4C	0.57	1.93	1.10
630	Wetland Forested Mixed	PFO1/4C	0.57	1.31	0.75
631	Wetland Scrub	PSS1C, PSS1Cx	0.53	48.44	25.67
641	Freshwater Marshes	PEM1B, PEM1C, PEM1Cx	0.57	0.12	0.07
Total Natural Other Surface Waters and Wetlands				**71.97**	**39.25**

Note: FLUCFCS 510 and 530 consist of manmade systems that were constructed for drainage purposes along the roadway, in developed and agricultural areas. The portions of these systems to be impacted will be replaced through creation; therefore, a UMAM analysis was not conducted. During the design and permitting phase of this project, additional mitigation for these systems will be obtained if required.

[1] UMAM Scores have not been approved by permitting agencies and are subject to change during the permitting process.

[2] FDOT, 1999

[3] Cowardin, *et al.* 1979

USFWS Classifications:
E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal
PEM1B: Palustrine, Emergent, Persistent, Saturated
PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
PEM1Cx: Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
PFO1/4C: Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded
PFO1C: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded
PFO1R: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded-Tidal
PFO2C: Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded
PFO2F: Palustrine, Forested, Needle-leaved Deciduous, Semipermanently Flooded
PFO3C: Palustrine, Forested, Broad-leaved Evergreen, Seasonally Flooded
PFO4C: Palustrine, Forested, Needle-leaved Evergreen, Seasonally Flooded
PSS1C: Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded
PSS1Cx: Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated
R2UB2H: Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded

4.6 Indirect, Secondary, and Cumulative Impacts

Indirect and secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project. They may occur outside of the area directly affected by the proposed project. Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the project area. Indirect, secondary, and cumulative impacts will be further defined and addressed through agency coordination during the project's design phase.

4.6.1 Preferred Alternative

Indirect, secondary, and cumulative impacts associated with the proposed project are anticipated to be minor because the interchanges and roadway alignment already exist. Indirect, secondary, and cumulative effects are anticipated to impact land use, transportation, and population changes.

Indirect and Secondary Impacts

Indirect impacts resulting from construction of the preferred alternative include secondary wetland and natural other surface water impacts in the proposed project area. These impacts are anticipated to be minor since they are already associated with the existing roadway and interchanges. Habitats along the edge of the existing roadway and interchanges were disturbed when these areas were constructed and have since experienced constant disturbance from ROW maintenance and exposure to nuisance/exotic species. This "edge effect" will remain with the construction of the proposed project, but would migrate to the new transitional area between remaining wetlands and new construction. Therefore, these disturbed edges are not expected to increase in areas where the roadway and interchanges already exist.

Cumulative Impacts

Natural communities associated with the mainline of the preferred alternative have been subjected to long-term disturbance from the construction and maintenance of the existing roadway and interchanges throughout the length of the project. These areas within the corridor are surrounded by development, agriculture, and pastureland. The project area is an existing facility and will not increase access to areas suitable for development. Additionally, the proposed project will occur within existing ROW throughout the entire length of the project with the exception of the six (6) interchanges being assessed for improvements. Impacts to natural communities and wetlands at these interchange locations are minimal, but have the potential to contribute to cumulative impacts.

The FTE will minimize direct and indirect impacts to all extent practicable to reduce potential contribution to the cumulative effects. Unavoidable impacts to wetland function and value will be offset at an approved mitigation bank within the service area and drainage basin of the impacts.

4.6.2 No-Build Alternative

There are no indirect, secondary, or cumulative impacts to wetlands associated with the No-Build Alternative.

4.7 Mitigation

Wetland impacts, which will result from the construction of this project, will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. In accordance with EO 11990, the FTE has undertaken all actions to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Nonetheless, the FTE has determined that there is no practicable alternative to construction impacts occurring in wetlands. The proposed project will have no significant short-term or long-term adverse impacts

to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

Compensatory mitigation for this project will be completed using mitigation banks and other mitigation options to satisfy state and federal requirements. The project area is currently located within the service areas of the Bluefield Ranch Mitigation Bank, Loxahatchee Mitigation Bank, DuPuis Reserve and R.G. Reserve.

All preliminary UMAM scores, UMAM calculations, wetland lines and determinations discussed are subject to revision and approval by regulatory agencies during the permitting process. The exact amount and type of mitigation used to offset wetland impacts from the Turnpike mainline widening will be determined through coordination with the USACE and SFWMD, based on design segments, during the permitting phase(s) of this project.

Section 5.0 Essential Fish Habitat

5.1 Introduction

This section documents Essential Fish Habitat (EFH) in accordance with Part 2, Chapter 17 – Essential Fish Habitat of the FDOT PD&E Manual (FDOT 2020) and The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended.

The Magnuson-Stevens Act requires the regional Fishery Management Councils and the Secretary of Commerce to describe and identify EFH for species under federal Fishery Management Plans (FMPs). EFH is defined in the Magnuson-Stevens Act as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The National Marine Fishery Service (NMFS) issued proposed regulations containing guidelines for the description and identification of EFH in fishery management plans, adverse impacts on EFH, and actions to conserve and enhance EFH. These rules were revised, finalized, and effective on February 19, 2002 (67 FR 2343).

The regulations also provide a process for NMFS to coordinate and consult with federal and state agencies on activities that may adversely affect EFH. The purpose of the rule is to assist in describing and identifying EFH, minimize adverse effects on EFH, and identify other actions to conserve and enhance EFH. The purpose of the coordination and consultation provisions is to specify procedures for adequate consultation with NMFS on activities that may adversely affect EFH.

The South Atlantic Fishery Management Council (SAFMC) oversees conservation and fish stocks within their jurisdiction, and manages EFH in FMPs to protect, conserve and enhance EFH. The SAFMC has developed ecosystem-based management by utilizing Fishery Ecosystem Plan II in order to better manage protected species, various habitats and human/institutional practices that affect their management area. EFH includes waters (estuarine and marine) and substrates (sediment, hardbottom, and associated biological communities such as mangroves, tidal marshes, and submerged aquatic vegetation) that are necessary for spawning, breeding, feeding and growth of fish and invertebrates.

5.2 Methodology

The SAFMC currently manages eight (8) fisheries, each under their individual FMP. These FMPs include: Shrimp, Snapper Grouper, Spiny Lobster, Coastal Migratory Pelagics, Coral and Live Bottom Habitat, Dolphin and Wahoo, Golden Crab, and Sargassum Habitat. The Atlantic States Fishery Management Commission (ASFMC) is responsible for the regulation of the red drum under the Red Drum FMP. Additionally, the NMFS is responsible for Atlantic Highly Migratory Species FMP which covers multiple Fishery Management Councils, including SAFMC's jurisdiction. There are highly migratory species found within the South Atlantic that have NMFS-designated EFH requirements. Waterway crossings of the preferred alternative involving designated EFH are listed along with the applicable FMPs in **Table 5-1**.

Table 5-1 Essential Fish Habitat Designated at Project Waterway Crossings

Fishery Management Plans for Project Waterway Crossings	Waterway Crossing							
	Loxahatchee River	Unnamed Tributary to Cypress Creek	Cypress Creek	Roebuck Creek	St. Lucie Canal (C-44 Canal)	Unnamed Tributary to Mapps Creek	Rim Ditch (C-24 Canal)	Tenmile Creek
Salinity Range (ppt)								
Maximum	<1	<1*	<1*	<1	21.8	<1*	23.1	<1
Minimum	<1	<1*	<1*	<1	<1	<1*	<1	<1
Mean	<1	<1*	<1*	<1	4.3	<1*	5.7	<1
Fishery Management Plan								
Shrimp[1]	X	X	X	X	X	X	X	X
Snapper Grouper	-	-	-	-	X	-	X	-
Spiny Lobster	-	-	-	-	X	-	X	-
Coastal Migratory Pelagics	-	-	-	-	-	-	-	-
Coral, Coral Reef and Live/Hardbottom Habitat	-	-	-	-	-	-	-	-
Dolphin and Wahoo	-	-	-	-	-	-	-	-
Golden Crab	-	-	-	-	-	-	-	-
Sargassum Habitat	-	-	-	-	-	-	-	-
Red Drum[2]	X	X	X	X	X	X	X	X
Atlantic Highly Migratory Species	-	-	-	-	-	-	-	-

[1]Shrimp designated EFH is based on crossing locations provided by NOAA-NMFS during ETDM screening process (ETDM No. 14295) as EFH for white shrimp. EFH for other Penaeid shrimp not located within the project study area.

[2]EFH for red drum is not specifically designated; however, potential habitat components of EFH for the red drum are present at these crossings.

*Data unavailable; salinity estimate based on data from nearby station

The SAFMC has identified and described EFH for federally managed species and the coral complex. Available NMFS GIS and collateral data sources were searched to identify managed species and EFH within and adjacent to the project study area (**Appendix G**). Life history accounts, including designated EFH, for managed species, the coral complex, and highly migratory species, were reviewed to assess the potential occurrence of these species within the proposed project area during any stage of their life cycle. Wetland and other surface water habitats were identified, characterized, and quantified within the project study area and footprint of the preferred alternative. A comparison of EFH descriptions was made with characteristics of wetland and other surface water habitat located within the project study area.

Based on technical assistance with the NMFS, a review of habitat types present within the project area was conducted to identify EFH for each of the SAFMC managed species and highly migratory species to assess their potential to occur in the project area. The NMFS identified specific EFH of particular interest as including seagrasses, mangroves, and vegetated and unvegetated canal and stream bottom habitats for juvenile white shrimp. The NMFS also indicated that the presence of EFH should be confirmed by review of existing tidal and stream gauge information.

A review of water quality and stage elevation data available from the SFWMD and the U.S. Geological Survey (USGS) for the waterway crossings was also performed to identify salinity and tidal regimes occurring in potential EFH located within the project limits. Additionally, National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS) tidal datum was reviewed for tidal stations in the project vicinity, to further evaluate tidal regimes within the project area. These water stage and tidal elevation data were also compared to the high water elevations included on the existing structure plans for Turnpike bridge crossings. Other collateral data sources (e.g., FDEP Retained Waters Mapping Tool – Approximate Tidal Waters) were also included in these analyses of tidal and water regimes occurring within the project area.

Potential adverse effects to managed species and EFH were then calculated by analyzing project related impacts from bridge and roadway widening within identified EFH. Wetland and other surface water impacts within designated EFH associated with each waterway crossing were calculated using the increase in overwater footprint and physical impacts from roadway fill potentially required for widening and bridge approaches. The increase in overwater footprint impact acreage was determined by comparing existing bridge dimensions to proposed bridge concepts. Where applicable, potential impacts were also estimated to wetlands abutting waterway crossings that were identified as potential EFH on the western side of the existing roadway, where widening is proposed to occur. Potential impacts to EFH associated with culverted waterway crossings include all wetlands and other surface waters identified within the preferred alternative right-of-way on the western side of the existing roadway.

Potential adverse effects include direct impacts such as fill placement for road widening and bridge approaches, pile placement, bridge pier foundation construction and indirect impacts such as shading of vegetated habitats. Further refinement and quantification of EFH involvement, as well as differentiation between direct and indirect impacts, can be assessed at each waterway crossing as bridge concepts are advanced, and the project proceeds through the design process. Measures to avoid, minimize and mitigate adverse impacts to managed species and EFH were also evaluated.

5.3 Results

The EFH assessment resulted in identifying waterway crossings of the preferred alternative that are located within areas designated as EFH for species under four (4) FMPs: Shrimp, Snapper Grouper, Spiny Lobster, and Red Drum. The applicable FMP and salinity ranges for each waterway crossing involving designated EFH are listed in **Table 5-1**.

Based on the results of stage elevation and tidal data review, many of the waterway crossings appear to be located at an elevation above the influence of the tides and may not be accessible, or only temporarily accessible, to managed species. For the purposes of this evaluation, the entirety of the freshwater systems within the preferred alternative right-of-way was assessed for EFH impacts. Therefore, these preliminary estimates of potential EFH involvement should be considered conservative approximations.

The EFH located within waterway crossings at the St. Lucie Canal (C-44 Canal) and Rim Ditch (C-24 Canal) are primarily comprised of estuarine subtidal open water channels. Very little peripheral habitat is located along these flood control facilities. The St. Lucie Canal (C-44 Canal)

receives regulated freshwater discharges from the Lake Okeechobee. These regulated discharges can contain waters with high nutrient content, which can prove problematic for the receiving waters of the St. Lucie Estuary. Similarly, Rim Ditch (C-24 Canal) is influenced by the tides but functions as a flood control facility, subject to periodic large discharges of freshwater, principally during the wet season.

As a result, the St. Lucie Canal and Rim Ditch exhibit variable water quality and wide-ranging salinities (<1 to 23 parts per thousand [ppt]) within the project area, making them less suitable habitat for stenohaline species managed under the referenced FMPs. Halophilic vegetation is lacking at these crossings and, according to the FWC's 2018 geospatial data of statewide seagrass, there is no documented submerged aquatic vegetation in the project area. Based on this assessment, it has been determined that these estuarine open water crossings provide potential EFH for eight (8) species within the snapper grouper complex and spiny lobster. The St. Lucie Canal, Roebuck Creek, and Rim Ditch also provide potential EFH for white shrimp within open estuarine habitats, tidal and non-tidal freshwater, and forested palustrine wetlands.

The County Line Canal (C-23) is also a channelized flood control facility similar to Rim Ditch. County Line Canal is also mapped as designated EFH for the snapper grouper complex and spiny lobster. However, the County Line Canal at the project crossing is freshwater, which is controlled by a fixed vertical weir is located downstream of the project. This fixed vertical weir effectively eliminates access into the project area by managed species from the St. Lucie Estuary located further downstream, as a result this crossing was not included in the EFH assessment.

The remaining waterway crossings with designated EFH are all freshwater and contain palustrine forested wetlands upstream of open water estuarine habitats. These crossings contain potential EFH for white shrimp. For the purposes of this evaluation, the entirety of these systems within the preferred alternative right-of-way was assessed for impacts; however, portions of these forested wetland systems may not be accessible, or are only temporarily accessible, to SAFMC managed species due to their topographic elevation that is located above the influence of the tides. Therefore, this preliminary appraisal of potential EFH involvement should be considered a conservative worst case estimate.

The potential for occurrence of each species was given a rating of High, Medium, Low, or None based on the presence of EFH in or near the project study area and the habitat suitability, including salinity and tidal regimes, for any life cycle stage of the species. A **High** rating was given if there was suitable habitat present for a life cycle stage and the project area is within the species EFH. A **Medium** rating was given if there was suitable habitat present and EFH was near the project area. A **Low** rating was given if there was suitable habitat present, but no EFH designated in or near the project area. A **None** rating was given if there was mapped EFH, but no suitable habitat for any life cycle stage within the project area or if salinity regimes within the project area did not meet the requirements of the species during the life cycle stage where it could potentially utilize the waterways within the project. **Table 5-2** summarizes the potential for occurrence of SAFMC managed species.

The EFH assessment determined that various life cycle stages of 11 managed species have a potential to occur within the project area (**Table 5-2**). It was determined that white shrimp, eight

(8) species in the snapper grouper complex, spiny lobster, and red drum have a high potential for occurrence in the project area. This designation was based on the presence of suitable habitat for at least one life cycle stage and EFH being designated in the project area. The remaining species, 47 species in the snapper grouper complex, were designated as having no (None) potential for occurrence in the project area. This was primarily based on the existing salinity regimes within the project area, which are not suitable for any life cycle stage of these species.

Table 5-3 provides the existing waterway crossings, bridge identification numbers, increase in overwater footprint of the proposed project, and the acreage of potential EFH within the preferred alternative right-of-way. The acreages presented in **Table 5-3** are not representative of impacts to EFH, but provide an estimate of potential EFH within the preferred alternative right-of-way. Impacts to EFH associated with construction of the preferred alternative by wetland and other surface water type are provided in **Table 5-4**. The preliminary appraisal of potential EFH involvement provided in **Table 5-4** should be considered a conservative worst case estimate. Potential adverse effects include direct impacts such as fill approaches, pile placement and indirect impacts such as shading of vegetated habitats. EFH impacts can be refined at each waterway crossing as bridge concepts are further developed, and the project advances through the design process.

Table 5-2 SAFMC Managed Species Potential for Occurrence

Fishery Management Plan	Species	Potential for Occurrence within Preferred Alternative[1]	Comments
Shrimp[2]	White shrimp (*Penaeus setiferus*)	High	Penaeid shrimp EFH includes inshore nursery areas, e.g. estuaries and mangroves. EFH for white shrimp has also been identified in open estuarine habitats, forested palustrine wetlands, and vegetated and unvegetated canal and stream bottoms. Juveniles seek lower salinity waters.
Snapper Grouper	Almaco jack (*Seriola rivoliana*)	None	Found in offshore waters. Juveniles found inshore, but generally not an estuarine species.
	Banded rudderfish (*Seriola zonata*)	None	Found in nearshore and offshore waters over hard bottom and reefs and deep inshore channels; not generally associated with low saline estuarine habitats.
	Bar jack (*Caranx ruber*)	None	An offshore species, found off waters of mainland coasts; generally, not an estuarine species.
	Greater amberjack (*Seriola dumerili*)	None	Found in offshore waters. Juveniles found inshore, but generally not an estuarine species.
	Lesser amberjack (*Seriola fasciata*)	None	Found in offshore waters. Juveniles found inshore, but generally not an estuarine species.

Fishery Management Plan	Species	Potential for Occurrence within Preferred Alternative[1]	Comments
Snapper Grouper	Blueline tilefish (*Caulolatilus microps*)	None	Found in offshore waters. Juveniles found inshore, but generally a deep water species.
	Sand tilefish (*Malacanthus plumieri*)	None	Found from nearshore waters to about 150 ft. deep waters, but generally not an estuarine species.
	Golden Tilefish (*Lopholatilus chamaeleonticeps*)	None	Found in offshore waters. Juveniles found inshore, but generally a deep water species.
	Blackfin snapper (*Lutjanus buccanella*)	None	Found in coastal waters. A tropical stenohaline species not generally found in low saline estuarine habitats.
	Coney (*Cephalopholis fulva*)	None	Found in nearshore and offshore waters; not generally associated with estuarine low saline habitats.
	Cubera snapper (*Lutjanus cyanopterus*)	High	Found in nearshore and offshore waters. Juveniles known to inhabit estuaries, mangrove areas, and the tidal reaches of streams and freshwater canals.
	Gray snapper (*Lutjanus griseus*)	High	Found in inshore, nearshore and offshore waters. Juveniles are found in a variety of habitats, including inshore near pilings and structure, seagrass meadows, freshwater rivers, and mangrove thickets.
	Graysby (*Cephalopholis cruentata*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Lane snapper (*Lutjanus synagris*)	High	Found in nearshore and offshore waters. Juveniles utilize protected inshore areas such as seagrass beds as nursery habitats. Small adults are found within inlet areas. Mature adults inhabit offshore waters.
	Mutton snapper (*Lutjanus analis*)	High	Juveniles occur in shallow waters such as tidal mangrove creeks, canals, and shallow protected bays. Larger fish and adults found on offshore reefs and rocky, hardbottom areas.
	Queen snapper (*Etelis oculatus*)	None	Found in offshore waters. Juveniles found inshore, but generally a deep water species.
	Red snapper (*Lutjanus campechanus*)	None	Found in offshore waters. Juveniles found inshore, but generally a deep water species.
	Silk snapper (*Lutjanus vivanus*)	None	Found in offshore waters. Juveniles found inshore, but generally a deep water species.

Fishery Management Plan	Species	Potential for Occurrence within Preferred Alternative[1]	Comments
Snapper Grouper	Vermilion snapper (*Rhomboplites aurorubens*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Yellowtail snapper (*Ocyurus chrysurus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Atlantic goliath grouper (*Epinephelus itajara*)	High	Found in nearshore and offshore waters, preferring areas of rock, coral, and mud bottoms. Juveniles inhabit mangroves and brackish estuaries, especially near oyster bars.
	Black grouper (*Mycteroperca bonaci*)	High	Generally, an offshore species, inhabiting rocky bottoms and coral reef environments. Young inhabit estuaries and seagrass beds.
	Gag grouper (*Mycteroperca microlepis*)	High	Generally, an offshore species. Adults inhabit offshore reefs and hardbottom areas. Young inhabit estuaries and coastal lagoons.
	Misty grouper (*Hyporthodus mystacinus*)	None	Found in nearshore and offshore waters. Not generally associated with low saline estuarine habitats.
	Nassau grouper (*Epinephelus striatus*)	None	Found in nearshore and offshore waters in south Florida. Young inhabit seagrass beds and associate with drift algae, but are generally not found in low saline estuarine habitats.
	Red grouper (*Epinephelus morio*)	None	Found in nearshore and offshore waters. Juveniles found inshore, but are generally not associated with low saline estuarine habitats.
	Scamp (*Mycteroperca phenax*)	None	Found in nearshore and offshore waters. Juveniles found inshore, but generally an offshore species.
	Snowy grouper (*Hyporthodus niveatus*)	None	Found in nearshore and offshore waters. Juveniles found inshore, but generally a deep water species.
	Warsaw grouper (*Hyporthodus nigritus*)	None	Found in nearshore and offshore waters. Juveniles found inshore, but generally a deep water species.
	Yellowedge grouper (*Hyporthodus flavolimbatus*)	None	Found in nearshore and offshore waters. Juveniles found inshore, but are generally not associated with low saline estuarine habitats.
	Yellowfin grouper (*Mycteroperca venenosa*)	None	Found in nearshore and offshore waters. Juveniles found inshore, sometimes associated with seagrass beds as well as shallow reefs (Caribbean). Generally, not associated with low saline estuarine habitats.
	Yellowmouth grouper (*Mycteroperca interstitialis*)	None	Found in nearshore and offshore waters of south Florida. Juveniles may associate with mangroves, but are generally not found in low saline estuarine habitats.

Fishery Management Plan	Species	Potential for Occurrence within Preferred Alternative[1]	Comments
Snapper Grouper	Bank sea bass (*Centropristis ocyurus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Black sea bass (*Centropristis striata*)	None	Found in nearshore and offshore waters. Migrate seasonally to inhabit inshore waters, but not generally found in low saline estuarine habitats.
	Rock sea bass (*Centropristis philadelphica*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Jolthead porgy (*Calamus bajonado*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Knobbed porgy (*Calamus nodosus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Longspine porgy (*Stenotomus caprinus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Red porgy (*Pagrus pagrus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Rock hind (*Epinephelus adscensionis*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Red hind (*Epinephelus guttatus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Saucereye porgy (*Calamus calamus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Scup (*Stenotomus chrysops*)	None	Found in nearshore waters along the continental shelf.
	Speckled hind (*Epinephelus drummondhayi*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Whitebone porgy (*Calamus leucosteus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Wreckfish (*Polyprion americanus*)	None	Found in nearshore and offshore waters. A deep water species, not found in low saline estuarine habitats.
	Cottonwick (*Haemulon melanurum*)	None	Found in clear inshore and offshore waters in southeast Florida; not generally associated with low saline estuarine habitats.

Fishery Management Plan	Species	Potential for Occurrence within Preferred Alternative[1]	Comments
Snapper Grouper	Margate (*Haemulon album*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Sailors choice (*Haemulon parra*)	None	Found in nearshore waters from shore to outer reefs, but generally not found in low saline estuarine habitats.
	Tomtate (*Haemulon aurolineatum*)	None	Found in nearshore waters, but not generally found in low saline, turbid, estuarine waters.
	White grunt (*Haemulon plumierii*)	None	Found in nearshore and offshore waters, but not generally found in low saline estuarine waters.
	Ocean triggerfish (*Canthidermis sufflamen*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Gray triggerfish (*Balistes capriscus*)	None	Found in nearshore and offshore waters; not generally associated with low saline estuarine habitats.
	Hogfish (*Lachnolaimus maximus*)	None	Found in nearshore waters commonly associated with hardbottom and reef habitats; not generally found in low saline estuarine habitats.
	Atlantic spadefish (*Chaetodipterus faber*)	High	Found in coastal waters, including shallow marine and brackish waters of mangroves, beaches, harbors. Juveniles found in estuaries and around mangroves.
Spiny Lobster	Spiny lobster (*Panulirus argus*)	High	Found in nearshore waters. EFH habitat includes seagrass habitat, algal communities, and mangrove habitat. Most common in high salinity estuaries, but generally not found in low saline habitats. Spawning occurs offshore in sheltered areas.
Red Drum[3]	Red drum *(Sciaenops ocellatus)*	High	Utilizes tidal freshwater, mangrove fringe and sea grass. EFH includes estuarine emergent wetlands, mangrove fringe and seagrasses.

Notes:

[1]Ratings are high, medium, low, and none. Ratings based on presence of suitable habitat as follows:
High – suitable habitat present in project area for a life cycle stage, and the project area is within the species EFH.
Medium – suitable habitat present in project area and EFH for managed species is present near project area.
Low – suitable habitat present, but no EFH designated in or near the project area.
None – mapped EFH, but no suitable habitat for any life cycle stage within the project area or salinity regimes within the project area do not meet the requirements of the species during the life cycle stage where it could potentially utilize the waterways within the project.
[2]EFH for other Penaeid shrimp not located within the project study area.
[3]The red drum is managed by the Atlantic States Marine Fisheries Commission.

Table 5-3 Potential EFH within the Preferred Alternative Right of Way

Waterway Crossing[1]	Bridge No.	Increase in Overwater Footprint (ac.)	Potential EFH in Preferred Alternative ROW (ac.)	
			Other Surface Waters	Wetlands
Loxahatchee River	930241	0.14	0.08	1.21
Unnamed Tributary to Cypress Creek	Culvert	-	1.24	0.10
Cypress Creek	890079	0.21	0.00	1.09
Roebuck Creek	890066 and 891000[2]	0.08	0.00	3.31
St. Lucie Canal (C-44 Canal)		0.23	2.53	0.00
Unnamed Tributary to Mapps Creek	Culvert	-	0.79	0.06
Rim Ditch (C-24 Canal)	940049 and 940082	0.25	1.34	0.00
Tenmile Creek	940072	0.11	1.23	2.72
Potential EFH in Preferred Alternative ROW			**7.21**	**8.49**
Total Potential EFH in Preferred Alternative ROW			**15.70**	

5.4 Summary

While the proposed project has taken all practicable measures to avoid and minimize adverse effects to potentially occurring managed species and their habitats, unavoidable impacts may occur as a result of construction of the preferred alternative. Potential impacts to EFH at each waterway crossing of the preferred alternative are discussed below and summarized in **Table 5-4**. Impacts include direct impacts such a fill approaches, pile placement and indirect impacts such as potential shading of vegetated habitats. Refinement of impact acreages and differentiation between direct and indirect impacts, can occur as the bridge concepts are advanced for each waterway crossing, as the project proceeds through the design process. Ultimately, adverse effects to EFH resulting from the project are expected to be substantially less than the estimates presented in **Table 5-4**. This is due, in part, to the final design and construction footprint of bridge pilings and/or pier foundations, for example, occupying far less physical area of EFH than the impacts shown in **Table 5-4**.

Table 5-4 Estimated EFH Impacts for the Preferred Alternative Bridge and Culvert Crossings and Associated Approach Fill

Waterway Crossing[1]	Bridge No.	Estimated EFH Impact Acreage[2] by FLUCFCS Habitat Type					Estimated EFH Impact Acreage	
		Other Surface Waters		Wetlands			Other Surface Waters	Wetlands
		510	511	617	621	630		
Loxahatchee River	930241		0.08		0.14		0.08	0.14
Unnamed Tributary to Cypress Creek	Culvert		1.24				1.24	0.00
Cypress Creek	890079					0.21	0.00	0.21
Roebuck Creek	890066 and 891000[3]			1.74			0.00	1.74
St. Lucie Canal (C-44 Canal)			0.23				0.23	0.00
Unnamed Tributary to Mapps Creek	Culvert	0.70		0.06			0.70	0.06
Rim Ditch (C-24 Canal)	940049 and 940082	0.25					0.25	0.00
Tenmile Creek	940072		0.11	1.34			0.11	1.34
Estimated EFH Impacts							**2.61**	**3.49**
Total Estimated EFH Impacts							**6.10**	

[1]EFH source for the Loxahatchee River, Unnamed Tributary to Cypress Creek, Cypress Creek, St. Lucie Canal (C-44), Unnamed Tributary to Mapps Creek, Rim Ditch (C-24) and Tenmile Creek was NMFS ETDM comments. EFH source for the Roebuck Creek crossing was NMFS GIS Data.
[2]Wetland and other surface water EFH impacts associated with each bridge/waterway crossing were estimated using the increase in overwater footprint and area of potential fill for bridge approaches. Where applicable, impact estimates also included the potential impacts to wetlands abutting waterway crossings that were identified as potential EFH on the western side of the existing roadway, where widening is proposed to occur. Impacts associated with culverted waterway crossings include all wetlands and other surface waters identified within the preferred alternative right-of-way on the western side of the existing roadway as potential EFH.
[3]The St. Lucie Canal and Roebuck Creek cross the project area under different portions of the Thomas B. Manuel Bridge.

FLUCFCS Habitats Types:
510 – Streams and Waterways
511 – Natural River, Stream, Waterway
617 – Mixed Wetland Hardwoods
621- Cypress
630 – Wetland Forested Mixed

Potential Impacts

Loxahatchee River

The Loxahatchee River is designated as a Wild and Scenic River and Outstanding Florida Water at the Turnpike crossing and is a designated Aquatic Preserve downstream of the project area. Where the project traverses the Loxahatchee River, wetland communities are mapped as cypress (FLUCFCS 621) and a natural waterway (FLUCFCS 511). The Loxahatchee River is a 260-square mile system of fresh, brackish and saltwater. The river's sinusoidal channel meanders through a forested freshwater wetland with a nearly closed canopy, into tidal freshwater habitats, and through a brackish estuarine reach, ultimately joining the Atlantic Ocean through the Jupiter Inlet. Where

the project intersects the Loxahatchee River, the high water elevation reported on the existing bridge plans is 6.1 feet (NGVD 29). The river at the Turnpike crossing is characteristically freshwater and appears located at an elevation that is above the influence of the astronomical tides.

The wetlands and natural waterway at the Loxahatchee River crossing have been identified as potential EFH for white shrimp and red drum. Based on the preliminary bridge concepts and proposed widening to the western side of the existing roadway, the preferred alternative will have the potential to impact approximately 0.14 acres of forested wetlands and 0.08 acres of natural other surface waters at the Loxahatchee River crossing.

Unnamed Tributary to Cypress Creek

The project crosses an Unnamed Tributary to Cypress Creek where wetland and other surface water communities are mapped as wetland scrub (FLUCFCS 631) and a natural waterway (FLUCFCS 511). The other surface waters present at this crossing also includes a portion of a linear ditch feature associated with the existing roadway. This ditch segment connects portions of the fragmented remains of this unnamed tributary, which were modified by previous drainage improvements and the original construction of the Turnpike. The system merges with Cypress Creek northeast of the project area. Cypress Creek meanders northeast through a freshwater forested wetland system to its confluence with the Loxahatchee River. The elevation of high water reported on the plans for the existing Cypress Creek bridge is 10.7 feet (NGVD 29). This tributary is freshwater at the project crossing and is located at an elevation above the influence of the astronomical tides.

The wetland and other surface waters, including the natural waterway (FLUCFCS 511), at the Unnamed Tributary to Cypress Creek crossing have been identified as potential EFH for white shrimp and red drum. This tributary is currently culverted across the existing roadway. Based on the proposed widening to the western side of the existing roadway, the preferred alternative will have the potential to impact approximately 1.24 acres of historically altered other surface waters, which parallel the Turnpike, at the Unnamed Tributary to Cypress Creek crossing.

Cypress Creek

Wetland communities are mapped as mixed wetland forest (FLUCFCS 630) where the project crosses Cypress Creek. This freshwater system meanders northeast through a freshwater forested wetland system to its confluence with the Loxahatchee River.

The wetlands at the Cypress Creek crossing have been identified as potential EFH for white shrimp and red drum. Based on the preliminary bridge concepts and the proposed widening to the western side of the existing roadway, the preferred alternative may result in potential impacts to approximately 0.21 acres of freshwater forested wetlands at the Cypress Creek crossing. Cypress Creek at the Turnpike crossing is freshwater, and the existing bridge plans for this crossing indicate that the high water elevation at this crossing is 10.7 feet (NGVD 29). Cypress Creek is located at an elevation above the influence of the astronomical tides.

St. Lucie Canal (C-44 Canal) / Roebuck Creek

The St. Lucie Canal (C-44 Canal) and Roebuck Creek are hydrologically connected systems that are crossed by the Thomas B. Manuel Bridge. The portion of the St. Lucie River within the project area is a channelized intertidal canal (St. Lucie Canal) and part of the Okeechobee Waterway. The St. Lucie Canal is characterized as an open water estuarine subtidal system that is mapped as a natural waterway (FLUCFCS 511). Roebuck Creek is a freshwater stream that meanders through a mixed wetland hardwood system (FLUCFCS 617) towards its confluence with the St. Lucie Canal, where it is tidally influenced. The lower reach of Roebuck Creek is tidal and contiguous with the St. Lucie Canal. The wetlands located at the Roebuck Creek crossing have been identified as EFH for the white shrimp and red drum. The estuarine habitat within the St. Lucie Canal has been identified as EFH for spiny lobster, the snapper grouper complex, white shrimp and red drum.

This portion of the St. Lucie Canal is a component of a regional flood control facility and has been extensively modified by channelization. This segment of the canal receives regulated discharges of freshwater from Lake Okeechobee via the C-44 Canal. The channelized St. Lucie Canal flows northeast through developed areas abutting the St. Lucie Estuary before reaching the Atlantic Ocean through the St. Lucie Inlet. The St. Lucie Canal is regulated by a water control structure (SFWMD Structure S-80) located approximately 0.81 miles upstream (southwest) of the project area. This control structure effectively restricts saline waters from traveling farther upstream, and interrupts historical salinity regimes.

The resulting water quality in the St. Lucie Canal is highly variable and the system exhibits wide ranging salinities, which are tied to the volume and periodicity of freshwater discharges. Salinities range from less than 1.0 ppt to over 21 ppt (average 4.3 ppt). Discharges from Lake Okeechobee can carry nutrient laden water, resulting in reduced water quality in the downstream estuarine waters. These varying water quality and salinity characteristics, while important to many estuarine dependent fish and invertebrate species adapted to such conditions, can effectively exclude usage by more stenohaline species managed under the snapper grouper complex. Additionally, while physical habitat attributes consistent with the requirements of EFH for the spiny lobster (e.g., rock substrate) are present within the channelized St. Lucie Canal at the project crossing, the highly variable fluctuations in salinity and water quality may effectively reduce or eliminate usage of this area by the spiny lobster.

The freshwater and tidally influenced habitats within the Roebuck Creek crossing are potential EFH for white shrimp and red drum. The estuarine habitat within the St. Lucie Canal crossing is potential EFH for white shrimp, the snapper grouper complex, spiny lobster, and red drum. Based on the preliminary bridge concepts and the proposed widening to the western side of the existing roadway, the preferred alternative may result in potential impacts to approximately 1.74 acres of forested wetlands at the Roebuck Creek crossing and 0.23 acres of other surface waters at the St. Lucie Canal crossing.

These preliminary estimates of potential EFH involvement should be considered conservative approximations. As an example, of the 0.23 acres of potential EFH impacts estimated at St. Lucie Canal, only approximately 0.03 acres are vegetated and located along the lower aspect of the canal

slopes. Additionally, the margins of the St. Lucie Canal will likely not be directly impacted by construction, as the existing bridge spans these areas.

Mangroves are present along the lower reach of Roebuck Creek, east of the Turnpike at the confluence with the St. Lucie Canal, and occur sporadically along the St. Lucie Canal shoreline. Because the current design concepts involve widening the existing southbound Thomas B. Manuel Bridge to the west over the St. Lucie Canal, these areas of sporadic mangroves can likely be avoided during construction.

Potential impacts to the forested wetland system, which parallels the Turnpike near the Roebuck Creek crossing, may ultimately be reduced as the bridge approach and roadway widening concepts are further refined through the design process. Impacts to the adjacent forested wetland system may be substantially minimized by including a walled approach to the Roebuck Creek crossing. It should also be noted that portions of the forested wetland system, may not be accessible, or only temporarily accessible, to managed species due to the topography and elevational position of the wetlands, which are located above the influence of tides.

Unnamed Tributary to Mapps Creek

The project traverses an Unnamed Tributary to Mapps Creek through wetland and other surface water communities that are mapped as mixed wetland hardwoods (FLUCFCS 617) and streams and waterways (FLUCFCS 510). The other surface water present at this crossing includes a portion of a linear ditch feature associated with the existing roadway that was utilized to connect the fragmented remains of this tributary. This freshwater system connects with Mapps Creek northeast of the project area. This Unnamed Tributary to Mapps Creek is located at an elevation above the influence of the astronomical tides, where the project area crosses this system. Mapps Creek continues eastward outside of the project area through developed areas and forested wetland systems becoming tidally influenced near its confluence with the St. Lucie River.

The wetland and other surface waters at the Unnamed Tributary to Mapps Creek crossing have been identified as potential EFH for white shrimp and red drum. This tributary is culverted under the Turnpike, and this culvert will be extended to support the preferred alternative. Based on the proposed widening to the western side of the existing roadway, the preferred alternative will have the potential to impact approximately 0.06 acres of forested wetlands and 0.70 acres of other surface waters at the Unnamed Tributary to Mapps Creek crossing.

County Line Canal (C-23 Canal)

The County Line Canal (C-23 Canal) is a manmade, open freshwater system that is mapped as streams and waterways (FLUCFCS 510) at the proposed project crossing. The County Line Canal is a linear channelized component of a regional flood protection facility and flows east to the St. Lucie River. The other surface waters at the County Line Canal crossing have been identified as potential EFH for the snapper grouper complex and spiny lobster.

The County Line Canal has two (2) water control structures near the project area: SFWMD Structure S-97 located approximately 0.55 miles upstream; and SFWMD Structure S-48, a fixed vertical weir, located approximately 2.0 miles downstream of the existing roadway. The project

area is located in the freshwater portion of the canal between these structures. The water elevation in the County Line Canal at the project area is principally controlled by the downstream fixed weir (Structure S-48). This fixed weir, located downstream of the project area, effectively prevents movement of managed resource species of the snapper grouper complex, and the spiny lobster, upstream from estuarine waters located over 2 miles to the east.

The County Line Canal crossing is mapped as potential EFH for the snapper grouper complex and spiny lobster. However, due to the existing fixed vertical weir located downstream of the project, substantial impacts to EFH at the County Line Canal are not expected. Based on this information, this crossing has not been included in the assessment.

Rim Ditch (C-24 Canal)

Rim Ditch (C-24 Canal) is a manmade, open water, estuarine subtidal system that is mapped as streams and waterways (FLUCFCS 510) at the proposed project crossing. Rim Ditch is a linear channelized system that is a component of a regional flood protection system and flows east to the St. Lucie River. Rim Ditch has a water control structure (SFWMD Structure S-49) located approximately 0.44 miles upstream of the project area. This control structure effectively restricts saline waters from traveling farther upstream. Discharges of freshwater through this drainage facility result in highly variable water quality and fluctuating salinities in the downstream receiving waters of the St. Lucie Estuary.

Salinities in this segment of the Rim Ditch at the project crossing (downstream of S-49), range from less than 1.0 ppt to over 23 ppt (average 5.7 ppt). Similar to the St. Lucie Canal, varying water quality and salinity characteristics can be important to many estuarine dependent fish and invertebrate species adapted to such conditions. However, these conditions can effectively exclude usage by more stenohaline species managed under the snapper grouper complex. While physical attributes consistent with the EFH for the spiny lobster may be present within this channelized waterway, the fluctuations in salinity and water quality may reduce or eliminate usage of the project area by the spiny lobster. Additionally, the high water elevation shown on the existing plans for this crossing is 8.5 feet (NGVD 29), indicating this area may be above the elevation of the influence of the astronomical tides.

The other surface waters at the Rim Ditch crossing have been identified as potential EFH for white shrimp, the snapper grouper complex, spiny lobster, and red drum. Based on the preliminary bridge concepts and the proposed widening to the western side of the existing roadway, the preferred alternative will have the potential to impact approximately 0.25 acres of other surface waters at the Rim Ditch crossing. However, of this conservatively estimated 0.25 acres of potential EFH involvement, only approximately 0.02 acres represent vegetated canal edges.

Tenmile Creek

The project intersects Tenmile Creek in an area of wetland and other surface water communities that are mapped as mixed wetland hardwoods (FLUCFCS 617) and a natural waterway (FLUCFCS 511). The system meanders east, then southward through freshwater forested wetland systems and stream habitats until it reaches its confluence with the North Fork of the St. Lucie River. A water control structure, the SFWMD Gordy Road Structure, is located approximately 280 feet upstream

of the project crossing. Freshwater is impounded upstream of the Gordy Road Structure, and the high water elevation shown on the existing plans for the Tenmile Creek crossing is 17.0 feet (NGVD 29), indicating that this crossing is located at an elevation above the influence of the astronomical tides. Tenmile Creek is contiguous with the North Fork of the St. Lucie River, the St. Lucie Estuary, and ultimately the Atlantic Ocean.

The wetland and other surface waters at the Tenmile Creek crossing have been identified as potential EFH for white shrimp and red drum. Based on the preliminary bridge plans and the proposed widening to the western side of the existing roadway, the preferred alternative will have the potential to impact approximately 1.34 acres of forested wetlands and 0.11 acres of other surface waters at the Tenmile Creek crossing.

Potential impacts to the forested wetland system, which parallels the Turnpike principally south of the Tenmile Creek crossing, may ultimately be reduced as the bridge approach and roadway widening concepts are further refined through the design process. Impacts to the adjacent forested wetland system may be minimized considerably by including a walled approach to the Tenmile Creek crossing. It should also be noted that portions of the forested wetland system, may not be accessible to managed species due to the topography and elevational position of the wetlands, which are located above the influence of tides.

5.5 Essential Fish Habitat Conclusion

Construction of the proposed project has the potential to impact a total of 6.10 acres of designated EFH, including 3.49 acres of forested wetlands and 2.61 acres of other surface waters (**Table 5-4**). Potential impacts include direct impacts such as fill placement for roadway widening and bridge approaches, pile placement, bridge pier construction and indirect impacts such as shading of vegetated habitats, principally forest wetlands.

EFH is defined in the Magnuson-Stevens Act as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." During a technical assistance meeting, the NMFS identified seagrasses and mangroves as of particular interest as EFH. No estuarine submerged aquatic vegetation has been observed or reported within the project area. No areas of monocultural mangroves have been identified within the project area. Mangroves are present along the lower reach of Roebuck Creek, east of the Turnpike at the confluence with the St. Lucie Canal. Mangroves also occur sporadically along the St. Lucie Canal shoreline. Because the current design concepts involve widening the existing southbound Thomas B. Manuel Bridge to the west over the St. Lucie Canal, these areas of sporadic mangroves can likely be avoided during construction.

The NMFS designates forested palustrine wetlands as EFH for juvenile white shrimp and provided specific locations for white shrimp EFH in the ETDM Programming Screen Summary Report. These specific locations included the Turnpike crossings at the Loxahatchee River, Unnamed Tributary to Cypress Creek, Cypress Creek, South Folk of the St. Lucie River, Unnamed Tributary to Mapps Creek, Rim Ditch (C-24) and Tenmile Creek. The Turnpike crossings at the Loxahatchee River, the Unnamed Tributary to Cypress Creek, Cypress Creek, the Unnamed Tributary to Mapps Creek and Tenmile Creek appear to be located above an elevation influenced by the tides. Further coordination with the NMFS during project design will serve to refine the areas of EFH that will ultimately be affected by the proposed project. Potential impacts to EFH, as well as differentiation

between direct and indirect impacts, can be further assessed at each waterway crossing as design concepts are advanced.

EFH impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C §1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements. Available opportunities to replace EFH functions within systems with similar salinity regimes, connectivity, and habitat types will be investigated and evaluated for implementation. Potential opportunities may include, but are not limited to, low saline shoreline restoration activities as close to impacts as possible, cooperative arrangements for improvements to habitat on private lands, coordinating with nearby public lands (i.e., Jonathan Dickinson State Park) to restore areas with appropriate salinity regimes, and widening the floodplain at Roebuck Creek within the proposed ROW.

The potential impacts to EFH in the project area have been avoided and minimized to the extent practicable. This has been accomplished by locating the widening and/or replacement of bridge structures as close as possible to existing structures and utilizing existing filled causeways for bridge approaches and roadway to the extent feasible. Efforts to avoid and minimize impacts to wetlands, other surface waters and EFH will continue as the project progresses through the design process.

Stormwater treatment is an essential feature of the proposed project. Surficial runoff from additional impervious areas will be treated to prevent increased water quality degradation as a result of the proposed transportation improvements. This includes compliance with the additional treatment requirements at the Loxahatchee River, an Outstanding Florida Water. Due to the incorporation of stormwater treatment facilities, the proposed project will not result in the degradation of water quality in the identified EFH. Additionally, sedimentation and erosion control measures (i.e., silt fences, turbidity barriers) will be utilized during construction to minimize soil exposure and siltation into the water column, further reducing adverse impacts to EFH.

The proposed impacts to areas of EFH within the preferred alternative do not contain any submerged aquatic vegetation and will occur in areas that have been previously disturbed by construction of the existing roadway, culverts, and bridge crossings. Additionally, the EFH within the project area is comprised of the furthest landward extent of the designated EFH habitat and the salinity regimes do not meet the requirements for the majority of SAFMC managed species. Further, due to the topography of the forested wetland systems, portions of these habitats exist at an elevational position beyond the landward most the influence of the astronomical tides. This may preclude or substantially limit access and recruitment of life history stages of managed species. As a result, it is anticipated that the proposed project will not have significant direct or indirect adverse impacts on EFH, based on the relatively minor impact to EFH within its local surroundings, resulting in no representative species or life stages of a species being significantly impacted. Based on this information, no populations of SAFMC or ASMFC managed species with potential to occur within the project area are expected to be adversely affected by the proposed project. The project is anticipated to have a **"more than minimal but less than substantial"** potential for adverse effects on EFH.

Section 6.0 Special Designations

6.1 Loxahatchee River National Wild and Scenic River, Loxahatchee River-Lake Worth Creek Aquatic Preserve

6.1.1 Loxahatchee River National Wild and Scenic River

A segment of the Northwest Fork of the Loxahatchee River was included as a component of the National Wild and Scenic River System through the concomitant actions of the Florida Legislature and the federal government in 1985. Prior to this designation of the Loxahatchee River as the first National Wild and Scenic River in Florida, the Florida Legislature created the Florida State Turnpike Authority and enacted the Florida Turnpike Act in 1953. Construction of the segment of Florida's Turnpike crossing the Loxahatchee River was completed in 1957 as the Sunshine State Parkway.

The Loxahatchee River Wild and Scenic Designation and Preservation Act (Chapter 83-358, Laws of Florida) was enacted by the Florida Legislature on June 24, 1983 to serve as the "Act of the State Legislature" required pursuant to Section 2(a)(ii) of the Wild and Scenic Rivers Act (Act; 16 United States Code [USC] 1271-1287). In July 1984, the Loxahatchee River Final Wild and Scenic River Study/Final Environmental Impact Statement (FEIS 1984) was completed by the U.S. Department of the Interior (DOI), National Park Service (NPS).

These actions resulted in the inclusion of a 7.6-mile long segment of the Northwest Fork of the Loxahatchee River as a state administered component of the National Wild and Scenic River System through designation by the Secretary of the DOI on May 17, 1985. The segment length was subsequently recalculated to include 10.3 river miles.

The Loxahatchee River Wild and Scenic Designation and Preservation Act, (Ch. 83-358, §5, Laws of Fla.), directed the Florida Department of Natural Resources (FDNR; now combined under the Florida Department of Environmental Protection [FDEP]) and the South Florida Water Management District (SFWMD), to develop a management plan for the Loxahatchee River. Additionally, this legislation directed the creation of a permanent management coordinating council to ensure that management of the Loxahatchee River could be implemented with the assistance of affected local, regional, state and federal agencies, ultimately leading to the formation of the Loxahatchee River Management Coordinating Council (LRMCC). In 1985, the *Loxahatchee River National Wild and Scenic River Management Plan* was drafted by FDNR and the SFWMD, and has been updated many times since, with the current version adopted in 2010.

The principal goals of the management plan include preservation and enhancement of unique natural values, restoration of the historical hydrologic regime, and ensure that special consideration and review are given to the watershed surrounding the Loxahatchee River. In accordance with the Loxahatchee River Wild and Scenic Designation and Preservation Act, the current management plan (2010) contains an overview of enabling legislation, policies, agency authority and

responsibilities, as well as an updated description and assessment of the natural and cultural resources within the river area, preservation objectives and management strategies.

Florida's Turnpike crosses the Loxahatchee River within a Wild and Scenic River segment categorized as "Scenic". This segment extends from north of Indiantown Road (SR 706) to north of the Florida Turnpike/I-95 alignment. This segment is described in the FEIS as largely undeveloped with many values that support its inclusion in the National Wild and Scenic River System. "There are several small houses. Paralleling unimproved roads, or other evidences of development adjacent to or very near the river in this section. The most obvious and intrusive development is the Florida Turnpike crossing, soon to be joined by I-95. Despite these intrusions on the natural scene, this segment is classified as scenic."

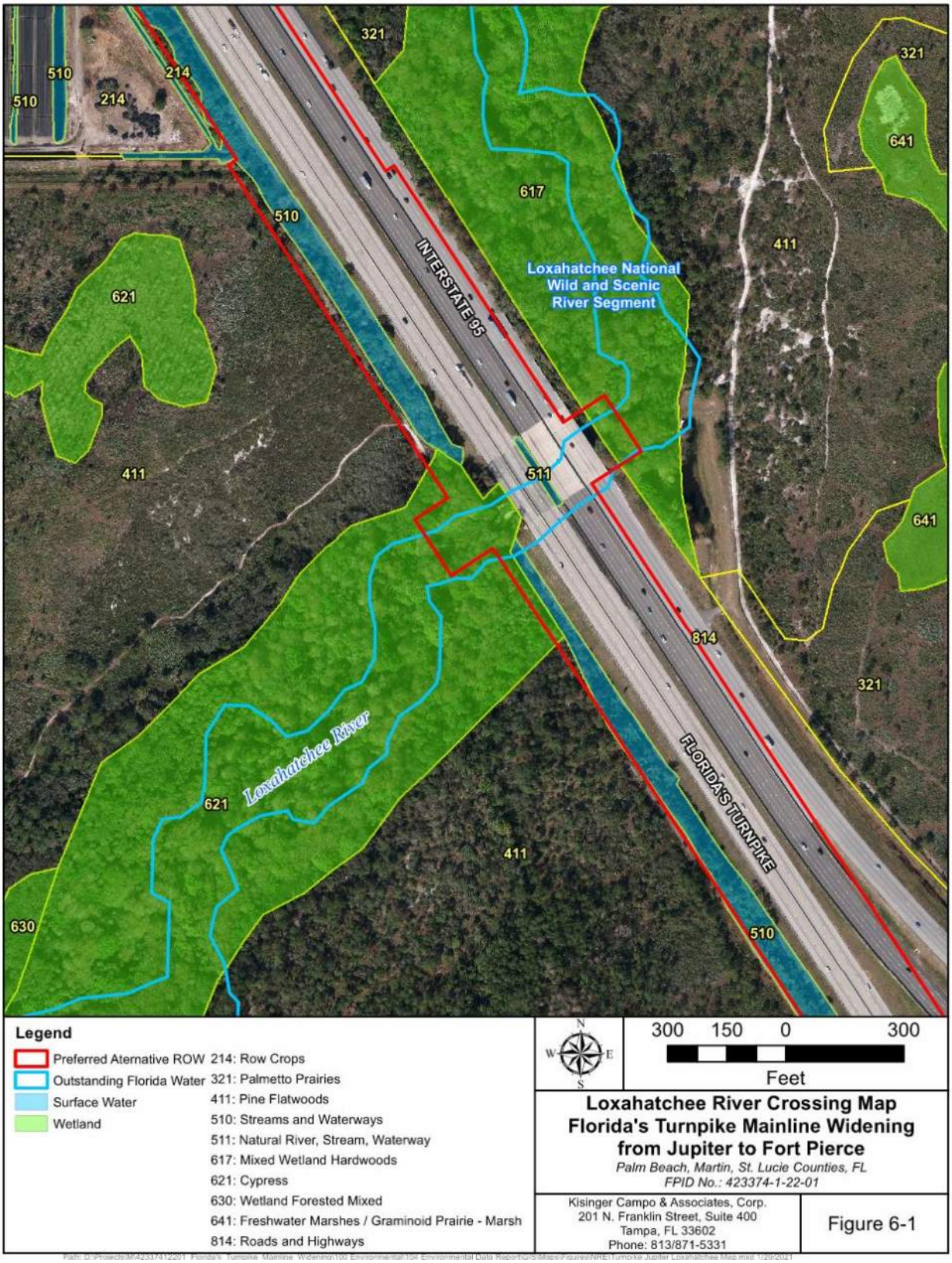
Where the project traverses the Loxahatchee River, wetland communities are mapped as cypress (FLUCFCS 621) and a natural river (FLUCFCS 511). The preferred alternative contains approximately 1.21 acres of cypress wetland on the southwest side of the roadway and 0.08 acres of open water between the Turnpike and I-95. The Loxahatchee River is 260-square mile system of fresh, brackish and saltwater. The river's sinusoidal channel meanders through forested freshwater wetlands with a nearly closed canopy, into tidal freshwater habitats, and through a brackish estuarine reach, ultimately joining the Atlantic Ocean through the Jupiter Inlet.

The Loxahatchee River has special designations affording it extra protections to maintain water quality and habitat viability. These designations include its status as an Outstanding Florida Water, inclusion in the Loxahatchee River-Lake Worth Creek Aquatic Preserve, and Florida's first component of the National Wild and Scenic River System. **Figure 6-1** depicts the location of Florida's Turnpike crossing of the Loxahatchee River, and shows the limits of the preferred alternative, FLUCFCS data, and the Wild and Scenic River boundary.

6.1.2 Loxahatchee River-Lake Worth Creek Aquatic Preserve

The Loxahatchee River-Lake Worth Creek Aquatic Preserve is located near the project study area. The Loxahatchee River and Cypress Creek are both part of this preserve; however, the project area is located upstream of, and outside of, the preserve boundary. The proposed project has potential to affect the preserve, which is located downstream of the Turnpike. Aquatic Preserves are the vested interest of the State of Florida, Board of Trustees of the Internal Improvement Trust Fund (TIITF) through the Florida Aquatic Preserve Act of 1975 (pursuant to Sections 258.35 through 258.46, F.S.). Aquatic Preserves are submerged land that are preserved in their natural or existing condition based on their aesthetic, biological, and scientific value to the public and future generations. The Loxahatchee River-Lake Worth Creek Aquatic Preserve was adopted by the Board of TIITF in 1970 and is managed by the FDEP. A detailed description of the Loxahatchee River-Lake Worth Creek Aquatic Preserve boundary is provided in Chapter 258.39(10), F.S. Boundaries of Preserves, Loxahatchee River-Lake Worth Creek Aquatic Preserve.

Figure 6-1 Loxahatchee River Crossing Map



6.1.3 Outstanding Florida Water

The waters of the Loxahatchee River at the Florida's Turnpike crossing are listed as an Outstanding Florida Water (OFW) pursuant to Rule 62-302.700(2)(d), F.A.C., through its designation as a National Wild and Scenic River. The Loxahatchee River is specifically identified as an OFW in Rule 62-302.700(9)(j), F.A.C. The protections afforded Outstanding Florida Waters are defined in Rule 62-302.700(1), F.A.C., which states,

> "It shall be the Department [FDEP] policy to afford the highest protection to Outstanding Florida Waters and Outstanding National Resource Waters. No degradation of water quality, other than that allowed in subsections 62-4.242(2) and (3), F.A.C., is to be permitted in Outstanding Florida Waters and Outstanding National Resource Waters, respectively, notwithstanding any other Department rules that allow water quality lowering."

As a result of this anti-degradation policy, the project must meet the more stringent water quality criteria implemented to protect OFWs. These criteria are identified in the Environmental Resource Permit Applicant's Handbook Vol. I, Section 10, and will be addressed during project design and permitting. The proposed project will include a stormwater management system, which will be designed in compliance with applicable water quality criteria to prevent degradation of water resources and habitat quality in and around the Loxahatchee River crossing.

6.1.4 Summary

Due to the Loxahatchee River's designation as a National Wild and Scenic River and Outstanding Florida Water at the Turnpike crossing, the project must meet more stringent water quality criteria for Outstanding Florida Waters.

Additionally, projects involving Wild and Scenic Rivers require consultation with the NPS in accordance with Section 7 of the Wild and Scenic Rivers Act (WSRA). Technical assistance meetings were held with the NPS to discuss potential project impacts to the Loxahatchee River. The NPS is the administrating agency responsible for making a Section 7(a) determination for the Loxahatchee River crossing. The NPS must conclude, based on information provided by the project proponent that the project will not have a "direct and adverse" effect on the free flowing condition, water quality, or the outstandingly remarkable values for which the Loxahatchee River was designated. As the project moves forward, further evaluation in accordance with Section 7(a) of the WSRA and coordination with the NPS will be required. Agency correspondence and coordination documents regarding this proposed project are provided in **Appendix K**.

Section 7.0 Permitting and Review Agencies

The USACE, Florida Department of Environmental Protection (FDEP) and the SFWMD regulate impacts to wetlands and other surface waters within the project area. Additionally, the NPS is the lead federal agency for regulation of impacts to Wild and Scenic Rivers (Loxahatchee River) and the U.S. Coast Guard (USCG) regulates construction and modification of bridges across navigable waterways. Other agencies, including the USFWS, NMFS, EPA, and the FWC, review and comment on permit applications. The FWC also issues permits for gopher tortoise relocation activities and incidental takes for other state protected species (i.e., Florida pine snake). In addition, the FDEP regulates stormwater discharges from construction sites. The complexity of the permitting process will depend on the degree of impact to jurisdictional areas. It is anticipated that the following permits will be required for this project:

Permits and Approvals	Issuing Agency
Section 404 Dredge and Fill Permit (State 404 Permit)	USACE (FDEP)
Section 10 Permit	USACE
Section 408 Alteration of a USACE Civil Works Project	USACE/SFWMD
U.S. Coast Guard Bridge Permit	USCG
Section 7(a) Wild and Scenic Rivers Act Determination	NPS
Environmental Resource Permit	SFWMD
Right-of-Way Occupancy Permit	SFWMD
Sovereign Submerged Lands Easements	FDEP
National Pollutant Discharge Elimination System	FDEP
Gopher Tortoise Relocation Permit	FWC
Incidental Take Permit (as necessary)	USFWS/NMFS/FWC

FTE conducted technical assistance meetings with environmental regulatory and resource agencies, including the USACE, USCG, NMFS, NPS, SFWMD and the FWC, for this project. Details are provided in **Section 8.5** and **Appendix K**.

7.1 Federal Permits and Approvals

Section 404 Dredge and Fill Permit (State 404 Permit)

It is anticipated that a standard permit will be required from the USACE. A standard permit will require compliance with the Section 404(b)(1) Clean Water Act (CWA) guidelines, including verification that all wetland impacts have first been avoided to the greatest extent possible, that unavoidable impacts have been minimized to the greatest extent possible, and lastly that unavoidable impacts have been mitigated in the form of wetlands creation, restoration, and/or enhancement. In addition, coordination with the USFWS and NMFS will be necessary for potential effects to federally protected species and EFH.

The U.S. Environmental Protection Agency (EPA) signed an agreement to delegate the FDEP the authority to issue wetland permits in state assumed waters under Section 404, effective December 22, 2020. The USACE maintains Section 404 CWA responsibility for retained waters; however, if a segment of the project is released for design and impacts are not within 300 feet of retained waters a State 404 Permit will be required from the FDEP.

Section 10 Permit

Section 10 of the Rivers and Harbors Act of 1899 codified in 33 USC 403 requires that activities conducted in navigable waters of the U.S. be authorized by the USACE. Activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other soil disturbance or modification of a navigable waterway for purposes other than bridges, which are regulated by the USCG. A Section 10 permit will be required from the USACE for work, other than USCG-regulated bridges, proposed in navigable waterways. A Section 10 permit from the USACE may also be required for bridged waterway crossing, if those crossings do not include a USCG-regulated bridge. In certain cases, work at USCG-regulated bridge crossings, not associated with the bridge structure (e.g., abutment rip rap, pier construction, groins, etc.), may also require Section 10 authorization from the USACE. Where applicable, the USACE will issue the Section 10 authorization concurrently with the Section 404 permit in retained waters. Section 10 authorization may be required for work in the following waterway crossings, Loxahatchee River, St. Lucie Canal (C-44), Danforth Creek, Bessy Creek, County Line Canal (C-23), Rim Ditch (C-24), and Tenmile Creek.

Section 408 Alteration of a Civil Works Project

The proposed project crosses over the C-44 Canal (St. Lucie Canal) and C-23 Canal (also known as the County Line Canal) located at the Martin/St. Lucie County line. The C-44 Canal and C-23 Canal are part of the Central and Southern Florida Flood Control Project (CSFFCP), which is a USACE Civil Works Project. Any proposed changes or occupation of a USACE Civil Works are regulated under Section 14 of the Rivers and Harbors Act of 1899, codified in 33 USC 408. Accordingly, a Section 408 review and approval will be necessary and performed by the USACE Engineering Division in Jacksonville for the C-44 and C-23 crossings. The Section 408 review can be initiated concurrently with the Section 404 permitting directly with the USACE for the C-44 Canal crossing.

In order to initiate the Section 408 review by the USACE for the C-23 crossing, the SFWMD, as the local operating agency for the C-23 Canal, must review and approve any proposed projects, which may potentially affect the facility. Once the project is approved by the SFWMD and the Environmental Resource Permit (ERP) issued, the SFWMD will forward the approved/permitted plans, permit and accompanying documentation to the USACE Engineering Division in Jacksonville to initiate the Section 408 review and approval. While the project crosses other components of the CSFFCP, including the C-24 Canal, the SFWMD indicated that since this crossing is located downstream of the coastal water control structure, they typically do not submit Section 408 approval requests for this location.

U.S. Coast Guard Bridge Permit

In accordance with Section 9 of the Rivers and Harbors Act of 1899 and the General Bridge Act of 1946, the USCG must approve the location and design of bridges and causeways across navigable waters to prevent any interference with their navigability by bridges or other obstructions. Thus, a Bridge Permit will be required from the USCG for the proposed improvements at the St. Lucie River (Canal) crossing in the form of a modification to the existing USCG Bridge Permit (Permit No. 9-01-7) for the crossing. Additionally, a USCG Bridge Permit will be required for the proposed improvements at the Rim Ditch (C-24) crossing.

Section 7(a) Wild and Scenic Rivers Act Determination

Projects involving Wild and Scenic Rivers require consultation with the NPS in accordance with Section 7 of the Wild and Scenic Rivers Act (WSRA). The NPS is the administrating agency responsible for making a Section 7(a) determination for the Loxahatchee River crossing. As the project advances, further evaluation in accordance with Section 7(a) of the WSRA and coordination with the NPS will be required.

Incidental Take Permit

The USFWS and NMFS can issue Incidental Take Permits when a non-federal entity believes their otherwise lawful activities may result in take of federally managed endangered or threatened plant or animal species. Both the USFWS and NMFS provide comments and recommendations on federal permits. These comments and recommendations are included as conditions of the federal permits. However, if no federal permit or other federal nexus is associated with the action of a non-federal entity, the USFWS and NMFS can issue Incidental Take Permits. Though not anticipated for the proposed project, Incidental Take Permits are available to cover a take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity.

7.2 State Permits and Approvals

Environmental Resource Permit (ERP)

SFWMD requires an ERP when construction of any project results in the creation of a new or modification of an existing surface water management system, or results in impacts to waters of the state. As with USACE permits, the complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts. The project includes a stormwater management system and a Pond Siting Report (PSR) has been prepared. Based on the recommendations included in the PSR, a Pond Siting Evaluation Memorandum was prepared in January 2021 to document potential effects of the project on environmental resources (**Appendix L**). This memorandum provided land cover and soils information within each alternative stormwater management facility (SMF), identifying potential impacts to wetlands and protected species resulting from the use of each site. Under current state rules, the SFWMD will require an individual ERP for this project. Due to the Loxahatchee River's designation as a Wild and Scenic River and Outstanding Florida Water at the Turnpike crossing, the project must meet the more stringent water quality criteria for Outstanding Florida Waters at this crossing.

State 404 Program

As previously discussed, the FDEP has been delegated authority to issue Section 404 authorization in state assumed waters, effective December 22, 2020. The USACE maintains Section 404 CWA responsibility for retained waters; however, if a segment of the project is released for design and impacts are not within 300 feet of retained waters, a State 404 Permit will be required from the FDEP.

Right-of-Way (ROW) Occupancy Permit

A ROW Occupancy Permit is required from the SFWMD for activities within a canal ROW of a SFWMD maintained and operated canal. The SFWMD identified the potential need for ROW Occupancy Permits for this project at the following canals: C-23 (County Line Canal) and C-24 (Rim Ditch). Projects that require a ROW Occupancy Permit may also require a Section 408 Authorization from the USACE, as noted above, if an alteration is proposed to a U.S. Civil Works Project.

Sovereign Submerged Lands Easement

A Sovereign Submerged Lands Title Determination request was submitted to the FDEP, Division of State Lands for all potential state-owned lands within the project study area. The state determined that the lands below the ordinary high water line of Loxahatchee Creek (river), the ordinary high water line of Tenmile Creek and the mean high water line of the St. Lucie River (St. Lucie Canal within project limits) are within state-owned sovereignty submerged lands. FTE will modify any existing easements and obtain any required new easements during the permitting phases of the project. A copy of the correspondence with the FDEP, Division of State Lands is provided in **Appendix K.**

National Pollutant Discharge Elimination System (NPDES)

40 CFR Part 122 prohibits point source discharges of stormwater to waters of the U.S. without a NPDES permit. Under the State of Florida's delegated authority to administer the NPDES program, construction sites that will result in greater than one (1) acre of disturbance must file for and obtain either coverage under an appropriate generic permit contained in Chapter 62-621, F.A.C., or an individual permit issued pursuant to Chapter 62-620, F.A.C. A major component of the NPDES permit is the development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP identifies potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site and discusses good engineering practices (i.e., best management practices) that will be used to reduce the pollutants.

Gopher Tortoise Relocation Permit

According to the FWC Gopher Tortoise permitting guidelines, there are four (4) available options to address the presence of gopher tortoises on lands slated for development:

1. Avoid development,
2. Avoid destruction of tortoise burrows,
3. Relocate tortoises on-site (permit required), or
4. Relocate tortoises off site (permit required).

In accordance with the requirements of Rules 68A-25.002 and 68A-27.004 (F.A.C.), a permit for gopher tortoise capture/release activities must be secured from the FWC before initiating any relocation work. A Conservation Permit is available for development projects that require the relocation of gopher tortoises when more than 10 burrows occur on the development site. The 10 or Fewer Burrows Permit is available for projects that contain 10 or fewer gopher tortoise burrows on the development site. Both permits allow for relocation either to an on-site preserve or off-site to an FWC-certified Recipient Site. The FWC will require a 100 percent gopher tortoise survey to be conducted within 90 days of construction commencement to support the permit application.

Incidental Take Permit (as necessary)

Based on field reviews, suitable foraging and nesting habitat exists within the project area for the Florida burrowing owl, Florida sandhill crane, little blue heron, tricolored heron, and roseate spoonbill. The project area also contains potentially suitable habitat for the Florida pine snake. If determined necessary after technical assistance from the FWC, in accordance with 68A-27.001, 68A-27.003, 68A-25.002, 68A-1.004, and 68A-27.005 F.A.C., a permit authorizing incidental take of affected species must be secured from the FWC. While avoidance and minimization is the preferred course of action, a Listed Species Incidental Take Permit is available to cover a take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity.

Section 8.0 Conclusions

8.1 Protected Species and Habitat

The project study area was evaluated for the presence of federal and/or state protected species and their suitable habitat in accordance with Section 7 of the ESA and Part 2, Chapter 16 of the PD&E Manual. **Tables 8-1** and **8-2** summarize the effect determinations that have been made for each federal- and state-protected species based upon their probability ranking and the implementation measures and/or commitments to offset any potential impacts to each species.

Table 8-1 Federal Protected Species Effect Determinations

Project Effect Determination	Federal Listed Species
"No effect"	American Alligator (*Alligator mississippiensis*)
	Okeechobee Gourd (*Cucurbita okeechobeensis*)
"May affect, but is not likely to adversely affect"	Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)
	Eastern Indigo Snake (*Drymarchon couperi*)
	Wood Stork (*Mycteria americana*)
	Smalltooth sawfish (*Pristis pectinata*)
	West Indian Manatee (*Trichechus manatus*)
"May affect"	Florida Scrub-jay (*Aphelocoma coerulescens*)
	Crested Caracara (*Caracara cheriway*)
	Florida Bonneted Bat (*Eumops floridanus*)
	Red-cockaded Woodpecker (*Leuconotopicus borealis*)
	Everglade Snail Kite (*Rostrhamus sociabilis*)

Table 8-2 State Protected Species Effect Determinations

Project Effect Determination	State Listed Species
"No effect anticipated"	Golden Leather Fern (*Acrostichum aureum*)
	Meadow Jointvetch (*Aeschynomene pratensis* var. *pratensis*)
	Many-flowered Grass-pink (*Calopogon multiflorus*)
	Piedmont Joint Grass (*Coelorachis tuberculosa*)
	Cutthroat Grass (*Coleataenia abscissa*)
	Florida Tree Fern (*Ctenitis sloanei*)
	Cuplet Fern (*Dennstaedtia bipinnata*)
	Night-scented Orchid (*Epidendrum nocturnum*)
	Redberry Eugenia (*Eugenia confusa*)
	Coastal Vervain (*Glandularia maritima*)
	Spreading Pinweed (*Lechea divaricata*)
	Celestial Lily (*Nemastylis floridana*)

Project Effect Determination	State Listed Species
"No effect anticipated"	Giant Sword Fern (*Nephrolepis biserrata*)
	Scrub Bluestem (*Schizachyrium niveum*)
	Ray Fern (*Schizaea pennula*)
	Southern Ladies'-tresses (*Spiranthes torta*)
	Banded Wild-pine (*Tillandsia flexuosa*)
	Scentless Vanilla (*Vanilla mexicana*)
	Redmargin Zephyrlily (*Zephyranthes simpsonii*)
"No adverse effect anticipated"	Hand Fern (*Ophioglossum palmatum*)
	Toothed Maiden Fern (*Thelypteris serrata*)
	Gopher Tortoise (*Gopherus polyphemus*)
	Florida Pine Snake (*Pituophis melanoleucus mugitus*)
	Florida Sandhill Crane (*Antigone canadensis pratensis*)
	Florida Burrowing Owl (*Athene cunicularia floridana*)
	Little Blue Heron (*Egretta caerulea*)
	Tricolored Heron (*Egretta tricolor*)
	Southeastern American Kestrel (*Falco sparverius paulus*)
	Roseate Spoonbill (*Platalea ajaja*)
	Least Tern (*Sternula antillarum*)

8.2 Wetland Evaluation

Wetland and other surface water habitat types to be impacted by the proposed construction include natural and manmade streams and waterways, reservoirs, mixed wetland hardwoods, exotic wetland hardwoods, cypress, hydric pine, wetland forested mixed, wetland scrub, and freshwater marshes. Impacts associated with the preferred alternative total 429.81 acres and include 62.67 acres of wetlands and 367.14 acres of other surface waters (**Table 4-8**). A UMAM analysis (**Appendix J**) was performed to estimate the functional loss due to wetland impacts from the proposed preferred alternative. Construction of the preferred alternative results in a loss of 39.25 functional units (**Table 4-9**). Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

8.3 Implementation Measures

Based on the field and literature reviews outlined in this report, federal- and state-protected species have the potential to occur within the project study area. In order to assure that the proposed project will not adversely impact these species, the FTE will adhere to the following:

- As determined necessary through agency technical assistance, the FTE will perform surveys for the species discussed in this report and other wildlife species during the project design phase to ascertain the involvement, if any, of protected species. Species specific surveys, conducted in accordance with appropriate survey guidelines, will be considered for, but not limited to, the Florida scrub jay, crested caracara, red-cockaded woodpecker, Everglade snail kite, and southeastern American kestrel.
- During the design and permitting phases of this project, a Wood Stork Foraging Analysis per USFWS methodology will be conducted to determine the amount of biomass lost from wetland and other surface water impacts. Impacts to suitable foraging habitat for the federally protected wood stork will be mitigated through the purchase of credits from a U.S. Fish and Wildlife Service-approved mitigation bank pursuant to Section 373.4137, F.S. or as otherwise agreed to by the FTE and the appropriate regulatory agencies.
- A full acoustic and roost survey for bats in accordance with current federal regulatory guidance, will be completed prior to permitting to verify activity and occupancy status of the Florida bonneted bat. Currently, the USFWS consultation area for the Florida bonneted bat is located south of the St. Lucie Canal (C-44 Canal).
- As needed, during the design and permitting phases of this project, a general plant survey will be conducted and if any federally or state protected plant species are found within 25 feet of construction limits, coordination will occur with the USFWS and the FDACS to secure any necessary permits.
- During the design and permitting phase of this project, gopher tortoise surveys will be conducted and if any burrows are found within 25 feet of construction limits, coordination will occur with FWC to secure any necessary permits in accordance with the current FWC Gopher Tortoise Permitting Guidelines for gopher tortoises and associated commensal species before construction.
- If a bald eagle nest is identified within 660 feet of the proposed project area, the FTE will reinitiate technical assistance with the USFWS to secure all necessary approvals prior to the start of construction.
- During the design and permitting phases of this project, the FTE will conduct surveys to identify any osprey nests within the project area. If nest removal is deemed necessary, the FTE will remove nest(s) when they are inactive (i.e., without eggs or flightless young).
- The USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be implemented to assure that the Eastern indigo snake will not be adversely impacted by the project.
- The *Standard Manatee Construction Conditions for In-water Work* (2011) will be implemented during in-water construction at waterway crossings accessible to manatees to prevent adverse impacts to the West Indian manatee.

8.4 Commitments

- In an effort to mitigate impacts to protected plant species within the project area, the FTE will coordinate with FDACS and public parks (e.g., Jonathan Dickinson State Park) prior to construction for possible relocation of protected plants.
- If Florida sandhill crane nests are observed during future surveys conducted prior to construction, then a 400-foot buffer will be implemented if construction occurs during the nesting season (January through July). The FTE will coordinate with the FWC during the project construction phase, if necessary.

8.5 Agency Coordination

The ETAT evaluated the project's effects on various natural, physical and social resources. ETAT comments are summarized in **Section 2.4**. The FTE met with the Loxahatchee River Management Coordinating Council in September 2017 and January 2020 to discuss project updates, focusing on the Loxahatchee River. A pre-application meeting was conducted with the SFWMD, USACE, NMFS, and FDOT on November 16, 2017, providing an overview of the project, discussing existing permits, and necessary permit requirements and approvals. Follow-up correspondence with the SFWMD took place in July 2017 and July 2020 to clarify permit requirements and approvals at specific waterway crossing locations. The FTE met with the NPS on February 15, 2018 and September 25, 2020 to discuss an overview of the project, Loxahatchee River crossing, and Section 7(a) requirements. Coordination with the FDEP took place on January 21, 2020 for a sovereign submerged lands determination for potential state-owned lands within the project area. The FTE conducted a technical assistance meeting with the FWC on October 16, 2020 and the USFWS/NMFS on October 26, 2020 to provide an overview of the project and discuss protected species involvement. Coordination with the USCG took place on October 19, 2020 to discuss project updates and permitting requirements. Agency correspondence and coordination documents are provided in **Appendix K**.

National Park Service

The National Park Service (NPS) noted that the Loxahatchee River, crossed by the Florida's Turnpike mainline, is one (1) of two (2) rivers in Florida designated as a Wild and Scenic River. The NPS also identified two (2) Land and Water Conservation Fund (LWCF) sites within 500 feet of the proposed project and two (2) LWCF sites within one (1) mile of the proposed project. These include the following:

- Phipps Park and Recreation, LWCF Site No. 12-00626 within 200 feet
- South Fork St Lucie River Park (Sandsprit Park) LWCF Site No. 12-00300 within 500 feet
- Community Center Park LWCF Site No. 12-00457 within one (1) mile
- Cypress Creek Natural Area LWCF Site No. 12-00627 within one (1) mile

Encroachment into 6(f) properties is not anticipated. Any right-of-way that converts the use of these sites to any use other than public outdoor recreation will constitute a Section 6(f)(3) conversion, which will require replacement property of equal or greater financial and ecological value according for 36 CFR 59.3. The NPS also recommended an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) and 4(f) evaluation be prepared. Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966, as amended [49 United States Code (U.S.C.) § 303] does not apply to this project since it is state-funded.

Agency coordination will continue to take place during the project's design and permitting phases. Coordination with the USFWS, FWC, and FDACS will be required to determine species survey requirements and to secure any necessary permits regarding protected species. As described in **Section 7.0**, the coordination will be required from the following agencies to obtain the necessary permits and approvals summarized below:

Permits and Approvals	Issuing Agency
Section 404 Dredge and Fill Permit (State 404 Permit)	USACE (FDEP)
Section 10 Permit	USACE
Section 408 Alteration of a USACE Civil Works Project	USACE/SFWMD
U.S. Coast Guard Bridge Permit	USCG
Section 7(a) Wild and Scenic Rivers Act Determination	NPS
Environmental Resource Permit	SFWMD
Right-of-Way Occupancy Permit	SFWMD
Sovereign Submerged Lands Easements	FDEP
National Pollutant Discharge Elimination System	FDEP
Gopher Tortoise Relocation Permit	FWC
Incidental Take Permit (as necessary)	USFWS/NMFS/FWC

Section 9.0 References

Audubon EagleWatch Program, Florida EagleWatch Nest Map website (2019) (https://cbop.audubon.org/conservation/about-eaglewatch-program), accessed March 2020.

Atlantic States Marine Fisheries Commission. 1984. Fishery Management Plan for Red Drum.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services. Technical Publication FWS/OBS-79/31. 131 pp.

Environmental Systems Resources Institute (ESRI). 2018. ArcGIS World Imagery. (https://livingatlas.arcgis.com/en/browse/#d=2).

Florida Administrative Code, 2007. Chapter 62-345, F.A.C. *Uniform Mitigation Assessment Method,* Retrieved (July 3, 2013) from https://www.flrules.org/gateway/ ChapterHome.asp?Chapter=62-345.

Florida Department of Agriculture and Consumer Services (FDACS). 2010. Florida Forest Service, Florida's Federally Listed Plant Species Website. (https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service/Our-Forests/Forest-Health/Florida-Statewide-Endangered-and-Threatened-Plant-Conservation-Program/Florida-s-Federally-Listed-Plant-Species).

FDACS. 2010. Notes on Florida's Endangered and Threatened Plants. (http://freshfromflorida.s3.amazonaws.com/fl-endangered-plants.pdf).

Florida Department of Environmental Protection (FDEP). 2018. White, Puri and Vernon. Physiographic Map of Florida Data Layer, FDEP Mapping Tool.

Florida Department of Transportation (FDOT). 1999. *Florida Land Use, Cover and Forms Classification System: Handbook* (3rd edition). FDOT Surveying and Mapping Office, Geographic Mapping Section. Tallahassee, Florida: 91 pp.

FDOT. 2018. FDOT Wildlife Crossing Guidelines, Tallahassee, Florida.

FDOT. 2020. Project Development and Environment Manual, Tallahassee, Florida.

Florida Natural Areas Inventory (FNAI). 2019. Biodiversity Matrix Map Server. (https://www.fnai.org/biointro.cfm).

FNAI. 2019. Element Occurrence Data Report. Florida Natural Areas Inventory.

(https://www.fnai.org/trackinglist.cfm).

FWC. 2018. Geospatial Dataset: Seagrass Habitat in Florida (website) http://geodata.myfwc.com/datasets/seagrass-habitat-in-florida.

FWC. 2019. Bald Eagle Nest Locator website. (https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx). Florida Fish and Wildlife Conservation Commission.

FWC. 2018. Florida's Endangered and Threatened Species List. Florida Fish and Wildlife Conservation Commission.

FWC. 1994. Florida Scrub Jay Habitat Map (1992 – 1993). (http://ocean.floridamarine.org/acp/kwacp/Geodata/Metadata/Scrub_Jay_Habitat_Florida.html). Florida Fish and Wildlife Conservation Commission.

FWC. 1999. Wading Bird Rookeries website. (http://geodata.myfwc.com/datasets/wading-bird-rookeries-1999).

Gilmore, R. G., Donohoe, C. J., & Cooke, D. W. (1977). *Fishes of the Indian River Lagoon and adjacent waters, Florida*. University of Florida.

Hurt, G. Wade et al. 2007. Florida Association of Environmental Soil Scientists, *Hydric Soils of Florida Handbook.* 4th Edition.

NMFS. 2018. GIS Data for Essential Fish Habitat – South Atlantic.

National Oceanic and Atmospheric Administration Essential Fish Mapper tool (website) http://www.habitat.noaa.gov/protection/efh/habitatmapper.html.

NMFS Habitat Conservation Division Southeast Regional Office, 2010. Essential Fish Habitat: A Marine Fish Habitat Conservation Mandate for Federal Agencies, South Atlantic Region.

South Atlantic Fishery Management Council (SAFMC; website) http://safmc.net/.

SAFMC, October 1998. Final Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region.

SAFMC, April 2009. Fishery Ecosystem Plan for the South Atlantic Region, Volume I: Introduction and Overview.

SAFMC, October 2009. Comprehensive Ecosystem-Based Amendment 1 for the South Atlantic Region.

SAFMC, March 2018. Fishery Ecosystem Plan II, Implementation Plan.

SAFMC Managed Species Summaries Fishery Ecosystem Plan II (website) http://safmc.net/fishery-ecosystem-plan-ii-introduction/.

SFWMD. 2016. Florida Land Use, Cover and Forms Classification System (FLUCFCS) GIS Database. South Florida Water Management District.

Smithsonian Marine Station at Fort Pierce, 2020. Indian River Lagoon Species Inventory – Expanded Species Report (website) https://naturalhistory2.si.edu/smsfp/irlspec/Compl_Reports.htm.

USDA, NRCS. 1981. Soil Survey of Martin County, Florida.

USDA, NRCS. 1978. Soil Survey of Palm Beach County, Florida.

USDA, NRCS. 1980. Soil Survey of St. Lucie County, Florida.

USDA, NRCS. Web Soil Survey, (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) accessed February 2020.

USACE. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1. 169 pp.

USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20)*. U.S Army Corps of Engineers.

USFWS. 1918. *Migratory Bird Treaty Act of 1918*. U.S. Fish and Wildlife Service (https://www.fws.gov/laws/lawsdigest/migtrea.html).

USFWS. 2007. Endangered and Threatened Wildlife and Plants. (https://www.federalregister.gov/documents/2019/06/20/2019-13155/endangered-and-threatened-wildlife-and-plants-initiation-of-5-year-status-reviews-for-53).

USFWS. 2019. Wood Stork Nesting Colonies. (https://www.arcgis.com/home/item.html?id=b11f2d77938a4cf688e0e706016fd968).

USFWS. 2018. Bald and Golden Eagle Protection Act. (https://www.ecfr.gov/cgi-

bin/textidx?c=ecfr&sid=9a2c074a271d17db16c4a0fa4ca3d2ba&tpl=/ecfrbrowse/Title50/50cfr22_main_02.tpl)

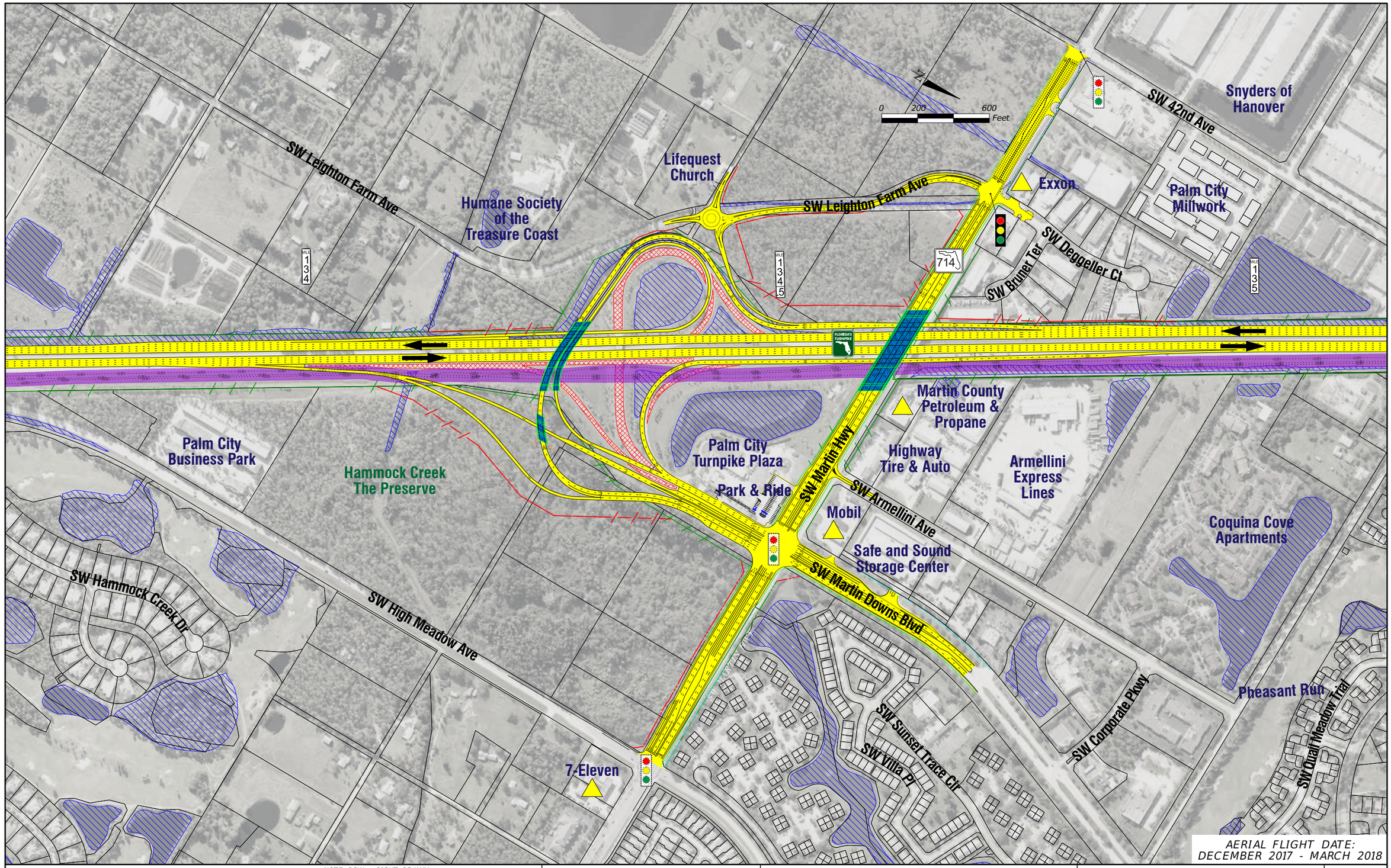
USFWS. 2019. Information for Planning and Consultation (IPaC), Online Mapper. (https://ecos.fws.gov/ipac/)

USFWS. 2020. National Wetlands Inventory, Wetlands Online Mapper. (https://www.fws.gov/wetlands/data/mapper.html)

USFWS. 2019. Threatened and Endangered Species' Critical Habitat Online Mapping Application. (http://crithab.fws.gov/)

APPENDIX A

Conceptual Interchange Design Alternatives



AERIAL FLIGHT DATE:
DECEMBER 2017 - MARCH 2018

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- EXISTING LIMITED ACCESS ROW LINE
- POTENTIAL ROW LINE
- POTENTIAL LIMITED ACCESS ROW LINE
- RAILROAD
- WETLANDS/OTHER SURFACE WATERS
- PAVEMENT REMOVAL
- PROPOSED ROADWAY
- PROPOSED BRIDGE

NOTE: ROW = RIGHT OF WAY

- EXISTING BRIDGE
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- FLORIDA GAS TRANSMISSION (FGT) SPECIFIED WIDTH
- POTENTIAL NEW TRAFFIC SIGNAL
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- POTENTIAL MEDIUM/HIGH CONTAMINATION SITES

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FINANCIAL PROJECT IDENTIFICATION (FPID) NUMBER: 423374-1

SR 714 / SW MARTIN HWY INTERCHANGE ALT. 7B

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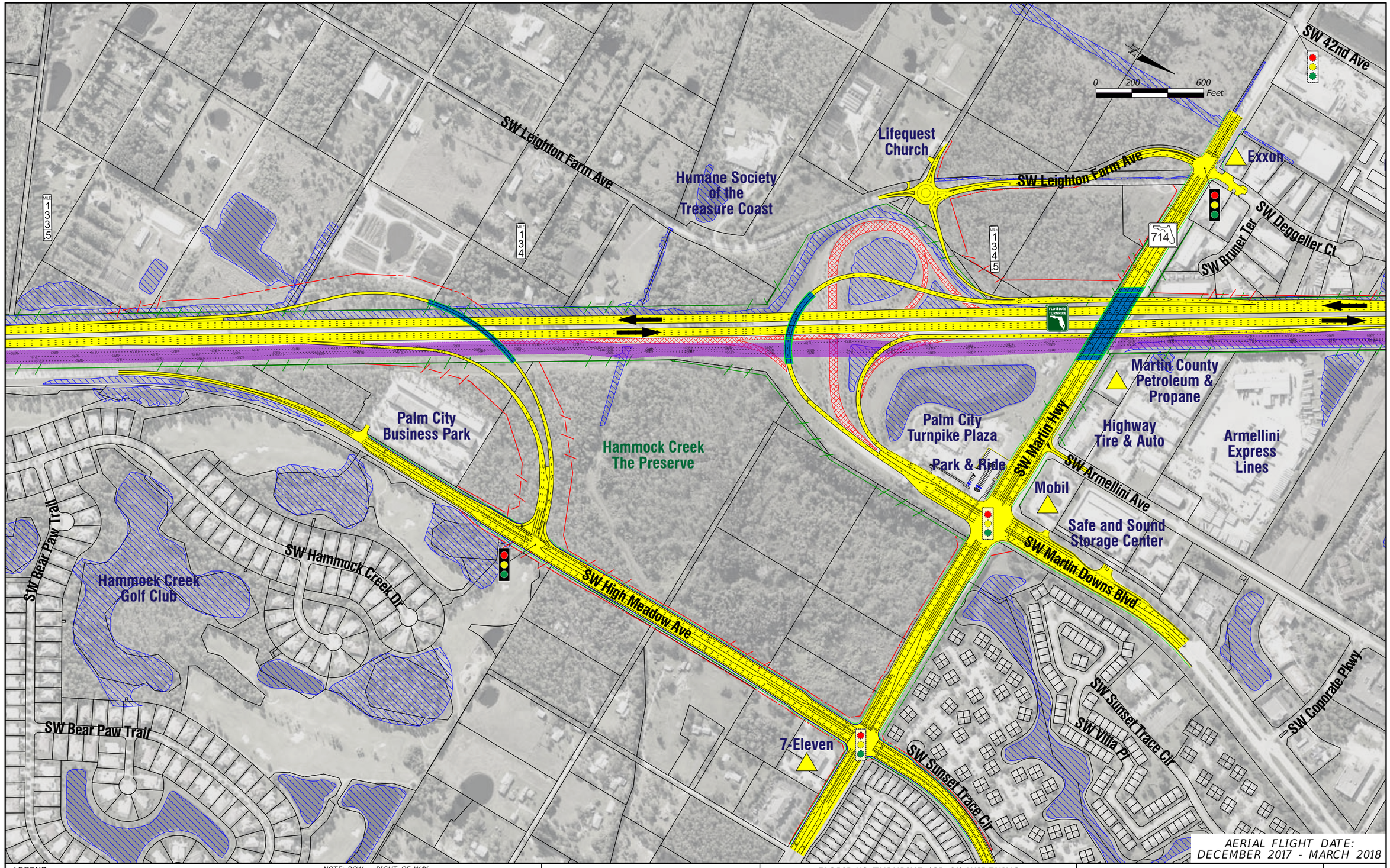

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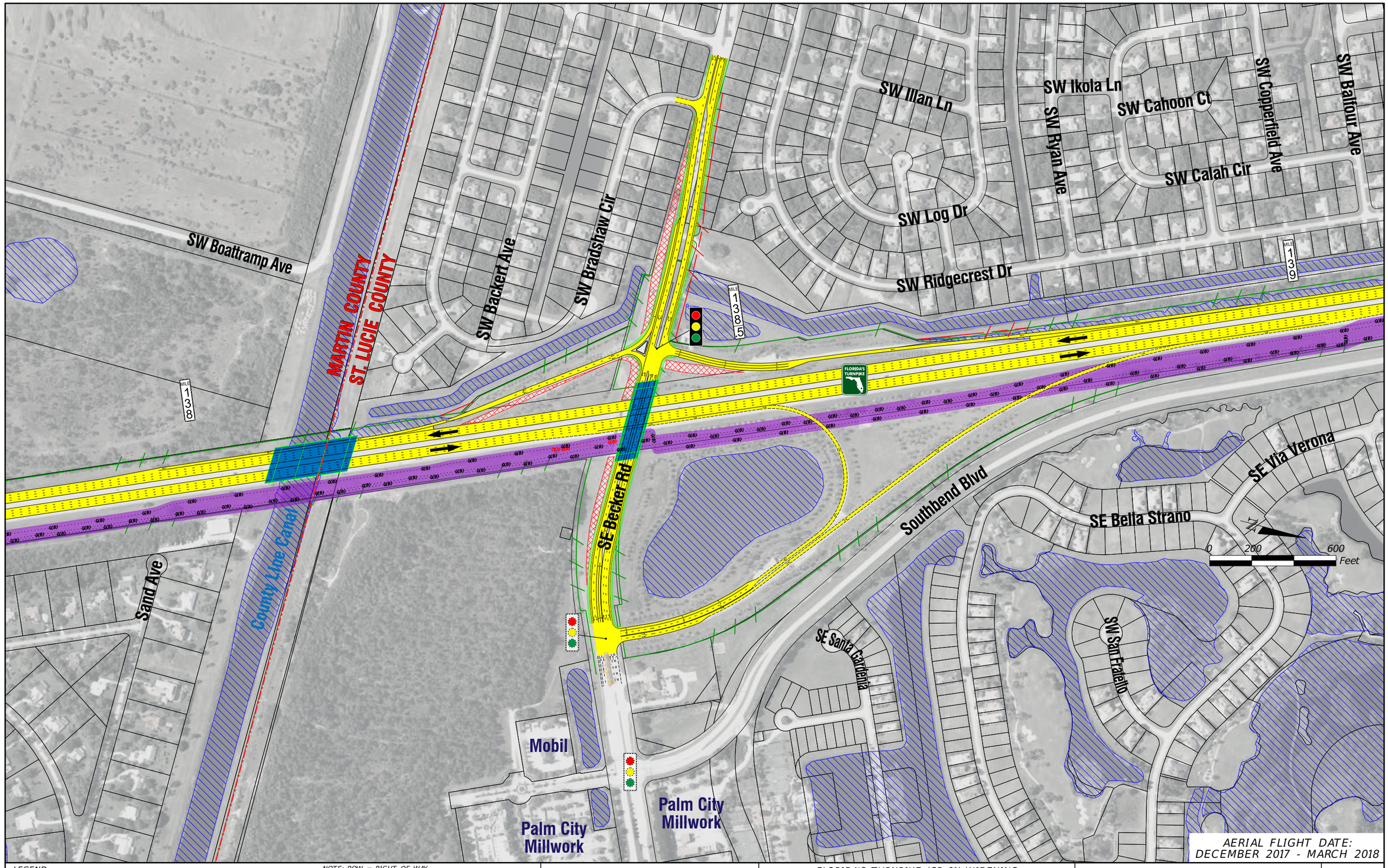

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SE BECKER ROAD INTERCHANGE ALT. 1

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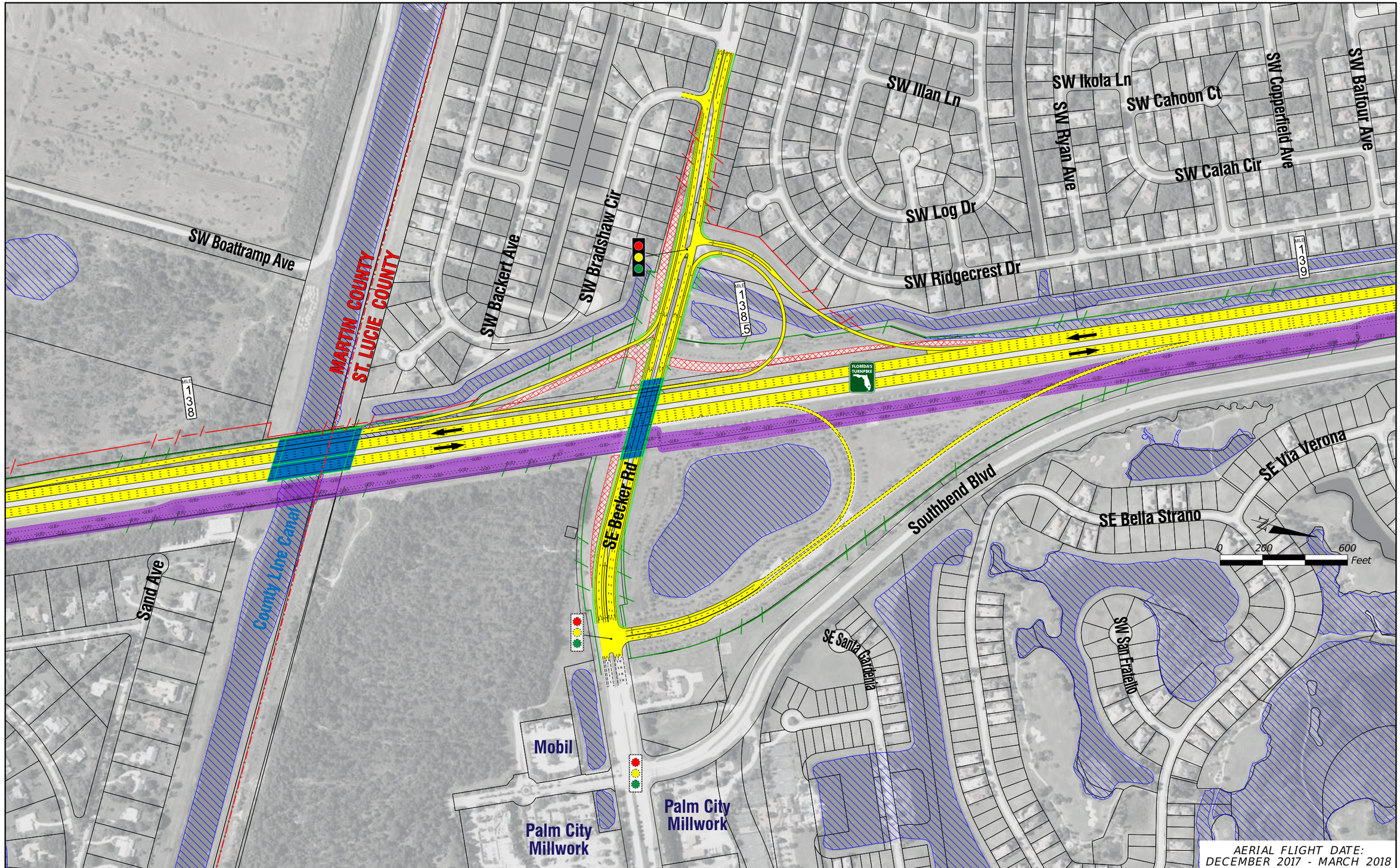

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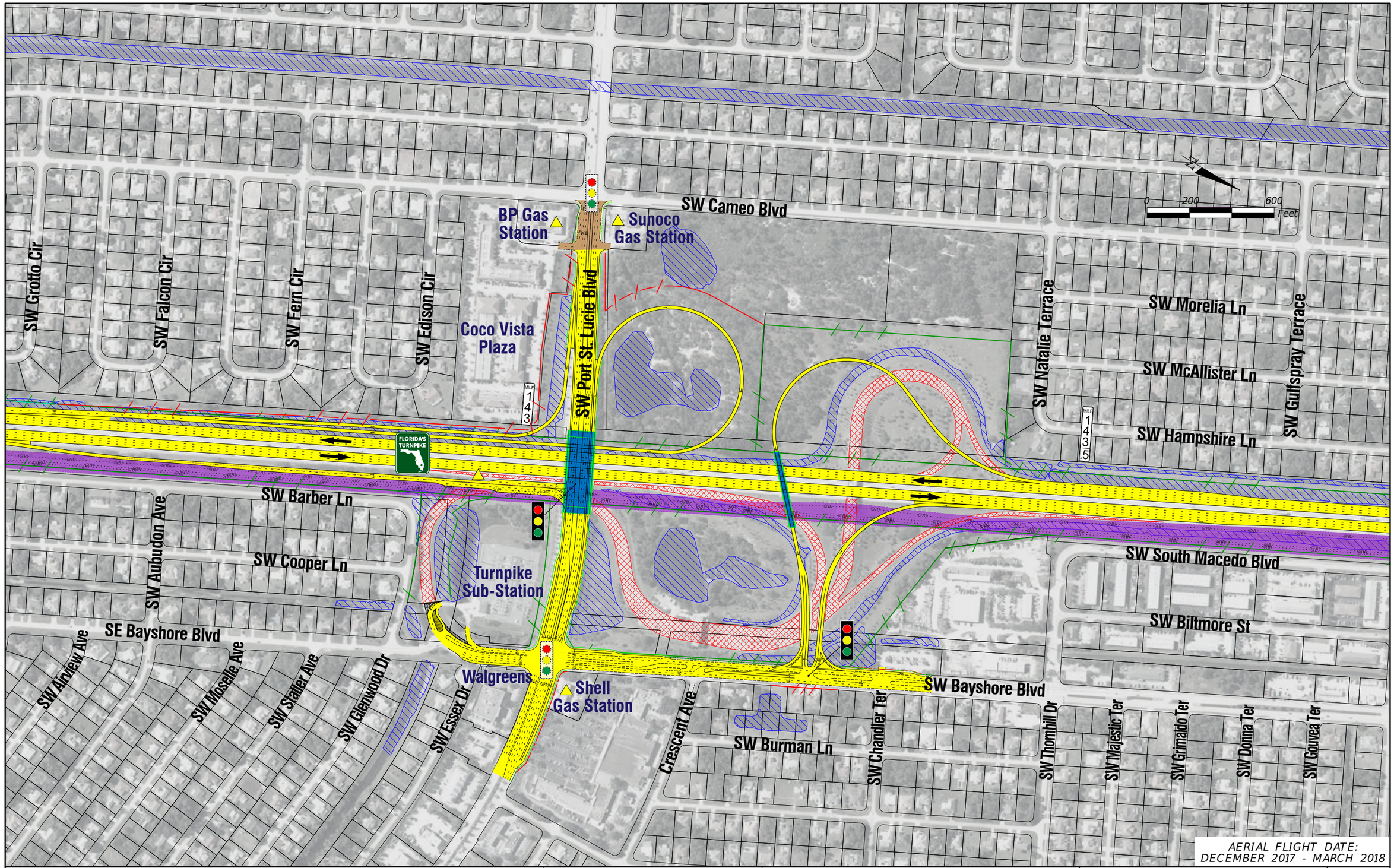

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SW PORT ST. LUCIE BLVD INTERCHANGE ALT. 1

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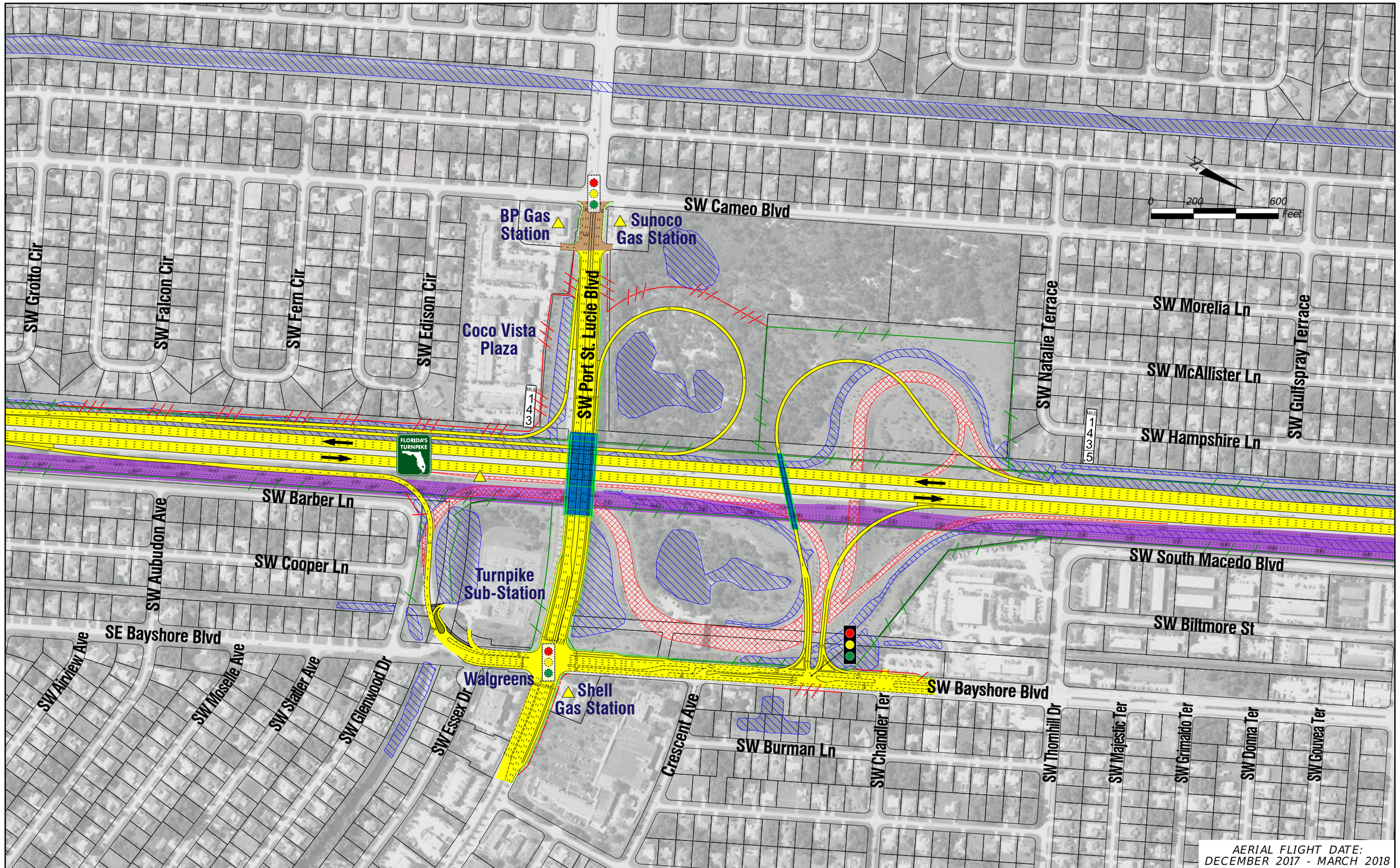

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SW PORT ST. LUCIE BLVD INTERCHANGE ALT. 2

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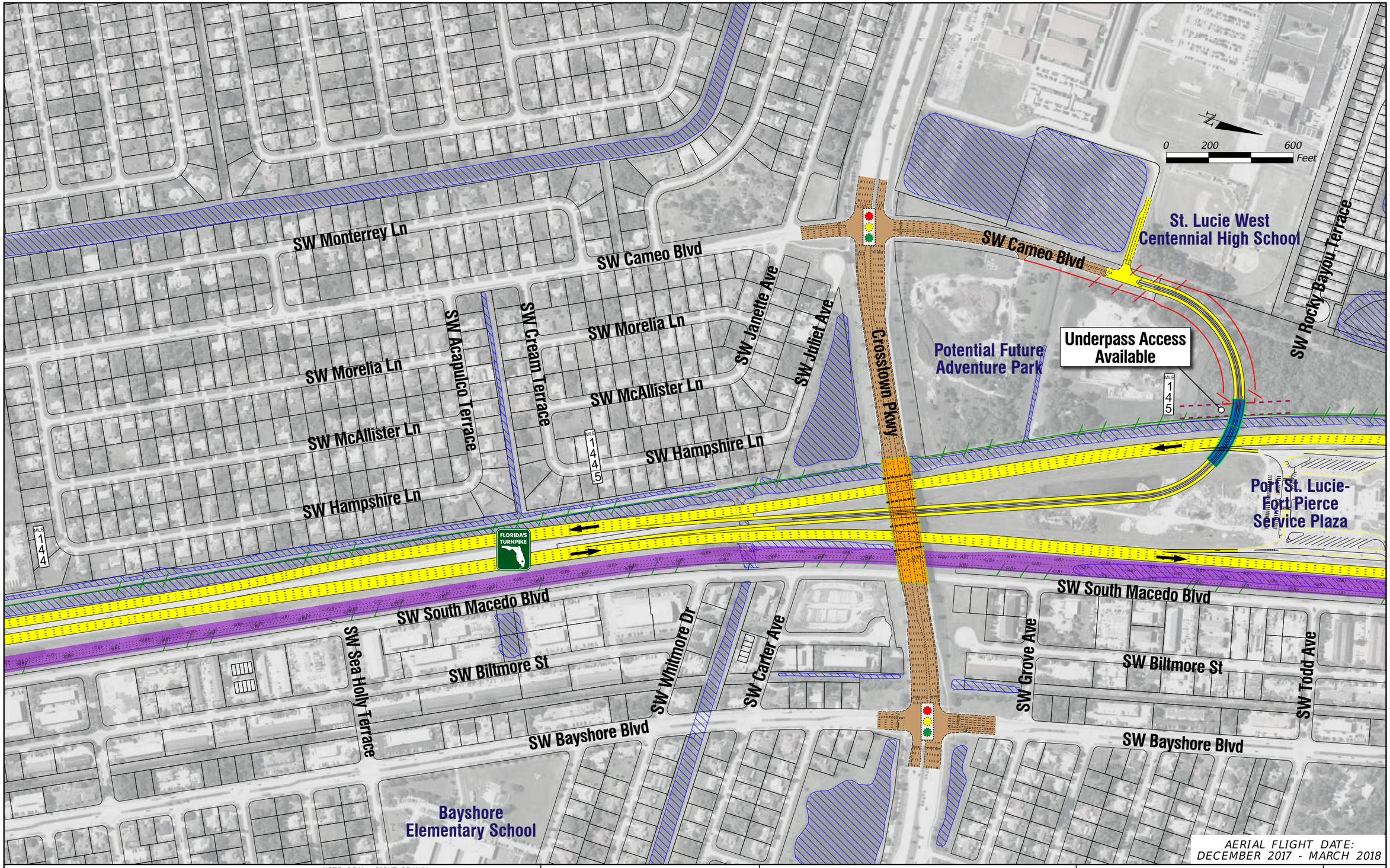

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CROSSTOWN PARKWAY INTERCHANGE ALT. 3

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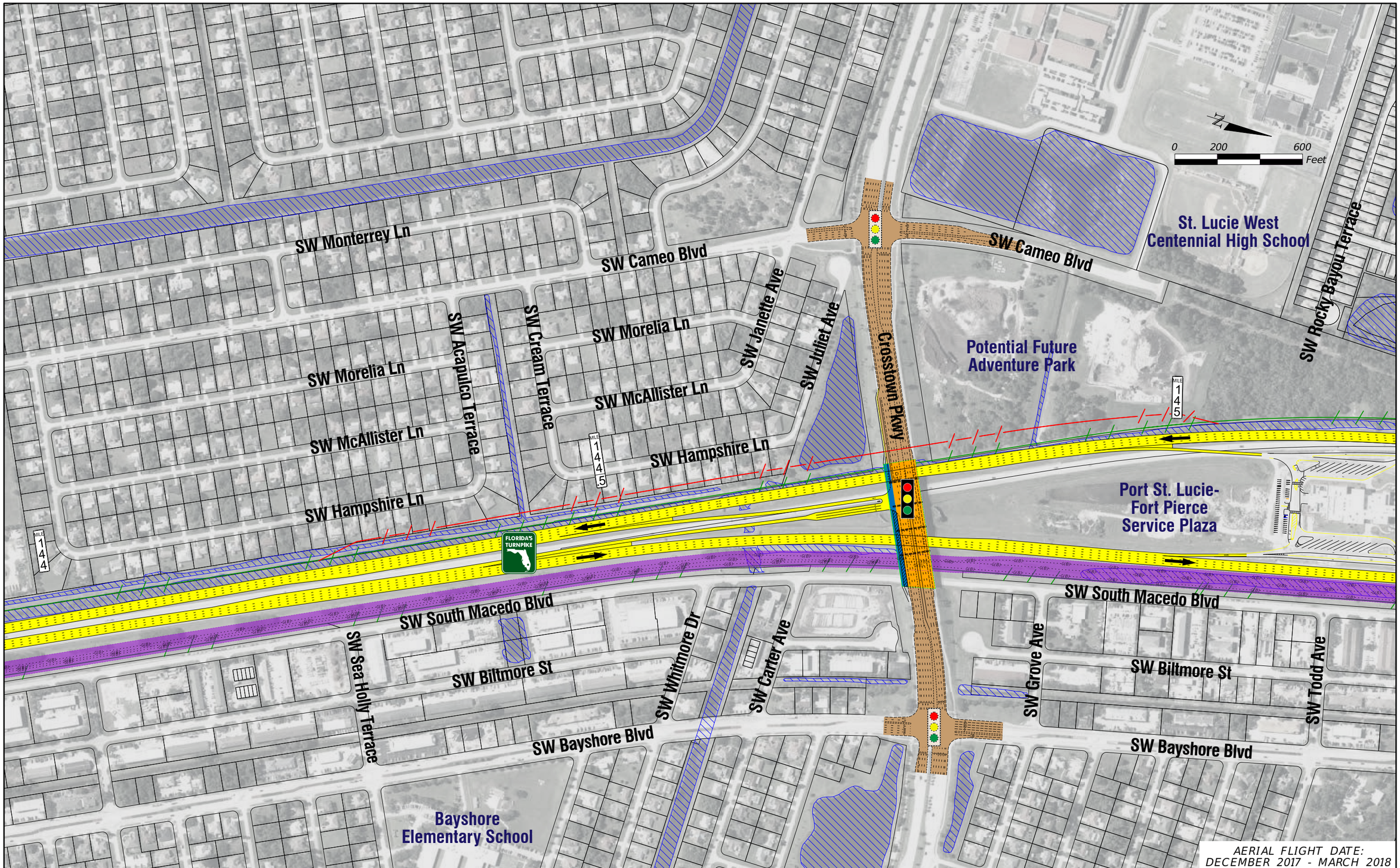

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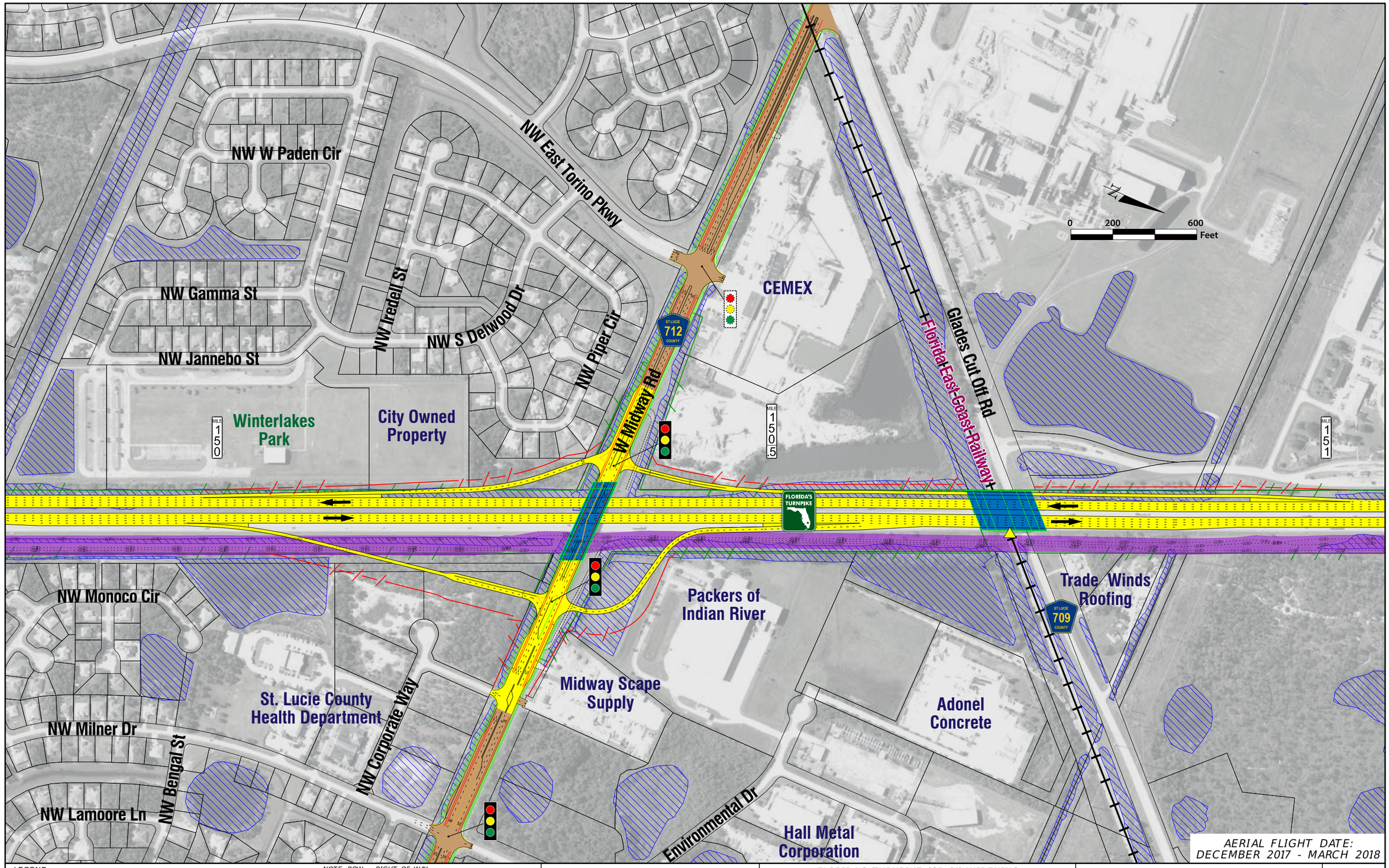
FLORIDA'S TURNPIKE (SR 91) WIDENING
FROM JUPITER (INDIANTOWN ROAD/SR 706)
TO FT. PIERCE (OKEECHOBEE ROAD/SR 70)
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDY
FINANCIAL PROJECT IDENTIFICATION (FPID) NUMBER: 423374-1

CROSSTOWN PARKWAY INTERCHANGE ALT. 4

SHEET NO.
A-8



AERIAL FLIGHT DATE:
DECEMBER 2017 - MARCH 2018

LEGEND

- PROPERTY LINES
- EXISTING ROW LINE
- EXISTING LIMITED ACCESS ROW LINE
- POTENTIAL ROW LINE
- POTENTIAL LIMITED ACCESS ROW LINE
- RAILROAD
- WETLANDS/OTHER SURFACE WATERS
- PAVEMENT REMOVAL
- PROPOSED ROADWAY
- PROPOSED BRIDGE
- EXISTING BRIDGE
- OTHER PROJECTS (BRIDGE)
- OTHER PROJECTS (ROADS)
- FLORIDA GAS TRANSMISSION (FGT) SPECIFIED WIDTH
- POTENTIAL NEW TRAFFIC SIGNAL
- EXISTING TRAFFIC SIGNAL
- FUTURE TOLL GANTRY
- POTENTIAL MEDIUM/HIGH CONTAMINATION SITES

NOTE: ROW = RIGHT OF WAY

H. W. LOCHNER, INC.
4350 W. CYPRESS ST., SUITE 800
TAMPA, FLORIDA 33607
FBPR CERTIFICATE OF AUTH. #894

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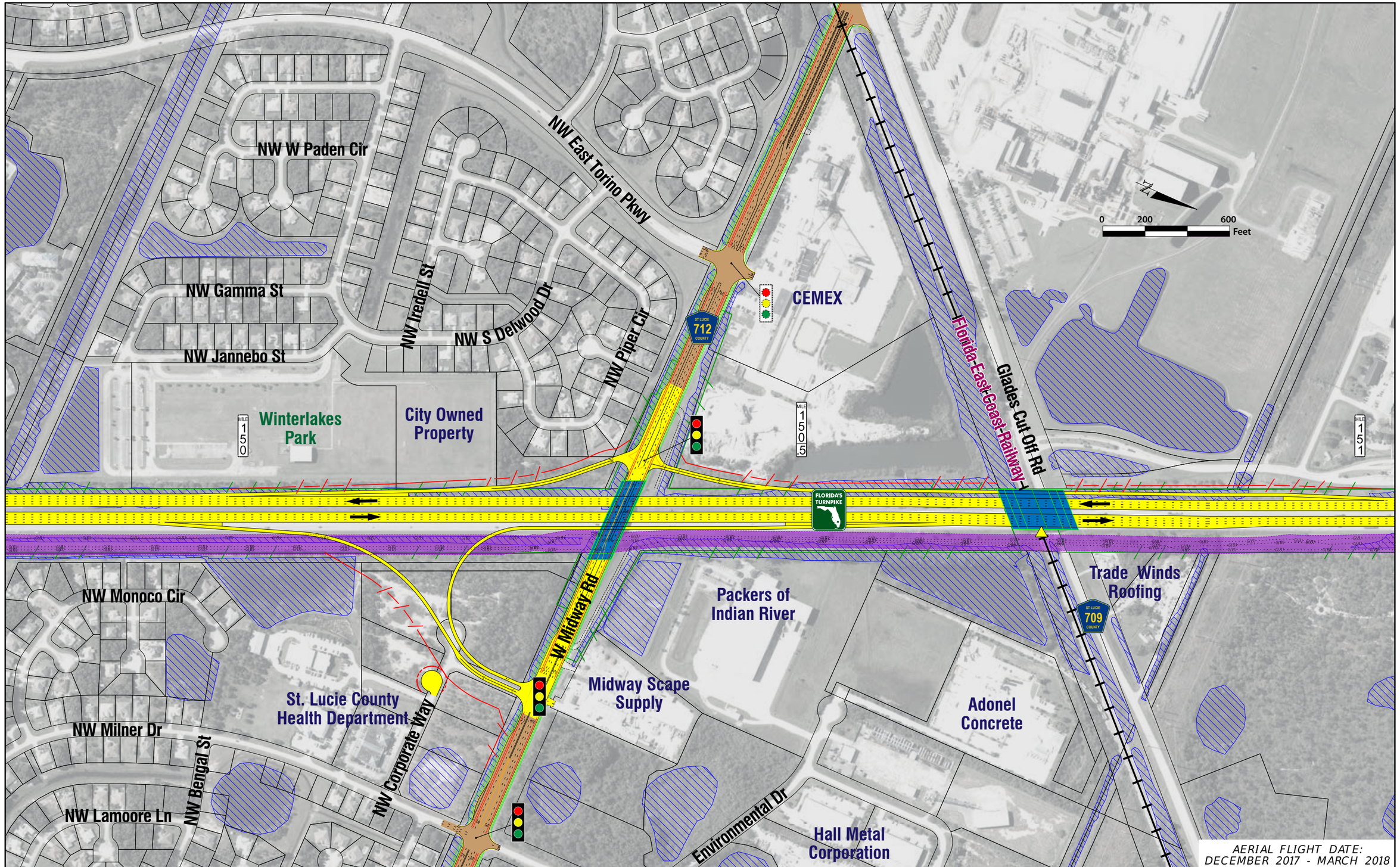
W MIDWAY ROAD INTERCHANGE ALT. 1

SHEET NO.
A-9



LEGEND

- PROPERTY LINES
- EXISTING ROW LINE
- EXISTING LIMITED ACCESS ROW LINE
- POTENTIAL ROW LINE
- POTENTIAL LIMITED ACCESS ROW LINE
- RAILROAD
- WETLANDS/OTHER SURFACE WATERS
- PAVEMENT REMOVAL
- PROPOSED ROADWAY
- PROPOSED BRIDGE
- EXISTING BRIDGE
- OTHER PROJECTS (BRIDGE)
- OTHER PROJECTS (ROADS)
- FLORIDA GAS TRANSMISSION (FGT) SPECIFIED WIDTH
- POTENTIAL NEW TRAFFIC SIGNAL
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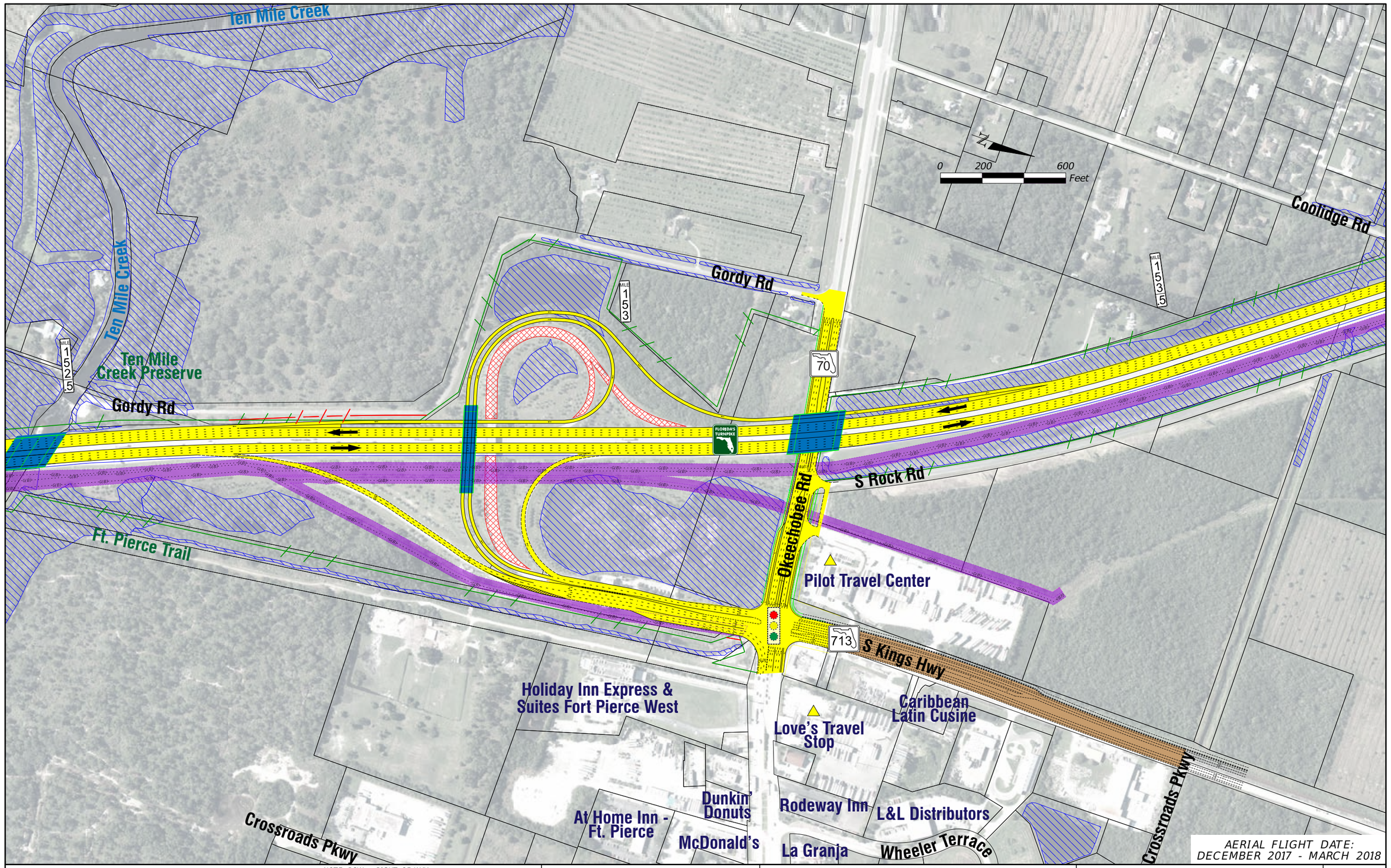
W MIDWAY ROAD INTERCHANGE ALT. 4

SHEET NO.
A-10



LEGEND

NOTE: ROW = RIGHT OF WAY

- PROPERTY LINES
- EXISTING ROW LINE
- EXISTING LIMITED ACCESS ROW LINE
- POTENTIAL ROW LINE
- POTENTIAL LIMITED ACCESS ROW LINE
- RAILROAD
- WETLANDS/OTHER SURFACE WATERS
- PAVEMENT REMOVAL
- PROPOSED ROADWAY
- PROPOSED BRIDGE
- EXISTING BRIDGE
- OTHER PROJECTS (BRIDGE)
- OTHER PROJECTS (ROADS)
- FLORIDA GAS TRANSMISSION (FGT) SPECIFIED WIDTH
- POTENTIAL NEW TRAFFIC SIGNAL
- EXISTING TRAFFIC SIGNAL
- FUTURE TOLL GANTRY
- POTENTIAL MEDIUM/HIGH CONTAMINATION SITES

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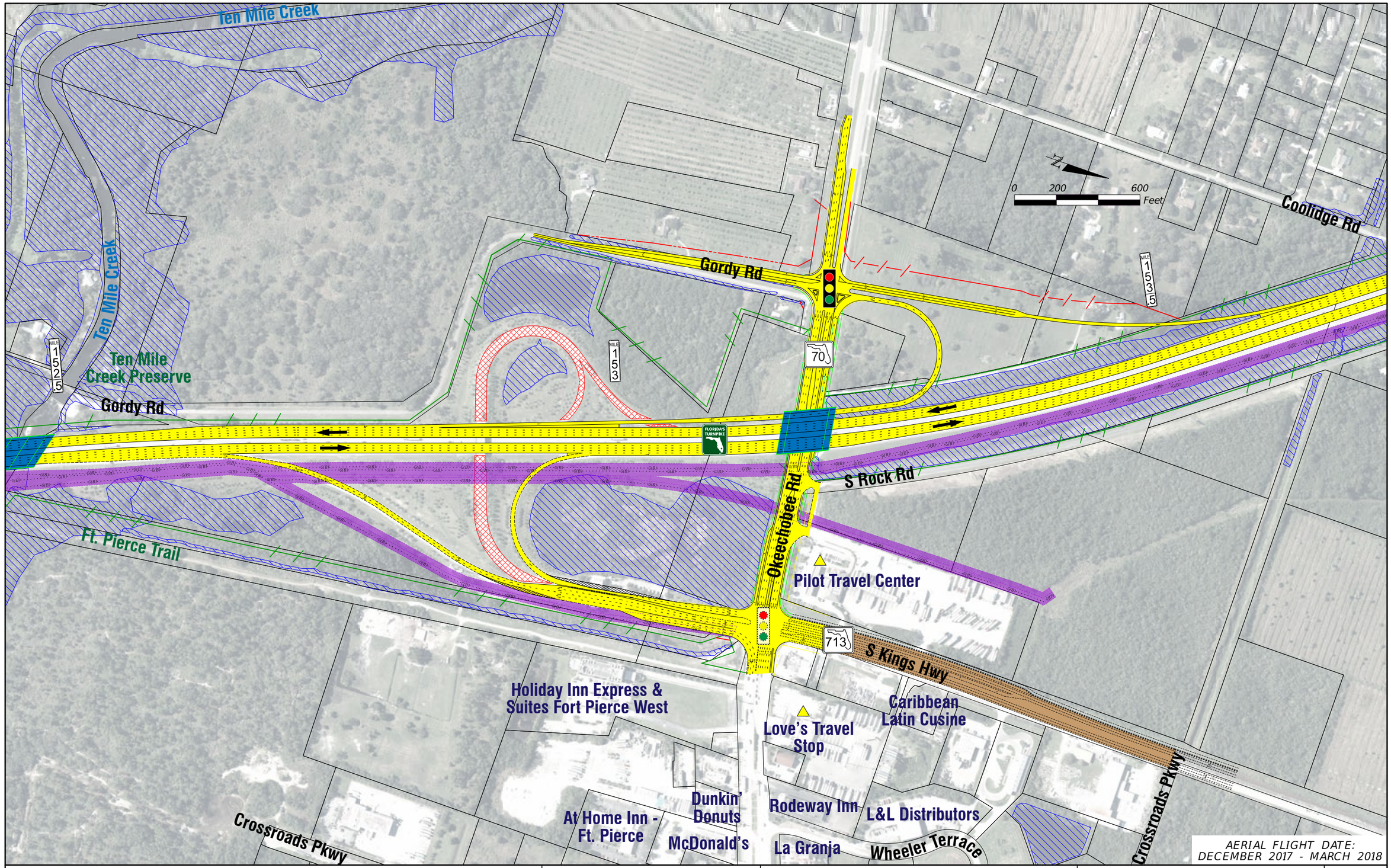
OKEECHOBEE ROAD / SR 70 INTERCHANGE ALT. 1

SHEET NO. A-11



LEGEND

- PROPERTY LINES
- EXISTING ROW LINE
- EXISTING LIMITED ACCESS ROW LINE
- POTENTIAL ROW LINE
- POTENTIAL LIMITED ACCESS ROW LINE
- RAILROAD
- WETLANDS/OTHER SURFACE WATERS
- PAVEMENT REMOVAL
- PROPOSED ROADWAY
- PROPOSED BRIDGE
- EXISTING BRIDGE
- OTHER PROJECTS (BRIDGE)
- OTHER PROJECTS (ROADS)
- FLORIDA GAS TRANSMISSION (FGT) SPECIFIED WIDTH
- POTENTIAL NEW TRAFFIC SIGNAL
- EXISTING TRAFFIC SIGNAL
- FUTURE TOLL GANTRY
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OKEECHOBEE ROAD / SR 70 INTERCHANGE ALT. 4

SHEET NO. A-12

APPENDIX B

Soils Descriptions and Map

Martin County Soils

4 – Waveland and Immokalee Fine Sands

Waveland and Immokalee fine sands are poorly drained, nearly level soils that occur in broad flatwoods areas. Slopes are smooth and are 0 to 2 percent. The water table is at a depth of less than 10 inches for 2 to 4 months and within a depth of 40 inches for 6 months or more during most years. The available water capacity is low in the surface layer and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and very slow to moderately slow in the subsoil. Natural fertility is low. Waveland and Immokalee fine sands are not classified as hydric soils by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 7 % hydric inclusions, 4% Basinger and 3% Placid.

9 – Pomello Sand, 0 to 5 percent slopes

Pomello sand, 0 to 5 percent slopes, is a moderately well drained, nearly level to gently sloping soil occurring on low ridges and knolls in the flatwoods. Slopes are smooth to convex. The water table is at a depth of 24 to 40 inches for about 2 to 4 months during the wet season. It ranges from a depth of 40 to 60 inches for about 8 months during the drier seasons. The available water capacity is very low in the surface and subsurface layers and medium in the subsoil. Permeability is very rapid in the surface and subsurface layers and medium in the subsoil. Natural fertility and the content of organic matter are very low. Pomello sand is not classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

17 – Wabasso Sand

Wabasso sand is a poorly drained, nearly level soil occurring in broad, open land areas in flatwoods. Slopes are smooth are from 0 to 2 percent. The water table is at a depth of 10 to 40 inches for more than 6 months in most years and at a depth of less than 10 inches for 1 to 2 months. The available water capacity is very low in the surface and subsurface layers, medium in the subsoil, and low in the substratum. Permeability is rapid in the surface and subsurface layers, moderate in the sandy part of the subsoils, and slow or very slow in the loamy part. Natural fertility is low. Wabasso sand is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 15% hydric inclusions, 6% Hallandale, 5% Boca, and 4% Pineda.

21 – Pineda and Riviera Fine Sands

Pineda and Riviera fine sands are a poorly drained, nearly level soil occurring in low grassy flats in most parts of Martin County. Slopes are smooth and dominantly less than 1 percent but range from 0 to 2 percent. The water table is within a depth of 10 inches for 2 to 6 months during wet seasons in most years and at a depth of 10 to 40 inches most of the remaining time. Some areas are covered in places with shallow water for 1 to 2 months. The available water capacity is very low in the surface and subsurface layers and substratum and medium in the subsoil. Permeability is rapid, except it is low to very slow in the lower part of the subsoil. Natural fertility and the content of organic matter are low. Pineda and Riviera fine sands is considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

23 – Urban Land

Urban lands are miscellaneous areas that are more than 70 percent covered by shopping center, parking lots, large buildings, houses, streets, sidewalks, airports, and related development. The natural soil cannot be observed. Unoccupied areas consist mainly of St. Lucie, Paola, Pomello, and Waveland soils. These soils have been altered by grading and shaping or have been covered with 5 to 12 inches of sandy fill material. Slopes are mostly level, but range to sloping in some places. Urban lands are not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

36 – Arents, 0 to 2 percent slopes

Arents, 0 to 2 percent slopes, are a somewhat poorly drained to moderately well drained, nearly level soil that consist of fill material that was excavated and spread over the surface of wet mineral soils, then smoothed to suit the desired use. The water table is below a depth of 30 inches during most of the year. The available water capacity is variable but is generally low. Permeability is variable but generally is rapid. Natural fertility and the content of organic matter are low. Arents, 0 to 2 percent slopes, are not classified as hydric by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

38 – Floridana Fine Sand, Depressional

Floridana fine sand is a very poorly drained, nearly level soil occurring in wet sloughs and depressions. Slopes are smooth to concave and range from 0 to 2 percent. This soil is ponded for more than 6 months during most years. The water table is at a depth of less than 10 inches for much of the remainder of the year. The available water capacity is medium in the surface layer and subsoil and low in the subsurface layer. Permeability is rapid in the surface and subsurface layers and slow to very slow in the subsoil. The content of organic matter is high, and natural fertility is medium. Floridana fine sand is considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

44 – Boca Fine Sand

Boca fine sand is a poorly drained, nearly level soil occurring in flatwoods communities. Slopes are less than 2 percent. The water table is at a depth of less than 10 inches for 2 to 4 months in most years. In drier seasons, the depth to the water table coincides with the depth of the limestone layer. The available water capacity is low in the surface layer, very low in the subsurface layer, and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility and the content of organic matter are low. Boca fine sand is not considered as hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 9% hydric inclusions, 3% Hallandale, 3% Pineda, and 3% Riviera.

47 – Pinellas Fine Sand

Pinellas fine sand is a poorly drained, nearly level soil occurring in flatwoods and hammock areas bordering sloughs and depressions. Slopes are smooth and range from 0 to 2 percent. The water table is within a depth of 10 inches for less than 3 months and at a depth of 10 to 40 inches

for 4 to 6 months during most years. The water table can recede to a depth of more than 40 inches during extended dry periods. The available water capacity is very low in the surface layer and medium in the subsurface layer and subsoil. Permeability is rapid in the surface and subsurface layer and moderate in the subsoil. Natural fertility and the content of organic matter are low. Pinellas fine sand is not classified as hydric by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 10% hydric inclusions, 5% Pineda and 5% Riviera.

49 – Riviera Fine Sand, Depressional

Riviera fine sand is a poorly drained, nearly level soil occurring in depressions. Slopes are smooth to concave and range from 0 to 2 percent. This soil is ponded for 6 to 9 months in most years. During the dry season, the water table recedes to a depth of 10 to 40 inches. The available water capacity is low in the surface and subsurface layers, medium in the upper 10 inches of the subsoil, and low below this. Permeability is rapid in the sandy surface and subsurface layers slow or very slow in the upper part of the subsoil and rapid below this. Natural fertility and the content of organic matter are low. Riviera fine sand is classified as hydric by the *NRCS Web Soil Survey* (NRCS 2020).

52 – Malabar Fine Sand, High

Malabar fine sand, high, is a poorly drained, nearly level soil occurring in broad, low areas of flatwoods and sloughs. The water table is within a depth of 10 inches for 2 to 6 months during most years. It is at a depth of 10 to 40 inches most of the rest of each year. The available water capacity is low or very low in the surface and subsurface layers and upper part of the sandy subsoil and medium in the lower part of the subsoil. Permeability is rapid in all layers above the subsoil and slow to very slow in the subsoil. Natural fertility and the content of organic matter are low. Malabar fine sand, high, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 10% hydric inclusions, 4% Felda, 4% Pineda, and 2% Basinger.

53 – Udorthents, 0 to 35 percent slopes

Udorthents, 0 to 35 percent slopes, are a well-drained to excessively drained very step soils occurring mainly on the dike around the Florida Power and Light cooling reservoir and the older, eroded spoil banks along the C-23 Canal. There are small areas of soils in which slopes are steeper than 35 percent and range to vertical. The slopes are commonly the result of erosion. The soils consist of mixed, heterogeneous materials that were excavated from adjacent areas and canals. Available water capacity is mostly low, and permeability is dominantly rapid. Udorthents, 0 to 35 percent slopes, is not considered hydric by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

55 – Basinger Fine Sand

Basinger fine sand is a poorly drained, nearly level soil occurring in sloughs and poorly defined drainage ways in the flatwoods. Slopes are less than 2 percent. The water table is at a depth of less than 10 inches for 2 to 6 months annually and at a depth of 10 to 30 inches for more than 6 months in most years. The available water capacity is very low. Permeability is very rapid

throughout the profile. Natural fertility is low. Basinger fine sand is classified as hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

56 – Wabasso and Oldsmar Fine Sands, Depressional

Wabasso and Oldsmar fine sands, depressional, are poorly drained, nearly level soils occurring in wet depressions in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent. This soil is ponded for 6 to 9 months or more in most years. The available water capacity is very low in the surface and subsurface layers, medium in the subsoil, and low in the substratum. Permeability is rapid in the surface and subsurface layers. It is moderate in the upper, sandy part of the subsoil and slow or very slow in the lower substratum. Natural fertility is low. Wabasso and Oldsmar find sands, depressional, is classified as hydric by the *NRCS Web Soil Survey* (NRCS 2020).

61 – Hobe Fine Sand, 0 to 5 percent slopes

Hobe fine sand, 0 to 5 percent slopes, is an excessively drained, nearly level to gently sloping soil occurring on knolls and ridges in coastal areas of flatwoods. Slopes are smooth to convex. The water table can be at a depth of 50 to 60 inches for brief periods but generally is at a depth of 60 to 80 inches during the wet season and below 80 inches the remainder of the year. The available water capacity is very low in the surface and subsurface layers and medium in the subsoil. Natural fertility and the content of organic matter are very low. Hobe fine sand, 0 to 5 percent slopes, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

63 – Nettles Sand

Nettles sand is a poorly drained, nearly level soil occurring in broad areas of flatwoods, mainly in the northeastern part of the county. Slopes are smooth and range from 0 to 2 percent. The water table is at a depth of 10 to 40 inches for 4 to 6 months or more during most years. It is at a depth of less than 10 inches for 2 to 4 months during wet seasons. The water table is perched above the subsoil early in the wet season and after heavy rains in other seasons. During extended dry periods, the water table can recede to a depth of more than 40 inches. The available water capacity is low to very low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and very slow to moderately slow in the subsoil. Nettles sand is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 5% hydric inclusions.

67 – Kesson Sand, Tidal

Kesson sand, tidal is a very poorly drained, nearly level soil consisting of stratified deposits of marine sediment occurring in small to large mangrove swamps in coastal areas. This soil is flooded daily by tidal action or is covered by salt or brackish water during seasonal or storm tides. The available water capacity is variable but is dominantly low. Permeability is slow to moderate in the loamy or clayey layers and rapid on all other layers. Kesson sand, tidal, is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

Palm Beach County Soils

8 – Basinger and Myakka Sands, Depressional

Basinger and Myakka sands, depressional, are very poorly drained, nearly level, sandy soils occurring in shallow depressions. The depressions are small to large isolated ponds or poorly defined narrow drainage ways that have many branches. The water table is above the surface for 3 to 9 months or more in most years. Basinger and Myakka sands, depressional, is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

18 – Immokalee Fine Sand

Immokalee fine sand is a poorly drained, deep, sandy soil occurring in broad flatwoods areas in the eastern part of the county. Under natural conditions, the water table is within 10 inches of the surface for 2 to 4 months during wet periods, within 10 to 40 inches for 8 months or more in most years but is below 40 inches in dry periods. This soil is weakly cemented with organic matter. Immokalee fine sand is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 5% hydric inclusions.

25 – Oldsmar Sand

Oldsmar sand is a nearly level, poorly drained, sandy soil that has a dark colored, weakly cemented layer below a depth of 30 inches over a loamy layer. This soil type occurs in broad, flatwood areas. Under natural conditions, the water table is within 10 inches of the surface for 1 to 3 months during most years. It is within 10 to 40 inches for 6 or more months in most years and recedes to below 40 inches in extended dry periods. The available water capacity is very low to a depth of 34 inches, medium to a depth of about 46 inches, and low below that. Permeability is rapid in the sandy surface layer and in the subsurface layer, moderate or moderately rapid in the weakly cemented sand and sandy loam layers, and very rapid lower in the substratum. Oldsmar sand is not classified as hydric by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 9% hydric inclusions, 3% Holopaw, 3% Basinger, 2% Boca, 1% Tequesta.

33 – Pomello Fine Sand, 0 to 5 percent slopes

Pomella fine sand, 0 to 5 percent slopes, is a gently sloping, nearly level, moderately well drained, deep, sandy soil occurring on low ridges and knolls. Slopes range from 0 to 5 percent. Under natural conditions, the water table is within 24 to 40 inches for 1 to 4 months during wet periods and below 40 inches during the remainder of the year. Pomella fine sand, 0 to 5 percent slopes, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 3% Basinger hydric inclusions.

50 – Winder Fine Sand

Winder fine sand is a nearly level, poorly drained soil that has a sandy subsurface layer that tongues into a loamy subsoil at a depth of less than 20 inches occurring on broad, low flats and in depressions and poorly defined drainage ways. Under natural conditions, the water table is

within 10 inches of the surface for 2 to 6 months during most years. Some areas are flooded for periods of a few days to about 3 months. Winder fine sand is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

St. Lucie County Soils

2 – Ankona and Farmton Sands

Ankona and Farmton sands are poorly drained, nearly level soils occurring on broad flatwoods. Slopes are smooth to concave and are less than 1 percent in most places, but they range to 2 percent along the edges of depressional areas. The water table in Ankona and Farmton sands is within a depth of 10 inches for 1 to 4 months and between depths of 10 to 40 inches for 6 months or more during most years. It is perched above the upper part of the subsoil during the rainy season in summer and after periods of heavy rainfall. During extended dry periods the water table recedes to a depth of more than 40 inches. Available water capacity is low in the surface and subsurface layers, medium in the subsoil, and low in the substratum. Permeability is rapid in the surface and subsurface layers, very slow to slow in the upper part of the subsoil, and moderately rapid to rapid in the lower part of the subsoil and substratum. Natural fertility and organic matter content are low. Ankona and Farmton sands is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

4 – Arents, 0 to 5 percent slopes

Arents, 0 to 5 percent slopes, consist of soil material dug from several areas that have different kinds of soil. It is used to fill such areas as low sloughs, marshes, shallow depressions, and swamps above their natural ground levels. In most places, the Arents soil is made up of loose, sandy mineral material; however, amounts of loamy and weakly cemented sandy materials that were subsoils in other areas are mixed throughout. Several kinds of mineral soils underlie the fill material. The water table in this Arents soil is between depth of 20 and 50 inches for most of the year. Available water capacity and permeability are variable. Arents, 0 to 5 percent slopes, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

5 – Arents, 45 to 65 percent slopes

Arents, 45 to 65 percent slopes, consist of materials dug from canals and piled alongside, and materials excavated during construction of highway overpasses and interchanges and used for embankments. Most areas are long and narrow and have narrow ridgetops. In most places, the Arents soil is made up of intermixed sandy materials and amounts of loamy and weakly cemented sandy materials that were subsoils. Depth of the material ranges from a few inches at the outer edges of areas to 10 feet or more. Some areas have been shaped to help reduce erosion, and some areas have been covered with vegetation. Arents, 45 to 65 percent slopes, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

11 – Chobee Loamy Sand, Depressional

Chobee loamy sand, depressional, is a very poorly drained, nearly level soils occurring in small to large depressional areas, along poorly defined drainage ways, and on low lying flats. Slopes are smooth to concave and are less than 1 percent in most places, but they range from 0 to 2 percent. The water table is above the surface for 6 to 9 months in most years and within a depth of 10 inches for most years and within a depth of 10 inches for most of the rest of the year. In dry seasons, it is below a depth of 40 inches for short periods. Available water capacity is medium, and permeability is moderately rapid in the surface layer and slow to very slow in the subsoil. Natural fertility is high. Chobee loamy sand, depressional, is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

12 – Electra Fine Sand, 0 to 5 percent slopes

Electra find sand, 0 to 5 percent slopes, is a somewhat poorly drained, nearly level soil occurring on low ridges and knolls. Slopes are smooth to convex and are less than 3 percent in most places, but they range from 0 to 5 percent. The water table is between depths of 25 to 40 inches for about 4 months and below a depth of 40 inches during dry periods. Available water capacity is very low to a depth of 47 inches and medium below this depth. Permeability is very rapid to a depth of 47 inches, moderate to a depth of 60 inches, and moderately slow to a depth of 80 inches or more. Natural fertility and organic matter content are very low. Electra fine sand, 0 to 5 percent slopes, is not considered a hydric soil by *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

14 – Fluvaquents, Frequently Flooded

Fluvaquents, frequently flooded, are very poorly drained, nearly level soil occurring on flood plains of rivers and creeks. Slopes are smooth to concave or convex and range from 0 to 2 percent. The water table is at a depth of less than 10 inches for 4 to 6 months and within a depth of 40 inches for 9 to 12 months. More than once every 2 years the soils are flooded for a period of 7 to 30 days. Available water capacity is medium to high in the loamy and clayey layers and low in the sandy layers. Permeability is rapid in the sandy layers and moderate to very slow in the loamy and clayey layers. Natural fertility and content of organic matter are low, but they vary. Fluvaquents, frequently flooded, is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

16 – Hilolo Loamy Sand

Hilolo loamy sand is a poorly drained, nearly level soil occurring on hammocks and along borders of depressional areas and sloughs. Slopes are smooth to convex and are less than 1 percent in most places, but they range from 0 to 2 percent. The water table is at a depth of less than 10 inches for 2 to 4 months in most years. It is between depths of 10 to 40 inches for 6 to 9 months and below a depth of 40 inches during dry periods. Available water capacity is low to medium in the surface layer and substratum and medium in the subsoil. Permeability is moderate to moderately slow in the subsoil and slow to very slow in the substratum. Natural fertility and

organic matter content are moderate. Hilolo loamy sand is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

17 – Hobe Sand, 0 to 5 percent slopes

Hobe sand, 0 to 5 percent slopes, is a somewhat excessively drained, nearly level and gently sloping soil occurring on ridges and knolls in the flatwoods. Slopes are smooth to convex. The water table is between depth of 50 to 60 inches for brief periods following heavy rainfall. It is generally between depths of 60 to 80 inches during dry seasons. Available water capacity is very low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility and organic matter content are low. Hobe sand, 0 to 5 percent slopes, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

19 – Jonathan Sand, 0 to 5 percent slopes

Jonathan sand, 0 to 5 percent slopes, is a moderately well drained, nearly level to gently sloping soil occurring on slightly elevated knolls and ridges. Slopes are smooth to convex. The water table in Jonathan sand is between depths of 40 to 60 inches for 1 to 4 months during the summer rainy season. It is below a depth of 60 inches for most of the rest of the year. Available water capacity is very low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and slow to very slow in the subsoil. Natural fertility and organic matter content are very low. Jonathan sand, 0 to5 percent slopes, is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

25 – Nettles and Oldsmar Sands

Nettles and Oldsmar sands are poorly drained, nearly level soils occurring on broad flatwoods areas. Slopes are smooth to concave and range from 0 to 2 percent. The water table is within a depth of 10 inches for 2 to 4 months during wet seasons and between depths of 10 to 40 inches for 6 months or longer in most years. It is perched above the subsoil early in the summer rainy season and after periods of heavy rainfall in other seasons. During extended dry periods, the water table may recede to a depth below 40 inches. Available water capacity is very low to low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and very slow to slow in the subsoil. Natural fertility and organic matter content are low. Nettles and Oldsmar sands is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 8% hydric inclusions, 4% Pineda and 4% Oldsmar.

26 – Oldsmar Sand, Depressional

Oldsmar sand, depressional, is a nearly level soils occurring in depressional areas in the flatwoods. These areas are more poorly drained than the surrounding flatwoods. Slopes are smooth to concave and range from nearly level in the center of the depression to 2 percent toward the edge. The water table is above the surface for 6 to 9 months or more in most years. Available water capacity is very low in the surface and subsurface layers and medium in the rest of the soil.

Permeability is rapid in the surface and subsurface layers, moderate to moderately rapid in the sandy part of the subsoil, and slow to very slow in the loamy part of the subsoil. Natural fertility and organic matter content are low. Oldsmar sand, depressional, is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

29 – Pendarvis and Pomello Sands, 0 to 5 percent slopes

Pendarvis and Pomello sands, 0 to 5 percent slopes, is a moderately well drained, nearly level and gently sloping soil is on low ridges and knolls in the flatwoods. Slopes are smooth to convex. This soil type has a perched water table between depths of 24 to 40 inches for about 1 to 4 months during the summer rainy season and between depths of 40 to 60 inches for the rest of the year except during dry periods. Available water capacity is very low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and slow to moderately slow in the subsoil. Natural fertility and organic matter content are very low. Pendarvis and Pomello sands, 0 to 5 percent slopes, are not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

31 – Pepper and Eaugallie Sands

Pepper and Eaugallie sands are poorly drained, nearly level soils occurring on broad areas of flatwoods. Slopes are smooth to convex and range from 0 to 2 percent. The water table is within a depth of 10 inches for 2 to 4 months during the summer rainy season and between depths of 10 to 40 inches for 6 months during most years. It is perched above the subsoil during the summer rainy season and after periods of heavy rainfall. Available water capacity is low in the surface layer, very low in the subsurface layers, and low to medium in the subsoil. Permeability is rapid in the surface and subsurface layers and very slow to slow in the subsoil. Natural fertility and organic matter content are low. Pepper and Eaugallie sands are not considered as hydric soils by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 2% hydric inclusions.

32 – Pineda Sand

Pineda sand is poorly drained, nearly level soil occurring in low hammocks, in broad, poorly defined sloughs, and on flats. Slopes are smooth to concave and range from 0 to 2 percent. The water table is at a depth of less than 10 inches for 1 to 6 months and between depths of 10 to 40 inches for most of the rest of the year. In a few areas, the soil is covered with shallow standing water for about 7 days to 6 months. For short periods in dry seasons the water table is below a depth of 40 inches. Available water capacity is very low in the surface and subsurface layers and substratum and moderate in the subsoil. Permeability is rapid in the surface and subsurface layers, slow to very slow in the subsoil, and moderately rapid to rapid in the substratum. Natural fertility and organic matter content are low. Pineda sand is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

38 – Riviera Fine Sand

Riviera fine sand is a poorly drained, nearly level soil occurring in hammocks and along drainage ways. Slopes are smooth to convex and range from 0 to 2 percent. The water table is at a depth

of less than 10 inches for 2 to 4 months in most years, and at a depth of 10 to 30 inches for most of the rest of the year. Only for short periods in dry seasons is the water table below a depth of 40 inches. Available water capacity is low in the surface and subsurface layers and moderate in the subsoil and substratum. Permeability is rapid in the surface and subsurface layers, slow to very slow in the subsoil, and rapid in the substratum. Natural fertility and organic matter content are low. Riviera find sand is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

39 – Salerno and Punta Sands

Salerno and Punta sands are poorly drained, nearly level soils occurring in flatwoods areas. Slopes are smooth to convex and range from 0 to 2 percent. The water table is within a depth of 10 inches for 2 to 4 months in the wet seasons in most years and recedes to a depth of below 40 inches during extended dry seasons. Available water capacity is low in the surface layer, very low in the subsurface layer, medium in the subsoil, and very low to low in the substratum. Permeability is rapid in the surface and subsurface layers, very slow to moderately slow in the subsoil, and rapid in the substratum. Internal drainage is slow because of a shallow water table. Natural fertility and organic matter content are low throughout. Salerno and Punta sands are not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

40 – Samsula Muck, Depressional

Samsula muck, depressional, is a very poorly drained, nearly level soil occurring in the marshes of the savannahs. This soil type is generally in the center of areas where organic material is thicker. Areas of each soil are large enough to map separately, but mapping is extremely difficult due to the dense vegetation and wetness, and because of foreseeable use, the soils were not separated in mapping. Slope is less than 2 percent. The water table is at or above the surface for 6 to 9 months and within a depth of 10 inches for the rest of the year. Available water capacity is high in the organic layers and low in the sandy layers. Permeability is rapid in the organic layer sand upper sandy layers and moderately rapid below. Natural fertility and organic matter content are high in the surface layer of both soils. Samsula muck, depressional, is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

44 – Tantile and Pomona Sands

Tantile and Pomona sands are poorly drained, nearly level soils occurring in flatwoods areas. Slopes are smooth to convex and range from 0 to 2 percent. The water table is within a depth of 10 inches for 2 to 4 months and between depths of 10 to 40 inches for 6 months or more during most years. It is perched above the subsoil early in the summer rainy season and after periods of heavy rainfall in other seasons. Available water capacity is low in the surface layer, very low in the subsurface layer, and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and very slow to moderately slow in the subsoil. Natural fertility and organic matter content are low. Tantile and Pomona sands are not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

47 – Urban Land

Urban land consists of areas that are more than 70 percent covered by airports, shopping centers, parking lots, large buildings, streets, and sidewalks. Other areas, for example, lawn, parks, vacant lots, and playgrounds are made up mostly of Ankona, Lawnwood, Nettles, Pendarvis, pepper, Tantile, St. Lucie, Paola, and Waveland soils. The surface of these soils, to a depth of about 12 inches, has been covered with fill material consisting of sandy and loamy materials which contain limestone and shell fragments in places. These areas of soils are too small to be mapped separately. Urban lands is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

48 – Wabasso Sand

Wabasso sand is a poorly drained, nearly level soil occurring in flatwoods areas. Slopes are smooth to convex and range from 0 to 2 percent. The water table is at a depth of less than 10 inches for 1 to 4 months during the summer rainy season and between depths of 10 to 40 inches for 6 to 9 months in most years. It is below a depth of 40 inches in dry seasons. The water table is perched above the subsoil during the summer and after periods of heavy rainfall. Available water capacity is low in the surface and subsurface layers and substratum and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and substratum and moderate to moderately slow in the dark sandy subsoil. It is very slow to slow in the loamy subsoil. Natural fertility and organic matter content are low. Wabasso sand is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 15% hydric inclusions, 6% Hallandale, 5% Boca, and 4% Pineda.

50 – Waveland and Immokalee Fine Sands

Waveland and Immokalee fine sands are poorly drained, nearly level soils occurring on broad flatwoods areas. Slopes are smooth to concave and range from 0 to 2 percent. The water table is within a depth of 10 inches for 1 to 4 months and within a depth of 40 inches for 6 months or more during most years. It is perched above the subsoil early in the summer rainy season and after periods of heavy rainfall in other seasons. The water table recedes to a depth of more than 40 inches during extended dry seasons. Available water capacity is low in the surface layer, very low in the subsurface layer, medium in the subsoil, and low in the substratum. Permeability is rapid in the surface and subsurface layers, very slow to slow in the subsoil, and moderate to rapid in the substratum. Natural fertility and organic matter content are low. Waveland and Immokalee fine sands is not considered hydric by the *NRCS Web Soil Survey* (NRCS 2020). This soil type does not contain any hydric inclusions.

51 – Waveland-Lawnwood Complex, Depressional

Waveland-Lawnwood Complex, depressional, is a poorly drained, depressional soil occurring in flatwoods areas. Slopes range from 0 to 2 percent. These soils are ponded for 6 to 9 months in most years. The available water capacity is low to a depth of about 5 inches, very low to a depth of 34 inches, and medium below this depth. Permeability is rapid in the surface layer and

subsurface layer, slow to very slow in the subsoil, and moderately rapid to rapid in the substratum. Natural fertility and organic matter content are low. Waveland-Lanwood Complex, depressional, soils is classified as a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020).

55 – Winder Loamy Sand

Winder loamy sand is a poorly drained, nearly level soil occurring in hammocks and along drainage ways. Slopes are smooth to convex and range from 0 to 2 percent. The water table is at a depth of less than 10 inches for 2 to 4 months and between depths of 10 to 40 inches for most of the rest of the year. Only for short periods in dry seasons is the water table below a depth of 40 inches. Available water capacity is low in the surface and subsurface layers. It is moderate in the subsoil and very low in the substratum. Permeability is rapid in the surface and subsurface layers. It is slow to very slow in the subsoil and moderately to rapid in the substratum. Natural fertility and organic matter content are low. Winder loamy sand is not considered a hydric soil by the *NRCS Web Soil Survey* (NRCS 2020). However, this soil type may contain up to 11% hydric inclusions, 3% Riviera, 3% Pineda, 3% Floridana, and 2% Winder, shell substratum, hydric.

End Project

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Begin Project

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- Project Study Area
- Page Number

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Miles

NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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Appendix B
Key Sheet

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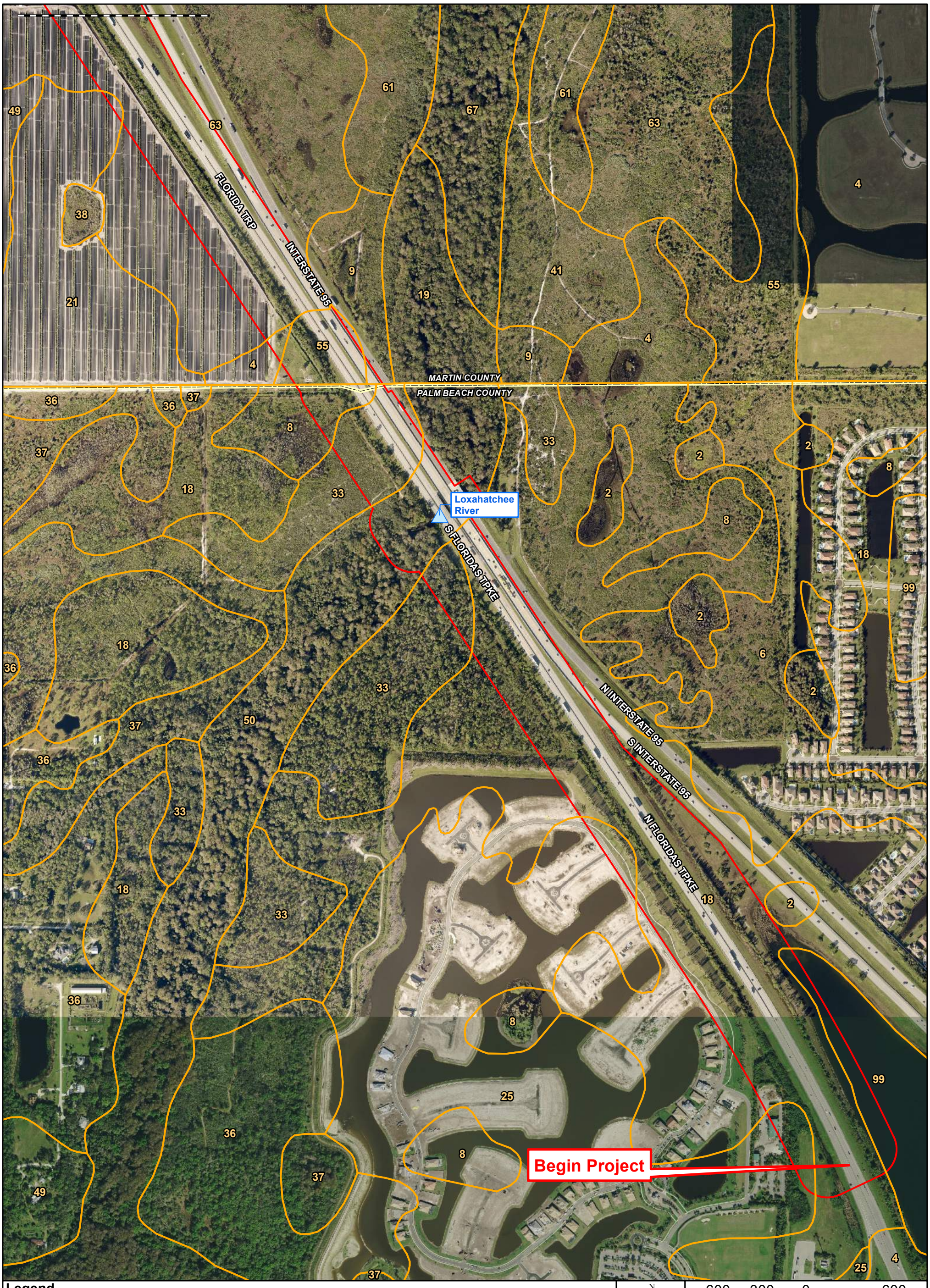

Legend

- Project Study Area
- Other Surface Water Crossing
- County Line

2: ANCLOTE FINE SAND
4: ARENTS-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES (Palm Beach County)
4: WAVELAND AND IMMOKALEE FINE SANDS (Martin County)
6: BASINGER FINE SAND
8: BASINGER AND MYAKKA SANDS, DEPRESSIONAL
9: POMELLO SAND, 0 TO 5 PERCENT SLOPES
18: IMMOKALEE FINE SAND
19: WINDER SAND, DEPRESSIONAL
21: PINEDA AND RIVIERA FINE SANDS
25: OLDSMAR SAND
33: POMELLO FINE SAND, 0 TO 5 PERCENT SLOPES
36: RIVIERA FINE SAND
37: RIVIERA FINE SAND, DEPRESSIONAL
38: FLORIDANA FINE SAND, DEPRESSIONAL
41: JONATHAN SAND, 0 TO 5 PERCENT SLOPES
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
49: WABASSO FINE SAND (Palm Beach County)
50: WINDER FINE SAND
55: BASINGER FINE SAND
61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES
63: NETTLES SAND
67: KESSON SAND, TIDAL
99: WATER

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NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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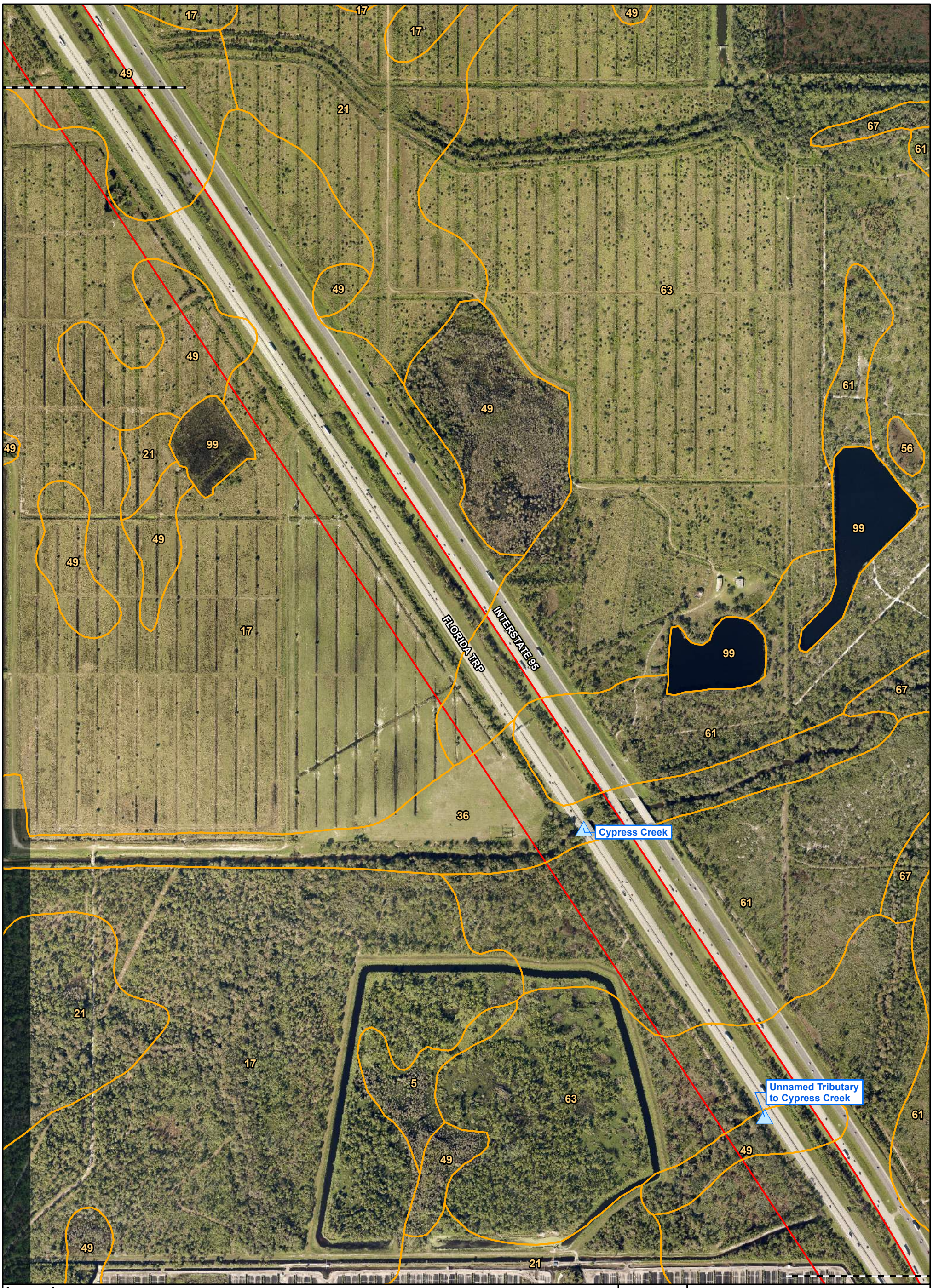

Legend

- Project Study Area
- Other Surface Water Crossing

5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL
17: WABASSO SAND
21: PINEDA AND RIVIERA FINE SANDS
36: ARENTS, 0 TO 2 PERCENT SLOPES
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES
63: NETTLES SAND
67: KESSON SAND, TIDAL
99: WATER

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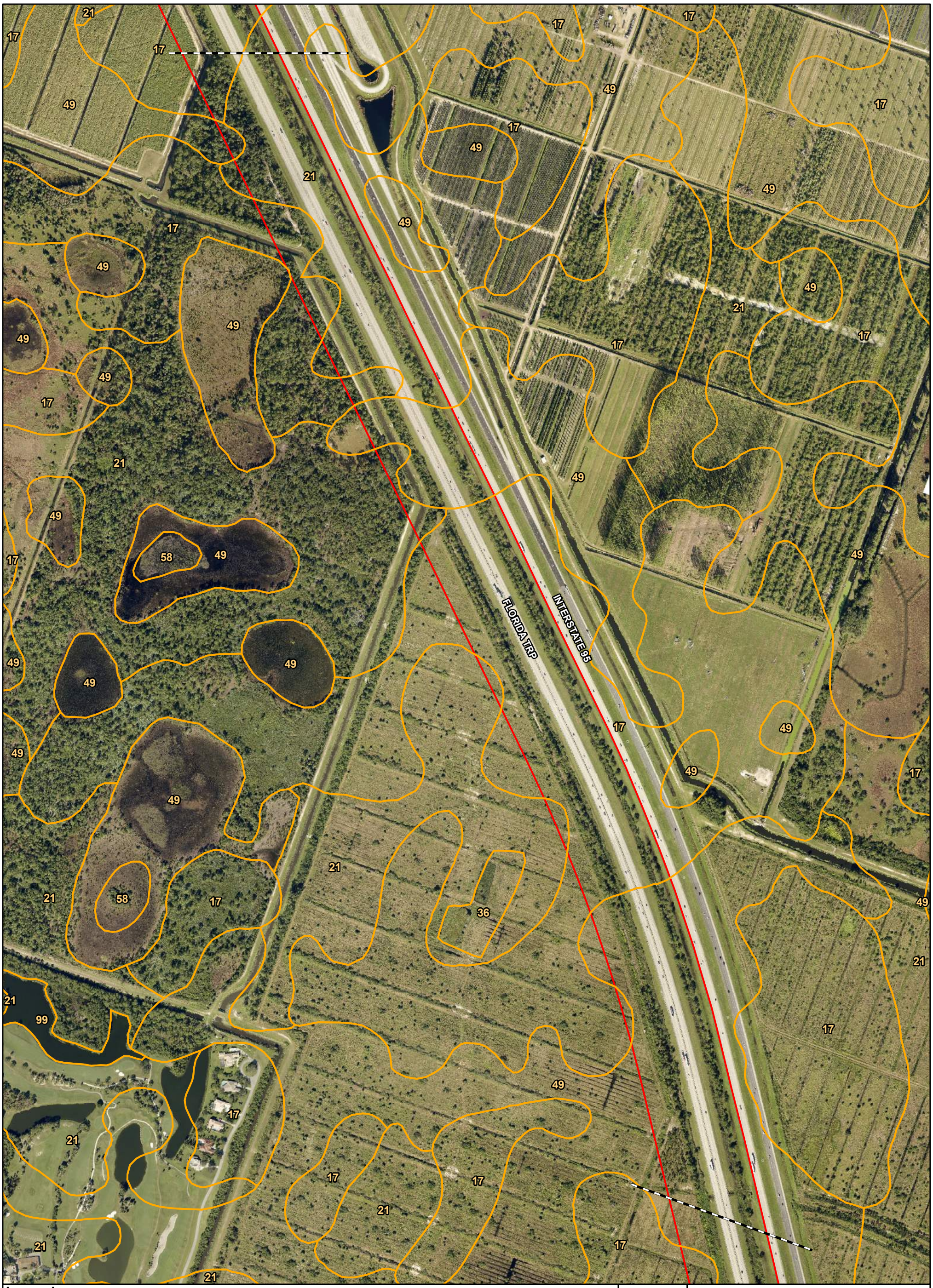

Legend

Project Study Area

17: WABASSO SAND
21: PINEDA AND RIVIERA FINE SANDS
36: ARENTS, 0 TO 2 PERCENT SLOPES
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
58: GATOR AND TEQUESTA MUCKS
99: WATER

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NRCS Soils Map
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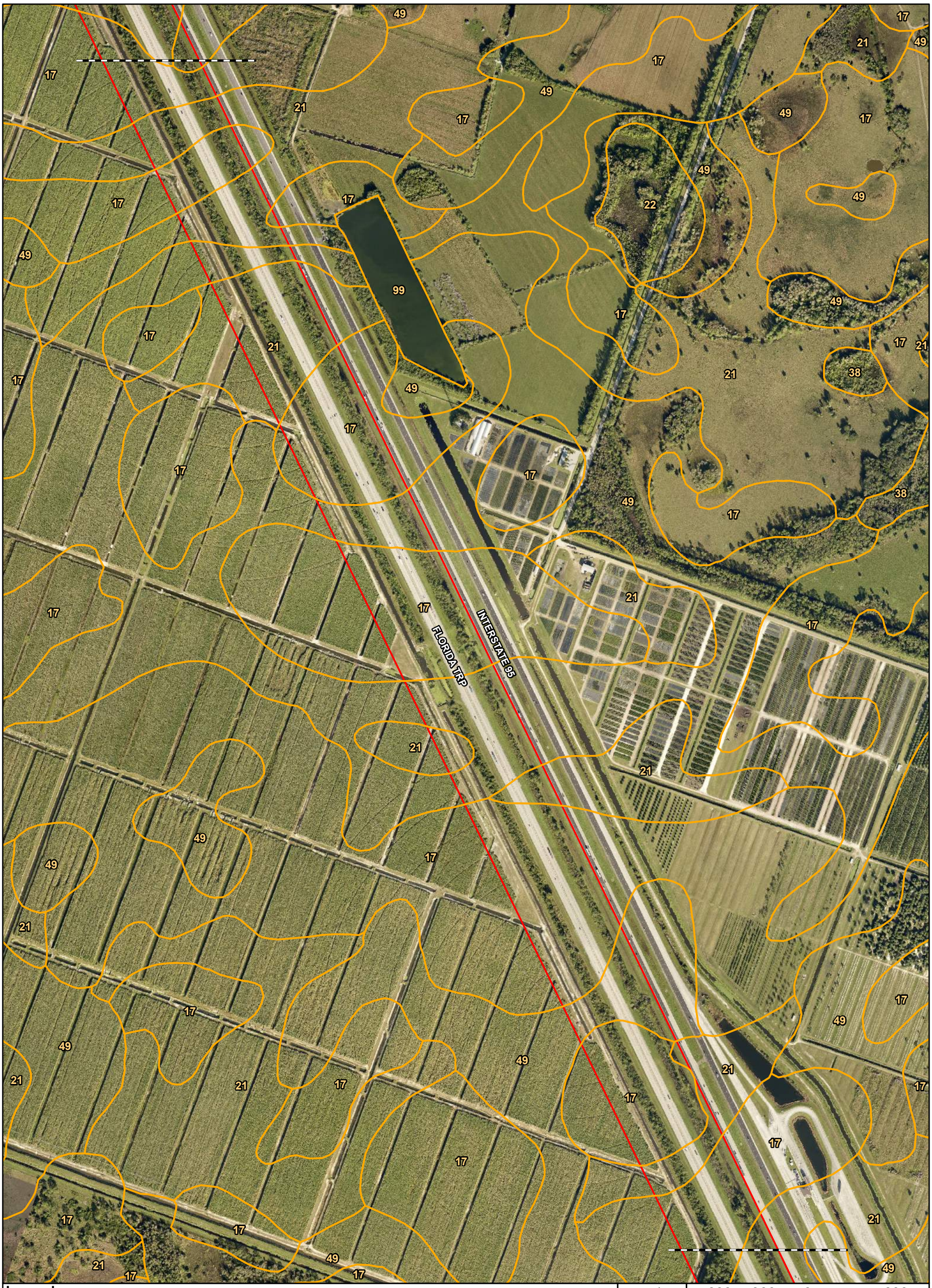

Legend

Project Study Area

17: WABASSO SAND
21: PINEDA AND RIVIERA FINE SANDS
22: OKEELANTA MUCK
38: FLORIDANA FINE SAND, DEPRESSIONAL
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
99: WATER

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NRCS Soils Map
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Legend

Project Study Area

17: WABASSO SAND
19: WINDER SAND, DEPRESSIONAL
21: PINEDA AND RIVIERA FINE SANDS
22: OKEELANTA MUCK
38: FLORIDANA FINE SAND, DEPRESSIONAL
44: BOCA FINE SAND
47: PINELLAS FINE SAND
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
58: GATOR AND TEQUESTA MUCKS
99: WATER

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Legend

Project Study Area

16: OLDSMAR FINE SAND
17: WABASSO SAND
21: PINEDA AND RIVIERA FINE SANDS
38: FLORIDANA FINE SAND, DEPRESSIONAL
44: BOCA FINE SAND
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
99: WATER

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NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Legend

Project Study Area

Other Surface Water Crossing

5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL
9: POMELLO SAND, 0 TO 5 PERCENT SLOPES
16: OLDSMAR FINE SAND
17: WABASSO SAND
21: PINEDA AND RIVIERA FINE SANDS
36: ARENTS, 0 TO 2 PERCENT SLOPES
38: FLORIDANA FINE SAND, DEPRESSIONAL
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
63: NETTLES SAND
66: HOLOPAW FINE SAND
67: KESSON SAND, TIDAL
99: WATER

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NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Legend

- Project Study Area
- Other Surface Water Crossing

5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL
16: OLDSMAR FINE SAND
17: WABASSO SAND
21: PINEDA AND RIVIERA FINE SANDS
38: FLORIDANA FINE SAND, DEPRESSIONAL
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
58: GATOR AND TEQUESTA MUCKS
63: NETTLES SAND
66: HOLOPAW FINE SAND
67: KESSON SAND, TIDAL
99: WATER

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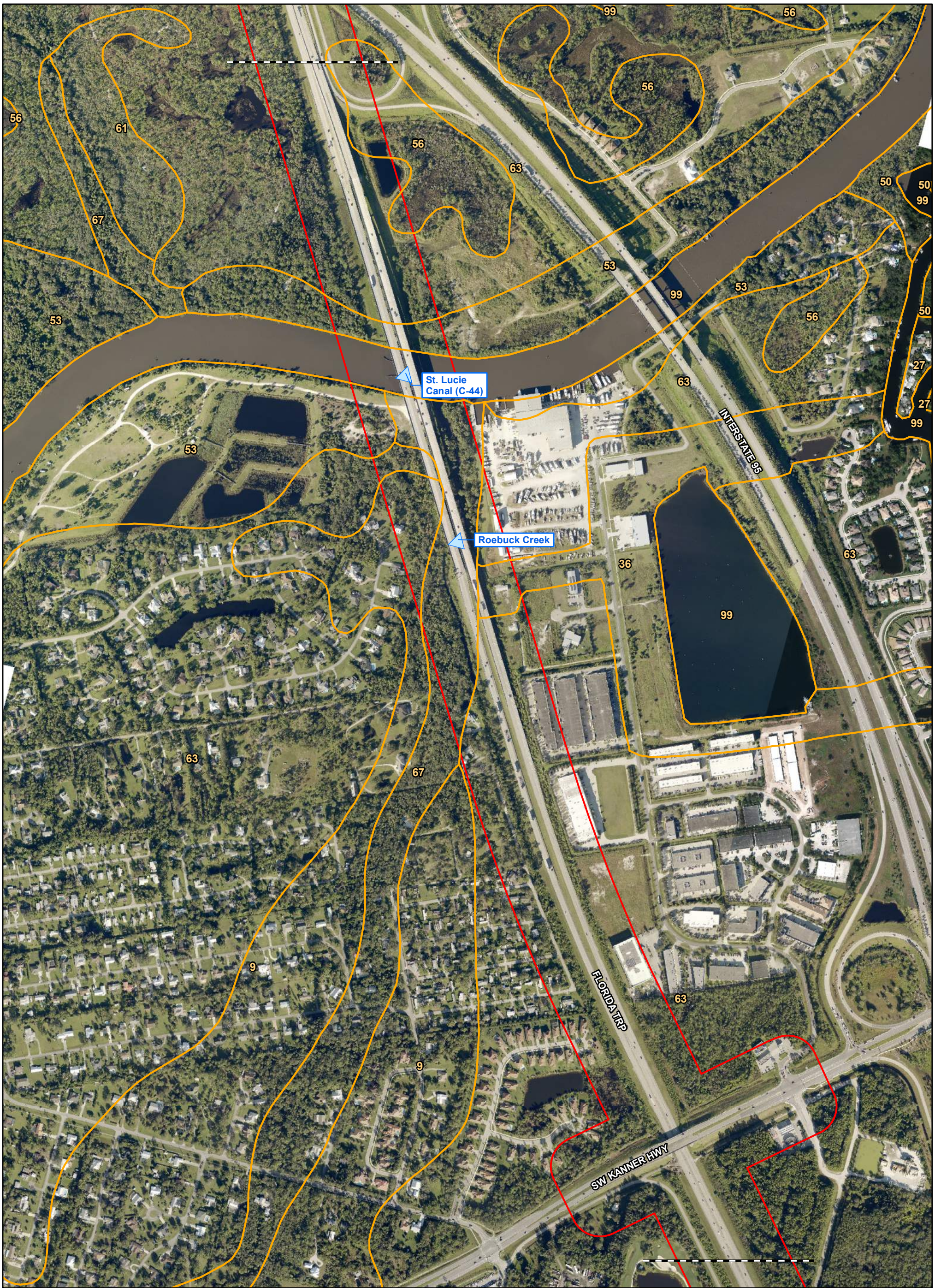

Legend

- Project Study Area
- Other Surface Water Crossing

9: POMELLO SAND, 0 TO 5 PERCENT SLOPES
27: ARENTS, ORGANIC SUBSTRATUM, 0 TO 5 PERCENT SLOPES
28: CANAVERAL SAND, 0 TO 5 PERCENT SLOPES
36: ARENTS, 0 TO 2 PERCENT SLOPES
50: WULFERT AND DURBIN MUCKS, TIDAL
53: UDORTHENTS, 0 TO 35 PERCENT SLOPES
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES
63: NETTLES SAND
67: KESSON SAND, TIDAL
99: WATER

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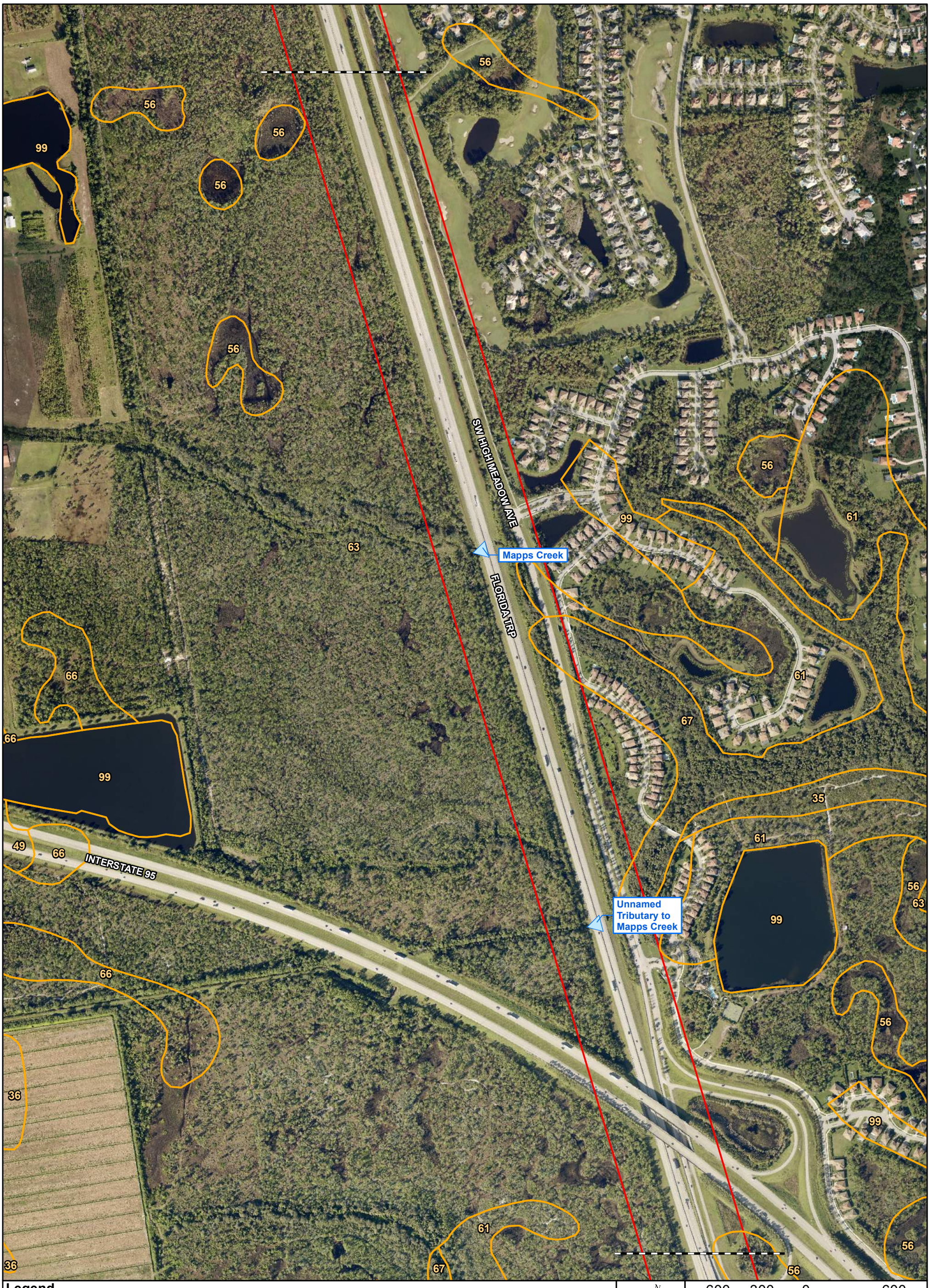

Legend

- Project Study Area
- Other Surface Water Crossing

35: SALERNO SAND
36: ARENTS, 0 TO 2 PERCENT SLOPES
49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES
63: NETTLES SAND
66: HOLOPAW FINE SAND
67: KESSON SAND, TIDAL
99: WATER

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Feet

NRCS Soils Map
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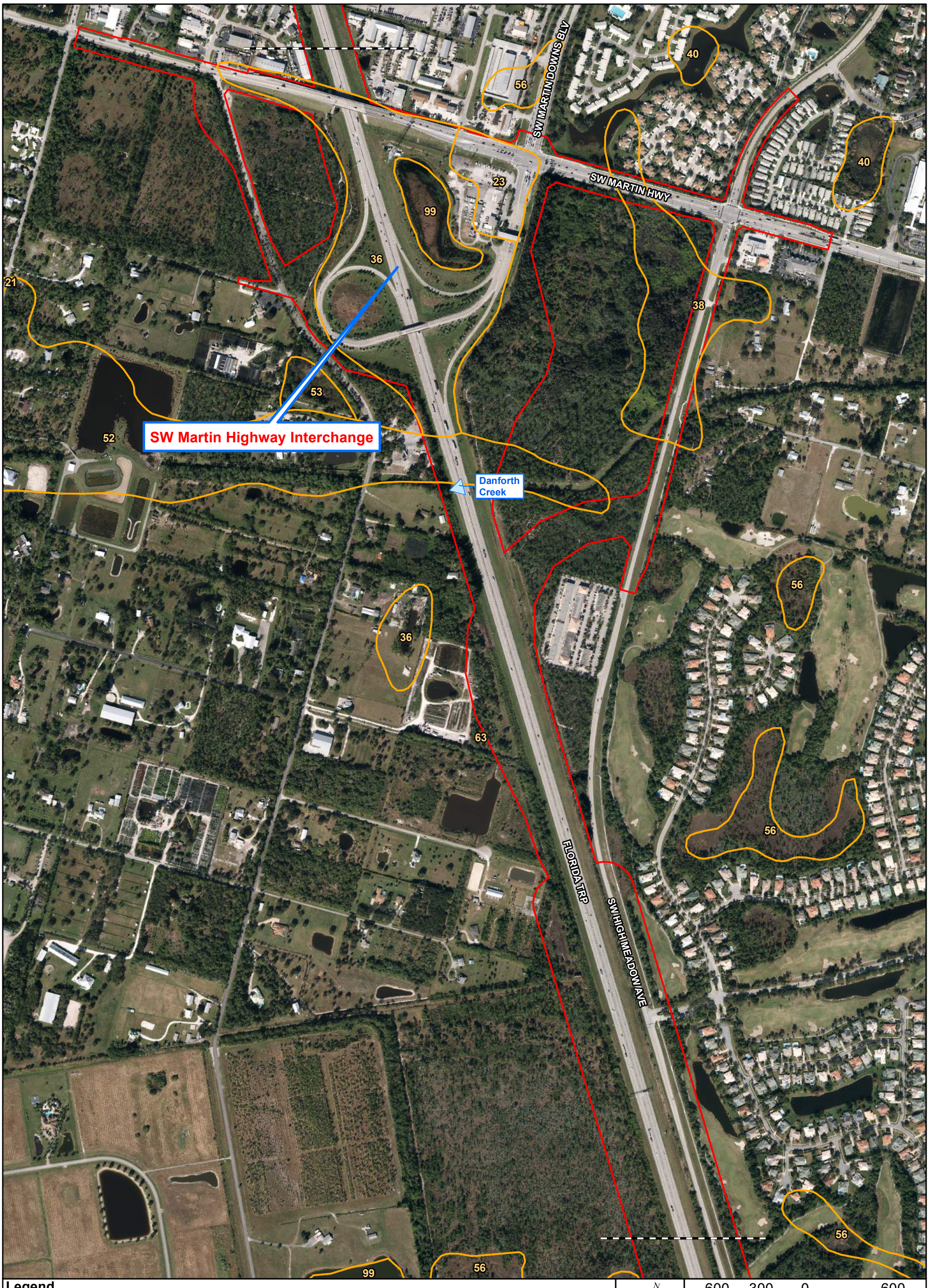

Legend

- Project Study Area
- Other Surface Water Crossing

21: PINEDA AND RIVIERA FINE SANDS
23: URBAN LAND
36: ARENTS, 0 TO 2 PERCENT SLOPES
38: FLORIDANA FINE SAND, DEPRESSIONAL
40: SANIBEL MUCK
52: MALABAR FINE SAND, HIGH
53: UDORTHENTS, 0 TO 35 PERCENT SLOPES
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
63: NETTLES SAND
99: WATER

N W E S

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Feet

NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

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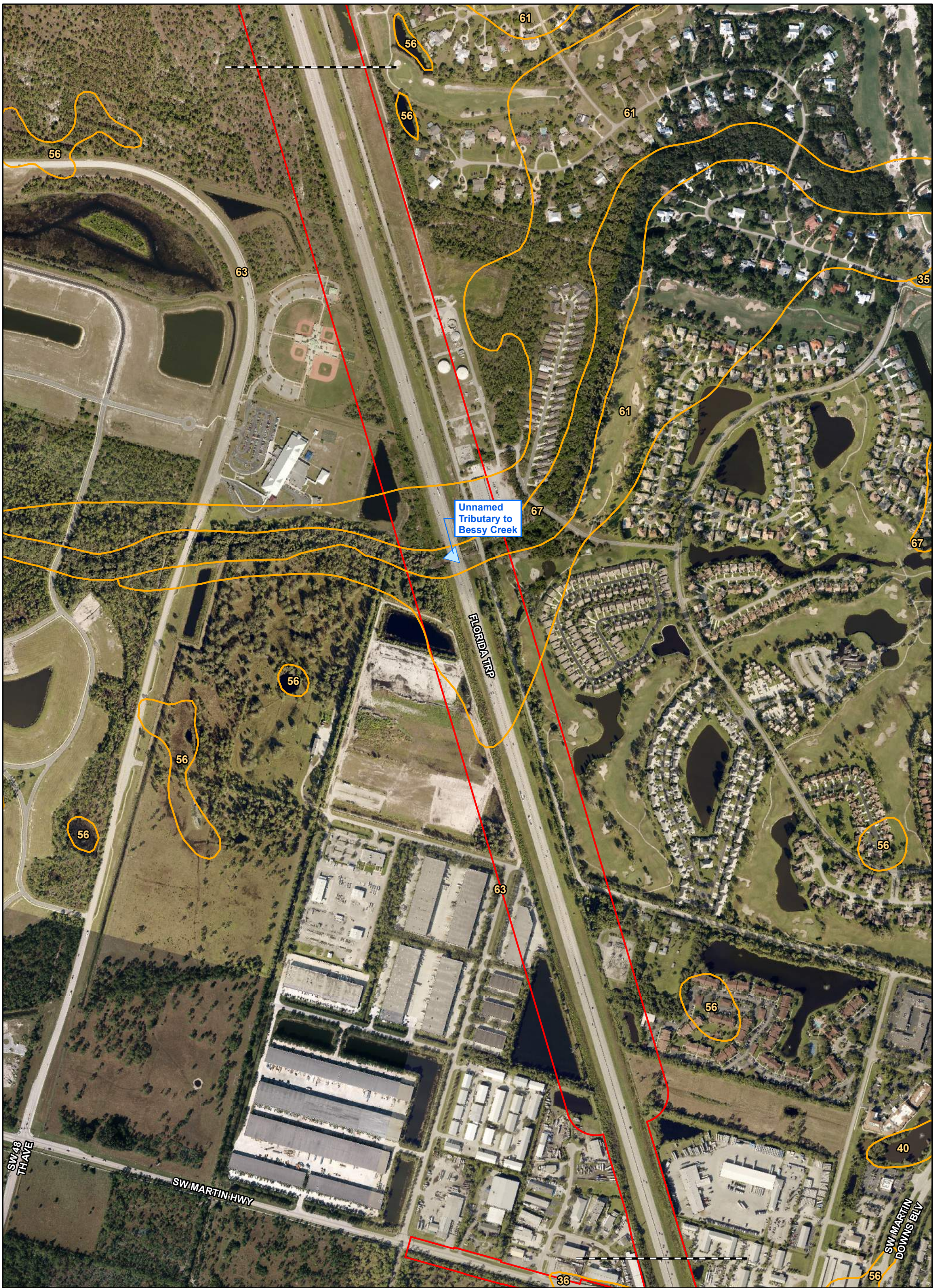

Legend

- Project Study Area
- Other Surface Water Crossing

35: SALERNO SAND
36: ARENTS, 0 TO 2 PERCENT SLOPES
40: SANIBEL MUCK
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES
63: NETTLES SAND
67: KESSON SAND, TIDAL

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NRCS Soils Map
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Legend

- Project Study Area
- Other Surface Water Crossing
- County Line

2: LAWNWOOD AND MYAKKA FINE SANDS (Martin County)
4: WAVELAND AND IMMOKALEE FINE SANDS (Martin County)
5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL
22: OKEELANTA MUCK
36: ARENTS, 0 TO 2 PERCENT SLOPES
50: WAVELAND AND IMMOKALEE FINE SANDS
53: UDORTHENTS, 0 TO 35 PERCENT SLOPES
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES
63: NETTLES SAND
99: WATER

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600 300 0 600
Feet

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SE Becker Road Interchange

County Line Canal (C-23)

SE BECKER RD

ST LUCIE COUNTY

MARTIN COUNTY

FLORIDA TRP

Legend

- Project Study Area
- Other Surface Water Crossing
- County Line

2: ANKONA AND FARMTON SANDS (St. Lucie County)
2: LAWNWOOD AND MYAKKA FINE SANDS (Martin County)
4: WAVELAND AND IMMOKALEE FINE SANDS (Martin County)
5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL
19: JONATHAN SAND, 0 TO 5 PERCENT SLOPES
21: LAWNWOOD AND MYAKKA SANDS
39: SALERNO AND PUNTA SANDS
50: WAVELAND AND IMMOKALEE FINE SANDS
51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL
53: UDORTHENTS, 0 TO 35 PERCENT SLOPES
56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL
63: NETTLES SAND
99: WATER

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Feet

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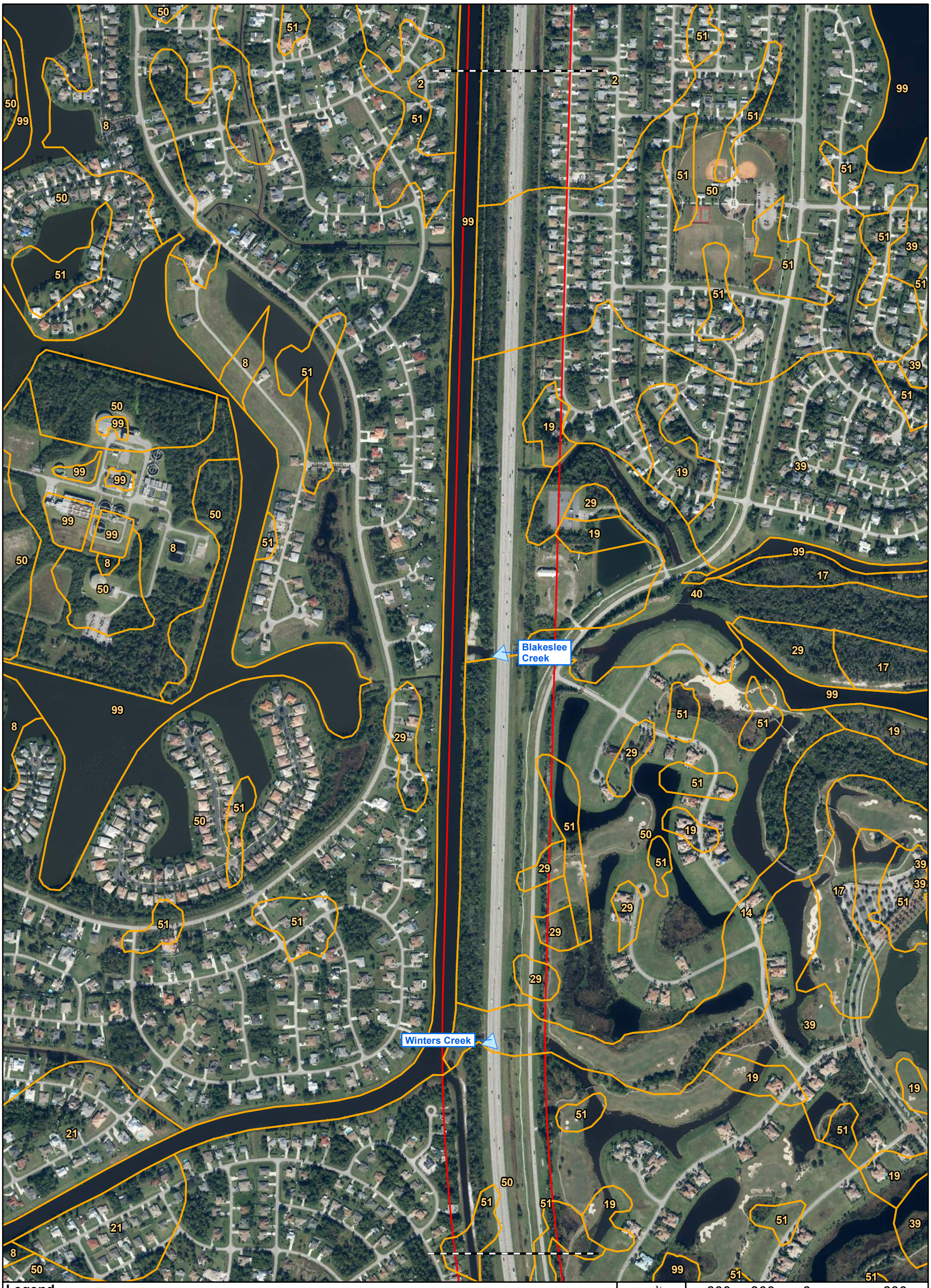

Legend

- Project Study Area
- Other Surface Water Crossing

2: ANKONA AND FARMTON SANDS (St. Lucie County)
8: BASINGER SAND
14: FLUVAQUENTS, FREQUENTLY FLOODED
17: HOBE SAND, 0 TO 5 PERCENT SLOPES
19: JONATHAN SAND, 0 TO 5 PERCENT SLOPES
21: LAWNWOOD AND MYAKKA SANDS
29: PENDARVIS AND POMELLO SANDS, 0 TO 5 PERCENT SLOPES
39: SALERNO AND PUNTA SANDS
40: SAMSULA MUCK, DEPRESSIONAL
50: WAVELAND AND IMMOKALEE FINE SANDS
51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL
99: WATER

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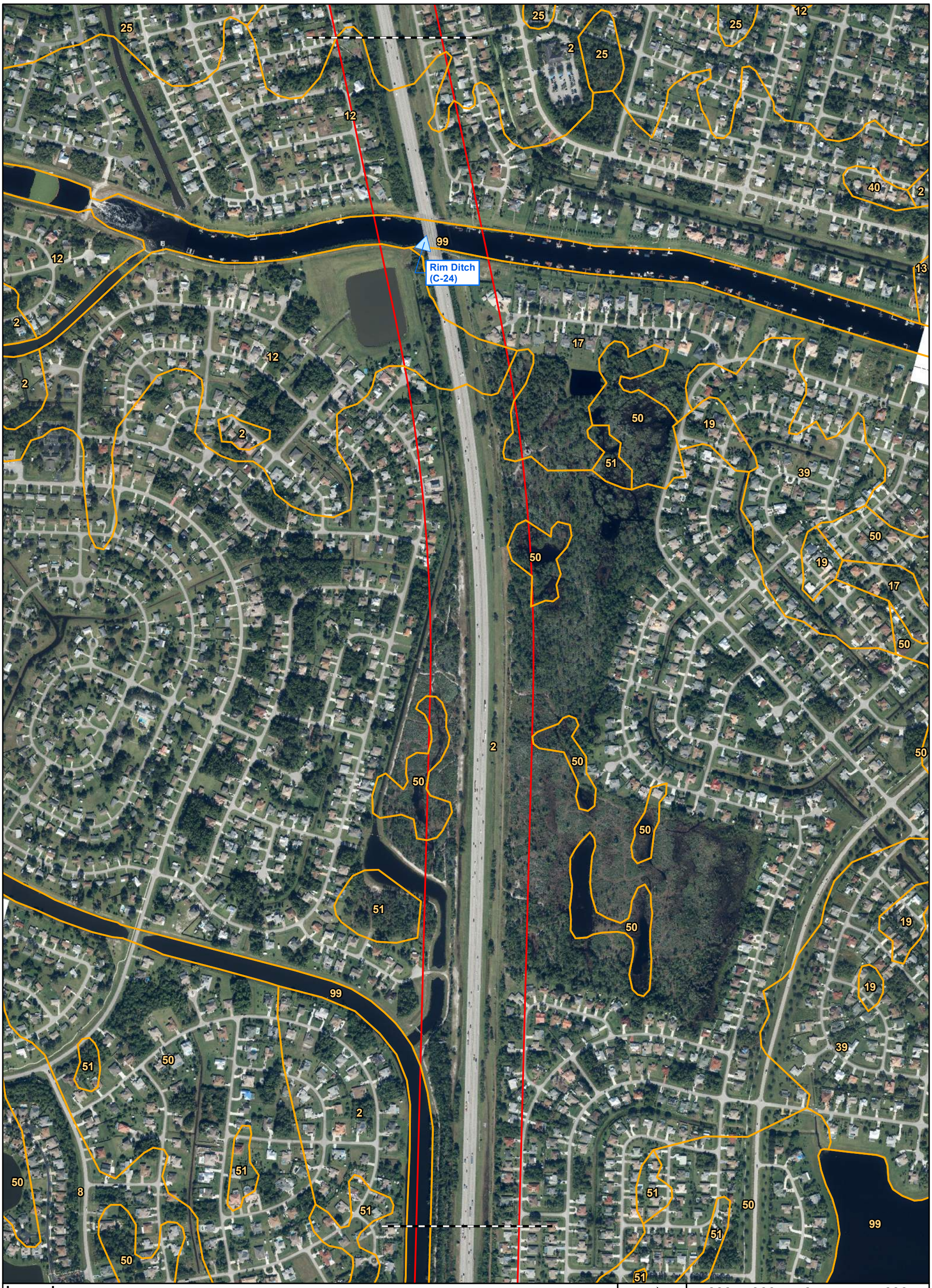

Legend

- Project Study Area
- Other Surface Water Crossing

2: ANKONA AND FARMTON SANDS (St. Lucie County)
8: BASINGER SAND
12: ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES
13: FLORIDANA SAND, DEPRESSIONAL
17: HOBE SAND, 0 TO 5 PERCENT SLOPES
19: JONATHAN SAND, 0 TO 5 PERCENT SLOPES
25: NETTLES AND OLDSMAR SANDS
39: SALERNO AND PUNTA SANDS
40: SAMSULA MUCK, DEPRESSIONAL
50: WAVELAND AND IMMOKALEE FINE SANDS
51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL
99: WATER

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Legend

Project Study Area

2: ANKONA AND FARMTON SANDS (St. Lucie County)
12: ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES
23: MALABAR FINE SAND
25: NETTLES AND OLDSMAR SANDS
50: WAVELAND AND IMMOKALEE FINE SANDS
99: WATER

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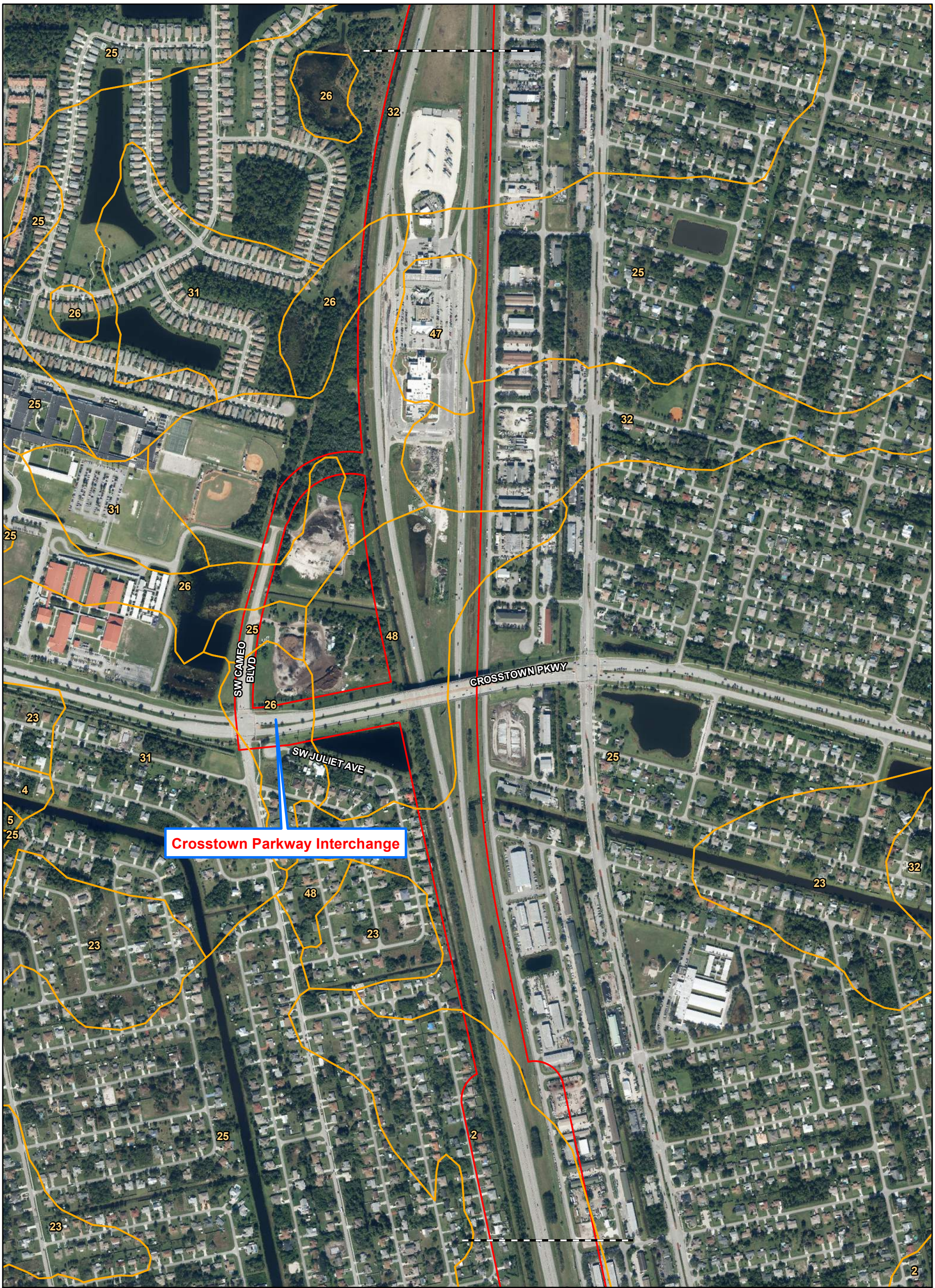

Legend

Project Study Area

2: ANKONA AND FARMTON SANDS (St. Lucie County)
4: ARENTS, 0-5 PERCENT SLOPES
5: ARENTS, 45 TO 65 PERCENT SLOPES
23: MALABAR FINE SAND
25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
31: PEPPER AND EAUGALLIE SANDS
32: PINEDA SAND
47: URBAN LAND
48: WABASSO SAND

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Feet

NRCS Soils Map
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Legend

Project Study Area

4: ARENTS, 0-5 PERCENT SLOPES
25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
31: PEPPER AND EAUGALLIE SANDS
32: PINEDA SAND
38: RIVIERA FINE SAND
48: WABASSO SAND
99: WATER

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NRCS Soils Map
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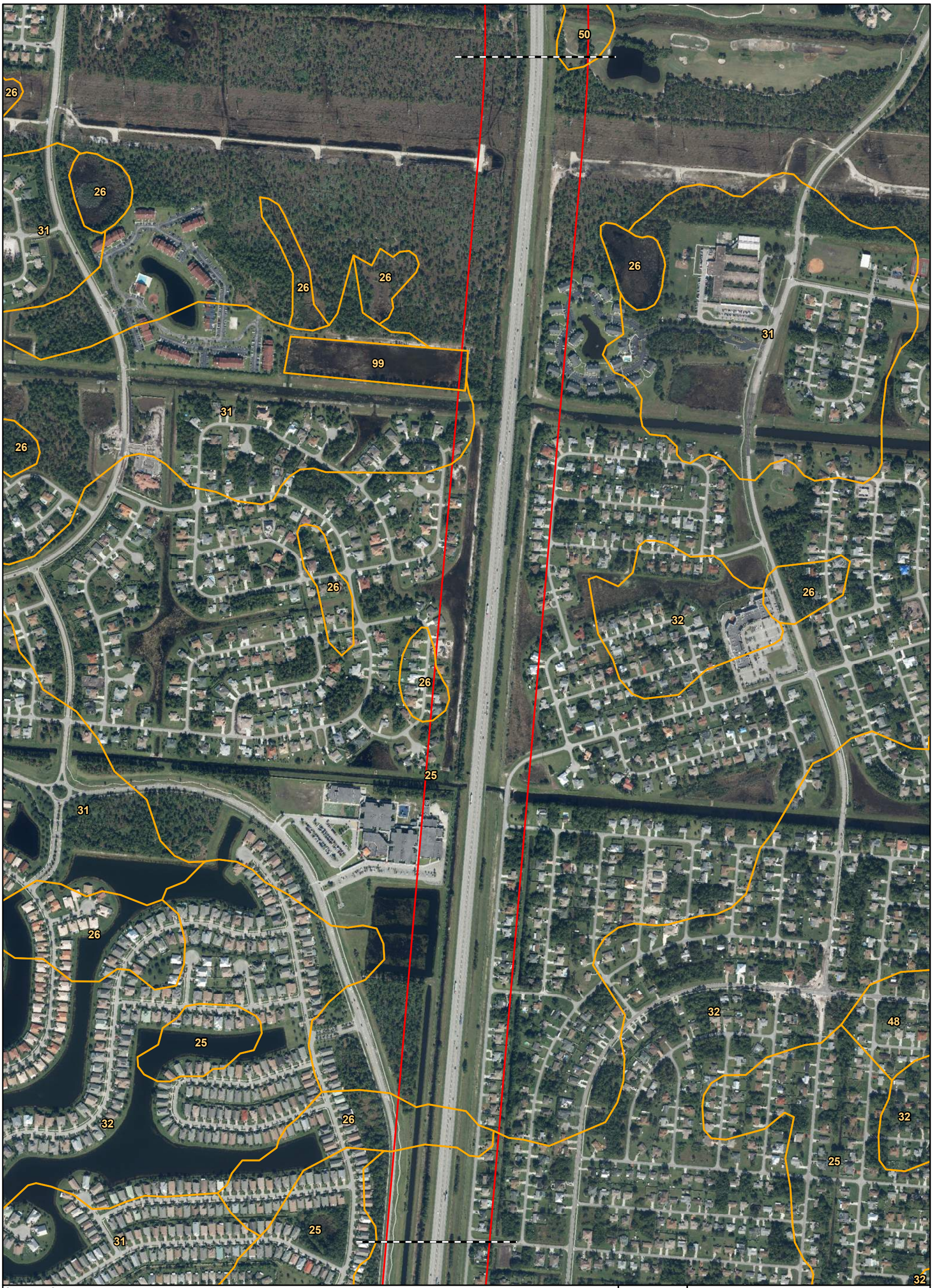

Legend

Project Study Area

25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
31: PEPPER AND EAUGALLIE SANDS
32: PINEDA SAND
48: WABASSO SAND
50: WAVELAND AND IMMOKALEE FINE SANDS
99: WATER

N W E S

600 300 0 600

Feet

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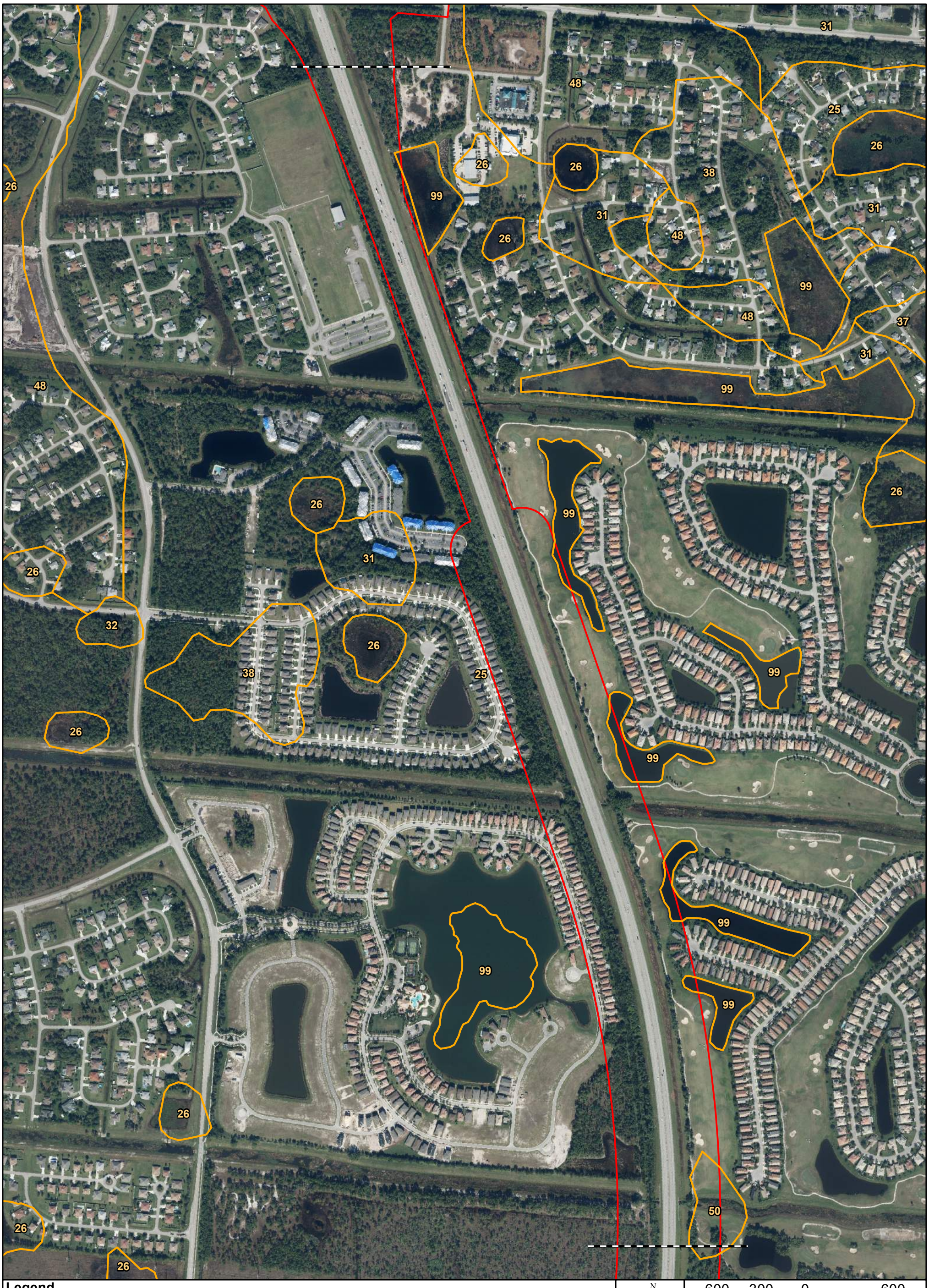

Legend

Project Study Area

25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
31: PEPPER AND EAUGALLIE SANDS
32: PINEDA SAND
37: RIVIERA SAND, DEPRESSIONAL
38: RIVIERA FINE SAND
48: WABASSO SAND
50: WAVELAND AND IMMOKALEE FINE SANDS
99: WATER

N W E S

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Feet

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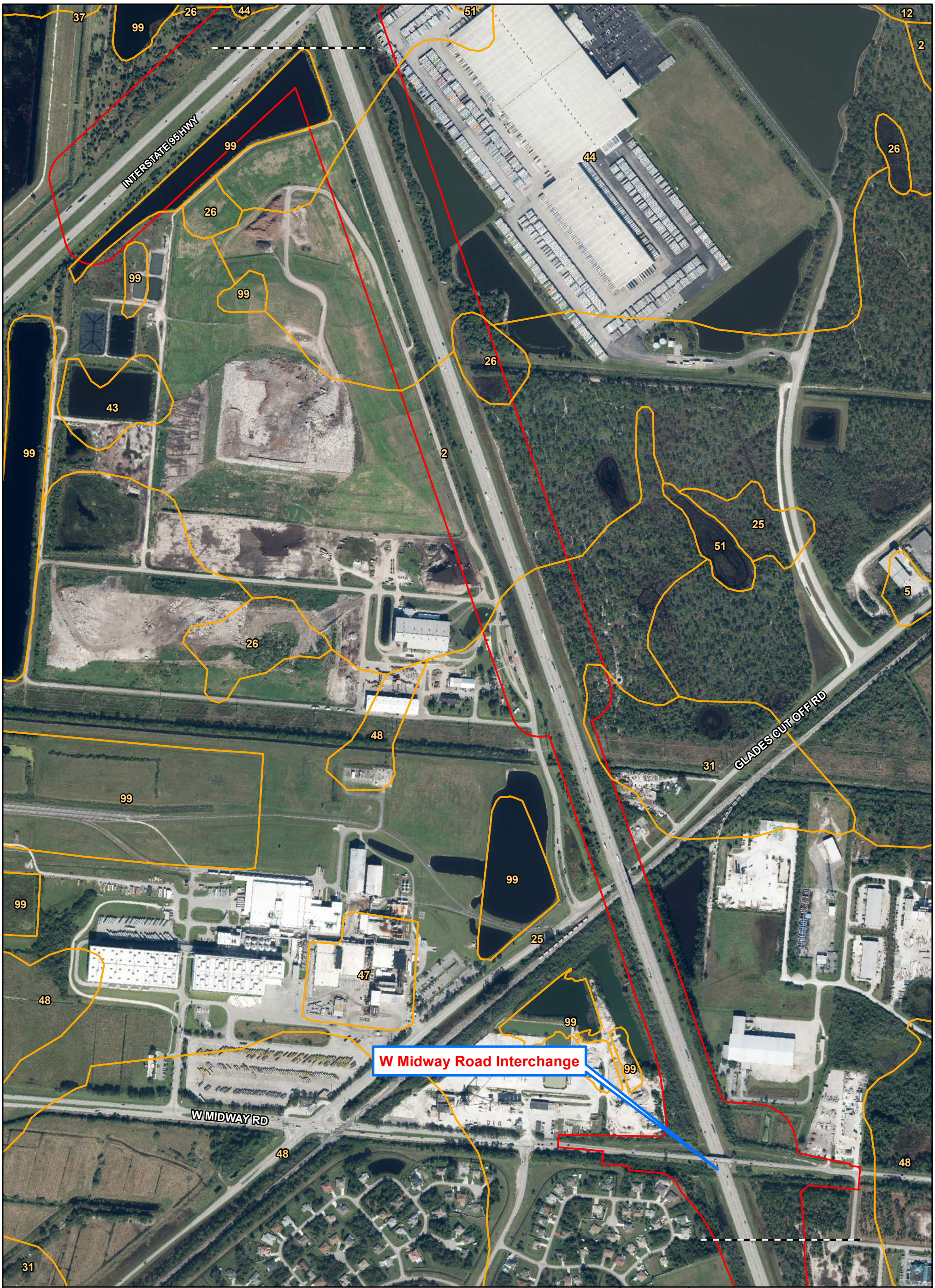

Legend

Project Study Area

2: ANKONA AND FARMTON SANDS (St. Lucie County)
5: ARENTS, 45 TO 65 PERCENT SLOPES
12: ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES
25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
31: PEPPER AND EAUGALLIE SANDS
37: RIVIERA SAND, DEPRESSIONAL
43: SUSANNA AND WAUCHULA SANDS
44: TANTILE AND POMONA SANDS
47: URBAN LAND
48: WABASSO SAND
51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL
99: WATER

N W E S

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Feet

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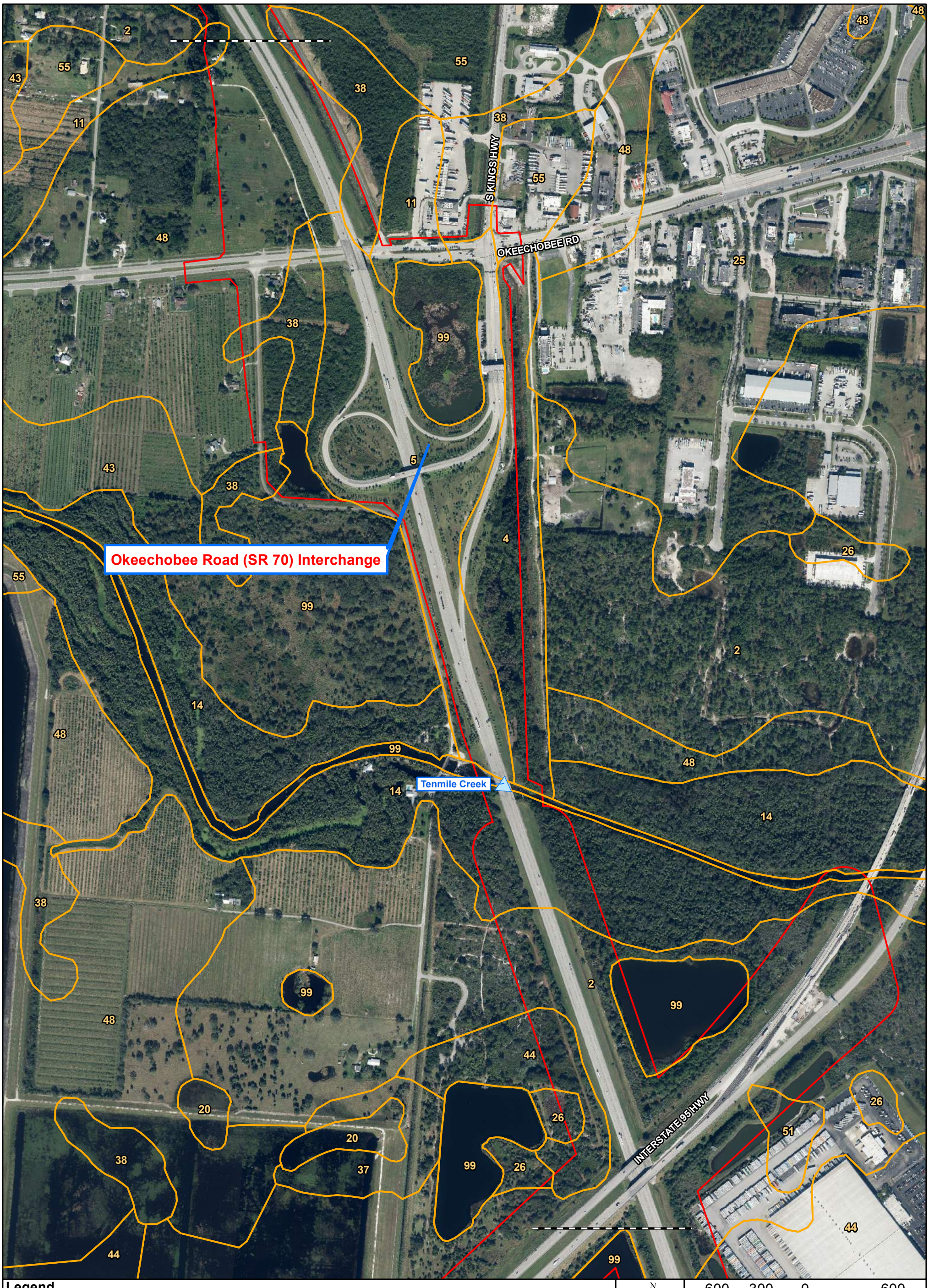

Legend

Project Study Area

Other Surface Water Crossing

2: ANKONA AND FARMTON SANDS (St. Lucie County)
4: ARENTS, 0-5 PERCENT SLOPES
5: ARENTS, 45 TO 65 PERCENT SLOPES
11: CHOBEE LOAMY SAND, DEPRESSIONAL
14: FLUVAQUENTS, FREQUENTLY FLOODED
20: KALIGA MUCK, DEPRESSIONAL
25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
37: RIVIERA SAND, DEPRESSIONAL
38: RIVIERA FINE SAND
43: SUSANNA AND WAUCHULA SANDS
44: TANTILE AND POMONA SANDS
48: WABASSO SAND
51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL
55: WINDER LOAMY SAND
99: WATER

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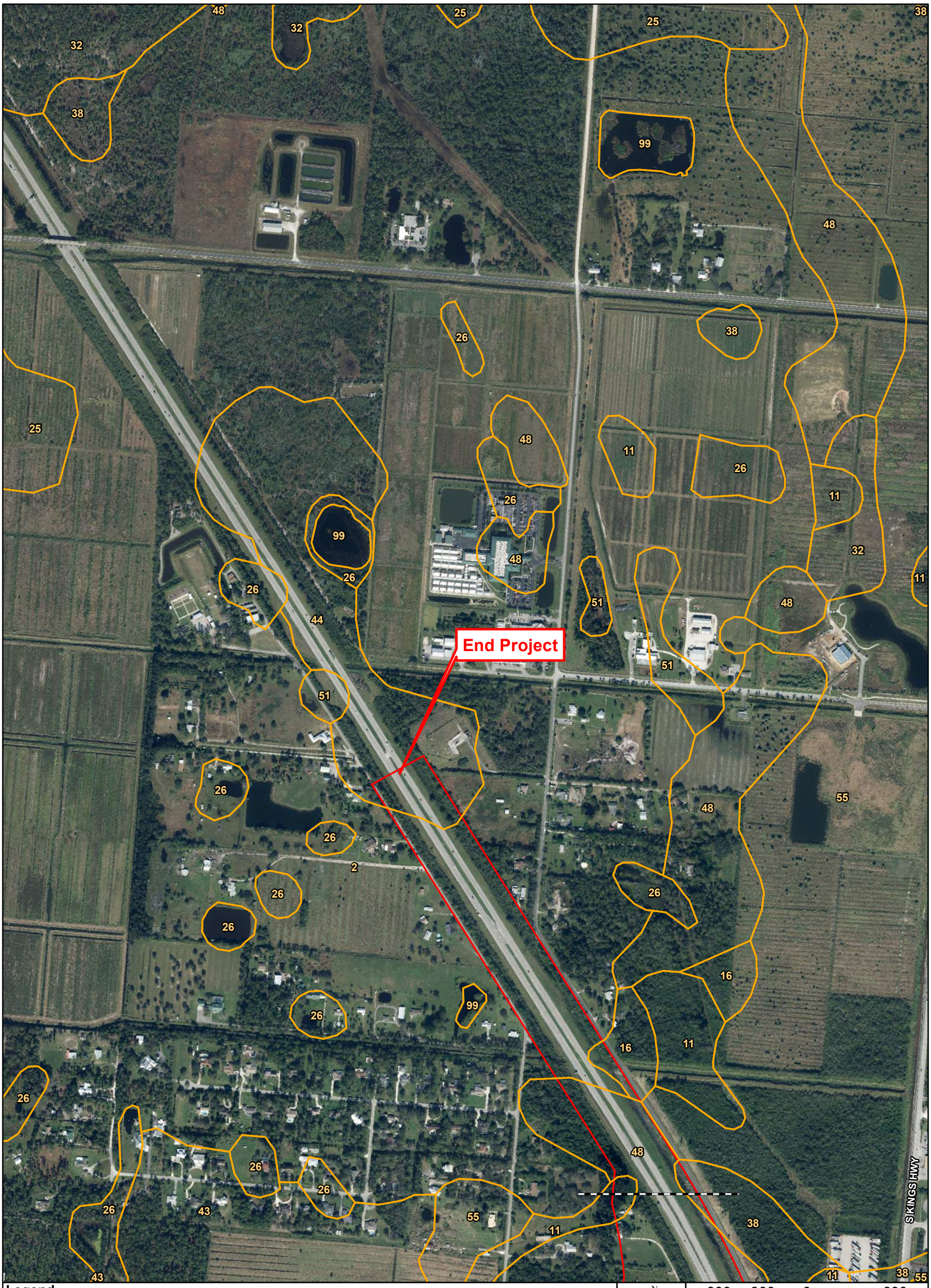

Legend

Project Study Area

2: ANKONA AND FARMTON SANDS (St. Lucie County)
11: CHOBEE LOAMY SAND, DEPRESSIONAL
16: HILOLO LOAMY SAND
25: NETTLES AND OLDSMAR SANDS
26: OLDSMAR SAND, DEPRESSIONAL
32: PINEDA SAND
38: RIVIERA FINE SAND
43: SUSANNA AND WAUCHULA SANDS
44: TANTILE AND POMONA SANDS
48: WABASSO SAND
51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL
55: WINDER LOAMY SAND
99: WATER

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Feet

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APPENDIX C

Land Use Descriptions and Map

Upland Habitats and Land Uses

FLUCFCS: 110 (Residential Low Density Less Than Two Units per Acre)

The residential low density less than 2 units/acre land use includes low density residential areas with a density of less than two dwellings per acre. Within the project study area, this land use type consists of low growing herbaceous vegetation such as bahiagrass (*Paspalum notatum*) and weedy, ruderal species with scattered slash pine (*Pinus elliottii*) and mixed oaks (*Quercus* spp.). Residential low density less than two units per acre comprises 4.19 acres (0.13 percent) of the project study area

FLUCFCS: 111/121 (Fixed Single Family Units)

The fixed single family units land use includes low intensity residential areas (generally less than one dwelling unit per five acres), such as single family homes. Within the project study area, this land use type consists of low growing herbaceous vegetation such as bahiagrass and weedy, ruderal species with scattered slash pine and oaks. Single family units comprise 170.37 acres (5.44 percent) of the project study area.

FLUCFCS: 129 (Medium Density Under Construction)

The medium density under construction land use is comprised of residential communities that are currently under construction. These areas are usually cleared for construction and are void of natural vegetation or wildlife. Medium density under construction comprises 47.07 acres (1.50 percent) of the project study area.

FLUCFCS: 132 (Mobile Home Units, Six or More Units per Acre)

The mobile home units land use is comprised of high density residential, with generally six (6) or more mobile home units per acre. Within the project study area, this land use type consists of bahiagrass and weedy, ruderal species with scattered slash pine and oaks. Mobile home units comprise 4.74 acres (0.15 percent) of the project study area.

FLUCFCS: 133 (Multiple Dwelling Units, Low Rise)

The multiple dwelling units land use is comprised of high density residential, with dwelling units that are two stories or less. Within the project study area, this land use type consists of bahiagrass and weedy, ruderal species with scattered slash pine and oaks. Multiple dwelling units comprise 9.78 acres (0.31 percent) of the project study area.

FLUCFCS: 140 (Commercial and Services)

The commercial and services land use is comprised of commercial areas that are predominately associated with the distribution of products and services. This land use includes all secondary structures associated with the enterprise such as sheds, warehouses, driveways, parking areas, and landscaped areas. These areas are predominately developed with no natural habitat present. Commercial and services facilities comprise 101.70 acres (3.24 percent) of the project study area.

FLUCFCS: 141 (Shopping Centers)

The retail sales and services land use is comprised of commercial areas that are predominately associated with the sale of products and services. This land use includes shopping centers, central business districts, office buildings, and all secondary structures accompanying these facilities including parking lots, driveways, and other associated structures. These areas are predominately developed with no natural habitat present. Retail sales and services facilities comprise 4.38 acres (0.14 percent) of the project study area.

FLUCFCS: 142 (Wholesale Sales and Services - Junk Yards)

The wholesale sales and services land use is comprised of commercial areas that are predominately associated with the storage and wholesale distribution of products and materials. This land use includes large capacity storage structures, junk yards, and other open storage areas. These areas are predominately developed with no natural habitat present. Wholesale sales and services facilities comprise 0.05 acres (<0.01 percent) of the project study area.

FLUCFCS: 155 (Other Light Industrial)

The other light industrial land use consists of lands where light manufacturing, assembly or processing of materials and products are accomplished, including steel fabrication, small boat manufacturing, electronic manufacturing, and assembly plants. Within the project study area, this area is developed with little to no natural habitat present. Other light industrial facilities comprise 11.88 acres (0.38 percent) of the project study area.

FLUCFCS: 156 (Other Heavy Industrial)

Industrial land uses consist of lands where manufacturing, assembly or processing of materials and products are accomplished, including major ship repair, ship building, and large lumber mills. Within the project study area, this area is developed with little to no natural habitat present. Other heavy industrial facilities comprise 3.76 acres (0.12 percent) of the project study area.

FLUCFCS: 170 (Institutional)

The institutional land use includes educational, religious, health and military facilities in addition to their supporting facilities including parking lots, stadiums, and all buildings and any other features that can be related to the facility. This land use comprises 1.3 acres (0.04 percent) of the project study area.

FLUCFCS: 171 (Educational Facilities)

The educational facilities land use includes schools and all supporting facilities including parking lots, stadiums, and all buildings and any other features that can be related to the facility. This land use comprises 13.52 acres (0.43 percent) of the project study area.

FLUCFCS: 182 (Golf Courses)

The golf courses land use includes recreational golf course facilities. Within the project study area, these areas are maintained with scattered ponds. This land use comprises 47.13 acres (1.50 percent) of the project study area.

FLUCFCS: 184 (Marinas and Fish Camps)

The marinas and fish camps land use includes marinas, fish camps, and their associated facilities. Within the project study area, these areas are developed with little natural communities remaining. This land use comprises 2.52 acres (0.08 percent) of the project study area.

FLUCFCS: 185 (Parks and Zoos)

The parks and zoos land use includes recreational parks, zoos, and their associated facilities. Within the project study area, these areas are developed with little natural habitat remaining. This land use comprises 2.69 acres (0.09 percent) of the project study area.

FLUCFCS: 190 (Open Land)

The open land includes undeveloped land within urban areas and inactive land with street patterns but without structures or any indication of intended use. Urban inactive land may be in a transitional state and ultimately will be developed into one of the typical urban land uses. Within the project study area, vegetation within this habitat type consists primarily of weedy ruderal species. There are 2.16 acres (0.07 percent) of open land within the project study area.

FLUCFCS: 194 (Other Open Land)

The other open land includes undeveloped land within urban areas. Within the project study area, other open land consists of berms along man-made canals that are covered by weedy, ruderal vegetation. Other open land comprises 0.31 acres (0.01 percent) of the project study area.

FLUCFCS: 211 (Improved Pastures)

Improved pastures are comprised of land that has been cleared, tilled, reseeded with specific grass types, and periodically improved with brush control and fertilizer application. Cattle, cattle trails, and horses are generally observed within improved pastures. Within the study area, this land use consists of bahiagrass, dog fennel (*Eupatorium capillifolium*), beggarticks (*Bidens alba*), and bluestem (*Andropogon* sp.), with scattered wax myrtle (*Morella cerifera*), Brazilian pepper (*Schinus terebinthifolia*), and cabbage palm (*Sabal palmetto*). Improved pasturelands comprise 20.40 acres (0.65 percent) of the project study area.

FLUCFCS: 212 (Unimproved Pastures)

The unimproved pastureland use is comprised of land that has been cleared of major stands of trees and brush where native grasses have been allowed to develop. This land is not typically managed with brush control and/or fertilizer applications. Within the project study area, this land use is comprised of bahiagrass, dog fennel, beggarticks, and bluestem, with scattered wax myrtle,

Brazilian pepper, and cabbage palm. Unimproved pasturelands comprise 37.16 acres (1.18 percent) of the project study area.

FLUCFCS: 214 (Row Crops)

The row crops land use consists of areas of row crops where rows remain well defined even after rows have been harvested. This land use comprises 76.29 acres (2.43 percent) of the project study area.

FLUCFCS: 221 (Citrus Groves)

The citrus groves land use includes active groves. This land use comprises 2.23 acres (0.07 percent) of the project study area.

FLUCFCS: 224 (Abandoned Groves)

The abandoned groves land use includes fallow or inactive groves. This land use comprises 37.39 acres (1.19 percent) of the project study area.

FLUCFCS: 240 (Nurseries and Vineyards)

The nursery and vineyards land use is composed of nurseries, floricultural, and areas and seed-and-sod areas used perennially and generally not rotated with other uses. Nurseries and vineyards comprise 3.72 acres (0.12 percent) of the project study area.

FLUCFCS: 241 (Tree Nurseries)

The tree nursery land use includes nurseries that are primarily associated with ornamentals and not with the timber industry. Tree nurseries comprise 0.45 acres (0.01 percent) of the project study area.

FLUCFCS: 251 (Horse Farms)

The horse farms land use is comprised of farms that breed and train horses for sport uses. Horse farms comprise 0.42 acres (0.01 percent) of the project study area.

FLUCFCS: 254 (Aquaculture)

The aquaculture land use is comprised of aquatic plant and animal species under either natural or artificial conditions for human and domestic animal consumption. Aquaculture facilities comprise 0.34 acres (0.01 percent) of the project study area.

FLUCFCS: 310 (Herbaceous - Dry Prairie)

Herbaceous dry prairies are areas of upland prairie grasses that are usually treeless and dominated by grasses, sedges (*Cyperus* spp.), rushes (*Juncus* spp.), and other herbs including wiregrass (*Aristida stricta*), with saw palmetto (*Serenoa repens*). Vegetation within this land use in the study area consist of broomsedges (*Andropogon* spp.), various sedges, paragrass (*Urochloa mutica*), creeping oxeye (*Sphagneticola trilobata*), and bahiagrass with scattered cabbage palm, Brazilian pepper, and slash pine also present. Herbaceous dry prairies comprise 13.46 acres (0.43 percent)

of the project study area.

FLUCFCS: 320 (Upland Shrub and Brushland)

The shrub and brushland land use generally includes saw palmetto as the most prevalent plant cover intermixed with a wide variety of other woody scrub plant species as well as various types of short herbs and grasses. Within the study area, this land use is dominated by saw palmetto with mixed oaks, cabbage palm, Brazilian pepper, slash pine, and muscadine grapevine (*Vitis rotundifolia*). Shrub and brushland comprises 17.64 acres (0.56 percent) of the project study area.

FLUCFCS: 330 (Mixed Rangeland)

The mixed rangeland land use is comprised of a grassland intermixed with shrub-brushland. Within the study area, this land use is dominated by cabbage palm, wax myrtle, beggarticks, and muscadine grapevine. Mixed rangeland comprises 8.61 acres (0.27 percent) of the project study area.

FLUCFCS: 411 (Pine Flatwoods)

The pine flatwoods land use are areas dominated by either slash pine, longleaf pine *(Pinus palustris),* or both. Pine flatwoods communities throughout the study area consist of slash pine canopies, with an understory of saw palmetto and scattered punktree (*Melaleuca quinquenervia*), oaks, earleaf acacia (*Acacia auriculiformis*), and Australian pine (*Casuarina equisetifolia*). Herbaceous vegetation includes cogongrass (*Imperata cylindrica*), muscadine grapevine, broomsedge bluestem (*Andropogon virginicus*), and knotroot foxtail (*Setaria parviflora*). Pine flatwoods comprise 344.28 acres (10.99 percent) of the project study area.

FLUCFCS: 420 (Upland Hardwood Forests)

Upland hardwood forests include communities with a crown canopy of at least 66 percent dominance by hardwood tree species such as live oak, laurel oak (*Quercus laurifolia*), southern magnolia (*Magnolia grandiflora*), and cabbage palm. Within the study area, these communities are dominated by live oak (*Quercus virginiana*) and laurel oak (*Quercus laurifolia*), with Brazilian pepper, cabbage palm, saw palmetto, and broomsedges. Upland hardwood forests comprise 16.64 acres (0.53 percent) of the project study area.

FLUCFCS: 422 (Brazilian Pepper)

The Brazilian pepper land use includes areas dominated by this invasive exotic, shrub-like tree. Within the project area, minimal other vegetation is present in these areas, including slash pine, muscadine grapevine, and annual ragweed (*Ambrosia artemisiifolia*). Brazilian pepper communities comprise 13.79 acres (0.44 percent) of the project study area.

FLUCFCS: 424 (Melaleuca)

The melaleuca land use includes the exotic tree species, punk tree, in almost pure stands. Punk tree is an aggressive competitor, invading and often taking over a site, forming a dense, impenetrable stand. Melaleuca comprises 4.29 acres (0.14 percent) of the project study area.

FLUCFCS: 434 (Upland Mixed Coniferous/Hardwood)

The hardwood-conifer mixed land use includes forested uplands in which neither upland conifers nor hardwoods achieve 66-percent crown canopy dominance. Dominant vegetation within these communities consists of slash pine, Brazilian pepper, punk tree, laurel oak, Australian pine, and cabbage palm, with saw palmetto, muscadine grapevine, cogongrass, and Japanese climbing fern (*Lygodium japonicum*). Hardwood conifer mixed communities comprise 69.86 acres (2.23 percent) of the project study area.

FLUCFCS: 740 (Disturbed Land)

Disturbed land includes those areas that have been changed due primarily to human activities other than mining. These areas are minimally vegetated with weedy ruderal species with some scattered slash pines and oaks throughout. Disturbed land comprises 5.1 acres (0.16 percent) of the project study area.

FLUCFCS: 810/814 (Transportation/Roads and Highways)

The roads and highways land use are transportation facilities used for the movement of people and goods and encompass all areas used for intersections and right-of-way including pavement, medians, and buffers. Located throughout the project study area, this land use type includes the existing Turnpike right-of-way and associated roadways. Roads and highways comprise 1,233.01 acres (39.32 percent) of the project study area.

FLUCFCS: 820 (Communications)

Airwave communications, radar, and television antennas with associated structures are typical major types of communication facilities that are identified in the communications land use. Communications facilities comprise 3.92 acres (0.12 percent) of the project study area.

FLUCFCS: 831 (Electrical Power Facilities)

Electric power facilities include power generating facilities such as hydropower, thermal, nuclear, gas turbine plants, transformer yards, and sub-stations. This land use comprises 4.73 acres (0.15 percent) of the project study area.

FLUCFCS: 832 (Electrical Power Transmission Lines)

Electrical power transmission lines includes the transmission lines as well as their maintained corridors. Within the project area, vegetation within these maintained corridors includes earleaf acacia, wax myrtle, and scattered clumps of saw palmetto with broomsedges, various sedges, wiregrass, and annual ragweed also present. Electrical power transmission lines comprise 3.55 acres (0.11 percent) of the project study area.

FLUCFCS: 834 (Sewage Treatment)

Sewage treatment includes all related facilities such as aeration field and digesters. This land use comprises 52.95 acres (1.69 percent) of the project study area.

FLUCFCS: 835 (Solid Waste Disposal)

Solid waste disposal areas are composed of controlled and managed solid waste fields and non-permitted solid waste disposal sites. This land use comprises 26.88 acres (0.86 percent) of the project study area.

FLUCFCS: 836 (Other Treatment Ponds)

The other treatment ponds land use includes ponds associated with solid waste disposal facilities. This land use comprises 0.67 acres (0.02 percent) of the project study area.

Wetland and Other Surface Water Habitats

FLUCFCS:	**510**	**(Streams and Waterways)**
USFWS:	**E1UBLx**	**(Estuarine, Subtidal, Unconsolidated Bottom, Subtidal, Excavated)**
	PEM1Cx	**(Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)**
	PEM1Hx	**(Palustrine, Emergent, Persistent, Permanently Flooded, Excavated)**
	PFO1Cx	**(Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded, Excavated)**
	PSS1Cx	**(Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated)**
	PSS1Hx	**(Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Permanently Flooded, Excavated)**
	PUB2Cx	**(Palustrine, Unconsolidated Bottom, Sand, Seasonally Flooded, Excavated)**
	PUB2Hx	**(Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)**
	R2UB2Hx	**(Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)**

This other surface water habitat type includes man-made linear water bodies. Streams and waterways are present throughout the study area and consists of excavated drainage dredged in hydric and non-hydric soils.

Excavated drainage ditches mapped as streams and waterways include man-made drainage features associated with surrounding land use (i.e., agriculture), the roadway and other development. These systems range in dominant community structure and contain open water, herbaceous, shrub, and/or forested components. Common herbaceous vegetation within these systems throughout the project area includes torpedograss (*Panicum repens*), alligatorweed (*Alternanthera philoxeroides*), lanceleaf arrowhead (*Sagittaria lancifolia*), bog hemp (*Boehmeria cylindrica*), Japanese climbing fern, cattail (*Typha* sp.), paragrass, pickerelweed (*Pontederia cordata*), knotroot foxtail, various sedges, rushes, red ludwigia (*Ludwigia repens*), climbing hempvine (*Mikania scandens*), loosestrife (*Lythrum alatum* var. *lanceolatum*), and cinnamon fern (*Osmundastrum cinnamomeum*). When present, typical shrub species present within these systems includes Peruvian primrose willow (*Ludwigia peruviana*), buttonbush (*Cephalanthus occidentalis*), Brazilian pepper, Carolina willow (*Salix caroliniana*), saltbush (*Baccharis halimifolia*), wax myrtle, and Mexican primrose willow (*Ludwigia octovalvis*). Canopy species scattered throughout these systems include cabbage palm, bald cypress (*Taxodium distichum*), and slash pine. Streams and waterways comprise 399.69 acres (12.74 percent) of the project study area.

FLUCFCS:	**511**	**(Natural River, Stream, Waterway)**
USFWS:	**E1UBL**	**(Estuarine, Subtidal, Unconsolidated Bottom, Subtidal)**
	PFO1/4C	**(Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Deciduous, Seasonally Flooded)**
	R2UB2H	**(Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded)**

Natural other surface waters are other surface waters that include natural systems identified as rivers, creeks, streams, or other natural watercourses. This includes systems such as the St. Lucie Canal, Mapps Creek, and Tenmile Creek, comprised of predominately open water with bank vegetation consisting of live oak, Brazilian pepper, cabbage palm, and elephant grass (*Cenchrus purpureus*). Forested wetland components are present along the edges of systems with less steep banks, consisting of bald cypress, common persimmon (*Diospyros virginiana*), slash pine, dahoon holly (*Ilex cassine*), water hickory (*Carya aquatica*), and laurel oak. Additionally, natural other surface waters, including Cypress Creek, that did not have a visible distinct channel were mapped within their greater surrounding wetland FLUCFCS (i.e., FLUCFCS 630 Wetland Forested Mixed). Natural rivers, streams, and waterways comprise 17.91 acres (0.57 percent) of the project study area.

FLUCFCS:	**530**	**(Reservoirs)**
USFWS:	**L1UBHx**	**(Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Excavated)**
	PEM1Hx	**(Palustrine, Emergent, Persistent, Permanently Flooded, Excavated)**
	PSS1Hx	**(Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Permanently Flooded, Excavated)**
	PUB2Hx	**(Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)**

This water body type is defined as artificial impoundments of water that are less than 10 acres (4 hectares) in size. Other surface waters identified as reservoirs are man-made ponds associated with the roadway, golf courses, residential areas, and commercial and industrial facilities. Most of these ponds are comprised predominately of open water, with minimal coverage by white waterlily (*Nymphaea odorata*), St. John's wort (*Hypericum fasciculatum*), spikerush (*Eleocharis* spp.), and coinwort (*Centella asiatica*). Others consists of open water, shrub, and herbaceous components, with species compositions also including Peruvian primrose willow, saltbush, wax myrtle, Brazilian pepper, and giant leather fern (*Acrostichum danaeifolium*). Reservoirs comprise 91.03 acres (2.9 percent) of the project study area.

FLUCFCS:	**617**	**(Mixed Wetland Hardwoods)**
USFWS:	**PFO1C**	**(Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded)**
	PFO1R	**(Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded-Tidal)**

Wetlands identified as mixed wetland hardwood communities include natural wetland systems. Within the project area, some of these systems contain natural creeks and waterways, including Roebuck Creek and Unnamed Tributary to Bessy Creek. Common canopy species within these systems include bald cypress, common persimmon, slash pine, dahoon holly, water hickory, laurel oak, cabbage palm, and sweetbay (*Magnolia virginiana*). Typical components of the shrub stratum include Brazilian pepper, Carolina willow, saltbush, wax myrtle, and buttonbush. Herbaceous vegetation includes muscadine grapevine, maidencane (*Panicum hemitomon*), rosary pea (*Abrus precatorius*), giant leatherfern, cattail, pickerelweed, sawgrass (*Cladium jamaicense*), Japanese climbing fern, caesarweed (*Urena lobata*), and cinnamon fern. Mixed wetland hardwoods comprise 31.53 acres (1.01 percent) of the project study area.

FLUCFCS:	**619**	**(Exotic Wetland Hardwoods)**
USFWS:	**PFO3C**	**(Palustrine, Forested, Broad-leaved Evergreen, Seasonally Flooded)**

Exotic wetland hardwoods systems within the project area are dominated by earleaf acacia, punk tree, and Brazilian pepper, with laurel oak, bamboo (*Bambusa* sp.), and caesarweed also present. Exotic wetland hardwoods comprise 2.93 acres (0.09 percent) of the project study area.

FLUCFCS:	**621**	**(Cypress)**
USFWS:	**PFO2C**	**(Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded)**
	PFO2F	**(Palustrine, Forested, Needle-leaved Deciduous, Semipermanently Flooded)**

Wetlands identified as cypress include natural wetland systems with predominately cypress canopies. Within the project area vegetation typically associated with cypress systems includes common persimmon, slash pine, Carolina willow, Brazilian pepper, saltbush, wax myrtle, and buttonbush. Herbaceous vegetation is comprised of muscadine grapevine, elephant grass, cattail, pickerelweed, sawgrass, Japanese climbing fern, and cinnamon fern. The Loxahatchee River is encompassed by a cypress system near the southern terminus of the project. Cypress comprises 18.08 acres (0.58 percent) of the project study area.

FLUCFCS: 624 (Cypress – Pine – Cabbage Palm)

USFWS: PFO2/4C (Palustrine, Forested, Needle-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded)

Cypress – pine – cabbage palm is a community that includes cypress, pine and/or cabbage palm in combinations in which no species achieves dominance. Although not strictly a wetlands community, it forms a transition between moist upland and hydric sites. Within the project study area, dominant vegetation within this system includes cypress, cabbage palm, slash pine, Brazilian pepper, and cinnamon fern. Cypress – pine – cabbage palm comprises 0.66 acres (0.02 percent) of the project study area.

FLUCFCS: 625 (Wet Pinelands Hydric Pine)

USFWS: PFO4C (Palustrine, Forested, Needle-leaved Evergreen, Seasonally Flooded)

Wet pinelands are forested wetland communities with a sparse to moderate canopy of slash pine. The understory generally includes grasses, wiregrass, forbs, and at times sparse saw palmetto. Within the project study area, dominant vegetation within this forested wetland type includes slash pine, sweetbay, punk tree, wax myrtle, gallberry (*Ilex glabra*), saw palmetto, earleaf acacia, St. John's wort, and fall panicgrass (*Panicum dichotomiflorum*). Hydric pine comprises 27.40 acres (0.87 percent) of the project study area.

FLUCFCS: 630 (Wetland Forested Mixed)

USFWS: PFO1/4C (Palustrine, Forested, Broad-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded)

Wetland forested mixed systems are forested wetland communities in which neither hardwoods nor conifers achieve a 66 percent canopy dominance. Within the project study area, dominant vegetation within this forested wetland type includes cypress, slash pine, red maple (*Acer rubrum*), and Japanese climbing fern. Cypress Creek is encompassed by a wetland forested mixed system within the project study area. Wetland forested mixed communities comprise 4.34 acres (0.14 percent) of the project study area.

FLUCFCS: 631 (Wetland Scrub)

USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded)

PSS1Cx (Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated)

Wetlands mapped as wetland scrub include natural wetland scrub communities in addition to man-made features excavated on predominately hydric soils that are now vegetated with portions dominated by shrub species. Within the project study area, these systems are comprised

predominantly of Carolina willow, saltbush, wax myrtle, Peruvian-primrose willow, Brazilian pepper, and buttonbush with scattered slash pine, cypress, common persimmon, and red maple. Herbaceous vegetation includes cattail, muscadine grapevine, giant leatherfern, elephant grass, pickerelweed, sawgrass, broomsedge, cinnamon fern, paragrass, spatterdock (*Nuphar advena*), Japanese climbing fern, and loosestrife. Wetland scrub comprises 99.40 acres (3.17 percent) of the project study area.

FLUCFCS:	**641**	**(Freshwater Marshes)**
USFWS:	**PEM1B**	**(Palustrine, Emergent, Persistent, Saturated)**
	PEM1C	**(Palustrine, Emergent, Persistent, Seasonally Flooded)**
	PEM1Cx	**(Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)**

Freshwater marshes are relatively level, low-lying areas and do not have a tree cover that meets the crown closure threshold (>10 percent) for forested communities. Wetlands mapped as freshwater marshes include apparent natural freshwater marsh communities in addition to man-made features excavated on predominately hydric soils that are now vegetated with predominately herbaceous species. Within the project study area, these systems are dominated by torpedograss, lanceleaf arrowhead, knotroot foxtail, cattail, pickerelweed, paragrass and spikerush, with scattered Mexican primrose willow, cypress, slash pine, cabbage palm earleaf acacia, and wax myrtle also present. Freshwater marshes comprise 18.60 acres (0.59 percent) of the project study area.

End Project

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Legend

- Project Study Area
- Page Number

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Miles

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix C
Key Sheet



Legend

- Project Study Area
- Other Surface Water Crossing
- County Line

119: Low Density Under Construction
129: Medium Density Under Construction
155: Other Light Industry
182: Golf Course
211: Improved Pastures
214: Row Crops
310: Herbaceous (Dry Prairie)
320: Upland Shrub and Brushland
321: Palmetto Prairies
330: Mixed Rangeland
411: Pine Flatwoods
422: Brazilian Pepper
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
621: Cypress
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways
820: Communications

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Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Appendix C

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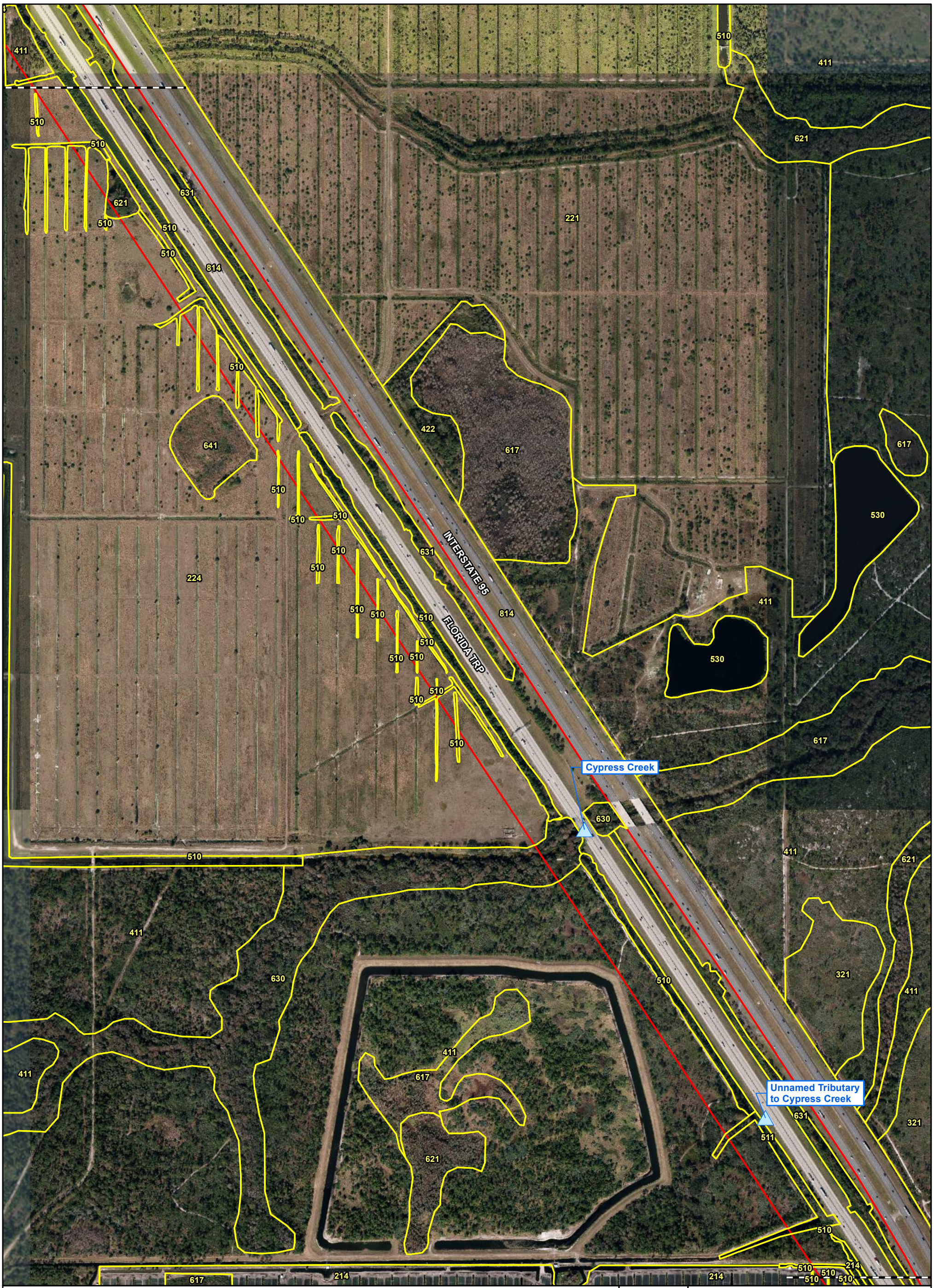

Legend

- Project Study Area
- Other Surface Water Crossing

214: Row Crops
221: Citrus Groves
224: Abandoned Groves
321: Palmetto Prairies
411: Pine Flatwoods
422: Brazilian Pepper
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
621: Cypress
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways

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Land Use Map
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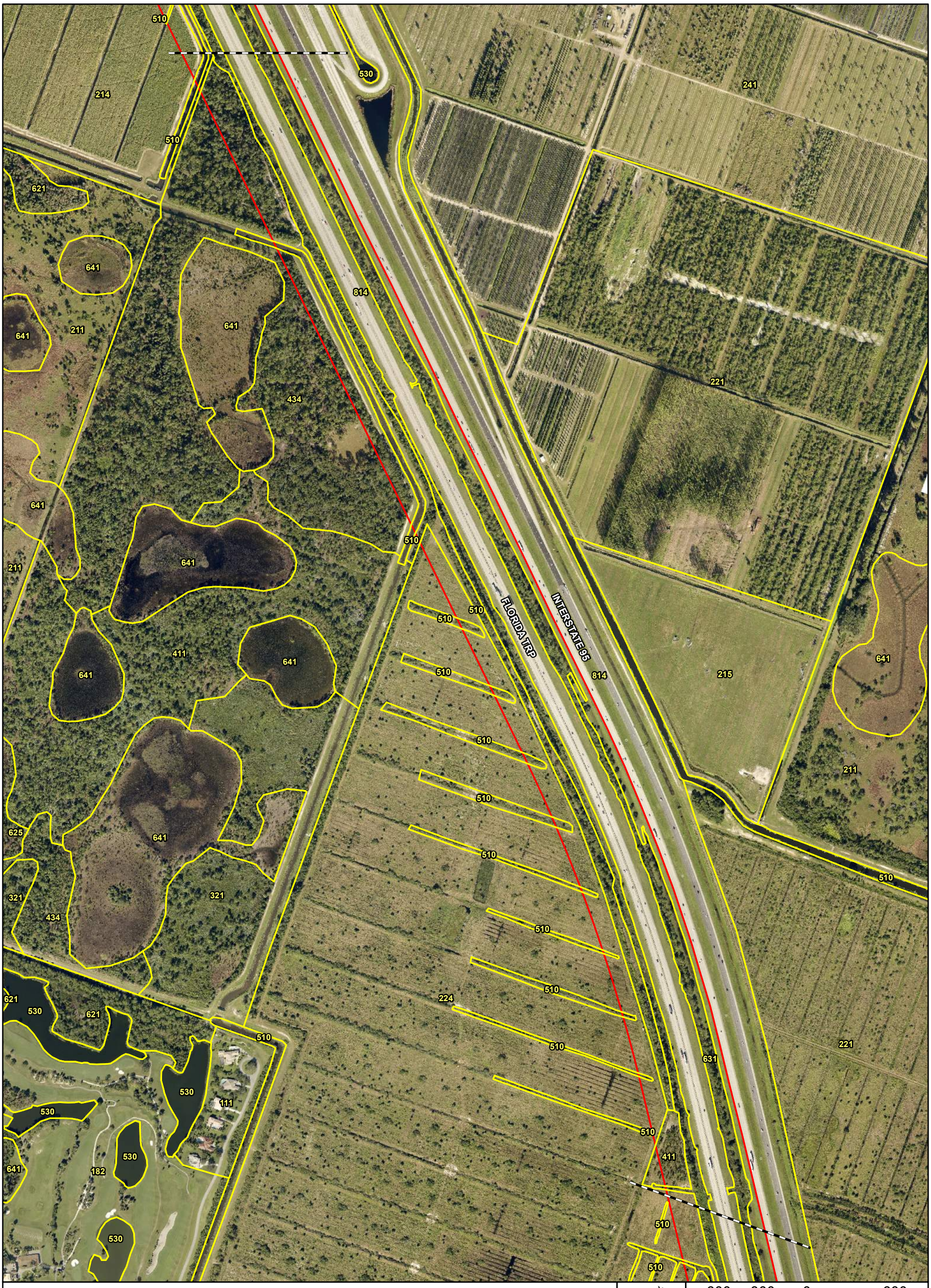

Legend

- Project Study Area

111: Fixed Single Family Units
182: Golf Course
211: Improved Pastures
214: Row Crops
215: Field Crops
221: Citrus Groves
224: Abandoned Groves
241: Tree Nurseries
321: Palmetto Prairies
411: Pine Flatwoods
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
530: Reservoirs
621: Cypress
625: Wet Pinelands Hydric Pine
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways

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Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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FLORIDA TRP

INTERSTATE 95

Legend

Project Study Area

211: Improved Pastures
214: Row Crops
215: Field Crops
241: Tree Nurseries
242: Sod Farms
243: Ornamentals
310: Herbaceous (Dry Prairie)
411: Pine Flatwoods
420: Upland Hardwood Forests
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
530: Reservoirs
617: Mixed Wetland Hardwoods
620: Wetland Coniferous Forests
621: Cypress
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways

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600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Legend

- Project Study Area
- 211: Improved Pastures
- 212: Unimproved Pastures
- 214: Row Crops
- 215: Field Crops
- 221: Citrus Groves
- 240: Nurseries and Vineyards
- 242: Sod Farms
- 422: Brazilian Pepper
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 621: Cypress
- 630: Wetland Forested Mixed
- 631: Wetland Scrub
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 814: Roads and Highways

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Legend

- Project Study Area

211: Improved Pastures
212: Unimproved Pastures
214: Row Crops
221: Citrus Groves
240: Nurseries and Vineyards
310: Herbaceous (Dry Prairie)
411: Pine Flatwoods
422: Brazilian Pepper
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
530: Reservoirs
617: Mixed Wetland Hardwoods
621: Cypress
624: Cypress - Pine - Cabbage Palm
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Unnamed Tributary to South Fork St. Lucie River #2

Unnamed Tributary to South Fork St. Lucie River #1

FLORIDA TRP

INTERSTATE 95

Legend

- Project Study Area
- Other Surface Water Crossing

111: Fixed Single Family Units
171: Educational Facilities
211: Improved Pastures
212: Unimproved Pastures
411: Pine Flatwoods
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
617: Mixed Wetland Hardwoods
621: Cypress
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
740: Disturbed Land
814: Roads and Highways

N W E S

600 300 0 600
Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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SW KANNER HWY
FLORIDA TRP
SW PRATT-WHITNEY RD
INTERSTATE 95
Unnamed Tributary to South Fork St. Lucie River #2

Legend

- Project Study Area
- Other Surface Water Crossing

110: Residential Low Density (<2 units/acre)
111: Fixed Single Family Units
121: Fixed Single Family Units, Med. Density
133: Multiple Dwelling Units, Low Rise
140: Commercial and Services
155: Other Light Industry
171: Educational Facilities
182: Golf Course
185: Parks and Zoos
211: Improved Pastures
212: Unimproved Pastures
411: Pine Flatwoods
420: Upland Hardwood Forests
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways
820: Communications
831: Electrical Power Facilities
834: Sewage Treatment
836: Other Treatment Pond

N W E S

600 300 0 600
Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix C

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St. Lucie Canal (C-44)

Roebuck Creek

INTERSTATE 95

FLORIDA TRP

SW KANNER HWY

Legend

- Project Study Area
- Other Surface Water Crossing

110: Residential Low Density (<2 units/acre)
111: Fixed Single Family Units
121: Fixed Single Family Units, Med. Density
122: Mobile Home Units
129: Medium Density Under Construction
132: Mobile Home Units
139: High Density Under Construction
140: Commercial and Services
182: Golf Course
184: Marinas and Fish Camps
185: Parks and Zoos
212: Unimproved Pastures
310: Herbaceous (Dry Prairie)
320: Upland Shrub and Brushland
330: Mixed Rangeland
411: Pine Flatwoods
420: Upland Hardwood Forests
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
612: Mangrove Swamp
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
740: Disturbed Land
814: Roads and Highways

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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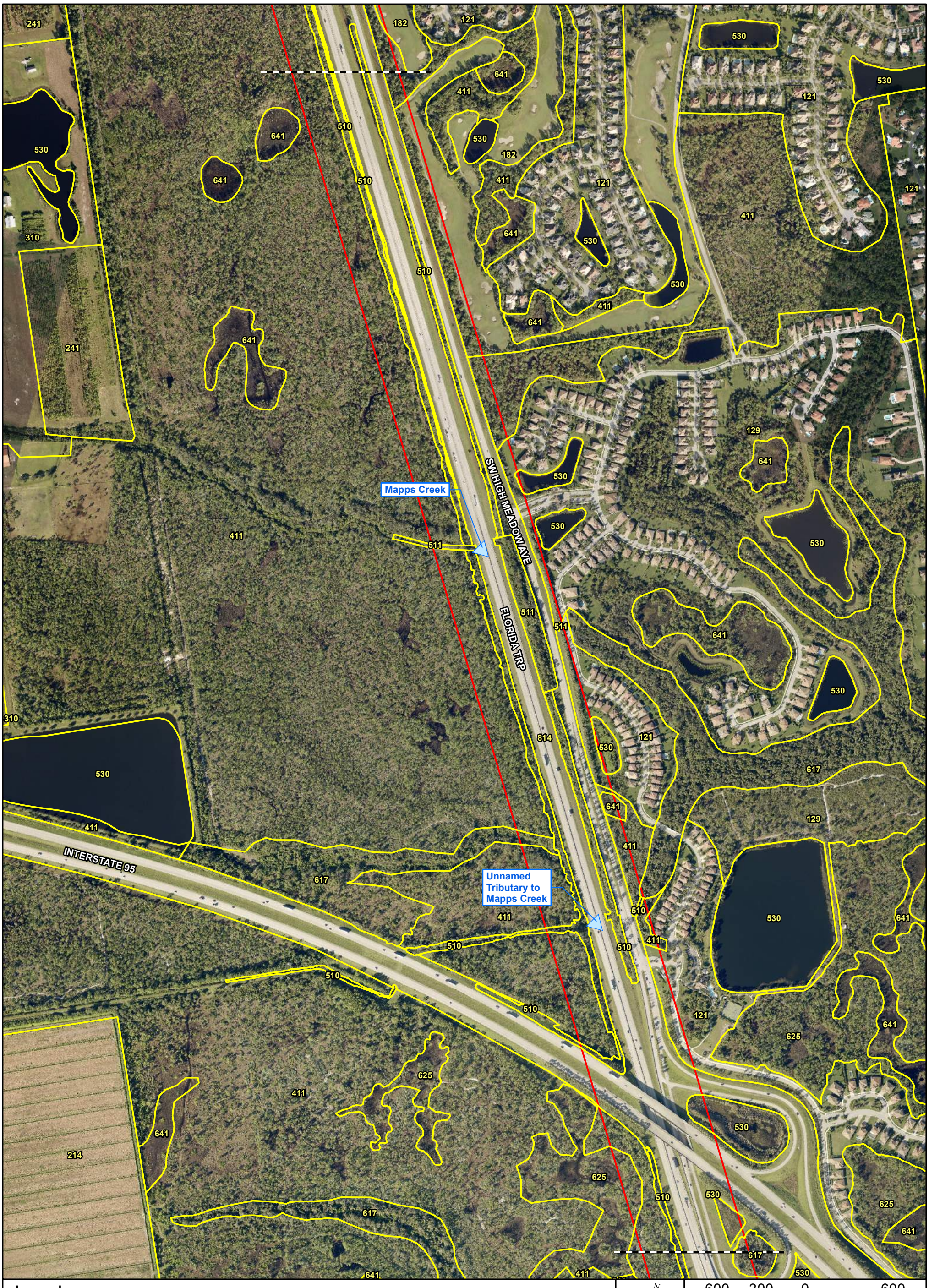

Legend

- Project Study Area
- Other Surface Water Crossing

121: Fixed Single Family Units, Med. Density
129: Medium Density Under Construction
182: Golf Course
214: Row Crops
241: Tree Nurseries
310: Herbaceous (Dry Prairie)
411: Pine Flatwoods
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways

N W E S

600 300 0 600
Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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SW Martin Highway Interchange

Danforth Creek

SW MARTIN DOWNS BLV

SW MARTIN HWY

SW HIGH MEADOW AVE

FLORIDA TRP

Legend

- Project Study Area
- Other Surface Water Crossing

113: Mixed Units, Fixed and Mobile Home Units
121: Fixed Single Family Units, Med. Density
133: Multiple Dwelling Units, Low Rise
140: Commercial and Services
170: Institutional
171: Educational Facilities
182: Golf Course
211: Improved Pastures
224: Abandoned Groves
241: Tree Nurseries
243: Ornamentals
251: Horse Farms
254: Aquaculture
310: Herbaceous (Dry Prairie)
320: Upland Shrub and Brushland
330: Mixed Rangeland
411: Pine Flatwoods
422: Brazilian Pepper
424: Melaleuca
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways
820: Communications

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Unnamed Tributary to Bessy Creek

FLORIDA TRP

SW MARTIN HWY

SW MARTIN DOWNS BLV

Legend

- Project Study Area
- Other Surface Water Crossing

111: Fixed Single Family Units
121: Fixed Single Family Units, Med. Density
129: Medium Density Under Construction
131: Fixed Single Family Units (>6 units/acre)
133: Multiple Dwelling Units, Low Rise
140: Commercial and Services
171: Educational Facilities
182: Golf Course
190: Open Land
211: Improved Pastures
212: Unimproved Pastures
251: Horse Farms
310: Herbaceous (Dry Prairie)
320: Upland Shrub and Brushland
411: Pine Flatwoods
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
641: Freshwater Marshes / Graminoid Prairie - Marsh
740: Disturbed Land
814: Roads and Highways
831: Electrical Power Facilities
834: Sewage Treatment

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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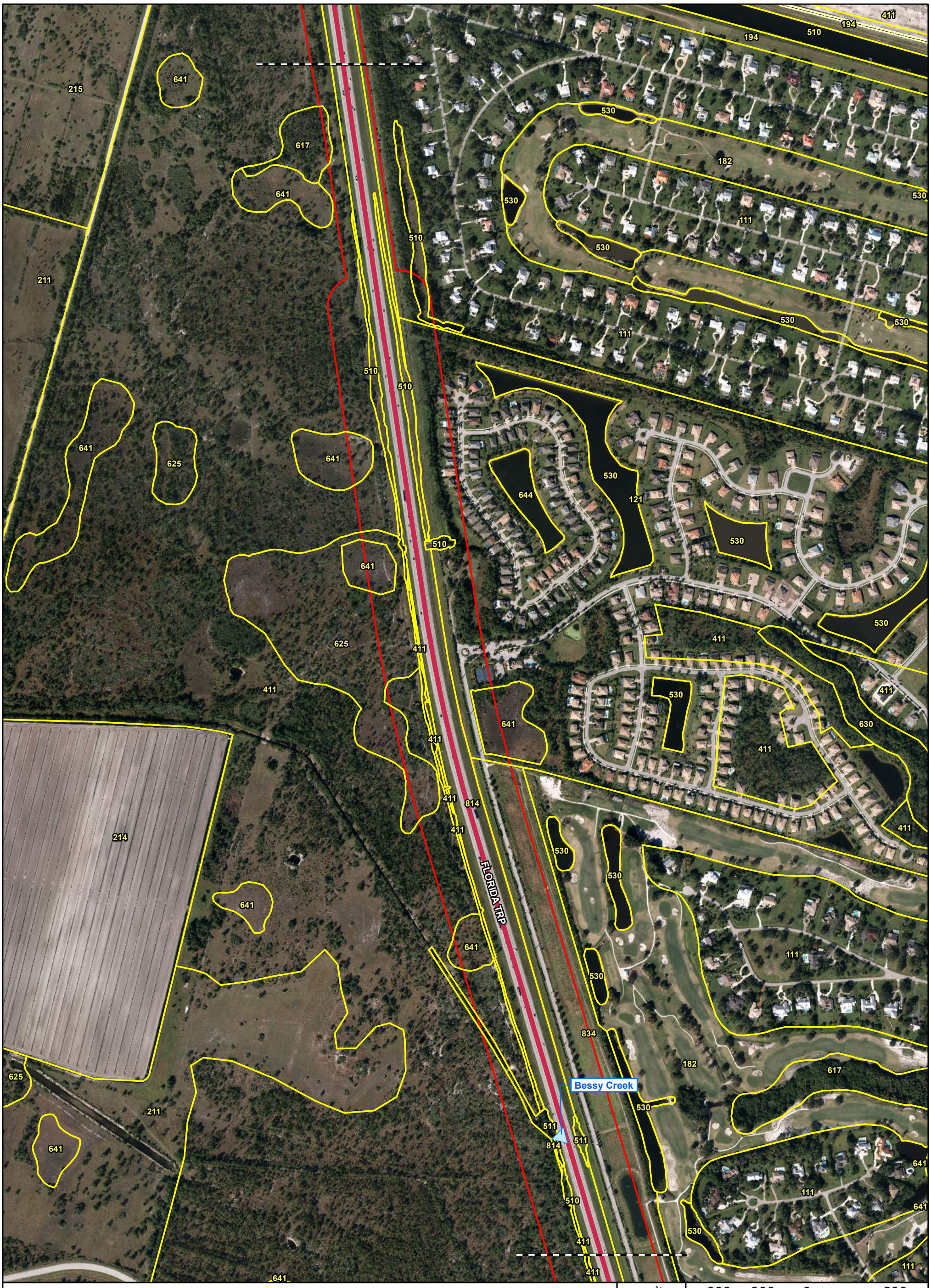

Legend

- Project Study Area
- Other Surface Water Crossing
- County Line

111: Fixed Single Family Units
121: Fixed Single Family Units, Med. Density
182: Golf Course
194: Other Open Land
211: Improved Pastures
214: Row Crops
215: Field Crops
411: Pine Flatwoods
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
641: Freshwater Marshes / Graminoid Prairie - Marsh
644: Emergent Aquatic Vegetation
814: Roads and Highways
834: Sewage Treatment

N W E S

600 300 0 600
Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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SE Becker Road Interchange

County Line Canal (C-23)

SE BECKER RD

FLORIDA TRP

ST LUCIE COUNTY

MARTIN COUNTY

Legend

- Project Study Area
- Other Surface Water Crossing
- County Line

111: Fixed Single Family Units
121: Fixed Single Family Units, Med. Density
129: Medium Density Under Construction
140: Commercial and Services
141: Shopping Centers
170: Institutional
182: Golf Course
190: Open Land
194: Other Open Land
215: Field Crops
411: Pine Flatwoods
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
530: Reservoirs
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
641: Freshwater Marshes / Graminoid Prairie - Marsh
814: Roads and Highways

N W E S

600 300 0 600
Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Blakeslee Creek

Winters Creek

Legend

- Project Study Area
- Other Surface Water Crossing

121: Fixed Single Family Units, Med. Density
129: Medium Density Under Construction
182: Golf Course
185: Parks and Zoos
320: Upland Shrub and Brushland
411: Pine Flatwoods
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
630: Wetland Forested Mixed
641: Freshwater Marshes / Graminoid Prairie - Marsh
644: Emergent Aquatic Vegetation
814: Roads and Highways
834: Sewage Treatment

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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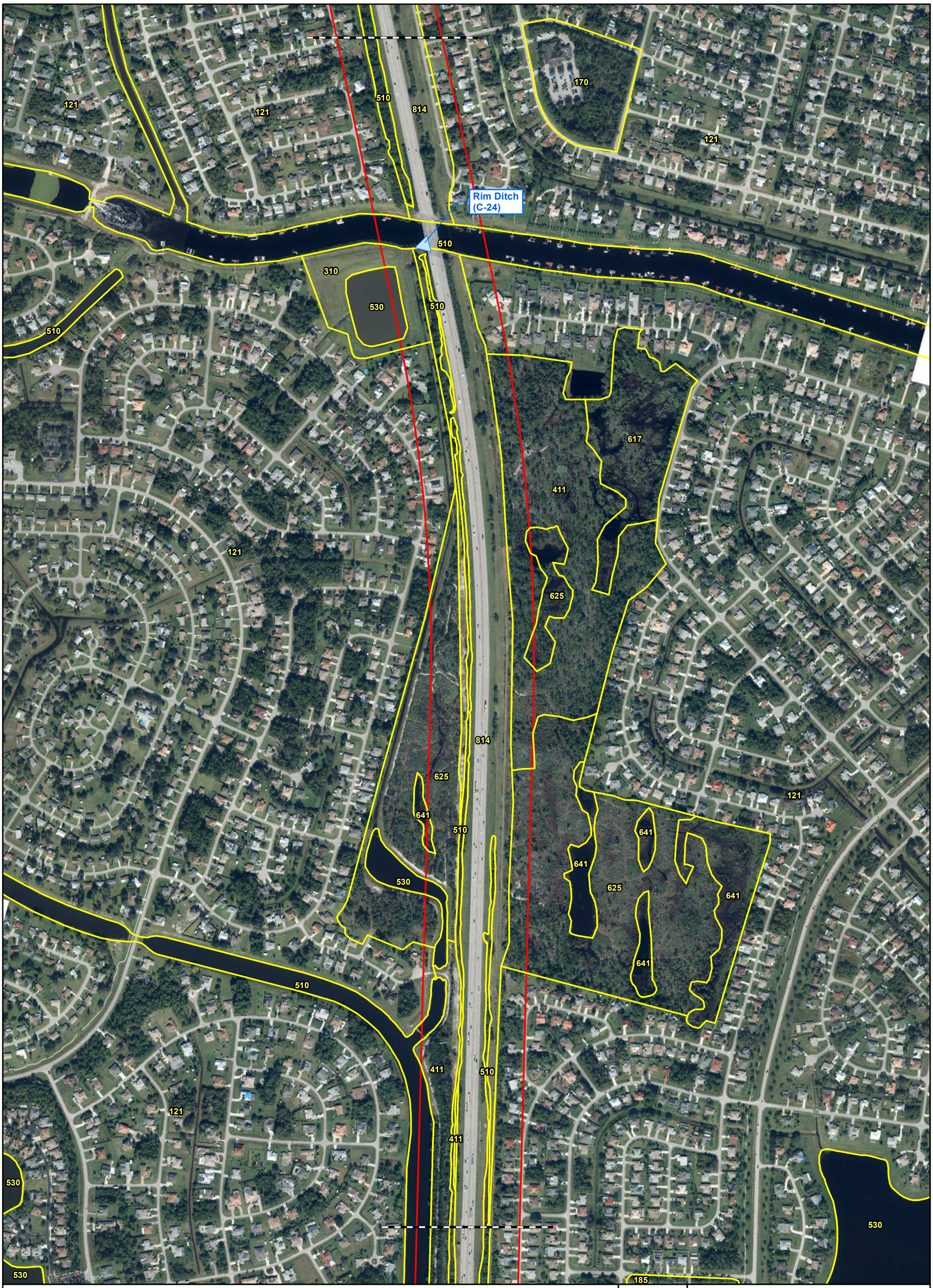

Legend

- Project Study Area
- Other Surface Water Crossing
- 121: Fixed Single Family Units, Med. Density
- 170: Institutional
- 185: Parks and Zoos
- 310: Herbaceous (Dry Prairie)
- 411: Pine Flatwoods
- 510: Streams and Waterways
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 625: Wet Pinelands Hydric Pine
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 814: Roads and Highways

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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SW Port St. Lucie Boulevard Interchange

SW PORT ST LUCIE BLVD

Legend

- Project Study Area
- 121: Fixed Single Family Units, Med. Density
- 140: Commercial and Services
- 141: Shopping Centers
- 170: Institutional
- 185: Parks and Zoos
- 411: Pine Flatwoods
- 422: Brazilian Pepper
- 510: Streams and Waterways
- 530: Reservoirs
- 625: Wet Pinelands Hydric Pine
- 814: Roads and Highways
- 831: Electrical Power Facilities

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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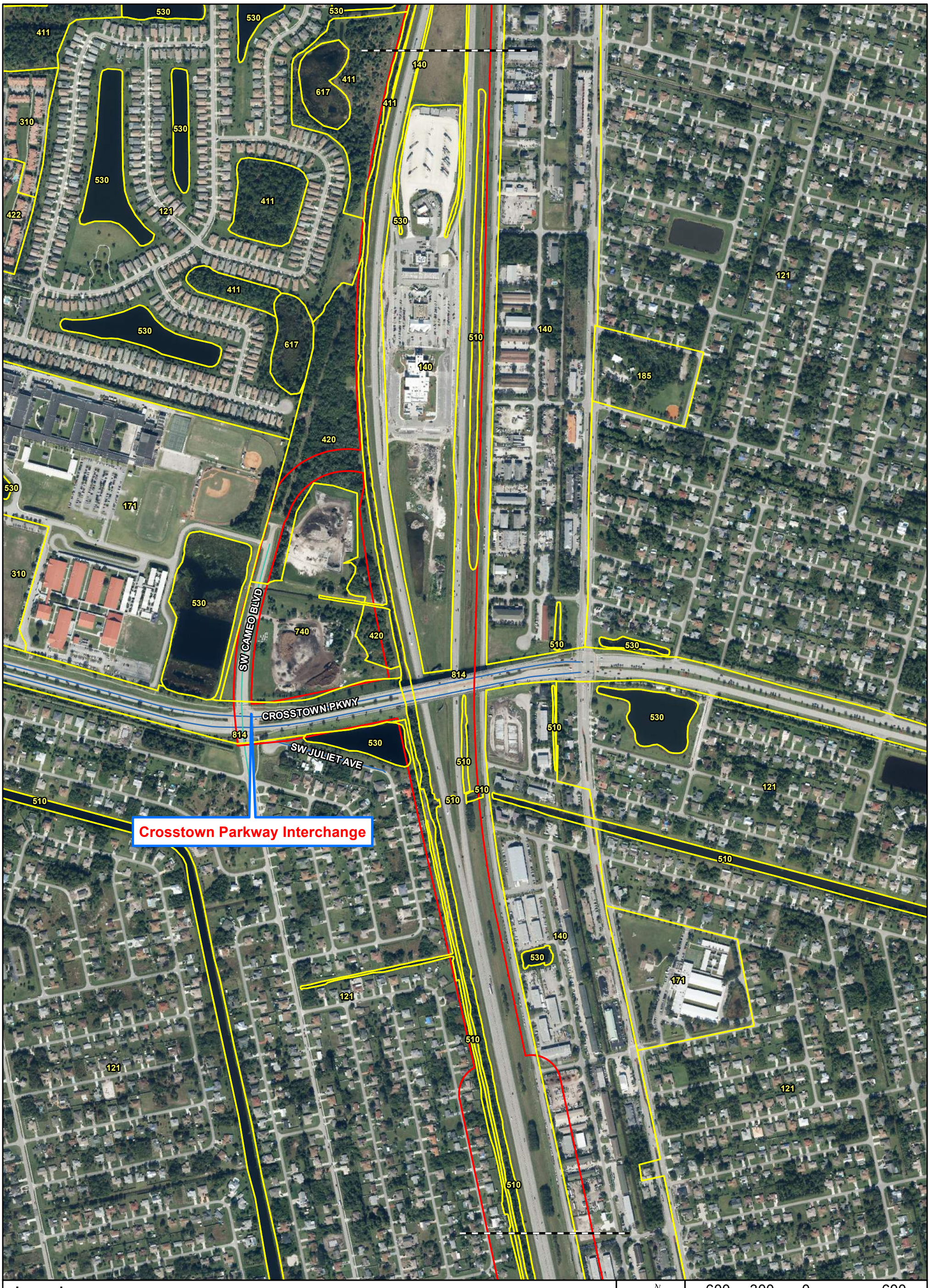

Legend

- Project Study Area
- 121: Fixed Single Family Units, Med. Density
- 140: Commercial and Services
- 171: Educational Facilities
- 185: Parks and Zoos
- 310: Herbaceous (Dry Prairie)
- 411: Pine Flatwoods
- 420: Upland Hardwood Forests
- 422: Brazilian Pepper
- 510: Streams and Waterways
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 740: Disturbed Land
- 814: Roads and Highways

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Legend

- Project Study Area
- 121: Fixed Single Family Units, Med. Density
- 133: Multiple Dwelling Units, Low Rise
- 140: Commercial and Services
- 141: Shopping Centers
- 182: Golf Course
- 185: Parks and Zoos
- 411: Pine Flatwoods
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 814: Roads and Highways

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Legend

- Project Study Area
- 121: Fixed Single Family Units, Med. Density
- 133: Multiple Dwelling Units, Low Rise
- 170: Institutional
- 171: Educational Facilities
- 182: Golf Course
- 185: Parks and Zoos
- 310: Herbaceous (Dry Prairie)
- 320: Upland Shrub and Brushland
- 411: Pine Flatwoods
- 510: Streams and Waterways
- 530: Reservoirs
- 625: Wet Pinelands Hydric Pine
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 814: Roads and Highways
- 832: Electrical Power Transmission Lines

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Legend

- Project Study Area
- 111: Fixed Single Family Units
- 119: Low Density Under Construction
- 121: Fixed Single Family Units, Med. Density
- 129: Medium Density Under Construction
- 133: Multiple Dwelling Units, Low Rise
- 140: Commercial and Services
- 170: Institutional
- 182: Golf Course
- 310: Herbaceous (Dry Prairie)
- 320: Upland Shrub and Brushland
- 411: Pine Flatwoods
- 510: Streams and Waterways
- 530: Reservoirs
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 740: Disturbed Land
- 814: Roads and Highways
- 832: Electrical Power Transmission Lines

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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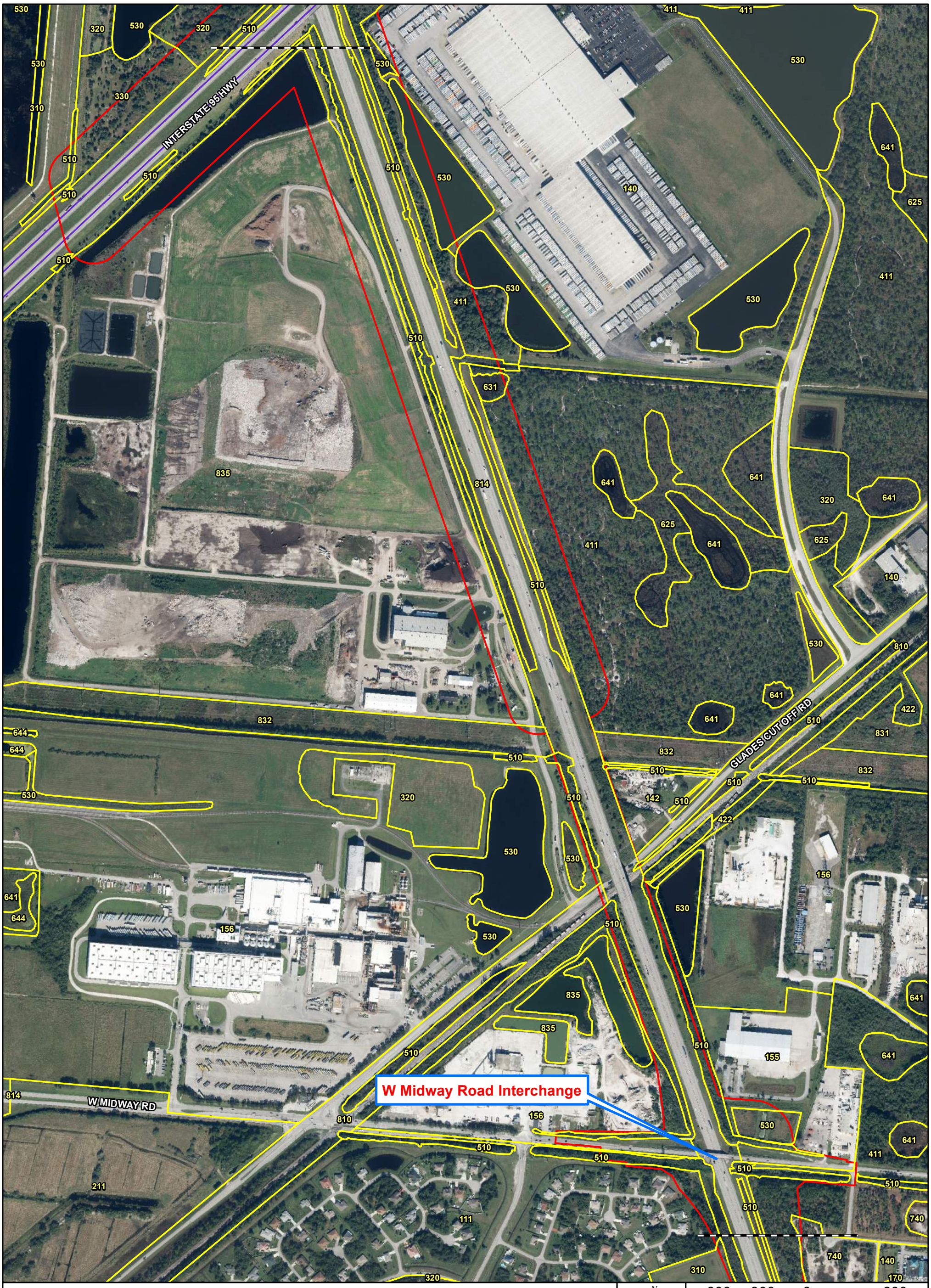

Legend

- Project Study Area
- 111: Fixed Single Family Units
- 140: Commercial and Services
- 142: Wholesale Sales & Services - Junk Yards
- 155: Other Light Industry
- 156: Other Heavy Industrial
- 170: Institutional
- 211: Improved Pastures
- 310: Herbaceous (Dry Prairie)
- 320: Upland Shrub and Brushland
- 330: Mixed Rangeland
- 411: Pine Flatwoods
- 422: Brazilian Pepper
- 510: Streams and Waterways
- 530: Reservoirs
- 625: Wet Pinelands Hydric Pine
- 631: Wetland Scrub
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 644: Emergent Aquatic Vegetation
- 740: Disturbed Land
- 810: Transportation
- 814: Roads and Highways
- 831: Electrical Power Facilities
- 832: Electrical Power Transmission Lines
- 835: Solid Waste Disposal

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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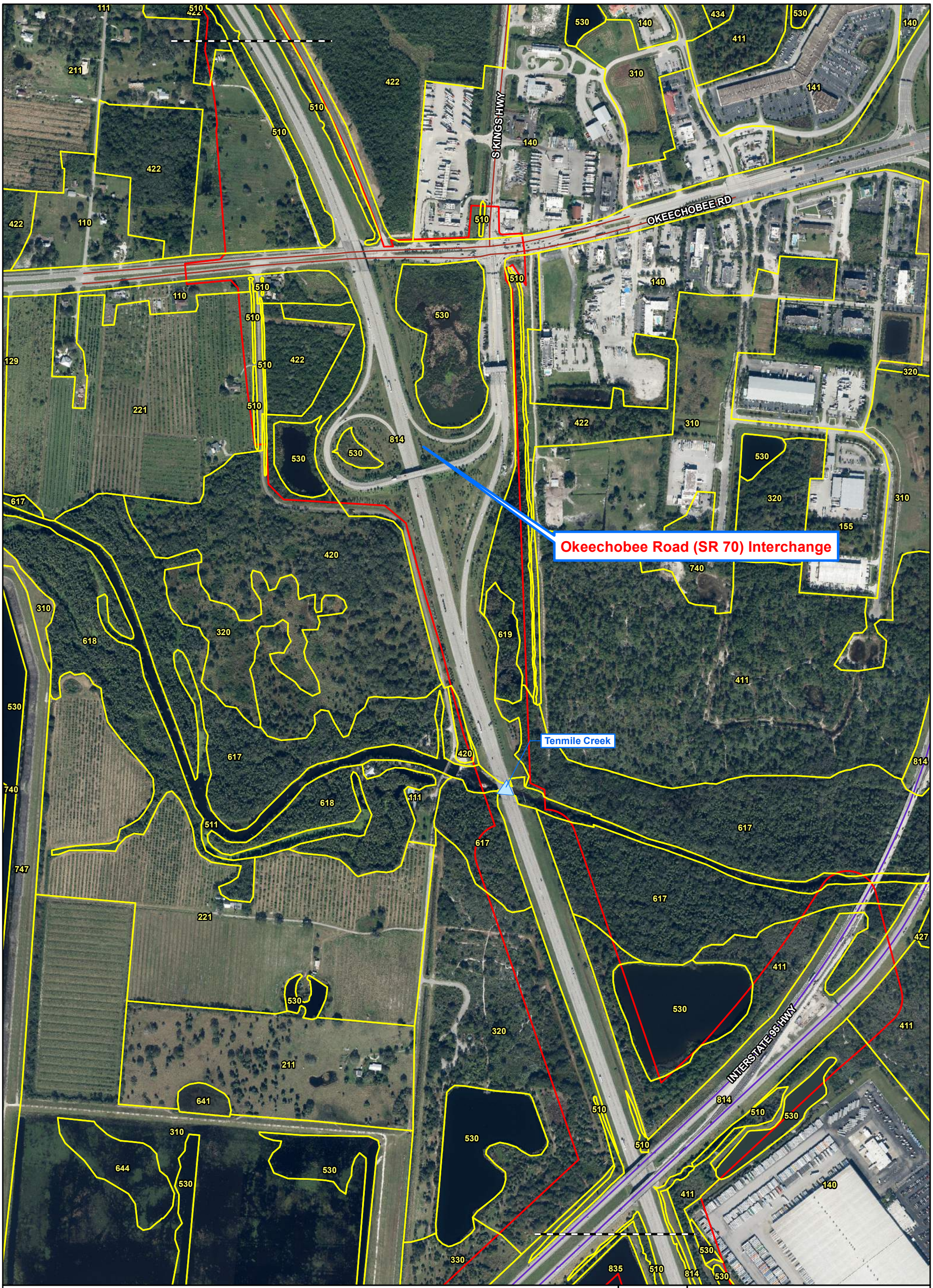

Legend

- Project Study Area
- Other Surface Water Crossing

110: Residential Low Density (<2 units/acre)
111: Fixed Single Family Units
129: Medium Density Under Construction
140: Commercial and Services
141: Shopping Centers
155: Other Light Industry
211: Improved Pastures
221: Citrus Groves
310: Herbaceous (Dry Prairie)
320: Upland Shrub and Brushland
330: Mixed Rangeland
411: Pine Flatwoods
420: Upland Hardwood Forests
422: Brazilian Pepper
427: Live Oak
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
618: Cabbage Palm Wetland
619: Exotic Wetland Hardwoods
641: Freshwater Marshes / Graminoid Prairie - Marsh
644: Emergent Aquatic Vegetation
740: Disturbed Land
747: Dikes and Levees
814: Roads and Highways
835: Solid Waste Disposal

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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End Project

Legend

- Project Study Area
- 111: Fixed Single Family Units
- 140: Commercial and Services
- 149: Commercial and Services Under Construction
- 171: Educational Facilities
- 185: Parks and Zoos
- 211: Improved Pastures
- 214: Row Crops
- 224: Abandoned Groves
- 241: Tree Nurseries
- 243: Ornamentals
- 254: Aquaculture
- 310: Herbaceous (Dry Prairie)
- 330: Mixed Rangeland
- 411: Pine Flatwoods
- 422: Brazilian Pepper
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 644: Emergent Aquatic Vegetation
- 814: Roads and Highways
- 830: Utilities

N W E S

600 300 0 600

Feet

Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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APPENDIX D

Wetland and Other Surface Water Location Map

End Project

24
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1

Begin Project

Legend

- Project Study Area
- Page Number

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S

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Miles

Wetland & Other Surface Water Location Map
Florida's Turnpike Mainline Widening
from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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Appendix D
Key Sheet



Legend

- Project Study Area
- Other Surface Water Crossing
- County Line
- Other Surface Water
- Wetland

510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
541: Embayments Opening Directly to Gulf or Ocean
612: Mangrove Swamp
617: Mixed Wetland Hardwoods
618: Cabbage Palm Wetland
619: Exotic Wetland Hardwoods
620: Wetland Coniferous Forests
621: Cypress
624: Cypress - Pine - Cabbage Palm
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
644: Emergent Aquatic Vegetation

N W E S

600 300 0 600

Feet

Wetland & Other Surface Water Location Map
Florida's Turnpike Mainline Widening
from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Appendix D

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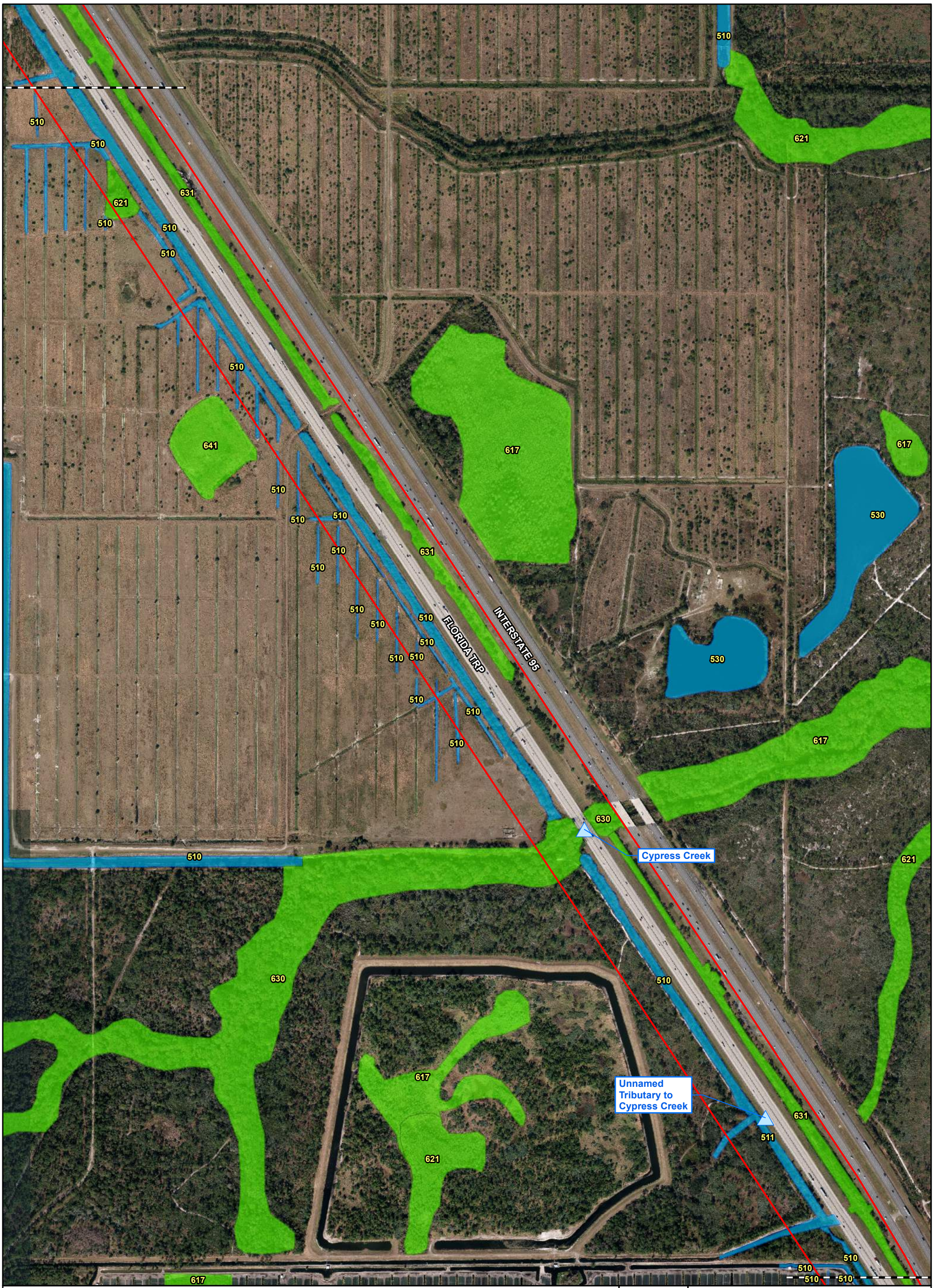

Legend

- Project Study Area
- Other Surface Water Crossing
- Other Surface Water
- Wetland

510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
541: Embayments Opening Directly to Gulf or Ocean
612: Mangrove Swamp
617: Mixed Wetland Hardwoods
618: Cabbage Palm Wetland
619: Exotic Wetland Hardwoods
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N W E S

600 300 0 600

Feet

Wetland & Other Surface Water Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix D

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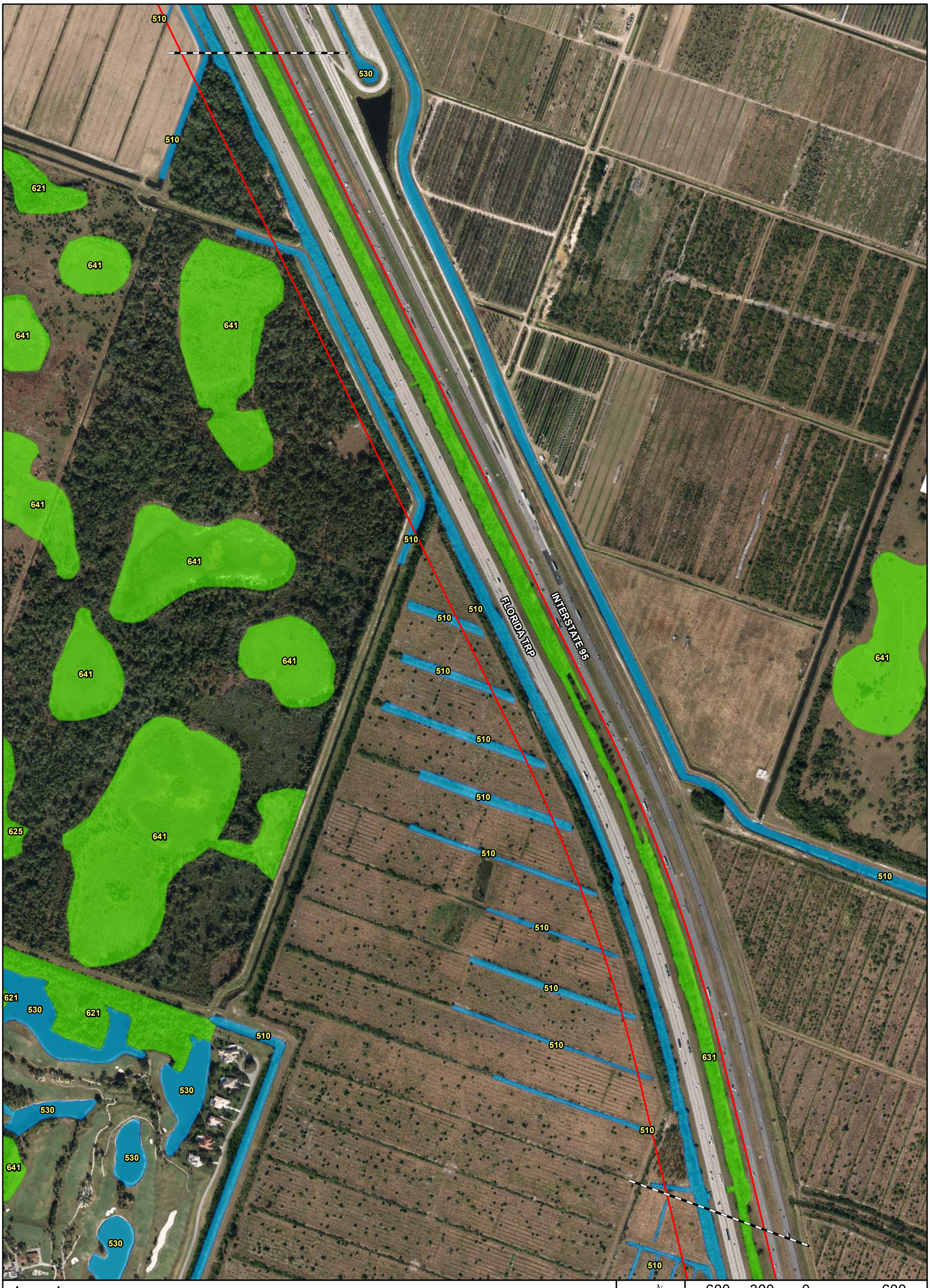

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FLORIDA TRP

INTERSTATE 95

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FLORIDA TRP

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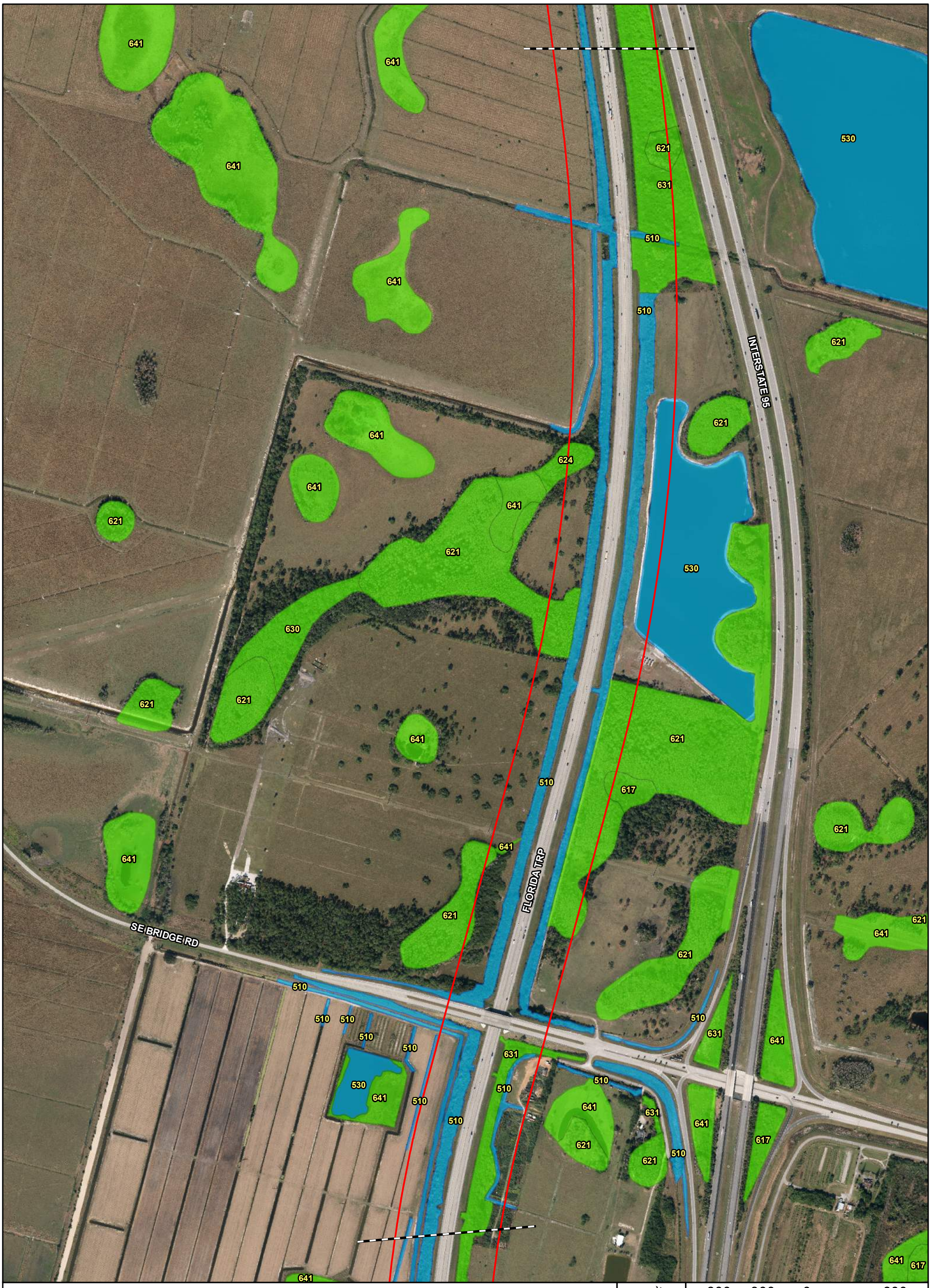

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SW KANNER HWY
FLORIDA TRP
SW PRATT-WHITNEY RD
INTERSTATE 95
Unnamed Tributary to South Fork St. Lucie River #2

Legend

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St. Lucie Canal (C-44)

Roebuck Creek

INTERSTATE 95

FLORIDA TRP

SW KANNER HWY

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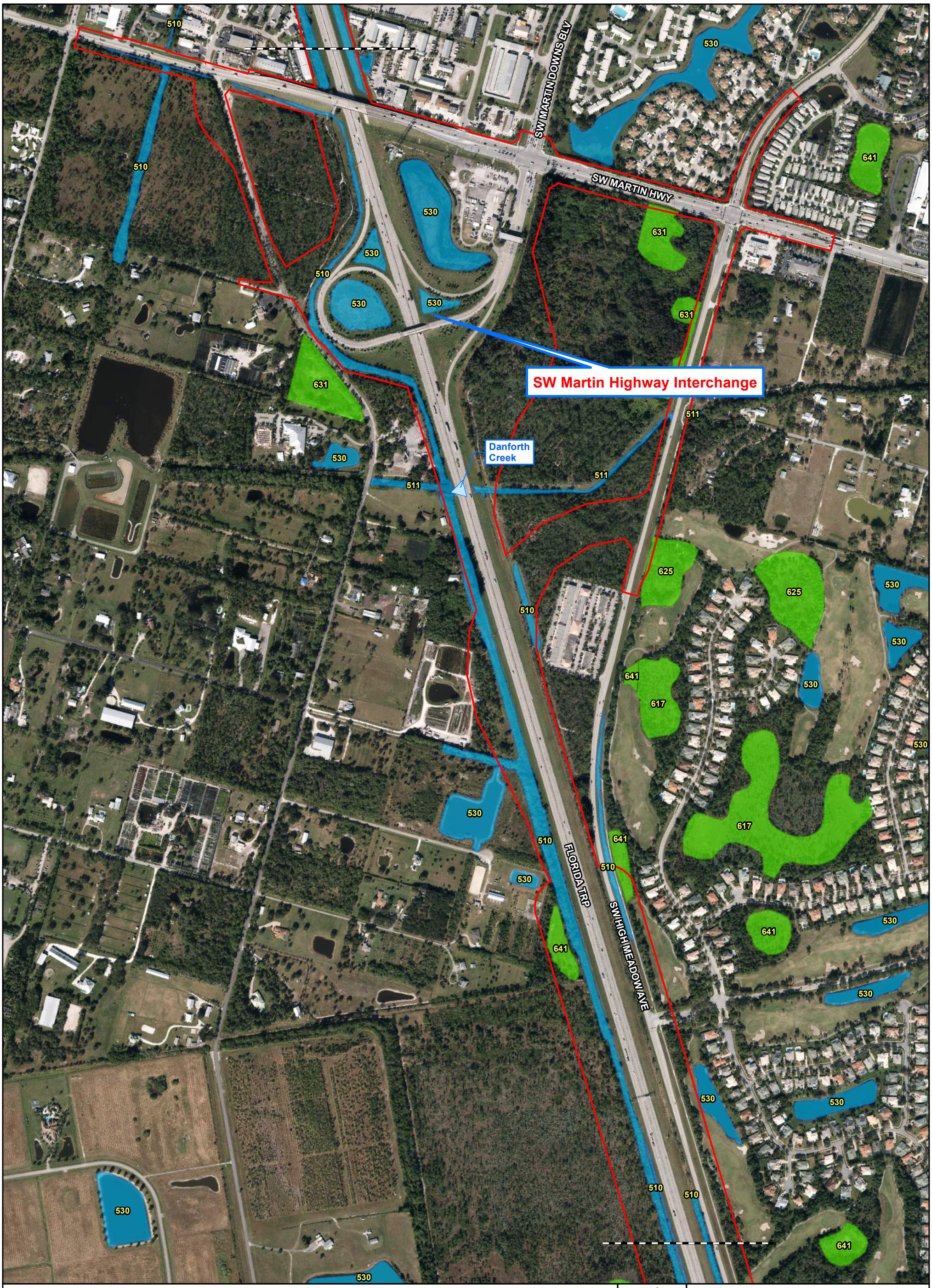

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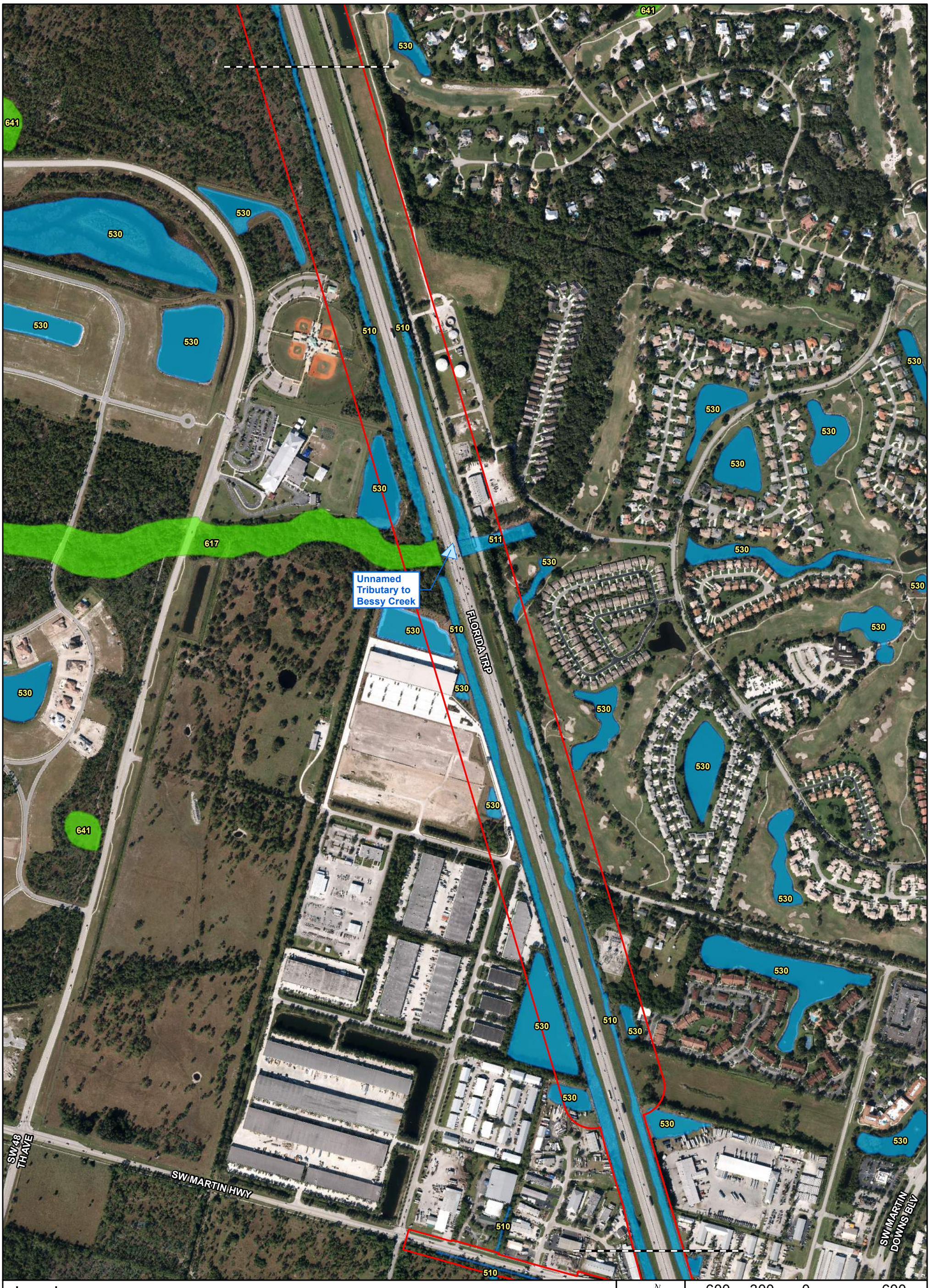

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Wetland & Other Surface Water Location Map
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Legend

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N W E S

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Feet

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SE Becker Road Interchange

SE BECKER RD

ST LUCIE COUNTY
MARTIN COUNTY

County Line Canal (C-23)

FLORIDA TRP

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Blakeslee Creek

Winters Creek

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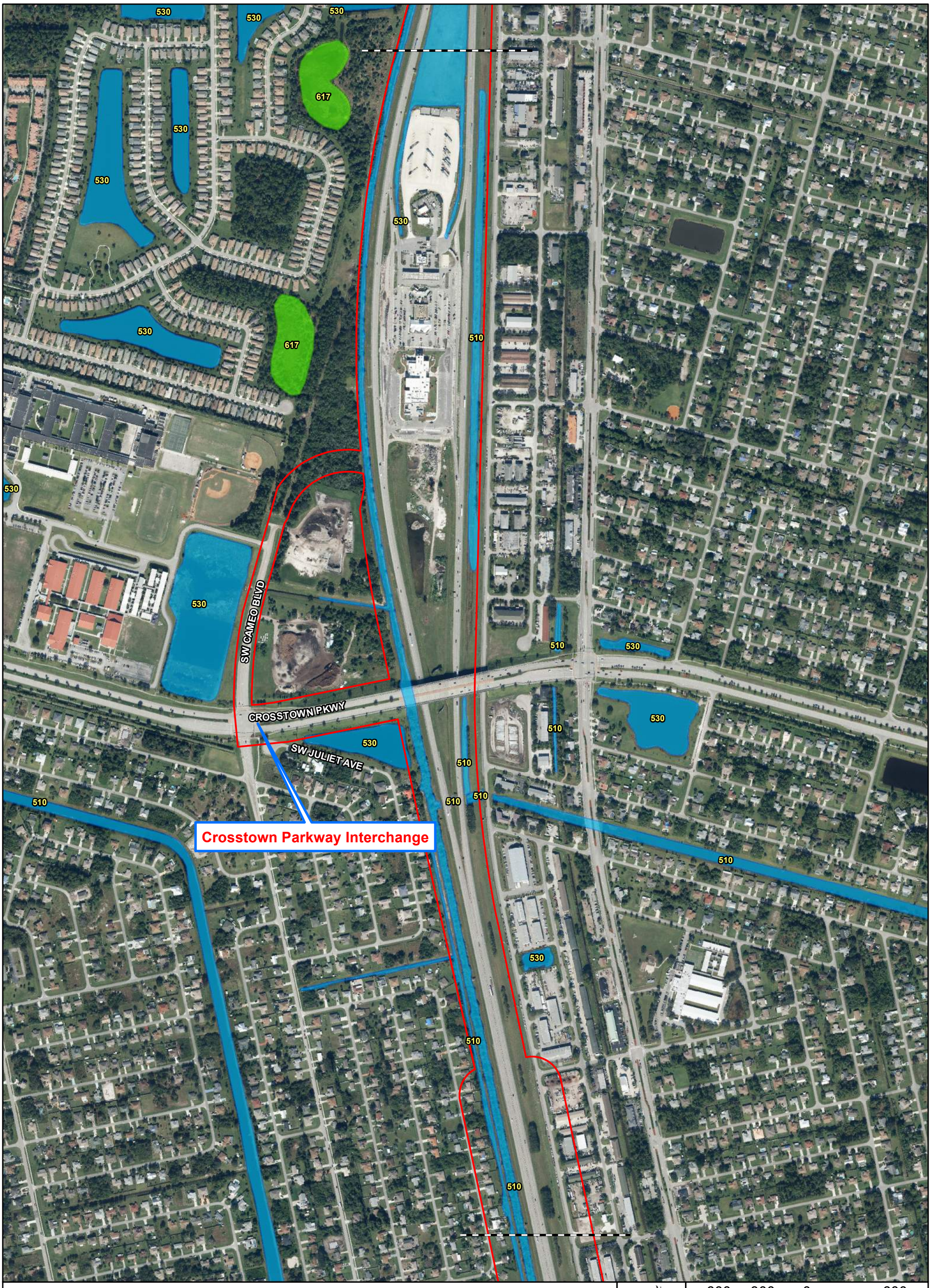
SW Port St. Lucie Boulevard Interchange

SW PORT ST LUCIE BLVD

510 510 510



Crosstown Parkway Interchange

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Wetland & Other Surface Water Location Map
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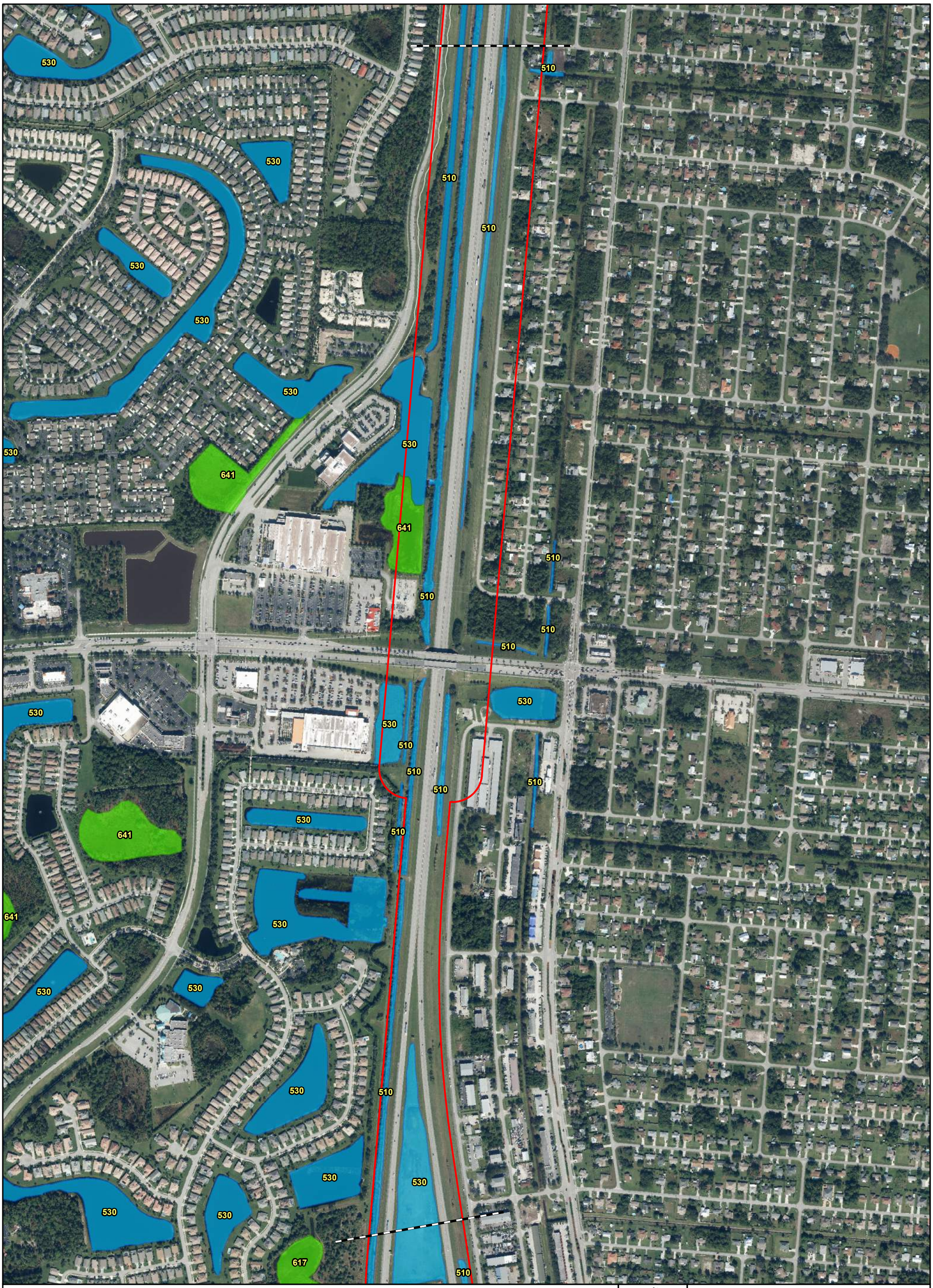

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Legend

- Project Study Area
- Other Surface Water
- Wetland

510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
541: Embayments Opening Directly to Gulf or Ocean
612: Mangrove Swamp
617: Mixed Wetland Hardwoods
618: Cabbage Palm Wetland
619: Exotic Wetland Hardwoods
620: Wetland Coniferous Forests
621: Cypress
624: Cypress - Pine - Cabbage Palm
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
644: Emergent Aquatic Vegetation

N W E S

600 300 0 600

Feet

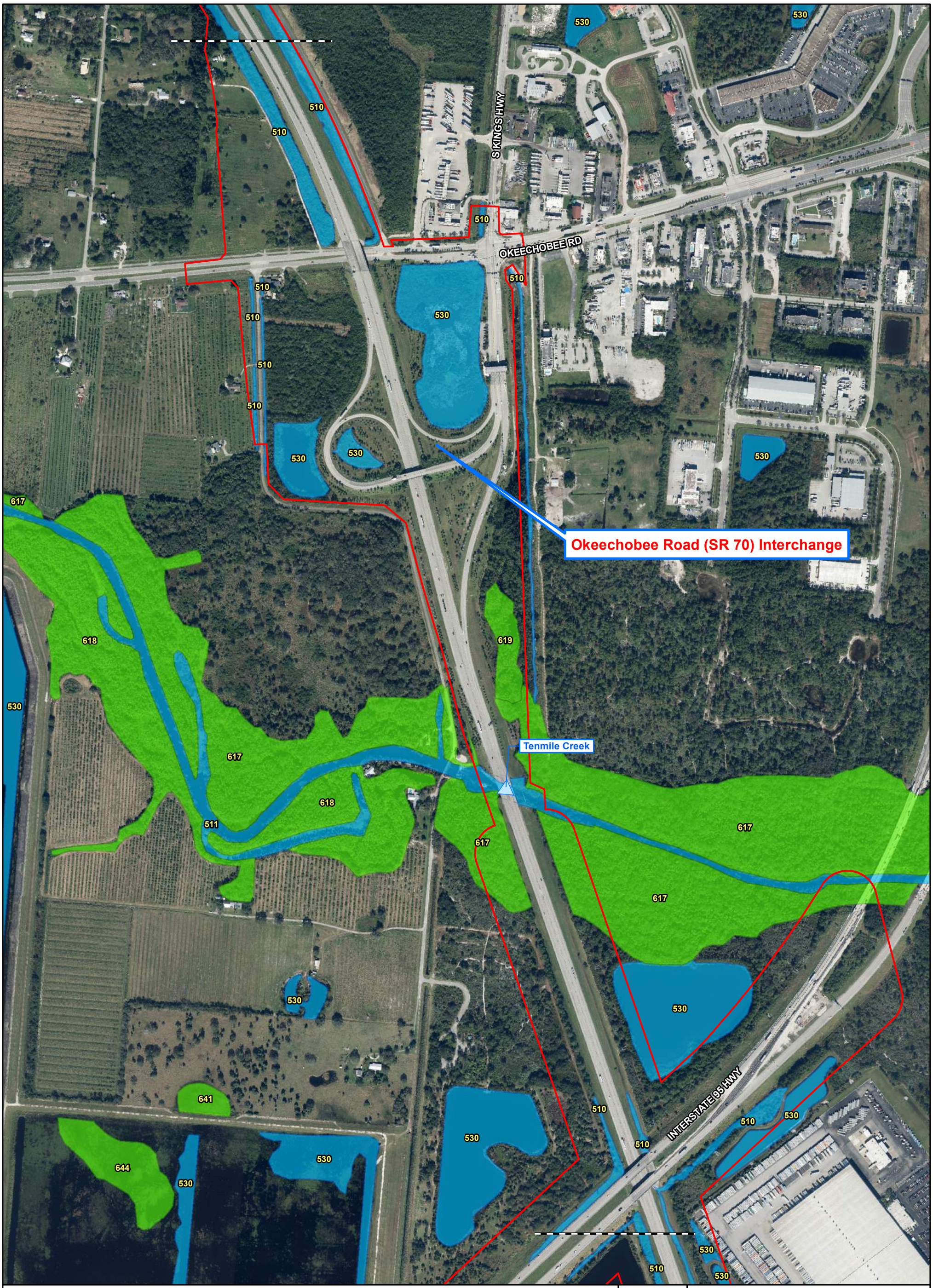
Wetland & Other Surface Water Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix D

Path: D:\Projects\M\42337412201_Florida's_Turnpike_Mainline_Widening\100 Environmental\104 Environmental Data Report\GIS\Maps\Figures\NRE\Turnpike Jupiter - D - WL & SW Location Map.mxd 4/29/2021



Legend

- Project Study Area
- Other Surface Water Crossing
- Other Surface Water
- Wetland

510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
541: Embayments Opening Directly to Gulf or Ocean
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N W E S

600 300 0 600

Feet

Wetland & Other Surface Water Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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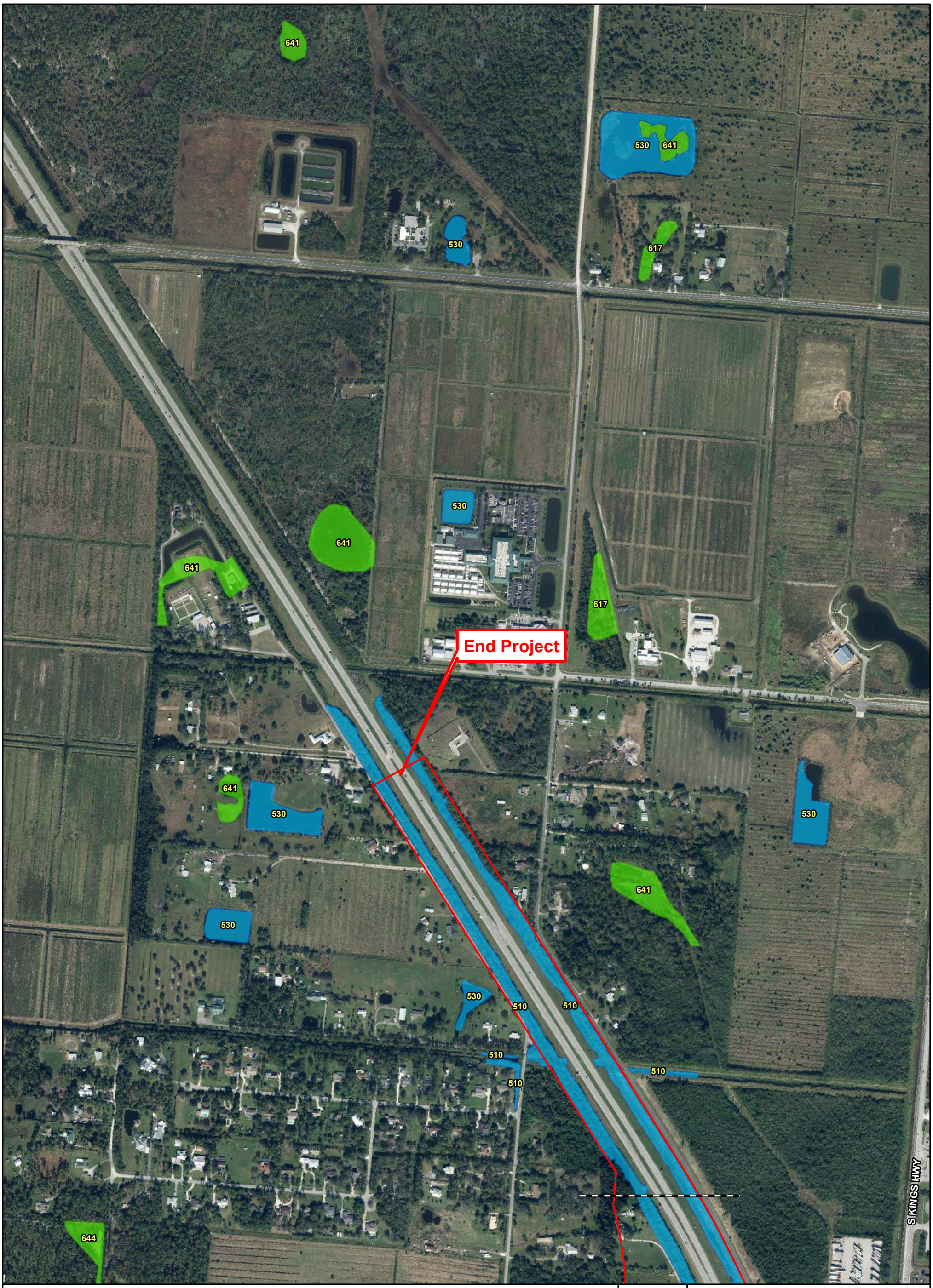

Legend

- Project Study Area
- Other Surface Water
- Wetland

510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
541: Embayments Opening Directly to Gulf or Ocean
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600 300 0 600

Feet

Wetland & Other Surface Water Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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APPENDIX E

Representative Wetland and Other Surface Water Photographs



FLUCFCS: 510 – Streams and Waterways
USFWS: PEM1Cx (Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)



FLUCFCS: 510 – Streams and Waterways
USFWS: PSS1Cx (Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated)



FLUCFCS: 510 – Streams and Waterways (County Line Canal)
USFWS: E1UBLx (Estuarine, Subtidal, Unconsolidated Bottom, Subtidal, Excavated)



FLUCFCS: 511 - Natural River, Stream, Waterway (St. Lucie Canal)
USFWS: E1UBL (Estuarine, Subtidal, Unconsolidated Bottom, Subtidal)



FLUCFCS: 511 - Natural River, Stream, Waterway (Danforth Creek)
USFWS: R2UB2H (Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded)



FLUCFCS: 530 – Reservoirs
USFWS: PUB2Hx (Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated)



FLUCFCS: 617 – Mixed Wetland Hardwoods
USFWS: PFO1C (Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded)



FLUCFCS: 619 – Exotic Wetland Hardwoods
USFWS: PFO3C (Palustrine, Forested, Broad-leaved Evergreen, Seasonally Flooded)



FLUCFCS: 621 – Cypress
USFWS: PFO2F (Palustrine, Forested, Needle-leaved Deciduous, Semipermanently Flooded)



FLUCFCS: 624 – Cypress – Pine – Cabbage Palm
USFWS: PFO2/4C (Palustrine, Forested, Needle-leaved Deciduous/Needle-leaved Evergreen, Seasonally Flooded)



FLUCFCS: 625 – Wet Pinelands Hydric Pine
USFWS: PFO4C (Palustrine, Forested, Needle-leaved Evergreen, Seasonally Flooded)



FLUCFCS: 630 – Wetland Forested Mixed
USFWS: PFO1/4C (Palustrine, Forested, Broad-leaved Deciduous, Needle-leaved Evergreen, Seasonally Flooded)



FLUCFCS: 631 – Wetland Scrub
USFWS: PSS1C (Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded)



FLUCFCS: 631 – Wetland Scrub
USFWS: PSS1Cx (Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Excavated)



FLUCFCS: 641 – Freshwater Marshes
USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)



FLUCFCS: 641 – Freshwater Marshes
USFWS: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded)

APPENDIX F

FNAI Data Report

FLORIDA Natural Areas INVENTORY

1018 Thomasville Road
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Tallahassee, FL 32303
850-224-8207
fax 850-681-9364
www.fnai.org

January 29, 2020

Ashley Abdel-Hadi
Kisinger, Campo, & Associates
201 N. Franklin St. Suite 400
Tampa, FL 33602

Dear Ms. Abdel-Hadi,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). At your request we have produced the following report for your project area.

The purpose of this Standard Data Report is to provide objective scientific information on natural resources located in the vicinity of a site of interest, in order to inform those involved in project planning and evaluation. This Report makes no determination of the suitability of a proposed project for this location, or the potential impacts of the project on natural resources in the area.

Project: FL Turnpike Widening FPID: 423374-1-22-01

Date Received: 1/21/2020

Location: Martin County

Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

The element occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.

Several of the species and natural communities tracked by the Inventory are considered ***data sensitive****. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.*

Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity

Florida Resources and Environmental Analysis Center

Institute of Science and Public Affairs

The Florida State University

Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

CLIP

The enclosed map shows natural resource conservation priorities based on the Critical Lands and Waters Identification Project. CLIP is based on many of the same natural resource data developed for the Florida Forever Conservation Needs Assessment, but provides an overall picture of conservation priorities across different resource categories, including biodiversity, landscapes, surface waters, and aggregated CLIP priorities (that combine the individual resource categories). CLIP is also based primarily on remote sensed data and is not intended to be the definitive authority on natural resources on a site.

For more information on CLIP, visit http://www.fnai.org/clip.cfm .

Florida Scrub-jay Survey – U.S. Fish and Wildlife Service

This survey was conducted by staff and associates of the Archbold Biological Station from 1992 to 1996. An attempt was made to record all scrub-jay (*Aphelocoma coerulescens*) groups, although most federal lands were not officially surveyed. Each map point represents one or more groups.

This data layer indicates that there are potential scrub-jay populations on or very near your site. For additional information:

Fitzpatrick, J.W., B. Pranty, and B. Stith, 1994, Florida scrub jay statewide map, 1992-1993. U. S. Fish and Wildlife Service Report, Cooperative Agreement no. 14-16-004-91-950.

Managed Areas

Portions of the site appear to be located within or near:

- Phipp's Park Conservation Area managed by Martin County
- Ten Mile Creek Preserve managed by St. Lucie County
- John C. and Mariana Jones/Hungryland Wildlife and Environmental Area managed by FL Fish and Wildlife Conservation Commission
- South Fork Addition managed by Martin County
- Halpatiokee Regional Park Conservation Area managed by Martin County
- Ten Mile Creek managed by South Florida Water Management District
- Cypress Creek and Loxahatchee River Management Area managed by South Florida Water Management District
- Gordy Road Recreation Area managed by St. Lucie County
- Palmar Complex/C-44 Basin Harmony Ranch managed by South Florida Water Management District

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

Land Acquisition Projects
This site appears to be located within or near the Atlantic Ridge Ecosystem Florida Forever BOT Project and Pal-Mar Florida Forever BOT Project, which are part of the State of Florida's Conservation and Recreation Lands land acquisition program. For more information on these Florida Forever Projects, contact the Florida Department of Environmental Protection, Division of State Lands.

Florida Forever Board of Trustees (BOT) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. The state has no specific land management authority over these lands until they are purchased.

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. **The maps contain sensitive environmental information, please do not distribute or publish without prior consent from FNAI.** FNAI data may not be resold for profit.

Thank you for your use of FNAI services. An invoice will be mailed separately. If I can be of further assistance, please contact me at (850) 224-8207 or at kbrinegar@fnai.fsu.edu.

Sincerely,

Kerri Brinegar

Kerri Brinegar
GIS / Data Services

Encl

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org

FLORIDA Natural Areas INVENTORY

FL Turnpike Widening FPID: 423374-1-22-01 Map 1/5

Site boundaries are approximate.

St. Lucie County

Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive

Point Indicates General Vicinity of Element

U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects

- Florida Forever Board of Trustees Projects

- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Roads
- Water

N

0 1 2 4 Miles

NOTE

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Map produced by KAB 1/29/2020

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FLORIDA Natural Areas INVENTORY

FL Turnpike Widening FPID: 423374-1-22-01 Map 2/5

Site boundaries are approximate.

St. Lucie County

Element Occurrences
- Animals
- Plants
- Communities
- Other
- Data Sensitive

Point Indicates General Vicinity of Element

U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

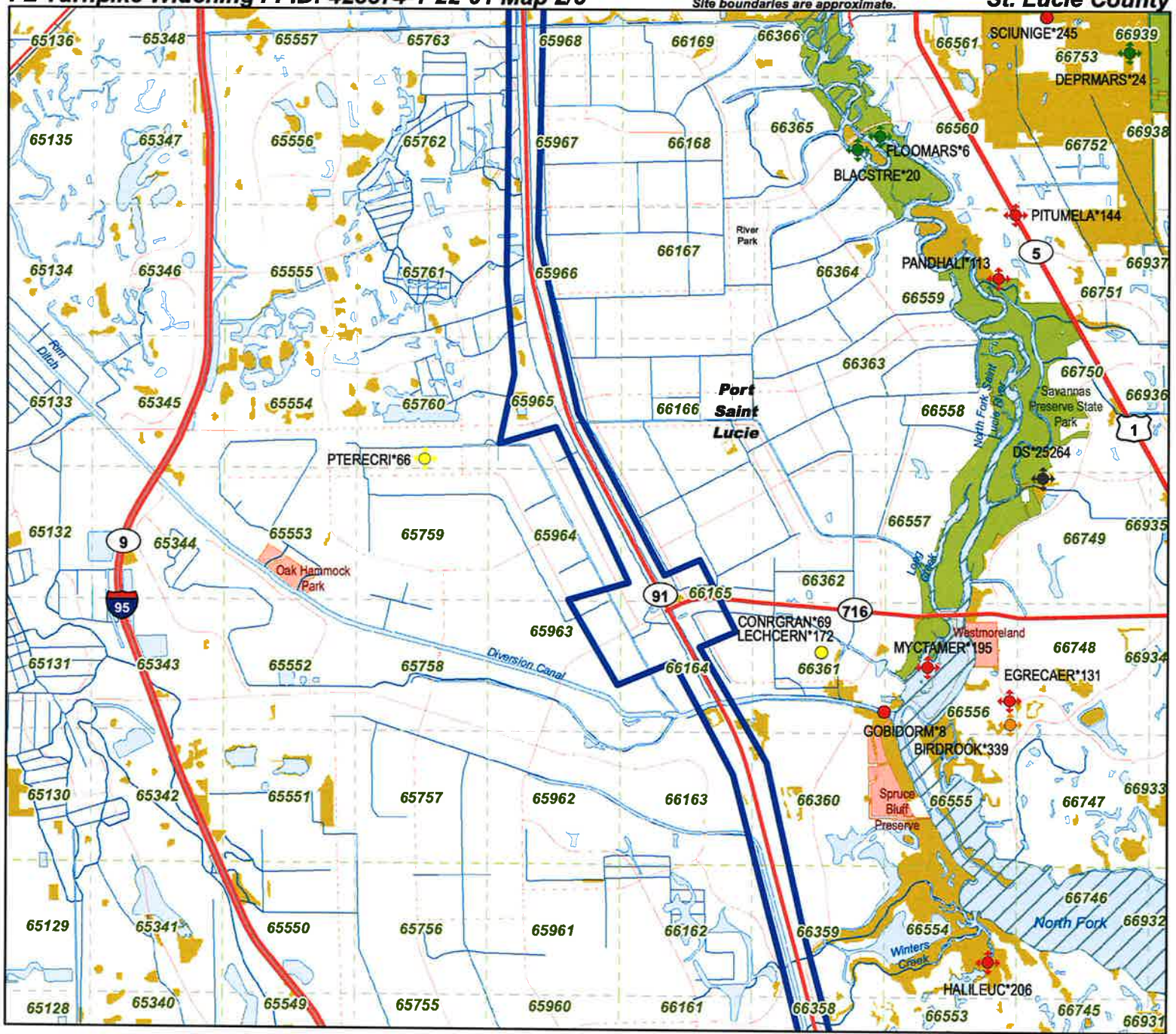
Conservation Lands
- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects
- Florida Forever Board of Trustees Projects

- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Roads
- Water

N



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Map produced by KAB
1/29/2020

FL Turnpike Widening FPID: 423374-1-22-01 Map 3/5

Site boundaries are approximate.

St. Lucie and Martin Counties

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Tallahassee, FL 32303
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(850) 681-9364 Fax
www.fnai.org

FLORIDA Natural Areas INVENTORY

Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive
- Point Indicates General Vicinity of Element
- U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

Conservation Lands

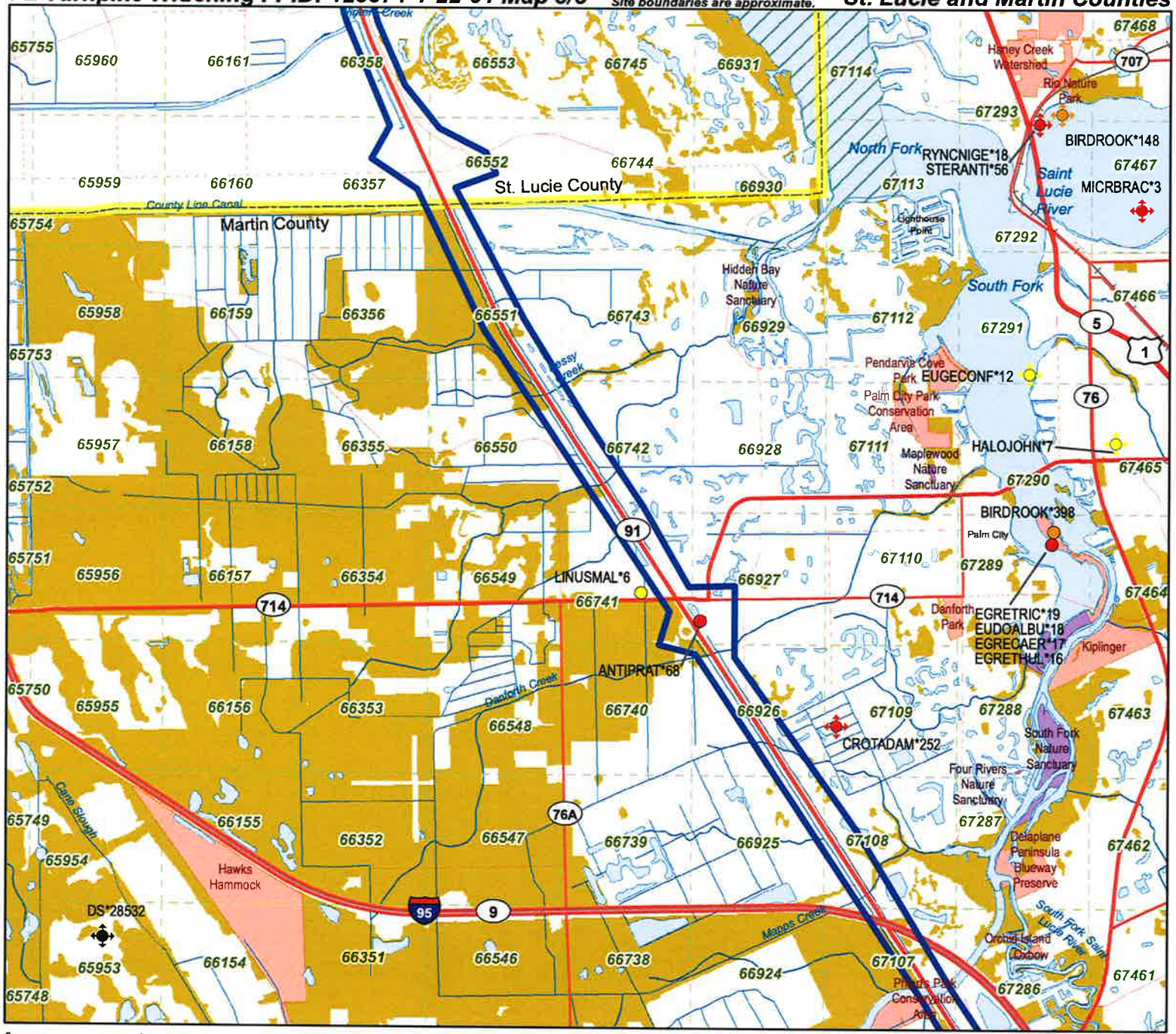
- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects

- Florida Forever Board of Trustees Projects

- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Roads
- Water



0 1 2 4 Miles

N

NOTE

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Map produced by KAB 1/29/2020

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FLORIDA Natural Areas INVENTORY

FL Turnpike Widening FPID: 423374-1-22-01 Map 4/5

Site boundaries are approximate.

Martin County

Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive

Point Indicates General Vicinity of Element

U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects

- Florida Forever Board of Trustees Projects

- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Roads
- Water

N

0 1 2 4 Miles

NOTE
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Map produced by KAB 1/29/2020

FL Turnpike Widening FPID: 423374-1-22-01 Map 5/5

Site boundaries are approximate. Martin and Palm Beach Counties

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FLORIDA Natural Areas INVENTORY

Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive
- Point Indicates General Vicinity of Element
- U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

Conservation Lands

- Federal
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Land Acquisition Projects

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- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Roads
- Water

NOTE

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0 0.5 1 2 Miles

Map produced by KAB 1/29/2020

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FLORIDA Natural Areas INVENTORY

CLIP v4.0 Resource Priorities

Biodiversity Resource Category
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Landscape Resource Category
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

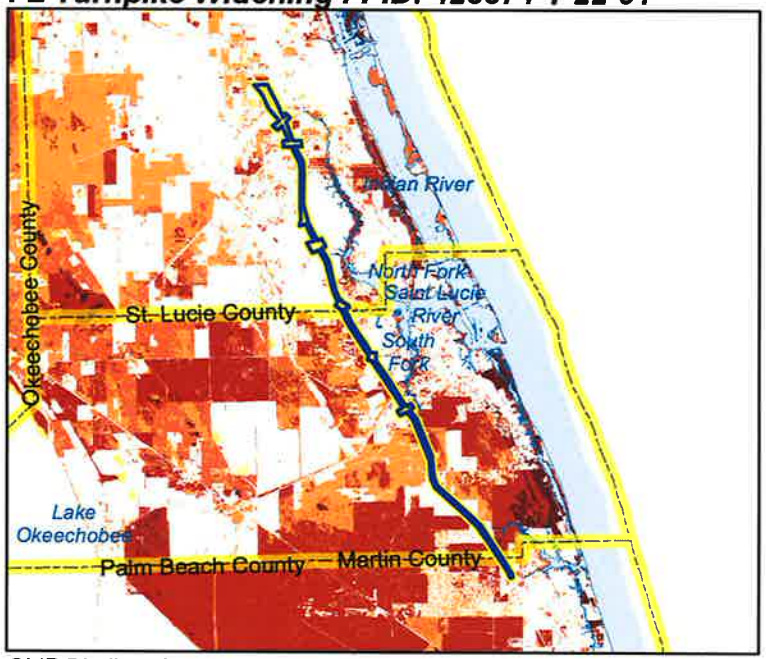
Surface Water Resource Category
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Aggregated CLIP Priorities
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Site Boundary

Map should not be interpreted without accompanying documents.

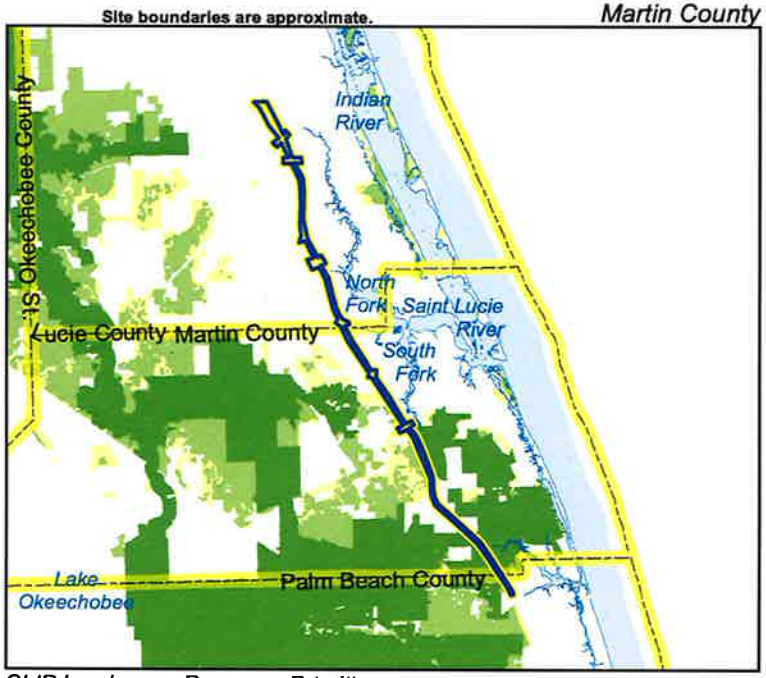
Critical Lands and Waters Identification Project (CLIP) ia a cooperative effort between the FSU Florida Natural Areaa Inventory, UF Center for Landacape Conaervation Planning, and FL Fiah & Wildlife Conservation Commiasion, with additional funding from FL Dept of Environmental Protection and US Fish & Wildlife Service.



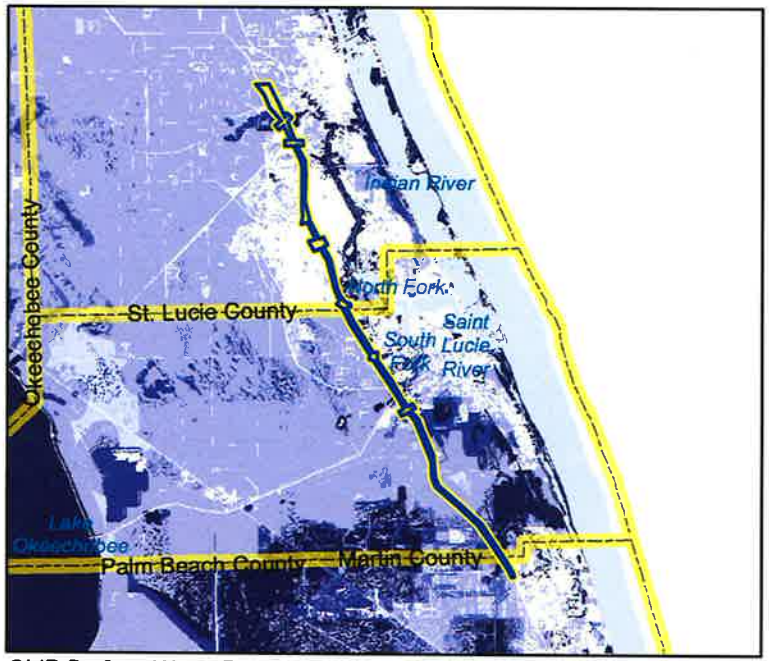
CLIP Biodiversity Resource Priorities

Site boundaries are approximate.

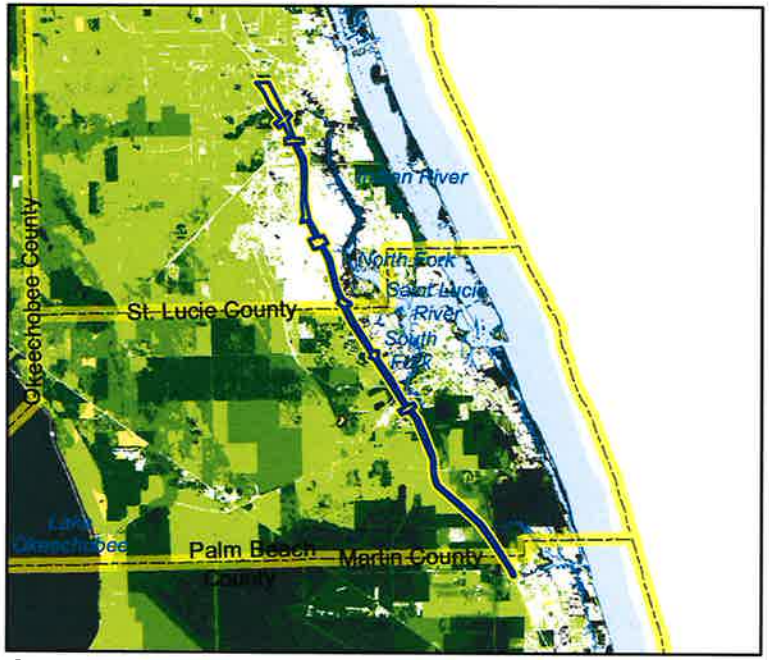
Martin County



CLIP Landscape Resource Priorities



CLIP Surface Water Resource Priorities



CLIP Aggregated Resource Priorities

0 10 20 40 Miles

Map produced by KAB
1/29/2020

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FLORIDA Natural Areas INVENTORY

FNAI ELEMENT OCCURRENCE REPORT on or near

FL Turnpike Widening FPID: 423374-1-22-01

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
ANTIPRAT*68	*Antigone canadensis pratensis*	Florida Sandhill Crane	G5T2	S2	N	ST	2018-03-08	Ruderal area next to small pond.	Nest observed with two adults, one standing at nest, one 10 m away
APHECOER*252	*Aphelocoma coerulescens*	Florida Scrub-Jay	G2?	S2	T	FT	1981-05-09	DISTURBED 2-3 M OAK SCRUB, POSTED "WILL DIVIDE".	1981-05-09: 3 ADULT, 2 JUVENILE SCRUB JAYS.
BIRDROOK*339	Bird Rookery		G5	SNR	N	N	1989-05-04	No general description given	MULTI-SPECIES ROOKERY, 4 SPECIES. 11-100 BIRDS 1989-04-20; 101-250 BIRDS 1989-05-04. GREAT EGRET PRESENT 1989-05; CATTLE EGRET PRESENT 1989-05; LITTLE BLUE HERON PRESENT 1989-04 AND 1989-05; ANHINGA PRESENT 1989-05. (UNIDENTIFIED LARGE AND SMALL WHITE WADERS ALSO PRESENT 1989-04.)
BLACSTRE*20	Blackwater stream		G4	S3	N	N	2004	16 MI OF DESIGNATED AQUATIC PRESERVE.	2004: extant based on aerial photography (PNDJAC01FLUS). 1982-Pre: see U82NPS01FLUS.
BLACSTRE*21	Blackwater stream		G4	S3	N	N	2004	8 MI OF "UNTOUCHED SCENIC, STREAM W/ SUBTROPICAL FLORA & FAUNA".	2004: extant based on aerial photography (PNDJAC01FLUS). 1982-Pre: see U82NPS01FLUS.
CARACHER*225	*Caracara cheriway*	Crested Caracara	G5	S2	T	FT	2008-04-01	Pine flatwoods in medium-well burned rotation, lots of snags from previous burn (U08ROS01FLUS).	2008: two birds observed on two consecutive days, perching in snag and feeding on a feral hog carcass (U08ROS01FLUS).
CHAMCUMU*8	*Chamaesyce cumulicola*	sand-dune spurge	G2	S2	N	E	1981 pre	NONE GIVEN IN BEST SOURCE.	SPECIES COLLECTED; NO FURTHER DATA.
COELTUBE*7	*Coelorachis tuberculosa*	Piedmont jointgrass	G3	S3	N	T	1989-07-01	RICH, PRISTINE SAVANNAH WITH A DIVERSE ASSEMBLAGE OF MOISTURE LOVING HERBACEOUS SPECIES INCLUDING CARNIVOROUS PLANTS AND TWO ORCHID SPECIES. SITE IS EITHER A SPUR OF WILSON CREEK OR A VERY OLD DRAINAGE DITCH NOW REVERTED TO A MORE OR LESS NATURAL STATE.	LESS THAN 1 DOZEN PLANTS COVERING A FEW SQ FT. FLOWERING, FRUITING AND IN LEAF [SEE ATTACHED FOR 2ND SITE, ALTHOUGH LOCATION IS VAGUE].

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FLORIDA Natural Areas INVENTORY

FNAI ELEMENT OCCURRENCE REPORT on or near

FL Turnpike Widening FPID: 423374-1-22-01

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
CONRGRAN*12	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	1988-01	WOODED DUNE W/ SAND PINE & SCRUB OAKS IN WHITE SAND.	SCRAGGLY SHRUBS IN UNDERSTORY,TO 1 M TALL. IN FLOWER ON 4-21-62. CALYX TO 7.5 MM LONG. COROLLA LAVENDER W/ MAGENTA SPOTS. LEAVES STRONGLY REVOLUTE, WHITE CANESCENT BELOW. ALSO REPORTED BY POPENOE (1981) B81POP01.
CONRGRAN*69	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	1998-01-22	1998-01-22: Scrub (U99BRA01FLUS).	1998-01-22: 11-100 flowering individuals in open sun (U99BRA01FLUS).
CROTADAM*252	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	G4	S3	N	N	1993-12	Interstate/developments/slash pine palmetto flatwoods.	1993-12-00: Adult snake (ca. 4 ft.) AOR (U95REG02).
DRYOVILL*19	*Dryobates villosus*	Hairy Woodpecker	G5	S3	N	N	2015-03-16	All four observations were of adults foraging within wet and mesic flatwoods that had many recently fire killed, standing pine snags. One individual was also observed foraging in a dome swamp.	Four individuals observed within the polygon drawn.
DS*23351	*Data Sensitive Element*	Data Sensitive	G3	S1	N	E	1981 pre	Data Sensitive	Data Sensitive
EGRECAER*131	*Egretta caerulea*	Little Blue Heron	G5	S4	N	ST	1989-05-04	No general description given	SPECIES PRESENT 1989-04-20 AND 1989-05-04.
EUDOALBU*194	*Eudocimus albus*	White Ibis	G5	S4	N	N	1991-01-09	Artificial lake, pond, or borrow pit	1991/01/09: M.S. Robson, GFC, observed 150 adults
FLOOSWAM*24	Floodplain swamp		G4	S4	N	N	1999	ALONG LOXAHATCHEE RIVER (UPSTREAM FROM MANGROVES) AND KITCHINGS CREEK (CONFLUENCE WITH LOXAHATCHEE IN SEC. 16- -MISLABLED ON QUAD).	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1984) (U05FNA02FLUS). HIGH QUALITY CYPRESS SWAMP OF CA. 10, 200 ACRES, INCL. NEW TRACTS TO BE ACQUIRED BY DNR.
GEOPFUSC*1	*Geopsammodius fuscus*	Dark Tiny Sand-loving Scarab	G1	S1	N	N	2005-12-18	2005-12-18: No description given (A06SKE01FLUS). 1989-02-26: No comprehensive description given, but the label data are, in part, "...sifted from scrub sand" (A06SKE01FLUS).	2005-12-18: Thirty-six specimens were collected by sifting sand (A06SKE01FLUS). 1989-02-26: Three specimens were sifted from scrub sand (A06SKE01FLUS).
GOBIDORM*6	*Gobiomorus dormitor*	Bigmouth Sleeper	G4	S2	N	N	1965-04-25	No general description given	FISHES OBSERVED ON 26 JULY 1960 (UF-059082) AND 25 APRIL 1965 (UF-062925).

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FLORIDA Natural Areas INVENTORY

FNAI ELEMENT OCCURRENCE REPORT on or near

FL Turnpike Widening FPID: 423374-1-22-01

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOBIDORM*8	*Gobiomorus dormitor*	Bigmouth Sleeper	G4	S2	N	N	1954-07-04	No general description given	ONE SPECIMEN COLLECTED (UF-004347).
GOPHPOLY*1446	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	2015-03-17	Mesic flatwoods sidturbed by fire exclusion.	Five tortoise burrows and 1 tortoise observed on site.
HALILEUC*1626	*Haliaeetus leucocephalus*	Bald Eagle	G5	S3	N	N	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 2000; Unknown status or not assessed, 1999;(U03FWC01FLUS)
HALILEUC*206	*Haliaeetus leucocephalus*	Bald Eagle	G5	S3	N	N	2003	No general description given	Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST: 1995: PRODUCED 1 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: ACTIVE, PRODUCED 0 YOUNG; 1992: ACTIVE, PRODUCED 0 YOUNG; 1991: PRODUCED 1 YOUNG; 1990: ACTIVE, PRODUCED 0 YOUNG; 1989: PRODUCED 2 YOUNG; 1978-1988 ACTIVE. FLEDGED YOUNG 1978-1981, 1986, 1988; UNKNOWN 1982 AND 1987.
HAROSARA*2	*Haroldiataenius saramari*	Sand Pine Scrub Ataenius Beetle	G3G4	S3S4	N	N	1994 pre	1994-pre: occurs in sand pine scrub (B94DEY01FLUS).	1994-Pre: This species was collected (B94DEY01FLUS). 1959-07-17: One specimen was collected from a berlese sample by H.A. Denmark (B73WOO01FLUS).
LECHCERN*172	*Lechea cernua*	nodding pinweed	G3	S3	N	T	1998-01-22	1998-01-22: Scrub (U99BRA01FLUS).	1998-01-22: 11-100 sterile individuals in open sun (U99BRA01FLUS).
LINUSMAL*6	*Linum carteri var. smallii*	Small's flax	G2T2	S2	N	E	1979-11-04	WET PINELAND.	1979-11-04: FRUITING.
MELAINDI*3	*Melanoplus indicifer*	East Coast Scrub Grasshopper	G1	S1	N	N	2001-09-01	1963-12-14: No description given (U08ALM01FLUS).	2001-09-01: Two specimens were collected (N05LAM01FLUS). 1963-12-14: One specimen was collected here (U08ALM01FLUS). 1947-09-28: Thirteen specimens were collected in this Palm Beach county (U08ALM01FLUS). 1947-09-13: Six specimens were collected here (U08ALM01FLUS).
NECTTAVA*29	*Nectopsyche tavara*	Tavares White Miller Caddisfly	G3	S3	N	N	2007-04-14	2007-04-14: No description given other than that the locality was near a river (U09RAS01FLUS).	2007-04-14: Twenty-one specimens were collected using a 15 watt black light over an alcohol-filled white pan (U09RAS01FLUS, U08RAS01FLUS).

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FL Turnpike Widening FPID: 423374-1-22-01

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
OPHIPALM*65	*Ophioglossum palmatum*	hand fern	G4	S2	N	E	2015-04-22	Edge of dome swamp disturbed by invasive exotic plants and fire exclusion. Canopy consists of Taxodium ascendens and occasional Sabal palmetto, while shrubs include Chrysobalanus icaco, Myrsine cubana, Ilex cassine, and Rhodomyrtus tomentosa. Rhodomyrtus stems form a dense thicket but most are dead from herbicide treatment.	Plant with one fertile leaf, growing on Sabal palmetto trunk 1.6 m above the ground.
PEPEHUMI*4	*Peperomia humilis*	terrestrial peperomia	G5	S2	N	E	1989	HAMMOCK	LARGE COLONY (FLW), IN HAMMOCK. 1989-ONE POPULATION ON SEVERAL DOWNED LOGS IS DOING WELL-2ND POPULATION 100' AWAY ON MOIST BANK OF LOXAHATCHEE IS GONE-PROBABLY DESTROYED BY ARMADILLOS.
PEUCAEST*108	*Peucaea aestivalis*	Bachman's Sparrow	G3	S3	N	N	2015-03-19	Degraded mesic flatwoods on formerly grazed semi-improved pasture and slash pine dominated mesic and wet flatwoods. Threats include feral hog rooting and established invasive exotic plant species:	Several males heard singing at essentially at three separate locations in 2015.
PTERECRI*66	*Pteroglossaspis ecristata*	giant orchid	G2G3	S2	N	T	2000-08-20	2000-08-20: Plants growing in xeric coastal scrub with open to partial light in association with Pinus clausa, Quercus myrtifolia, Quercus geminata, Serenoa repens, Smilax auriculata, and Pteridium aquilinum (U03SCH03FLUS).	2000-08-20: Population of 58 plants (84% flowering) growing with good vigor in a xeric coastal scrub habitat. Population originally found in August 2000 by Jake Heaton (U03SCH03FLUS).
SCIUNIGE*48	*Sciurus niger niger*	Southeastern Fox Squirrel	G5T5	S3	N	N	1980-06-01	No general description given	SPEC (UF-20941) COLL 1 JUNE 1980 BY BILL AND HELEN DOWSLING.
SCRUB****252	Scrub		G2	S2	N	N	1999	DISTURBED 2-3 M OAK SCRUB, POSTED "WILL DIVIDE".	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1981-05-09) (U05FNA02FLUS). 2-3 M SCRUB OAKS, DISTURBED SITE.

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SCRUFLAT*31	Scrubby flatwoods		G2	S2?	N	N	1999	THROUGHOUT PARK IN MOSAIC AMONGST SCRUB AND MESIC OR WET FLATWOODS.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1984-) (U05FNA02FLUS). SLASH PINE, TURKEY OAK, SCRUB OAKS.
THELSERR*6	*Thelypteris serrata*	toothed maiden fern	G5	S1	N	E	2015-06-15	High quality floodplain swamp and included hydric hammock along Loxahatchee River. Floodplain swamp has a closed canopy with Taxodium distichum (occasional old growth trees) and Acer rubrum. Groundcover dominated by ferns Acrostichum danaeifolium, Thelypteris interrupta, and Blechnum serrulatum. Hydric hammock dominated by Sabal palmetto and Blechnum serrulatum occurs on higher ground in floodplain.	Plants vigorous, in 3 populations within 500 m of each other. Northeast clump has 2 plants at edge of floodplain, northwest clump has 3 plants in 2 m diameter area in floodplain swamp, and south has one plant in hydric hammock.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Aggregated Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Documented					
Antigone canadensis pratensis	Florida Sandhill Crane	G5T2	S2	N	ST
Caracara cheriway	Crested Caracara	G5	S2	T	FT
Dryobates villosus	Hairy Woodpecker		S3	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N
Ophioglossum palmatum	hand fern	G4	S2	N	E
Peucaea aestivalis	Bachman's Sparrow	G3	S3	N	N
Scrubby flatwoods		G2	S2?	N	N
Thelypteris serrata	toothed maiden fern	G5	S1	N	E
Documented-Historic					
Linum carteri var. smallii	Small's flax	G2T2	S2	N	E
Likely					
Aphelocoma coerulescens	Florida Scrub-Jay	G2?	S2	T	FT
Blackwater stream		G4	S3	N	N
Crotalus adamanteus	Eastern Diamondback Rattlesnake		S3	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S3	T	FT
Dryobates borealis	Red-cockaded Woodpecker		S2	E	FE
Eudocimus albus	White Ibis	G5	S4	N	N
Geopsammodius fuscus	Dark Tiny Sand-loving Scarab	G1	S1	N	N
Haroldiataenius saramari	Sand Pine Scrub Ataenius Beetle	G3G4	S3S4	N	N
Melanoplus indicifer	East Coast Scrub Grasshopper	G1	S1	N	N
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork		S2	T	FT
Scrub		G2	S2	N	N
Trichechus manatus	West Indian Manatee		S2	T	FT
Potential					
Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	G3T3	S1	E	FE
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	ST
Chamaesyce cumulicola	sand-dune spurge	G2	S2	N	E
Coelorachis tuberculosa	Piedmont jointgrass	G3	S3	N	T
Conradina grandiflora	large-flowered rosemary		S3	N	T
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Elytraria caroliniensis var. angustifolia	narrow-leaved Carolina scalystem	G4T2	S2	N	N
Eretmochelys imbricata	Hawksbill Sea Turtle	G3	S1	E	FE
Glandularia maritima	coastal vervain		S3	N	E
Halophila johnsonii	Johnson's seagrass	G2Q	S2	T	E
Heterodon simus	Southern Hognose Snake	G2	S2S3	N	N
Lechea cernua	nodding pinweed	G3	S3	N	T
Lithobates capito	Gopher Frog		S3	N	N
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3?	S3	N	N
Nemastylis floridana	celestial lily	G2	S2	N	E
Peperomia humilis	terrestrial peperomia	G5	S2	N	E
Podomys floridanus	Florida Mouse	G3	S3	N	N
Polygala smallii	tiny polygala	G1	S1	E	E
Pteroglossaspis ecristata	giant orchid	G2G3	S2	N	T
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rivulus marmoratus	Mangrove Rivulus	G4G5	S3	SC	N

Definitions: *Documented - Rare species and natural communities documented on or near this site.*
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Rostrhamus sociabilis	Snail Kite	G4G5	S2	E	FE
Roystonea regia	Florida royal palm	G2G3	S2	N	E
Sceloporus woodi	Florida Scrub Lizard		S2S3	N	N
Sciurus niger niger	Southeastern Fox Squirrel	G5T5	S3	N	N
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Tolumnia bahamensis	dancing-lady orchid	G3	S1	N	E
Trichomanes punctatum ssp. floridanum	Florida filmy fern	G4G5T1	S1	E	E
Zephyranthes simpsonii	redmargin zephyrlily	G2G3	S2S3	N	T

Definitions: *Documented - Rere species and netural communities documented on or neer this site.*
Documented-Historic - Rare species end natural communities documented, but not observed/reported within the lest twenty years.
Likely - Rere species end natural communities likely to occur on this site based on suiteble hebitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.
G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.
GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
GNR = Element not yet ranked (temporary).
GNRTNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.
SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
SX = Believed to be extirpated throughout Florida.
SU = Unrankable; due to a lack of information no rank or range can be assigned.
SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
E, T = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
E, PDL = Species currently listed endangered but has been proposed for delisting.
E, PT = Species currently listed endangered but has been proposed for listing as threatened.
E, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
T = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
PE = Species proposed for listing as endangered
PS = Partial status: some but not all of the species' infraspecific taxa have federal
PT = Species proposed for listing as threatened
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

C = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
FXN = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.

E = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
T = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

A = Excellent estimated viability
A? = Possibly excellent estimated viability
AB = Excellent or good estimated viability
AC = Excellent, good, or fair estimated viability
B = Good estimated viability
B? = Possibly good estimated viability
BC = Good or fair estimated viability
BD = Good, fair, or poor estimated viability
C = Fair estimated viability
C? = Possibly fair estimated viability
CD = Fair or poor estimated viability
D = Poor estimated viability
D? = Possibly poor estimated viability
E = Verified extant (viability not assessed)
F = Failed to find
H = Historical
NR = Not ranked, a placeholder when an EO is not (yet) ranked.
U = Unrankable
X = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

H? = Possibly historical
F? = Possibly failed to find
X? = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

APPENDIX G

Protected Species Habitat Table and Location Map

Appendix G - Suitable Habitat for Protected Species within the Preferred Alternative

		110: Residential Low Density (<2 units/acre)	111: Fixed Single Family Units - Low Density	190: Open Land	194: Other Open Land	211: Improved Pastures	212: Unimproved Pastures	214: Row Crops	221: Citrus Groves	224: Abandoned Groves	310: Herbaceous (Dry Prairie)	320: Upland Shrub and Brushland	330: Mixed Rangeland	411: Pine Flatwoods	420: Upland Hardwood Forests	422: Brazilian Pepper	424: Melaleuca	434: Upland Mixed Coniferous / Hardwood	510: Streams and Waterways	511: Natural River, Stream, Waterway	530: Reservoirs	617: Mixed Wetland Hardwoods	619: Exotic Wetland Hardwoods	621: Cypress	625: Wet Pinelands Hydric Pine	630: Wetland Forested Mixed	631: Wetland Scrub	641: Freshwater Marshes	740: Disturbed Land	810: Transportation	814: Roads and Highways	820: Communications	832: Electrical Power Transmission Lines	Total Suitable Habitat (ac.)
Preferred Alternative Acreage		3.47	4.11	0.42	0.31	14.71	0.85	1.43	2.23	0.33	0.80	5.45	2.41	77.57	11.40	13.79	3.90	7.22	307.81	9.30	50.03	6.61	2.93	1.33	1.93	1.31	48.44	0.12	3.01	0.11	1091.01	3.66	0.39	
Flora																																		
Hand Fern	*Ophioglossum palmatum*																					x	x	x	x	x								**14.11**
Toothed Maiden Fern	*Thelypteris serrata*																					x	x	x	x	x								**14.11**
Fish																																		
Smalltooth Sawfish	*Pristis pectinata*																		x	x														**4.50**
Reptilian																																		
American Alligator	*Alligator mississippiensis*																		x	x	x	x	x	x	x	x	x	x						**429.81**
Eastern Indigo Snake	*Drymarchon couperi*	x	x	x	x	x	x		x	x	x	x	x	x	x			x				x	x	x	x	x	x	x					x	**193.95**
Gopher Tortoise	*Gopherus polyphemus*	x	x	x	x	x	x		x	x	x	x	x	x	x			x											x	x	x	x	x	**793.01**
Florida Pine Snake	*Pituophis melanoleucus mugitus*			x	x	x	x			x	x	x	x	x	x			x																**121.47**
Avian																																		
Florida Grasshopper Sparrow	*Ammodramus savannarum floridanus*					x	x				x																							**16.36**
Florida Sandhill Crane	*Antigone canadensis pratensis*	x	x	x	x	x	x				x	x	x						x		x						x	x					x	**439.32**
Florida Scrub-jay	*Aphelocoma coerulescens*											x			x																			**16.85**
Florida Burrowing Owl	*Athene cunicularia floridana*			x	x	x	x				x																						x	**17.48**
Crested Caracara	*Caracara cheriway*	x	x	x	x	x	x				x	x	x		x			x										x						**51.27**
Little Blue Heron	*Egretta caerulea*																		x	x	x	x	x	x	x	x	x	x						**429.81**
Tricolored Heron	*Egretta tricolor*																		x	x	x	x	x	x	x	x	x	x						**429.81**
Southeastern American Kestrel	*Falco sparverius paulus*	x	x	x	x	x	x	x			x	x	x	x	x			x															x	**130.54**
Red-cockaded Woodpecker	*Leuconotopicus borealis*													x											x									**79.50**
Wood Stork	*Mycteria americana*																		x	x	x	x	x	x	x	x	x	x						**429.81**
Roseate Spoonbill	*Platalea ajaja*																		x	x	x	x	x	x	x	x	x	x						**429.81**
Everglade Snail Kite	*Rostrhamus sociabilis*																		x	x	x							x						**367.26**
Least Tern	*Sternula antillarum*																			x														**9.30**
Mammals																																		
Florida Bonneted Bat	*Eumops floridanus*	x	x	x	x	x	x							x	x	x	x	x				x	x	x	x	x							x	**152.25**
West Indian Manatee	*Trichechus manatus*																		x	x														**3.87**

Notes:

Land uses within the Preferred Alternative excluded from this table, that were not considered as potentially suitable habitat includes Fixed Single Family Units - Medium Density (FLUCFCS 121), Medium Density Under Construction (FLUCFCS 129), Mobile Home Units (FLUCFCS 132), Multiple Dwelling Units Low Rise (FLUCFCS 133), Commercial and Services (FLUCFCS 140), Shopping Centers (FLUCFCS 141), Wholesale Sales & Services - Junk Yards (FLUCFCS 142), Other Light Industry (FLUCFCS 155), Other Heavy Industrial (FLUCFCS 156), Institutional (FLUCFCS 170), Educational Facilities (FLUCFCS 171), Golf Course (FLUCFCS 182), Marinas and Fish Camps (FLUCFCS 184), Electrical Power Facilities (FLUCFCS 831), and Sewage Treatment (FLUCFCS 834).

Open water components of the St. Lucie Canal (C-44) and Rim Ditch (C-24) were considered potential habitat for the smalltooth sawfish and West Indian mantee.

15.11 acres of the total Florida bonneted bat habitat within the Preferred Alternative is within the USFWS consultation area for the species.

FLUCFCS 810 and 814 - assumed on average 40% consists of pavement and does not provide habitat for the gopher tortoise.

End Project

ST LUCIE COUNTY
MARTIN COUNTY

MARTIN COUNTY
PALM BEACH COUNTY

Begin Project

Entire Area Covered By:

Crested Caracara Consultation Area

Everglades Snail Kite Consultation Area

Florida Scrub Jay Consultation Area

Legend

- Preferred Alternative ROW
- County Line
- 1 Mile Buffer of Preferred Alternative
- Florida Grasshopper Sparrow Consultation Area
- Florida Bonneted Bat Consultation Area
- West Indian Manatee Consultation Area
- Red Cockaded Woodpecker Consulation Area

N W E S

3 1.5 0 3

Miles

Protected Species Consultation Area Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix G

Path: D:\Projects\M\42337412201_Florida's_Turnpike_Mainline_Widening\100 Environmental\104 Environmental Data Report\GIS\Maps\Figures\NRE\Turnpike Jupiter - G - Consultation Area Map.mxd 1/19/2021

John C. and Mariana Jones/Hungryland Wildlife and Environmental Area

MARTIN COUNTY
PALM BEACH COUNTY

Cypress Creek

Unnamed Tributary to Cypress Creek

Loxahatchee River

Begin Project

Entire Area Covered By:

Florida Black Bear South/South Central Management Units

Florida Black Bear Range

Wood Stork Core Foraging Area

Legend

- Preferred Alternative ROW
- Other Surface Water Crossing
- County Line
- 1 Mile Buffer of Preferred Alternative
- Black Bear Related Calls
- Manatee Mortality
- Florida Sandhill Crane
- Florida Scrub Jay Service Area
- Manatee Critical Habitat
- Essential Fish Habitat
- State Manatee Protection Zone
- Wildlife Management Area

N W E S

3,000 1,500 0 3,000

Feet

Protected Species Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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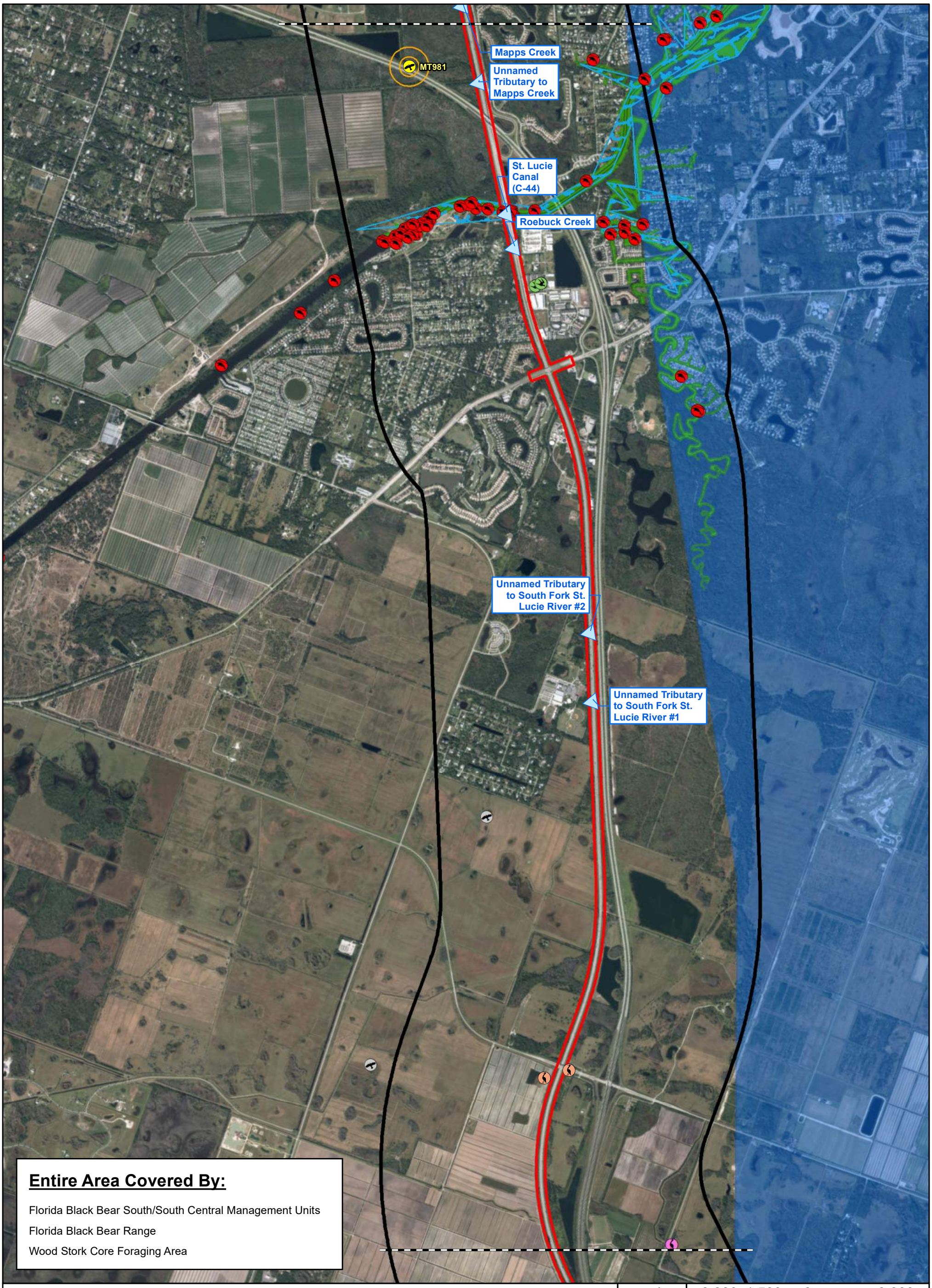

Entire Area Covered By:

Florida Black Bear South/South Central Management Units

Florida Black Bear Range

Wood Stork Core Foraging Area

Legend

- Preferred Alternative ROW
- Other Surface Water Crossing
- 1 Mile Buffer of Preferred Alternative
- Bald Eagle Nest
- Crested Caracara Telemetry Point
- Least Tern
- Manatee Mortality
- Florida Sandhill Crane
- 660ft Eagle Nest Buffer
- Florida Scrub Jay Service Area
- Essential Fish Habitat
- State Manatee Protection Zone

KCA Observed:

- Wood Stork

N W E S

3,000 1,500 0 3,000

Feet

Protected Species Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Blakeslee Creek
SL001
Winters Creek
SE Becker Road Interchange
County Line Canal (C-23)
SL991a
SL991
ST LUCIE COUNTY
MARTIN COUNTY
Bessy Creek
Unnamed Tributary to Bessy Creek
MT031
MT031b
MT031a
SW Martin Highway Interchange
Danforth Creek
MT018
Mapps Creek

Entire Area Covered By:

Florida Black Bear South/South Central Management Units

Florida Black Bear Range

Wood Stork Core Foraging Area

Legend

- Preferred Alternative ROW
- Other Surface Water Crossing
- County Line
- 1 Mile Buffer of Preferred Alternative
- Bald Eagle Nest
- Black Bear Related Calls
- Least Tern
- Manatee Mortality
- 660ft Eagle Nest Buffer
- Florida Scrub Jay Service Area
- Essential Fish Habitat
- State Manatee Protection Zone

KCA Observed:

- Florida Sandhill Crane Nest
- Gopher Tortoise Burrow
- Little Blue Heron

N W E S

3,000 1,500 0 3,000

Feet

Protected Species Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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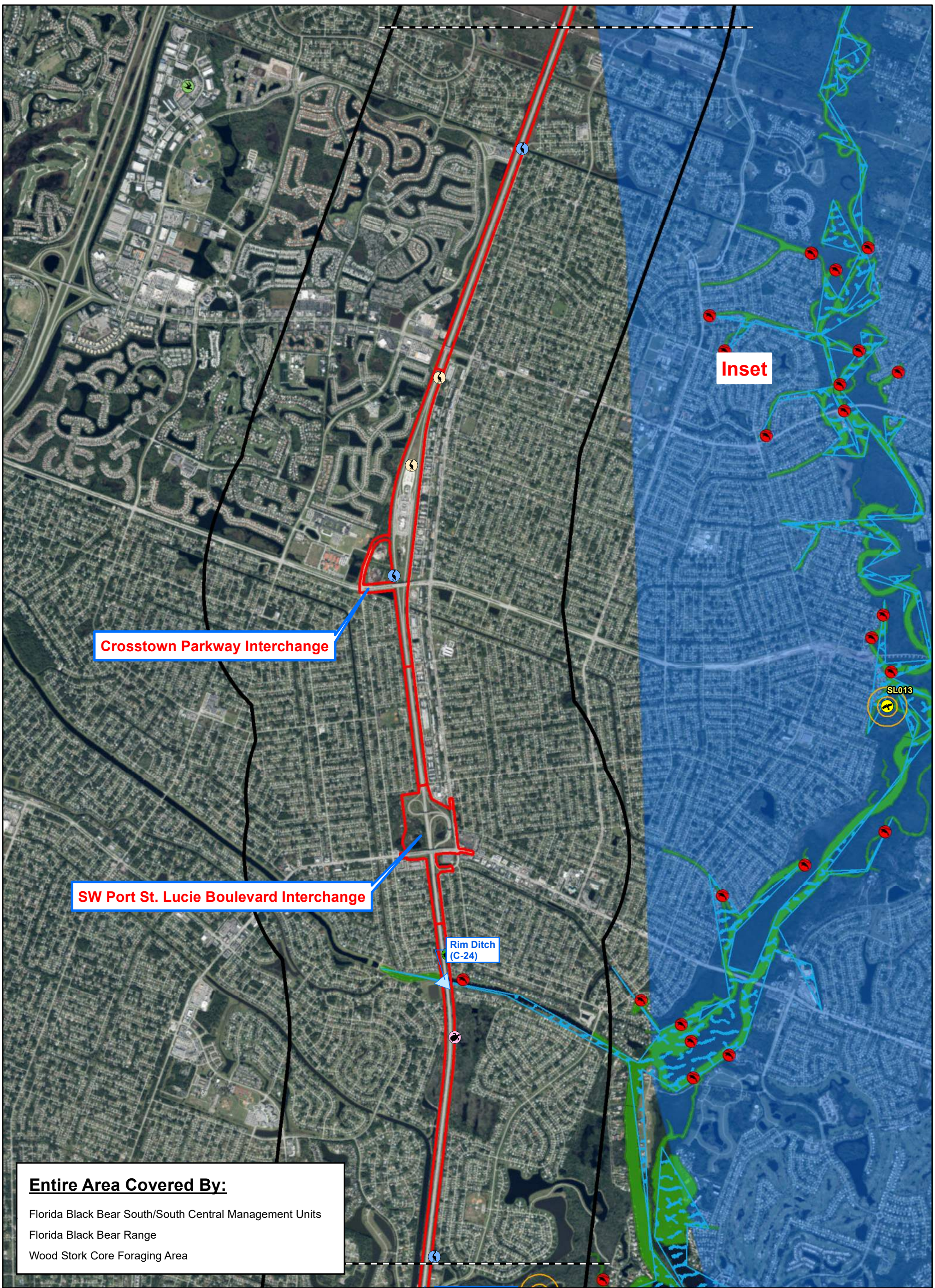

Legend

- Preferred Alternative ROW
- Other Surface Water Crossing
- 1 Mile Buffer of Preferred Alternative
- Bald Eagle Nest
- Least Tern
- Manatee Mortality
- 660ft Eagle Nest Buffer
- Florida Scrub Jay Service Area
- Essential Fish Habitat
- State Manatee Protection Zone

KCA Observed:

- Florida Sandhill Crane
- Gopher Tortoise
- Gopher Tortoise Burrow
- Little Blue Heron

N W E S

3,000 1,500 0 3,000

Feet

Protected Species Location Map
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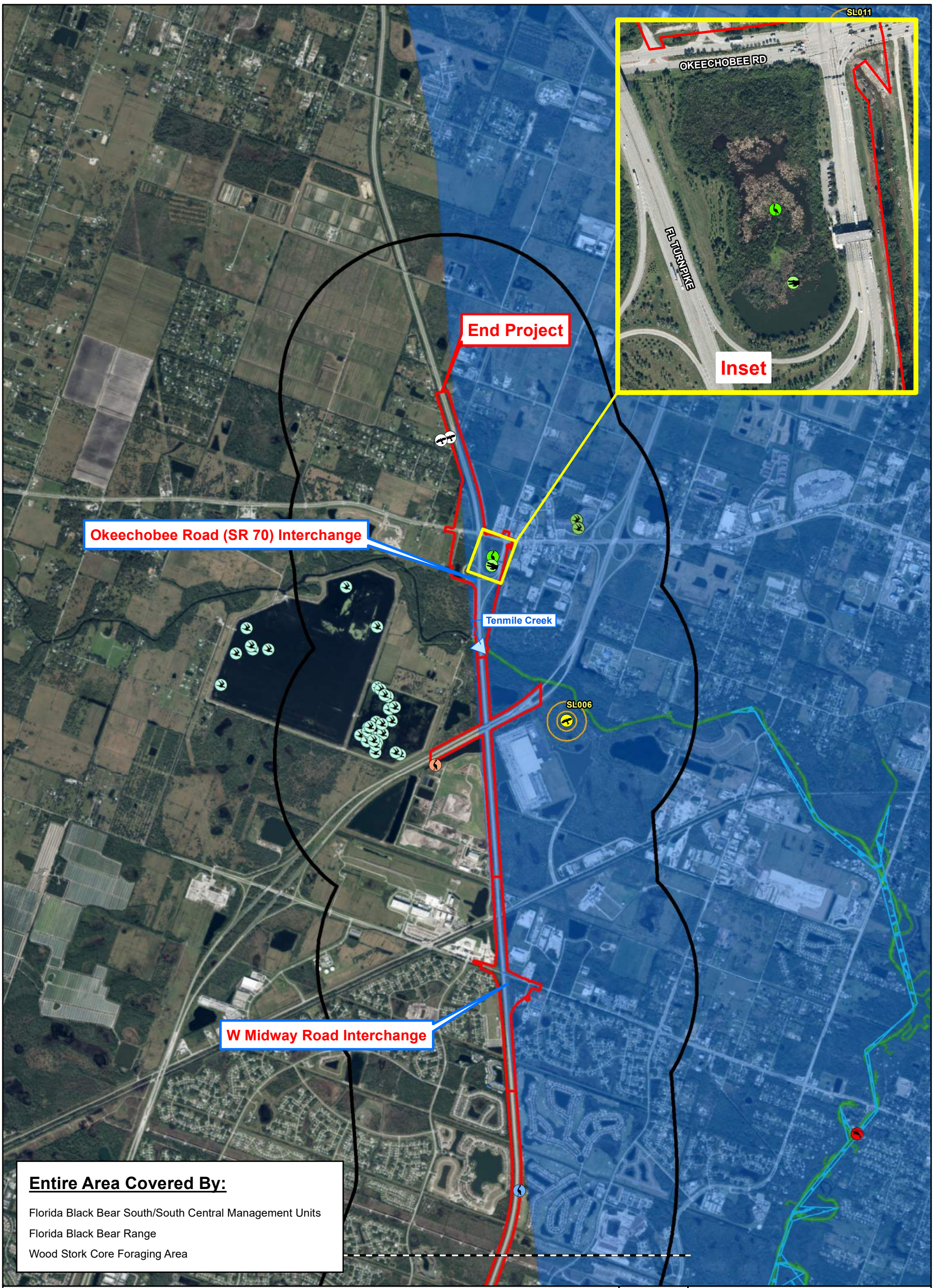

Legend

- Preferred Alternative ROW
- Other Surface Water Crossing
- 1 Mile Buffer of Preferred Alternative
- Bald Eagle Nest
- Least Tern
- Manatee Mortality
- Snail Kite Observation
- 660ft Eagle Nest Buffer
- Florida Scrub Jay Service Area
- Essential Fish Habitat
- State Manatee Protection Zone

KCA Observed:

- American Alligator
- Little Blue Heron
- Osprey
- Rookery
- Wood Stork

N W E S

3,000 1,500 0 3,000

Feet

Protected Species Location Map
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APPENDIX H

Species Determination of Effect Keys (Eastern Indigo Snake, Wood Stork, Florida Bonneted Bat, and West Indian Manatee)

Eastern Indigo Snake Determination of Effect Key

A. Project is not located in open water or salt marsh.....go to B

Project is located solely in open water or salt marsh.....**no effect**

B. Permit will be conditioned for use of the Service's most current guidance for Standard Protection Measures For The Eastern Indigo Snake (currently 2013) during site preparation and project construction.....go to C

Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested.....**may affect**

C. The project will impact less than 25 acres of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....go to D

The project will impact 25 acres or more of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....**may affect**

D. The project has no known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and/or injured during project activities.....**NLAA**

The project has known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and /or injured.....go to E

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow[1]. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work.....**NLAA**[2]

Permit will not be conditioned as outlined above.....**may affect**

End Key

---

[1] If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a Florida Fish and Wildlife Conservation Commission Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at http://myfwc.com/gophertortoise.

[2] Please note, if the proposed project will impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, NLAA is not the appropriate conclusion. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range

Wood Stork Determination of Effect Key

The SFESO recognizes a 29.9 kilometer [km] (18.6-mile) core foraging area (CFA) around all known wood stork colonies in south Florida. Enclosure 2 (to be updated as necessary) provides locations of colonies and their CFAs in south Florida that have been documented as active within the last 10 years. The Service believes loss of suitable wetlands within these CFAs may reduce foraging opportunities for the wood stork. To minimize adverse effects to the wood stork, we recommend compensation be provided for impacts to foraging habitat. The compensation should consider wetland type, location, function, and value (hydrology, vegetation, prey utilization) to ensure that wetland functions lost due to the project are adequately offset. Wetlands offered as compensation should be of the same hydroperiod and located within the CFAs of the affected wood stork colonies. The Service may accept, under special circumstances, wetland compensation located outside the CFAs of the affected wood stork nesting colonies. On occasion, wetland credits purchased from a "Service Approved" mitigation bank located outside the CFAs could be acceptable to the Service, depending on location of impacted wetlands relative to the permitted service area of the bank, and whether or not the bank has wetlands having the same hydroperiod as the impacted wetland.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing the Wood Stork Effect Determination Key below. If the use of this key results in a Corps determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination[1]. This Key is subject to revisitation as the Corps and Service deem necessary.

The Key is as follows:

A. Project within 0.76 km (0.47 mile)[2] of an active colony site[3] ..... "*may affect*[4]"

Project impacts Suitable Foraging Habitat (SFH)[5] at a location greater than 0.76 km (0.47 mile) from a colony site..... ..... "*go to* B"

---

[1] With an outcome of "no effect" or "NLAA" as outlined in this key, and the project has less than 20.2 hectares (50 acres) of wetland impacts, the requirements of section 7 of the Act are fulfilled for the wood stork and no further action is required. For projects with greater than 20.2 hectares (50 acres) of wetland impacts, written concurrence of NLAA from the Service is necessary.

[2] Within the secondary zone (the average distance from the border of a colony to the limits of the secondary zone is 0.76 km (2,500 feet, or 0.47 mi).

[3] An active colony is defined as a colony that is currently being used for nesting by wood storks or has historically over the last 10 years been used for nesting by wood storks.

[4] Consultation may be concluded informally or formally depending on project impacts.

[5] Suitable foraging habitat (SFH) includes wetlands that typically have shallow-open water areas that are relatively calm and have a permanent or seasonal water depth between 5 to 38 cm (2 to 15 inches) deep. Other shallow non-wetland water bodies are also SFH. SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to freshwater marshes, small ponds, shallow, seasonally flooded roadside or agricultural ditches, seasonally flooded pastures, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.

Project does not affect SFH……..…..*"no effect*[1]*"*.

B. Project impact to SFH is less than 0.20 hectare (one-half acre)[6]……..……*NLAA*[1]"

Project impact to SFH is greater in scope than 0.20 hectare (one-half acre)....……*go to* C

C. Project impacts to SFH not within the CFA (29.9 km, 18.6 miles) of a colony site ……..……..……..……*go to* D

Project impacts to SFH within the CFA of a colony site ……..……...…….*go to* E

D. Project impacts to SFH have been avoided and minimized to the extent practicable; compensation (Service approved mitigation bank or as provided in accordance with Mitigation Rule 33 CFR Part 332) for unavoidable impacts is proposed in accordance with the CWA section 404(b)(1) guidelines; and habitat compensation replaces the foraging value matching the hydroperiod[7] of the wetlands affected and provides foraging value similar to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance[8]…….. *NLAA*[1]"

Project not as above…….... "*may affect*[4]"

E. Project provides SFH compensation in accordance with the CWA section 404(b)(1) guidelines and is not contrary to the HMG; habitat compensation is within the appropriate CFA or within the service area of a Service-approved mitigation bank; and habitat compensation replaces foraging value, consisting of wetland enhancement or restoration matching the hydroperiod[7] of the wetlands affected, and provides foraging value similar

---

[6] On an individual basis, SFH impacts to wetlands less than 0.20 hectare (one-half acre) generally will not have a measurable effect on wood storks, although we request that the Corps require mitigation for these losses when appropriate. Wood storks are a wide ranging species, and individually, habitat change from impacts to SFH less than one-half acre are not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

[7] Several researchers (Flemming et al. 1994; Ceilley and Bortone 2000) believe that the short hydroperiod wetlands provide a more important pre-nesting foraging food source and a greater early nestling survivor value for wood storks than the foraging base (grams of fish per square meter) than long hydroperiod wetlands provide. Although the short hydroperiod wetlands may provide less fish, these prey bases historically were more extensive and met the foraging needs of the pre-nesting storks and the early-age nestlings. Nest productivity may suffer as a result of the loss of short hydroperiod wetlands. We believe that most wetland fill and excavation impacts permitted in south Florida are in short hydroperiod wetlands. Therefore, we believe that it is especially important that impacts to these short hydroperiod wetlands within CFAs are avoided, minimized, and compensated for by enhancement/restoration of short hydroperiod wetlands.

[8] For this Key, the Service requires an analysis of foraging prey base losses and enhancements from the proposed action as shown in the examples in Enclosure 3 for projects with greater than 2.02 hectares (5 acres) of wetland impacts. For projects with less than 2.02 hectares (5 acres) of wetland impacts, an individual foraging prey base analysis is not necessary although type for type wetland compensation is still a requirement of the Key.

to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance[8]..... *"NLAA[1]"*

Project does not satisfy these elements ..... *"may affect[4]"*

This Key does not apply to Comprehensive Everglades Restoration Plan projects, as they will require project-specific consultations with the Service.

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued where the effect determination was: "may affect, not likely to adversely affect." We request that the Corps send us an annual summary consisting of: project dates, Corps identification numbers, project acreages, project wetland acreages, and project locations in latitude and longitude in decimal degrees.

Thank you for your cooperation and effort in protecting federally listed species. If you have any questions, please contact Allen Webb at extension 246.

Sincerely yours,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

Enclosures

cc: w/enclosures (electronic only)
Corps, Jacksonville, Florida (Stu Santos)
EPA, West Palm Beach, Florida (Richard Harvey)
FWC, Vero Beach, Florida (Joe Walsh)
Service, Jacksonville, Florida (Billy Brooks)

Florida Bonneted Bat Determination of Effect Key

Florida Bonneted Bat Consultation Key[#]

Use the following key to evaluate potential effects to the Florida bonneted bat (FBB) from the proposed project. Refer to the Glossary as needed.

1a. Proposed project or land use change is partially or wholly within the Consultation Area (Figure 1)..... **Go to 2**
1b. Proposed project or land use change is wholly outside of the Consultation Area (Figure 1)..... **No Effect**

2a. Potential FBB roosting habitat exists within the project area..... **Go to 3**
2b. No potential FBB roosting habitat exists within the project area..... **Go to 13**

3a. Project size/footprint* ≤ 5 acres (2 hectares)..... **Conduct Limited Roost Survey (Appendix C)** then **Go to 4**
3b. Project size/footprint* > 5 acres (2 hectares)..... **Conduct Full Acoustic/Roost Surveys (Appendix B)** then **Go to 6**

4a. Results show FBB roosting is likely ..... **Go to 5**
4b. Results do not show FBB roosting is likely..... **MANLAA-P if BMPs (Appendix D) used and survey reports are submitted. Programmatic concurrence.**

5a. Project will affect roosting habitat..... **LAA[+] Further consultation with the Service required.**
5b. Project will not affect roosting habitat..... **MANLAA-C with required BMPs (Appendix D). Further consultation with the Service required.**

6a. Results show some FBB activity..... **Go to 7**
6b. Results show no FBB activity..... **No Effect**

7a. Results show FBB roosting is likely..... **Go to 8**
7b. Results do not show FBB roosting is likely..... **Go to 10**

8a. Project will not affect roosting habitat..... **Go to 9**
8b. Project will affect roosting habitat..... **LAA[+] Further consultation with the Service required.**

9a. Project will affect* > 50 acres (20 hectares) (wetlands and uplands) of foraging habitat..... **LAA[+] Further consultation with the Service required.**
9b. Project will affect* ≤ 50 acres (20 hectares) (wetlands and uplands) of foraging habitat..... **MANLAA-C with required BMPs (Appendix D). Further consultation with the Service required.**

10a. Results show high FBB activity/use..... **Go to 11**
10b. Results do not show high FBB activity/use..... **Go to 12**

11a. Project will affect* > 50 acres (20 hectares) (wetlands and uplands) of FBB habitat (roosting and/or foraging)..... **LAA[+] Further consultation with the Service required.**
11b. Project will affect* ≤ 50 acres (20 hectares) (wetlands and uplands) of FBB habitat (roosting and/or foraging)..... **MANLAA-C with required BMPs (Appendix D). Further consultation with the Service required.**

12a. Project will affect* > 50 acres (20 hectares) (wetlands and uplands) of FBB habitat..... **LAA[+] Further consultation with the Service required.**
12b. Project will affect* ≤ 50 acres (20 hectares) (wetlands and uplands) of FBB habitat..... **MANLAA-P if BMPs (Appendix D) used and survey reports are submitted. Programmatic concurrence.**

Note: Effect determination key cannot be completed until the Full Acoustic/Roost Surveys required in 3b. are completed.

13a. FBB foraging habitat exists within the project area and foraging habitat will be affected…..……..**Go to 14**

13b. FBB foraging habitat exists within the project area and foraging habitat will not be affected **OR** no FBB foraging habitat exists within the project area…..……..**No Effect**

14a. Project size* > 50 acres (20 hectares) (wetlands and uplands) ……..…….....**Go to 15**

14b. Project size* ≤ 50 acres (20 hectares) (wetlands and uplands) ……...….. **MANLAA-P if BMPs (Appendix D) used. Programmatic concurrence.**

15a. Project is within 8 miles (12.9 kilometers) of high quality potential roosting areas^……..……**Conduct Full Acoustic Survey (Appendix B) and Go to 16**

15b. Project is not within 8 miles (12.9 kilometers) of high quality potential roosting area^…….....….**MANLAA-P if BMPs (Appendix D) used. Programmatic concurrence.**

16a. Results show some FBB activity……...…….....**Go to 17**

16b. Results show no FBB activity……..…….…....**No Effect**

17a. Results show high FBB activity/use……...…...…....**LAA[+] Further consultation with the Service required.**

17b. Results do not show high FBB activity/use……..……... **MANLAA-P if BMPs (Appendix D) used and survey reports submitted. Programmatic concurrence.**

[#] If you are within the urban environment and you are renovating an existing artificial structure (with or without additional ground disturbing activities), these Guidelines do not apply. The Service is developing separate guidelines for consultation in these situations. Until the urban guidelines are complete, please contact the Service for additional guidance

*****Includes wetlands and uplands that are going to be altered along with a 250- foot (76.2- meter) buffer around these areas if the parcel is larger than the altered area.

[+]Project modifications could change the **LAA** determinations in numbers 5, 8, 9, 11, 12, and 17 to **MANLAA** determinations.

^Determining if **high quality potential roosting areas** are within 8 mi (12.9 km) of a project is intended to be a desk-top exercise looking at most recent aerial imagery, not a field exercise.

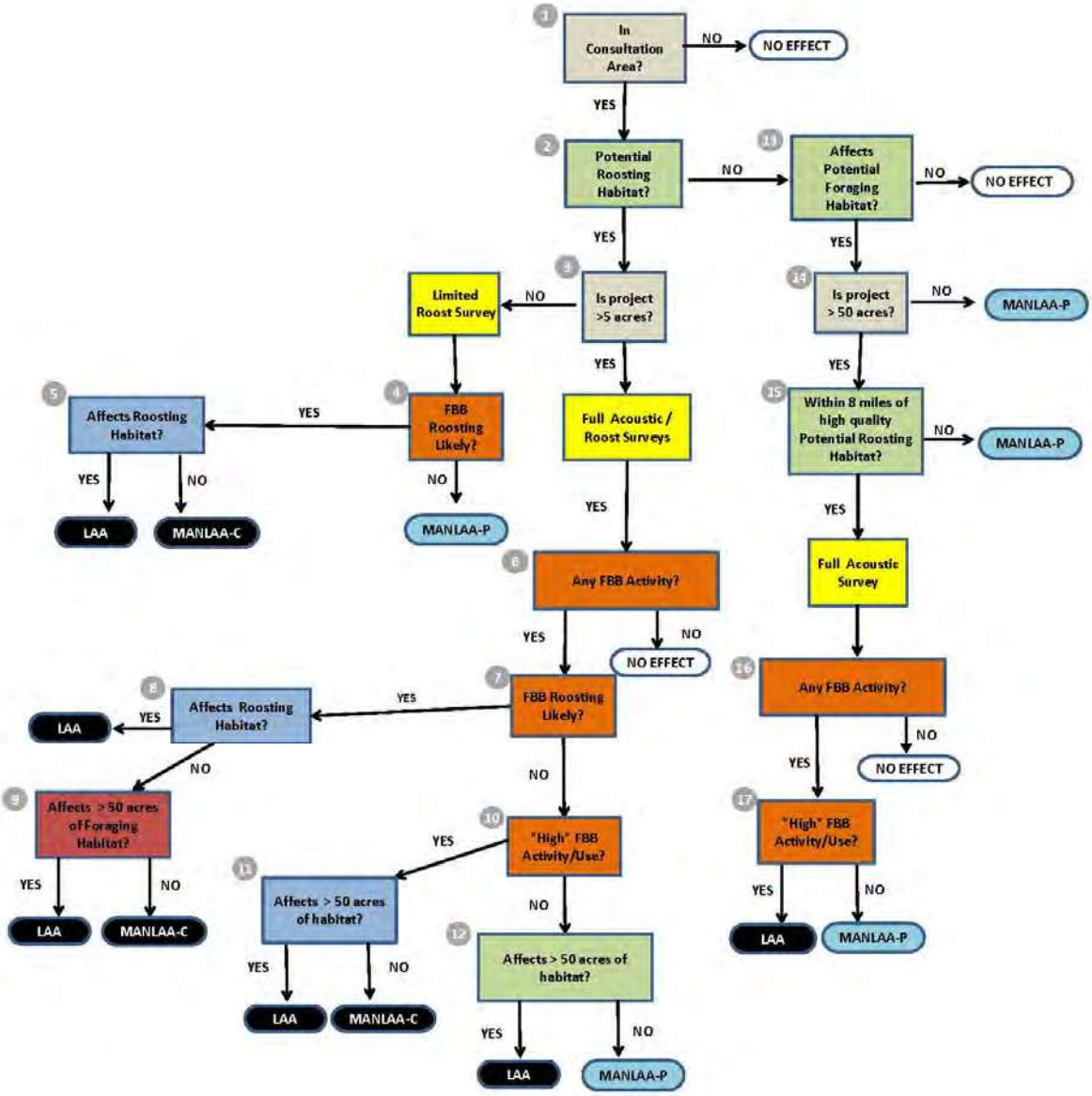

Figure 3. Florida bonneted bat Consultation Flowchart. "**No effect**" determinations do not need Service concurrence. "May affect, but not likely to adversely affect", **MANLAA-P,** in blue have programmatic concurrence through the transmittal letter of these Guidelines, and therefore no further consultation with the Service is necessary unless assistance is needed in interpreting survey results. **MANLAA-C** determinations in black require further consultation with the Service. Applicants are expected to incorporate the appropriate **BMPs** to reach a **MANLAA** determination. "May affect, and is likely to adversely affect", **LAA, (**also in black) determinations require consultation with the Service. Further consultation with the Service may identify project modifications that could change the **LAA** determinations in numbers 5, 8, 9, 11, 12, and 17 to **MANLAA** determinations. The Service requests Florida bonneted bat survey reports for all determinations.

West Indian Manatee Determination of Effect Key

THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, AND THE STATE OF FLORIDA EFFECT DETERMINATION KEY FOR THE MANATEE IN FLORIDA
April 2013

Purpose and background of the key

The purpose of this document is to provide guidance to improve the review of permit applications by U.S. Army Corps of Engineers' (Corps) Project Managers in the Regulatory Division regarding the potential effects of proposed projects on the endangered West Indian manatee (*Trichechus manatus*) in Florida, and by the Florida Department of Environmental Protection or its authorized designee or Water Management District, for evaluating projects under the State Programmatic General Permit (SPGP) or any other Programmatic General Permits that the Corps may issue for administration by the above agencies. Such guidance is contained in the following dichotomous key. The key applies to permit applications for in-water activities such as, but not limited to: (1) dredging [new or maintenance dredging of not more than 50,000 cubic yards], placement of fill material for shoreline stabilization, and construction/placement of other in-water structures as well as (2) construction of docks, marinas, boat ramps and associated trailer parking spaces, boat slips, dry storage or any other watercraft access structures or facilities.

At a certain step in the key, the user is referred to graphics depicting important manatee areas or areas with inadequate protection. The maps can be downloaded from the Corps' web page at http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx. We intend to utilize the most recent depiction of these areas, so should these areas be modified by statute, rule, ordinance and/or other legal mandate or authorization, we will modify the graphical depictions accordingly. These areas may be shaded or otherwise differentiated for identification on the maps.

Explanatory footnotes are provided in the key and must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effect determinations on manatees and should not be used for other listed species or for other aquatic resources such as Essential Fish Habitat (EFH). Corps Project Managers should ensure that consideration of the project's effects on any other listed species and/or on EFH is performed independently. This key may be used to evaluate applications for all types of State of Florida (State Programmatic General Permits, noticed general permits, standard general permits, submerged lands leases, conceptual and individual permits) and Department of the Army (standard permits, letters of permission, nationwide permits, and regional general permits) permits and authorizations. The final effect determination will be based on the project location and description; the potential effects to manatees, manatee habitat, and/or manatee critical habitat; and any measures (such as project components, standard construction precautions, or special conditions included in the authorization) to avoid or minimize effects to manatees or manatee critical habitat. Projects that key to a "may affect" determination equate to "likely to adversely affect" situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For

all “may affect” determinations, Corps Project Managers shall refer to the Manatee Programmatic Biological Opinion, dated March 21, 2011, for guidance on eliminating or minimizing potential adverse effects resulting from the proposed project. If unable to resolve the adverse effects, the Corps may refer the applicant to the U.S. Fish and Wildlife Service (Service) for further assistance in attempting to revise the proposed project to a “may affect, not likely to adversely affect” level. The Service will coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) and the counties, as appropriate. Projects that provide new access for watercraft and key to “may affect, not likely to adversely affect” may or may not need to be reviewed individually by the Service.

MANATEE KEY
Florida[1]
April 2013

The key is not designed to be used by the Corps' Regulatory Division for making their effect determinations for dredging projects greater than 50,000 cubic yards, the Corps' Planning Division in making their effect determinations for civil works projects or by the Corps' Regulatory Division for making their effect determinations for projects of the same relative scope as civil works projects. These types of activities must be evaluated by the Corps independently of the key.

A. Project is not located in waters accessible to manatees and does not directly or indirectly affect manatees (see Glossary).....*No effect*

Project is located in waters accessible to manatees **or** directly or indirectly affects manatees ..... B

B. Project consists of one or more of the following activities, all of which are *May affect*:

1. blasting or other detonation activity for channel deepening and/or widening, geotechnical surveys or exploration, bridge removal, movies, military shows, special events, etc.;

2. installation of structures which could restrict or act as a barrier to manatees;

3. new or changes to existing warm or fresh water discharges from industrial sites, power plants, or natural springs or artesian wells (but only if the new or proposed change in discharge requires a Corps permit to accomplish the work);

4. installation of new culverts and/or maintenance or modification of existing culverts (where the culverts are 8 inches to 8 feet in diameter, ungrated and in waters accessible, or potentially accessible, to manatees)[2];

5. mechanical dredging from a floating platform, barge or structure[3] that restricts manatee access to less than half the width of the waterway;

6. creation of new slips or change in use of existing slips, even those located in a county with a State-approved Manatee Protection Plan (MPP) in place and the number of slips is less than the MPP threshold, to accommodate docking for repeat use vessels, (*e.g.*, water taxis, tour boats, gambling boats, etc; or slips or structures that are not civil works projects, but are frequently used to moor large vessels (>100') for shipping and/or freight purposes; does not include slips used for docking at boat sales or repair facilities or loading/unloading at dry stack storage facilities and boat ramps); [Note: For projects within Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the reviewer should proceed to Couplet C.]

7. any type of in-water activity in a Warm Water Aggregation Area (WWAA) or No Entry Area (see Glossary and accompanying Maps[4]); [Note: For residential docking facilities in a Warm Water Aggregation Area that is not a Federal manatee sanctuary or No Entry Area, the reviewer should proceed to couplet C.]

8. creation or expansion of canals, basins or other artificial shoreline and/or the connection of such features to navigable waters of the U.S.; [Note: For projects proposing a single residential dock, the reviewer should proceed to couplet C; otherwise, project is a *May Affect*.]

9. installation of temporary structures (docks, buoys, etc.) utilized for special events such as boat races, boat shows, military shows, etc., but only when consultation with the U.S. Coast Guard and FWS has not occurred; [Note: See programmatic consultation with the U.S. Coast Guard on manatees dated May 10, 2010.].

Project is other than the activities listed above C

C. Project is located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps[4]) ..... D

Project is not located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps[4]) ..... G

D. Project includes dredging of less than 50,000 cubic yards ..... E

Project does not include dredging ..... G

E. Project is for dredging a residential dock facility or is a land-based dredging operation ..... N

Project not as above ..... F

F. Project proponent **does not elect** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed ..... *May affect*

Project proponent **elects** to follow all dredging protocols described on the maps for the respective IMA in which the project is proposed ..... G

G. Project provides new[5] access for watercraft, *e.g.*, docks or piers, marinas, boat ramps and associated trailer parking spaces, new dredging, boat lifts, pilings, floats, floating docks, floating vessel platforms, boat slips, dry storage, mooring buoys, or other watercraft access (residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access) or improvements allowing increased watercraft usage ..... H

Project does not provide new[5] access for watercraft, *e.g.*, bulkheads, seawalls, riprap, maintenance dredging, boardwalks and/or the maintenance (repair or rehabilitation) of currently serviceable watercraft access structures provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements do not allow increased watercraft usage ..... N

H. Project is located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map[4]) ..... *May affect*

Project is not located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map[4]) I

I. Project is for a multi-slip facility (see Glossary) ..... J

Project is for a residential dock facility or is for dredging (see Glossary) ..... N

J. Project is located in a county that currently has a State-approved MPP in place (BREVARD, BROWARD, CITRUS, CLAY, COLLIER, DUVAL, INDIAN RIVER, LEE, MARTIN, MIAMI-DADE, PALM BEACH, ST. LUCIE, SARASOTA, VOLUSIA) or shares contiguous waters with a county having a State-approved MPP in place (LAKE, MARION, SEMINOLE)[6] ..... K

Project is located in a county not required to have a State-approved MPP L

K. Project has been developed or modified to be consistent with the county's State-approved MPP **and** has been verified by a FWC review (or FWS review if project is exempt from State permitting) **or** the number of slips is below the MPP threshold ..... N

Project has not been reviewed by the FWC or FWS **or** has been reviewed by the FWC or FWS **and** determined that the project is not consistent with the county's State-approved MPP ..... *May affect*

L. Project is located in one of the following counties: CHARLOTTE, DESOTO[7], FLAGLER, GLADES, HENDRY, HILLSBOROUGH, LEVY, MANATEE, MONROE[7], PASCO[7], PINELLAS ..... M

Project is located in one of the following counties: BAY, DIXIE, ESCAMBIA, FRANKLIN, GILCHRIST, GULF, HERNANDO, JEFFERSON, LAFAYETTE, MONROE (south of Craig Key), NASSAU, OKALOOSA, OKEECHOBEE, PUTNAM, SANTA ROSA, ST. JOHNS, SUWANNEE, TAYLOR, WAKULLA, WALTON ..... N

M. The number of slips does not exceed the residential dock density threshold (see Glossary) ..... N

The number of slips exceeds the residential dock density threshold (see Glossary) ..... *May affect*

N. Project impacts to submerged aquatic vegetation[8], emergent vegetation or mangrove will have beneficial, insignificant, discountable[9] or no effects on the manatee[10] ..... O

Project impacts to submerged aquatic vegetation[8], emergent vegetation or mangrove may adversely affect the manatee[10] ..... *May affect*

O. Project proponent **elects** to follow standard manatee conditions for in-water work[11] and requirements, as appropriate for the proposed activity, prescribed on the maps[4] ..... P

Project proponent **does not elect** to follow standard manatee conditions for in-water work[11] and appropriate requirements prescribed on the maps[4] ..... *May affect*

P. If project is for a new or expanding[5] multi-slip facility and is located in a county with a State-approved MPP in place **or** in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Putnam, St. Johns, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

If project is for a new or expanding[5] multi-slip facility and is located in Charlotte, Desoto, Flagler, Glades, Hendry, Hillsborough, Levy, Manatee, Monroe (north of Craig Key), Pasco, or Pinellas County, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations.

If project is for repair or rehabilitation of a multi-slip facility and is located in an Important Manatee Area, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. If project is for repair or rehabilitation of a multi-slip facility and: (1) is not located in an Important Manatee Area; (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

If project is a residential dock facility, shoreline stabilization, or dredging, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary. Note: For residential dock facilities located in a Warm Water Aggregation Area or in a No Entry area, seasonal restrictions may apply. See footnote 4 below for maps showing restrictions.

If project is other than repair or rehabilitation of a multi-slip facility, a new[5] multi-slip facility, residential dock facility, shoreline stabilization, or dredging, and does not provide new[5] access for watercraft or

improve an existing access to allow increased watercraft usage, the determination of "*May affect, not likely to adversely affect*" is appropriate[12] and no further consultation with the Service is necessary.

[1] On the St. Mary's River, this key is only applicable to those areas that are within the geographical limits of the State of Florida.

[2] All culverts 8 inches to 8 feet in diameter must be grated to prevent manatee entrapment. To effectively prevent manatee access, grates must be permanently fixed, spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) and may be installed diagonally, horizontally or vertically. For new culverts, grates must be attached prior to installation of the culverts. Culverts less than 8 inches or greater than 8 feet in diameter are exempt from this requirement. If new culverts and/or the maintenance or modification of existing culverts are grated as described above, the determination of "*May affect, not likely to adversely affect*" is appropriate[11] and no further consultation with the Service is necessary.

[3] If the project proponent agrees to follow the standard manatee conditions for in-water work as well as any special conditions appropriate for the proposed activity, further consultation with the Service is necessary for "*May affect, not likely to adversely affect*" determinations. These special conditions may include, but are not limited to, the use of dedicated observers (see Glossary for definition of dedicated observers), dredging during specific months (warm weather months vs cold weather months), dredging during daylight hours only, adjusting the number of dredging days, does not preclude or discourage manatee egress/ingress with turbidity curtains or other barriers that span the width of the waterway, etc.

[4] Areas of Inadequate Protection (AIPs), Important Manatee Areas (IMAs), Warm Water Aggregation Areas (WWAAs) and No Entry Areas are identified on these maps and defined in the Glossary for the purposes of this key. These maps can be viewed on the Corps' web page. If projects are located in a No Entry Area, special permits may be required from FWC in order to access these areas (please refer to Chapter 68C-22 F.A.C. for boundaries; maps are also available at FWC's web page).

[5] New access for watercraft is the addition or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (maintenance dredging, residential boat lifts, pilings, floating docks, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, new dredging, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees. The repair or rehabilitation of any type of currently serviceable watercraft access structure is not considered new access provided all of the following are met: (1) the number of slips is not increased; (2) the number of existing slips is not in question; and (3) the improvements to the existing watercraft access structures do not result in increased watercraft usage.

[6] Projects proposed within the St. Johns River portion of Lake, Marion, and Seminole counties and contiguous with Volusia County shall be evaluated using the Volusia County MPP.

[7] For projects proposed within the following areas: the Peace River in DeSoto County; all areas north of Craig Key in Monroe County, and the Anclote and Pithlachascotee Rivers in Pasco County, proceed to Couplet M. For all other locations in DeSoto, Monroe (south of Craig Key) and Pasco Counties, proceed to couplet N.

[8] Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat, proceed to couplet O.

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, the applicant can elect to avoid/minimize impacts to that vegetation. In that instance, where impacts are unavoidable and the applicant elects to abide by or employ construction techniques that exceed the criteria in the following documents, the reviewer should conclude that the impacts to SAV, marsh or mangroves would not adversely affect the manatee or its critical habitat and proceed to couplet O.

- "Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat," prepared jointly by the U.S. Army Corps of Engineers and the National Marine Fisheries Service (August 2001) [refer to the Corps' web page], and

- "Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's seagrass (*Halophila johnsonii*)," prepared jointly by the National Marine Fisheries Service and U.S. Army Corps of Engineers (October 2002), for those projects within the known range of Johnson's seagrass occurrence (Sebastian Inlet to central Biscayne Bay in the lagoon systems on the east coast of Florida) [refer to the Corps' web page],

Where the presence of the referenced vegetation is confirmed within the area affected by docks and other piling-supported minor structures and the reviewer has concluded that the impacts to SAV, marsh or mangroves would adversely affect the manatee or its critical habitat, and the applicant does not elect to follow the above Guidelines, the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

For activities other than docks and other piling-supported minor structures proposed in SAV, marsh, or mangroves (*e.g.*, new dredging, placement of riprap, bulkheads, etc.), if the reviewer determines the impacts to the SAV, marsh or mangroves will not adversely affect the manatee or its critical habitat, proceed to couplet O, otherwise the Corps will need to request formal consultation on the manatee with the Service as *May affect*.

[9] See Glossary, under "is not likely to adversely affect."

[10] Federal reviewers, when making your effects determination, consider effects to manatee designated critical habitat pursuant to section 7(a)(2) of the Endangered Species Act. State reviewers, when making your effects determination, consider effects to manatee habitat within the entire State of Florida, pursuant to Chapter 370.12(2)(b) Florida Statutes.

[11] See the Corps' web page for manatee construction conditions. At this time, manatee construction precautions c and f are not required in the following Florida counties: Bay, Escambia, Franklin, Gilchrist, Gulf, Jefferson, Lafayette, Okaloosa, Santa Rosa, Suwannee, and Walton.

[12] By letter dated April 25, 2013, the Corps received the Service's concurrence with "*May affect, not likely to adversely affect*" determinations made pursuant to this key for the following activities: (1) selected non-watercraft access projects; (2) watercraft-access projects that are residential dock facilities, excluding those located in the Braden River AIP; (3) launching facilities solely for kayaks and canoes, and (4) new or expanding multi-slip facilities located in Bay, Dixie, Escambia, Franklin, Gilchrist, Gulf, Hernando, Jefferson, Lafayette, Monroe (south of Craig Key), Nassau, Okaloosa, Okeechobee, Santa Rosa, Suwannee, Taylor, Wakulla or Walton County.

Additionally, in the same letter dated April 25, 2013, the Corps received the Service's concurrence for "*May affect, not likely to adversely affect*" determinations specifically made pursuant to Couplet G of the key for the repair or rehabilitation of currently serviceable multi-slip watercraft access structures provided all of the following are met: (1) the project is not located in an IMA, (2) the number of slips is not increased; (3) the number of existing slips is not in question; and (4) the improvements to the existing watercraft access structures do not allow increased watercraft usage. Upon receipt of such a programmatic concurrence, no further consultation with the Service for these projects is required.

GLOSSARY

Areas of inadequate protection (AIP) – Areas within counties as shown on the maps where the Service has determined that measures intended to protect manatees from the reasonable certainty of watercraft-related take are inadequate. Inadequate protection may be the result of the absence of manatee or other watercraft speed zones, insufficiency of existing speed zones, deficient speed zone signage, or the absence or insufficiency of speed zone enforcement.

Boat slip – A space on land or in or over the water, other than on residential land, that is intended and/or actively used to hold a stationary watercraft or its trailer, and for which intention and/or use is confirmed by legal authorization or other documentary evidence. Examples of boat slips include, but are not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

Critical habitat – For listed species, this consists of: (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act (ESA), on which are found those physical or biological features (constituent elements) (a) essential to the conservation of the species and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA, upon a determination by the Secretary that such areas are essential for the conservation of the species. Designated critical habitats are described in 50 CFR 17 and 50 CFR 226.

Currently serviceable – Currently, serviceable means usable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects – The direct or immediate effects of the project on the species or its habitat.

Dredging – For the purposes of this key, the term dredging refers to all in-water work associated with dredging operations, including mobilization and demobilization activities that occur in water or require vessels.

Emergent vegetation – Rooted emergent vascular macrophytes such as, but not limited to, cordgrass (*Spartina alterniflora and S. patens*), needle rush (J*uncus roemerianus*), swamp sawgrass (*Cladium mariscoides*), saltwort (*Batis maritima*), saltgrass (*Distichlis spicata*), and glasswort (*Salicornia virginica*) found in coastal salt marsh-related habitats (tidal marsh, salt marsh, brackish marsh, coastal marsh, coastal wetlands, tidal wetlands).

Formal consultation – A process between the Services and a Federal agency or applicant that: (1) determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; (2) begins with a Federal agency's written request and submittal of a complete initiation package; and (3) concludes with the issuance of a biological opinion and incidental take statement by either of the Services. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed

action "is not likely to adversely affect" listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.14]

Important manatee areas (IMA) – Areas within certain counties where increased densities of manatees occur due to the proximity of warm water discharges, freshwater discharges, natural springs and other habitat features that are attractive to manatees. These areas are heavily utilized for feeding, transiting, mating, calving, nursing or resting as indicated by aerial survey data, mortality data and telemetry data. Some of these areas may be federally-designated sanctuaries or state-designated "seasonal no entry" zones. Maps depicting important manatee areas and any accompanying text may contain a reference to these areas and their special requirements. Projects proposed within these areas must address their special requirements.

Indirect effects – Those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. Examples of indirect effects include, but are not limited to, changes in water flow, water temperature, water quality (*e.g.*, salinity, pH, turbidity, nutrients, chemistry), prop dredging of seagrasses, and manatee watercraft injury and mortality. Indirect effects also include watercraft access developments in waters not currently accessible to manatees, but watercraft access can, is, or may be planned to waters accessible to manatees by the addition of a boat lift or the removal of a dike or plug.

Informal consultation – A process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services' expertise to evaluate the agency's assessment of potential effects or to suggest possible modifications to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat). [50 CFR 402.02, 50 CFR 402.13]

In-water activity – Any type of activity used to construct/repair/replace any type of in-water structure or fill; the act of dredging.

In-water structures – watercraft access structures – Docks or piers, marinas, boat ramps, boat slips, boat lifts, floats, floating docks, pilings (depending on use), boat davits, etc.

In-water structures – other than watercraft access structures – Bulkheads, seawalls, riprap, groins, boardwalks, pilings (depending on use), etc.

Is likely to adversely affect – The appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effect is not: discountable, insignificant, or beneficial (see definition of "is not likely to adversely affect"). An "is likely to adversely affect" determination requires the initiation of formal consultation under section 7 of the ESA.

Is not likely to adversely affect – The appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. **Discountable effects** are those extremely unlikely to occur. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species. Based on best judgment, a person would not (1) be able to meaningfully measure, detect, or evaluate insignificant effects or (2) expect discountable effects to occur.

Manatee Protection Plan (MPP) – A manatee protection plan (MPP) is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives. Although MPPs are primarily developed by the counties, the plans are the product of extensive coordination and cooperation between the local governments, the FWC, the Service, and other interested parties.

Manatee Protection Plan thresholds – The smallest size of a multi-slip facility addressed under the purview of a Manatee Protection Plan (MPP). For most MPPs, this threshold is five slips or more. For Brevard, Clay, Citrus, and Volusia County MPPs, this threshold is three slips or more.

Mangroves – Rooted emergent trees along a shoreline that, for the purposes of this key, include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*).

May affect – The appropriate conclusion when a proposed action may pose <u>any</u> effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a "may affect" situation exists, then they must either request the Services to initiate formal consultation or seek written concurrence from the Services that the action "is not likely to adversely affect" listed species. For the purpose of this key, all "may affect" determinations equate to "likely to adversely affect" and Corps Project Managers should request the Service to initiate formal consultation on the manatee or designated critical habitat. **No effect** – the appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

Multi-slip facility – Multi-slip facilities include commercial marinas, private multi-family docks, boat ramps and associated trailer parking spaces, dry storage facilities and any other similar structures or activities that provide access to the water for multiple (five slips or more, except in Brevard, Clay, Citrus, and Volusia counties where it is three slips or more) watercraft. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

New access for watercraft – New dredging and the addition, expansion or improvement of structures such as, but not limited to, docks or piers, marinas, boat ramps and associated trailer parking spaces, boat lifts, pilings, floats, floating docks, floating vessel platforms, (residential boat lifts, pilings, floats, and floating vessel platforms installed in existing slips are not considered new access), boat slips, dry storage, mooring buoys, etc., that facilitates the addition of watercraft to, and/or increases watercraft usage in, waters accessible to manatees.

Observers – During dredging and other in-water operations within manatee accessible waters, the standard manatee construction conditions require all on-site project personnel to watch for manatees to ensure that those standard manatee construction conditions are met. Within important manatee areas (IMA) and under special circumstances, heightened observation is needed. **Dedicated Observers** are those having some prior experience in manatee observation, are dedicated only for this task, and must be someone other than the dredge and equipment operators/mechanics. **Approved Observers** are dedicated observers who also must be approved by the Service (if Federal permits are involved) and the FWC (if state permits are involved), prior to work commencement. Approved observers typically have significant and often project-specific observational experience. Documentation on prior experience must be submitted to these agencies for approval and must be submitted a minimum of 30 days prior to work commencement. When dedicated or approved observers are required, observers must be on site during all in-water activities, and be equipped with polarized sunglasses to aid in manatee observation. For prolonged in-water operations, multiple observers may be needed to perform observation in shifts to reduce fatigue (recommended shift length is no longer than six hours). Additional information concerning observer approval can be found at FWC's web page.

Residential boat lift – A boat lift installed on a residential dock facility.

Residential dock density ratio threshold – The residential dock density ratio threshold is used in the evaluation of multi-slip projects in some counties without a State-approved Manatee Protection Plan and is consistent with 1 boat slip per 100 linear feet of shoreline (1:100) owned by the applicant.

Residential dock facility – A residential dock facility means a private residential dock which is used for private, recreational or leisure purposes for single-family or multi-family residences designed to moor no more than four vessels (except in Brevard, Clay, Citrus, and Volusia counties which allow only two vessels). This also includes normal appurtenances such as residential boat lifts, boat shelters with open sides, stairways, walkways, mooring pilings, dolphins, etc. In some instances, the Corps and the Service may elect to review multiple residential dock facilities as a multi-slip facility.

Submerged aquatic vegetation (SAV) – Rooted, submerged, aquatic plants such as, but not limited to, shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), star grass (*Halophila engelmanni*), Johnson's seagrass (*Halophila johnsonii*), sago pondweed (*Potamogeton pectinatus*), clasping-leaved pondweed (*Potamogeton perfoliatus*), widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), turtle grass (*Thalassia testudinum*), tapegrass (*Vallisneria americana*), and horned pondweed (*Zannichellia palustris*).

Warm Water Aggregation Areas (WWAAs) and **No Entry Areas** – Areas within certain counties where increased densities of manatees occur due to the proximity of artificial or natural warm water discharges or springs and are considered necessary for survival. Some of these areas may be federally-designated manatee sanctuaries or state-designated seasonal "no entry" manatee protection zones. Projects proposed within these areas may require consultation in order to offset expected adverse impacts. In addition, special permits may be required from the FWC in order to access these areas.

Watercraft access structures – Docks or piers, marinas, boat ramps and associated trailer parking spaces, boat slips, boat lifts, floats, floating docks, pilings, boat davits, dry storage, etc.

Waters accessible to manatees – Although most waters of the State of Florida are accessible to the manatee, there are some areas such as landlocked lakes that are not. There are also some weirs, salinity control structures and locks that may preclude manatees from accessing water bodies. If there is any question about accessibility, contact the Service or the FWC.

APPENDIX I

Preferred Alternative Wetland and Other Surface Water Impact Map

End Project

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Wetland & Other Surface Water Impacts Map
Florida's Turnpike Mainline Widening
from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
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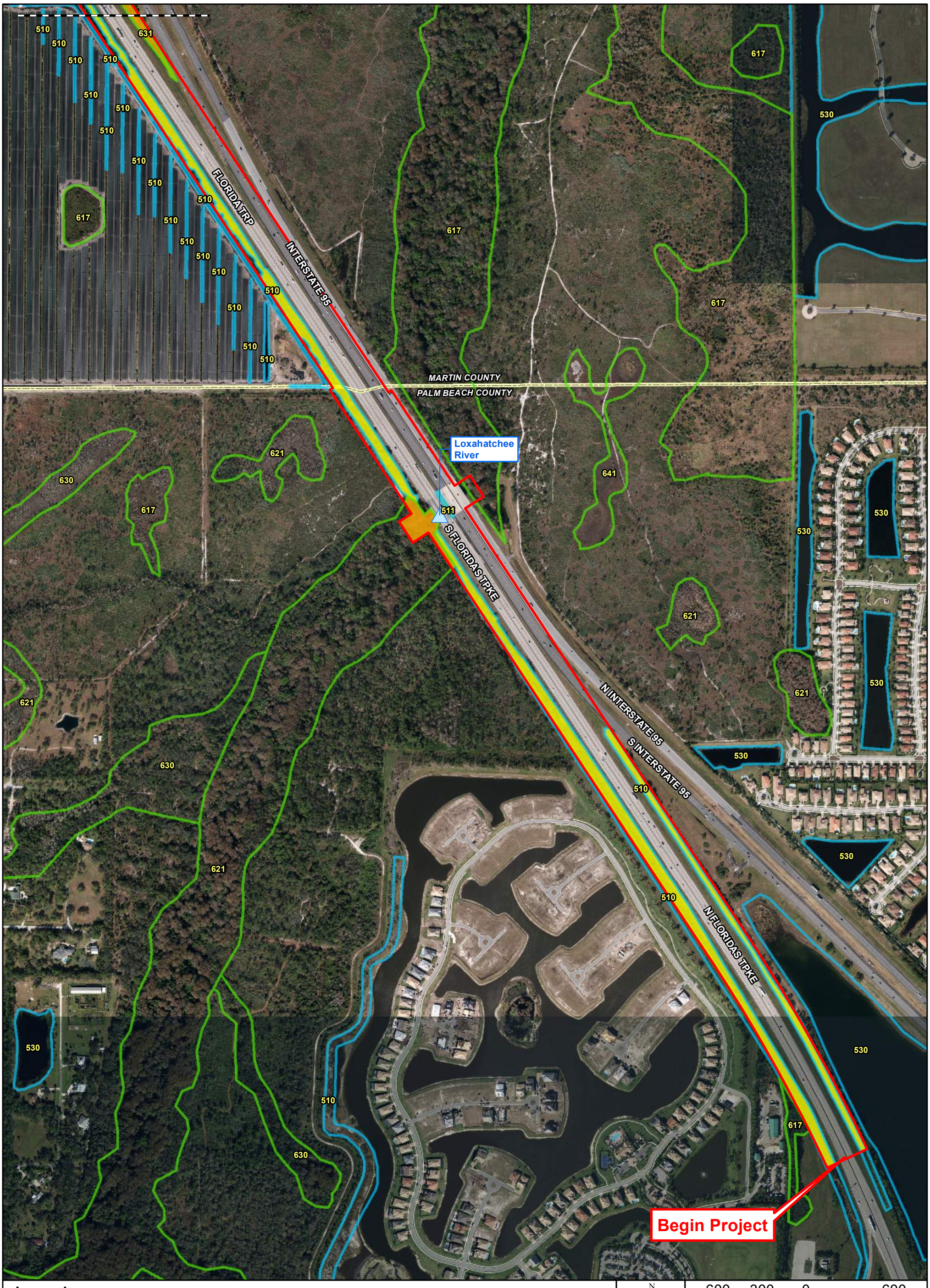
Tampa, FL 33602
Phone: 813/871-5331

Appendix I
Key Sheet



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N W E S

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Feet

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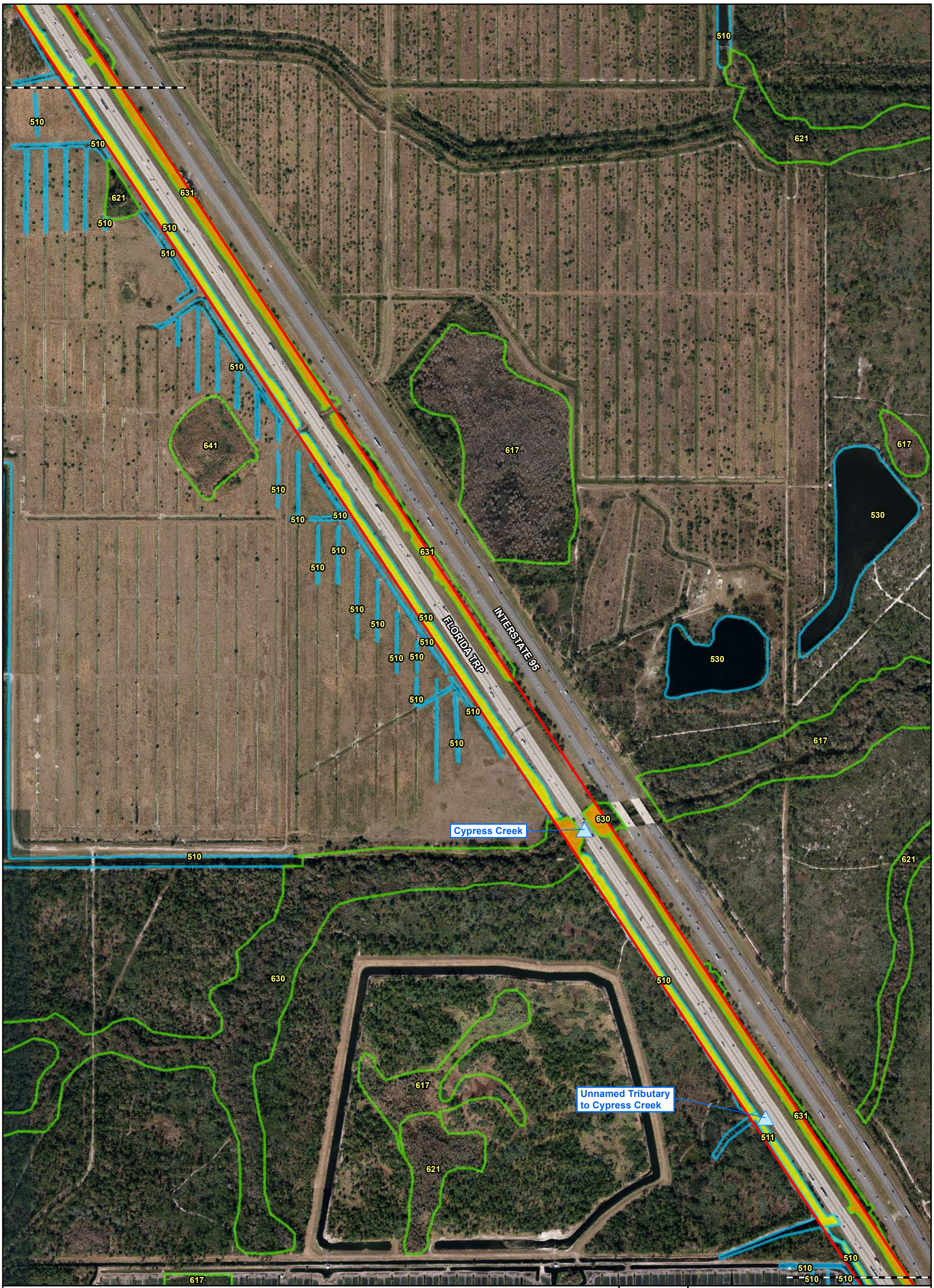

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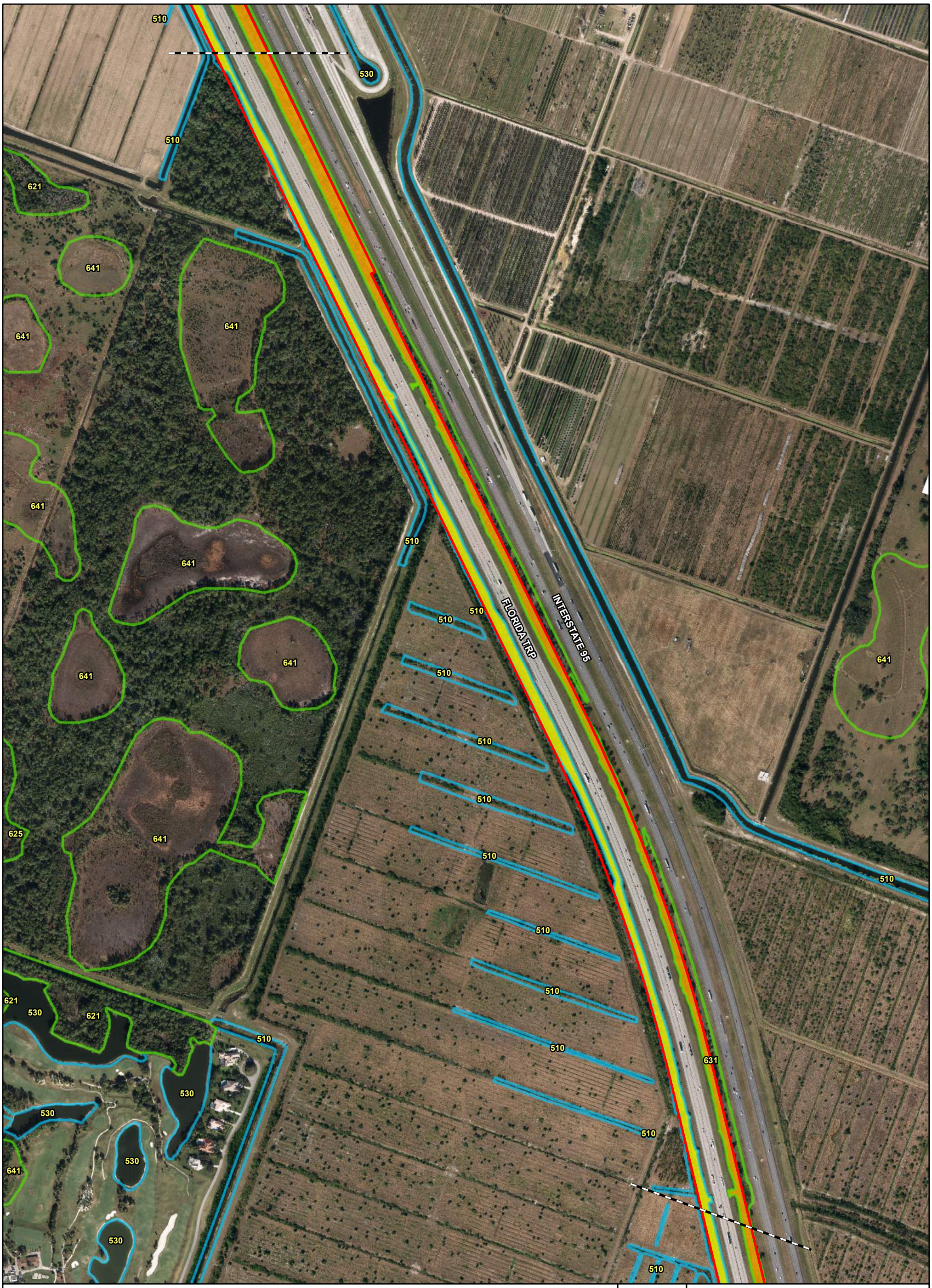
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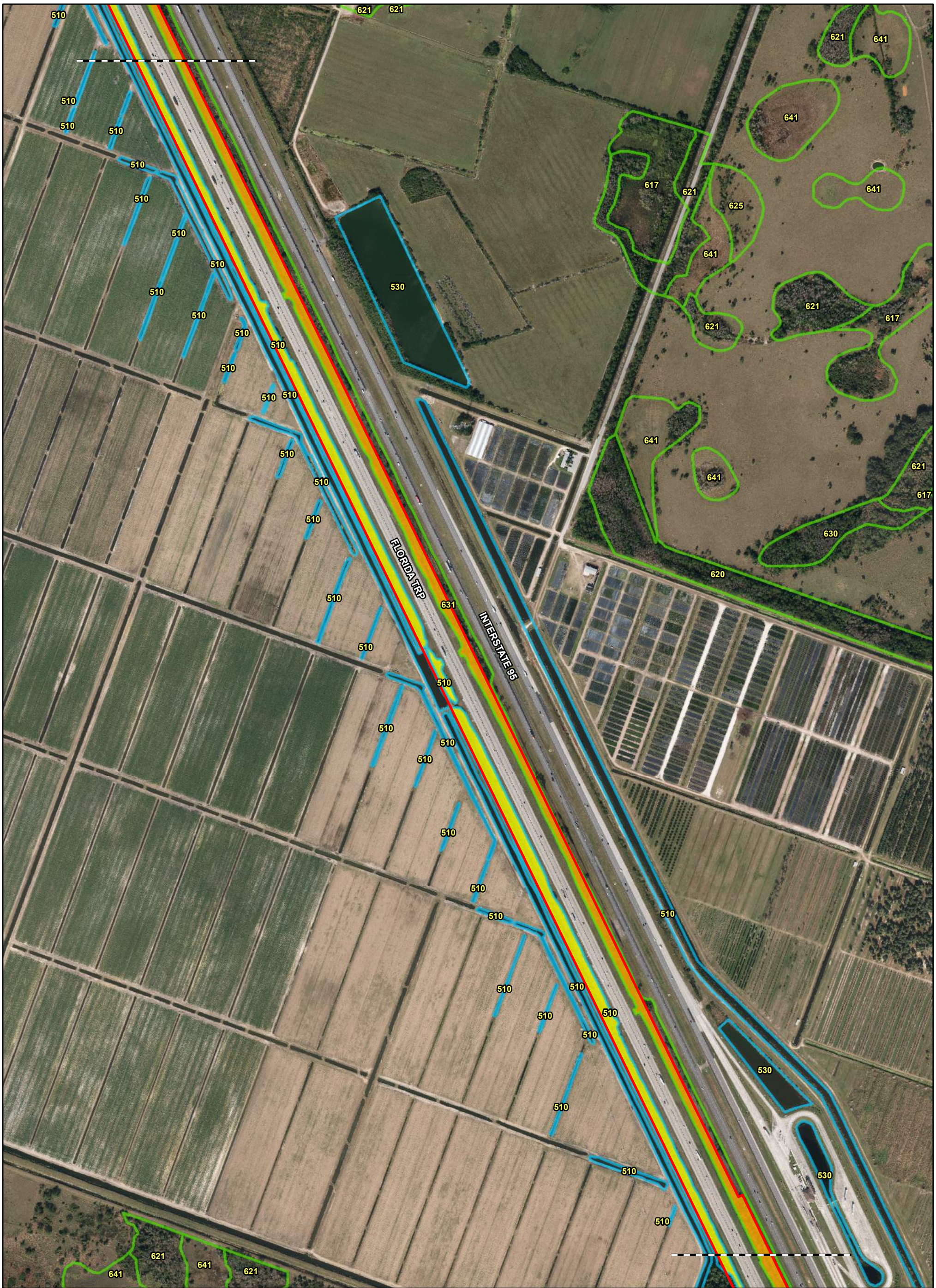

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FLORIDA TRP

INTERSTATE 95

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INTERSTATE 95

FLORIDA TRP

SE BRIDGE RD

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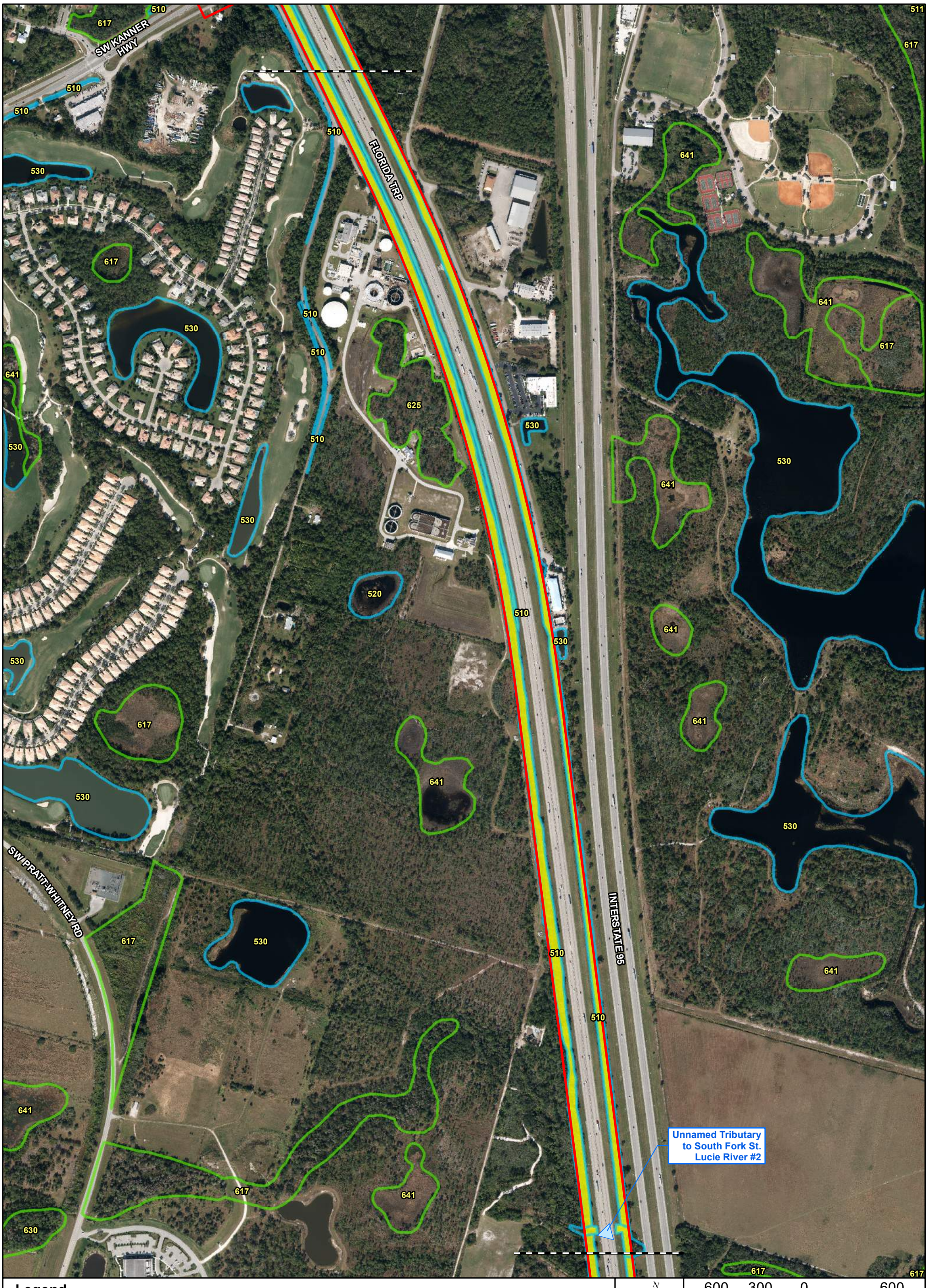

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St. Lucie Canal (C-44)

Roebuck Creek

INTERSTATE 95

FLORIDA TPK

SW KANNER HWY

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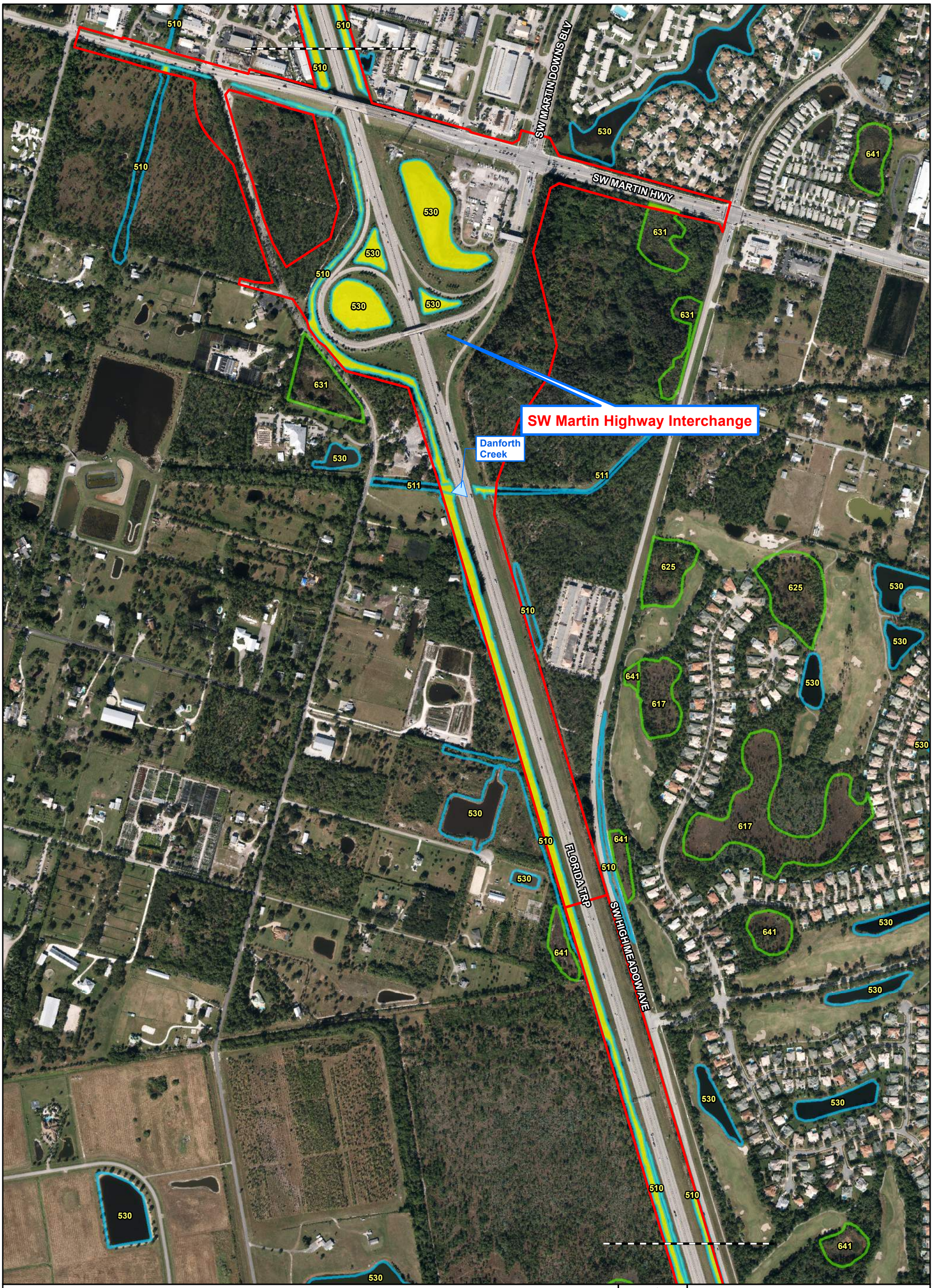

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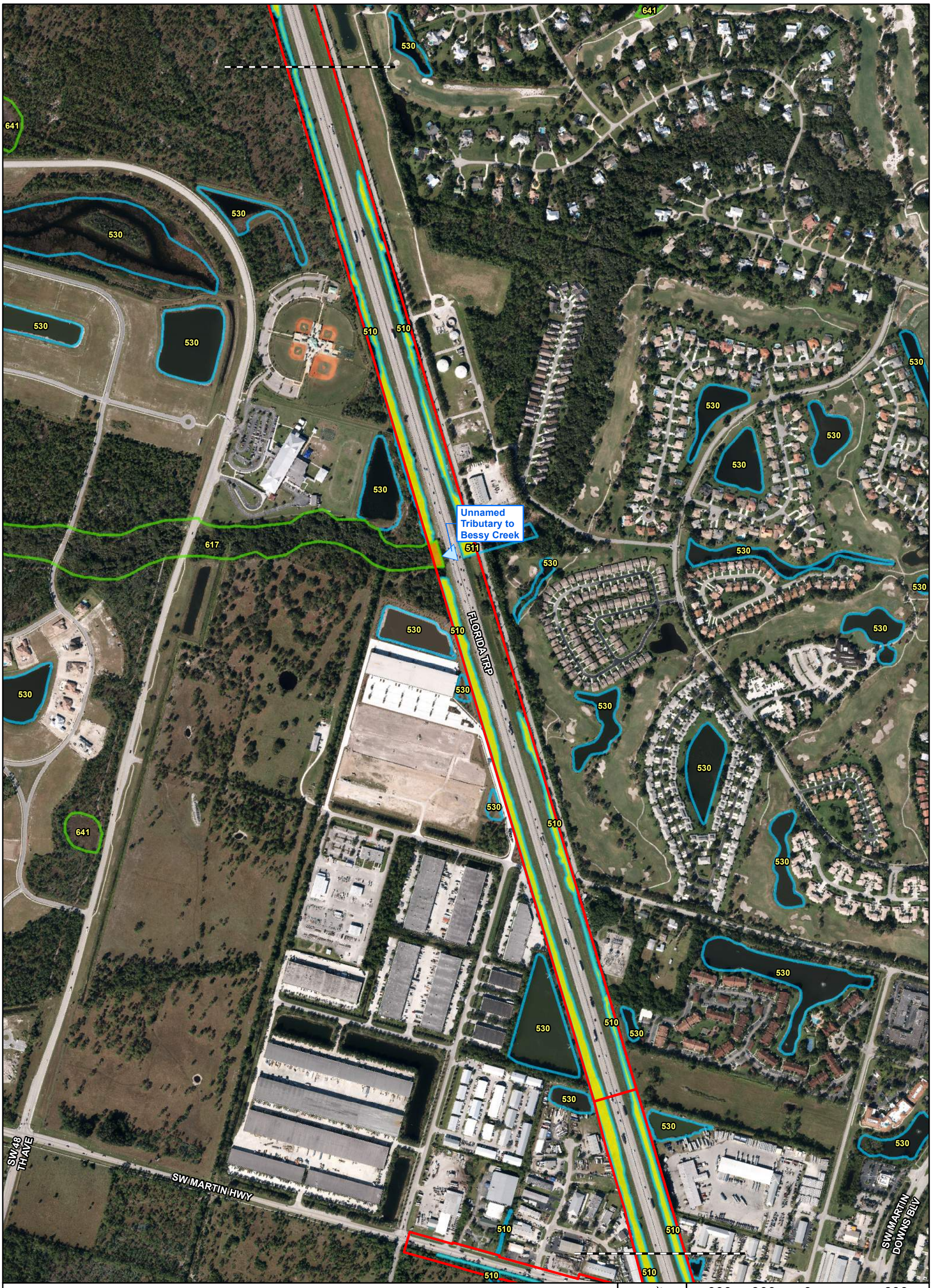
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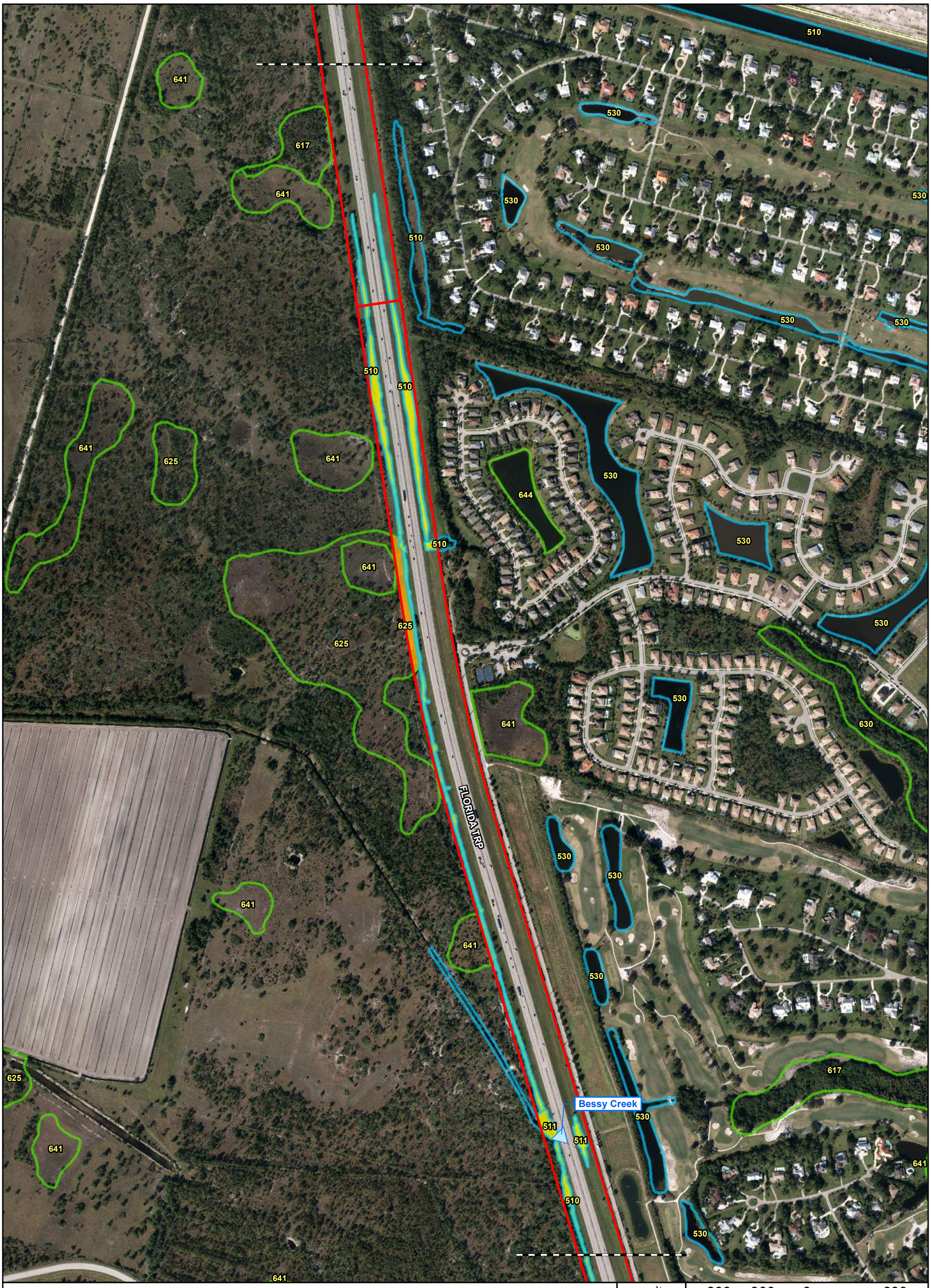

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SE Becker Road Interchange

SE BECKER RD

ST LUCIE COUNTY

MARTIN COUNTY

County Line Canal (C-23)

FLORIDA TRP

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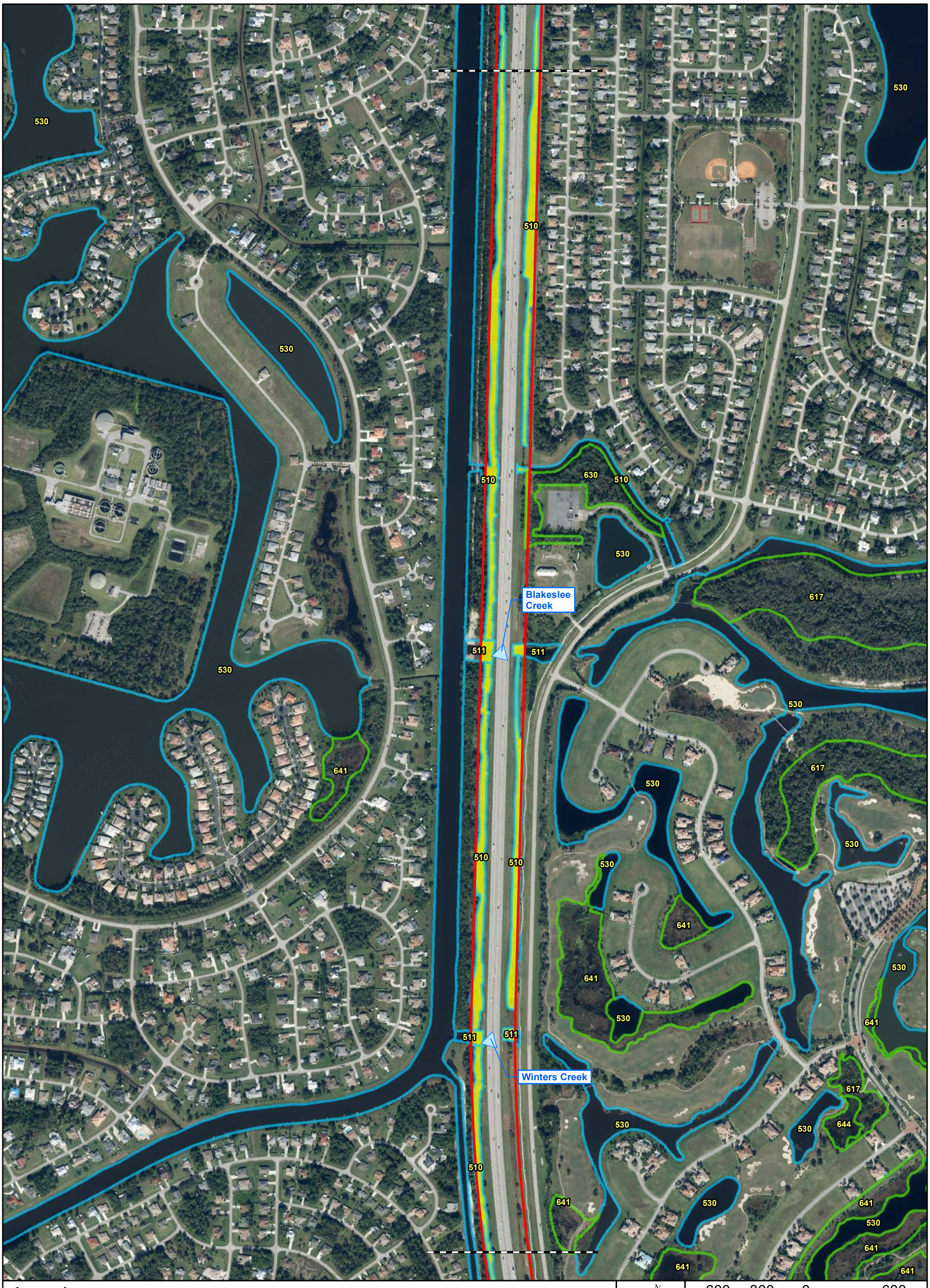

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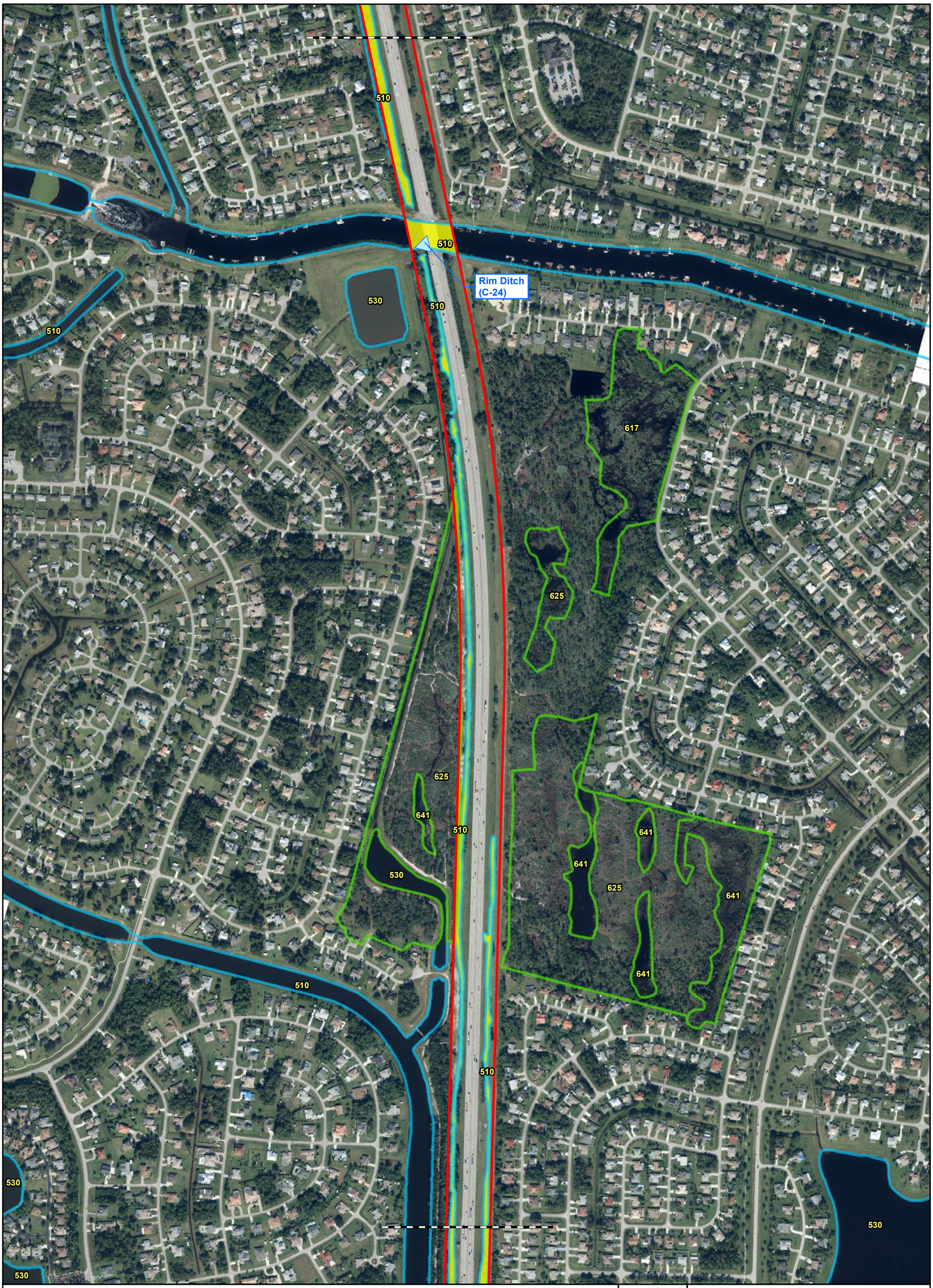

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SW Port St. Lucie Boulevard Interchange

SW PORT ST LUCIE BLVD

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621: Cypress
624: Cypress - Pine - Cabbage Palm
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
631: Wetland Scrub
641: Freshwater Marshes / Graminoid Prairie - Marsh
644: Emergent Aquatic Vegetation

N W E S

600 300 0 600
Feet

Wetland & Other Surface Water Impacts Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331

Appendix I

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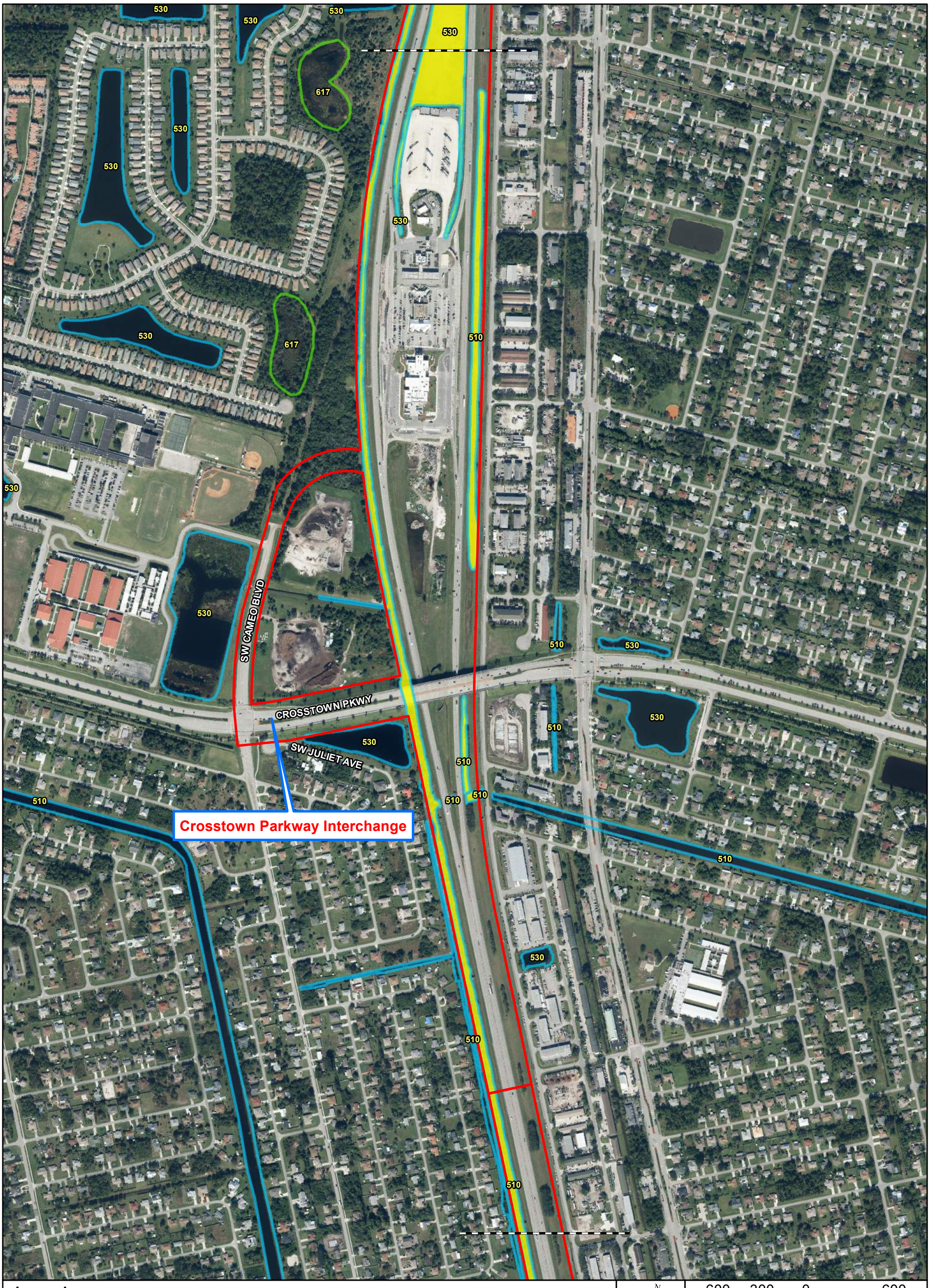

Legend

- Preferred Alternative ROW
- Other Surface Water
- Wetland
- Other Surface Water Impact
- Wetland Impact

510: Streams and Waterways
511: Natural River, Stream, Waterway
520: Lakes
530: Reservoirs
541: Embayments Opening Directly to Gulf or Ocean
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Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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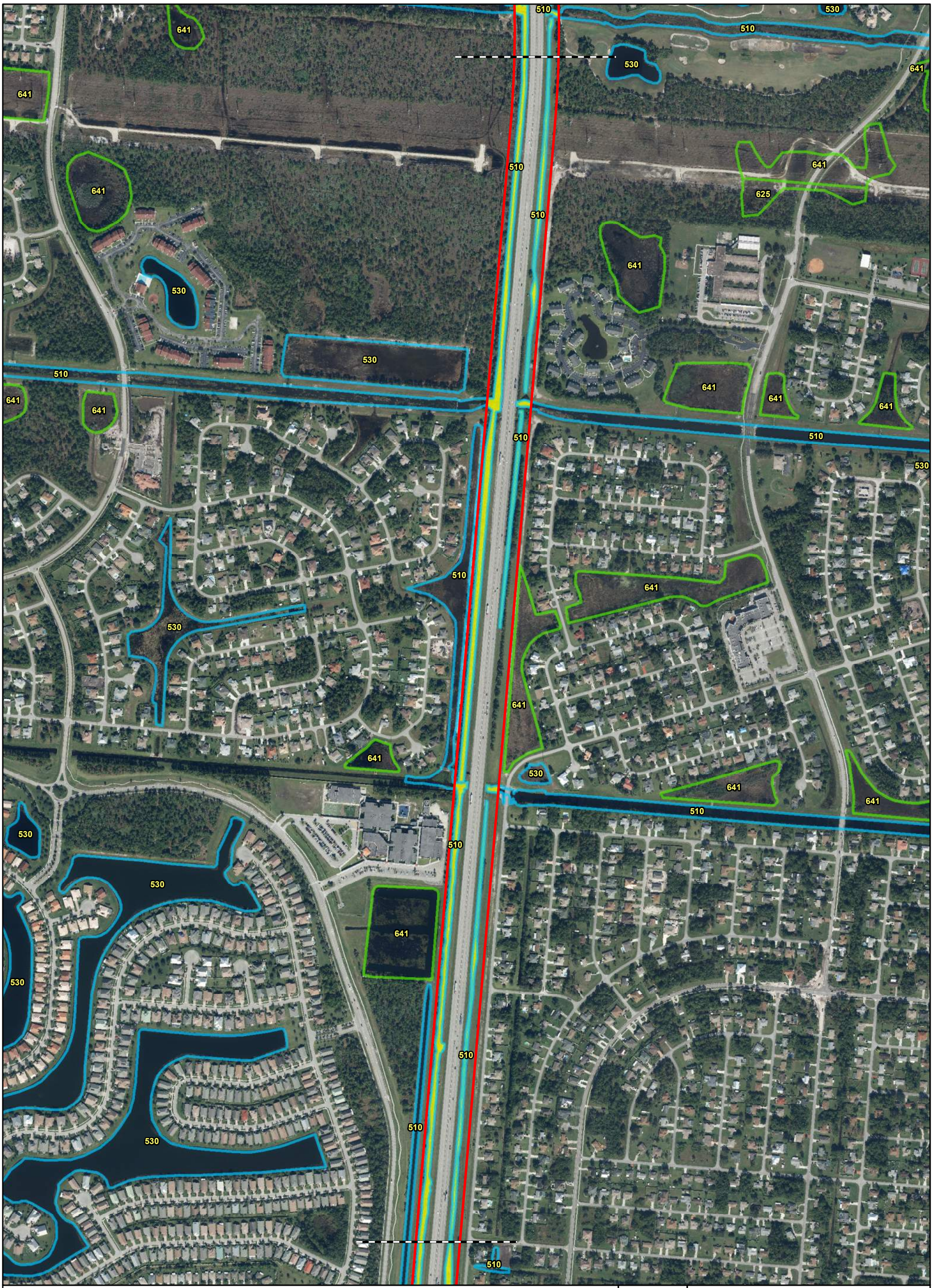

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INTERSTATE 95 HWY

GLADES CUT OFF RD

W MIDWAY RD

W Midway Road Interchange

Legend

- Preferred Alternative ROW
- Other Surface Water
- Wetland
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- Wetland Impact

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511: Natural River, Stream, Waterway
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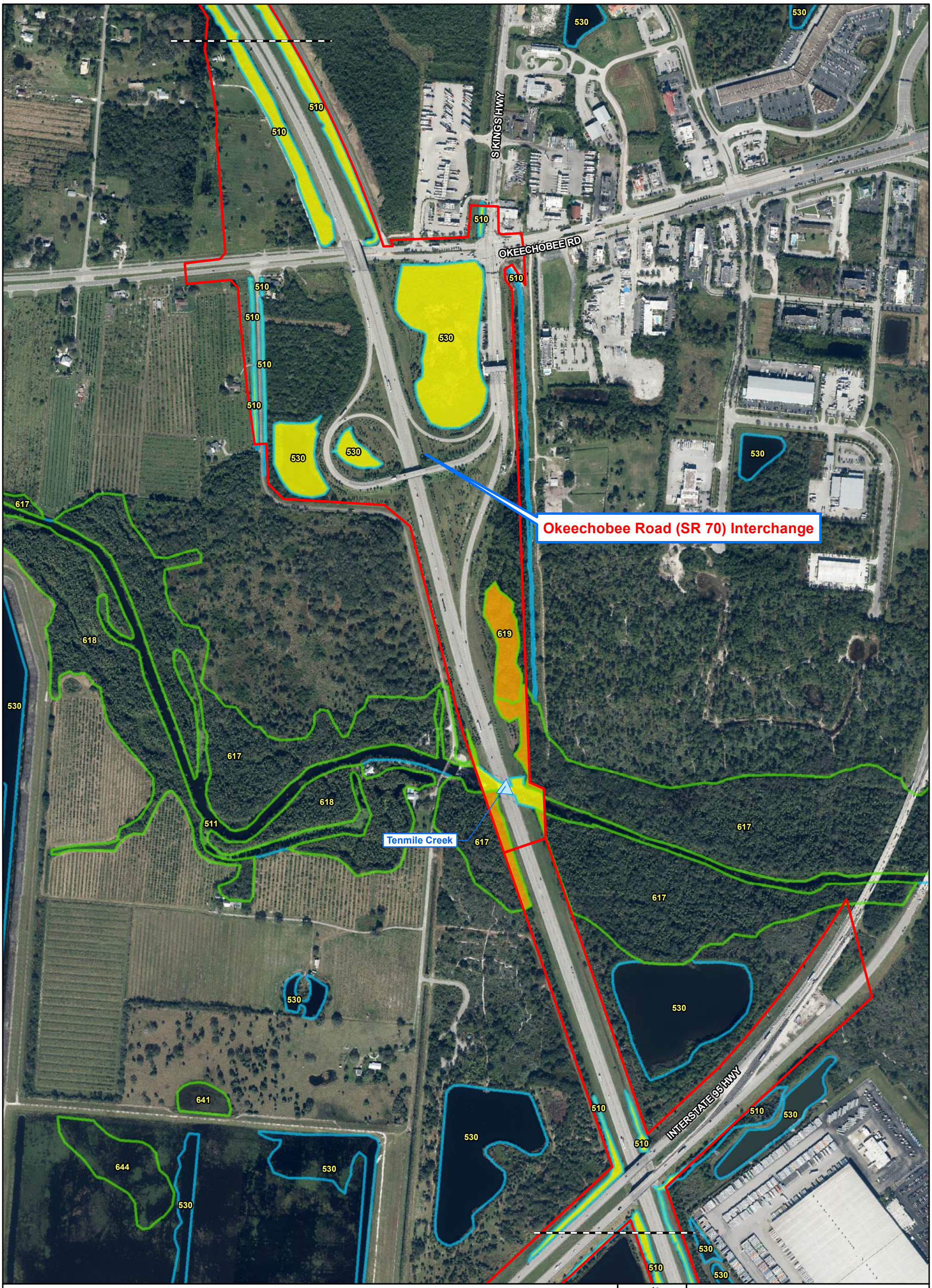

Legend

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- Other Surface Water
- Wetland
- Other Surface Water Impact
- Wetland Impact

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Wetland & Other Surface Water Impacts Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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641
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644
SKINGS HWY

Legend

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Wetland & Other Surface Water Impacts Map
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APPENDIX J

UMAM Datasheets

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 511

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511 - Natural River, Stream, Waterway	E1UBL (Estuarine, Subtidal, Unconsolidated Bottom, Subtidal); PFO1/4C (Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Deciduous, Seasonally Flooded); R2UB2H (Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Permanently Flooded)	Impact	9.30 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	Unnamed Tributary to Cypress Creek (EFH), St. Lucie Canal (EFH, SSL), Unnamed Tributary to Mapps Creek (EFH), Tenmile Creek (SSL)

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Natural surface waters within the project study area include St. Lucie Canal, Tenmile Creek, and creeks and tributaries such as Danforth Creek, an unnamed tributary to Mapps Creek, Winters Creek, and Blakeslee Creek. These systems are comprised predominantly of open water, with a scattered canopy. Natural surface waters throughout the project area abut a variety of upland land cover types, including developed areas (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Within the AA these systems consist predominately of open water. Dominant vegetative species along the banks of these systems include elephant grass, live oak, cabbage palm, Carolina willow, Brazilian pepper, and Australian pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Tenmile Creek Natural Area, Phipps's Park Conservation Area	Some of these systems are designated as Essential Fish Habitat and are hydrologically connect to the Loxahatchee River-Lake Worth Creek Aquatic Preserve

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	little blue heron (ST, foraging), tricolored heron (ST, foraging), bald eagle (MBTA, foraging), wood stork (ST, foraging), Osprey (MBTA, foraging), roseate spoonbill (ST, foraging), Everglade snail kite (FE, foraging), least tern (ST, foraging) and American alligator (FT, habitat and foraging)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Gambusia, soft shell turtle, Florida cooter

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 511
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 0	These systems within the project area are surrounded by various undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's. The AAs provide downstream benefits to wildlife and habitat that is not limited by impediments or flow restrictions.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with: 0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation, though some have water control structures present. A few of the smaller creeks and tributaries surrounded by development appear deeply incised along the roadway from apparent high volume flash flows and were potentially historically excavated. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway. The water environment in these natural systems have hydrology and water quality that benefits fish and wildlife.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 6 with: 0	Within the AA these systems consist predominately of open water. Dominant vegetative species along the banks of these systems include elephant grass, live oak, cabbage palm, Carolina willow, Brazilian pepper, and Australian pine. Typical age / structure of plant community in most strata. Invasive exotic species (Brazilian pepper, elephant grass, etc.) present at low to moderate density, concentrated along the roadside and within ditches connected to AAs. Structural features within the natural systems of the AA that are not surrounded by development or areas of land cover alteration (i.e., agriculture, pastureland) have typical structural and topographic features typical of these systems.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.67	with: 0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -6.23

Delta = [with-current]
-0.67

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 617

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617 - Mixed Wetland Hardwoods	PFO1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded); PFO1R (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Tidal)	Impact	6.61 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	Unnamed Tributary to Mapps Creek (EFH)

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Mixed wetland hardwoods within the project study area are forested systems that are often connected to other wetlands or surface waters via culverts under the roadway and outside of the project area. Within the project area a portion of this AA type includes an unnamed tributary to Mapps Creek. Wetlands throughout the project area abut a variety of upland land cover types, including developed areas (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Dominant canopy species of mixed wetland hardwoods within the project study area consist of bald cypress, slash pine, dahoon holly, water hickory, laurel oak, cabbage palm, and sweetbay. Typical shrub stratum species include Brazilian pepper, Carolina willow, saltbush, wax myrtle, and buttonbush. Herbaceous vegetation includes muscadine grapevine, maidencane, rosary pea, giant leatherfern, cattail, pickerelweed, sawgrass, Japanese climbing fern, caesarweed, and cinnamon fern.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
None.	Unnamed tributary to Mapps Creek contains Essential Fish Habitat.

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	little blue heron (ST, foraging), tricolored heron (ST, foraging), bald eagle (MBTA, foraging), wood stork (ST, foraging), Osprey (MBTA, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging) and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 617
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	5	0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's.
.500(6)(b)Water Environment (n/a for uplands)	6	0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. Water levels in the remaining portions of this community type appear appropriate considering natural variation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	0	Dominant canopy species of mixed wetland hardwoods within the project study area consist of bald cypress, slash pine, dahoon holly, water hickory, laurel oak, cabbage palm, and sweetbay. Typical shrub stratum species include Brazilian pepper, Carolina willow, saltbush, wax myrtle, and buttonbush. Herbaceous vegetation includes muscadine grapevine, maidencane, rosary pea, giant leatherfern, cattail, pickerelweed, sawgrass, Japanese climbing fern, caesarweed, and cinnamon fern. Typical age / structure of plant community in most strata. Invasive exotic species present at low to moderate density, concentrated along the roadside and within ditches connected to AAs.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.53	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -3.50

Delta = [with-current]
-0.53

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 619

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
619 - Exotic Wetland Hardwoods	PFO3C (Palustrine, Forested, Broad-Leaved Evergreen, Seasonally Flooded)	Impact	2.93 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	None identified.

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Exotic wetland hardwoods within the project study area are forested systems dominated by nuisance invasive/exotic vegetative species. These areas are often adjacent to other wetlands within or outside of the project study area. Wetlands throughout the project area abut a variety of land cover upland types, including developed areas (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Dominant vegetative species within exotic wetland hardwoods of the project study area consist of earleaf acacia, punk tree, Brazilian pepper, laurel oak, bamboo, and caesarweed.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
None.	Cypress Creek contains essential fish habitat.

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	little blue heron (ST, foraging), tricolored heron (ST, foraging), bald eagle (MBTA, foraging), wood stork (ST, foraging), Osprey (MBTA, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging) and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 619
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	5	0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's.
.500(6)(b)Water Environment (n/a for uplands)	4	0	This system within the AA is adversely affected by runoff received from the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Hydrology is altered due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. This AA is dominated by nuisance exotic species, including the punktree, which reduces the duration of water storage and soil moisture, preventing recruitment/ regeneration of desirable species.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	3	0	Dominant vegetative species within exotic wetland hardwoods of the project study area consist of earleaf acacia, punk tree, Brazilian pepper, laurel oak, bamboo, and caesarweed. This AA is dominated by nuisance exotic species, including the punktree, which reduces the duration of water storage and prevents recruitment and regeneration of desirable species. Invasive exotic species present at high density throughout, providing little benefit to wildlife and minimal habitat.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.40	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -1.17

Delta = [with-current]
-0.40

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 621

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
621 - Cypress	PFO2C (Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded); PFO2F (Palustrine, Forested, Needle-Leaved Deciduous, Semipermanently Flooded)	Impact	1.33 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	Loxahatchee River (WSR, OFW, EFH, SSL)

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Cypress systems within the project study area are forested systems that are often connected to other wetlands or surface waters via culverts under the roadway and outside of the project area. Within the project area a portion of this AA type includes the Loxahatchee River. Wetlands throughout the project area abut a variety of upland land cover types, including developed area (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Dominant canopy and shrub species within cypress wetland systems of the project study area consist of bald cypress, common persimmon, slash pine, Carolina willow, Brazilian pepper, saltbush, wax myrtle, and buttonbush. Dominant herbaceous vegetation is comprised of muscadine grapevine, elephant grass, cattail, pickerelweed, sawgrass, Japanese climbing fern, and cinnamon fern.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cypress Creek and Loxahatchee River Management Area, Cypress Creek Natural Area, Loxahatchee River-Lake Worth Creek Aquatic Preserve	The Loxahatchee River is a designated Wild and Scenic River, Outstanding Florida Water

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	little blue heron (ST, foraging), tricolored heron (ST, foraging), bald eagle (MBTA, foraging), wood stork (ST, foraging), Osprey (MBTA, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging) and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Peter's Rock Agama, Pigeon, Songbirds

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 621
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's.
.500(6)(b)Water Environment (n/a for uplands)	6	0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. Water levels in the remaining portions of this community type appear appropriate considering natural variation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	0	Dominant canopy and shrub species within cypress wetland systems of the project study area consist of bald cypress, common persimmon, slash pine, Carolina willow, Brazilian pepper, saltbush, wax myrtle, and buttonbush. Dominant herbaceous vegetation is comprised of muscadine grapevine, elephant grass, cattail, pickerelweed, sawgrass, Japanese climbing fern, and cinnamon fern. Typical age / structure of plant community in most strata. Invasive exotic species present at low to moderate density, concentrated along the roadside and within ditches connected to AAs.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.57	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.76

Delta = [with-current]
-0.57

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 625

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
625 - Wet Pinelands Hydric Pine	PFO4C (Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded)	Impact	1.93 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	None identified.

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydric pine flatwoods throughout the project study area connect hydrologically with freshwater marshes and drainage ditches. throughout the project area abut a variety of upland land cover types, including developed areas (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Hydric pine flatwoods within the project study area generally consist of a sparse to moderate slash pine canopy with some sweetbay and punk tree. Dominant vegetative species of the shrub stratum and understory include wax myrtle, gallberry, saw palmetto, earleaf acacia, St. John's wort, and fall panicgrass.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
None.	This system is not unique to the regional landscape.

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	little blue heron (ST, foraging), tricolored heron (ST, foraging), bald eagle (MBTA, foraging), wood stork (ST, foraging), Osprey (MBTA, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging) and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 625
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's.
.500(6)(b)Water Environment (n/a for uplands)	6	0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. Water levels in the remaining portions of this community type appear appropriate considering natural variation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	0	These systems in the AA have a slash pine canopy with some sweetbay and punk tree. Dominant vegetative species of the shrub stratum and understory include wax myrtle, gallberry, saw palmetto, earleaf acacia, St. John's wort, and fall panicgrass. Typical age / structure of plant community in all strata. Invasive exotic species present at low to moderate density, concentrated along the roadside and within ditches connected to AAs.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.57	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -1.10

Delta = [with-current]
-0.57

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 630

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630 - Wetland Forested Mixed	PFO1/4C (Palustrine, Forested, Broad-Leaved Deciduous/Needle-Leaved Evergreen, Seasonally Flooded)	Impact	1.31 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	Cypress Creek (EFH)

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetland forested mixed systems are hydrologically connected to other forested wetland types through culverts under the roadway as well as drainage ditches. These systems throughout the project area abut a variety of upland land cover types, including developed areas (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, etc.). Cypress creek is mapped within a wetland forested mixed system.

Assessment area description

Dominant vegetation within wetland forested mixed systems within the project study area consists of cypress, slash pine, red maple, and Japanese climbing fern.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Cypress Creek and Loxahatchee River Management Area, Cypress Creek Natural Area, Loxahatchee River-Lake Worth Creek Aquatic Preserve	Cypress Creek contains essential fish habitat and is hydrologically connected to the Loxahatchee River-Lake Worth Creek Aquatic Preserve

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	little blue heron (ST, foraging), tricolored heron (ST, foraging), bald eagle (MBTA, foraging), wood stork (ST, foraging), Osprey (MBTA, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging) and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 630
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's.
.500(6)(b)Water Environment (n/a for uplands)	6	0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. Water levels in the remaining portions of this community type appear appropriate considering natural variation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	0	These systems in the AA have a slash pine canopy with some sweetbay and punk tree. Dominant vegetative species of the shrub stratum and understory include wax myrtle, gallberry, saw palmetto, earleaf acacia, St. John's wort, and fall panicgrass. Typical age / structure of plant community in most strata. Invasive exotic species present at low to moderate density, concentrated along the roadside and within ditches connected to AAs.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.57	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -0.75

Delta = [with-current]
-0.57

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 631

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
631 - Wetland Scrub	PSS1C (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded); PSS1Cx (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded, Excavated)	Impact	48.44 (acres)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	None identified.

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetland scrub systems throughout the project area are hyrologically connected to other wetland systems (forested and herbaceous) as well as drainage ditches. Wetlands throughout the project area abut a variety of upland land cover types, including developed area (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Dominant species within the shrub stratum of wetland scrubs within the project area include Carolina willow, saltbush, wax myrtle, Peruvian primrose willow, Brazillian pepper, and buttonbush with scattered slash pine. Dominant herbaceous vegetation consists of cattail, muscadine grapevine, giant leatherfern, elephant grass, pickerelweed, sawgrass, broomsedge, cinnamon fern, paragrass, spatterdock, Japanese climbing fern, and loosestrife.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
None.	These systems are not unique to the regional landscape.

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	Florida sandhill crane (ST, foraging), little blue heron (ST, foraging), tricolored heron (ST, foraging), wood stork (ST, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging), and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Wood stork

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 631
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's and some of these AAs are located in the right of way between the Turnpike and I-95, dominated by undesirable species with little to no access to wildlife.
.500(6)(b)Water Environment (n/a for uplands)	5	0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. Some of these systems between the Turnpike and I-95 appear to have been excavated for drainage purposes.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	0	Dominant species within the shrub stratum of wetland scrubs within the project area include Carolina willow, saltbush, wax myrtle, Peruvian primrose willow, Brazillian pepper, and buttonbush with scattered slash pine. Dominant herbaceous vegetation consists of cattail, muscadine grapevine, giant leatherfern, elephant grass, pickerelweed, sawgrass, broomsedge, cinnamon fern, paragrass, spatterdock, Japanese climbing fern, and loosestrife. Invasive exotic species present at moderate to high density, concentrated along the roadside and within ditches connected to AAs.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.53	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -25.67

Delta = [with-current]
-0.53

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 641

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh	PEM1B (Palustrine, Emergent, Persistent, Saturated); PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded); PEM1Cx (Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)	Impact	0.12 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Loxahatchee River, St. Lucie, C-23, C-24	Class III	None identified.

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Freshwater marshes within the project study area are surrounded by hydric pine flatwoods, reservoirs, and other forested wetland systems. These systems throughout the project area abut a variety of upland land cover types, including developed area (residential, commercial, roadway, etc.) and undeveloped habitats (pasturelands, pine flatwoods, hardwood conifer mixed uplands, etc.).

Assessment area description

Dominant herbaceous vegetation within freshwater marshes of the project study area consist of torpedograss, lanceleaf arrowhead, knotroot foxtail, cattail, pickerelweed, paragrass, spikerush, with scaterred Mexican primrose willow, cypress, slash pine, cabbage palm, earleaf acacia, and wax myrtle also present.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
None.	These systems are not unique to the regional landscape.

Functions	Mitigation for previous permit/other historic use
Provides wildlife habitat, food chain support, water storage, flow attenuation, water quality improvement, foraging areas for wading species, and other wildlife utilization.	None.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Urban wildlife, wading bird foraging, numerous species of amphibians, fish, snakes, turtles, lizards, songbirds, small mammals, spiders and insects, and white-tailed deer.	Florida sandhill crane (ST, foraging), little blue heron (ST, foraging), tricolored heron (ST, foraging), wood stork (ST, foraging), roseate spoonbill (ST, foraging), American alligator (FT, habitat and foraging), and eastern indigo snake (FT, feeding and habitat)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Florida cricket frogs

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Ashley Abdel-Hadi	1-Oct-17

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Turnpike Mainline Widening from Jupiter to Fort Pierce		FLUCFCS 641
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	Ashley Abdel-Hadi	1-Oct-17

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 6 with: 0	These systems within the project area are surrounded by various developed areas as well as undeveloped wetland and upland habitat types. Wildlife access throughout some portions is limited due to barriers (Turnpike) and by adjacent land uses (industrial, residential, commercial, agricultural, etc.). Invasive exotic species are concentrated on the edge of the Turnpike/AA's.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 6 with: 0	Water quality varies throughout these AAs along the project corridor. Some of these systems are adversely affected by runoff received from agricultural areas, pastures, the Turnpike, adjacent roadways, and surrounding development. Water levels in the majority of these systems appear appropriate considering natural variation and loss of hydrological connections from the existing roadway's construction. Many of these systems have altered hydrology due to apparent connection with drainage ditches and swales excavated along the roadway, reducing the amplitude and duration of water storage within these areas. Water levels in the remaining portions of this community type appear appropriate considering natural variation.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 5 with: 0	Freshwater marshes of the project area consist of torpedograss, lanceleaf arrowhead, knotroot foxtail, cattail, pickerelweed, paragrass, spikerush, with scaterred Mexican primrose willow, cypress, slash pine, cabbage palm, earleaf acacia, and wax myrtle also present. Typical age / structure of plant community in all strata. Invasive exotic species present at low to moderate density, concentrated along the roadside and within ditches connected to AAs.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.57 with: 0	Preservation adjustment factor =	FL = delta x acres = -0.07
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.57	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

APPENDIX K

Agency Coordination

Agency Coordination Documents

- Loxahatchee River Management Coordinating Council Meeting Minutes (September 27, 2017)
- South Florida Water Management District Pre-Application Meeting Minutes (November 16, 2017)
- South Florida Water Management District Section 408 Correspondence (July 2020)
- National Park Service Meeting Agenda (February 15, 2018)
- Sovereign Submerged Lands Determination Request to Florida Department of Environmental Protection (January 21, 2020)
- Sovereign Submerged Lands Response from FDEP for Palm Beach County (January 22, 2020)
- Sovereign Submerged Lands Response from FDEP for Martin and St. Lucie Counties (January 29, 2020)
- National Park Service Meeting Notes (September 25, 2020)
- Florida Fish and Wildlife Conservation Commission Technical Assistance Meeting Notes (October 16, 2020)
- U.S. Coast Guard Technical Assistance Meeting Notes (October 19, 2020)
- U.S. Fish and Wildlife Service / National Marine Fisheries Service Technical Assistance Meeting Notes (December 18, 2020)

Loxahatchee River Management Coordinating Council Meeting Minutes

September 27, 2017

LOXAHATCHEE RIVER MANAGEMENT COORDINATING COUNCIL
MEETING
Monday, September 25, 2017 2:00 pm
The River Center
805 N. US Highway 1
Jupiter, FL 33477

MINUTES

I. Call to Order

Tom Howard call the meeting to order at 2:00 p.m. and welcomed everyone.

II. Roll Call

Greg Braun – Martin County Conservation Alliance
Michael Dillon - South Indian River Water Control District (SIRWCD)
Deborah Drum - Martin County
Chad Kennedy - Florida Department of Environmental Protection
Tom Howard - Jupiter Inlet District
Ivette Leiva - Florida Department of Transportation
Pat Magrogan - Gulfstream Council
Justin Nolte - South Florida Water Management District (SFWMD)
Jonathan Ricketts - Northern Palm Beach County Improvement District
Gary Ritter - Florida Farm Bureau
Dick Roberts - Martin County Conservation Alliance
Herb Zebuth - Florida Native Plant Society

III. Approval of Minutes from June 26, 2017 meeting

Consideration for approval of the June 26th minutes was moved to the next Council meeting scheduled for January 29, 2018.

IV. Project Updates

A. Florida Turnpike Widening Project Update – Mark Easley (20 min)

Brian, general engineering consultant for Florida's Turnpike presented the project development environmental PDE study they are doing along Florida's Turnpike from Indiantown Road to Ft. Pierce/SR70 – 36-mile area. They will be doubling the size of the turnpike from 4 lanes to 8 lanes and reconstructing bridges over several waterways especially the Loxahatchee River and the St. Lucie Canal. As part of their analysis they will be looking at the existing interchanges to see if there are any modifications that can be done to help with the traffic flow and also looking at several new interchanges along the system. Today's focus was on the Loxahatchee area. He shared several constraints they will have to deal with including the wild and scenic requirements for the Loxahatchee River. This is something they need to consider as they move forward with this study. This project began in early 2017. An alternatives information meeting will be held in April 2018 and a public hearing will be held in early 2019; one in a southern location and a duplicate meeting in a more northern location. There will be an approved document in mid-2019.

Questions/Comments

Gary Ritter asked when FDOT are doing these projects especially in an area where you have the Loxahatchee that's doing the reasonable assurance plan and also going into an area that has a basin management action plan, is there a way they can dovetail what they are trying to do to help provide storage and water quality treatments in these environmental projects that are within that?

Brian shared that one of the proposals was to look at a regional facility or projects in the basin or BMAP that the turnpike can contribute to as they move forward with the design, construction and permitting as opportunities to do those kind of steps. It is still early in the process to determine what that is.

Brian shared that Council members are welcome to submit comments throughout the process. They will take every comment into consideration.

B. Riverbend Park Update – PBC Parks (10 min)

Donald Campbell, recreation program supervisor with Parks and Recreation provided an update on the Riverbend Park project. Donald shared that Eric Bailey is no longer working on this project as he left at the end of July and with his departure, there has been a little bit of a gap in service as far as rentals at the park. As of right now, they are encouraging people to come out and enjoy the park and anyone wanting to rent a canoe or kayak, are being directed to their sister park at Jonathan Dickinson. Currently in the review process regarding the specs that they will be requesting from those who will be bidding on the Concessionaire project. The goal is to have the project contract awarded for the Concessionaire in Dec/Jan and construction to begin shortly after it's awarded. New park amenities include new offices, restrooms, new parking lot with over flow parking as well. Water and Sewer are setting up at Battlefield Park to be able to have restrooms there in the future. The new park amenities to be completed in Fall 2017. The plan is to have a ribbon cutting on Nov 4th.

Questions/Comments

Dick Roberts asked if there are any development criteria from the park as opposed to Battlefield, do you separate those two uses and if the vegetation criteria will be the same as that in Battlefield Park?

Donald shared that they will have signs that will designate the parks as River Bend Park and Lox River Battlefield Park. Also, being a passive park, they want to encourage as much opportunity for wildlife to succeed and have opportunities for food, water and shelter and at the same time the public can come enjoy it but they will try to discourage certain activities in certain areas. It's very similar as far as the natural areas.

Chad asked is there going to be any linkages between the two parks to Cypress Creek.

Donald said yes, there is a pedestrian bike trail that comes from Cypress Creek that goes right into the Riverbend property.

A question was asked about the number of acres in Battlefield Park and if there are reenactments at the park?

Donald said Battlefield is 43-45 acres and the entire park is 700 acres and they just had their first Seminole battlefield reenactment called "The Battle of the Loxahatchee" last year in January and they are planning a second one this year.

C. Lainhart/Masten Refurbishment Update – Octavio Castillo (10 min)

Octavio Castillo, project manager with the SFWMD gave an update on the progress of the Lainhart and Masten Dam project. He shared that the SFWMD sent inspectors to check out the area after hurricane Irma. They lost a few small trees but no damage to the area. Everything looks good and vegetation is growing. He showed some pictures of how everything looks right now and the portage being constructed on the east side of Masten and benches. He showed pictures of the seepage barrier construction at Lainhart. The portage at Masten Dam should be completed in two weeks. Lainhart should be done by the first week of November. The contract should be completed by end of November. This is way ahead of schedule as the original contract had the project completed by July of next year. Octavio shared a picture of how the area will look when everything is complete.

D. Update on the Impaired Waters RAP – Julie Espy, Program Administrator, Water Quality Assessment Program 2 hr)

(Note: Minutes below from FDEP Minutes dated 9/25/17)

Julie Espy, Program Administrator of the DEP Water Quality Assessment Program, welcomed everyone to the Loxahatchee River RAP meeting. She started the meeting with a brief overview of the last workshop. During this workshop, the restoration plan options were reviewed and a poll was taken to determine the preferred plan option. Based on the poll, the goldfish and peacock plan options were the most selected. The goldfish plan is a RAP without delay. The goldfish plan uses the current numeric nutrient criteria (NNC) and the DEP pollutant load plan is put on hold while one or two things happen— the targets are evaluated and/or the model is enhanced/changed. The stakeholders may use the PLSM or develop/use a locally-funded model. The stakeholders could also sponsor an effort where the NNC are evaluated and, perhaps, new targets proposed and justified to DEP and the U.S. Environmental Protection Agency (EPA). Julie reminded the attendees that the PLSM is a simplistic model that has limited input capabilities. For example, the model does not take into account groundwater and onsite sewage treatment and disposal system (OSTDS) inputs.

Tom Howard stated that he originally preferred the goldfish option, but is now leaning more towards the peacock option. The peacock option will ensure the targets are right, which will help determine appropriate projects and, in turn, responsible use of taxpayer dollars. Deborah Drum stated that she prefers the peacock option as well, but government budgets for the next fiscal year are going through the adoption process right now. The money required for the technical work associated with this plan option, may not be available until the next budget cycle. Deborah noted that the rabbit plan option (4e plan) could be considered, since the local governments have improvement projects budgeted for this fiscal year. Julie stated that the rabbit plan is a temporary plan that would be replaced with a total maximum daily load (TMDL).

Tiffany Busby reminded everyone that the PLSM is a DEP estimation tool that is available to stakeholders at no cost. The model is a simple model that is driven by the annual rainfall and land use. At the last workshop, the model inputs were reviewed and the following recommendations of refinement were provided:

1. Use local event mean concentrations (EMCs) rather than literature values.
2. Review runoff coefficients (ROCs) and associated soil types.
3. Look at other flow stations for representative flow data.
4. Use rainfall data from a more localized station.
5. Account for groundwater load.

DEP came up with alternative input data based on these recommendations. The alternative data and the supporting information will be posted on the DEP file transfer protocol (FTP) site.

DEP originally used statewide literature-based EMC values (Harper, H. H., 2011, New Updates to the Florida Runoff Concentration Database) in the PLSM. Local EMC information was provided to DEP after the last workshop by Alan Wertepny. Greg Nolte, Martin County, also provided comments and suggestions. DEP reviewed the information and created a comparison table of the local and statewide values. The comparison table also shows the recommended alternative EMCs (blue shaded cells). The land use descriptions shown in the comparison table are based on the land uses in the PLSM. The EMC values from the local studies were placed in one of these categories, as appropriate.

The St. Lucie BMAP EMC values are not the calibrated values and the EMC values from the Palm Beach County Report are based on the Lake Worth Stormwater Master Plan Report. The Lake Worth and Palm Beach County total phosphorus (TP) EMCs are exactly the same. For total nitrogen (TN), the values are different, because the Lake Worth study used total Kjeldahl nitrogen (TKN) values. The blue shaded cells are the recommended alternative EMC PLSM input data.

Questions/comments on EMCs:

- How old is the Harper report? Tiffany replied that the report was published in 2003 and updated in 2011.
- Were the agricultural EMCs compared to the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) EMCs? Julie replied no. Tiffany stated that the local studies only had one land use description for agriculture, whereas the Harper study had four land use descriptions. She noted that they could use the Harper agriculture values instead, if those were preferred or are important land use types in this basin.
- Tiffany stated that she will post the presentation and the EMC source documents on the DEP FTP site.
- Bud Howard asked if the recommended EMC values have been incorporated into the model. Julie replied that DEP has not re-run the model with the recommended values, but the spreadsheet model is set up to analyze side-by-side the original and alternative values. Tiffany recommended that the stakeholders pick the values they want and re-run the model to determine the change.
- There was a suggestion to exclude the northwest fork of the river (possibly referring to Kitching Creek basin) from the study area since it is not contributing to the impairment.

The ROCs originally presented in the PLSM were based on the Schueler method. This method uses percent impervious for each land use type to calculate the ROC using a regression equation. An alternative to the Schueler method is the Harper and Baker method. The Harper and Baker method estimates runoff values using a clustering algorithm for eight land use types and four soil groups across the State of Florida. The ROCs shown in the comparison table for the Harper and Baker method are an average of the four soil group ROCs. Although the Harper and Baker method is more detailed than the Schueler method, it could only be related to six land uses in the PLSM (the study only covered eight land use types). Tiffany recommended that the Schueler method be used or the PLSM be modified to account for soil groups. However, if the Harper and Baker numbers are used, there would still be a need to establish ROCs for the land uses not evaluated in the Harper and Baker study. This could be accomplished by using the most similar land use types in the Harper and Baker study and using those values for the other land uses or using the Schuler method for the values where the Harper and Baker study does not provide estimates.

Questions/comments on ROCs:

- Pattie Gertenbach stated that soil type and land use were used to calculate ROCs in the Indian River Lagoon.
- Julie stated that DEP has the soil type information and can look at adding this information to the PLSM, if preferred.
- Tony Janicki stated that the Schueler study was performed in Pennsylvania, which is very different geographically. He suggested tying the land use to soil type.

Julie displayed a table of the U.S. Geological Survey (USGS) flow stations in the basin. Station 2277600 is the only station that records actual discharge data, but it is located at the bottom of the basin and is not representative of the Loxahatchee River discharge. The South Florida Water Management District (SFWMD) S-46 station is also not representative of actual flow conditions because it is managed to maintain specific conditions.

Questions/comments on USGS flow stations:

- Tony reported that a SFWMD hydrologic model (and associated minimum flows and levels [MFL] report) may contain relevant flow data.

Tiffany reported that the original rainfall data used in the PLSM were obtained from Station JDWX. This station is located north of the RAP boundary and is missing several months of 2006 data. Station SIRG (located southwest of the RAP boundary) was used to fill the 2006 data gap. The Loxahatchee River District provided additional rainfall data along with regression analyses of observed rainfall data to Next Generation Radar (NEXRAD) data. The regression analysis shows a strong correlation between the two datasets.

Based on a review of the rainfall data and station locations, an average of the Tequesta Water Plant (TWP) and S-46 rain gauge data are recommended for the PLSM. Both stations have a complete dataset for the evaluation period and have good agreement with the NEXRAD data. The two locations were selected because they provide some spatial variability–TWP is located east of the north fork and S-46 is located southwest of the north fork. There are several rain gauges near S-46. S-46 was selected to represent this area but a different station can be selected, if preferred.

Questions/comments on rainfall stations:
Tiffany stated that she will post the rainfall workbook provided by the Loxahatchee River District to the DEP FTP site. She noted that she added maps to the workbook to show the rain gauge locations.

Julie stated that the PLSM does not consider groundwater loads to the estuary. Comments were received that that this load be included in the model. DEP is pulling together the groundwater data to be able to evaluate this load. The Loxahatchee River District provided a groundwater study. The DEP groundwater section is reviewing the study to see if the estimates match the measured data. The study will be posted and conclusions of the study will be presented at a future meeting.

Questions/comments on groundwater loads:

- It was noted that the model just looks at stormwater runoff, but many systems are designed to control groundwater levels. The discharges from these systems could have groundwater loads in addition to loads from stormwater runoff.

- Dick Roberts noted that Martin County (on Kitching Creek) and SFWMD also performed groundwater studies. Julie asked Dick to provided copies of the studies.

Julie stated that the surface water data were aggregated in an attempt to find better relationships between water quality concentrations of TN and TP with chlorophyll-a (higher r-squares). A good relationship (r-square) for estuaries would be around 0.4 or higher due to the dynamic nature of these systems, but lower ones could be acceptable. Waterbody identification (WBID) 3226D is showing a good relationship compared to the other WBIDs. Although WBID 3226D is not an impaired WBID, it is the receiving WBID. This provides some confidence that projects will help achieve the water quality targets.

Questions/comments on regressions by WBID:

- The poor statistical relationships cause concern for the goldfish plan option. Projects may not achieve the water quality targets.

Julie stated that Amec Foster Wheeler is evaluating the data for hotspot areas. A preliminary analysis will be available next week, so the results should be ready for the next meeting.

Julie reminded everyone to submit best management practices (BMPs) along with information to estimate reductions. She noted that Palm Beach County provided their current urban stormwater BMPs. Tiffany reminded everyone that the project reductions will be based on the selected EMCs and ROCs.

Julie stated that the last recommended PSLM refinement was to include more recent land use. This is not recommended because it will reduce the number of projects that can be applied to the baseload reductions.

Questions/comments on hot spots, BMPs, and land use:

- Pattie stated that the existing water quality monitoring stations may not be capturing all the hot spots.
- Tiffany commented that most of the monitoring stations are located near the shore and not in the middle of the waterbody. The monitoring providers might want to consider adding new ambient water quality monitoring stations. The additional data may improve the regressions.
- Bud noted that the hot spot areas have been identified. It might be worth going into the basins to look for issues (i.e., data with special projects).

Julie displayed a table of the current water quality targets and noted that the existing targets apply to the goldfish option. Alan commented that the project reduction goals may not be sufficient to meet the water quality targets. Tiffany stated that progress towards the water quality targets is evaluated every five years. If the water quality is not improving as anticipated then adjustments are made to the plan. Project reductions are also evaluated on an annual basis. Ken Todd asked how progress is determined with the rabbit option. Julie replied that the rabbit option is a short-term plan; if this plan is selected than the targets should be met within five years. The rabbit plan is a good option if you have a handle on the issues; it is not the best option for a complex system like an estuary. Ken noted that he is representing Palm Beach County and is leaning towards the peacock plan option. Tom stated that a decision on the type of plan will not be made today, but a census should be taken at a future meeting.

Bud presented chlorophyll criteria for the Loxahatchee River. He first reviewed chlorophyll basics and the history of the NNC development. He noted that the NNC for chlorophyll seemed excessively

stringent. There are two WBIDs designated as impaired for chlorophyll. Opportunities for improvement have been identified along the southwest fork. The river is sampled weekly for bacteria and special projects are identified in various areas along the river. A comparison of the NNC to subtle changes in the NNC (i.e., one to two micrograms per liter increase) can change the impairment status. In summary, the chlorophyll criteria are stringent, there are variations in the station results (variability with laboratory results), and subtle changes to criteria affect the impairment status of the river. Bud stated that the Loxahatchee River District supports a scientific approach and proposes to reassess the targets with stakeholders and subject experts. It is proposed that the reassessment be incorporated into the RAP.

Tony agreed that there is large variability in results from laboratory to laboratory. He also agreed that the criteria may be too stringent for the Loxahatchee River.

Bud noted that they should look at peaks rather than annual averages. Tony stated that seagrasses do not respond to peaks, which is why averages are used. Julie commented that an annual geometric mean does not have to be used if new targets are established; a different measure can be selected.

Wrap Up and Closing Remarks
Tiffany stated that she will let everyone know when the PLSM refinements are complete and the new file is posted. This should be sometime next week. No feedback was received on the project collection information. Stakeholders should provide corrections to DEP as soon as possible, otherwise it will be assumed that the information is correct.

Julie set the next meeting for October 30, 2017. Tom noted that he would like expert recommendations since there are so many variables. He suggested that the agenda for the next meeting include each action item with multiple choice options. Tiffany also suggested that the agenda include a decision on the PLSM; additional refinements may not be necessary if a locally-funded model is selected.

V. Watershed Status Updates

A. Loxahatchee River Dashboard Overview, Albrey Arrington, LRD (5 min)

Albrey was not in attendance to present this item.

B. Water Quality, Bud Howard, LRD (5 min)

The summary to Bud's Water Quality update is included here in the FDEP RAP minutes section on pages 6 and 7.

VI. Field Trip Planning & Discussion

January field trip suggestions – The new River Bend Park

VII. Member Issues (brief, verbal status update)

A. Land Management
B. Flood Control
C. Environmental Issues
D. Recreation Opportunities
E. Permits

Tom Howard shared that Jupiter Inlet District was able to get a permit for the Moonshine Creek restoration from the Corps. He thanked the SFWMD and DEP.

Public comment

A representative of Jupiter farms residents who also spoke on behalf of Jupiter Farms Environmental Council wanted to make the LRMCC aware that there is a proposal being considered by the Palmar board to do a land swap between developers and state and county governments to enable residential development in the Palmar Water District. He shared that once residents are established, it will be easier for additional development to occur because the obstruction of roads and drainage will be introduced. He said this wouldn't ordinarily be a concern with Martin County, Palm Beach County and SFWMD sitting on the board and having the ability to keep Palmar undeveloped. The representative said there was a letter sent to the executive director of the SFWMD that has been unanswered for over a month. He shared that in the past, LRMCC members have been sensitive to the slightest chance that Palmar could be developed because the wetlands store entry water going into Cypress Creek and the NW Fork of the Loxahatchee River. This was the idea behind the agencies buying up all this land. He asked that the Council support their position to try to keep development out. His concern is for Jupiter Farms residents. The development in Palmar can potentially affect the quality for them in the form of more traffic and less green space but primarily less water storage areas to the northwest. Final point he made is that these developing lands are likely to discharge water of poor quality to an already impaired water body.

Tom Howard suggested this item be added for discussion at the next LRMCC meeting.

VIII. 2018 Meeting Schedule

All meetings will be held at The River Center – 805 N. US Highway 1, Jupiter, FL 33477

January 29, 2018
March 26, 2018
June 25, 2018
September 24, 2018

IX. Public Comment

X. Adjourn

Next Meeting is scheduled for January 29, 2018

South Florida Water Management District Pre-Application Meeting Minutes

November 16, 2017

ATKINS

Florida's Turnpike Headquarters
P.O. Box 613069
Florida's Turnpike Milepost 263, Building 5315
Ocoee, Florida 34761-3069

Telephone: +1.407.532.3999

Meeting Minutes

Project: FPID 423374-1-22-01
Description: Turnpike Mainline (SR 91) Widening PD&E from Jupiter (Indiantown Road) to Okeechobee Road (SR 70) – Palm Beach, Martin, and St. Lucie Counties
Meeting: SFWMD/USACE/NMFS/FDOT Pre-Application Meeting
Date/Time: 11/16/17 @ 11:10 am
Location: SFWMD HQ, West Palm Beach

Attendees:
Beverly Miller (SFWMD)
Jason Debish (SFWMD)
Beth Kacvinsky (SFWMD)
Carlos de Rojas, PE (SFWMD)
Trisha Stone (SFWMD)
Barbara Conmy (SFWMD)
Tarrie Ostrofsky (USACE)
Jennifer Schull (NMFS)
Erin Yao, PE (FTE) – by phone
Martin Horwitz (FTE) – by phone
Fred Gaines, PWS (Atkins/FTE)
Liz Bartell, PE (PGA)
Tim Polk, PE (PGA)
Sarah Johnson (KCA)
Bill Howell, PE (Lochner) – by phone
Tracy Ellison, PE (Lochner) – by phone
Jack Miller, PE (Lochner) – by phone

1. **Background**
    a. FTE introduced the project and stated that the PD&E Study limits are Turnpike Mainline (SR 91) from Indiantown Road (SR 706) to Okeechobee Road (SR 70), MP 117 to MP 153.7.
    b. PGA stated that the project will be permitted for the future (8-lane) condition.
    c. PGA stated that the proposed future improvements include widening the mainline from two to four lanes in each direction. The two alternatives being evaluated during the PD&E Study consist of four general toll lanes in each direction or two general toll lanes and two express toll lanes in each direction. FTE plans to account for the added impervious necessary for express lanes when permitting the project, even though the express lanes may not be constructed at this time.
    d. PGA stated that the project will also include improvements to the following interchanges: Stuart (SW Martin Highway/SR 714), Becker Road, Port St. Lucie Boulevard (SR 716), and Okeechobee Road (SR 70). The PD&E will also evaluate the potential for new interchanges. The major bridges within the project limits are the Loxahatchee River and Thomas B. Manuel Bridge over the St. Lucie

Canal. The project will also include bridge improvements over several other creeks and canals.

2. **Existing Permits**
    a. Turnpike mainline is permitted from MP 137.676 to 152.610 (Permit No. 56-00912-S). SFWMD confirmed that this permit should be modified for the proposed improvements. Several other permits exist within the 37-mile project for interchanges, the service plaza, bridges, and canal protection.

3. **Water Quality**
    a. SFWMD confirmed that the required water quality volume is 2.5" over the new impervious area in areas of reconstruction and widening but clarified that full treatment of new and existing impervious should be provided, if feasible. SFWMD stated that the required water quality volume shall also include the treatment volume provided in the existing condition, whether permitted or not. PGA confirmed that the new impervious area will be calculated for the future condition.
    b. SFWMD confirmed that an additional 50% of treatment shall be provided for any direct discharge to Outstanding Florida Waters (OFWs).
    c. SFWMD confirmed that nutrient loading is required for any direct discharge to water bodies that are impaired for nitrogen (TN) or phosphorus (TP). SFWMD clarified that although Dissolved Oxygen impairment is not typically a roadway impairment, there are times that it is related to high nutrient levels.
    d. PGA stated that there is a BMAP for St. Lucie River and Estuary Basin, but FTE is a de minimus stakeholder and has not been assigned an allocation for TN nor TP.
    e. PGA stated that the Loxahatchee TMDL Planning Unit (from Indiantown Road to SE Bridge Road) will be reviewed during the PD&E phase but stated that there are no current TMDLs within the project limits.

4. **Water Quantity**
    a. SFWMD confirmed that the proposed peak discharge for the 25-year, 3-day design shall not exceed that of the existing condition.
    b. PGA stated that she was aware of the following allowable discharge rates: C-23 Canal (31.5 csm for the 10-year design frequency) and C-24 Canal (30.25 csm for the 10-year design frequency). SFWMD stated that any widening of the bridges over these canals, or the C-18 and C-25 canals, will require a right-of-way permit.
    c. C-18, C-23 and C-24 will be handled by SFWMD WPB staff, while the C-25 will be handled by SFWMD Okeechobee staff.

5. **Environmental Look Around (ELA)**
    a. PGA stated that the ELA will be started during the PD&E phase. The PD&E Team plans to coordinate with the following Special WMDs: Northern Palm Beach County Improvement District, Loxahatchee River Environmental Control District, Hobe-St. Lucie Conservancy District, and North St. Lucie River Water Control District.
    b. PGA asked whether SFWMD was aware of any regional opportunities within the project limits, such as funding a SFWMD project for nutrient removal credit, and

discussed some alternative permitting approaches that may be necessary where the project is adjacent to sensitive lands to avoid off-site ponds?

i. The project corridor is adjacent to two miles of SFWMD-owned property and two miles of Florida Forever lands. One alternative is to make use of SFWMD-owned lands and Florida Forever acquisitions. SFWMD stated that there may be an opportunity for funding of the pepper farm restoration located on the SFWMD-owned lands (Martin County is part owner). SFWMD added that the pepper farm could also provide a potential for floodplain compensation by reconnecting Cypress Creek. SFWMD stated that there is also a plan to construct a flow through marsh on the Florida Forever land to capture agricultural discharge and provide attenuation. PGA stated that this project would also be suitable for floodplain compensation and pollutant loading reductions, and SFWMD agreed. The Florida Forever property was purchased with Comprehensive Everglades Restoration Plan (CERP) funds. SFWMD stated that there are no current opportunities for funding the flow through marsh, but there may be an opportunity for funding in the future. SFWMD indicated that there is bridge culvert system connecting the east and west sides of the Florida Forever property that is important for access and requested that the connection not be removed in the future.

ii. Another alternative PGA presented was to provide attenuation in the State-owned lands. PGA stated that this approach was used for the SR 710 from Martin/Palm Beach County Line to Pratt and Whitney Entrance (SFWMD Permit No. 50-04716-P), which was successfully permitted through SFWMD. The SR 710 project provided full treatment on-site, but attenuation was provided off-site in adjacent wetlands to avoid the need for off-site ponds within sensitive lands. Modeling was used to demonstrate a negligible stage increase in the wetlands and no adverse impacts to adjacent properties. SFWMD concurred.

iii. PGA said that another alternative that may be reviewed is the use of Bio-Sorption Activated Media (BAM) filters. SFWMD said they were not familiar with this new technology and would need more information before granting approval to use for TN reduction. PGA stated that BAM has been permitted in other water management districts and additional information would be provided if the PD&E study identifies this alternative as a recommended approach.

iv. PGA stated that Martin County has been implementing septic-to-sewer conversions and asked whether nutrient removal credit could be obtained by funding a similar project. SFWMD said it would need to be discussed further if the PD&E study identifies this alternative as a recommended approach.

v. SFWMD does not know of any additional opportunities and reminded FTE that water quality and quantity aspects will need to stay within the basins impacted.

c. PGA stated that the PD&E will look at potential joint-use opportunities with the adjacent golf course and the City of Port St. Lucie.

6. <u>Floodplain</u>

a. PGA stated that there are several floodways within the project limits: Roebuck Creek, Danforth Creek, Bessy Creek, North Fork St. Lucie, and Tenmile Creek.
b. PGA stated that the FEMA floodplains within the project limits are riverine and compensation would be provided for any impacts to these floodplains; however, a portion of the project is downstream of a SFWMD weir control structure. Floodplain impacts at this location would not require compensation, as they are considered tidal.
c. SFWMD added that the proposed improvements shall not create a backwater increase nor reduce the cross-sectional area at the bridges.

7. <u>Wetlands/Surface Waters</u>

a. KCA presented the types of wetlands anticipated within the project limits: freshwater marsh, forested wetlands, shrub wetlands, reservoirs, natural rivers, and drainage ditches and canals.
b. SFWMD indicated that impacts to wetlands associated with OFWs need to show Avoidance and Minimization. Potential mitigation options exist with restoration/enhancement of OFWs and associated wetlands.
c. KCA stated that the following mitigation options will be reviewed: Loxahatchee Mitigation Bank, Bluefield Ranch Mitigation Bank, R.G. Reserve Mitigation Bank, and DuPuis Reserve (Martin County). A cumulative impact analysis may be necessary based on the location of impacts and mitigation bank service area. SFWMD added that credits may be low or out at the R.G. Reserve Mitigation Bank.
d. COE agreed with approach.

8. <u>Protected Species</u>

a. KCA stated that no species-specific surveys have been conducted.
b. KCA stated that there is a potential for the following protected species:
    i. Federal
        1. Eastern indigo snake
        2. Wood stork
        3. Crested caracara*
        4. Snail kite*
        5. Manatee*
        6. Wood stork (5 CFAs)
        7. Red-cockaded woodpecker*
        8. Florida scrub-jay*
        9. Florida grasshopper sparrow*

        (* project in species consultation area)
    ii. State
        1. Wading birds
        2. Rookery at Okeechobee Road (SR 70) Toll Plaza
        3. Florida sandhill crane
        4. Gopher tortoise
        5. Southeastern American kestrel
        6. Sherman's fox squirrel
    iii. Other
        1. Osprey
        2. Bald eagle

c. FTE stated that the Florida Bonneted Bat Consultation Area (CA) may have recently changed, and the USFWS is in the process of expanding the CA and removing the focal areas, but it is currently still in a draft form.
d. NMFS inquired about tidal systems and Essential Fish Habitat. Assumed to be minimal. FTE will research further and address in detail during design.

9. <u>Loxahatchee Wild and Scenic River</u>

a. KCA discussed the project's Loxahatchee River involvement.
b. Implemented under the Wild and Scenic River Act
    i. SFWMD confirmed that Section 7a approval is needed.
c. National Park Service is lead federal agency.
d. SFWMD/FDEP develop and administer management plan – coordinate with Beth Kacvinsky
e. Supported by Loxahatchee River Management Coordinating Council (25 members)
    i. Three Federal Agencies
    ii. Eight State Agencies
    iii. Nine Local Agencies
    iv. Five Non-Governmental Organizations
f. Extends from southern end of Jonathan Dickinson State Park to southern end of Riverbend Park (Martin and Palm Beach Counties)
g. Road crosses scenic segment of river.
h. Addresses Impacts:
    i. Free Flow Nature
    ii. Water Quality
    iii. Remarkable Values – (scenic, recreational, geological, fish & wildlife, historical, cultural)
i. SFWMD added that Cypress Creek connects to the Loxahatchee River, but it is not considered part of wild and scenic river. KCA stated that the location of the Loxahatchee River within this PD&E project is considered scenic only (not wild).

10. <u>Cultural Resources</u>

a. KCA stated that a CRAS will be completed as part of this PD&E.

11. <u>Permits and Approvals</u>

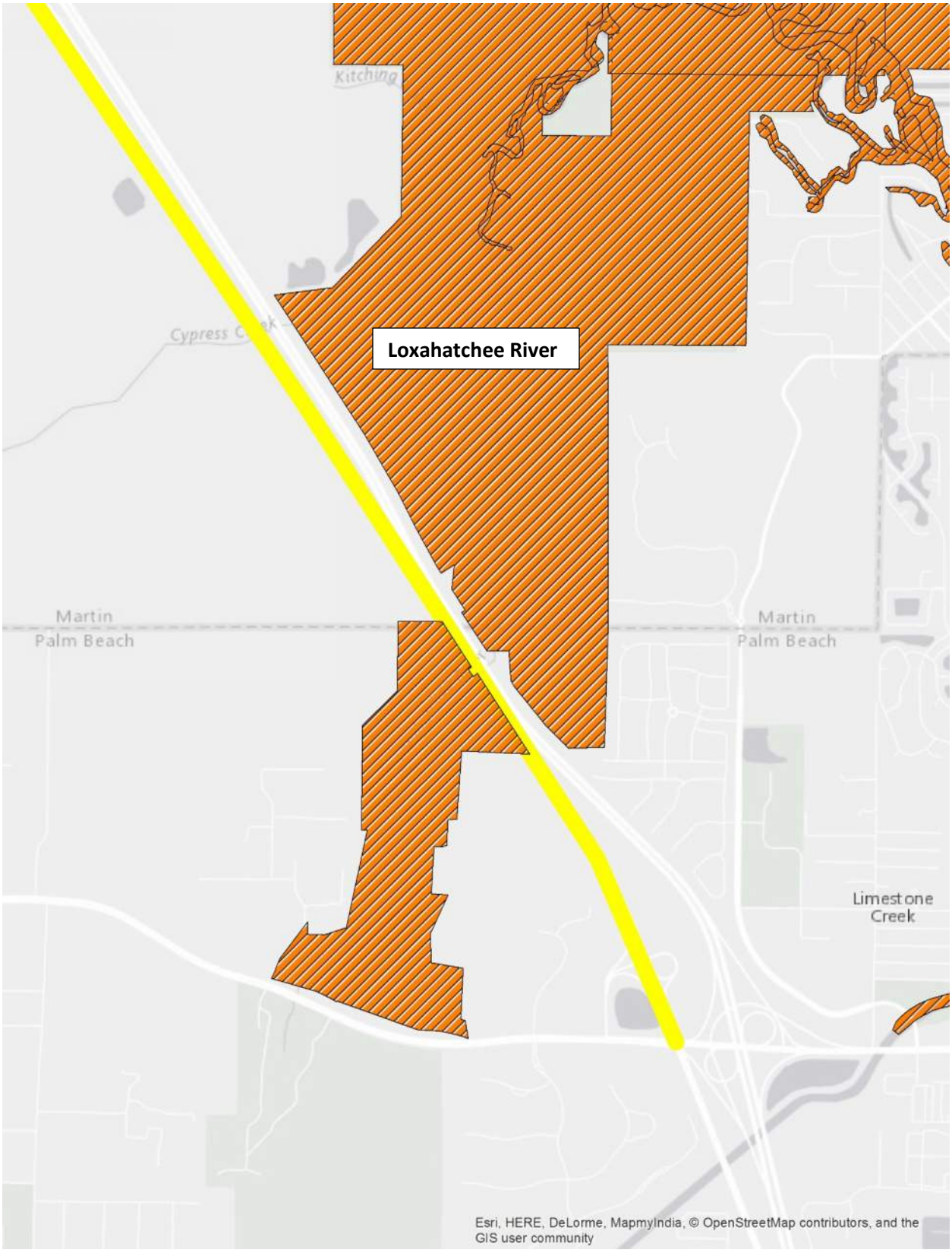
a. KCA stated that the following permits and approvals are anticipated:
    i. USACE – Section 404 Dredge and Fill Permit
    ii. USACE – Section 408 Alteration of a USACE Civil Works Project
        1. SFWMD said that a Section 408 will be needed for the C-23 canal.
    iii. US Coast Guard - General Bridge Act of 1946 (33 USC 525)
    iv. NPS – Section 7a Wild and Scenic Rivers Act Approval
    v. SFWMD – Environmental Resource Permit
    vi. SFWMD - Right-of-Way Occupancy Permit
        1. SFWMD said that a Right-of-Way Occupancy permit will be necessary for the following canals: C-18 (if within the project limits), C-23 upstream of weir, C-24 downstream of weir, and C-25 downstream of weir.
    vii. FDEP - Sovereign Submerged Lands Easements

1. This will be submitted with the ERP, and SFWMD will process.

viii. FDEP – NPDES – Obtained by Construction Contractor
ix. FWC - Gopher Tortoise Relocation Permit
x. FWC - Incidental Take Permit (Permitting requirements to be coordinated w/ FWC)

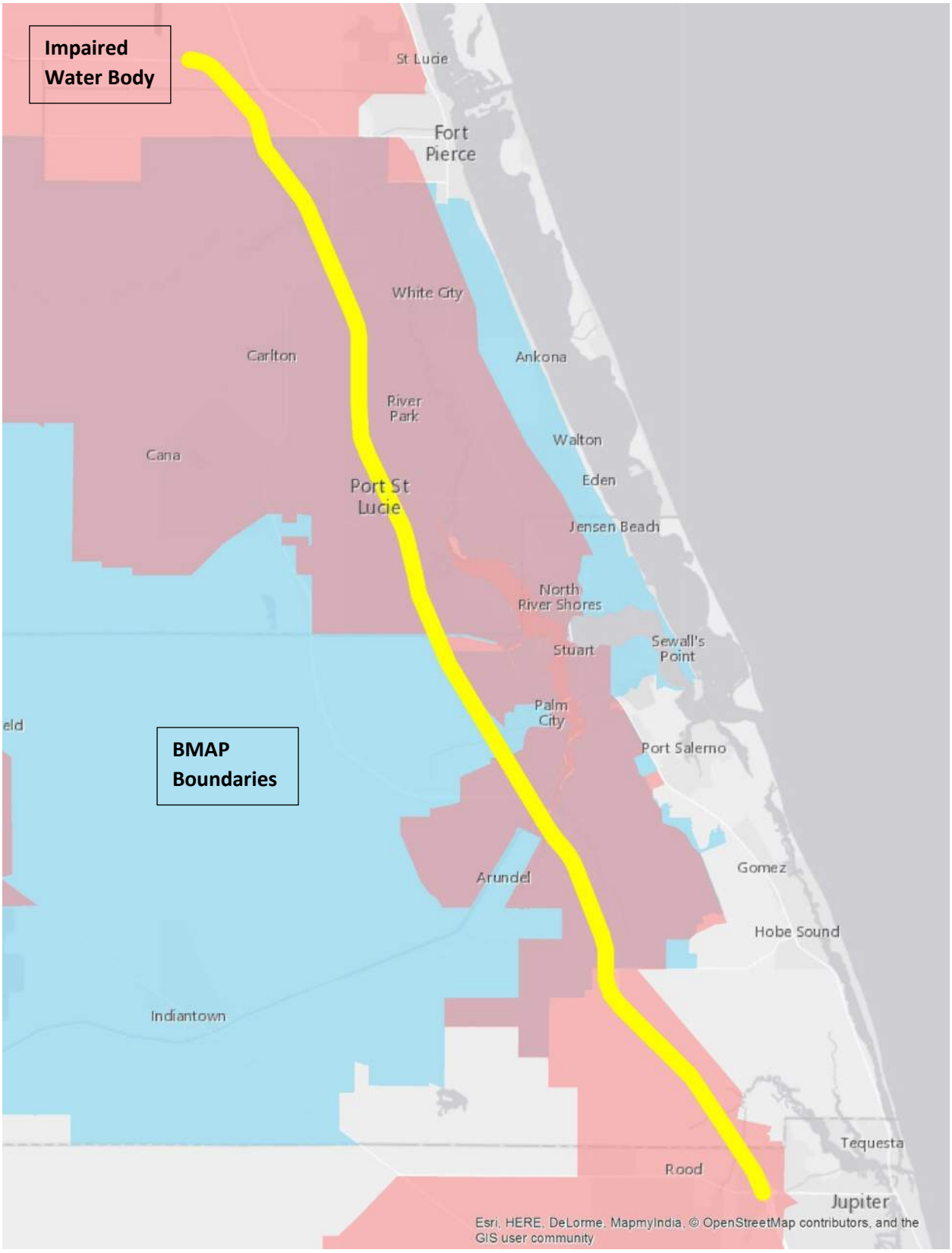
b. FTE added that the ETDM number for this project is #14295.

Exhibit 1: Outstanding Florida Waters



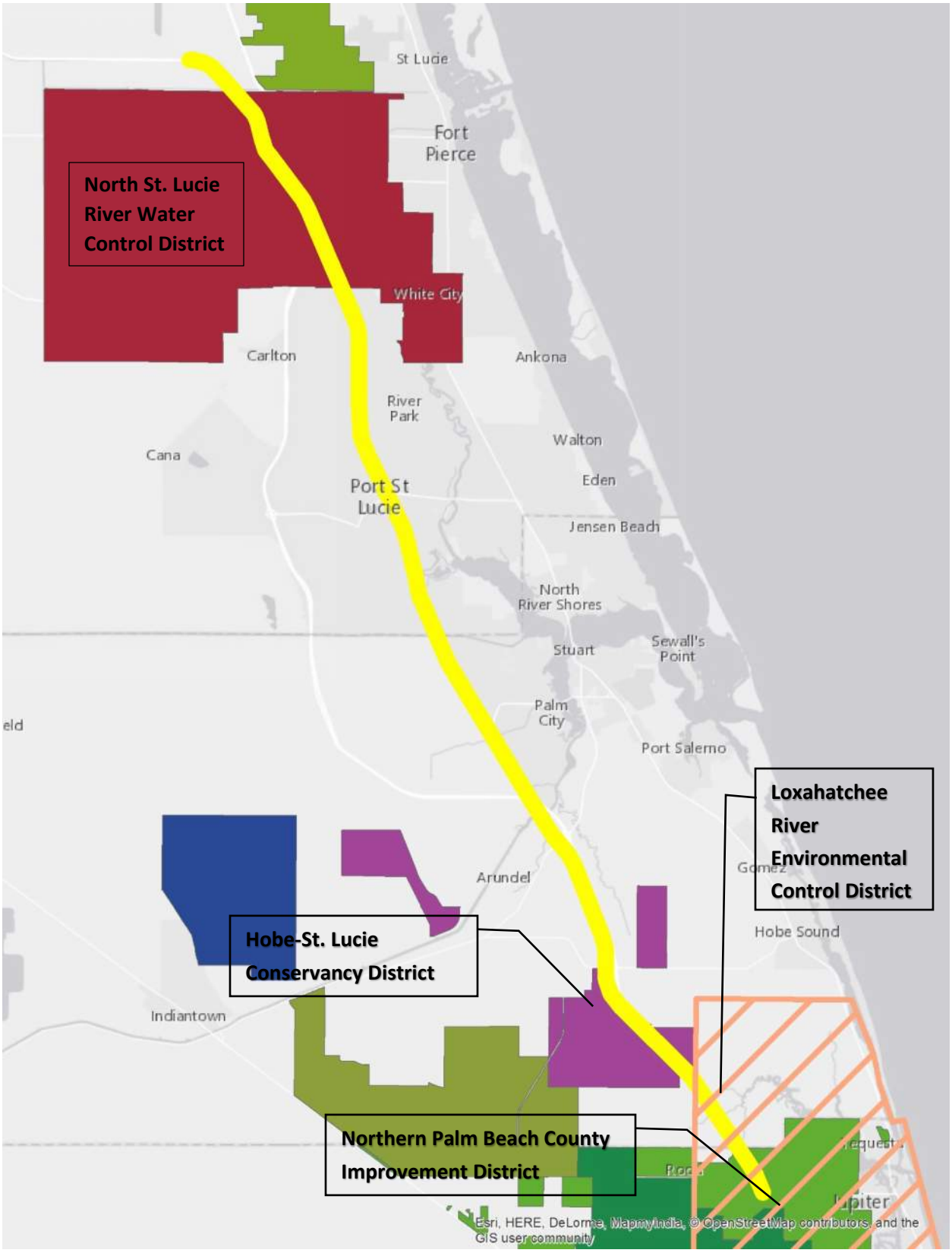
Florida's Turnpike Mainline (SR 91) from Jupiter (Indiantown Rd) to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties
FPID 423374-1-22-01

Exhibit 2: Impaired Water Body and BMAP



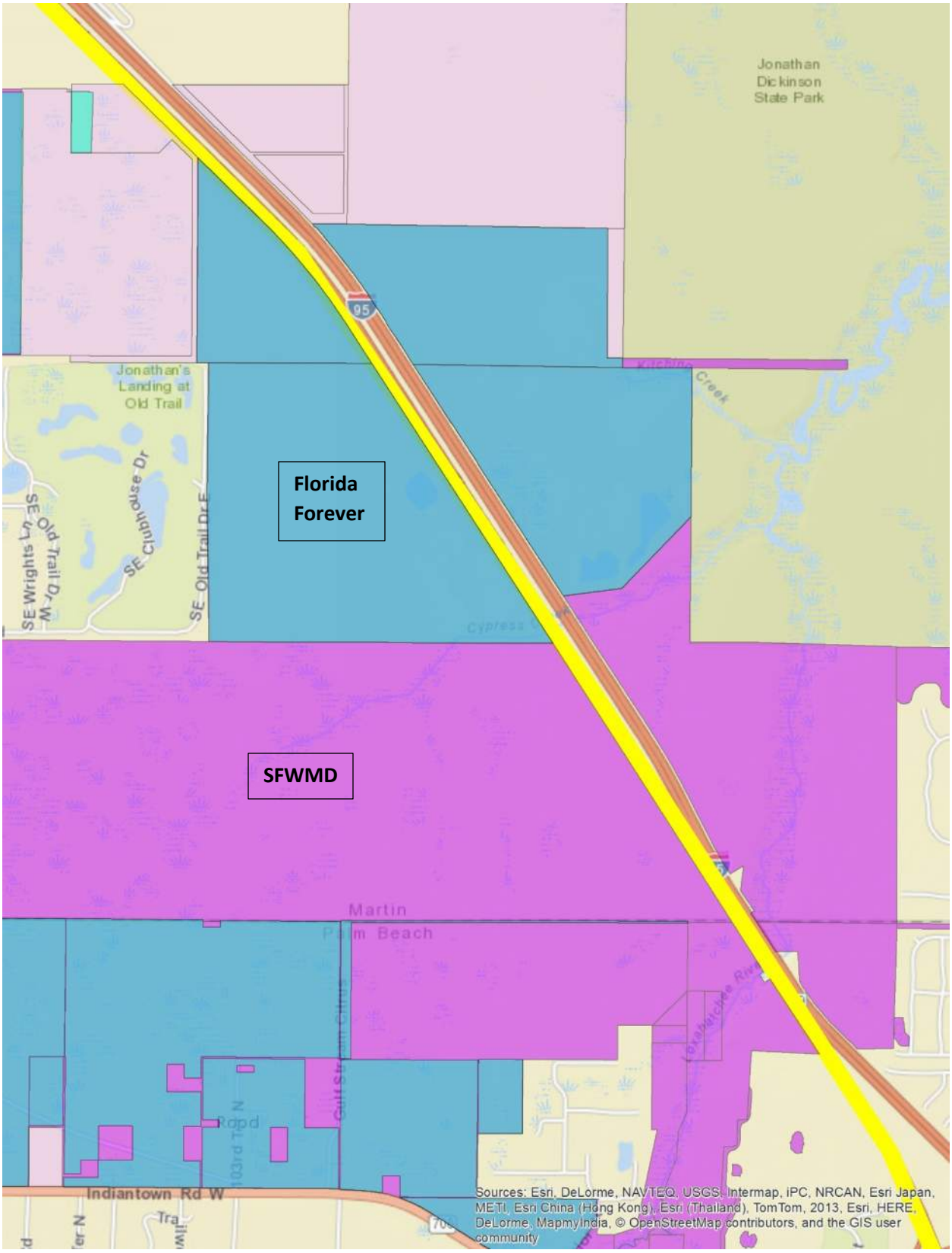
Florida's Turnpike Mainline (SR 91) from Jupiter (Indiantown Rd) to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties
FPID 423374-1-22-01

Exhibit 3: Special Water Management Districts



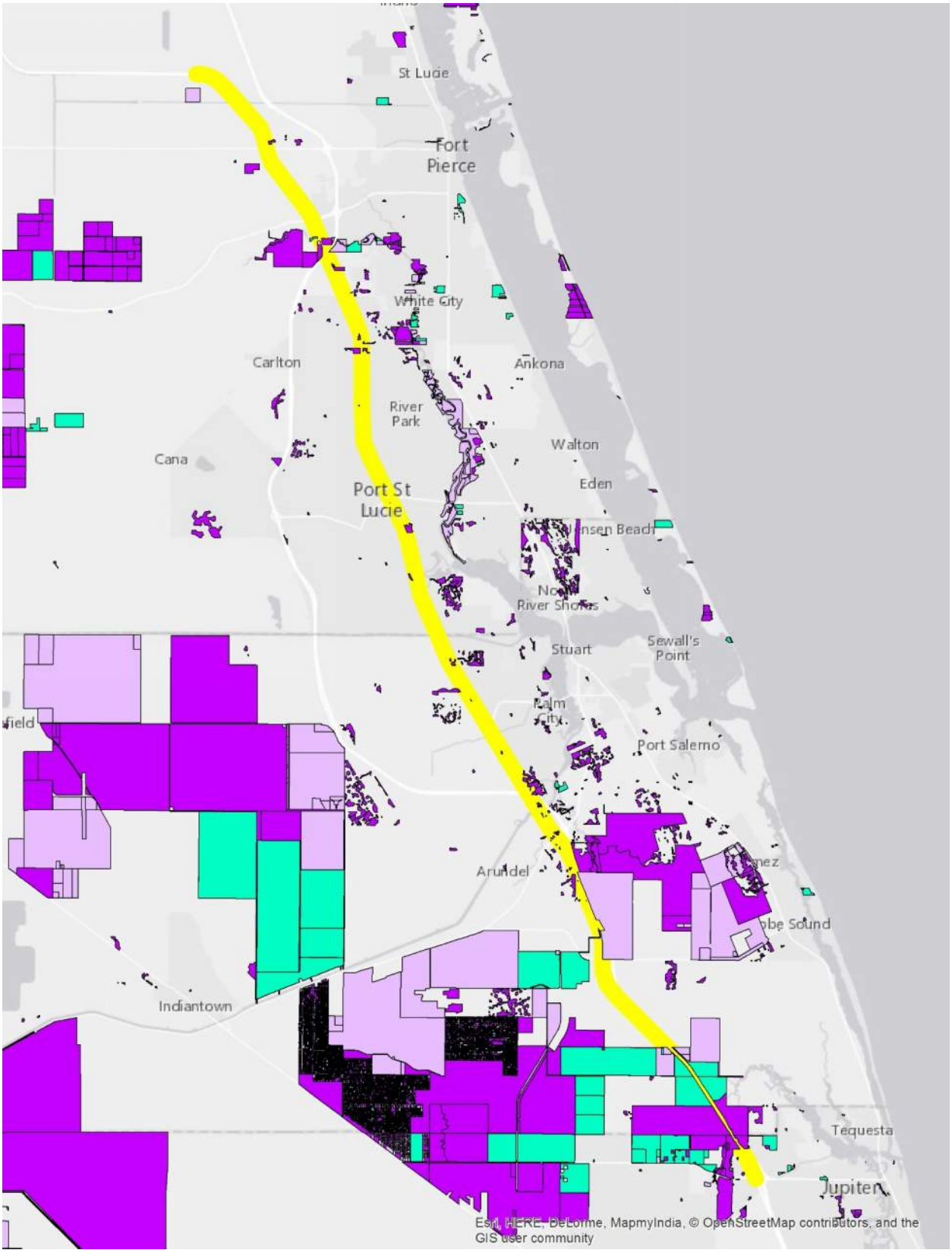
Florida's Turnpike Mainline (SR 91) from Jupiter (Indiantown Rd) to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties
FPID 423374-1-22-01

Exhibit 4: State-Owned Lands



Florida's Turnpike Mainline (SR 91) from Jupiter (Indiantown Rd) to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties
FPID 423374-1-22-01

Exhibit 5: Florida Forever Acquisitions



Florida's Turnpike Mainline (SR 91) from Jupiter (Indiantown Rd) to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties
FPID 423374-1-22-01

Exhibit 6: FEMA Floodplains



Florida's Turnpike Mainline (SR 91) from Jupiter (Indiantown Rd) to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties
FPID 423374-1-22-01

South Florida Water Management District Section 408 Correspondence

July 2020

Ashley Abdel-Hadi

From: Ashley Abdel-Hadi
Sent: Thursday, November 5, 2020 5:07 PM
To: Ashley Abdel-Hadi
Subject: FW: Section 408 Authorization

KISINGER CAMPO & ASSOCIATES

Ashley Abdel-Hadi
Senior Environmental Scientist/Project Manager
Email: AAbdel-Hadi@kcaeng.com
Work: 813.871.5331
201 N. Franklin St. Suite 400, Tampa, FL 33602

From: Swartz, Teri <tswartz@sfwmd.gov>
Sent: Friday, July 17, 2020 10:34 AM
To: Robert Whitman Jr. <RWhitman@kcaeng.com>
Subject: RE: Section 408 Authorization

Good morning Mr. Whitman,
Yes, I am the District's Section 408 coordinator, so I would handle making approval requests to USACE for projects within our ROW limits. I don't work in ROW, so specific questions about ROW permitting would need to be directed to staff in that section.

For the Turnpike Widening project:

- C-44/St. Lucie Canal is under USACE jurisdiction, so I don't believe we do any ROW permitting there. Section 408 approval should be coordinated directly with USACE.
- C-23 Canal – this crossing requires ROW permitting (modify existing) and Section 408 authorization (to be handled by SFWMD).
- C-24 Canal – this crossing requires ROW permitting (modify existing), but since it is located downstream of the coastal water control structure, we typically do not submit Section 408 approval requests there.

The Ft. Denaud Bridge crosses the C-43/Caloosahatchee River, which is under USACE jurisdiction. I don't believe we do any ROW permitting there, so Section 408 approval should be coordinated directly with USACE.

I'm not familiar with the SFWMD report you're referencing. But hopefully the information above is helpful to you.

Teri

Teri Swartz, P.E.
Lead Engineer, Project Management Section
Engineering and Construction Bureau
South Florida Water Management District
(561)682-2505



From: Robert Whitman Jr. <RWhitman@kcaeng.com>
Sent: Monday, July 13, 2020 8:02 AM
To: Swartz, Teri <tswartz@sfwmd.gov>
Subject: Section 408 Authorization

[Please remember, this is an external email]

Good morning Ms. Swartz, I am working on two projects which may require Section 408 Authorization initiated through the SFWMD. I understand that you are the District's 408 Coordinator and want to discuss these projects with you. I gave you a call and your message indicated that you were best reached by email. We would like to confirm which project crossings would require a SFWMD Right of Way Occupancy Permit and a Section 408 Authorization. These projects include:

The Project Development and Environment (PD&E) study for widening Florida's Turnpike from north of SR 706 (Indiantown Road) near Jupiter, to the SR 70 Interchange in Ft. Pierce.

The Repair and Rehabilitation of the Ft. Denaud Bridge, which crosses the Okeechobee Waterway approximately 5.2 miles west of La Belle.

The Project Development and Environment (PD&E) study for widening Florida's Turnpike from north of SR 706 (Indiantown Road) near Jupiter, to the SR 70 Interchange in Ft. Pierce. This is a 37-mile project and crosses several regional flood protection facilities, including the St. Lucie Canal, the County Line Canal, and the Rim Ditch. The project crosses the Loxahatchee River, but the C-18 Canal, located farther south, is not within our project area. I have included a project location map with the waterway crossings identified (below) to assist with your review. I would like to confirm which of these crossings will require a SFWMD Right of Way Occupancy Permit and Section 408 Authorization. Also, I've noticed some inconsistencies in the canal nomenclature within the project correspondence, and want to get some clarity on this item. Note that the nomenclature in the graphic below was taken from a SFWMD Technical Report (reference below), but is not consistent with some of the other project correspondence and documents. We are revising the documents for consistency and wanted some clarification.

St. Lucie Canal – The Turnpike crosses the St. Lucie Canal downstream of control structure S-80; the reference document identifies this as the C-44A Canal; however other correspondence identifies this as the C-44 Canal (the reference document identifies the C-44 Canal as upstream of S-80).

County Line Canal – C-23 Canal (consistent nomenclature).

Rim Ditch – The Turnpike crosses the Rim Ditch downstream of control structure S-49; the reference document identifies this as the C-23A Canal; however other correspondence commonly identifies this canal as the C-24 Canal (the reference document identifies the C-24 Canal as upstream of S-49).

SFWMD Document Reference:
South Florida Water Management District, 2010. *Canals In South Florida: A Technical Support Document*. West Palm Beach, Florida.
Appendix C – Description of SFWMD Primary Water Management Features



The Repair and Rehabilitation of the Ft. Denaud Bridge, which crosses the Okeechobee Waterway approximately 5.2 miles west of La Belle. The project will involve repair of bridge structural elements and replacing the fender system, but may also include stabilization of the banks of the waterway. The extend of the shoreline stabilization has not yet been designed, but is anticipated to stay within the roadway right of way, and could extend below the Ordinary High Water

Line. Please let me know if this project would require a SFWMD Right of Way Occupancy Permit and a Section 408 Authorization.

I have permitted several projects requiring Section 408 authorization within the SWFWMD and worked closely with Jeff Hagberg, SWFWMD's 408 Coordinator, and recognize that early coordination is important to this process. Any information that you could provide would be valuable. I'm available to discuss at your convenience, and feel free to call if that would be easier for you. Thank you in advance for your assistance. Best regards, Bob

KCA
KISINGER CAMPO & ASSOCIATES

Robert Whitman Jr.
Chief Environmental Scientist/Sr. Project Manager
Email: RWhitman@kcaeng.com
Work: 813.871.5331 ext 4167
Cell: 813.391.4773
201 N. Franklin St., Suite 400, Tampa, FL 33602

CONFIDENTIALITY NOTE: This communication may be privileged and confidential. It should not be disseminated to others. If received in error, please immediately reply that you have received this communication in error and then delete it. Thank you.

National Park Service Meeting Agenda

February 15, 2018

MEETING AGENDA

National Park Service Meeting #01

Turnpike Mainline (SR 91)
Widening PD&E Study from
Jupiter to Fort Pierce

PROJECT:	**Florida's Turnpike (SR 91) Widening PD&E Study from Jupiter (Indiantown Road) to Okeechobee Road (SR 70) (FPID#: 423374-1-22-01)**
	Palm Beach, Martin and St. Lucie Counties
MEETING DATE:	February 15, 2018
MEETING TIME:	10:30 AM to 11:30 AM
LOCATION:	Teleconference
GO TO MEETING LINK	https://global.gotomeeting.com/join/716488589
CONFERENCE CALL NUMBER:	(646) 749-3112
ACCESS CODE:	716-488-589

1. **Introductions**

2. **Project Description**
    a. Overall Project
    b. Loxahatchee River Crossing
        a. Proposed Action
        b. Constraints
            i. FGT Gas Pipelines
            ii. Interstate 95
            iii. Public Lands
            iv. Wetlands / Habitat

3. **Section 7(a) Requirements**

4. **Open Discussion**

5. **Future Coordination**

6. Action Items

ID#	Description	Responsible Person	Due Date	Completion Date	Status

Sovereign Submerged Lands Determination Request to Florida Department of Environmental Protection

January 21, 2020

January 21, 2020

Florida Department of Environmental Protection
Division of State Lands
3900 Commonwealth Boulevard, MS 101
Tallahassee, FL 32399

Re: **Sovereignty Submerged Lands Determination Request**
Florida's Turnpike Widening from Jupiter to Fort Pierce
Palm Beach, Martin, and St. Lucie Counties
Section, Township, and Range (see Attachment A)
FPID Number: 423374-1-22-01

To Whom It May Concern,

Kisinger Campo & Associates, Corp. is conducting an environmental analysis on the behalf of the Florida Department of Transportation, Florida's Turnpike Enterprise (FTE) for proposed improvements to an approximately 37-mile segment of Florida's Turnpike extending from Jupiter to Fort Pierce, in Palm Beach, Martin, and St. Lucie Counties, Florida. The project crosses the St. Lucie River, the Loxahatchee River and 15 identified creeks and canals. Their locations can be seen on the attached Project Location Map and Quadrangle Map, and include:

Name	Latitude	Longitude	Section	Township	Range
Loxahatchee River	26.9542020	-80.1655250	32	40S	42E
Unnamed Trib. to Cypress Creek	26.9666090	-80.1746990	30	40S	42E
Cypress Creek	26.9720150	-80.1784300	19	40S	42E
Unnamed Trib. to South Fork St. Lucie River #1	27.0773870	-80.2492590	16	39S	41E
Unnamed Trib. to South Fork St. Lucie River #2	27.0833930	-80.2519350	16	39S	41E
Roebuck Creek	27.1155760	-80.2733490	43	38S	41E
St. Lucie River	27.1176300	-80.2748670	Not Available		
Unnamed Trib. to Mapps Creek	27.128227	-80.2822730	Not Available		
Mapps Creek	27.1345670	-80.2865330	Not Available		
Danforth Creek	27.1550590	-80.3005280	24	38S	40E
Unnamed Trib. to Bessy Creek	27.1741970	-80.3133330	14	38S	40E
Bessy Creek	27.1842820	-80.3202270	10	38S	40E
County Line Canal	27.2054550	-80.3317800	3	38S	40E
Winters Creek	27.2269820	-80.3416500	28	37S	40E
Blakeslee Creek	27.2340600	-80.3434900	28	37S	40E
Rim Ditch	27.2624260	-80.3523430	17	37S	40E
Tenmile Creek	27.4026050	-80.3979050	25	35S	39E

As part of our environmental analysis, we are requesting a Sovereignty Submerged Lands determination for the above listed rivers, creeks, channels, and any additional Sovereignty Submerged Lands within the project limits, included in your records. Please refer to the attached figures and table to facilitate your determination.

January 21, 2020
Sovereignty Submerged Lands Determination Request
Florida's Turnpike Widening from Jupiter to Fort Pierce
Palm Beach, Martin, and St. Lucie Counties
FPID Number: 423374-1-22-01

We appreciate your prompt response to this request for a Sovereignty Submerged Lands determination for the referenced rivers, creeks, channels, and any additional Sovereignty Submerged Lands within the project limits, included in your records. If you have any questions or require additional information, please contact me at ashley.abdel-hadi@kisingercampo.com or 813.871.5331.

Sincerely,

Ashley Abdel-Hadi
Senior Environmental Scientist

Attachments: Attachment A: Section, Township, Range Table
Figure 1: Project Location Map
Figure 2: Project Quadrangle Map

cc. Files

Attachment A: Project Section, Township, Range			
S:23, T:35S, R:39E	S:8, T:37S, R:40E	S:14, T:38S, R:40E	S:13, T:40S, R:41E
S:24, T:35S, R:39E	S:28, T:37S, R:40E	S:46, T:38S, R:41E	S:3, T:40S, R:41E
S:25, T:35S, R:39E	S:33, T:37S, R:40E	S:43, T:38S, R:41E	S:2, T:40S, R:41E
S:36, T:35S, R:39E	S:34, T:37S, R:40E	S:27, T:39S, R:41E	S:29, T:40S, R:42E
S:26, T:35S, R:39E	S:17, T:37S, R:40E	S:9, T:39S, R:41E	S:30, T:40S, R:42E
S:1, T:36S, R:39E	S:16, T:37S, R:40E	S:8, T:39S, R:41E	S:18, T:40S, R:42E
S:7, T:36S, R:40E	S:21, T:37S, R:40E	S:28, T:39S, R:41E	S:19, T:40S, R:42E
S:18, T:36S, R:40E	S:3, T:38S, R:40E	S:33, T:39S, R:41E	S:33, T:40S, R:42E
S:19, T:36S, R:40E	S:23, T:38S, R:40E	S:34, T:39S, R:41E	S:32, T:40S, R:42E
S:6, T:36S, R:40E	S:24, T:38S, R:40E	S:16, T:39S, R:41E	
S:30, T:36S, R:40E	S:10, T:38S, R:40E	S:5, T:39S, R:41E	
S:31, T:36S, R:40E	S:11, T:38S, R:40E	S:21, T:39S, R:41E	
S:5, T:37S, R:40E	S:13, T:38S, R:40E	S:11, T:40S, R:41E	
S:6, T:37S, R:40E	S:25, T:38S, R:40E	S:12, T:40S, R:41E	

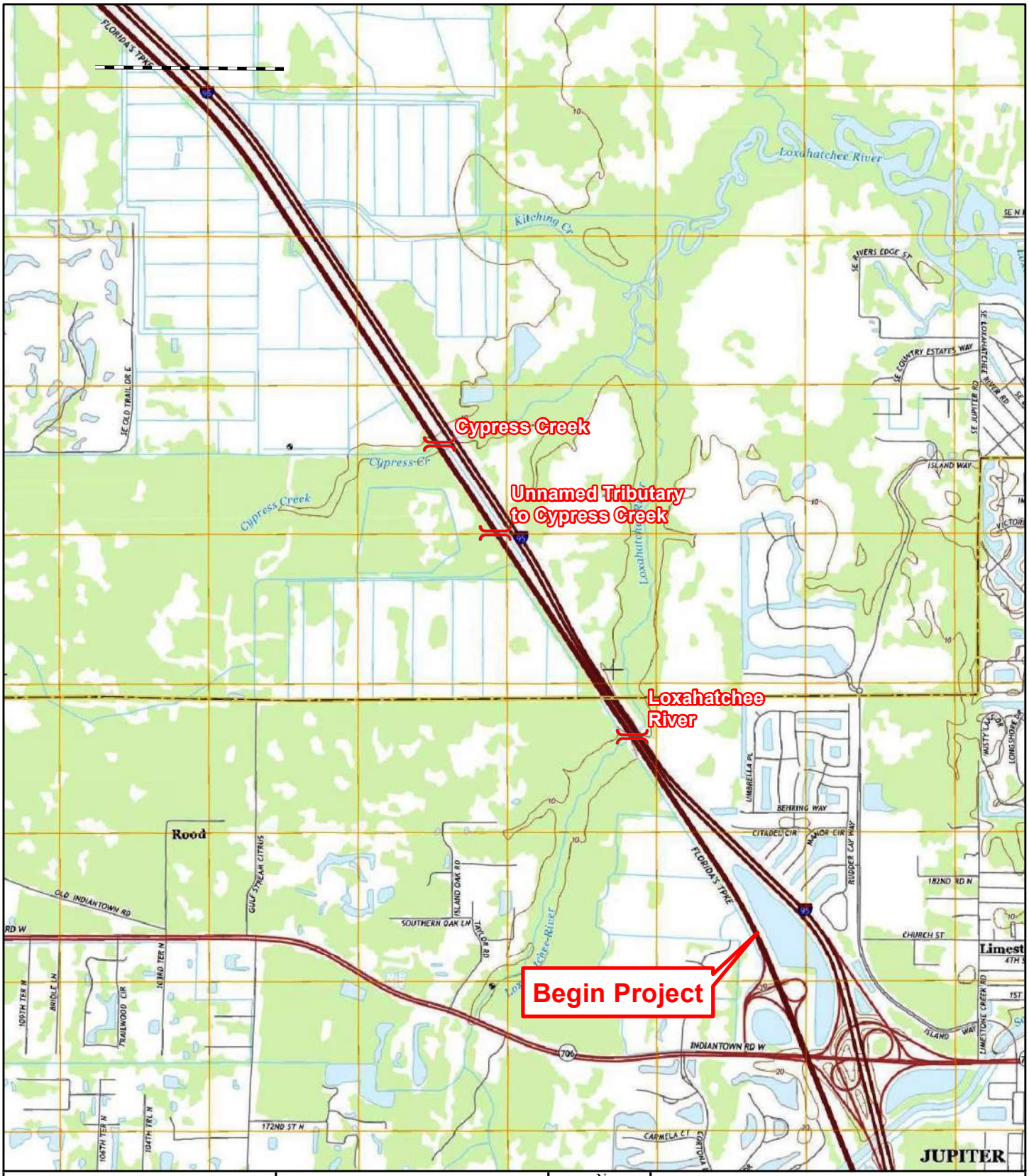


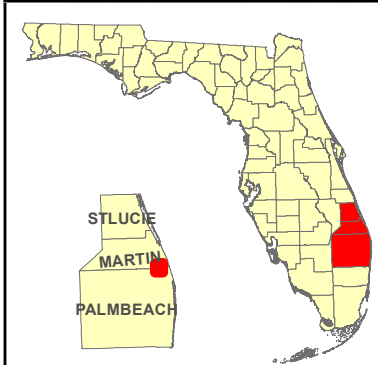
Surface Water Crossing Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
Fax: 813/871-5135

Figure 1





Legend

Surface Water Crossing

N W E S

3,000 1,500 0 3,000

Feet

Project Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
Fax: 813/871-5135

Figure 2

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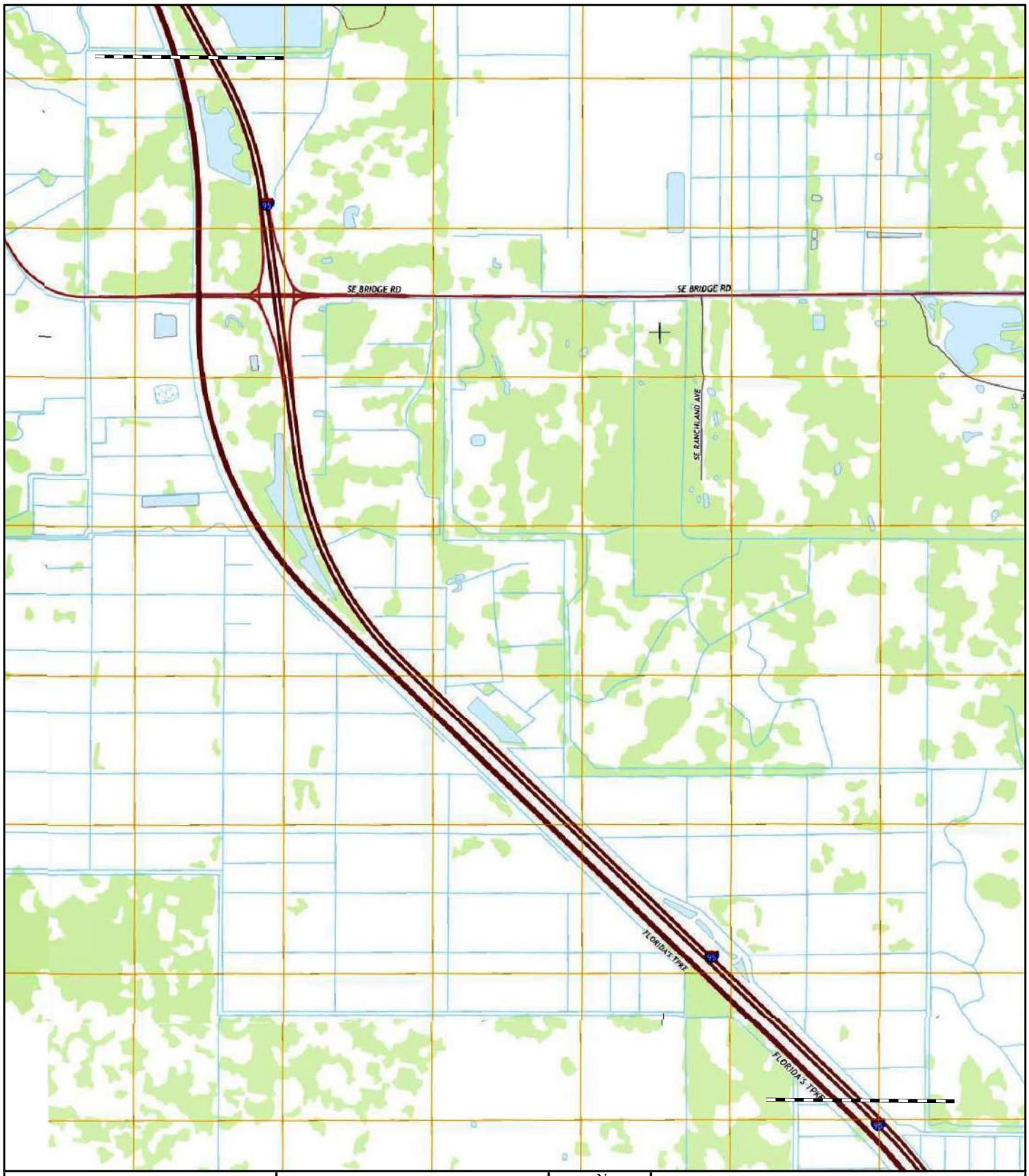

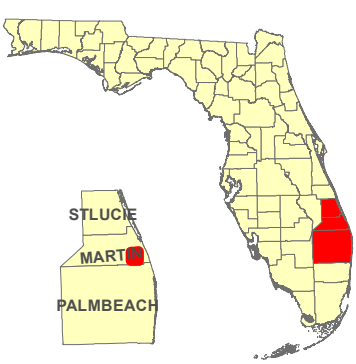

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Surface Water Crossing

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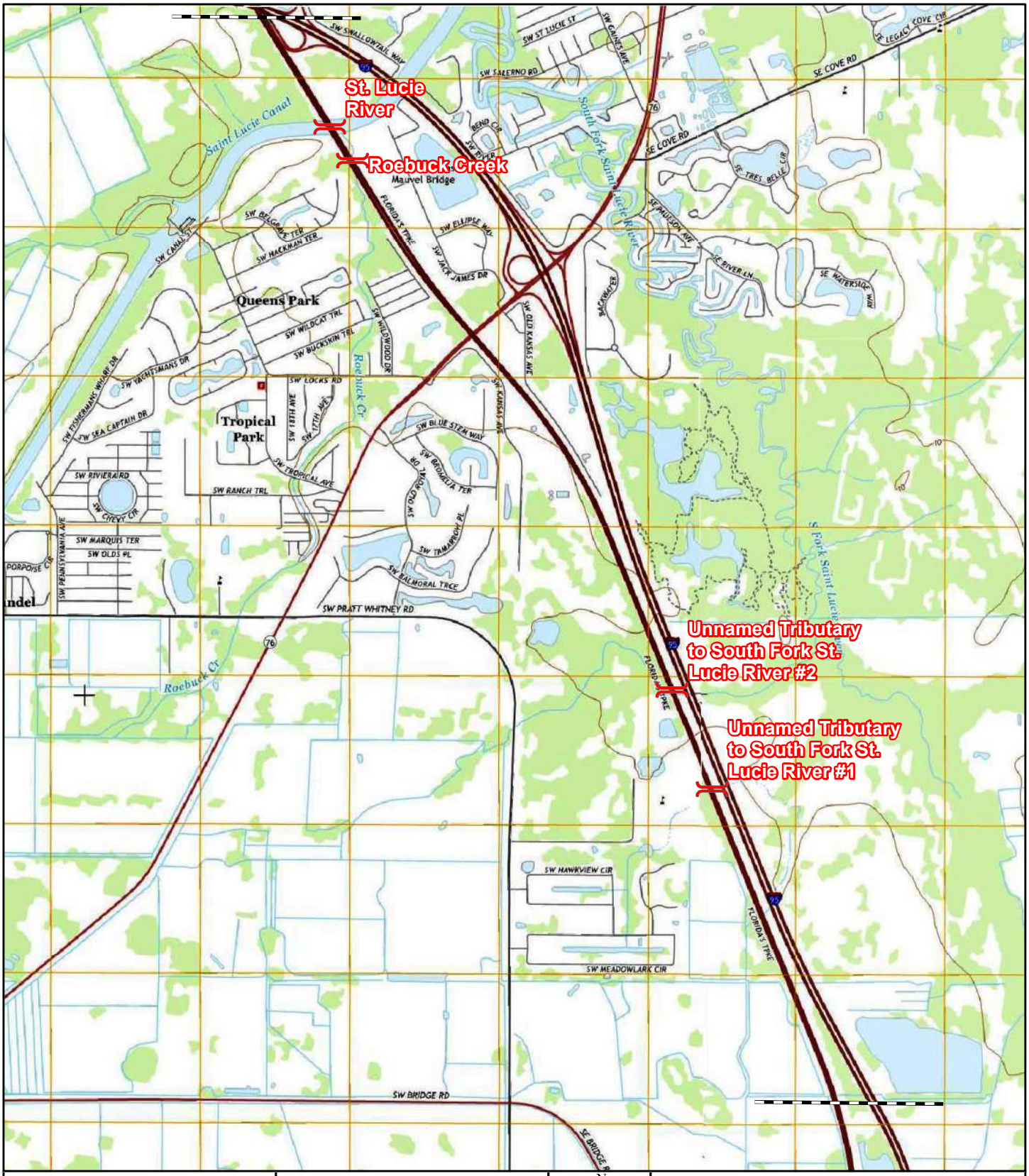

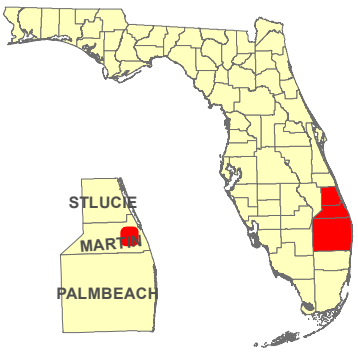

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Surface Water Crossing

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3,000 1,500 0 3,000

Feet

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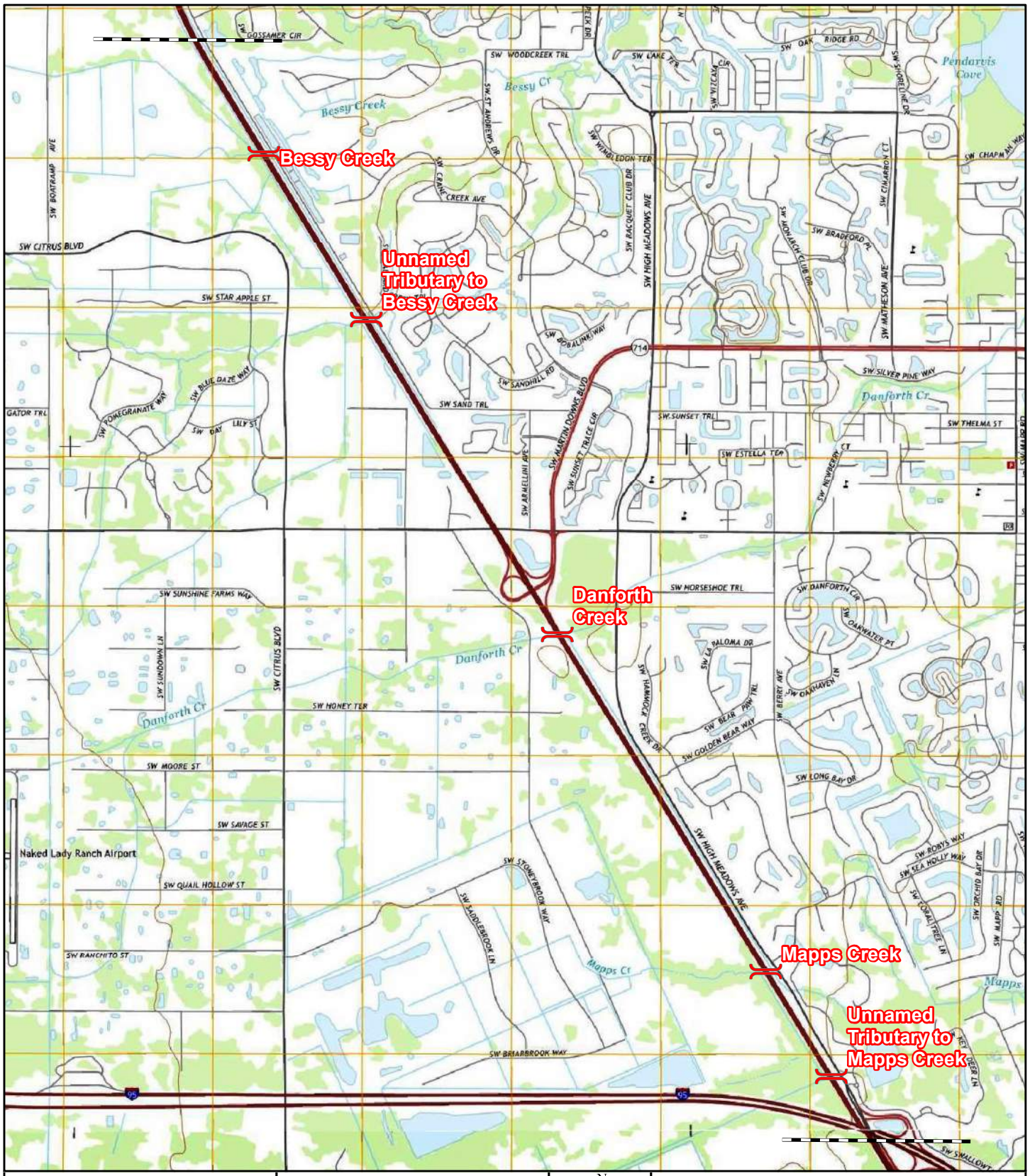

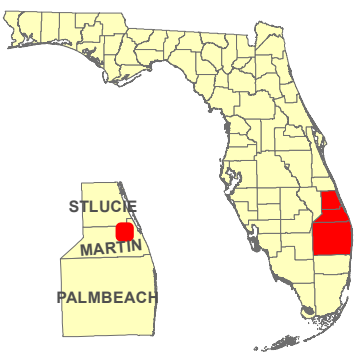

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Surface Water Crossing

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Feet

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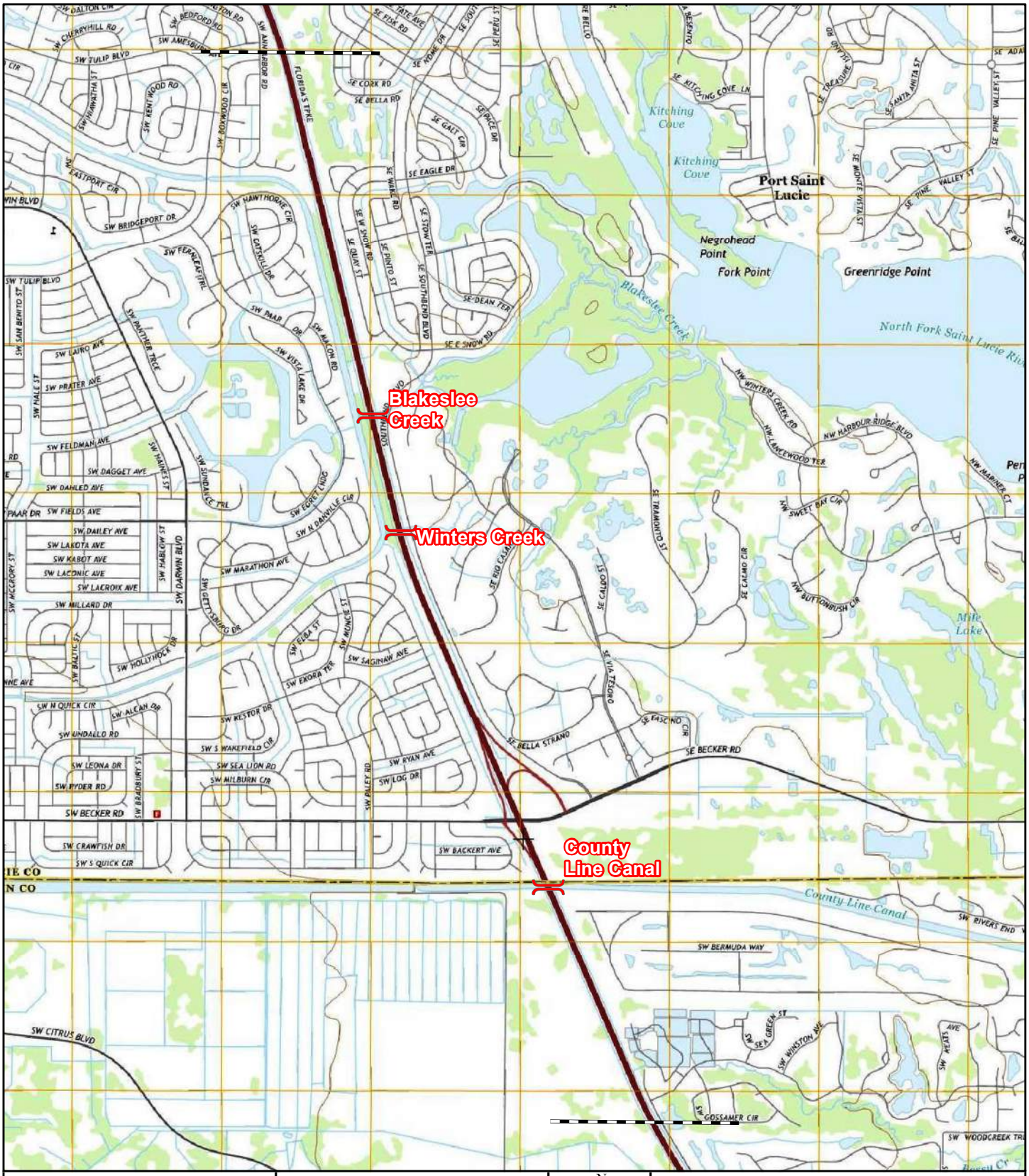

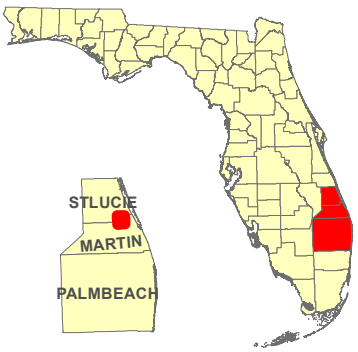

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Feet

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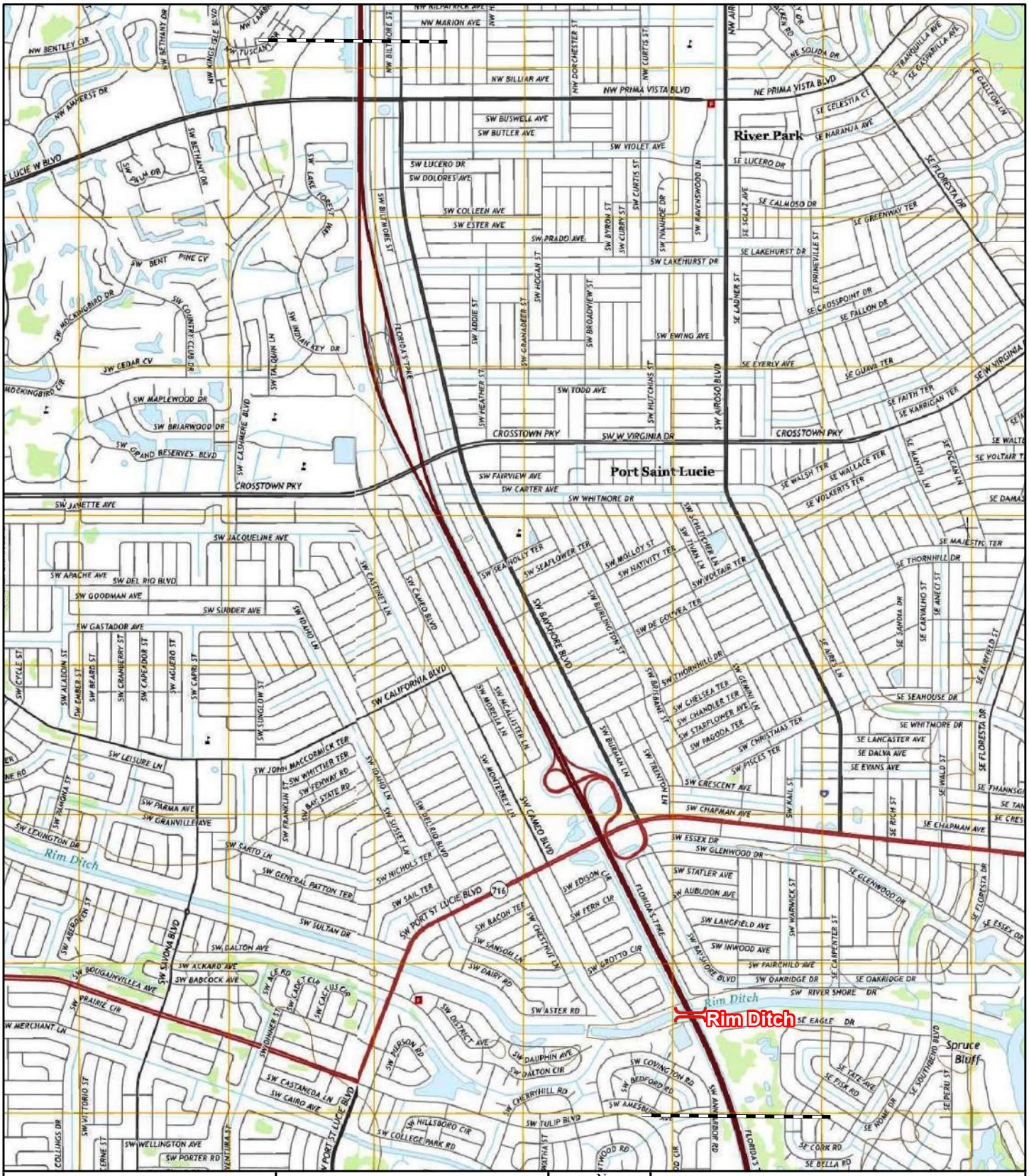
Fax: 813/871-5135

Figure 2

Path: M:\42337412201_Florida's_Turnpike_Mainline_Widening\100 Environmental\104 Environmental Data Report\GIS\Maps\Figures\SSL\Turnpike Topo Map.mxd 1/20/2020


River Park
Port Saint Lucie
CROSSTOWN PKY
SW CALIFORNIA BLVD
SW PORT ST LUCIE BLVD
NW PRIMA VISTA BLVD
NE PRIMA VISTA BLVD
SW LUCIE W BLVD
SW CRESCENT AVE
SW CHAPMAN AVE
SE CHAPMAN AVE
Rim Ditch
Rim Ditch
SE EAGLE DR
Spruce Bluff
SW RIVER SHORE DR
SW DALTON AVE
SW SAVONA BLVD
SW CAMEO BLVD
SW BAYSHORE BLVD
SW GENERAL PATTON TER
SW SAIL TER
SW SULTAN DR
SW ASTER RD
SW TULIP BLVD
SW CHERRYHILL RD
SW COLLEGE PARK RD
SW HILLSBORO CIR
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SW GOODMAN AVE
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SW JACQUELINE AVE
SW JANETTE AVE
SW MAPLEWOOD DR
SW BRIARWOOD DR
SW GRAND RESERVES BLVD
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SW BENT PINE CV
SW MOCKINGBIRD DR
SW CASHMERE BLVD
SW INDIAN KEY DR
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SW COUNTRY CLUB DR
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NW BILTMORE ST
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NW BENTLEY CIR
NW AMHERST DR
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SW BUSWELL AVE
SW BUTLER AVE
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SW EWING AVE
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SW FAIRVIEW AVE
SW CARTER AVE
SW WHITMORE DR
SW W VIRGINIA DR
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SW HUTCHINS ST
SW HEATHER ST
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SW MOGAN ST
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SW IVANHOE DR
SW RAVENSWOOD LN
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SE CALMOSO DR
SE GREENWAY TER
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SE PRINEVILLE ST
SE CROSSPOINT DR
SE FALLON DR
SE EYERLY AVE
SE GUAVA TER
SE FAITH TER
SE HARRIGAN TER
SE WALSH TER
SE WALLACE TER
SE VOLKERTS TER
SE LADNER ST
SE SCALA AVE
SE NARANJA AVE
SE CELESTIA CT
SE TRANQUILLA AVE
SE GASPARILLA AVE
SE GALLEON LN
SE FLORESTA DR
NE SOLIDA DR
SE MAJESTIC TER
SE THORNHILL DR
SE SAMOA DR
SE CARVALHO ST
SE ANECO ST
SE AIRES LN
SE FAIRFIELD ST
SE SEAHOUSE DR
SE WHITMORE DR
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SE DALVA AVE
SE EVANS AVE
SE RAIL ST
SE RICH ST
SE WALD ST
SE CARPENTER ST
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SE GLENWOOD DR
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SW ERNE ST
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SW WATHA ST
SW WOOD RD
SW MONTEREY LN
SW MCALLISTER LN
SW MORELIA LN
SW FRANKLIN ST
SW JOHN MACCORMICK TER
SW WHITTIER TER
SW FENWAY RD
SW BAY STATE RD
SW IDAHO LN
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SW SANTO LN
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SW ALDRICH ST
SW ALCAZAR ST
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SW BEARD ST
SW CRANBERRY ST
SW CAPEADOR ST
SW AGUERO ST
SW CAPRI ST
SW SUNGLOW ST
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SW IDAHO LN
SW CASTINET LN
SW CAMEO BLVD
SW SEAHOLLY TER
SW SEAFLOWER TER
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SW NATIVITY TER
SW SCHLEICHER LN
SW TIMAN LN
SW VOLTAIR TER
SW DE GOUVEA TER
SW BURLINGTON ST
SW THORNHILL DR
SW CHELSEA TER
SW CHANDLER TER
SW STARFLOWER AVE
SW PAGODA TER
SW CHRISTMAS TER
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SW GERMIN LN
SW BURNHAM LN
SW TRENTON LN
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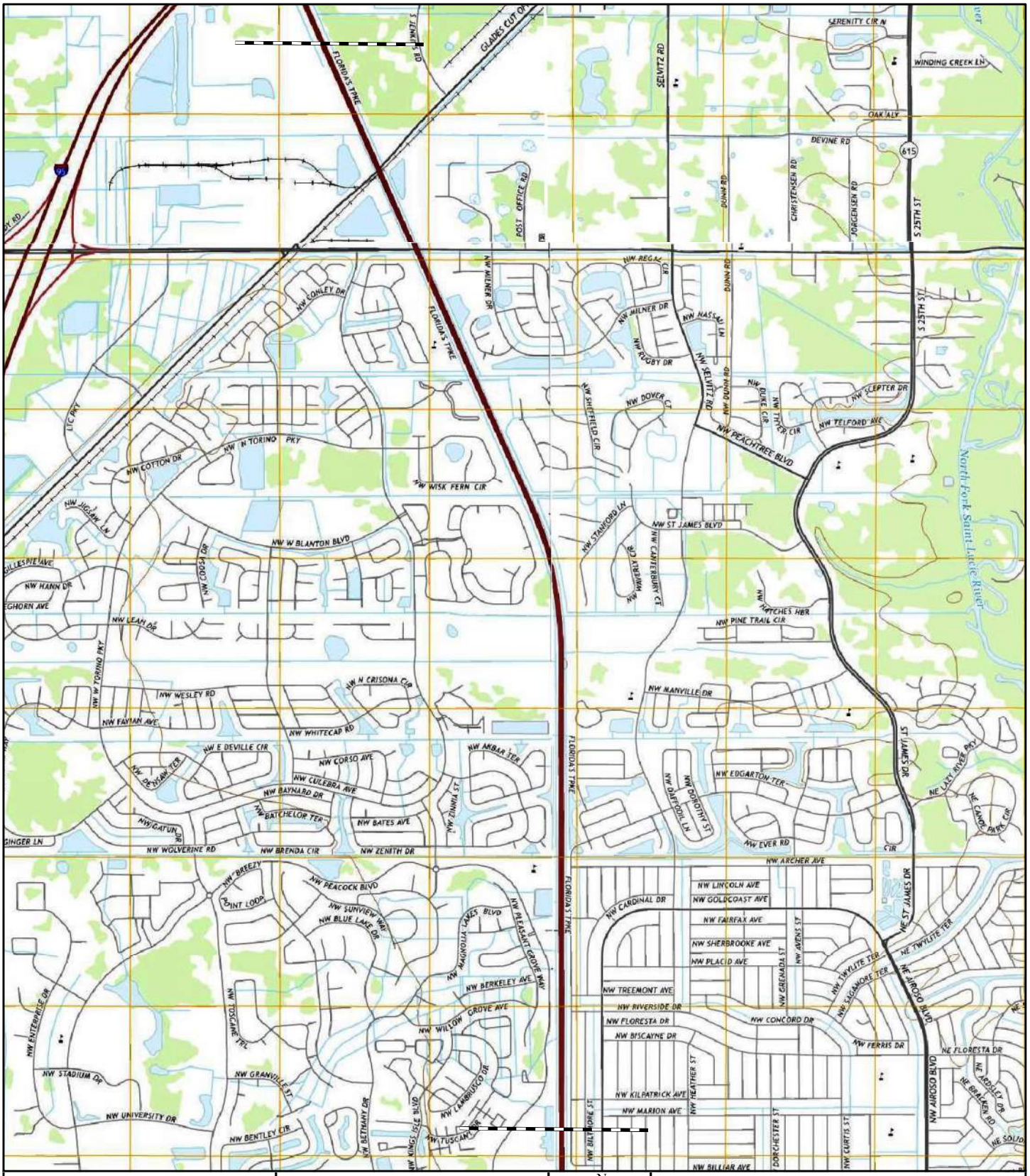

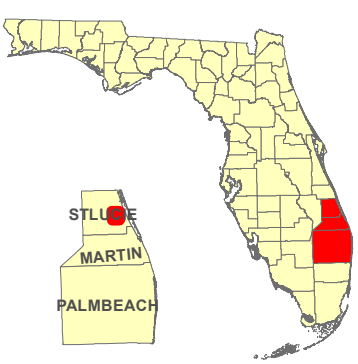

Legend

Surface Water Crossing

N
W E
S

3,000 1,500 0 3,000

Feet

Project Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
Fax: 813/871-5135

Figure 2

Path: M:\423374122201_Florida's_Turnpike_Mainline_Widening\100 Environmental\104 Environmental Data Report\GIS\Maps\Figures\SSL\Turnpike Topo Map.mxd 1/20/2020

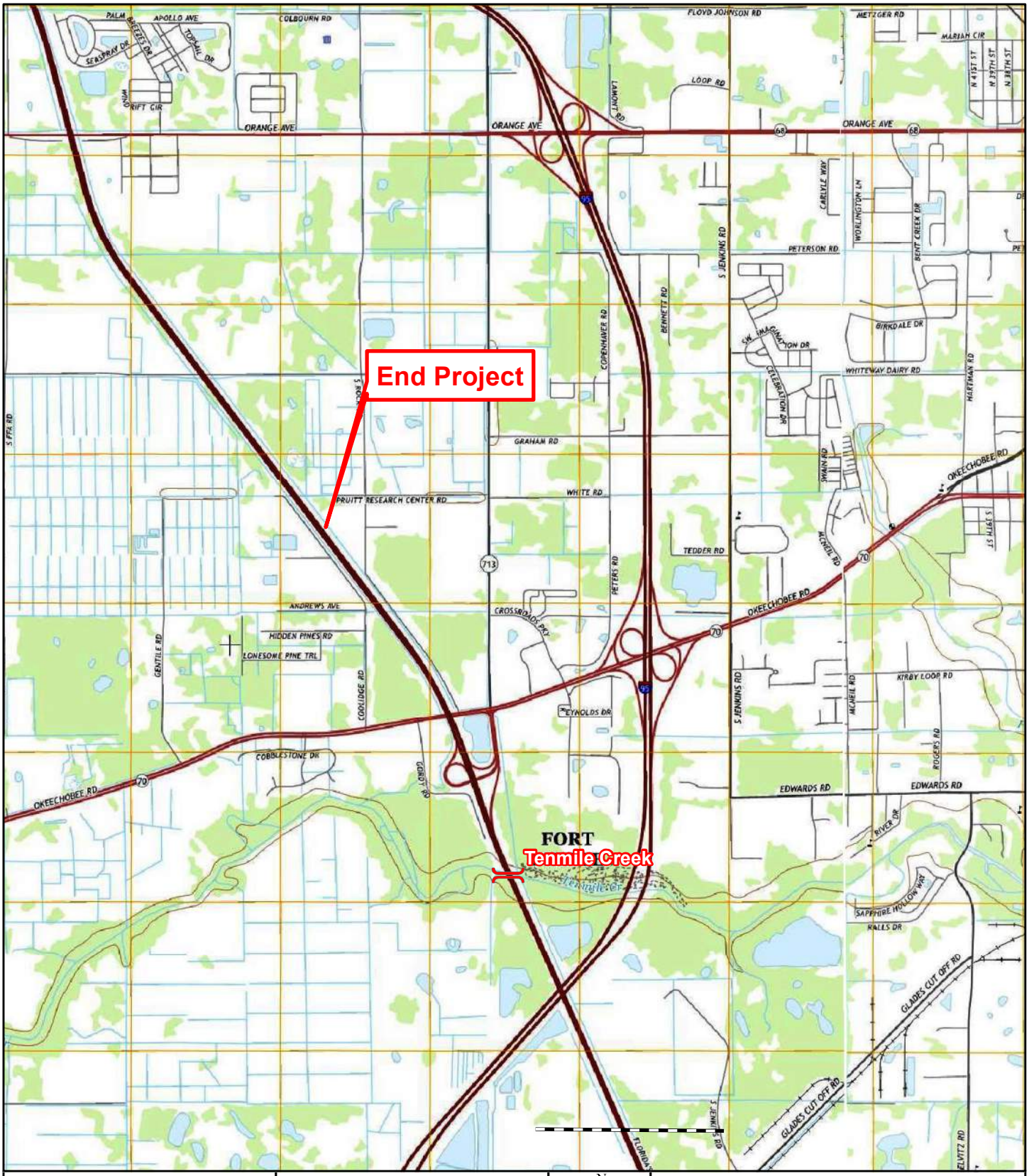

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Figure 2
Page 8 of 8

Path: M:\423374\2201_Florida's_Turnpike_Mainline_Widening\100 Environmental\104 Environmental Data Report\GIS\Maps\Figures\SSL\Turnpike Topo Map.mxd 1/20/2020

Sovereign Submerged Lands Response from FDEP for Palm Beach County

January 22, 2020

FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

January 21, 2020

Ashley Abdel-Hadi
Kisinger, Campo & Associates
201 N. Franklin Street, Suite 400
Tampa, FL 33602

Re: Florida Turnpike Widening; Palm Beach County

Dear Ms. Abdel-Hadi:

This letter is in response to your e-mail inquiry requesting a determination of state-owned lands at Florida Turnpike crossing Loxahatchee Creek in Palm Beach County. The subject site is located within Sections 32 & 33, Township 40 South, Range 42 East.

Our records indicate the submerged lands lying below the ordinary high water line of Loxahatchee Creek at the site are state owned and subject to Use Agreement No. 21023 to the Florida Turnpike Authority, Easement No. 29195 to the Florida Gas Transmission Company, and Easement No. 30625-A to the FDOT. Pursuant to Section 253.77 (1), Florida Statutes, any new activities affecting the state-owned lands at the location would require authorization from the Board of Trustees.

The conclusions stated herein are based on the review of records currently available within the Department of Environmental Protection as supplemented, in some cases, by information furnished by the requesting party and do not constitute a legal opinion of title. A permit from the Department of Environmental Protection and other federal, state and local agencies may be required prior to conducting activities.

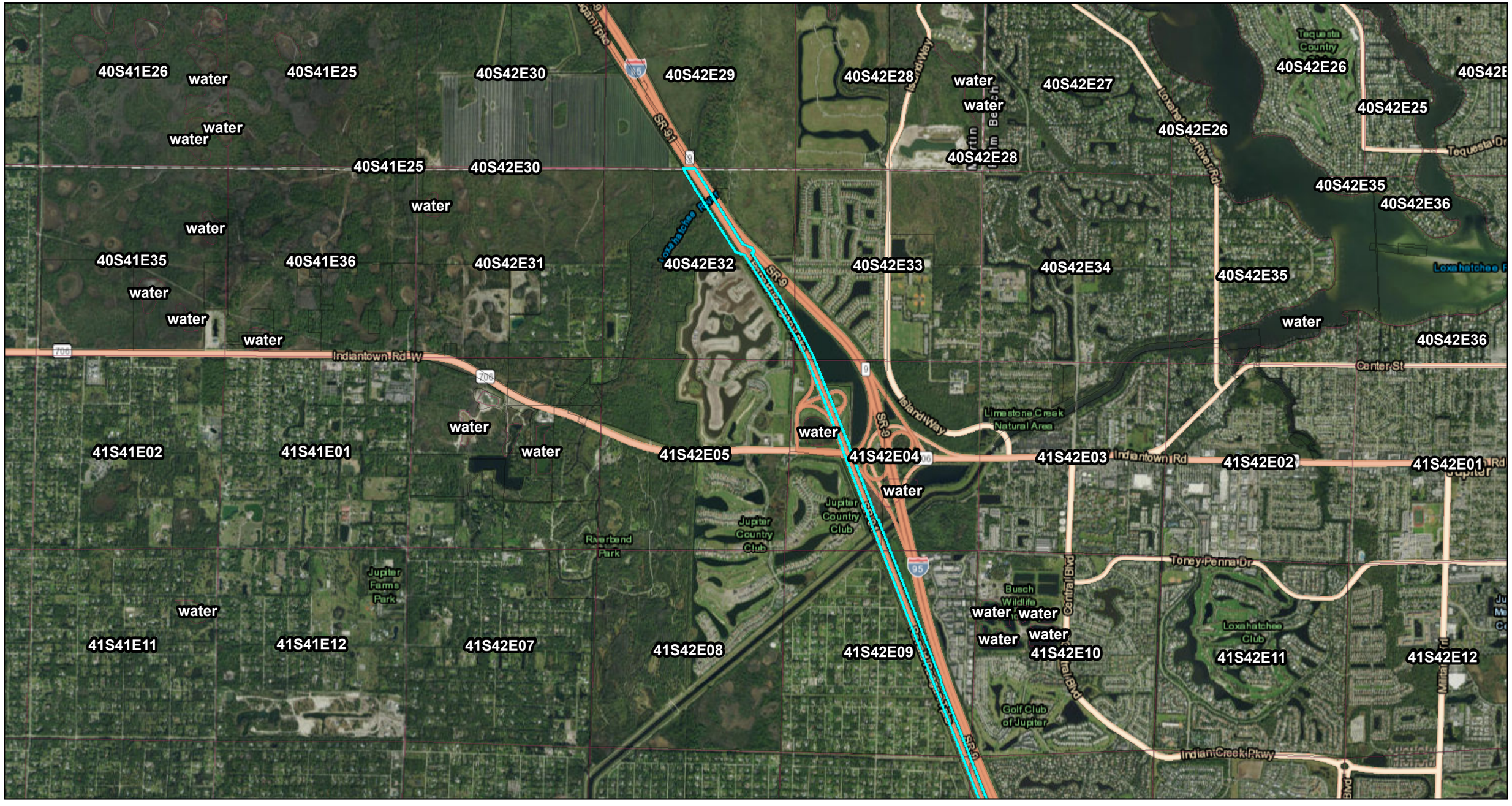
If this office can be of any further assistance regarding this determination, please address your questions to Tanja Hall, Government Operations Consultant II, mail station No. 108 at the above letterhead address, or by telephone at (850) 245-2799.

Sincerely,

Marcus J. Ashman, PSM, Program Manager
Office of Survey and Mapping
Division of State Lands

MJA/th
\TITLE\TANJA\2020 TITLE REQUESTS\1ST QUARTER\PALM BEACH\FPID 423374-1-22-01 - FL TURNPIKE WIDENING

EASEMENT 29195



January 21, 2020

State Land Records (BTLDSR)

Public Land Survey System 2006

1:36,112

0 0.4 0.8 1.6 mi

0 0.5 1 2 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, FDEP

Map created by Map Direct, powered by ESRI.

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EASEMENT 30625



January 21, 2020

State Land Records (BTLDSR)

Public Land Survey System 2006

1:2,257

0 0.03 0.05 0.1 mi

0 0.04 0.08 0.16 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, FDEP

Map created by Map Direct, powered by ESRI.
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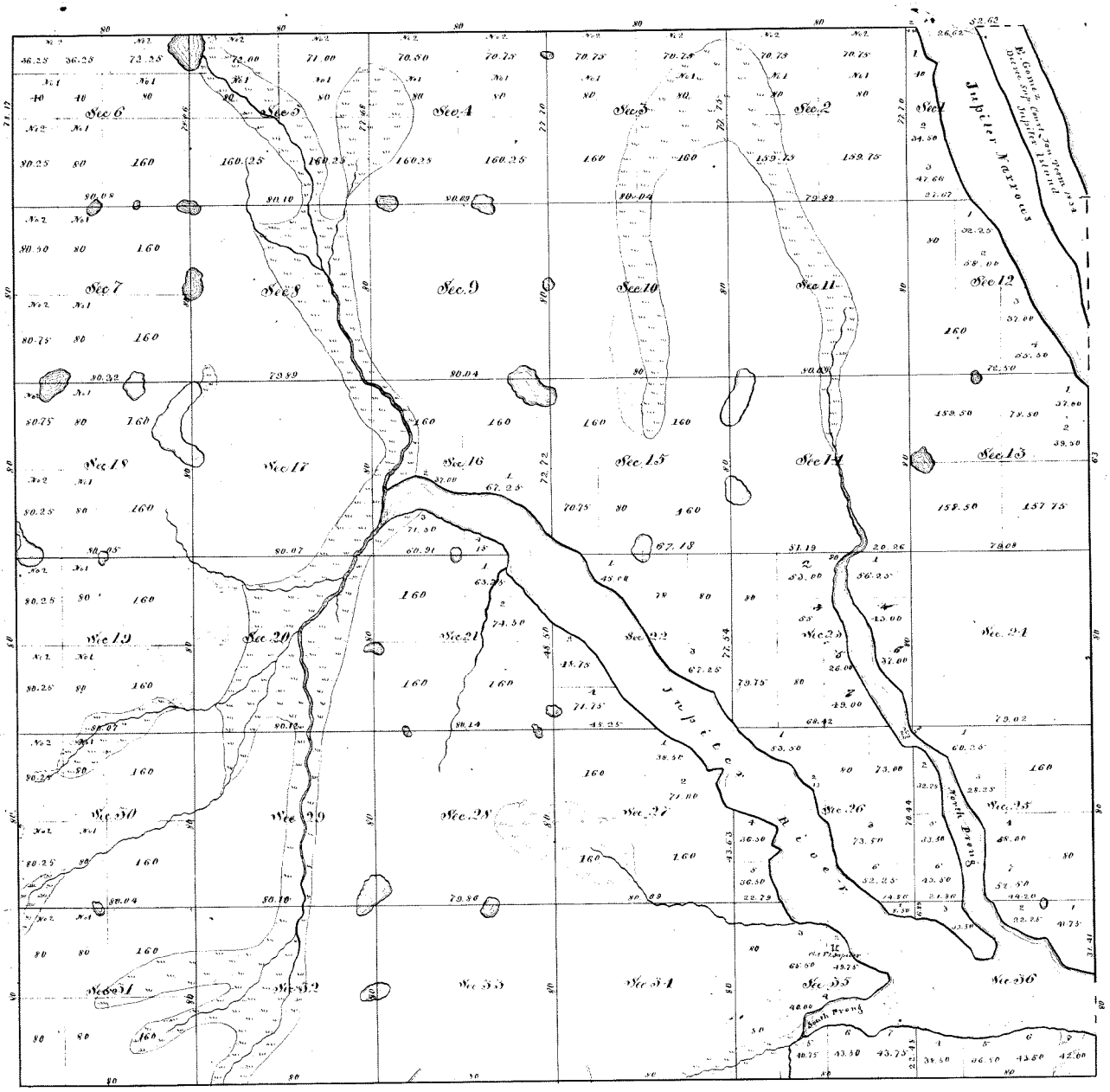
T. 40. S. R. 42. E.

State of Florida.



TRAVERSE

Course	Dist.	Course	Dist.
Sec. 36		Sec. 27	
From Post on E. line		S 87¾ E	13.75
36.41 from N.E. C.		S 40 E	11.00
N 86 W	14.00	N 80 E	7.00
N 55 W	7.00	S 33 W	7.00
N 29 W	7.00	S 15 E	13.00
West	3.00	S 77 E	8.20
N 68 W	16.00	thence	
N 21 W	10.00	Sec. 26	
thence		S 68¾ E	32.75
Sec. 26		N 21 W	8.00
N 60 W	1.00	S 60 E	6.00
N 12 W	6.00	S 47 W	6.00
North	36.00	South	7.00
N 36 W	22.00	S 21 E	15.00
N 18 W	13.00	thence	
N 57 W	7.00	Sec. 35	
N 54¾ W	11.50	S 18 E	6.00
thence		S 33 E	5.00
Sec. 26		S 81 E	14.00
N 13¾ W	3.50	S 30¾ E	11.00
thence		S 19 E	9.00
Sec. 25		S 89 E	12.00
N 12 W	18.00	South	4.00
N 41 W	14.00	S 55 W	7.00
N 16 W	19.00	S 66 W	6.00
N 54 W	15.00	West	16.00
N 8 W	13.00	S 75 W	7.00
North	6.00	S 55 W	6.00
N 63¾ E	8.20	S 10 W	6.00
Sec. 25 again		South	8.00
From Post on S. line		S 81 E	12.00
from N.E. C.		First	9.00
S 18 W	4.00	S 60 E	5.00
South	1.67	East	4.00
S 10 W	9.00	N 40 E	5.00
S 26 E	24.00	S 80 E	19.14
S 3 E	6.00	thence	
N 30 E	20.00	Sec. 36	
N 31 E	11.00	S 20 E	12.00
thence		N 82 E	24.00
Sec. 36		N 25¾ E	12.00
N 26 E	10.00	East	17.00
N 83¾ E	5.25	N 80¾ E	16.16
thence			
Sec. 28			
N 60 E	3.00		
N 13¾ E	9.00		
N 12 E	18.00		
N 5 E	9.00		
N 16 E	28.00		
North	12.00		
thence			
Sec. 36			
N 11 W	4.00		
N 49 E	26.00		
North	9.00		
N 37 W	6.00		
West	6.00		
N 35 W	12.00		
N 50 W	13.00		
N 83 W	14.75		
thence			
Sec. 33			
N 36 W	5.00		
N 61 W	6.00		
West	5.50		
thence			
Sec. 28			
N 18 W	23.00		
N 8¾ W	19.00		
N 10 W	11.00		
North	9.00		
N 15 W	13.00		
N 30 W	1.00		
N 67 W	13.00		
N 42 W	15.16		
thence			
Sec. 33			
N 30¾ W	9.15		
thence			
Sec. 33			
N 25 W	17.00		
N 26 W	16.00		
N 33 W	16.00		
N 44 W	19.00		
N 56 W	15.00		
N 38¾ W	15.00		
N 18 W	16.00		
N 38 W	17.75		
thence			
Sec. 10			
N 60¼ W	11.15		
thence			
Sec. 10			
N 40 W	11.00		
N 60 W	13.00		
West	20.00		
N 60 W	15.00		
S 84 W	20.00		
South	15.00		
N 25¾ E	18.00		
N 65 E	23.00		
N 35 E	5.50		
thence			
Sec. 24			
N 16 W	5.25		
N 47 E	11.00		
S 40 E	21.00		
thence			
Sec. 22			
S 55 E	20.00		
S 49 E	16.00		
S 29 E	14.00		
S 34¾ E	25.50		
thence			

CONTENTS

No	Area	No.	Area	No.	Area
1	122.16	15	630.75	25	515.25
2	622.00	14	640.56	26	569.50
3	622.50	15	630.75	27	558.50
4	621.25	16	540.75	28	640.00
5	625.50	17	639.54	29	640.48
6	625.00	18	641.00	30	640.58
7	641.25	19	640.50	31	640.00
8	639.24	20	640.76	32	640.40
9	610.52	21	617.78	33	639.84
10	610.16	22	590.73	34	640.90
11	638.92	23	559.00	35	151.15
12	132.15	24	653.10	36	250.00

Aggregate 20785.85 acres

TRAVERSE

Course	Dist.
Sec. 13	
From Post on E. line	
63 from S.E. C.	
S 24 W	5.00
S 56 E	5.00
S 28 W	1.00
S 62 W	1.00
thence	
Sec. 13	
N 21 W	5.00
N 50 W	23.00
N 18 W	13.00
N 3 W	13.00
N 50 W	12.00
N 12 W	13.00
thence	
Sec. 1	
N 21 W	27.00
N 41 W	18.00
N 18 W	19.00
N 53 E	6.00
N 60 W	8.00
N 32 W	13.50

Scale. 10 chains to an inch.

The Claims of Eusebio Gomez was surveyed by George Houston, Deputy Surveyor in 1845.

The South Boundary was Surveyed by A. H. Jones, Deputy Surveyor and the other Township Lines were surveyed by George Houston, Deputy Surveyor, in 1845.

Sectioned in the months of December 1854 and January 1855 by Wm. J. Reyes, Deputy Surveyor

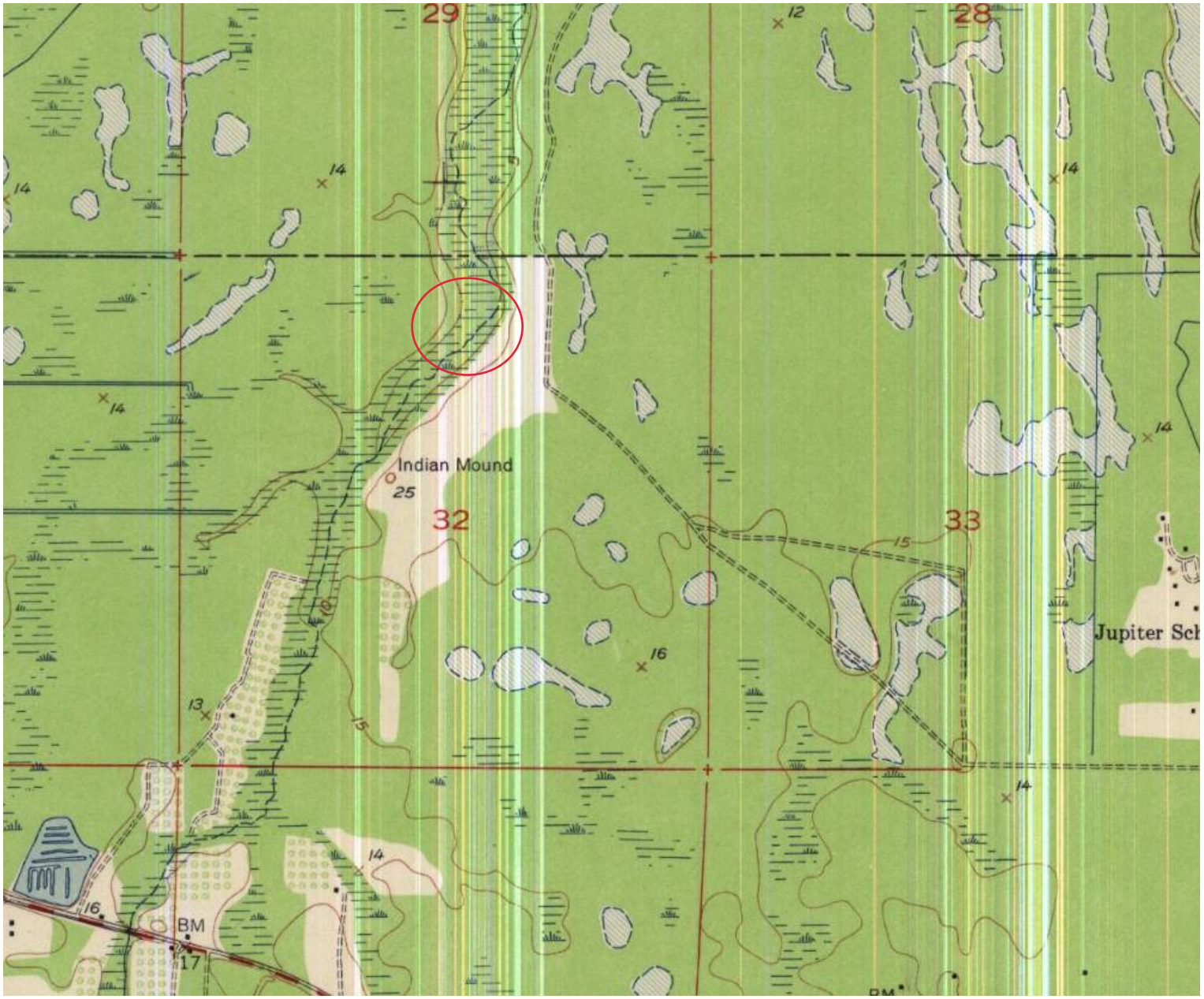
John Rogero, John Pumar } Chainmen

Variation 4 East

Examined, Compared with Field Notes and Approved

April 18th 1855 — Surveyor General

Lands Surveyed		By whom surveyed	Date of Contract	No of Miles	Rate	Amount
Section Lines	Par.	W. J. Reyes	Dec 7th 1854	27. 55. 64		
Traverse	Mer.			28. 14. 49		
				20. 05. 80		
				75. 75. 93	4	$ 303. 79


29
28
32
33
Indian Mound
25
Jupiter Sch
BM
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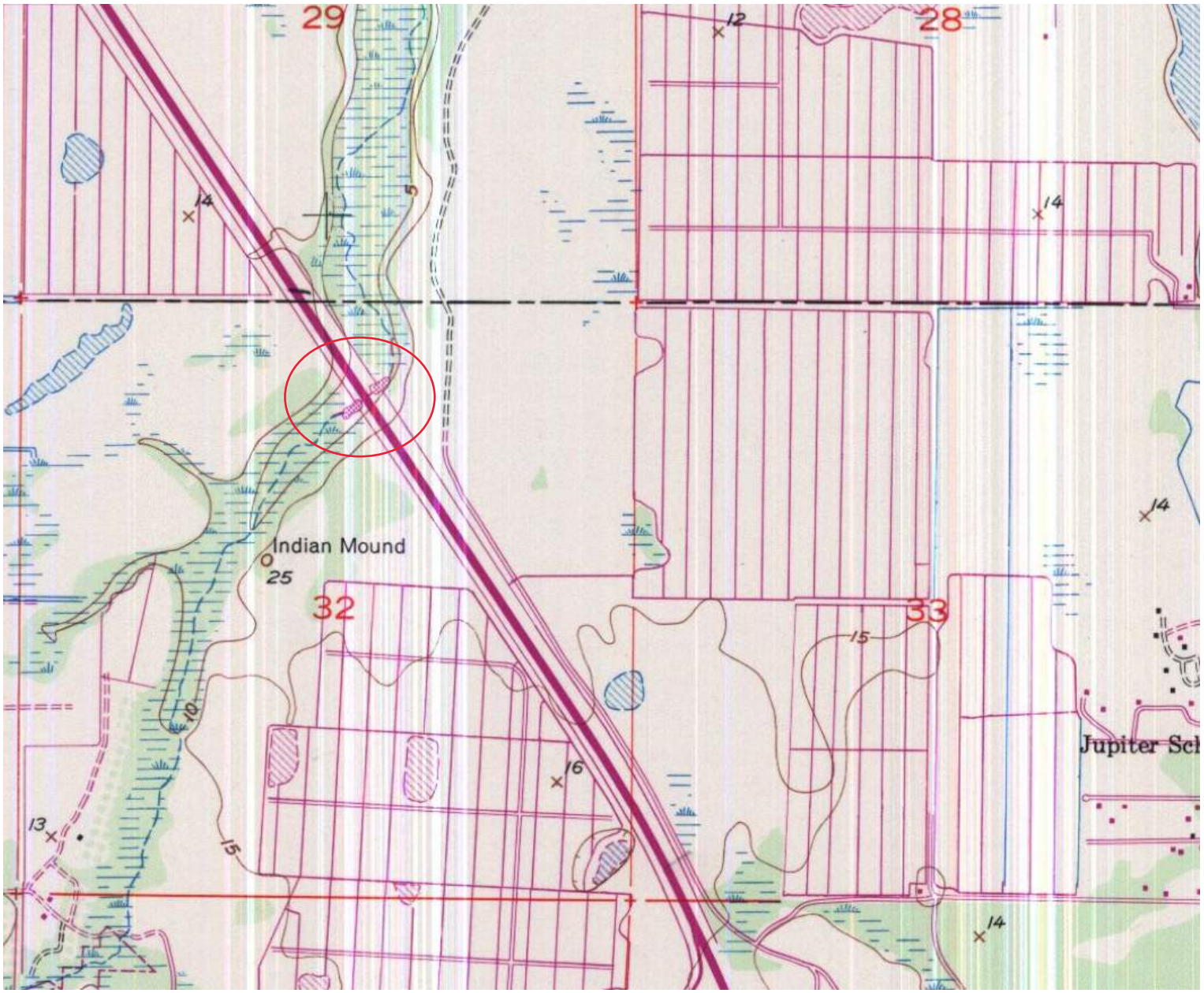
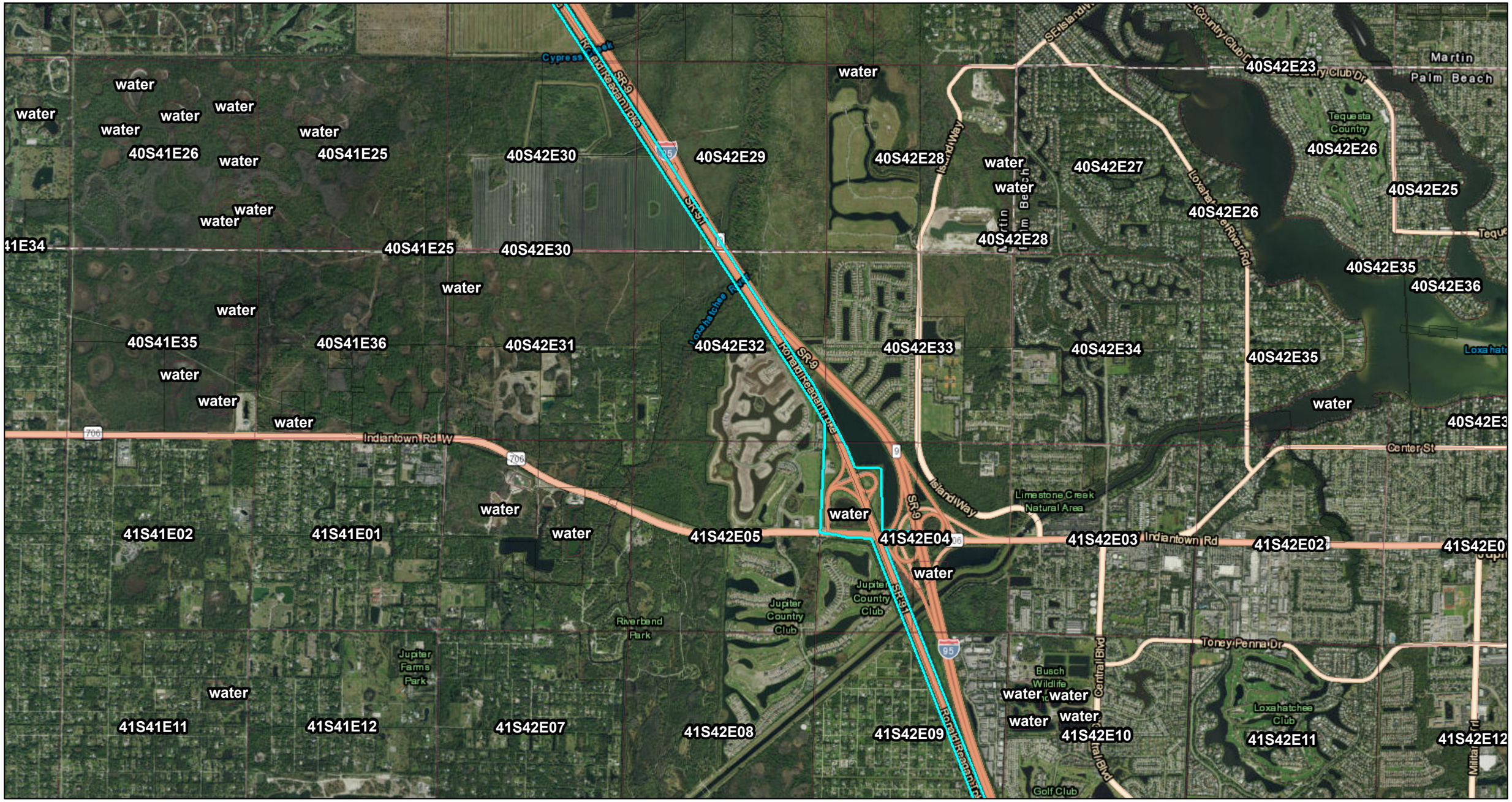

29
28
12
14
14
14
Indian Mound
25
32
33
15
10
16
13
15
14
Jupiter Sch

USE AGREEMENT 21023



January 21, 2020

State Land Records (BTLDSR)

Public Land Survey System 2006

1:36,112

0 0.4 0.8 1.6 mi

0 0.5 1 2 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, FDEP

Map created by Map Direct, powered by ESRI.

Florida Department of Environmental Protection makes no warranty,expressed or implied,or assumes any legal liability or responsibility for the accuracy,completeness,or usefulness of any information,apparatus,product,or process disclosed,or represents that its use would not infringe privately owned rights.

Return to -
FLORIDA GAS TRANSMISSION
RIGHT-OF-WAY
1375 CROSS CREEK CIRCLE
TALLAHASSEE, FL 32301

This Instrument Prepared By:
Ruby D. Clary
Submerged Lands Section
Bureau of Land Management Services
3900 Commonwealth Boulevard
Mail Station No. 125
Tallahassee, Florida 32399

JAN-18-1995 10:47am 95-015353
ORB 8585 Pg 951
Con 10.00 Doc .70

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

SOVEREIGN SUBMERGED LANDS EASEMENT

Easement No. 29195 (4524-50)
BOT FILE NO. 502241819

THIS EASEMENT is hereby granted by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, hereinafter referred to as the Grantor.

WITNESSETH: That for the faithful and timely performance of and compliance with the terms and conditions stated herein, the Grantor does hereby grant to Florida Gas Transmission Company, a Delaware Corporation, hereinafter referred to as the Grantee, a nonexclusive easement on, under and across the sovereign lands, if any, located in Palm Beach County, within the corridor more particularly described in Attachment A, dated November 30, 1994. Sec. 32,33, T40S, R42E
Sec. 4,9,16,15,21,22, T41S, R42E

TO HAVE THE USE OF the hereinabove described premises for a period of 30 years from January 1, 1995, the effective date of this easement. The terms and conditions of and for which this easement is granted are as follows:

1. The described parcel of land shall be used solely to construct, maintain, operate, inspect, repair, replace or remove a pipeline and appurtenance hereto, and Grantee shall not engage in any activity except as described in the Florida Department of Environmental Resource Permitting, Permit No. 502241819 dated December 14, 1993, and as modified on March 28, 1994, May 27, 1994, July 13, 1994, August 22, 1994, October 22, 1994, and November 4, 1994.

2. The consideration for this easement shall be an amount as determined by the rule establishing fees for utility crossings. Once the rule is adopted, payment shall be remitted to the Grantor according to the rule. The established fee shall be assessed from the effective date of the subject rule.

3. Grantor neither warrants title to the lands described herein nor guarantees the suitability of any of the lands for any particular use.

4. The rights hereby granted shall be subject to any and all prior rights of the United States and any and all prior grants by the Grantor in and to the submerged lands situated within the limits of this easement.

5. Grantee shall not damage the easement lands or unduly interfere with public or private rights therein.

6. This easement is nonexclusive, and the Grantor, or its duly authorized agent, shall retain the right to enter the property or to engage in management activities not inconsistent with the use herein provided for and shall retain the right to grant compatible uses of the property to third parties during the term of this easement.

7. Grantor, or its duly authorized agent, shall have the right at any time to inspect the works and operations of the Grantee in any matter pertaining to this easement.

8. The Grantee shall investigate all claims of every nature at its expense, and shall indemnify, defend and save and hold harmless the Grantor and the State of Florida from all claims, actions, lawsuits and demands arising out of this easement.

9. Grantee waives venue as to any litigation arising from matters relating to this easement and any such litigation between Grantor and Grantee shall be initiated and maintained only in Leon County, Florida.

10. This easement shall not be assigned or otherwise transferred without prior written consent of the Grantor or its duly authorized agent which shall not be unreasonably withheld. Any assignment or other transfer without prior written consent of the Grantor shall be null and void and without legal effect. Any transfer by Grantee to a parent, subsidiary, affiliate or partner shall not be deemed an assignment and does not require the consent of Grantor provided that such assignment doe not alter any liability or obligation to Grantor or relieve Grantee from the performances of any obligation to Grantor under this agreement.

11. The Grantee, by acceptance of this easement, binds itself,its successors and assigns, to abide by the provisions and conditions herein set forth, and said provisions and conditions shall be deemed covenants of the Grantee, its successors and assigns. In the event the Grantee fails or refuses to comply with the provisions and conditions herein set forth or in the event the Grantee violates any of the provisions and conditions herein, Grantee shall have 90 days from receipt of same to begin to rectify such defaults. Should Grantee fail to begin to rectify such defaults within said 90 days this easement may be terminated by the Grantor upon 30 days written notice to Grantee. If terminated, all of the above-described parcel of land shall revert to the Grantor. All costs, including attorneys' fees, incurred by the Grantor to enforce the provisions of this easement shall be paid by the Grantee. All notices required to be given to Grantee by this easement or applicable law or administrative rules shall be sufficient if sent by U.S. Mail to the following address:

Florida Gas Transmission Company
Post Office Box 1188
Houston, Texas 77251-1188

The Grantee agrees to notify the Grantor by certified mail of any changes to this address at least ten (10) days before the change is effective.

12. The Grantee shall assume all responsibility for liabilities that accrue to the subject property or to the improvements thereon, including any and all drainage or special assessments or taxes of every kind and description which are now or may be hereafter lawfully assessed and levied against the subject property during the effective period of this easement which result from the grant of this easement or the activities of Grantee hereunder.

13. Renewal of this easement is at the sole option of the Grantor. Such renewal shall be subject to the terms, conditions and provisions of current management standards and applicable laws, rules and regulations in effect at that time. In the event that Grantee is in full compliance with the terms of this easement, the Grantee shall be allowed a 30-day grace period after expiration of this easement to apply in writing for a renewal. If the Grantee fails to apply for a renewal within the grace period, or in the event the Grantor does not grant a renewal, the Grantee shall vacate the premises and remove all structures and equipment occupying and erected thereon at its expense.

14. If the Grantee does not remove said structures and equipment occupying and erected upon the premises after expiration or cancellation of this easement, such structures and equipment will be deemed forfeited to the Grantor, and the Grantor may authorize removal and may sell such forfeited structures and equipment after 60 days written notice by certified mail addressed to the Grantee at the address specified in Item 11 or at such address on record as provided to the Grantor by the Grantee. However, such remedy shall be in addition to all other remedies available to Grantor under applicable laws, rules and regulations including the right to compel removal of all structures and the right to impose administrative fines.

15. No failure, or successive failures, on the part of the Grantor to enforce any provision, nor any waiver or successive waivers on its part of any provision herein, shall operate as a discharge thereof or render the same inoperative or impair the right of the Grantor to enforce the same upon any renewal thereof or in the event of subsequent breach or breaches.

16. The Grantee, at its own expense, shall record this easement and any subsequent approved renewal and/or modified easements in the official records of the county within which the easement site is located within ten (10) days after receipt of a fully executed copy of this easement, and shall provide the Grantor with a copy of the recorded easement indicating the book and page at which the easement is recorded.

(4524-50)

17. This easement is the entire and only agreement between the parties. Its provisions are not severable. Any amendment or modification to this easement must be in writing and must be accepted, acknowledged and executed by the Grantee and Grantor.

18. Prior to commencement of construction and/or activities authorized herein, the Grantee shall obtain the U.S. Army Corps of Engineers (COE) permit if it is required by the COE. Any modifications to the construction and/or activities authorized herein that may be required by the COE shall require consideration by and the prior written approval of the Grantor prior to the commencement of construction and/or any activities on sovereign, submerged lands.

19. No additional structures and/or activities including dredging, relocation/realignment or major repairs or renovations to authorized structures, shall be erected or conducted on or over sovereignty, submerged lands without prior written consent from the Grantor, with the exception of emergency repairs. Unless specifically authorized in writing by the Grantor, such activities or structures shall be considered unauthorized and a violation of Chapter 253, Florida Statutes, and shall subject the Grantee to administrative fines under Chapter 18-14, Florida Administrative Code. If emergency repairs should have to be undertaken in the interests of public health, safety or welfare, the Grantee shall notify the Grantor of such repairs as quickly as is practicable; provided, however, that such emergency activities shall not exceed the activities authorized by this agreement.

(4524-50)

WITNESSES:

Latania Peoples
Original Signature

Latania Peoples
Typed/Printed Name of Witness

Keith E. Clayton
Original Signature

Keith E CLAYTON
Typed/Printed Name of Witness

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY Carolyn Thompson
Carolyn Thompson, Senior Management Analyst II, Bureau of Land Management Services, Division of State Lands, Agent for the Board of Trustees of the Internal Improvement Trust Fund

"GRANTOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 4th day of January, 1995, by Carolyn Thompson, Senior Management Analyst II, who is personally known to me.

APPROVED AS TO FORM AND LEGALITY:

Eugene E. M. Caldwell Jr.
DEP Attorney

Violet Davis
Notary Public, State of Florida

VIOLET LORD DAVIS
MY COMMISSION # CC 299636
EXPIRES: August 18, 1997
Bonded Thru Notary Public Underwriters

Printed, Typed or Stamped Name

My Commission Expires:

Commission/Serial No.

WITNESSES:

C S Rickins
Original Signature

C.S. RICKINS
Typed/Printed Name of Witness

Rita J Hennessy
Original Signature

Rita J Hennessy
Typed/Printed Name of Witness

Florida Gas Transmission Company (SEAL)
Grantee

BY Leonard L. Hilton
Original Signature of Executing Authority

LEONARD L. HILTON
Typed/Printed Name of Executing Authority

Vice President
Title of Executing Authority

"GRANTEE"

STATE OF TEXAS

COUNTY OF HARRIS

The foregoing instrument was acknowledged before me this 30th day of December, 1994, by LEONARD L. HILTON of Florida Gas Transmission Company, a Delaware corporation, on behalf of the corporation. He is personally known to me or who has produced a TEXAS D.L. as identification.

My Commission Expires:

April 1995

Commission/Serial No. —

Notary Public, State of TEXAS

F. J. [illegible]
Printed, Typed or Stamped Name

(4524-50)

ATTACHMENT A
IN
PALM BEACH COUNTY, FLORIDA

DESCRIPTION OF EASEMENT AREA FOR ROUTE OF PIPELINES FOR FLORIDA GAS TRANSMISSION COMPANY

AN EASEMENT OVER ALL SOVEREIGN LANDS, IF ANY, LYING WITHIN THE FOLLOWING REFERENCE LINE DESCRIPTION OF VARYING WIDTHS LOCATED IN PALM BEACH COUNTY, FLORIDA. ALL BEARINGS, DISTANCES AND COORDINATES ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM (EAST ZONE)IN U.S. SURVEY FEET (GRID) AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (READJUSTMENT OF 1990):

COMMENCE AT A POINT ON SAID REFERENCE LINE LYING IN MARTIN COUNTY (N=954348.56 E=927344.04)

THENCE S 31°09'15" E, 100 FEET, MORE OR LESS, TO THE MARTIN – PALM BEACH COUNTY LINE AND THE POINT OF BEGINNING OF AN EASEMENT 285 FEET IN WIDTH, LYING 185 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°09'15" E, 559.53 FEET (N=953784.15 E=927685.24);

THENCE S 33°10'51" E, 2057.09 FEET (N=952062.47 E=928811.05);

THENCE S 73°45'12" E, 256.66 FEET (N=951990.67 E=929057.46);

THENCE S 33°08'58" E, 100.00 FEET TO THE TERMINUS OF SAID 285 FOOT EASEMENT AND THE POINT OF BEGINNING (N=951906.94 E=929112.14) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 33°08'58" E, 1805.60 FEET (N=950395.21 E=930099.49);

THENCE S 30°34'47" E, 911.88 FEET (N=949610.15 E=930563.40);

THENCE S 27°15'10" E, 609.97 FEET (N=949067.89 E=930842.71);

THENCE S 23°20'16" E, 1255.31 FEET (N=947915.28 E=931340.00);

THENCE S 21°49'36" E, 1439.01 FEET (N=946579.42 E=931875.02);

THENCE S 12°11'37" E, 123.43 FEET (N=946458.77 E=931901.10);

THENCE S 21°20'47" E, 423.04 FEET (N=946064.75 E=932055.08);

THENCE S 21°51'41" E, 1690.07 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=944496.22 E=932684.40) OF AN EASEMENT 225 FEET IN WIDTH, LYING 125 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 21°51'41" E, 4863.88 FEET TO THE TERMINUS OF SAID 225 FOOT EASEMENT AND THE POINT OF BEGINNING (N=939982.12 E=934495.54) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 21°51'41" E, 8365.95 FEET (N=932217.80 E=937610.71) TO THE TERMINUS OF SAID EASEMENT. THE SIDELINES OF SAID EASEMENT ARE TO BE EXTENDED OR SHORTENED TO MEET AT ANGLE, BEING SUBJECT TO EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

(FOR SKETCH SEE SHEETS 2 THRU 3)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-5 F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4524-50)

Attachment A
Page 5 of 7 Pages
Easement No. 29195

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
—x—x— FENCE

UNIVERSAL ENROD, INC.
1811 Bering Drive – Suite 400
P.O. Box 570248
Houston, Texas 77257-0248
(713) 977-7770

SCALE: N.A.	W.O. NO.:
DATE: 11/94	JOB NO.: 2175.000
DRAWN BY: JAM	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION FOR EASEMENT IN PALM BEACH COUNTY, FLORIDA

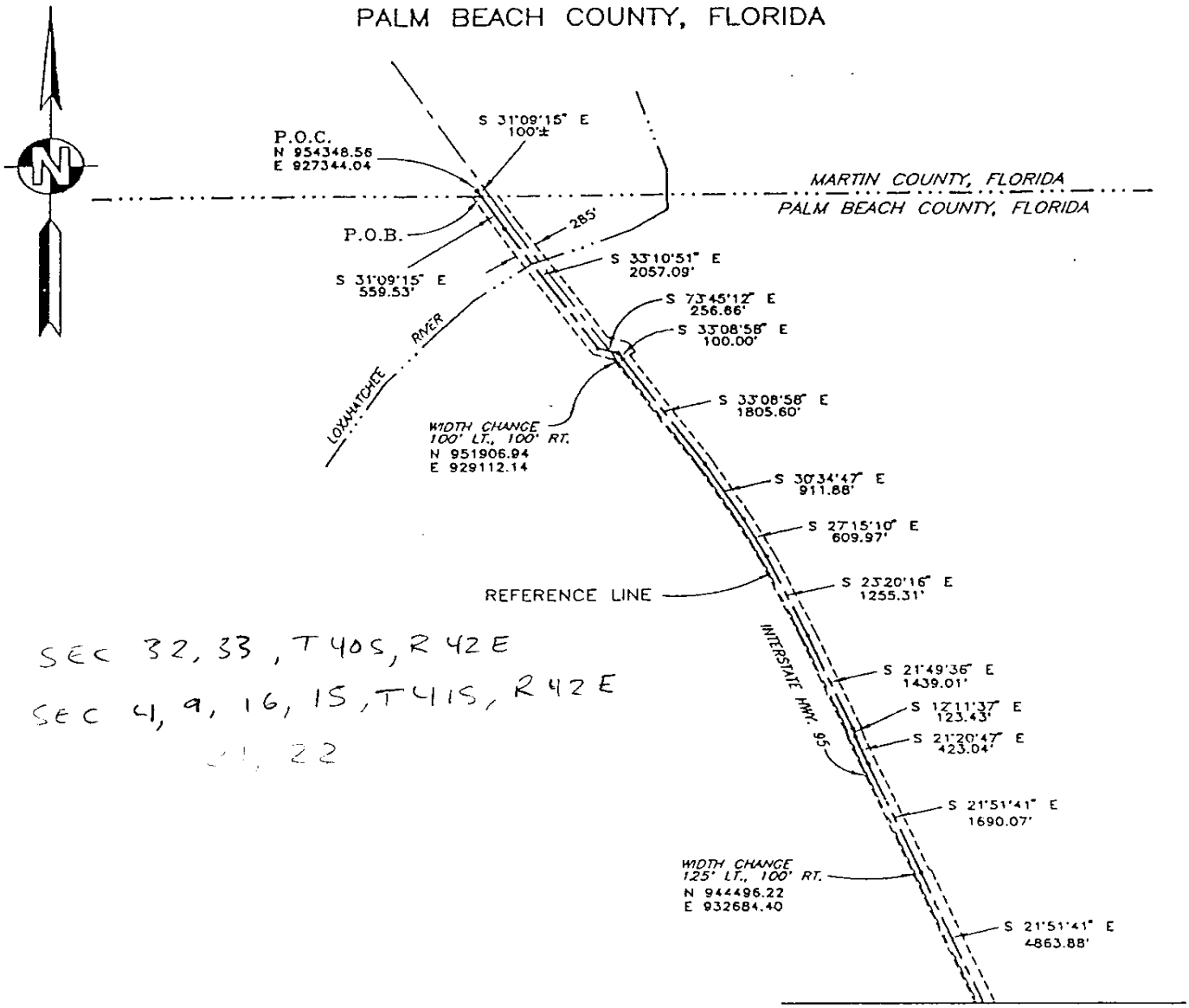
ENRON GAS PIPELINE GROUP

DWG NO.: PB01.DWG
REVISION DATE:

SHEET 1 OF 3

FILE INFO: PB01 1=1 11/30/1994 06:49 JAM

PALM BEACH COUNTY, FLORIDA



SEE SHEET 3 OF 3

SEC 32, 33, T40S, R42E

SEC 4, 9, 16, 15, T41S, R42E

21, 22

NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET 1 FOR DESCRIPTION CONCERNING THIS SKETCH.

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(1524-50)

Attachment A
Page 6 of 7 Pages
Easement No. 29195

SKETCH - NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
RAILROAD
FENCE

UNIVERSAL ENGRG. SVC.
1811 Bering Drive - Suite 400
P.O. Box 870248
Houston, Texas 77287-0248
(713) 977-7779

SCALE: 1" = 2000'	W.O. NO.:
DATE: 11/23/94	JOB NO.: 2175.000
DRAWN BY: JAM	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

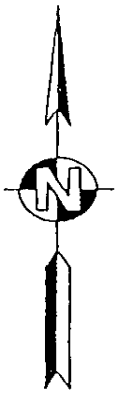
SKETCH OF DESCRIPTION
FOR EASEMENT IN
PALM BEACH COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

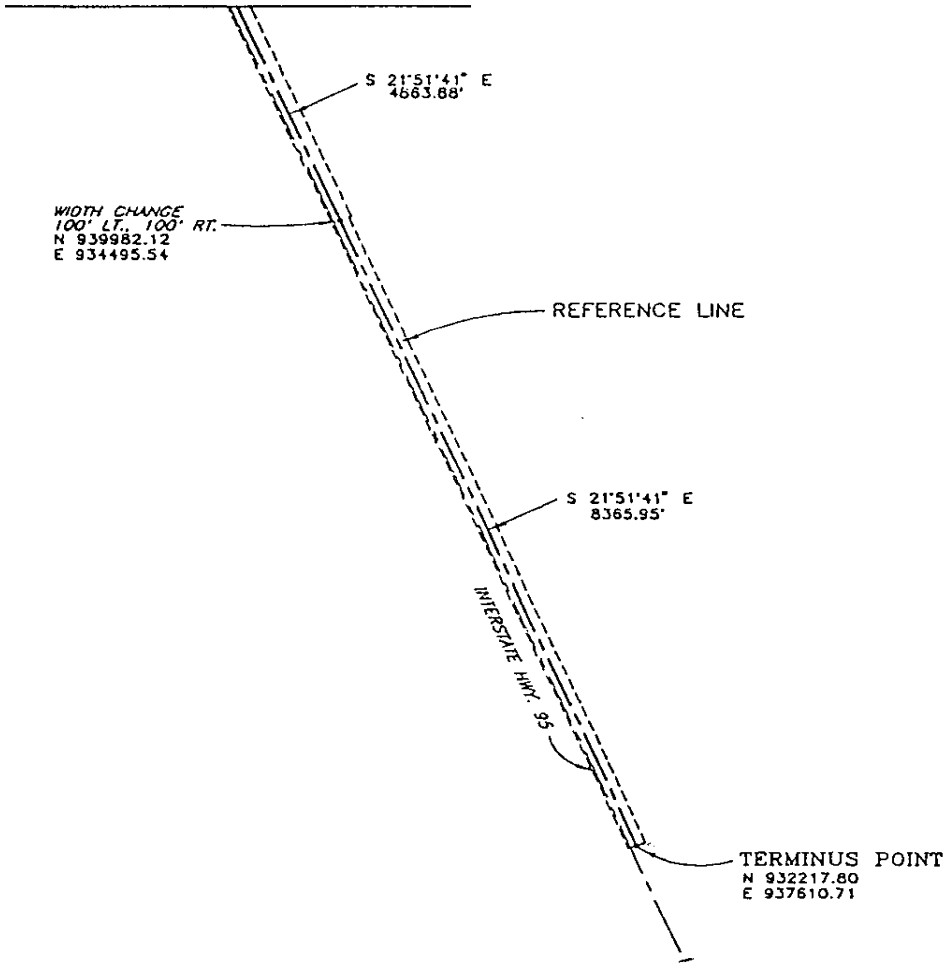
DWG NO.: PB02.DWG
REVISION DATE:
SHEET 2 OF 3

FILE INFO: PB02 1=2000 11/30/1994 06:52 JAM

PALM BEACH COUNTY, FLORIDA



SEE SHEET 2 OF 3



NOTES:

1.) SKETCH, NOT A SURVEY. IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED:
11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET 1 FOR DESCRIPTION CONCERNING THIS SKETCH.

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

(4524-50)

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

Attachment A
Page 7 of 7 Pages
Easement No. 29195

SKETCH - NOT A SURVEY

LEGEND ABBREVIATIONS AND SYMBOLS			
P.O.C.	POINT OF COMMENCEMENT		
P.O.B.	POINT OF BEGINNING		
—RL—	REFERENCE LINE		
—//—	PIPELINE		
—+—+—	RAILROAD		
—×—×—	FENCE		

UNIVERSAL SURVEYORS, INC.
1811 Bering Drive - Suite 400
P.O. Box 870248
Houston, Texas 77287-0248
(713) 977-7778

SCALE: 1" = 2000'	W.O. NO.:
DATE: 11/94	JOB NO.: 2175.000
DRA. BY: JAM	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION FOR EASEMENT IN PALM BEACH COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: PB03.DWG
REVISION DATE:
SHEET 3 OF 3

FILE INFO: PB03 1=2000 11/30/1994 06:55 JAM

* 21023

AGREEMENT CREATING COVENANT

NO. 21023 and 4461

THIS AGREEMENT, Made and entered into this September 27th, 1955, by and between the TRUSTEES OF THE INTERNAL IMPROVEMENT FUND, of the State of Florida, a statutory board existing under and by virtue of Chapter 253, Florida Statutes, parties of the first part, the STATE BOARD OF EDUCATION OF FLORIDA, a body corporate existing under and by virtue of Section 3, Article XII, of the Florida Constitution, party of the second part, and the FLORIDA STATE TURNPIKE AUTHORITY, a State agency existing under and by virtue of Chapter 340, Florida Statutes, as amended, party of the third part.

WHEREAS, the party of the third part is charged with obtaining a right of way for the construction and maintaining of turnpike projects, and especially the so-called "Sunshine State Parkway" (see Section 340.03, Florida Statutes), within the State of Florida, as authorized by said Chapter 340, Florida Statutes, as amended; and,

sub.

WHEREAS, the said party of the third part is now engaged in procuring a right of way for said turnpike "beginning at a point in Dade county, Florida, . . . thence in a general north-

multiple counties

-ion for a distance not exceeding one hundred and ten

99 County Code

the point of beginning; and,

AS, the parties of the first and second part, in with Chapter 6159, Laws of Florida, Acts of 1911, nts thereof (now appearing as Section 270.11, Florida Statutes, have reserved and now own the oil, gas and mineral rights required by said statute to be by them reserved, as to many parcels of land within the said Sunshine State Parkway right of way, which rights and interests are subject to sale or lease by the said parties for purposes of development and taking from the said lands; and,

* 21023 Trustees → Turnpike Authority
4461 Bd of Ed → " " "

S-T-R unavailable

21023 and 4461

WHEREAS, it is apparent that the drilling of oil and gas wells upon the right of way of the said parkway, or the mining of other minerals upon said right of way would materially interfere with the construction, operation and maintenance of said parkway.

NOW, THEREFORE, the first and second parties, for and in consideration of one dollar and other good and valuable considerations, the receipt whereof is hereby acknowledged, hereby covenant and agree with the third party, which covenant shall be one running with the lands within the said right of way, that no drilling or other operations, in connection with the oil, gas and mineral rights reserved unto the first and second parties, pursuant to Section 270.11, Florida Statutes, and the statutes and laws from which said section was derived, shall be conducted upon or through the surface of the lands of the said right of way, and it is further covenanted and agreed that no other operations shall be conducted which will or may damage, or may be liable to damage, the surface of said lands in said right of way or in any way interfere with the free, safe and unobstructed use of the said lands by the third party in operating and maintaining a limited access toll facility.

Provided, however, that this agreement shall not be construed as divesting vested rights heretofore acquired by those claiming under either the first or second parties, by agreements heretofore made and entered into, without the consent of such persons, which may be hereafter acquired.

This agreement is made and executed in triplicate by the parties hereto.

IN TESTIMONY WHEREOF, the Trustees of the Internal Improvement Fund, and the members of the State Board of Education, have hereunto subscribed their names and affixed their seals, including the corporate seal of the said State Board of Education, and have caused the seal of the Department of Agriculture of the State of Florida to be hereto affixed, at the State Capitol, in the City of Tallahassee, Florida, and the Florida

21023 and 4461

State Turnpike Authority, has caused this Agreement to be signed by its Chairman, attested by its Secretary, and its corporate seal to be impressed or imprinted hereon, all the day and year first above written.

LeRoy Collins
Governor

Ray E Green
Comptroller

J Edwin Larson
State Treasurer

Richard W. Ewin
Attorney General

[signature]
Commissioner of Agriculture

As and constituting the TRUSTEES OF THE INTERNAL IMPROVEMENT FUND, of the State of Florida

LeRoy Collins
Governor

R. A. Gray
Secretary of State

Richard W. Ewin
Attorney General

J Edwin Larson
State Treasurer

[signature]
State Superintendent of Public Instruction

ATTEST:

[signature]
Commissioner of Agriculture

As and constituting the STATE BOARD OF EDUCATION OF FLORIDA

FLORIDA STATE TURNPIKE AUTHORITY

By: Thomas B Manuel
Chairman

Attest: William T. Alvarez
Secretary

Sent to Jackson L. Peters
General Counsel, Florida State Turnpike Authority
Dania, Florida
Sept. 30, 1955

TFI Cover Sheet

DM ID _____

Document Type: Trustees of the Internal Improvement Trust Fund Instruments

Instrument: [ ]Deed [ ]Lease [X]Easement [ ]Permit [ ]Management Agreement

[ ]Use Agreement [ ]Disclaimer [ ]Quitclaim [ ]Dedication [ ]Release

[ ]Acts of Legislation [ ]Other

Instrument Number: 30625

Extension: A

File Number: 5348

Document Date: 03 - 14 - 2003

Consideration: _____

Water Body: Loxahatchee Creek

Reservations / Reverter: Y/Y

Original County: Palm Beach

Section: 32

Township: 40 S

Range: 42 E

Total Area / Area Unit: .38 (A) Acreage (S) Square Feet

Comments: Document received in ITF 12-2003

The information on this page was collected during the prep phase of scanning and is an aide for data entry. Please refer to the document for actual information.

Return to:
Florida's Turnpike Headquarters
Attn: Brenda Ashe
P.O. Box 613069
Ocoee, FL 34761

08/21/2003 09:46:34 20030494503
OR BK 15722 PG 1777
Palm Beach County, Florida

This Instrument Prepared By:
Jeff Gentry
Recurring Revenue Section
Bureau of Public Land Administration
3900 Commonwealth Boulevard
Mail Station No. 125
Tallahassee, Florida 32399

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

SOVEREIGN SUBMERGED LANDS EASEMENT

NO. 30625 A (5348-50)
BOT File NO. 500226816
PA No. 50-05398-L

THIS EASEMENT is hereby granted by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, hereinafter referred to as the Grantor.

WITNESSETH: That for the faithful and timely performance of and compliance with the terms and conditions stated herein, the Grantor does hereby grant to Florida Department of Transportation, hereinafter referred to as the Grantee, a nonexclusive easement on, under and across the sovereign lands, if any, contained in the following legal description:

A parcel of submerged land in Section 32,
Township 40 South, Range 42 East, in Loxahatchee Creek,
Palm Beach County, as is more particularly described
and shown on Attachment A, dated June 2002.

TO HAVE THE USE OF the hereinabove described premises from March 14, 2003, the effective date of this easement. The terms and conditions of and for which this easement is granted are as follows:

1. USE OF PROPERTY: The above described parcel of land shall be used solely for public transportation purposes only by or under the supervision of the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION or such local governmental entity having maintenance responsibility. Grantee shall not engage in any activity except as described in the South Florida Water Management District, General Permit No. 50-05398-L, dated March 14, 2003, incorporated herein and made a part of this easement by reference. All of the foregoing subject to the remaining conditions of this Lease.

2. AUTOMATIC TERMINATION: This easement shall automatically terminate when, in the opinion of Grantor, the easement is not utilized for the purposes authorized. Any costs or expenses incurred by Grantor in removing Grantee or its property from the easement area shall be paid by Grantee.

3. WARRANTY OF TITLE/GUARANTEE OF SUITABILITY OF USE OF LAND: Grantor neither warrants title to the lands described herein nor guarantees the suitability of any of the lands for any particular use.

4. RIGHTS GRANTED: The rights hereby granted shall be subject to any and all prior rights of the United States and any and all prior grants by the Grantor in and to the submerged lands situated within the limits of this easement.

5. DAMAGE TO EASEMENT PROPERTY AND INTERFERENCE WITH PUBLIC AND PRIVATE RIGHTS: Grantee shall not damage the easement lands or unduly interfere with public or private rights therein.

6. GRANTOR'S RIGHT TO GRANT COMPATIBLE USES OF THE EASEMENT PROPERTY: This easement is nonexclusive, and the Grantor, or its duly authorized agent, shall retain the right to enter the property or to engage in management activities not inconsistent with the use herein provided for and shall retain the right to grant compatible uses of the property to third parties during the term of this easement.

7. RIGHT TO INSPECT: Grantor, or its duly authorized agent, shall have the right at any time to inspect the works and operations of the Grantee in any matter pertaining to this easement.

8. RESOLUTION OF ANY INEQUITIES: Any inequities that may subsequently arise as a result of this easement shall be subject to negotiation upon written request of either party hereto, and the parties agree to negotiate in good faith. In case of failure by the respective staffs to resolve the conflict(s), the matter shall be referred to the Grantor for final resolution.

9. INDEMNIFICATION/INVESTIGATION OF ALL CLAIMS: The Grantee shall investigate all claims of every nature at its expense. Each party is responsible for all personal injury and property damage attributable to the negligent acts or omissions of that party and the officers, employees and agents thereof. Nothing herein shall be construed as an indemnity or a waiver of sovereign immunity enjoyed by any party hereto, as provided in Section 768.28, Florida Statutes, as amended from time to time, or any other law providing limitations on claims.

10. ASSIGNMENT OF EASEMENT: This easement shall not be assigned or otherwise transferred without prior written consent of the Grantor or its duly authorized agent. Any assignment or other transfer without prior written consent of the Grantor shall be null and void and without legal effect.

11. TAXES AND ASSESSMENTS: The Grantee shall assume all responsibility for liabilities that accrue to the subject property or to the improvements thereon, including any and all drainage or special assessments or taxes of every kind and description which are now or may be hereafter lawfully assessed and levied against the subject property during the effective period of this easement which result from the grant of this easement or the activities of Grantee hereunder.

12. CESSATION OF AUTHORIZATION/REMOVAL OF STRUCTURES: Upon termination of this easement all authorization granted shall cease and terminate and Grantee shall remove all facilities and related structures erected at its expense.

13. ENFORCEMENT OF PROVISIONS: No failure, or successive failures, on the part of the Grantor to enforce any provision, nor any waiver or successive waivers on its part of any provision herein, shall operate as a discharge thereof or render the same inoperative or impair the right of the Grantor to enforce the same upon any renewal thereof or in the event of subsequent breach or breaches.

14. RECORDATION OF EASEMENT: The Grantee, at its own expense, shall record this fully executed easement in its entirety in the public records of the county within which the easement site is located within fourteen (14) days after receipt, and shall provide to the Grantor within ten (10) days following the recordation a copy of the recorded easement in its entirety which contains the O.R. Book and pages at which the easement is recorded.

15. AMENDMENTS/MODIFICATIONS: This easement is the entire and only agreement between the parties. Its provisions are not severable. Any amendment or modification to this easement must be in writing and must be accepted, acknowledged and executed by the Grantee and Grantor.

16. ACOE AUTHORIZATION: Prior to commencement of construction and/or activities authorized herein, the Grantee shall obtain the U.S. Army Corps of Engineers (COE) permit if it is required by the COE. Any modifications to the construction and/or activities authorized herein that may be required by the COE shall require consideration by and the prior written approval of the Grantor prior to the commencement of construction and/or any activities on sovereign, submerged lands.

17. ADDITIONAL STRUCTURES OR ACTIVITIES/EMERGENCY STRUCTURAL REPAIRS: No additional structures shall be erected and/or activities undertaken, including but not limited to dredging, relocation/realignment or major repairs or renovations made to authorized structures, on, in or over sovereignty, submerged lands without the prior written consent of the Grantor, with the exception of emergency repairs. Unless specifically authorized in writing by the Grantor, such activities or structures shall be considered unauthorized and a violation of Chapter 253, Florida Statutes, and shall subject the Grantee to administrative fines under Chapter 18-14, Florida Administrative Code. If emergency repairs are required to be undertaken in the interests of public health, safety or welfare, the Grantee shall notify the Grantor of such repairs as quickly as is practicable; provided, however, that such emergency activities shall not exceed the activities authorized by this easement.

18. UPLAND RIPARIAN PROPERTY INTEREST: During the term of this easement, Grantee, pursuant to section 18-21.009, Florida Administrative Code, must either be the record owner of the riparian upland property or have the written consent of the riparian upland property owner(s) to conduct the activity described in this easement. If at any time during the term of this easement, Grantee fails to comply with this requirement, this easement shall terminate and title to this easement shall revert to and vest in the Grantor immediately and automatically.

WITNESSES:

Original Signature

Glen Teal

Print/Type Name of Witness

Original Signature

Brent Branning

Print/Type Name of Witness

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY: _____

Ralph M. Perkins, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

"GRANTOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 6th day of August, 2003, by Ralph M. Perkins, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. He is personally known to me.

APPROVED AS TO FORM AND LEGALITY:

DEP Attorney

Florence L. Davis

Notary Public, State of Florida

Printed, Typed or Stamped Name

My Commission Expires:

Florence L Davis
MY COMMISSION # CC974560 EXPIRES
October 11, 2004
BONDED THRU TROY FAIN INSURANCE, INC.

Commission/Serial No.

WITNESSES:
(SEAL)

Original Signature

Sandra Wilde

Typed/Printed Name of Witness

Original Signature

Shannon Sapp

Typed/Printed Name of Witness

STATE OF FLORIDA

COUNTY OF ORANGE

Florida Department of Transportation
Florida Turnpike Enterprise

BY: _____

Original Signature of Executing Authority

James L. Ely

Typed/Printed Name of Executing Authority

Executive Director, Florida Turnpike Enterprise

Title of Executing Authority

"GRANTEE"

LEGAL REVIEW:

Florida Turnpike Enterprise Attorney

The foregoing instrument was acknowledged before me this 24th day of July, 2003, by James L. Ely as Executive Director, Florida Turnpike Enterprise, for and on behalf of Florida Department of Transportation. He is personally known to me or who has produced _____ as identification.

My Commission Expires:

6-28-04

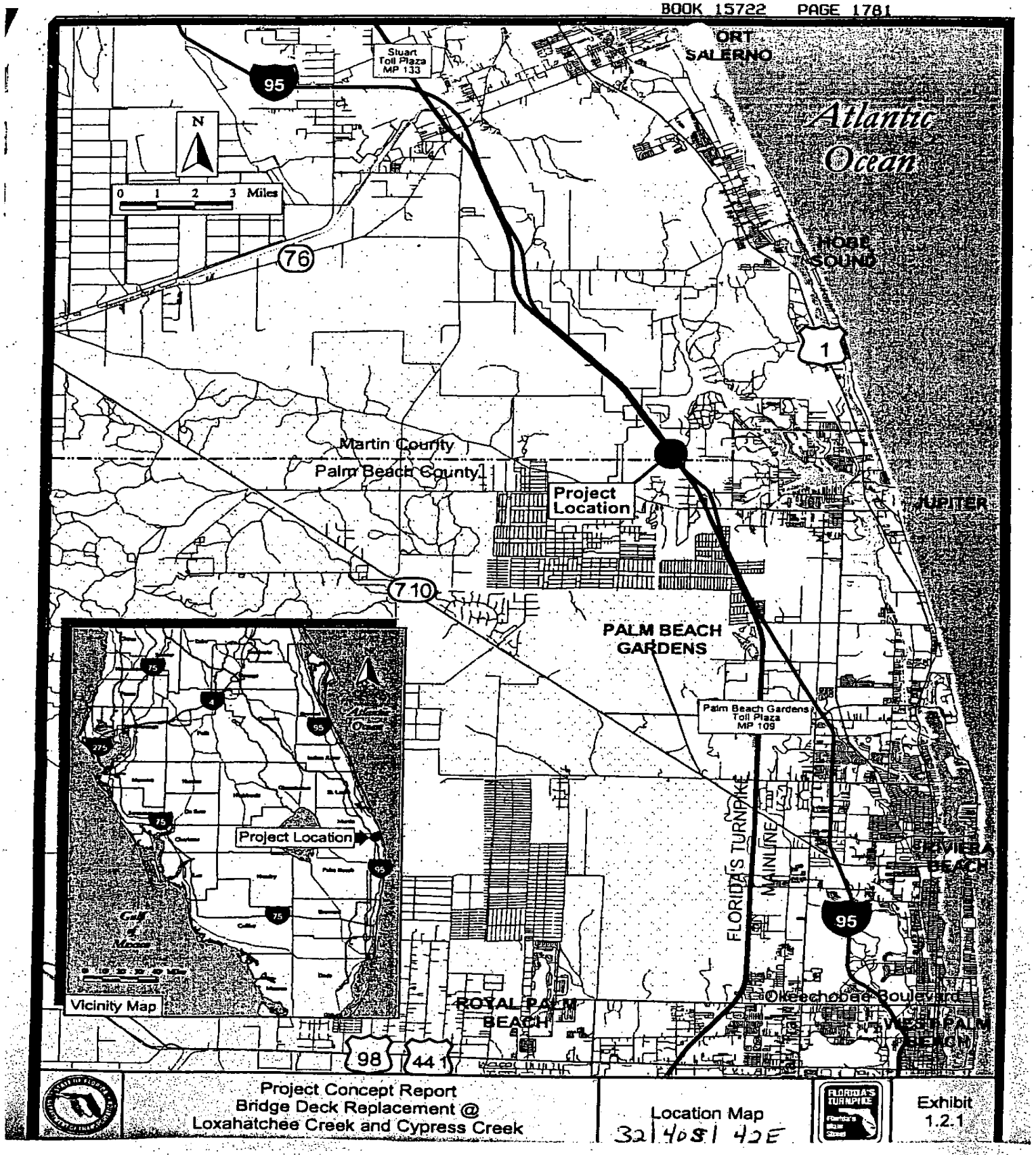
Commission/Serial No. CC 951142

Elizabeth Decker

Notary Public, State of Florida

Printed, Typed or Stamped Name

ELIZABETH M. DECKER
MY COMMISSION # CC 951142
EXPIRES: Jun 28, 2004
1-800-3-NOTARY FL Notary Service & Bonding, Inc.



Attachment A
Page 5 of 8 Pages
Easement 30625 A(5348-50)

030225-18
Turnpike Bridge Deck Replacement at Loxahatchee Creek.

The applicant is seeking approval of a public easement for 0.38 acre to serve an existing bridge over State Owned submerged lands. The project is located in northeastern Palm Beach County in Section 32, Township 40S, Range 42E The project site consists of the existing Florida's Turnpike bridge over the Loxahatchee Creek, a tributary of the Loxahatchee River.

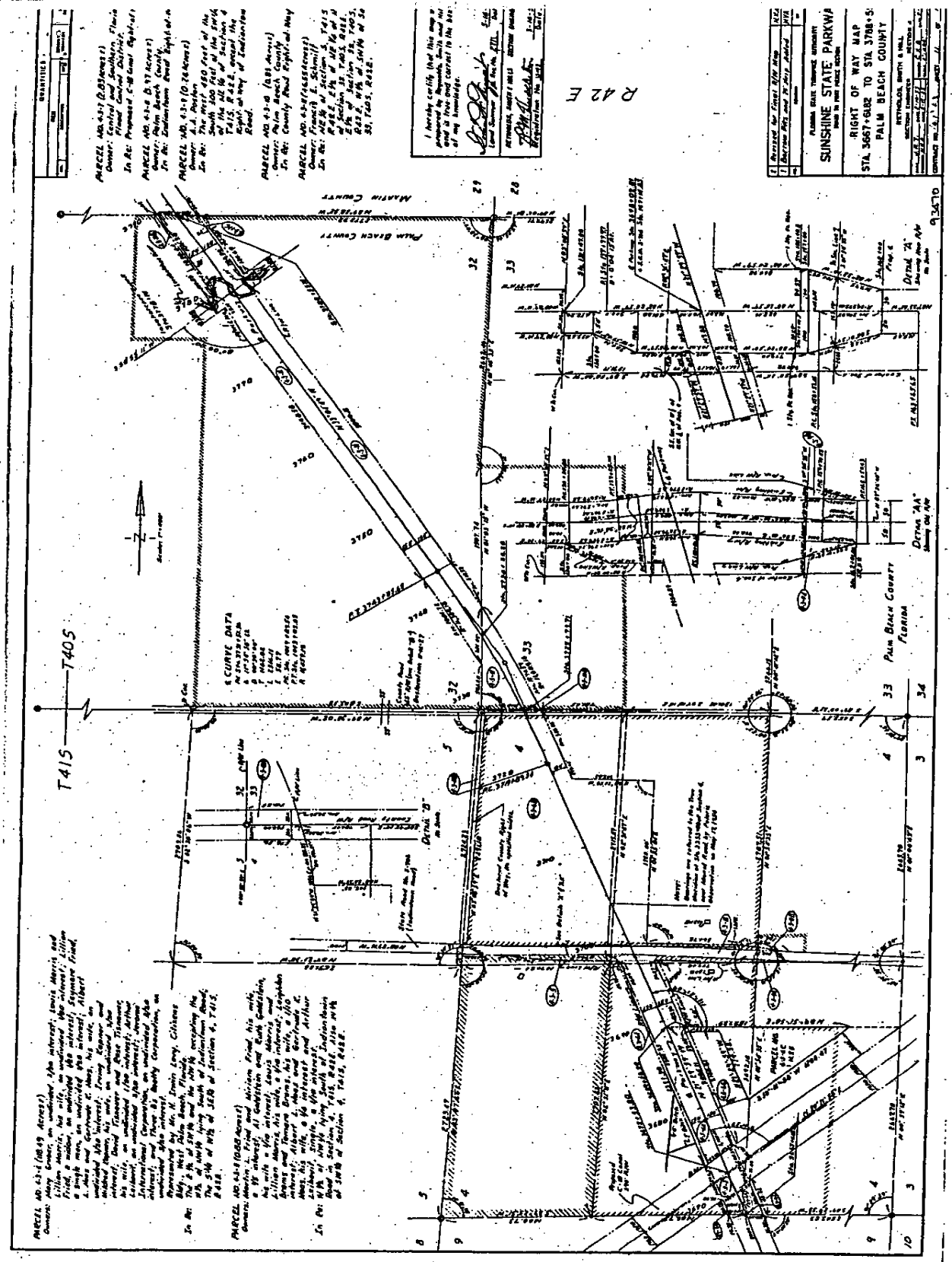


EXHIBIT 3

Attachment A
Page 7 of 8 Pages
Easement 30625 A(5348-50)

BOOK 15722 PAGE 1784
Dorothy H. Wilken, Clerk

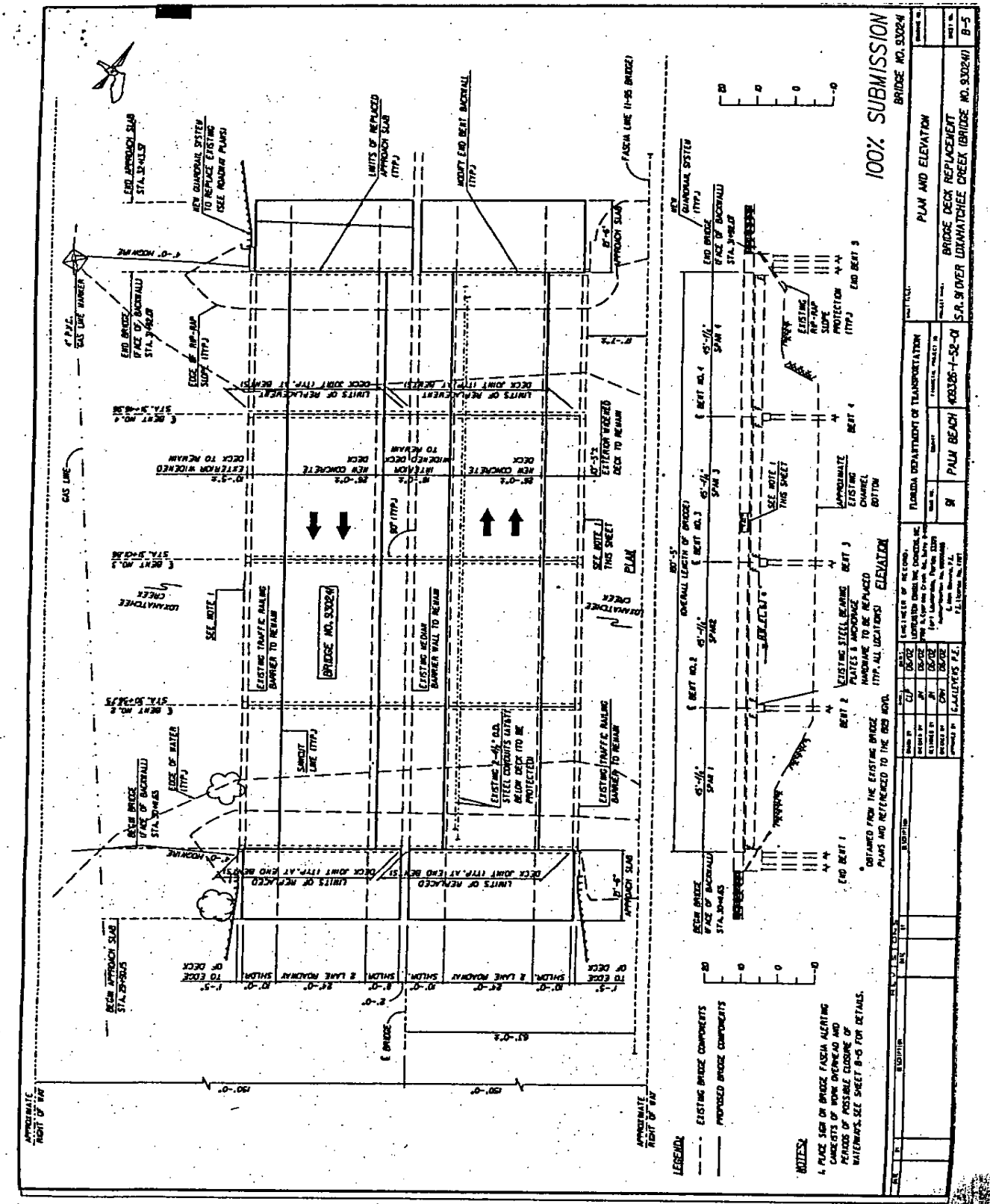


EXHIBIT 4

Attachment A
Page 8 of 8 Pages
Easement 30625 A (5348-50)

Sovereign Submerged Lands Response from FDEP for Martin and St. Lucie Counties

January 29, 2020

FLORIDA DEPARTMENT OF
Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

January 28, 2020

Ashley Abdel-Hadi
Kisinger Campo & Associates
201 N. Franklin St., Suite 400
Tampa, Florida 33602

RE: Florida Turnpike in St Lucie and Martin Counties

Dear Ashley Abdel-Hadi:

This letter is in response to your recent inquiry requesting a determination of state owned lands along the turnpike in St Lucie and Martin Counties.

Records on file within the Title and Land Records Section indicate that the state holds title to the land lands below the ordinary high water line of Tenmile Creek and the mean high water line of the St Lucie River along the project site.

The state holds title to the lands recorded in O.R. Book 823, Page 1450. Portions of these lands are under Dedication No. 25992 to the School Board of Martin County.

The state has insufficient information to make a determination of ownership of the other waterbodies that you provided. Therefore, we recommend that the proprietary requirements that would normally apply to state lands not apply to those waterbodies.

Work along the turnpike is subject to Easement Nos. 29194(4539-56) and 29196(4540-43).

RECORD VERIFIED

782643

CERTIFICATE OF BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

Pursuant to Section 92.16, Florida Statutes, the undersigned hereby certifies that he is the legal custodian of the records, surveys, plats, maps, field notes, patents and all other evidence touching the title and description of the public domain formerly filed in the Office of the United States Surveyor General, the United States Land Office at Gainesville, the State Land Office and Office of the State of Florida Board of Trustees of the Internal Improvement Trust Fund, and acting pursuant to the authority vested in him, the undersigned further certifies that:

Title to the following described school lands is vested in the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399, by virtue of Acts of the United States Congress dated March 3, 1845, and February 26, 1859, as amended:

NW1/4, NW1/4 of SW1/4, Section 16, Township 37 South, Range 41 East, containing 200.00 acres and all of Section 16, lying West of R/W of Sunshine State Parkway, Township 39 South, Range 41 East, containing 147.58 acres, as recorded in State of Florida Tract Book Volume 30, Pages 180 and 186.

FILED FOR RECORD
MARTIN CO., FLA.
89 AUG -9 AM 11:35
MARSHA STILLER
CLERK OF CIRCUIT COURT
BY
D.C.

All being located in Martin County, Florida.

IN WITNESS WHEREOF, I have hereunto set my hand, and have caused to be affixed hereto the Official Seal of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida at its office in the City of Tallahassee on this 26th day of July, A.D., 19 89.

Seal of the State of Florida
Board of Trustees of the Internal
Improvement Trust Fund

WITNESS: Gary J. Bishop

WITNESS: Bruce W. Linton

F. R. Williams
Land Records Administrator

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 26 day of July, 19 89, by F. R. Williams, Land Records Administrator, Division of State Lands, Department of Natural Resources.

(SEAL)

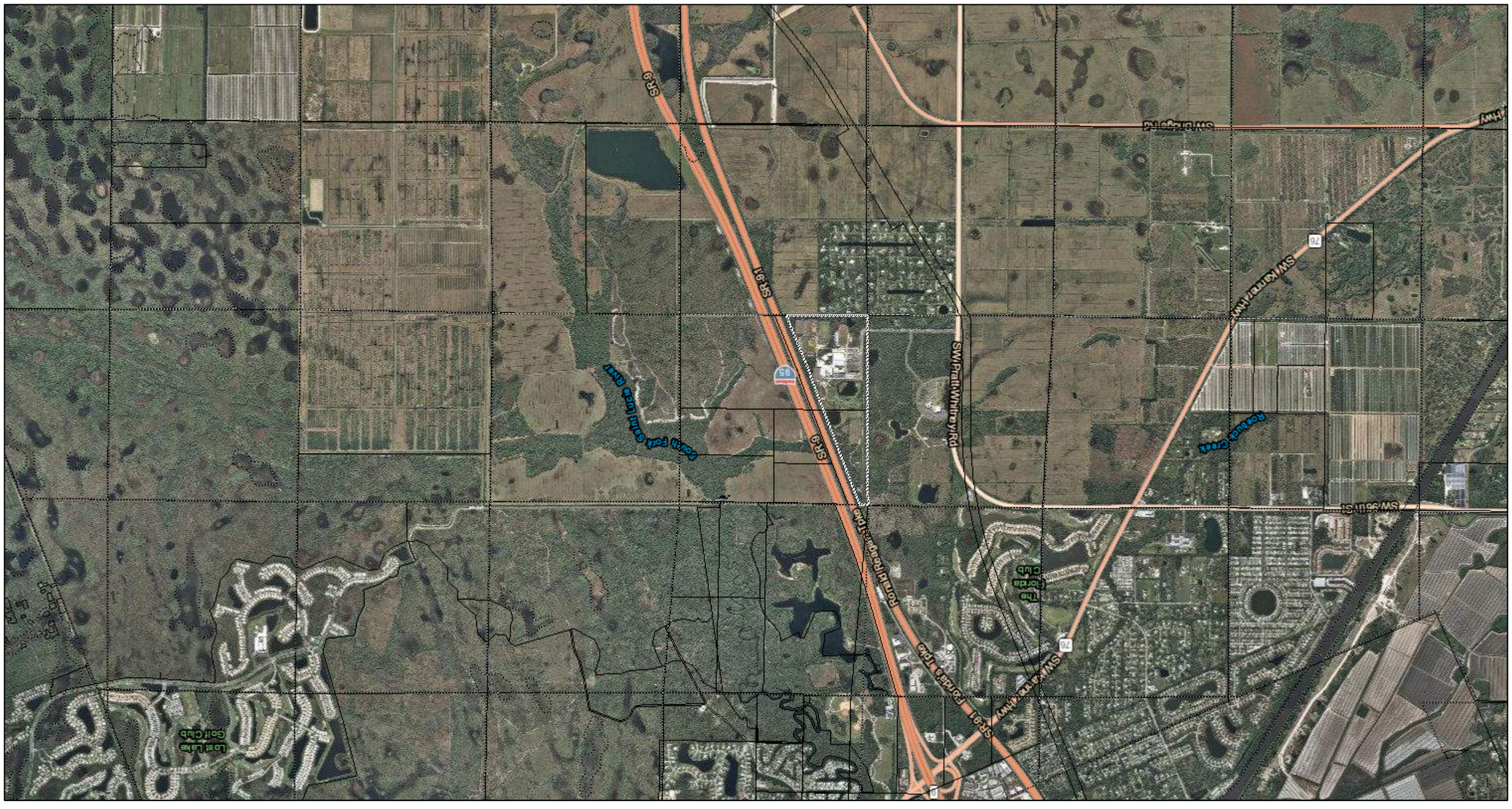
NOTARY PUBLIC

My commission expires:

NOTARY PUBLIC STATE OF FLORIDA
MY COMMISSION EXP. AUG 18,1989
BONDED THRU GENERAL INS. UND.

BOOK 823 PAGE 1450

15



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BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

DEDICATION

No. 25992

KNOW ALL MEN BY THESE PRESENTS: That the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, in pursuance of application made by the SCHOOL BOARD OF MARTIN COUNTY, a body corporate under the laws of the State of Florida, for dedication of the lands hereinafter described to be used for public educational purposes, approved by said Board of Trustees of the Internal Improvement Trust Fund of the State of Florida on August 7, 1979, has dedicated, and by these presents does hereby dedicate the following described land in Martin County, Florida, to-wit:

That portion of the West one-half of Section 16, Township 39 South, Range 41 East, lying West of the Florida State Turnpike, Martin County, Florida, containing 148.23 acres, more or less, more particularly described as follows:

For point of beginning commence at the Southwest corner of Section 16, Township 39 South, Range 41 East, said corner being also the Southeast corner of Tract 16, of Section 17, as shown on the Plat of Tropical Fruit Farms, records of Palm Beach now Martin County, Florida, Plat Book 3, Page 6, said corner being also the Northeast corner of the Subdivision known as Foxwood Phase One and recorded in Plat Book 7, Page 42, Public Records of Martin County, Florida.

Thence from Point of Beginning run North 0° 39' 03" East along the West line of said Section 16 and the Easterly line of Tracts 1, 8, 9 and 16 of Section 17, as shown on the aforementioned plat of Tropical Fruit Farms, a distance of 5302.77 feet to the Northwest corner of said Section 16, thence run North 89° 57' 21" East along the North line of said Section 16 and the South line of Tract 13, Section 9, as shown on plat of Tropical Fruit Farms a distance of 103.32 feet to an intersection with the Westerly right-of-way line of a 300 foot right-of-way for the Sunshine State Parkway, thence run South 22° 17' 26" East along said Westerly right-of-way line a distance of 5718.03 feet to an intersection with the South line of said Section 16, thence run South 89° 42' 57" West along the South line

of Section 16, and the North line of Tracts 3 and 4 of Section 21, as shown on plat of Tropical Fruit Farms, a distance of 2332.46 feet to the Southeast corner of Section 16, and the Point of Beginning, containing 148.23 acres, more or less, subject to rights-of-way, easements and restrictions of record if any.

The above described land is dedicated for public educational purposes only. In the event the School Board of Martin County fails to utilize said land for public educational purposes or fails to initiate construction of a high school on the above described land within three (3) years from August 7, 1979, then title to the above described land shall revert to and become revested in the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

IN WITNESS WHEREOF, the Trustees for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida have hereunto subscribed their names and have caused the official seal of said Board of Trustees of the Internal Improvement Trust Fund of the State of Florida to be hereunto affixed on this the 14th day of December, A. D. 1979.

(SEAL)
BOARD OF TRUSTEES
OF THE INTERNAL
IMPROVEMENT TRUST
FUND OF THE STATE
OF FLORIDA

Governor

Secretary of State

Attorney General

Comptroller

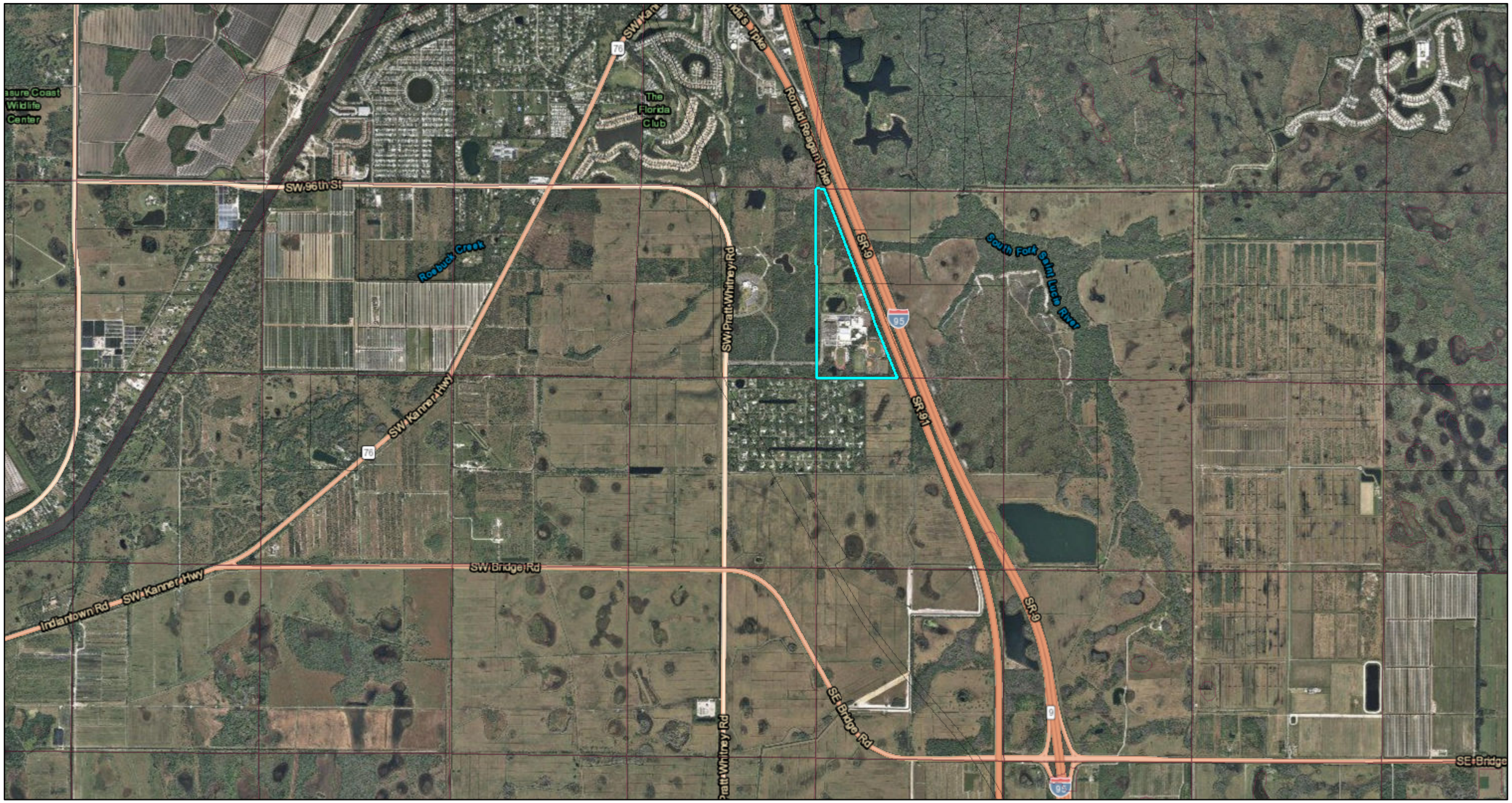
Treasurer

Ralph D. Turlington
Commissioner of Education

Doyle Conner
Commissioner of Agriculture

As and Constituting the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

MAP OF DEDICATION



January 28, 2020

State Land Records (BTLDSR)

Public Land Survey System 2006

1:36,112

0 0.4 0.8 1.6 mi

0 0.5 1 2 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, FDEP

Map created by Map Direct, powered by ESRI.

Florida Department of Environmental Protection makes no warranty,expressed or implied,or assumes any legal liability or responsibility for the accuracy,completeness,or usefulness of any information,apparatus,product,or process disclosed,or represents that its use would not infringe privately owned rights.

* Doc Assump: $ 0.00
* Doc Tax : $ 0.70
* Int Tax : $ 0.00

Return to -
FLORIDA GAS TRANSMISSION
RIGHT-OF-WAY
1375 CROSS CREEK CIRCLE
TALLAHASSEE, FL 32301
mail

This Instrument Prepared By:
Ruby D. Clary
Submerged Lands Section
Bureau of Land Management Services
3900 Commonwealth Boulevard
Mail Station No. 125
Tallahassee, Florida 32399

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

SOVEREIGN SUBMERGED LANDS EASEMENT

Easement No. 29194
BOT FILE NO. 562241819 (4539-56)

THIS EASEMENT is hereby granted by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, hereinafter referred to as the Grantor.

WITNESSETH: That for the faithful and timely performance of and compliance with the terms and conditions stated herein, the Grantor does hereby grant to Florida Gas Transmission Company, a Delaware Corporation, hereinafter referred to as the Grantee, a nonexclusive easement on, under and across the sovereign lands, if any, located in St. Lucie County, within the corridor more particularly described in Attachment A, dated November 29, 1994.

TO HAVE THE USE OF the hereinabove described premises for a period of 30 years from January 1, 1995, the effective date of this easement. The terms and conditions of and for which this easement is granted are as follows:

1. The described parcel of land shall be used solely to construct, maintain, operate, inspect, repair, replace or remove a pipeline and appurtenance hereto, and Grantee shall not engage in any activity except as described in the Florida Department of Environmental Resource Permitting, Permit No. 562241819 dated December 14, 1993, and as modified on March 28, 1994, May 27, 1994, July 13, 1994, August 22, 1994, October 22, 1994, and November 4, 1994.

2. The consideration for this easement shall be an amount as determined by the rule establishing fees for utility crossings. Once the rule is adopted, payment shall be remitted to the Grantor according to the rule. The established fee shall be assessed from the effective date of the subject rule.

3. Grantor neither warrants title to the lands described herein nor guarantees the suitability of any of the lands for any particular use.

4. The rights hereby granted shall be subject to any and all prior rights of the United States and any and all prior grants by the Grantor in and to the submerged lands situated within the limits of this easement.

5. Grantee shall not damage the easement lands or unduly interfere with public or private rights therein.

6. This easement is nonexclusive, and the Grantor, or its duly authorized agent, shall retain the right to enter the property or to engage in management activities not inconsistent with the use herein provided for and shall retain the right to grant compatible uses of the property to third parties during the term of this easement.

7. Grantor, or its duly authorized agent, shall have the right at any time to inspect the works and operations of the Grantee in any matter pertaining to this easement.

8. The Grantee shall investigate all claims of every nature at its expense, and shall indemnify, defend and save and hold harmless the Grantor and the State of Florida from all claims, actions, lawsuits and demands arising out of this easement.

SEC. 14, 23, 26, 25, 36, T 35 S, R 39 E
[48] SEC. 1, 6, 7, 18, 19, 30, 31, T 36 S R 40 E
SEC. 6, 5, 8, 17, 16, 21, 28, 33, 34, T 37 S, R 40 E

JoAnne Holman, Clerk of the Circuit Court - St. Lucie County
File Number: 1373259 OR BOOK 0937 PAGE 2720
Recorded: 01-18-95 02:26 P.M.

9. Grantee waives venue as to any litigation arising from matters relating to this easement and any such litigation between Grantor and Grantee shall be initiated and maintained only in Leon County, Florida.

10. This easement shall not be assigned or otherwise transferred without prior written consent of the Grantor or its duly authorized agent which shall not be unreasonably withheld. Any assignment or other transfer without prior written consent of the Grantor shall be null and void and without legal effect. Any transfer by Grantee to a parent, subsidiary, affiliate or partner shall not be deemed an assignment and does not require the consent of Grantor provided that such assignment doe not alter any liability or obligation to Grantor or relieve Grantee from the performances of any obligation to Grantor under this agreement.

11. The Grantee, by acceptance of this easement, binds itself,its successors and assigns, to abide by the provisions and conditions herein set forth, and said provisions and conditions shall be deemed covenants of the Grantee, its successors and assigns. In the event the Grantee fails or refuses to comply with the provisions and conditions herein set forth or in the event the Grantee violates any of the provisions and conditions herein, Grantee shall have 90 days from receipt of same to begin to rectify such defaults. Should Grantee fail to begin to rectify such defaults within said 90 days this easement may be terminated by the Grantor upon 30 days written notice to Grantee. If terminated, all of the above-described parcel of land shall revert to the Grantor. All costs, including attorneys' fees, incurred by the Grantor to enforce the provisions of this easement shall be paid by the Grantee. All notices required to be given to Grantee by this easement or applicable law or administrative rules shall be sufficient if sent by U.S. Mail to the following address:

Florida Gas Transmission Company
Post Office Box 1188
Houston, Texas 77251-1188

The Grantee agrees to notify the Grantor by certified mail of any changes to this address at least ten (10) days before the change is effective.

12. The Grantee shall assume all responsibility for liabilities that accrue to the subject property or to the improvements thereon, including any and all drainage or special assessments or taxes of every kind and description which are now or may be hereafter lawfully assessed and levied against the subject property during the effective period of this easement which result from the grant of this easement or the activities of Grantee hereunder.

13. Renewal of this easement is at the sole option of the Grantor. Such renewal shall be subject to the terms, conditions and provisions of current management standards and applicable laws, rules and regulations in effect at that time. In the event that Grantee is in full compliance with the terms of this easement, the Grantee shall be allowed a 30-day grace period after expiration of this easement to apply in writing for a renewal. If the Grantee fails to apply for a renewal within the grace period, or in the event the Grantor does not grant a renewal, the Grantee shall vacate the premises and remove all structures and equipment occupying and erected thereon at its expense.

14. If the Grantee does not remove said structures and equipment occupying and erected upon the premises after expiration or cancellation of this easement, such structures and equipment will be deemed forfeited to the Grantor, and the Grantor may authorize removal and may sell such forfeited structures and equipment after 60 days written notice by certified mail addressed to the Grantee at the address specified in Item 11 or at such address on record as provided to the Grantor by the Grantee. However, such remedy shall be in addition to all other remedies available to Grantor under applicable laws, rules and regulations including the right to compel removal of all structures and the right to impose administrative fines.

15. No failure, or successive failures, on the part of the Grantor to enforce any provision, nor any waiver or successive waivers on its part of any provision herein, shall operate as a discharge thereof or render the same inoperative or impair the right of the Grantor to enforce the same upon any renewal thereof or in the event of subsequent breach or breaches.

16. The Grantee, at its own expense, shall record this easement and any subsequent approved renewal and/or modified easements in the official records of the county within which the easement site is located within ten (10) days after receipt of a fully executed copy of this easement, and shall provide the Grantor with a copy of the recorded easement indicating the book and page at which the easement is recorded.

(4539-56)

17. This easement is the entire and only agreement between the parties. Its provisions are not severable. Any amendment or modification to this easement must be in writing and must be accepted, acknowledged and executed by the Grantee and Grantor.

18. Prior to commencement of construction and/or activities authorized herein, the Grantee shall obtain the U.S. Army Corps of Engineers (COE) permit if it is required by the COE. Any modifications to the construction and/or activities authorized herein that may be required by the COE shall require consideration by and the prior written approval of the Grantor prior to the commencement of construction and/or any activities on sovereign, submerged lands.

19. No additional structures and/or activities including dredging, relocation/realignment or major repairs or renovations to authorized structures, shall be erected or conducted on or over sovereignty, submerged lands without prior written consent from the Grantor, with the exception of emergency repairs. Unless specifically authorized in writing by the Grantor, such activities or structures shall be considered unauthorized and a violation of Chapter 253, Florida Statutes, and shall subject the Grantee to administrative fines under Chapter 18-14, Florida Administrative Code. If emergency repairs should have to be undertaken in the interests of public health, safety or welfare, the Grantee shall notify the Grantor of such repairs as quickly as is practicable; provided, however, that such emergency activities shall not exceed the activities authorized by this agreement.

(4539-56)

WITNESSES:

Latanja Peoples
Original Signature

Latanja Peoples
Typed/Printed Name of Witness

Keith E. Clayton
Original Signature

Keith E CLAYTON
Typed/Printed Name of Witness

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY Carolyn Thompson
Carolyn Thompson, Senior Management Analyst II, Bureau of Land Management Services, Division of State Lands, Agent for the Board of Trustees of the Internal Improvement Trust Fund

"GRANTOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 4th day of January, 1995, by Carolyn Thompson, Senior Management Analyst II, who is personally known to me.

APPROVED AS TO FORM AND LEGALITY:

Eugene E. McCully Jr.
DEP Attorney

Notary Public, State of Florida

Printed, Typed or Stamped Name

VIOLET LORD DAVIS
MY COMMISSION # CC 299838
EXPIRES: August 18, 1997
Bonded Thru Notary Public Underwriters

My Commission Expires:

Commission/Serial No.

WITNESSES:

C. S Perkins
Original Signature

C. S PERKINS
Typed/Printed Name of Witness

Peter J Hennessy
Original Signature

Peter J Hennessy
Typed/Printed Name of Witness

Florida Gas Transmission Company (SEAL)
Grantee

BY Leonard L. Hilton
Original Signature of Executing Authority

CB

LEONARD L. HILTON
Typed/Printed Name of Executing Authority

Vice President
Title of Executing Authority

"GRANTEE"

STATE OF Texas

COUNTY OF Harris

The foregoing instrument was acknowledged before me this 30th day of December, 1994, by _____ of Florida Gas Transmission Company, a Delaware corporation, on behalf of the corporation. He is personally known to me or who has produced a Texas D.L., as identification.

My Commission Expires:

April 1995

Commission/Serial No. —

Notary Public, State of Texas

F. J. PERKINS
Printed, Typed or Stamped Name

(4539-56)

ATTACHMENT A
IN
ST. LUCIE COUNTY, FLORIDA

DESCRIPTION OF EASEMENT AREA FOR ROUTE OF PIPELINES FOR FLORIDA GAS TRANSMISSION COMPANY

AN EASEMENT OVER ALL SOVEREIGN LANDS, IF ANY, LYING WITHIN THE FOLLOWING REFERENCE LINE DESCRIPTION OF VARYING WIDTHS LOCATED IN ST. LUCIE COUNTY, FLORIDA. ALL BEARINGS, DISTANCES AND COORDINATES ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM (EAST ZONE)IN U.S. SURVEY FEET (GRID) AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (READJUSTMENT OF 1990):

BEGIN AT A POINT LYING IN ST. LUCIE COUNTY (N=1131332.85 E=845595.32), SAID EASEMENT BEING 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE S 52°10'51" W, 85.00 FEET (N=1131280.73 E=845528.17);

THENCE S 37°46'34" E, 200.00 FEET (N=1131122.64 E=845650.69);

THENCE N 51°44'56" E, 50.00 FEET (N=1131153.60 E=845689.95);

THENCE S 39°02'24" E, 615.66 FEET (N=1130675.41 E=846077.74);

THENCE S 29°55'22" E, 38.00 FEET (N=1130642.48 E=846096.69);

THENCE S 22°49'26" E, 42.25 FEET (N=1130603.54 E=846113.08);

THENCE S 17°23'32" E, 2377.28 FEET (N=1128334.94 E=846823.68);

THENCE S 28°14'04" E, 92.38 FEET (N=1128253.55 E=846867.38);

THENCE S 48°00'35" E, 1613.64 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1127174.02 E=848066.73) OF AN EASEMENT 270 FEET IN WIDTH, LYING 170 FEET NORTEASTERLY AND 100 FEET SOUTHWESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 48°00'35" E, 100.00 FEET (N=1127107.12 E=848141.05);

THENCE S 38°23'38" E, 42.21 FEET (N=1127074.03 E=848167.27);

THENCE S 32°27'53" E, 431.33 FEET TO THE TERMINUS OF SAID 270 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1126710.11 E=848398.80) OF AN EASEMENT 320 FEET IN WIDTH, LYING 170 FEET NORTHEASTERLY AND EASTERLY AND 150 FEET SOUTHWESTERLY AND WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 32°27'53" E, 100.00 FEET (N=1126625.74 E=848452.48);

THENCE S 11°48'49" E, 51.00 FEET (N=1126575.82 E=848462.92);

THENCE S 01°14'00" W, 100.00 FEET TO THE TERMINUS OF SAID 320 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1126475.84 E=848460.77) OF AN EASEMENT 250 FEET IN WIDTH, LYING 100 FEET EASTERLY AND 150 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 01°14'00" W, 635.74 FEET (N=1125840.25 E=848447.08);

(CONTINUED ON SHEET 2 OF 9)

(FOR SKETCH SEE SHEETS 6 THRU 9)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 5 of 13 Pages
Easement No. 29194

SKETCH — NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
—x—x— FENCE

UNIVERSAL ENROD, INC.
1811 Bering Drive - Suite 400
P.O. Box 570248
Houston, Texas 77257-0248
(713) 977-7770

SCALE: 1" = 1"	W.O. NO.:
DATE: 11/28/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: SL01.DWG
REVISION DATE:

SHEET 1 OF 9

FILE INFO: SL01 1=1 11/29/1994 13:08 KJL

ST. LUCIE COUNTY, FLORIDA

(CONTINUED FROM SHEET 1 OF 9)

THENCE S 02°37'44" E, 74.27 FEET (N=1125766.06 E=848450.49);

THENCE S 02°34'36" W, 180.36 FEET (N=1125585.88 E=848442.38);

THENCE S 00°31'47" E, 467.37 FEET TO THE TERMINUS OF SAID 250 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1125118.53 E=848446.70) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 00°31'47" E, 467.37 FEET (N=1124651.18 E=848451.03);

THENCE S 02°06'14" W, 780.08 FEET (N=1123871.63 E=848422.39);

THENCE S 00°01'08" E, 1110.10 FEET (N=1122761.53 E=848422.75);

THENCE S 00°14'59" E, 325.41 FEET (N=1122436.12 E=848424.17);

THENCE S 07°57'46" E, 67.60 FEET (N=1122369.17 E=848433.54);

THENCE S 27°30'56" E, 63.31 FEET (N=1122313.03 E=848462.78);

THENCE S 36°54'42" E, 1957.28 FEET (N=1120748.06 E=849638.30);

THENCE S 32°58'59" E, 599.89 FEET (N=1120244.85 E=849964.87);

THENCE S 30°22'52" E, 604.45 FEET (N=1119723.40 E=850270.58);

THENCE S 19°40'02" E, 2705.85 FEET (N=1117175.40 E=851181.24);

THENCE S 12°02'11" E, 200.60 FEET (N=1116979.21 E=851223.07);

THENCE S 22°57'19" E, 878.93 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1116169.88 E=851565.87) OF AN EASEMENT 250 FEET IN WIDTH, LYING 150 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 22°57'19" E, 400.00 FEET TO THE TERMINUS OF SAID 250 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1115801.55 E=851721.87) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 22°57'19" E, 890.28 FEET (N=1114981.77 E=852069.09);

THENCE S 23°52'48" E, 1786.25 FEET (N=1113348.43 E=852792.21);

THENCE S 40°43'02" E, 158.98 FEET (N=1113227.94 E=852895.91);

THENCE S 23°58'30" E, 3127.04 FEET (N=1110370.68 E=854166.55);

THENCE S 24°24'14" E, 1686.96 FEET (N=1108834.44 E=854863.55);

THENCE S 08°34'50" E, 93.74 FEET (N=1108741.75 E=854877.53);

THENCE S 25°25'21" E, 465.52 FEET (N=1108321.31 E=855077.38);

THENCE S 23°32'27" E, 2636.92 FEET (N=1105903.84 E=856130.57);

(CONTINUED ON SHEET 3 OF 9)

(FOR SKETCH SEE SHEETS 6 THRU 9)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 6 of 13 Pages
Easement No. 29194

SKETCH — NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING

—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
—x—x— FENCE

UNIVERSAL SURVEYING CO., INC.
1811 Bering Drive - Suite 400
P.O. Box 570348
Houston, Texas 77257-0248
(713) 977-7770

SCALE: 1"=1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: SL02.DWG
REVISION DATE:

SHEET 2 OF 9

FILE INFO: SL02 1=1 11/29/1994 13:14 KJL

ST. LUCIE COUNTY, FLORIDA

(CONTINUED FROM SHEET 2 OF 9)

THENCE S 21°17'19" E, 327.13 FEET (N=1105599.03 E=856249.34);
THENCE S 46°53'43" E, 146.66 FEET (N=1105498.82 E=856356.41);
THENCE S 26°34'48" E, 154.28 FEET (N=1105360.84 E=856425.45);
THENCE S 23°39'52" E, 2555.06 FEET (N=1103020.63 E=857451.00);
THENCE S 24°14'17" E, 3122.22 FEET (N=1100173.64 E=858732.76);
THENCE S 22°29'58" E, 397.49 FEET (N=1099806.41 E=858884.87);
THENCE S 19°32'48" E, 385.08 FEET (N=1099443.52 E=859013.71);
THENCE S 17°45'44" E, 360.35 FEET (N=1099100.35 E=859123.64);
THENCE S 14°15'05" E, 365.05 FEET (N=1098746.53 E=859213.51);
THENCE S 11°34'10" E, 381.16 FEET (N=1098373.11 E=859289.95);
THENCE S 09°37'07" E, 416.47 FEET (N=1097962.50 E=859359.54);
THENCE S 03°48'02" E, 355.76 FEET (N=1097607.52 E=859383.12);
THENCE S 00°50'36" E, 1356.18 FEET (N=1096251.48 E=859403.08);
THENCE S 06°18'32" E, 167.94 FEET (N=1096084.56 E=859421.53);
THENCE S 00°18'42" E, 767.22 FEET (N=1095317.35 E=859425.71);
THENCE S 14°36'32" E, 163.46 FEET (N=1095159.17 E=859466.94);
THENCE S 00°05'13" W, 1008.83 FEET (N=1094150.34 E=859465.41);
THENCE S 13°10'33" W, 51.86 FEET (N=1094099.85 E=859453.59);
THENCE S 19°37'54" W, 123.35 FEET (N=1093983.67 E=859412.14);
THENCE S 00°05'50" E, 1050.77 FEET (N=1092932.90 E=859413.93);
THENCE S 02°03'48" W, 496.48 FEET (N=1092436.74 E=859396.05);
THENCE S 04°23'10" E, 352.48 FEET (N=1092085.30 E=859423.01);
THENCE S 00°09'01" W, 231.30 FEET (N=1091854.00 E=859422.40);
THENCE S 00°09'06" E, 6269.14 FEET (N=1085584.88 E=859438.98);
THENCE S 12°41'07" W, 259.87 FEET (N=1085331.36 E=859381.92);
THENCE S 00°04'35" E, 239.04 FEET (N=1085092.32 E=859382.24);
THENCE S 15°12'41" E, 213.15 FEET (N=1084886.64 E=859438.16);
THENCE S 00°10'52" E, 1337.50 FEET (N=1083549.14 E=859442.39);
THENCE S 01°48'33" E, 364.10 FEET (N=1083185.23 E=859453.88);

(CONTINUED ON SHEET 4 OF 9)

(FOR SKETCH SEE SHEETS 6 THRU 9)

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER, JR.
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 7 of 13 Pages
Easement No. 29194

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
RAILROAD
—X—X— FENCE

UNIVERSAL ENGINEERING SCIENCES, INC.
1911 Sterling Drive – Suite 400
P.O. Box 570248
Houston, Texas 77257-0248
(713) 877-7770

SCALE: 1" = 1'	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: SL03.DWG
REVISION DATE:

SHEET 3 OF 9

FILE INFO: SL03 1=1 11/29/1994 13:15 KJL

ST. LUCIE COUNTY, FLORIDA

(CONTINUED FROM SHEET 3 OF 9)

THENCE S 06°53'21" E, 784.22 FEET (N=1082406.68 E=859547.95);
THENCE S 13°01'05" E, 1895.52 FEET (N=1080559.87 E=859974.94);
THENCE S 13°32'29" E, 3042.53 FEET (N=1077601.92 E=860687.34);
THENCE S 14°45'25" E, 771.34 FEET (N=1076856.02 E=860883.82);
THENCE S 16°09'50" E, 422.91 FEET (N=1076449.83 E=861001.55);
THENCE S 24°45'38" E, 768.20 FEET (N=1075752.26 E=861323.29);
THENCE S 26°53'11" E, 2730.10 FEET (N=1073317.27 E=862557.91);
THENCE S 24°33'09" E, 1219.82 FEET (N=1072207.74 E=863064.77);
THENCE S 27°45'43" E, 2605.38 FEET (N=1069902.26 E=864278.36);
THENCE S 26°58'51" E, 3161.84 FEET (N=1067084.56 E=865712.86);
THENCE S 26°47'50" E, 994.33 FEET (N=1066197.01 E=866161.14);
THENCE S 28°01'42" E, 500.22 FEET (N=1065755.46 E=866396.19);
THENCE S 25°40'26" E, 1191.09 FEET (N=1064681.97 E=866912.23);
THENCE S 29°53'40" E, 91.05 FEET (N=1064603.03 E=866957.61);
THENCE S 50°44'30" E, 153.35 FEET (N=1064505.99 E=867076.35);
THENCE S 32°19'38" E, 67.59 FEET (N=1064448.88 E=867112.49);
THENCE S 24°15'10" E, 571.29 FEET (N=1063928.01 E=867347.15);
THENCE S 20°44'47" E, 617.58 FEET (N=1063350.47 E=867565.92);
THENCE S 18°03'36" E, 605.58 FEET (N=1062774.73 E=867753.66);
THENCE S 14°26'51" E, 914.45 FEET (N=1061889.19 E=867981.81);
THENCE S 13°21'08" E, 2056.18 FEET (N=1059888.59 E=868456.66);
THENCE S 46°53'01" W, 55.47 FEET (N=1059850.67 E=868416.16);
THENCE S 11°54'22" E, 1409.01 FEET (N=1058471.98 E=868706.85);
THENCE S 13°22'28" E, 2126.26 FEET (N=1056403.39 E=869198.68);
THENCE S 13°21'19" E, 211.42 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1056197.69 E=869247.52) OF AN EASEMENT 270 FEET IN WIDTH, LYING 170 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

(CONTINUED ON SHEET 5 OF 9)

(FOR SKETCH SEE SHEETS 6 THRU 9)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6 F.A.C.

SAM J. COOPER JR.
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 8 of 13 Pages
Easement No. 29194

SKETCH — NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
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UNIVERSAL Surveying Co.
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SCALE: 1" = 1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: SL04.DWG
REVISION DATE:
SHEET 4 OF 9

FILE INFO: SL04 1=1 11/29/1994 13:10 KJL

ST. LUCIE COUNTY, FLORIDA

(CONTINUED FROM SHEET 4 OF 9)

THENCE CONTINUE S 13°21'19" E, 300.00 FEET TO THE TERMINUS OF SAID 270 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1055905.80 E=869316.82) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 13°21'19" E, 975.40 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1054956.78 E=869542.12) OF AN EASEMENT 270 FEET IN WIDTH, LYING 170 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 13°21'19" E, 300.00 FEET TO THE TERMINUS OF SAID 270 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1054664.89 E=869611.42) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 13°21'19" E, 1189.09 FEET (N=1053507.95 E=869886.09);

THENCE S 14°04'47" E, 1103.13 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1052437.96 E=870154.45) OF AN EASEMENT 270 FEET IN WIDTH, LYING 170 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 14°04'47" E, 180.04 FEET (N=1052263.33 E=870198.25);

THENCE S 16°22'51" E, 119.98 FEET TO THE TERMINUS OF SAID 270 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1052148.22 E=870232.09) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 16°22'51" E, 659.49 FEET (N=1051515.50 E=870418.07);

THENCE S 20°57'42" E, 821.10 FEET (N=1050748.74 E=870711.82);

THENCE S 23°21'34" E, 1823.17 FEET (N=1049075.01 E=871434.71);

THENCE S 77°22'33" E, 29.74 FEET (N=1049068.51 E=871463.72);

THENCE N 67°16'44" E, 64.48 FEET (N=1049093.41 E=871523.20);

THENCE S 78°41'34" E, 16.43 FEET (N=1049090.19 E=871539.32);

THENCE S 23°32'09" E, 3299.99 FEET (N=1046064.72 E=872857.07);

THENCE S 54°46'39" W, 94.22 FEET (N=1046010.38 E=872780.10);

THENCE S 20°18'02" E, 96.81 FEET (N=1045919.58 E=872813.69);

THENCE S 22°46'21" E, 176.54 FEET (N=1045756.80 E=872882.03);

THENCE S 33°41'42" E, 96.50 FEET (N=1045676.51 E=872935.56);

THENCE S 23°25'07" E, 1319 FEET, MORE OR LESS, TO THE ST. LUCIE – MARTIN COUNTY LINE AND THE TERMINUS OF SAID EASEMENT. THE SIDELINES OF SAID EASEMENT ARE TO BE EXTENDED OR SHORTENED TO MEET AT ANGLE POINTS, SUBJECT TO EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

(FOR SKETCH SEE SHEETS 6 THRU 9)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 9 of 13 Pages
Easement No. 29194

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
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UNIVERSAL RESOURCES, INC.
1811 Bering Drive – Suite 400
P.O. Box 570248
Houston, Texas 77257-0248
(713) 977-7770

SCALE: 1" = 1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KIL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

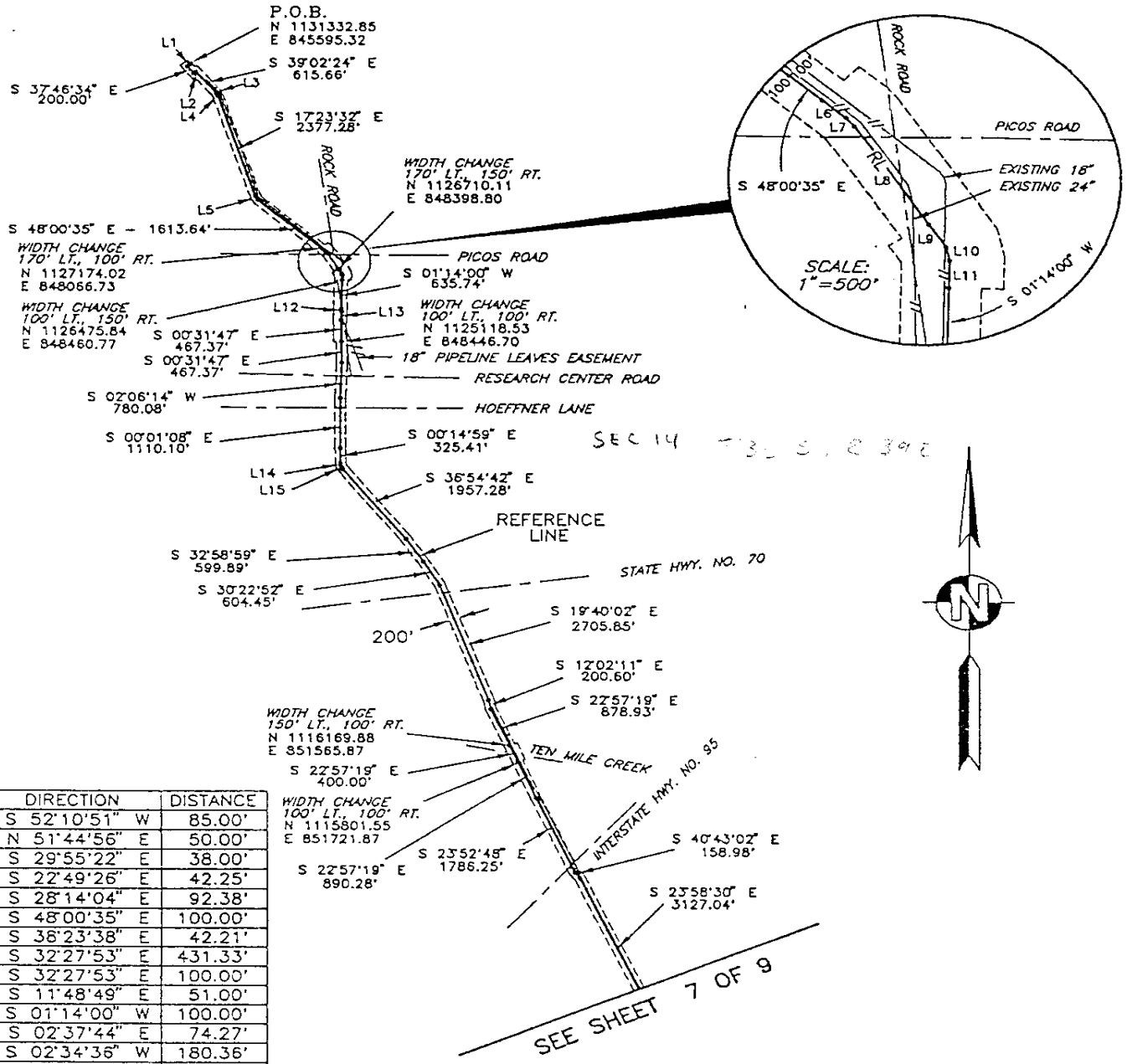
ENRON GAS PIPELINE GROUP

DWG NO.: SL05.DWG
REVISION DATE:

SHEET 5 OF 9

INL INFO: SL05 1=1 11/29/1994 13:20 KJL

ST. LUCIE COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L1	S 52°10'51" W	85.00'
L2	N 51°44'56" E	50.00'
L3	S 29°55'22" E	38.00'
L4	S 22°49'26" E	42.25'
L5	S 28°14'04" E	92.38'
L6	S 48°00'35" E	100.00'
L7	S 38°23'38" E	42.21'
L8	S 32°27'53" E	431.33'
L9	S 32°27'53" E	100.00'
L10	S 11°48'49" E	51.00'
L11	S 01°14'00" W	100.00'
L12	S 02°37'44" E	74.27'
L13	S 02°34'36" W	180.36'
L14	S 07°57'46" E	67.60'
L15	S 27°30'56" E	63.31'

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER, II
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 10 of 13 Pages
Easement No. 29194

NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-5 FOR DESCRIPTION CONCERNING THIS SKETCH.

SKETCH - NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
RL REFERENCE LINE
// PIPELINE
RAILROAD
FENCE

UNIVERSAL ENGINEERING SCIENCES, INC.
1911 Sterling Drive - Suite 400
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Houston, Texas 77287-0348
(713) 977-7770

SCALE: 1"=3000'	W.O. NO.:
DATE: 11/28/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

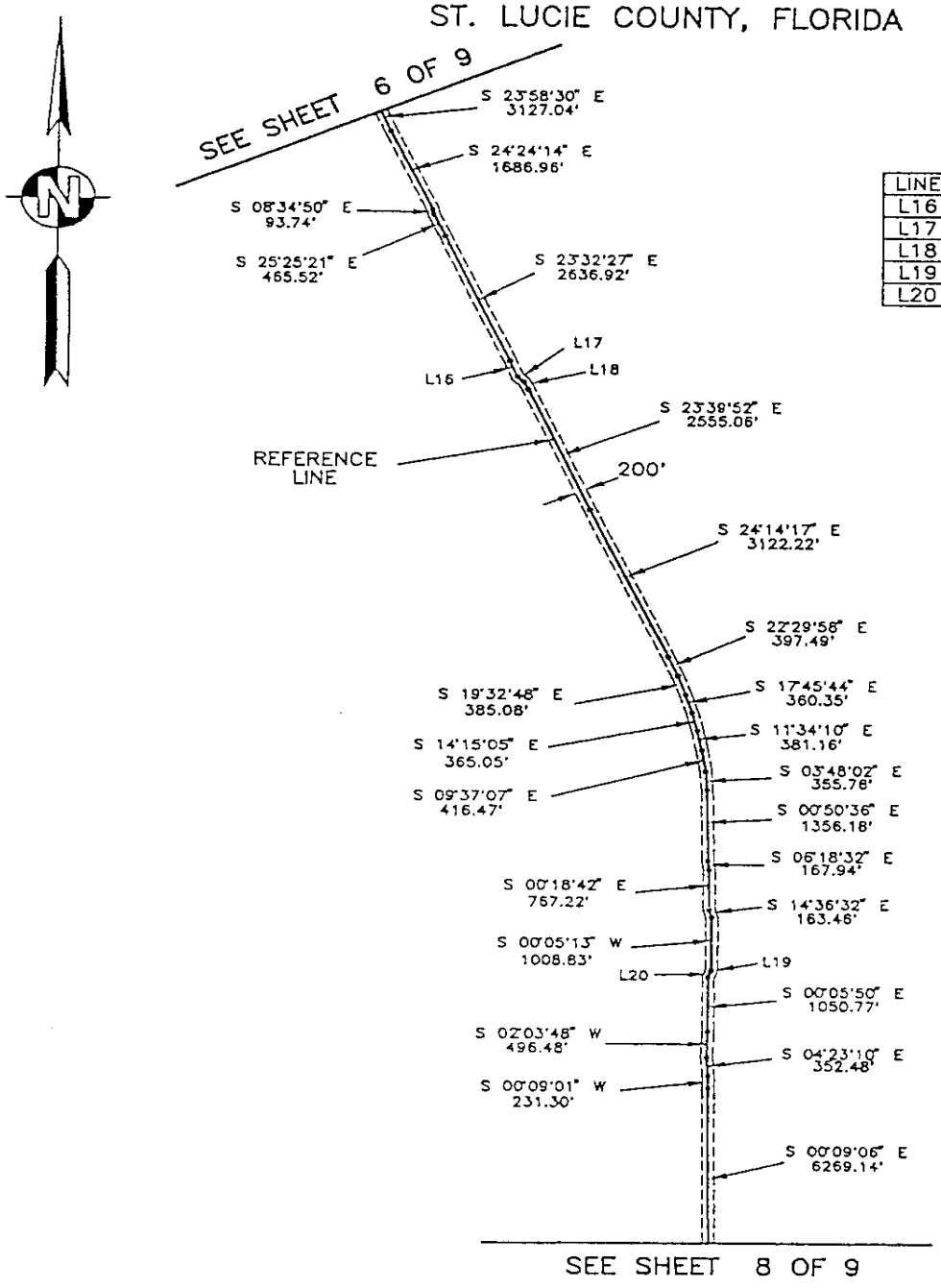
ENRON GAS PIPELINE GROUP

DWG NO.: SL06.DWG
REVISION DATE:

SHEET 6 OF 9

FILE INFO: SL06 1=3000 11/29/1994 17:00 KJL

ST. LUCIE COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L16	S 21°17'19" E	327.13'
L17	S 46°53'43" E	146.66'
L18	S 26°34'48" E	154.28'
L19	S 13°10'33" W	51.86'
L20	S 19°37'54" W	123.35'

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6 F.A.C.

SAMUEL J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

SKETCH – NOT A SURVEY

(4539-56)

Attachment A
Page 11 of 13 Pages
Easement No. 29194

NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-5 FOR DESCRIPTION CONCERNING THIS SKETCH.

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
—×—×— FENCE

UNIVERSAL
1811 Bering Drive - Suite 400
P.O. Box 870248
Houston, Texas 77287-0248
(713) 977-7770

SCALE: 1" = 3000'	W.O. NO.:
DATE: 11/28/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

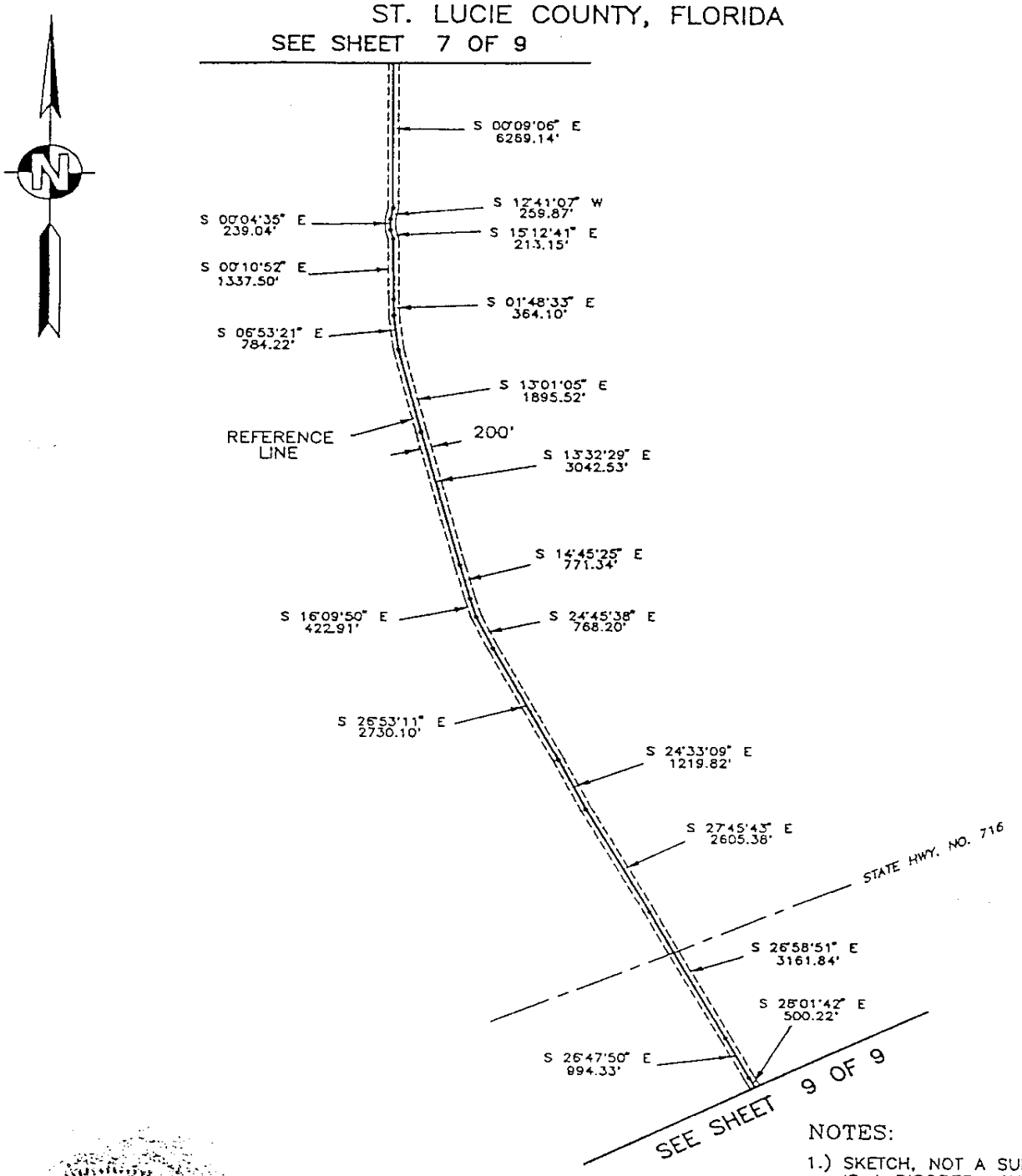
DWG NO.: SL07.DWG
REVISION DATE:

SHEET 7 OF 9

FILE INFO: SL07 1=3000 11/29/1994 17:00 KJL

ST. LUCIE COUNTY, FLORIDA

SEE SHEET 7 OF 9



NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL

2.) FIELD WORK COMPLETED: 11/94

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I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER II
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4539-56)

Attachment A
Page 12 of 13 Pages
Easement No. 29194

SKETCH - NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
RL REFERENCE LINE
// PIPELINE
RAILROAD
FENCE

UNIVERSAL RESOURCES CORP.
1811 Bering Drive - Suite 400
P.O. Box 87046
Houston, Texas 77287-0246
(713) 977-7770

SCALE: 1" = 3000'	W.O. NO.:
DATE: 11/28/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION
FOR EASEMENT IN
ST. LUCIE COUNTY, FLORIDA

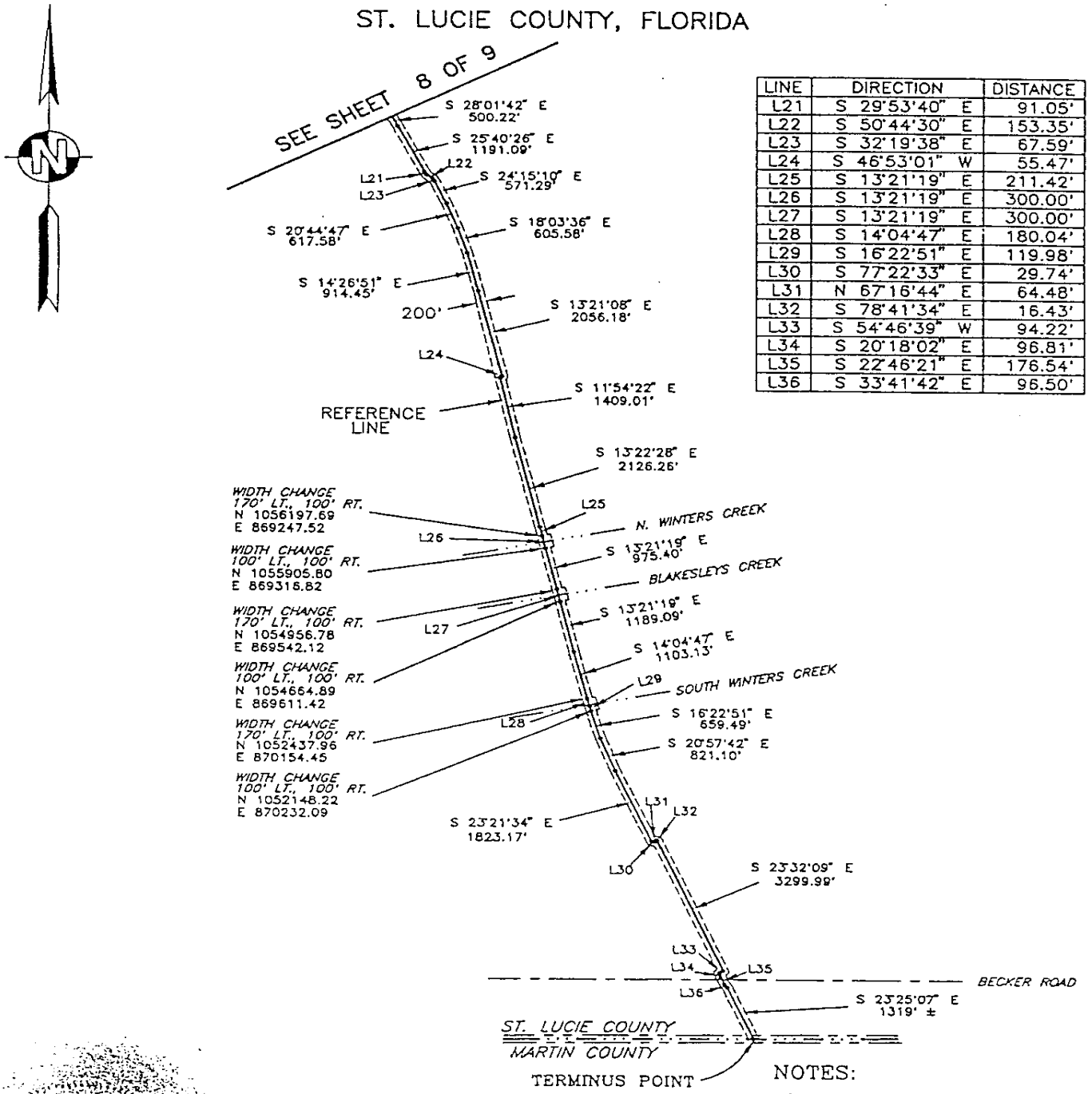
ENRON GAS PIPELINE GROUP

DWG NO.: SL8.DWG
REVISION DATE:

SHEET 8 OF 9

FILE INFO: SL08 1=3000 11/29/1994 17:01 KJL

ST. LUCIE COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L21	S 29°53'40" E	91.05'
L22	S 50°44'30" E	153.35'
L23	S 32°19'38" E	67.59'
L24	S 46°53'01" W	55.47'
L25	S 13°21'19" E	211.42'
L26	S 13°21'19" E	300.00'
L27	S 13°21'19" E	300.00'
L28	S 14°04'47" E	180.04'
L29	S 16°22'51" E	119.98'
L30	S 77°22'33" E	29.74'
L31	N 67°16'44" E	64.48'
L32	S 78°41'34" E	16.43'
L33	S 54°46'39" W	94.22'
L34	S 20°18'02" E	96.81'
L35	S 22°46'21" E	176.54'
L36	S 33°41'42" E	96.50'

NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-5 FOR DESCRIPTION CONCERNING THIS SKETCH.

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

(4539-56)

SAM V. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

Attachment A
Page 13 of 13 Pages
Easement No. 29194

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
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UNIVERSAL SURVEYING, INC.
1611 Bering Drive - Suite 400
P.O. Box 870248
Houston, Texas 77287-0248
(713) 977-7770

SCALE: 1" = 3000'	W.O. NO.:
DATE: 11/28/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION FOR EASEMENT IN ST. LUCIE COUNTY, FLORIDA

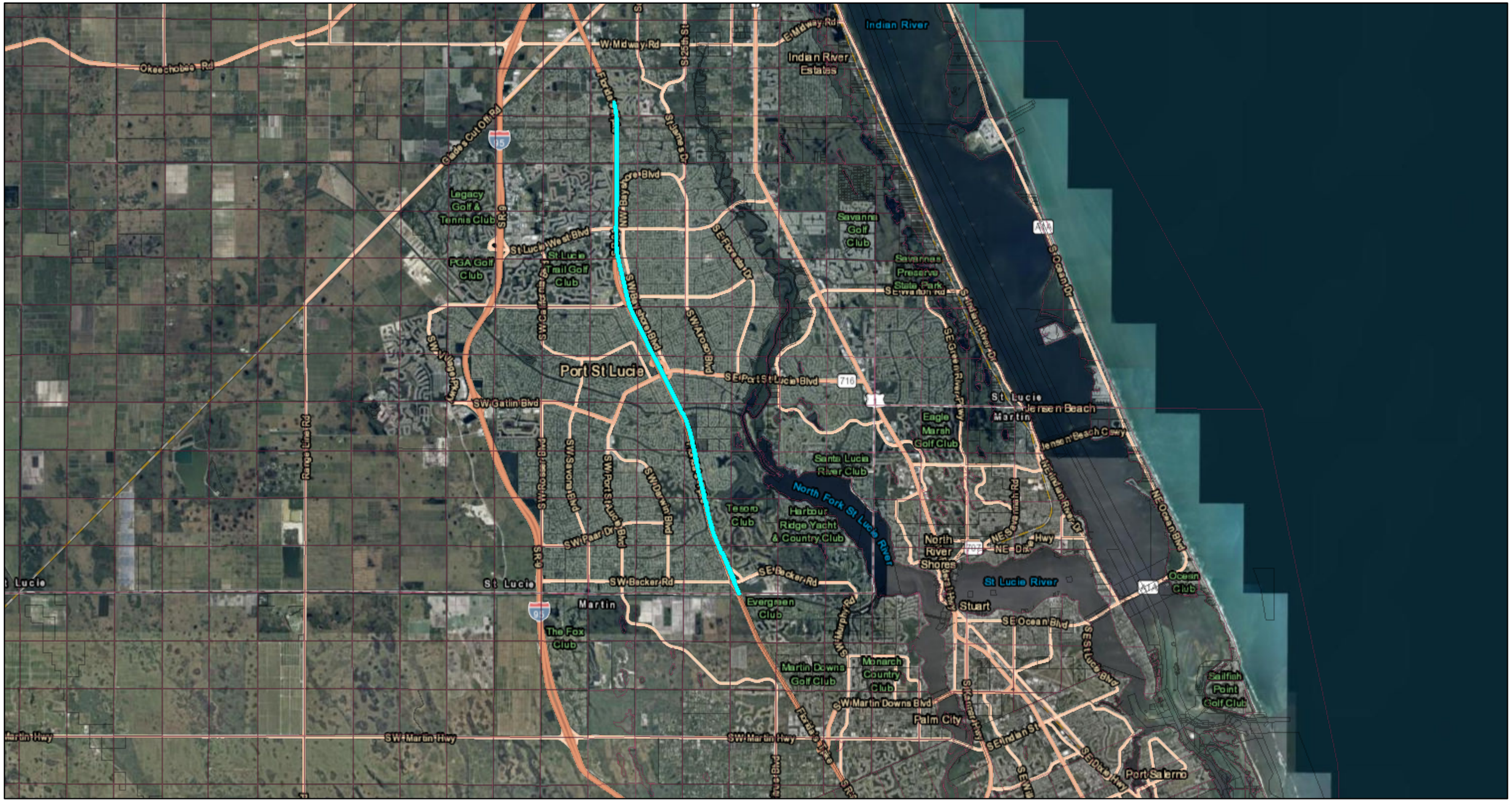
ENRON GAS PIPELINE GROUP

DWG NO.: SL09.DWG
REVISION DATE:

SHEET 9 OF 9

FILE INFO: SL09 1=3000 11/29/1994 17:03 KJL

MAP OF 29194



January 28, 2020

1:144,448

State Land Records (BTLDSR)

Public Land Survey System 2006

0 1.5 3 6 mi

0 2.5 5 10 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, FDEP

Map created by Map Direct, powered by ESRI.

Florida Department of Environmental Protection makes no warranty,expressed or implied,or assumes any legal liability or responsibility for the accuracy,completeness,or usefulness of any information,apparatus,product,or process disclosed,or represents that its use would not infringe privately owned rights.

Return to:

FLORIDA GAS TRANSMISSION
RIGHT-OF-WAY
1375 CROSS CREEK CIRCLE
TALLAHASSEE, FL 32301

This Instrument Prepared By:
Ruby D. Clary
Submerged Lands Section
Bureau of Land Management Services
3900 Commonwealth Boulevard
Mail Station No. 125
Tallahassee, Florida 32399

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

SOVEREIGN SUBMERGED LANDS EASEMENT

Easement No. 29196
BOT FILE NO. 432241819 (4540-43)

01099512

95 JAN 18 PM 1:41

THIS EASEMENT is hereby granted by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, hereinafter referred to as the Grantor.

WITNESSETH: That for the faithful and timely performance of and compliance with the terms and conditions stated herein, the Grantor does hereby grant to Florida Gas Transmission Company, a Delaware Corporation, hereinafter referred to as the Grantee, a nonexclusive easement on, under and across the sovereign lands, if any, located in Martin County, within the corridor more particularly described in Attachment A, dated December 1, 1994.

TO HAVE THE USE OF the hereinabove described premises for a period of 30 years from January 1, 1995, the effective date of this easement. The terms and conditions of and for which this easement is granted are as follows:

1. The described parcel of land shall be used solely to construct, maintain, operate, inspect, repair, replace or remove a pipeline and appurtenance hereto, and Grantee shall not engage in any activity except as described in the Florida Department of Environmental Resource Permitting, Permit No. 432241819 dated December 14, 1993, and as modified on March 28, 1994, May 27, 1994, July 13, 1994, August 22, 1994, October 22, 1994, and November 4, 1994.

2. The consideration for this easement shall be an amount as determined by the rule establishing fees for utility crossings. Once the rule is adopted, payment shall be remitted to the Grantor according to the rule. The established fee shall be assessed from the effective date of the subject rule.

3. Grantor neither warrants title to the lands described herein nor guarantees the suitability of any of the lands for any particular use.

4. The rights hereby granted shall be subject to any and all prior rights of the United States and any and all prior grants by the Grantor in and to the submerged lands situated within the limits of this easement.

5. Grantee shall not damage the easement lands or unduly interfere with public or private rights therein.

6. This easement is nonexclusive, and the Grantor, or its duly authorized agent, shall retain the right to enter the property or to engage in management activities not inconsistent with the use herein provided for and shall retain the right to grant compatible uses of the property to third parties during the term of this easement.

7. Grantor, or its duly authorized agent, shall have the right at any time to inspect the works and operations of the Grantee in any matter pertaining to this easement.

8. The Grantee shall investigate all claims of every nature at its expense, and shall indemnify, defend and save and hold harmless the Grantor and the State of Florida from all claims, actions, lawsuits and demands arising out of this easement.

SEC. 3,10,11,14,23,24, T 39S, R40E. ALSO PART OF MANSON GRANT
SEC. 5,8,9,16,21,28,33,34, T 39S, R41E
SEC. 3,2,11,12,13, T 40S, R41E
SEC. 18,19,30,29 T 40S, R42E

9. Grantee waives venue as to any litigation arising from matters relating to this easement and any such litigation between Grantor and Grantee shall be initiated and maintained only in Leon County, Florida.

10. This easement shall not be assigned or otherwise transferred without prior written consent of the Grantor or its duly authorized agent which shall not be unreasonably withheld. Any assignment or other transfer without prior written consent of the Grantor shall be null and void and without legal effect. Any transfer by Grantee to a parent, subsidiary, affiliate or partner shall not be deemed an assignment and does not require the consent of Grantor provided that such assignment doe not alter any liability or obligation to Grantor or relieve Grantee from the performances of any obligation to Grantor under this agreement.

11. The Grantee, by acceptance of this easement, binds itself,its successors and assigns, to abide by the provisions and conditions herein set forth, and said provisions and conditions shall be deemed covenants of the Grantee, its successors and assigns. In the event the Grantee fails or refuses to comply with the provisions and conditions herein set forth or in the event the Grantee violates any of the provisions and conditions herein, Grantee shall have 90 days from receipt of same to begin to rectify such defaults. Should Grantee fail to begin to rectify such defaults within said 90 days this easement may be terminated by the Grantor upon 30 days written notice to Grantee. If terminated, all of the above-described parcel of land shall revert to the Grantor. All costs, including attorneys' fees, incurred by the Grantor to enforce the provisions of this easement shall be paid by the Grantee. All notices required to be given to Grantee by this easement or applicable law or administrative rules shall be sufficient if sent by U.S. Mail to the following address:

Florida Gas Transmission Company
Post Office Box 1188
Houston, Texas 77251-1188

The Grantee agrees to notify the Grantor by certified mail of any changes to this address at least ten (10) days before the change is effective.

12. The Grantee shall assume all responsibility for liabilities that accrue to the subject property or to the improvements thereon, including any and all drainage or special assessments or taxes of every kind and description which are now or may be hereafter lawfully assessed and levied against the subject property during the effective period of this easement which result from the grant of this easement or the activities of Grantee hereunder.

13. Renewal of this easement is at the sole option of the Grantor. Such renewal shall be subject to the terms, conditions and provisions of current management standards and applicable laws, rules and regulations in effect at that time. In the event that Grantee is in full compliance with the terms of this easement, the Grantee shall be allowed a 30-day grace period after expiration of this easement to apply in writing for a renewal. If the Grantee fails to apply for a renewal within the grace period, or in the event the Grantor does not grant a renewal, the Grantee shall vacate the premises and remove all structures and equipment occupying and erected thereon at its expense.

14. If the Grantee does not remove said structures and equipment occupying and erected upon the premises after expiration or cancellation of this easement, such structures and equipment will be deemed forfeited to the Grantor, and the Grantor may authorize removal and may sell such forfeited structures and equipment after 60 days written notice by certified mail addressed to the Grantee at the address specified in Item 11 or at such address on record as provided to the Grantor by the Grantee. However, such remedy shall be in addition to all other remedies available to Grantor under applicable laws, rules and regulations including the right to compel removal of all structures and the right to impose administrative fines.

15. No failure, or successive failures, on the part of the Grantor to enforce any provision, nor any waiver or successive waivers on its part of any provision herein, shall operate as a discharge thereof or render the same inoperative or impair the right of the Grantor to enforce the same upon any renewal thereof or in the event of subsequent breach or breaches.

16. The Grantee, at its own expense, shall record this easement and any subsequent approved renewal and/or modified easements in the official records of the county within which the easement site is located within ten (10) days after receipt of a fully executed copy of this easement, and shall provide the Grantor with a copy of the recorded easement indicating the book and page at which the easement is recorded.

(4540-43)

17. This easement is the entire and only agreement between the parties. Its provisions are not severable. Any amendment or modification to this easement must be in writing and must be accepted, acknowledged and executed by the Grantee and Grantor.

18. Prior to commencement of construction and/or activities authorized herein, the Grantee shall obtain the U.S. Army Corps of Engineers (COE) permit if it is required by the COE. Any modifications to the construction and/or activities authorized herein that may be required by the COE shall require consideration by and the prior written approval of the Grantor prior to the commencement of construction and/or any activities on sovereign, submerged lands.

19. No additional structures and/or activities including dredging, relocation/realignment or major repairs or renovations to authorized structures, shall be erected or conducted on or over sovereignty, submerged lands without prior written consent from the Grantor, with the exception of emergency repairs. Unless specifically authorized in writing by the Grantor, such activities or structures shall be considered unauthorized and a violation of Chapter 253, Florida Statutes, and shall subject the Grantee to administrative fines under Chapter 18-14, Florida Administrative Code. If emergency repairs should have to be undertaken in the interests of public health, safety or welfare, the Grantee shall notify the Grantor of such repairs as quickly as is practicable; provided, however, that such emergency activities shall not exceed the activities authorized by this agreement.

I, MARSHA STILLER
MARTIN COUNTY
CLERK OF CIRCUIT COURT
BY _____ D.C.

(4540-43)

WITNESSES:

Original Signature

Typed/Printed Name of Witness

Original Signature

Typed/Printed Name of Witness

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY _____
Carolyn Thompson, Senior Management Analyst II, Bureau of Land Management Services, Division of State Lands, Agent for the Board of Trustees of the Internal Improvement Trust Fund

"GRANTOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 4th day of January, 19 95, by Carolyn Thompson, Senior Management Analyst II, who is personally known to me.

APPROVED AS TO FORM AND LEGALITY:

DEP Attorney

Notary Public, State of Florida

Printed, Typed or Stamped

My Commission Expires:

Commission/Serial No.

VIOLET LORD DAVIS
MY COMMISSION # CC 299838
EXPIRES: August 18, 1997
Bonded Thru Notary Public Underwriters

WITNESSES:

Original Signature

Typed/Printed Name of Witness

Original Signature

Typed/Printed Name of Witness

Florida Gas Transmission Company (SEAL)
Grantee

BY _____
Original Signature of Executing Authority

LEONARD L. HILTON
Typed/Printed Name of Executing Authority

Vice President
Title of Executing Authority

"GRANTEE"

STATE OF Texas

COUNTY OF Harris

The foregoing instrument was acknowledged before me this 30th day of December, 1995, by Leonard L. Hilton of Florida Gas Transmission Company, a Delaware corporation, on behalf of the corporation. He is personally known to me or who has produced a Texas DL, as identification.

My Commission Expires:

April 1995

Commission/Serial No. ——

Notary Public, State of Texas

E.J. Perkins
Printed, Typed or Stamped Name

(4540-43)

ORBK 1105 PG2496

ATTACHMENT A
THROUGH
MARTIN COUNTY, FLORIDA

DESCRIPTION OF EASEMENT AREA FOR ROUTE OF PIPELINES FOR FLORIDA GAS TRANSMISSION COMPANY

AN EASEMENT OVER ALL SOVEREIGN LANDS, IF ANY, LYING WITHIN THE FOLLOWING REFERENCE LINE DESCRIPTION OF VARYING WIDTHS LOCATED IN MARTIN COUNTY, FLORIDA. ALL BEARINGS, DISTANCES AND COORDINATES ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM (EAST ZONE)IN U.S. SURVEY FEET (GRID) AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (READJUSTMENT OF 1990):

COMMENCE AT A POINT ON SAID REFERENCE LINE LYING IN ST. LUCIE COUNTY (N=1045676.51 E=872935.56)

THENCE S 23°25'07" E, 1319 FEET, MORE OR LESS, TO THE ST. LUCIE – MARTIN COUNTY LINE AND THE POINT OF BEGINNING OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 23°25'07" E, 622.30 FEET (N=1043895.57 E=873706.93);

THENCE S 37°19'05" E, 98.95 FEET (N=1043816.87 E=873766.92);

THENCE S 23°35'04" E, 2226.93 FEET (N=1041775.95 E=874657.91);

THENCE S 23°45'35" E, 1401.95 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1040492.83 E=875222.76) OF AN EASEMENT 235 FEET IN WIDTH, LYING 135 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 23°45'35" E, 200.00 FEET TO THE TERMINUS OF SAID 235 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1040309.78 E=875303.34) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 23°45'35" E, 695.27 FEET (N=1039673.44 E=875583.46);

THENCE S 20°20'41" E, 345.95 FEET (N=1039349.07 E=875703.74);

THENCE S 28°41'53" E, 573.42 FEET (N=1038846.08 E=875979.09);

THENCE S 31°57'16" E, 2264.57 FEET (N=1036924.67 E=877177.60);

THENCE S 30°42'03" E, 982.09 FEET (N=1036080.22 E=877679.01);

THENCE S 31°27'36" E, 2362.71 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1034064.82 E=878912.12) OF AN EASEMENT 245 FEET IN WIDTH, LYING 145 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°27'36" E, 100.00 FEET (N=1033979.52 E=878964.31);

(CONTINUED ON SHEET 2 OF 11)

(FOR SKETCH SEE SHEETS 7 THRU 11)

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER, III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING

—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
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UNIVERSAL ENGINEERING SCIENCES, INC.
1911 Bering Drive – Suite 400
P.O. Box 870248
Houston, Texas 77287-0248
(713) 977-7770

SCALE: 1" = 1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT CROSSING
MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR01.DWG
REVISION DATE:

SHEET 1 OF 11

FILE INTO: MR01 1=1 11/30/1994 09:44 KJL

MARTIN COUNTY, FLORIDA

(CONTINUED FROM SHEET 1 OF 11)

THENCE S 45°07'55" E, 264.12 FEET (N=1033793.18 E=879151.50);

THENCE S 31°53'52" E, 279.33 FEET (N=1033556.03 E=879299.10);

THENCE S 17°15'01" E, 182.31 FEET (N=1033381.92 E=879353.17);

THENCE S 30°57'27" E, 104.44 FEET TO THE TERMINUS OF SAID 245 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1033292.35 E=879406.89) OF AN EASEMENT 345 FEET IN WIDTH, LYING 245 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 30°57'27" E, 529.53 FEET TO THE TERMINUS OF SAID 345 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1032838.26 E=879679.28) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 30°57'27" E, 544.20 FEET (N=1032371.58 E=879959.22);

THENCE S 31°32'01" E, 4384.87 FEET (N=1028634.21 E=882252.51);

THENCE S 33°14'17" E, 987.32 FEET (N=1027808.42 E=882793.68);

THENCE S 29°42'49" E, 856.38 FEET (N=1027064.64 E=883218.16);

THENCE S 33°04'08" E, 642.82 FEET (N=1026525.95 E=883568.91);

THENCE S 31°09'51" E, 211.00 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1026345.39 E=883678.10) OF AN EASEMENT 230 FEET IN WIDTH, LYING 130 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°09'51" E, 300.00 FEET TO THE TERMINUS OF SAID 230 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1026088.69 E=883833.35) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°09'51" E, 3551.30 FEET (N=1023049.88 E=885671.13);

THENCE S 31°38'48" E, 4838.43 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1018930.94 E=888209.76) OF AN EASEMENT 230 FEET IN WIDTH, LYING 130 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°38'48" E, 207.89 FEET (N=1018753.96 E=888318.83);

THENCE S 31°29'11" E, 92.11 FEET TO THE TERMINUS OF SAID 230 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1018675.41 E=888366.94) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°29'11" E, 2364.72 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1016658.86 E=889602.03) OF AN EASEMENT 235 FEET IN WIDTH, LYING 135 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

(CONTINUED ON SHEET 3 OF 11)

(FOR SKETCH SEE SHEETS 7 THRU 11)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. POOCHER III.
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

Attachment A
Page 6 of 15 Pages
Easement No. 29196

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
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UNIVERSAL ENGINEERING SCIENCES
1811 Bering Drive – Suite 400
P.O. Box 570148
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(713) 977-7770

SCALE: 1" = 1'	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT CROSSING
MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR02.DWG
REVISION DATE:

SHEET 2 OF 11

FILE INFO: MR02 1=1 11/30/1994 09:48 KJL

MARTIN COUNTY, FLORIDA

(CONTINUED FROM SHEET 2 OF 11)

THENCE CONTINUE S 31°29'11" E, 228.93 FEET (N=1016463.64 E=889721.60);

THENCE S 31°07'43" E, 71.07 FEET TO THE TERMINUS OF SAID 235 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1016402.80 E=889758.34) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°07'43" E, 812.85 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1015707.00 E=890178.55) OF AN EASEMENT 255 FEET IN WIDTH, LYING 155 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°07'43" E, 250.00 FEET (N=1015493.00 E=890307.80);

THENCE S 32°11'27" E, 1708.71 FEET (N=1014046.96 E=891218.09);

THENCE S 31°32'03" E, 100.00 FEET TO THE TERMINUS OF SAID 255 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1013961.72 E=891270.39) OF AN EASEMENT 600 FEET IN WIDTH, LYING 500 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°32'03" E, 2056.49 FEET (N=1012208.92 E=892345.95);

THENCE S 17°32'04" E, 56.22 FEET (N=1012155.31 E=892362.88);

THENCE S 28°32'47" E, 157.93 FEET (N=1012016.58 E=892438.35);

THENCE S 33°24'50" E, 621.38 FEET (N=1011497.90 E=892780.54);

THENCE S 31°19'21" E, 154.78 FEET TO THE TERMINUS OF SAID 600 FOOT EASEMENT AND THE POINT OF BEGINNING (N=1011365.68 E=892861.00) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°19'21" E, 1446.60 FEET (N=1010129.91 E=893613.02);

THENCE S 33°42'02" E, 549.73 FEET (N=1009672.57 E=893918.04);

THENCE S 38°03'37" E, 943.23 FEET (N=1008929.90 E=894499.53);

THENCE S 39°58'47" E, 1019.65 FEET (N=1008148.57 E=895154.68);

THENCE S 41°12'13" E, 1872.19 FEET (N=1006739.98 E=896387.96);

THENCE S 38°50'53" E, 553.38 FEET (N=1006309.00 E=896735.07);

THENCE S 36°07'00" E, 126.47 FEET (N=1006206.83 E=896809.61);

THENCE S 34°25'22" E, 501.23 FEET (N=1005793.37 E=897092.96);

THENCE S 33°03'38" E, 396.78 FEET (N=1005460.83 E=897309.41);

THENCE S 30°20'15" E, 628.90 FEET (N=1004918.05 E=897627.07);

(CONTINUED ON SHEET 4 OF 11)

(FOR SKETCH SEE SHEETS 7 THRU 11)

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

Attachment A
Page 7 of 15 Pages
Easement No. 29196

SKETCH — NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
—x—x— FENCE

UNIVERSAL ENROO, INC.
1811 Bering Drive - Suite 400
P.O. Box 570248
Houston, Texas 77257-0248
(713) 977-7770

SCALE: 1"=1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT CROSSING
MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR03.DWG
REVISION DATE:

SHEET 3 OF 11

FILE INFO: MR03 1=1 11/30/1994 09:49 KJL

MARTIN COUNTY, FLORIDA

(CONTINUED FROM SHEET 3 OF 11)

THENCE S 27°22'29" E, 575.71 FEET (N=1004406.81 E=897891.78);
THENCE S 25°12'10" E, 421.41 FEET (N=1004025.51 E=898071.23);
THENCE S 22°19'21" E, 3943.83 FEET (N=1000377.23 E=899569.17);
THENCE S 28°56'05" E, 93.71 FEET (N=1000295.21 E=899614.50);
THENCE S 24°05'18" E, 69.68 FEET (N=1000231.61 E=899642.94);
THENCE S 13°38'36" E, 117.31 FEET (N=1000117.61 E=899670.61);
THENCE S 22°14'22" E, 2081.60 FEET (N=998190.86 E=900458.45);
THENCE S 32°12'23" E, 74.50 FEET (N=998127.82 E=900498.16);
THENCE S 22°16'06" E, 156.95 FEET (N=997982.58 E=900557.63);
THENCE S 11°34'12" E, 68.50 FEET (N=997915.47 E=900571.37);
THENCE S 22°19'35" E, 6104.48 FEET (N=992268.61 E=902890.35);
THENCE S 20°17'46" E, 478.46 FEET (N=991819.86 E=903056.32);
THENCE S 19°22'31" E, 191.24 FEET (N=991639.45 E=903119.76);
THENCE S 17°04'37" E, 135.11 FEET (N=991510.29 E=903159.44);
THENCE S 26°31'00" E, 74.54 FEET (N=991443.59 E=903192.72);
THENCE S 16°58'47" E, 477.09 FEET (N=990987.30 E=903332.04);
THENCE S 14°48'21" E, 176.63 FEET (N=990816.54 E=903377.18);
THENCE S 13°43'53" E, 337.13 FEET (N=990489.05 E=903457.20);
THENCE S 12°22'24" E, 330.08 FEET (N=990166.64 E=903527.93);
THENCE S 09°55'02" E, 916.25 FEET (N=989264.07 E=903685.73);
THENCE S 04°35'30" E, 860.37 FEET (N=988406.47 E=903754.61);
THENCE S 01°51'10" E, 433.69 FEET (N=987973.01 E=903768.63);
THENCE S 00°04'52" E, 1807.85 FEET (N=986165.17 E=903771.19);
THENCE S 01°01'48" E, 631.52 FEET (N=985533.75 E=903782.55);
THENCE S 14°50'20" W, 72.13 FEET (N=985464.02 E=903764.07);
THENCE S 02°27'13" E, 705.78 FEET (N=984758.89 E=903794.29);

(CONTINUED ON SHEET 5 OF 11)

(FOR SKETCH SEE SHEETS 7 THRU 11)

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6 F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

Attachment A
Page 8 of 15 Pages
Easement No. 29196

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
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(713) 977-7770

SCALE: 1" = 1"	W.O. NO.:
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DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT CROSSING
MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR04.DWG
REVISION DATE:

SHEET 4 OF 11

FILE INFO: MR04 1=1 11/30/1994 09:51 KJL

MARTIN COUNTY, FLORIDA

(CONTINUED FROM SHEET 4 OF 11)

THENCE S 15°26'22" E, 84.30 FEET (N=984677.64 E=903816.73);

THENCE S 05°04'25" E, 142.07 FEET (N=984536.13 E=903829.29);

THENCE S 07°59'49" W, 71.87 FEET (N=984464.95 E=903819.29);

THENCE S 10°59'24" E, 1334.20 FEET (N=983155.22 E=904073.64);

THENCE S 16°26'34" E, 488.78 FEET (N=982686.43 E=904212.00);

THENCE S 21°55'27" E, 804.62 FEET (N=981940.00 E=904512.43);

THENCE S 32°22'47" E, 45.32 FEET (N=981901.73 E=904536.69);

THENCE S 63°53'36" E, 65.99 FEET (N=981872.69 E=904595.95);

THENCE S 27°26'59" E, 690.12 FEET (N=981260.27 E=904914.07);

THENCE S 13°21'23" W, 82.35 FEET (N=981180.15 E=904895.05);

THENCE S 29°06'55" E, 137.58 FEET (N=981059.95 E=904961.99);

THENCE S 32°32'02" E, 540.53 FEET (N=980604.25 E=905252.69);

THENCE S 35°53'44" E, 480.04 FEET (N=980215.38 E=905534.14);

THENCE S 40°05'27" E, 595.68 FEET (N=979759.67 E=905917.75);

THENCE S 47°37'29" E, 96.22 FEET (N=979694.82 E=905988.84);

THENCE S 43°35'44" E, 128.09 FEET (N=979602.05 E=906077.16);

THENCE S 30°38'40" E, 80.98 FEET (N=979532.38 E=906118.44);

THENCE S 45°53'14" E, 12597.11 FEET (N=970763.89 E=915162.81);

THENCE S 46°06'23" E, 1856.78 FEET (N=969476.54 E=916500.86);

THENCE S 46°01'34" E, 2561.83 FEET (N=967697.79 E=918344.50);

THENCE S 44°09'19" E, 508.54 FEET (N=967332.93 E=918698.76);

THENCE S 41°20'46" E, 830.08 FEET (N=966709.76 E=919247.12);

THENCE S 37°28'11" E, 586.51 FEET (N=966244.25 E=919603.92);

THENCE S 35°22'51" E, 464.16 FEET (N=965865.81 E=919872.67);

THENCE S 33°31'18" E, 5659.93 FEET (N=961147.26 E=922998.39);

THENCE S 34°34'39" E, 1211.92 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=960149.41 E=923686.18) OF AN EASEMENT 225 FEET IN WIDTH, LYING 125 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

(CONTINUED ON SHEET 6 OF 11)

(FOR SKETCH SEE SHEETS 7 THRU 11)

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

Attachment A
Page 9 of 15 Pages
Easement No. 29196

SKETCH — NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING

—RL— REFERENCE LINE
—//— PIPELINE
RAILROAD
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SCALE: 1"=1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

DESCRIPTION
FOR EASEMENT CROSSING
MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR05.DWG
REVISION DATE:

SHEET 5 OF 11

FILE INFO: MR05 1=1 11/30/1994 09:52 KJL

MARTIN COUNTY, FLORIDA

(CONTINUED FROM SHEET 5 OF 11)

THENCE CONTINUE S 34°34'39" E, 163.02 FEET (N=960015.19 E=923778.69);

THENCE S 32°42'56" E, 237.00 FEET TO THE TERMINUS OF SAID 225 FOOT EASEMENT AND THE POINT OF BEGINNING (N=959815.79 E=923906.78) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 32°42'56" E, 1540.96 FEET (N=958519.28 E=924739.62);

THENCE S 33°31'12" E, 2316.31 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=956588.19 E=926018.75) OF AN EASEMENT 280 FEET IN WIDTH, LYING 180 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 33°31'12" E, 100.00 FEET (N=956504.82 E=926073.98);

THENCE S 25°14'46" W, 157.68 FEET (N=956362.20 E=926006.73);

THENCE S 33°39'41" E, 200.00 FEET TO THE TERMINUS OF SAID 280 FOOT EASEMENT AND THE POINT OF BEGINNING (N=956195.73 E=926117.58) OF AN EASEMENT 200 FEET IN WIDTH, LYING 100 FEET EACH SIDE OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 33°39'41" E, 2147.73 FEET (N=954408.12 E=927308.03);

THENCE S 31°09'15" E, 84.80 FEET TO THE TERMINUS OF SAID 200 FOOT EASEMENT AND THE POINT OF BEGINNING (N=954335.55 E=927351.90) OF AN EASEMENT 285 FEET IN WIDTH, LYING 185 FEET EASTERLY AND 100 FEET WESTERLY OF THE FOLLOWING DESCRIBED REFERENCE LINE;

THENCE CONTINUE S 31°09'15" E, 85 FEET, MORE OR LESS TO THE MARTIN – PALM BEACH COUNTY LINE AND THE TERMINUS OF SAID EASEMENT. THE SIDELINES OF SAID EASEMENT ARE TO BE EXTENDED OR SHORTENED TO MEET AT ANGLE POINTS AND TO TERMINATE IN THE ST. LUCIE – MARTIN COUNTY LINE AND IN THE MARTIN – PALM BEACH COUNTY LINE, SUBJECT TO EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

(FOR SKETCH SEE SHEETS 7 THRU 11)

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
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(4540-43)

Attachment A
Page 10 of 15 Pages
Easement No. 29196

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
—//— PIPELINE
RAILROAD
—x—x— FENCE

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Houston, Texas 77257-0248
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SCALE: 1" = 1"	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

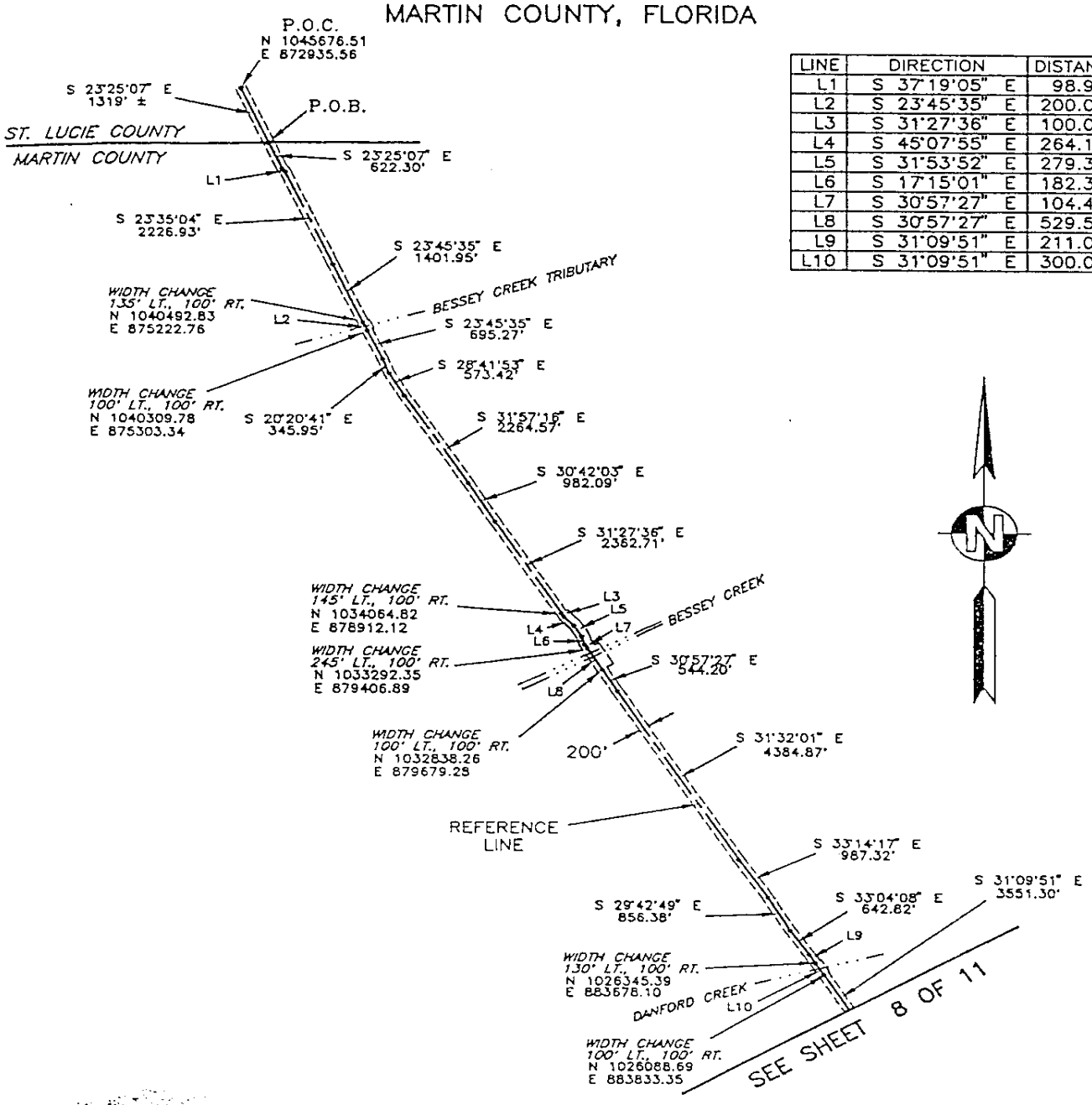
DESCRIPTION
FOR EASEMENT CROSSING
MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR06.DWG
REVISION DATE:
SHEET 6 OF 11

FILE INFO: MR06 1=1 11/30/1994 09:53 KJL

MARTIN COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L1	S 37°19'05" E	98.95'
L2	S 23°45'35" E	200.00'
L3	S 31°27'36" E	100.00'
L4	S 45°07'55" E	264.12'
L5	S 31°53'52" E	279.33'
L6	S 17°15'01" E	182.31'
L7	S 30°57'27" E	104.44'
L8	S 30°57'27" E	529.53'
L9	S 31°09'51" E	211.00'
L10	S 31°09'51" E	300.00'

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

Attachment A
Page 11 of 15 Pages
Easement No. 29196

NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-6 FOR DESCRIPTION CONCERNING THIS SKETCH.

SKETCH – NOT A SURVEY

OR BK 1 1 0 5 PG 2 5 0 0

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING
—RL— REFERENCE LINE
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Houston, Texas 77257-0248
(713) 977-7770

SCALE: 1" = 3000'	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION FOR EASEMENT IN MARTIN COUNTY, FLORIDA

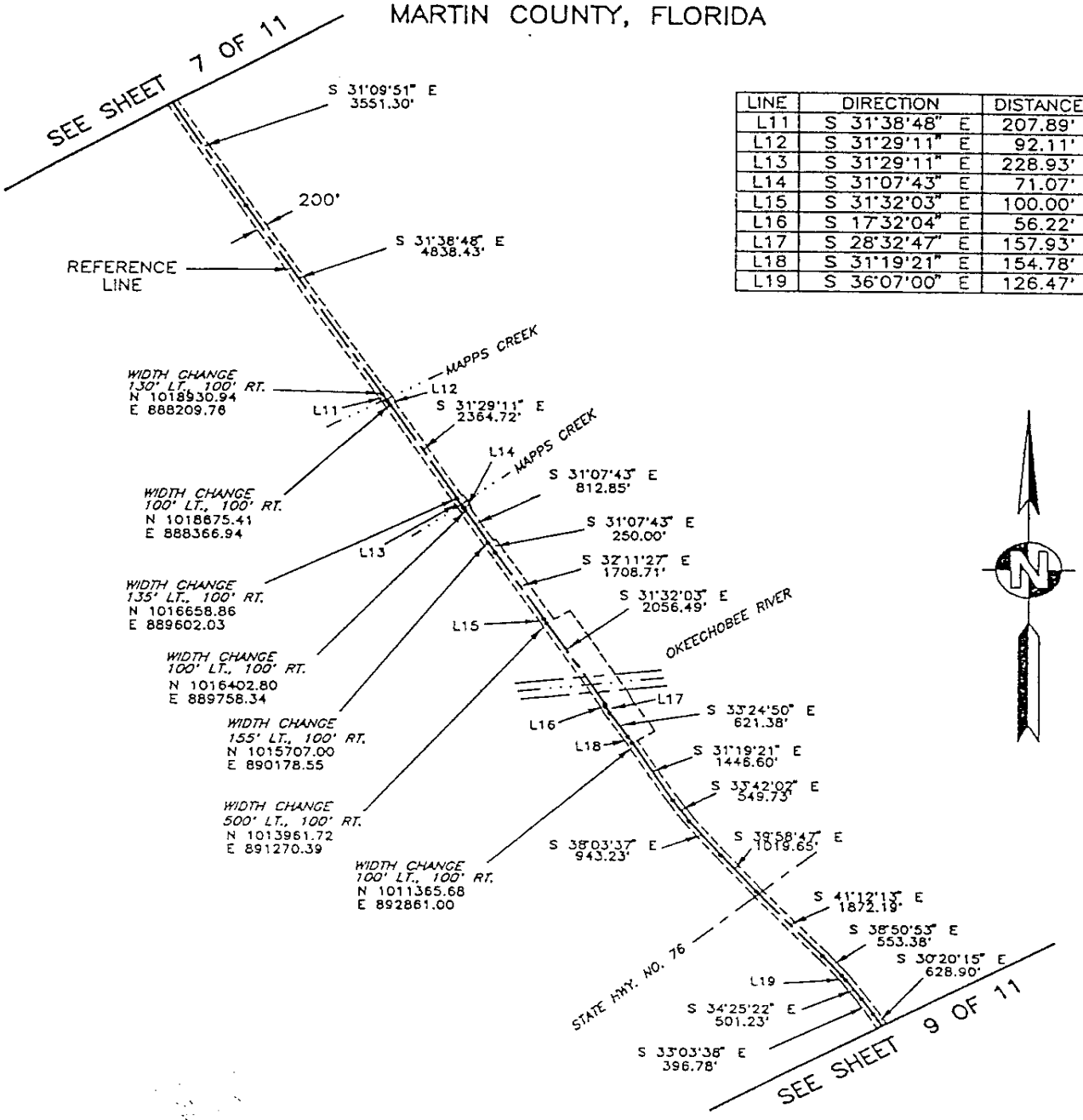
ENRON GAS PIPELINE GROUP

DWG NO.: MR07.DWG
REVISION DATE:

SHEET 7 OF 11

FILE INFO: MR07 1=3000 12/01/1994 08:08 KJL

MARTIN COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L11	S 31°38'48" E	207.89'
L12	S 31°29'11" E	92.11'
L13	S 31°29'11" E	228.93'
L14	S 31°07'43" E	71.07'
L15	S 31°32'03" E	100.00'
L16	S 17°32'04" E	56.22'
L17	S 28°32'47" E	157.93'
L18	S 31°19'21" E	154.78'
L19	S 36°07'00" E	126.47'

NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-6 FOR DESCRIPTION CONCERNING THIS SKETCH.

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
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(4540-43)

Attachment A
Page 12 of 15 Pages
Easement No. 29196

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
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FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION FOR EASEMENT IN MARTIN COUNTY, FLORIDA

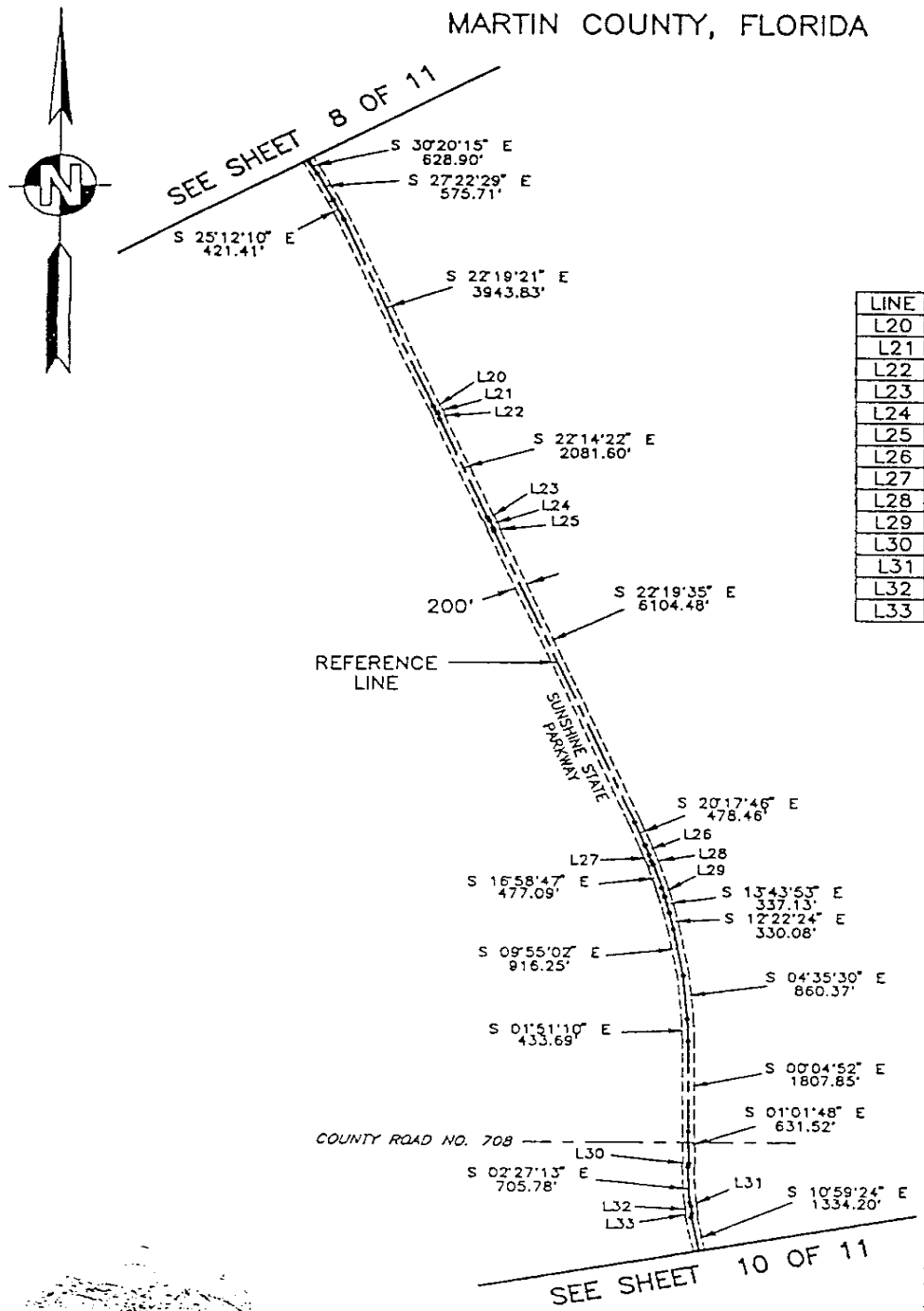
ENRON GAS PIPELINE GROUP

DWG NO.: MR08.DWG
REVISION DATE:

SHEET 8 OF 11

ILE INFO: MR08 1=3000 12/01/1994 08:18 KjL

MARTIN COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L20	S 28°56'05" E	93.71'
L21	S 24°05'18" E	69.68'
L22	S 13°38'36" E	117.31'
L23	S 32°12'23" E	74.50'
L24	S 22°16'06" E	156.95'
L25	S 11°34'12" E	68.50'
L26	S 19°22'31" E	191.24'
L27	S 17°04'37" E	135.11'
L28	S 26°31'00" E	74.54'
L29	S 14°48'21" E	176.63'
L30	S 14°50'20" W	72.13'
L31	S 15°26'22" E	84.30'
L32	S 05°04'25" E	142.07'
L33	S 07°59'49" W	71.87'

NOTES:

1.) SKETCH, NOT A SURVEY. IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-6 FOR DESCRIPTION CONCERNING THIS SKETCH.

CERTIFICATION:

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
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(4540-43)

Attachment A
Page 13 of 15 Pages
Easement No. 29196

SKETCH – NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
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SCALE: 1" = 3000'	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION FOR EASEMENT IN MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

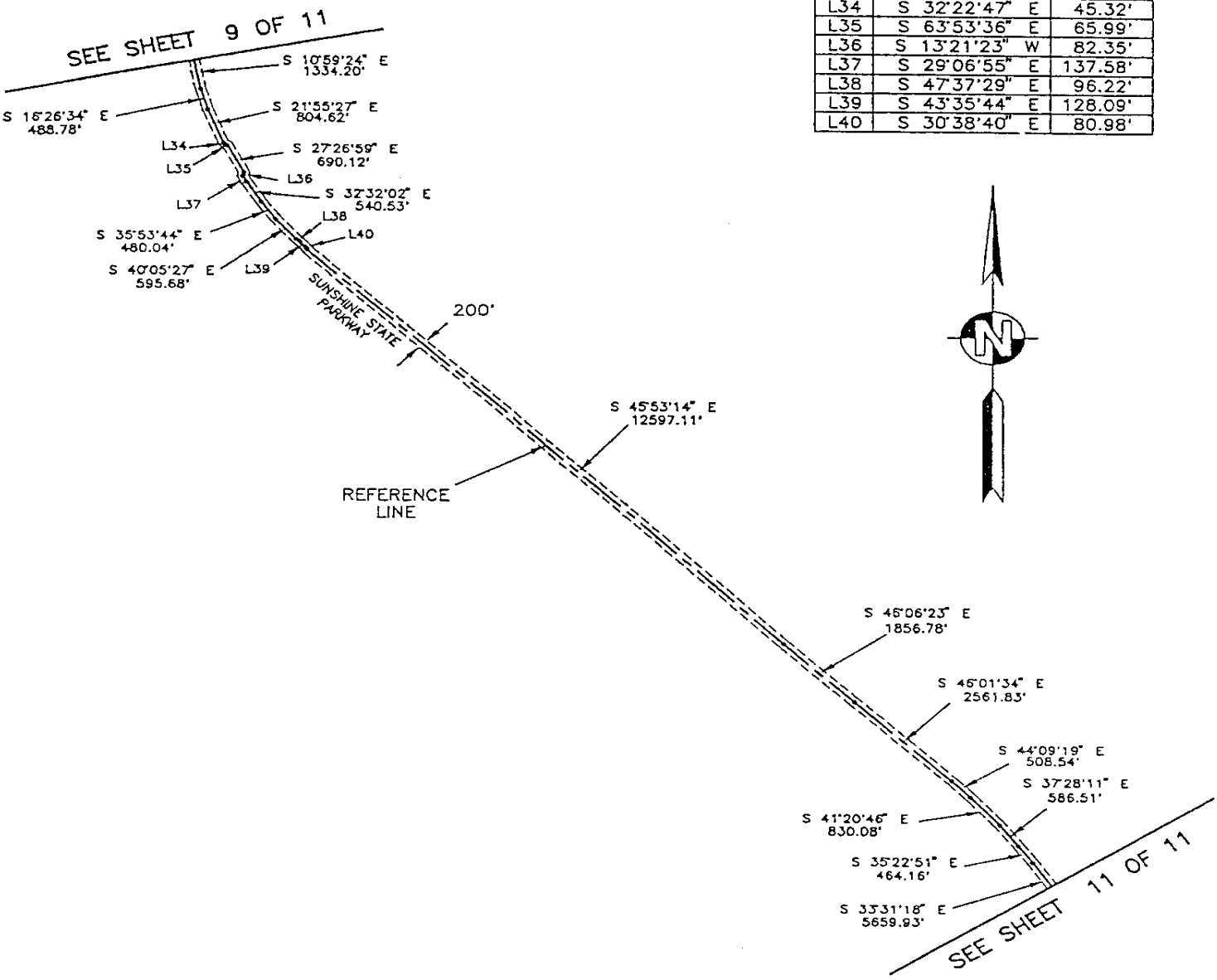
DWG NO.: MR09.DWG
REVISION DATE:

SHEET 9 OF 11

FILE INFO: MR09 1=3000 12/01/1994 08:25 KJL

MARTIN COUNTY, FLORIDA

LINE	DIRECTION	DISTANCE
L34	S 32°22'47" E	45.32'
L35	S 63°53'36" E	65.99'
L36	S 13°21'23" W	82.35'
L37	S 29°06'55" E	137.58'
L38	S 47°37'29" E	96.22'
L39	S 43°35'44" E	128.09'
L40	S 30°38'40" E	80.98'



NOTES:

1.) SKETCH, NOT A SURVEY, IF THERE IS A DISCREPANCY BETWEEN THE DESCRIPTION AND THE SKETCH, THE DESCRIPTION WILL CONTROL.

2.) FIELD WORK COMPLETED: 11/94

3.) COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE COORDINATE SYSTEM EAST ZONE, NAD 83, 1990 ADJ, ALL BEARINGS AND DISTANCES ARE GRID.

4.) SEE SHEET(s) 1-6 FOR DESCRIPTION CONCERNING THIS SKETCH.

CERTIFICATION

I HEREBY CERTIFY THAT THE DESCRIPTION SKETCH REPRESENTED HEREON MEETS THE REQUIREMENTS OF CHAPTER 61G17-6, F.A.C.

SAM J. COOPER III
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(4540-43)

Attachment A
Page 14 of 15 Pages
Easement No. 29196

SKETCH - NOT A SURVEY

LEGEND
ABBREVIATIONS AND SYMBOLS

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING

—RL— REFERENCE LINE
—//— PIPELINE
—+—+— RAILROAD
—X—X— FENCE

UNIVERSAL ENGRG. SYS.
1811 Bering Drive - Suite 400
P.O. Box 870248
Houston, Texas 77287-0248
(713) 977-7770

SCALE: 1"=3000'	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION FOR EASEMENT IN MARTIN COUNTY, FLORIDA

ENRON GAS PIPELINE GROUP

DWG NO.: MR10.DWG
REVISION DATE:

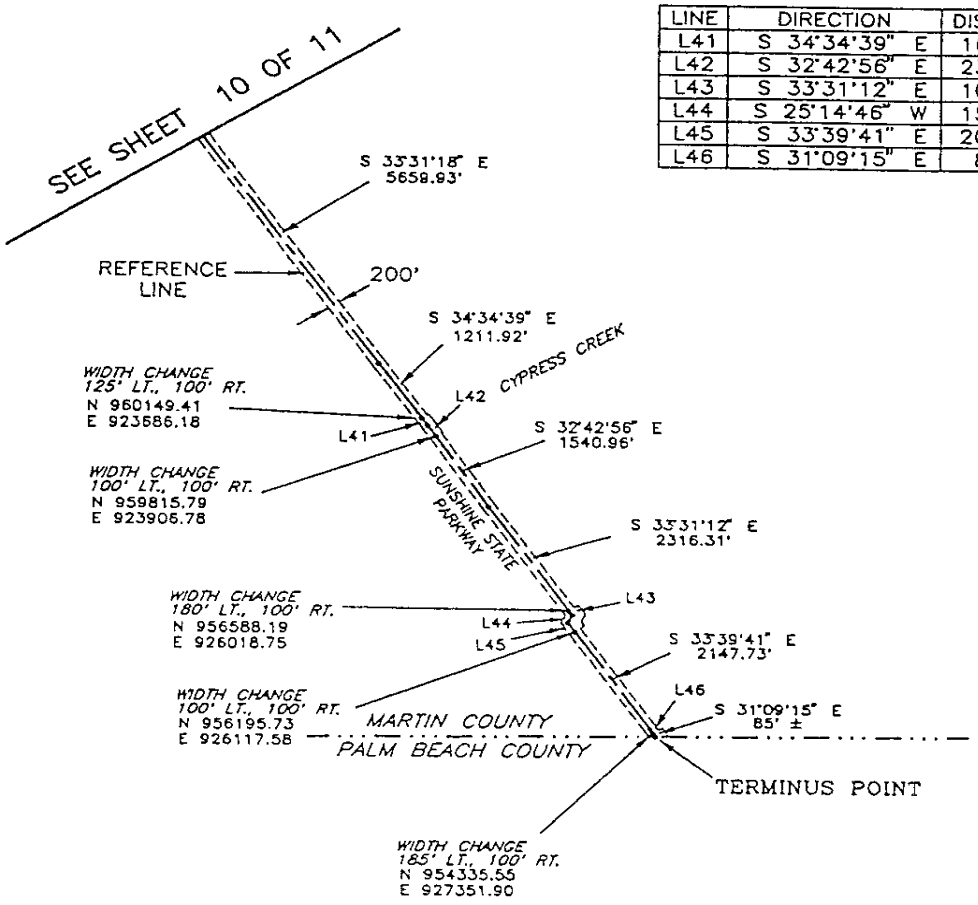
SHEET 10 OF 11

FILE INFO: MR10 1=3000 11/30/1994 09:34 KJL

MARTIN COUNTY, FLORIDA



LINE	DIRECTION	DISTANCE
L41	S 34°34'39" E	163.02'
L42	S 32°42'56" E	237.00'
L43	S 33°31'12" E	100.00'
L44	S 25°14'46" W	157.68'
L45	S 33°39'41" E	200.00'
L46	S 31°09'15" E	84.80'



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SAMUEL J. COPELAND
FLORIDA REGISTERED LAND SURVEYOR NO. 4900
NOT VALID UNLESS EMBOSSED WITH SEAL

(1540-43)

Attachment A
Page 15 of 15 Pages
Easement No. 29196

SKETCH - NOT A SURVEY

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UNIVERSAL ENGINEERING SCIENCES
1811 Bering Drive - Suite 400
P.O. Box 570348
Houston, Texas 77257-0348
(713) 977-7770

SCALE: 1" = 3000'	W.O. NO.:
DATE: 11/29/94	JOB NO.: 2175.000
DRAWN BY: KJL	CHK'D SJC

FLORIDA GAS TRANSMISSION COMPANY
Houston, Texas

SKETCH OF DESCRIPTION
FOR EASEMENT IN
MARTIN COUNTY, FLORIDA

LAST PAGE

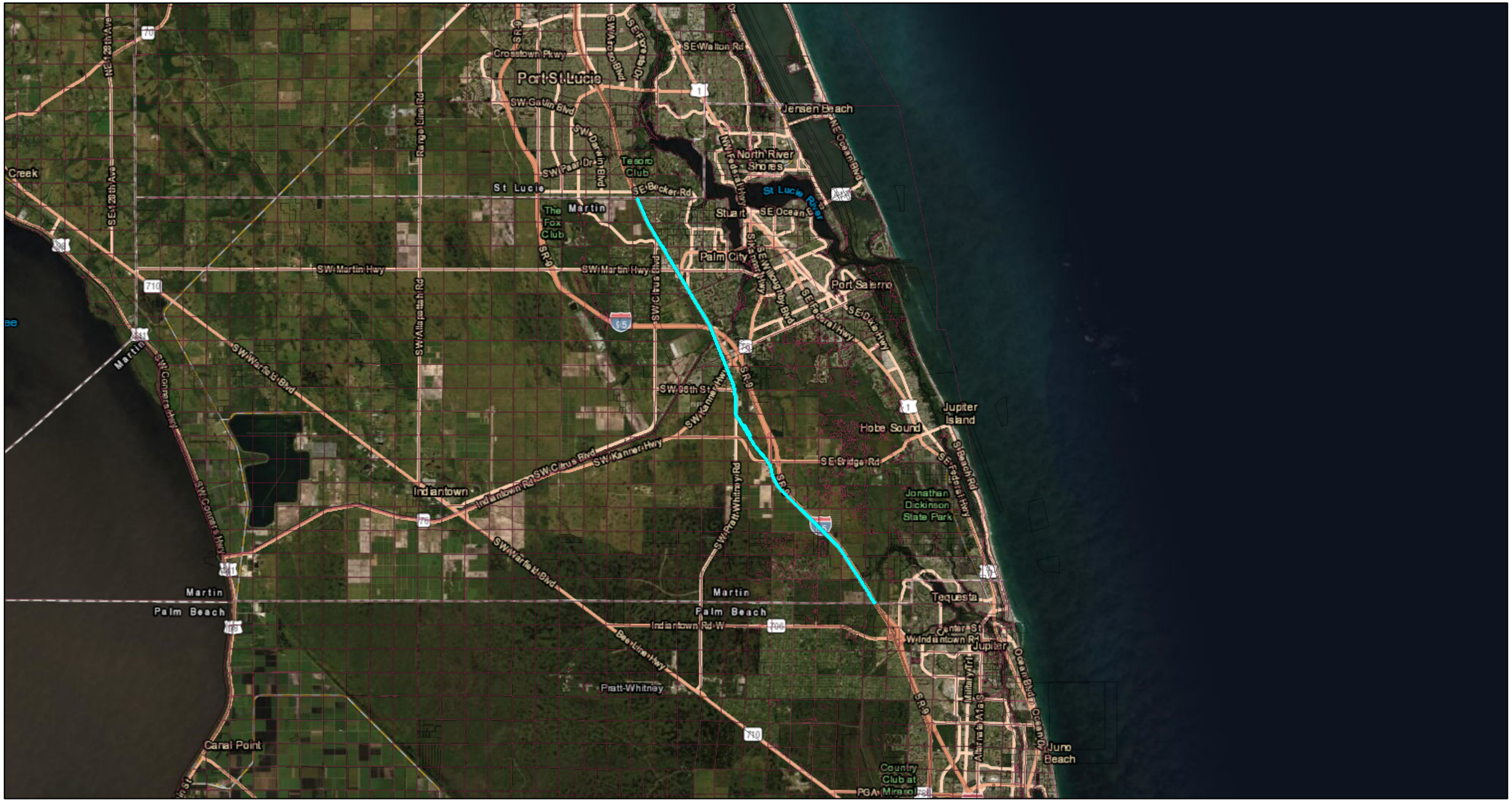
ENRON GAS PIPELINE GROUP

DWG NO.: MR11.DWG
REVISION DATE:

SHEET 11 OF 11

FILE INFO: MR11 1=3000 12/01/1994 08:26 KJL

MAP 29196



January 28, 2020

1:288,895

State Land Records (BTLDSR)

Public Land Survey System 2006

0 3.25 6.5 13 mi

0 5 10 20 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, FDEP

Map created by Map Direct, powered by ESRI.

Florida Department of Environmental Protection makes no warranty,expressed or implied,or assumes any legal liability or responsibility for the accuracy,completeness,or usefulness of any information,apparatus,product,or process disclosed,or represents that its use would not infringe privately owned rights.

The conclusions stated herein are based on a review of records currently available within the Department of Environmental Protection as supplemented, in some cases, by information furnished by the requesting party and do not constitute a legal opinion of title. A permit from the Department of Environmental Protection and other federal, state and local agencies may be required prior to conducting activities.

Should you have any questions regarding this determination, please contact Donelle White, GOC II, at mail station 108 at the above address or call at (850) 245-2788.

Sincerely,

Marcus J. Ashman, PSM, Program Manager
Division of State Lands
Bureau of Survey and Mapping
Attachment: certificate, dedication and easement
MJA/dw
F:\TITLE\Donelle\2020 Jan-Mar \Martin\letter to ashley turnpike 1-28-2020dsl.docx

National Park Service Meeting Notes

September 25, 2020

ATKINS

Florida's Turnpike Headquarters
P.O. Box 613069
Florida's Turnpike Milepost 263, Building 5315
Ocoee, Florida 34761-3069
Telephone: +1.407.532.3999

National Park Service (NPS) Coordination Meeting

Turnpike Mainline (SR 91)
Widening PD&E Study from
Jupiter to Fort Pierce

PROJECT: **Florida's Turnpike (SR 91) Widening PD&E Study from Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70) (FPID#: 423374-1-22-01)**

Palm Beach, Martin and St. Lucie Counties

MEETING DATE: September 25, 2020

FACILITATOR: Brian Ribaric BPR

1. Attendees

Jeff Duncan (NPS)
Jennifer Back (NPS)
Cesar Martinez, PE (FDOT, D-4)
Lynn Kelly (FDOT, D-4)
Henry Pinzon, PE (FTE)
Rax Jung, PhD, PE (FTE)
Philip Stein (FTE)
Annemarie Hammond (FTE)
Brian Ribaric, PE (Atkins/FTE)
Doug Zang (Atkins/FTE)
Fred Gaines, PWS (Atkins/FTE)
Bill Howell, PE (Lochner)
Mark Easley (H&H)

2. Background

a. After introductions, Brian Ribaric narrated a PowerPoint presentation that provided an overview of the project to the attendees and stated that the PD&E Study limits are along Florida's Turnpike Mainline (SR 91) from Indiantown Road (SR 706) to Okeechobee Road (SR 70), MP 117 to MP 153.7. A copy of the agenda and PowerPoint presentation are attached to these meeting notes.

b. Brian Ribaric stated that the project includes the widening of the mainline from two to four lanes in each direction and the replacement/widening of the existing bridge over the Loxahatchee River.

c. Brian Ribaric stated that the bridge over the Loxahatchee is within a Scenic segment of the river and that the existing vegetation includes the river channel, cypress dominated river swamp, drainage ditches adjacent to the existing roadway, and flatwoods landward of existing wetlands. He also identified some of the federal and state listed species that are present.

d. Brian Ribaric then discussed the existing Turnpike bridge over the Loxahatchee River and stressed that it had four spans approximately 45 feet in length, which resulted in piles in the middle of the river channel.

e. Brian Ribaric identified design constraints including: limited right-of-way, I-95 to the east, centuries old cypress trees adjacent to the right-of-way, and three Florida Gas Transmission pipelines in the right-of-way. He also identified the need to meet the Wild & Scenic River Act requirements.

f. Brian Ribaric then discussed the proposed bridge structure, that it would have four 12-foot lanes in each direction and that it would be a three-span bridge with the center span being 110 feet. This would allow for the removal of bridge piles from the river channel.

g. With the proposed span arrangement for the new bridge, the piles are not anticipated to be in the water during normal stages but may be in the water at flood stage.
h. Brian Ribaric also stated that new piles would line up with the piles of the existing I-95 structure and locate them farther away from the open water channel banks.
i. Jeff Duncan asked if the old bridge piles would be removed. FTE discussed that piles may not be able to be removed due to engineering/site condition concerns. Sometimes removal of piles causes significant site disturbance. If piles are not removed completely, they will be cut off 2-feet below the mudline.
j. Construction of the new bridge would close the gap between the Turnpike bridge and the I-95 bridges, and would widen to the west beginning immediately adjacent to the west side of the I-95 bridges, entirely within existing Turnpike right-of-way.

3. <u>Loxahatchee River Wild & Scenic River Designation</u>

a. Brian Ribaric then discussed the Loxahatchee River Wild and Scenic River designation and stated that the project was within the upper scenic segment of the river at approximately river mile 12.9.
b. Brian Ribaric stated that based on the river's 2010 Management Plan, within the existing right-of-way, the wild and scenic designations extend approximately 350 feet to the north and approximately 465 feet to the south of the river channel centerline. He also stated that based on these distances, there were approximately 1.11 acres of floodplain wetlands and 0.46 acres of upland buffer within the right-of-way.
c. Brian Ribaric then went through the Outstandingly Remarkable Values (ORV) used in the designation of the river as Wild and Scenic, based on the National Park Service's (NPS) 1984 Environmental Impact Statement. These criteria included: ecological, fish and wildlife and recreational. He also identified the ORVs identified in the Wild and Scenic River Act.

4. <u>Potential Project Impacts</u>

a. Brian Ribaric then went through each of the six ORVs identified in the Wild and Scenic River Act and discussed potential project related impacts and mitigating actions that the Turnpike will implement to minimize/minimize these impacts. These included:
    i. Scenic Values –
        1. Potential impacts included visual and auditory.
        2. To offset these impacts, the Turnpike will use a longer bridge main-span to eliminate piles in the river channel and reduce noise (fewer bridge joints); maintain the existing vertical clearance; and limit lighting as much as possible in the area of the bridge.
        3. Jeff Duncan asked if the Turnpike has considered additional actions, such as painting/staining the bridge to better blend into the surrounding environment and soften visual features. Also, Jeff Duncan asked if the Turnpike would consider additional aesthetic design features such as railings, piles/piers/parapet designs such as those done for the Wekiva River crossing. While the Loxahatchee River may not provide the same aesthetic opportunities as the Wekiva River, Brian Ribaric stated that the additional aesthetic features mentioned are things that could be considered during the design phase.
    ii. Recreational Values
        1. Potential impacts include visual and auditory.
        2. To offset these impacts, the Turnpike will maintain/enhance the paddling network in the area; use a longer bridge main-span to eliminate piles in the river channel (reduce obstacles in channel); and maintain the bridge vertical clearance.

3. NPS asked about paddle direction. The Turnpike responded west to east. NPS indicated that since the Turnpike bridge is first (upstream) seen, then aesthetics are very important. Lynn Kelly indicated that the river channel access is from River Bend Park (upstream) to Jonathan Dickinson State Park (downstream).

iii. Historical/Cultural Values
   1. There should be no impacts to Historical/Cultural Values as a result of the project.

iv. Free Flow Nature
   1. The project should enhance the free flow nature of the river due to the longer bridge main-span and removal of piles from the river channel.

v. Water Quality/Quantity Values
   1. Potential impacts include increased pollutant loads due to increased impervious surface. No impact to quantity is anticipated. In order to offset these impacts, Jeff Duncan wanted to verify that the new bridge would not direct discharge into the river. The Turnpike will not directly discharge stormwater off of the bridge into the river (i.e., no scuppers will be placed on the new bridge). The stormwater from the new bridge would be carried off the bridge in the bridge shoulders and conveyed to stormwater treatment facilities prior to its discharge into the river.
   2. Jennifer Back asked if the Turnpike has modeled the river's flood flows. Brian Ribaric stated that this is something that is done during the project's design phase. Mark Easley added that there are multiple restoration plans, such as the Loxahatchee River Watershed Restoration Project, that were being implemented by state and federal agencies with the purpose of restoring the river's historic flows. Fred Gaines also pointed out that the Loxahatchee River was an Outstanding Florida Water (OFW), and as a result, additional stormwater treatment would be required over and above normal regulatory requirements.

vi. Wildlife/Habitat Values
   1. Potential impacts include loss of habitat due to the conversion of wetlands/uplands to roadway.
   2. To offset these impacts, the Turnpike will keep construction activities within its existing right-of-way and enhance wildlife movement under the bridge by placing a wildlife path through the bridge rip-rap. The Turnpike is also open to assessing the addition of wildlife fencing to directing wildlife to the path. In addition, a site-specific clearing plan will be developed to minimize impacts to existing vegetation (i.e., removal and trimming).

5. <u>Next Steps</u>

a. Brian Ribaric then discussed the next steps the Turnpike would use to further avoid and minimize impacts to the Wild & Scenic River segment. This included further analysis of the project and development of avoidance/minimization options, and further coordination with the Florida Department of Environmental Protection, South Florida Water Management District, and the Loxahatchee River Management Coordinating Council.

b. Brian Ribaric then asked Jeff Duncan what the NPS would like to see from the Turnpike as the project moves forward.

c. Jeff Duncan asked Brian Ribaric when the segment of the project containing the Loxahatchee River would be going to US Army Corps of Engineers (USACE) permitting. Brian Ribaric responded that the project is not in the current five-year work plan and that it would likely be closer to ten years before the project goes to permitting. Jeff Duncan stated that the Section 7(a) document (Analysis and Determination) would be in response to the USACE permit

application. At this point in the PD&E Study, the project meeting notes and a copy of the presentation for the file would be adequate.

d. Jeff Duncan also stated that NPS appreciated the details on the proposed mitigation measures – removal of piles from the channel, wildlife path, and limited lighting. There would need to be more discussions about bridge aesthetics during the project design phase.
e. NPS indicated that no actionable phase yet, but presentation and meeting minutes will start historical file of record for the project. FTE discussed that coordinating during the PD&E Study to allow for a complete environmental document and for a smooth transition for required aspects into design.
f. Mark Easley stated that the Turnpike's primary concern is avoiding fatal flaws that may exist with the proposed bridge replacement. Jeff Duncan stated that he did not see any fatal flaws with the project as proposed, but there would be details that will need to be worked out during the permitting of the project. He also stated that the NPS mandate is to protect and enhance the river and that there can be no direct impacts as there is no way to mitigate direct impacts. Since there is a span there already, the Turnpike will only need to show improvements.

6. <u>Project Schedule</u>

a. Brian then reviewed the project's Project Development & Environment (PD&E) schedule. At present, the Turnpike anticipates the project's PD&E phase to be complete by summer 2021.

Brian Ribaric provided Jeff Duncan with his contact information in case he had any additional comments or wished to discuss the project and proposed bridge crossing.

The meeting ended at approximately 1:50 pm.

END MEETING NOTES

Florida Department of TRANSPORTATION

National Park Service Coordination Meeting

Project Development and Environment (PD&E) Study
to Widen Florida's Turnpike (SR 91) from Jupiter (Indiantown Road)
to Okeechobee Road (SR 70)
Palm Beach, Martin, and St. Lucie Counties, FL

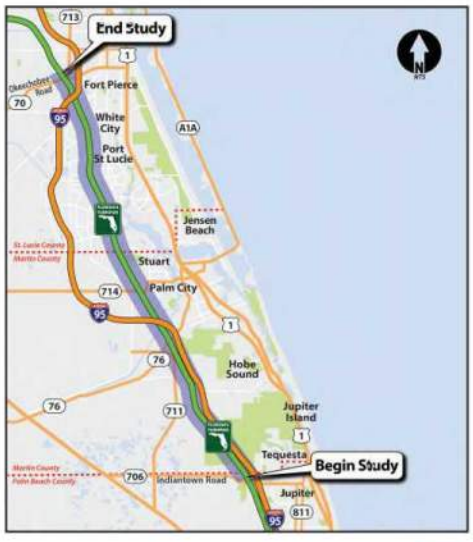
Financial Project ID #: 423374-1-22-01
ETDM #: 14295

September 25, 2020

1

PD&E Study Improvements

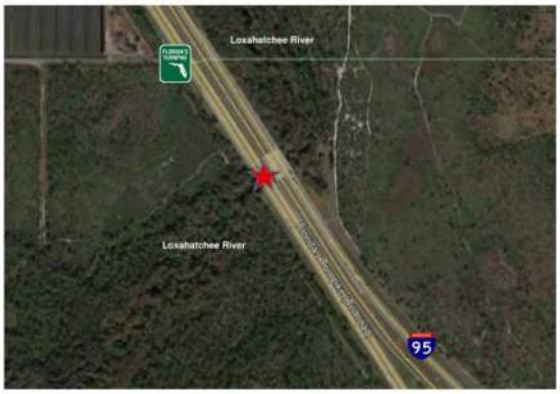
- **Purpose**
  - Add capacity & interchange access to the Florida's Turnpike (SR 91)
- **Proposed Improvements**
  - Widen SR 91 by adding lanes in each direction
  - Widen/reconstruct bridges over Loxahatchee River & St. Lucie Canal
  - Reconfigure 4 existing interchanges & construct 2 new interchanges



2

Existing Conditions at Loxahatchee River

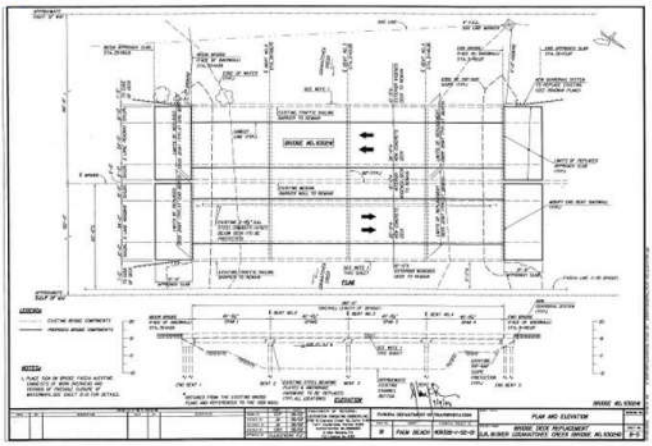
- **Florida's Turnpike**
  - Bridge in Scenic Segment of River
  - Existing vegetation
    - River Channel
    - Cypress dominated river swamp
      - Additional species – maple, water hickory, water oak, red bay, cabbage palm
    - Drainage ditches
    - Slash Pine dominated pine flatwoods
      - Additional species – saw palmetto, wax myrtle, Lyonia
  - Potential protected species
    - American alligator, snail kite, wood stork, indigo snake, gopher tortoise, SE American kestrel, wading birds



3

Existing Conditions at Loxahatchee River

- **Existing Bridge Structure**
  - Bridge constructed in 1956 (deck reconstructed 1991)
  - Bridge type is AASHTO Type II
    - Travel lanes – two 12-foot in each direction
    - Outside shoulders – 10 feet
    - Inside shoulders – 10 feet northbound, 8 feet southbound
    - Length - 180.4 feet
    - Width - 91 feet
    - Number of spans - four
    - Span length – 45.1 feet
    - Low member elevation – approx. 15.0 NAVD
    - Vertical clearance under bridge – approx. 9 feet



4

Existing Conditions at Loxahatchee River

• Design Constraints

- Limited right-of-way
- Florida Gas Transmission Pipeline (3 Lines)
- I-95 (current and ultimate)
- Wild & Scenic River Requirements
- Centuries Old Cypress Tree



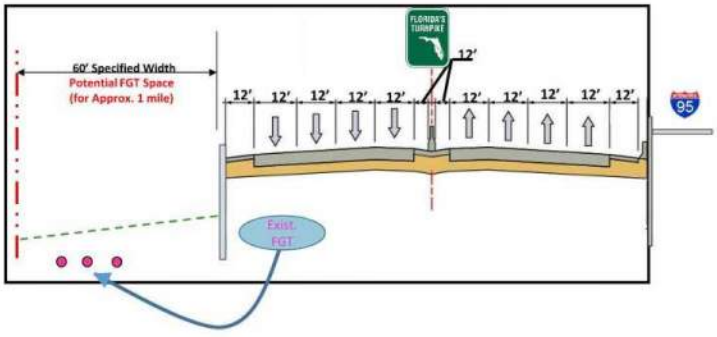


5

Proposed Loxahatchee River Bridge

• Proposed Typical Section

- Widening to west
  - I-95 on east
  - FGT pipeline on west
- Staying within existing right-of-way
- FGT 75' standard specified width reduced to 60'

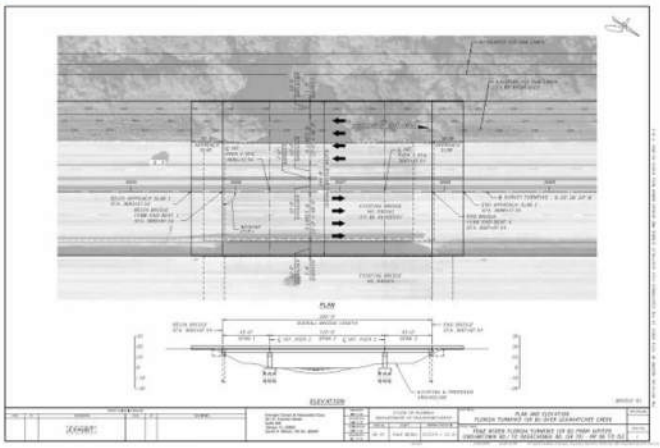


6

Proposed Loxahatchee River Bridge

• Proposed Bridge Structure

- Bridge type FIB 45
  - Travel lanes – four 12-foot lanes in each direction
  - Outside shoulders – 12 feet
  - Inside shoulders – 12 feet
  - Length - 200 feet
  - Width - 149 feet
  - Number of spans - three
  - Span length – 45 feet / 110 feet / 45 feet (Similar to I-95 bridge spans)
  - Low member elevation – match existing approx. 15' (NAVD)
  - Vertical clearance under bridge – approx. 9 feet



7

Loxahatchee River Wild & Scenic River Designation

• Wild & Scenic River Segment

- 2010 Management Plan
  - River mile 5.2 to river mile 15.5
  - 10.3 miles total
  - Differs from 1984 EIS which lists 7.5 miles
- Segment Designations (approximately)
  - Scenic - 5.2 to 10.5
  - Wild – 10.5 to 12.5
  - Scenic – 12.5 to 14.5
  - Recreational – 14.5 to 15.5
- Turnpike in Scenic segment of river (River Mile 12.9)

The Loxahatchee River Wild and Scenic Designation and Preservation Act delineates the boundaries of the designated portion of the Northwest Fork:

...described as that portion of the Northwest Fork downstream of the southern boundary of Riverbend Park [RM 15.5] *located in Palm Beach County and upstream of an east-west line passing through a point where the southern boundary of Jonathan Dickinson State Park intersects the eastern shoreline of the river* [RM 5.2].

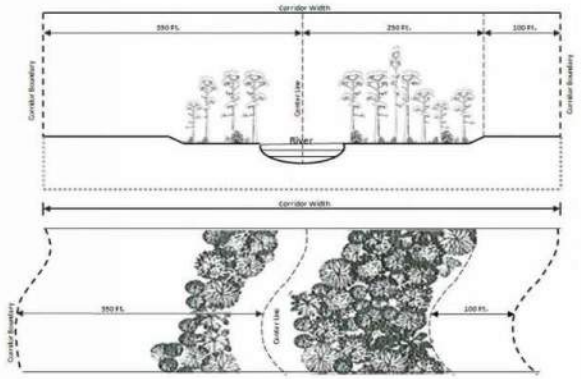


8

Loxahatchee River Wild & Scenic River Designation

• Boundaries Within Project Area

- Limits from river centerline (2010 Management Plan)
  - The greater of:
    - Upland extent of floodplain wetlands + 100-foot buffer
    - 350 feet measured from center of main river channel
- Turnpike right-of-way (approximate)
  - North side
    - Floodplain wetlands 215' + upland buffer 135' = 350'
  - South side
    - Floodplain wetlands 365' + upland buffer 100' = 465'
- Area within right-of-way (approximate)
  - North side
    - Floodplain wetlands 0.44 acres; flatwoods 0.28 acres
  - South side
    - Floodplain wetlands 0.67 acres; flatwoods 0.18 acres



9

Loxahatchee River Wild & Scenic River Designation

• Outstandingly Remarkable Values (ORVs) (based on 1984 NPS EIS for Listing)

- Ecological
  - Best remaining example of SE Florida river swamp
  - Diverse plant community – tropical & temperate
  - Subtropical river-swamp system – unique to W&S river system
  - 300 to 500-year old cypress
- Fish and Wildlife
  - 267 species – 169 genera, 78 families
  - Temperate, tropical & pelagic gulf species*
  - Federal species – eagle, snail kite, indigo snake, manatee, red-cockaded woodpecker, alligator
- Recreational
  - Narrow meandering channel – challenging & interesting recreational experience
  - Diverse vegetation & habitats



*** The 1984 EIS identified "pelagic gulf species" should have identified "pelagic south Atlantic species"**

10

Loxahatchee River Wild & Scenic River Designation

- **Outstandingly Remarkable Values (ORVs) (based on Criteria)**
  - Scenic
  - Recreational
  - Historical / Cultural
  - Free Flow Nature
  - Water Quality / Quantity
  - Wildlife / Habitat



11

Potential Project Impacts

- **Scenic Values**
  - Potential Impacts
    - Visual
    - Auditory
  - Potential Mitigating Actions
    - Use of longer bridge main span
    - Removal of piles from river channel
    - Maintain vertical clearance
    - Limit lighting as feasible



12

Potential Project Impacts

• Recreational Values

- Potential Impacts
  - Visual
  - Auditory
- Potential Mitigating Actions
  - Maintain/enhance paddle network in area
  - Use of longer bridge main span
  - Removal of piles from river channel
  - Maintain vertical clearance



13

Potential Project Impacts

• Historical / Cultural Values

- Potential Impacts
  - Impacts not anticipated
- Potential Mitigating Actions
  - None proposed



14

Potential Project Impacts

• Free Flow Nature

- Potential Impacts
  - Enhanced
- Potential Mitigating Actions
  - Use of longer bridge main span
  - Removal of piles from river channel
  - Maintain vertical clearance



15

Potential Project Impacts

• Water Quality / Quantity Values

- Potential Impacts
  - Quality - Increased pollutant loading
  - Quantity – None anticipated
- Potential Mitigating Actions
  - No direct discharge of stormwater into river
  - Treatment of new impervious surfaces to OFW standards
  - Removal of piles from river channel (enhance flow)



16

Potential Project Impacts

• Wildlife / Habitat Values

- Potential Impacts
  - Loss of habitat
- Potential Mitigating Actions
  - Staying within existing right-of-way
  - Enhance wildlife movement under bridge / placement of wildlife path only through rip-rap
  - Wildlife fencing as appropriate
  - Site-specific clearing plan to minimize impacts
  - Minimize lighting as feasible



17

Next Steps

• Next Steps

- Analyze project information
- Identify project impacts
- Continued coordination
  - NPS
  - FDEP/SFWMD
  - LRMCC
- Develop avoidance/minimization options
- Identify mitigative actions
- Document findings (Analysis and Determination)



18

Project Schedule



19

Contact Information

Brian Ribaric, P.E.
Project Manager for Florida's Turnpike Enterprise (Atkins)
(407) 264-3095
Brian.Ribaric@dot.state.fl.us

20

Questions?

21

Florida Fish and Wildlife Conservation Commission Technical Assistance Meeting Notes

October 16, 2020

ATKINS

Florida's Turnpike Headquarters
P.O. Box 613069
Florida's Turnpike Milepost 263, Building 5315
Ocoee, Florida 34761-3069
Telephone: +1.407.532.3999

FDOT, Florida's Turnpike Enterprise/Florida Fish and Wildlife Conservation Commission Technical Assistance Meeting Notes

FPID 423374-1-22-01 (Turnpike)
Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, and St. Lucie Counties

Date: Friday, October 16, 2020
Time: 11:00 am – 12:00 pm
Venue: Microsoft TEAMS meeting
Facilitator: Brian Ribaric BBR

Note: The italicized text below in the meeting agenda are the notes for topics that were discussed during the meeting.

1. **Introductions**
   - **FWC Staff – Brian Barnett**
   - **FTE Environmental Administrator – Philip Stein**
   - **FTE Permits Coordinator - Annemarie Hammond**
   - **FTE Project Manager – Brian Ribaric, PE (Atkins)**
   - **FTE Permits Coordinator – Fred Gaines, PWS (Atkins)**
   - **Lochner Project Manager – William Howell, PE**
   - **KCA Project Manager/Chief Environmental Scientist – Robert Whitman**
   - **KCA Senior Environmental Scientist – Ashley Abdel-Hadi**

2. **Project Overview (map provided)**
   - Current Alignment
     - Approx. 37-mile segment of proposed widening of existing 4-lane facility to 8-lanes primarily within existing right of way with 4 existing and 2 proposed interchanges

   - ETDM No. 14295 published on May 19, 2017
     - FWC concerns included potential impacts to the following state listed species:
       - Florida sandhill crane (*Antigone canadensis pratensis*)
       - Florida burrowing owl (*Athene cunicularia floridana*)
       - Wading birds
         - Little blue heron (*Egretta caerulea*)
         - Tricolored heron (*Egretta tricolor*)
         - Roseate spoonbill (*Platalea ajaja*)
       - Southeastern American kestrel (*Falco sparverius paulus*)
       - Gopher tortoise (*Gopherus polyphemus*)
       - Florida pine snake (*Pituophis melanoleucus mugitus*)
       - Southern fox squirrel (*Sciurus niger niger*) – FWC species guidelines relative to fox squirrel nests
       - Least tern (*Sternula antillarum*)
       - State protected plants – coordination as required with FDACS

   - 428.21 acres of wetland impacts anticipated with the preferred alternative (preliminary impacts - 62.67 acres of wetlands and 365.54 acres of surface waters)

Florida's Turnpike Enterprise (FTE) provided an overview of the project and interchanges. A background and current status of the project was provided, which included the project location and primary land uses within the proposed project area. FTE noted that the project proposes widening from the existing 4 lane typical section to an ultimate 8 lane section, and includes improvements to existing interchanges, as well as evaluation of ~~three~~ two new interchanges. FTE indicated that the widening is proposed principally to the west, with a few exceptions (e.g. Loxahatchee River crossing), due to the location of the FGT gas lines. FTE indicated that the project construction was currently unfunded, and discussed potential interim 6-lane segment needs, in comparison with the ultimate 8-lane facility. FTE noted that FWC reviewed and provided comment on the project's ETDM Programming Screen, published in 2017.

FTE proceeded with a review of the project aerial photographic exhibits and discussed the riverine/canal systems that the project will be crossing, including Loxahatchee River (OFW, Wild and Scenic River), Cypress Creek, tributaries to the South Fork of the St. Lucie River, Roebuck Creek, St. Lucie Canal (C-44), Mapps Creek, Danforth Creek, Bessy Creek, County Line Canal (C-23) Canal, Winters Creek, Blakeslee Creek, Rim Ditch (C-24), Ten Mile Creek, and other unnamed tributaries. FTE indicated that preliminary wetland impact acreage includes areas within the existing ROW and proposed ROW of the preferred interchange alternatives. FTE then initiated a discussion of state-protected species.

3. Florida Sandhill Crane

FTE noted a Florida sandhill crane nest was documented during field reviews in the SW Martin Highway Interchange within 400 feet of the project area. FTE stated that surveys for the species would be conducted during design, disturbance would be avoided to all extent practicable, active nests would be avoided during construction (400-foot buffer), and an Incidental Take Permit would be submitted to FWC with suitable mitigation provided for unavoidable impacts.

FTE indicated that they would avoid the need to obtain an Incidental Take Permit for Florida sandhill cranes by avoiding active nests and proposed an effect determination of "no adverse effect anticipated" and FWC agreed. FWC noted that nest locations will likely change prior to construction and FTE stated that that surveys would be conducted during design and prior to construction.

4. Florida Burrowing Owl

FTE discussed the lack of Florida burrowing owl habitat and lack of documentation within the area. If additional surveys identify a burrowing owl burrow, it would be avoided to the greatest extent practicable and FTE would submit a Nest Removal Permit (Incidental Take Permit) for any nest.

FTE indicated that they would avoid the need for an Incidental Take Permit and proposed an effect determination of "no adverse effect anticipated" for the Florida burrowing owl and FWC agreed. FWC agreed that project area does not contain quality burrowing owl habitat and the species is more likely to be encountered further south along the project and noted that some burrowing owl habitat is located further east in St. Lucie County.

5. Wading Birds (Little Blue Heron, Tricolored Heron, and Roseate Spoonbill)

FTE explained that a non-listed wading bird rookery (varying historically in use by anhingas, night herons, cattle egrets, and great egrets) at the Okeechobee Road (SR 70) interchange that has been utilized annually for over 18 years. FTE discussed avoidance and minimization measures, including construction phasing during non-nesting season and no nighttime construction, if construction must occur during nesting season.

FTE requested FWC input regarding involvement of the non-listed colonial wading bird species that are utilizing the rookery. FWC noted that these birds are tolerant to disturbance and that a program could be developed that would minimize disturbance to these species, allow FTE to accommodate nesting, including seasonal adjustment to the construction schedule and restricting nighttime construction. FTE inquired if a permit would be necessary for construction activities around the rookery. FWC indicated that they do not think a permit would be required as the plan developed to minimize disturbance would be sufficient to avoid take, and the rookery is used by birds that are tolerant to disturbance. FWC noted that if take is avoided, FTE would not need a permit. FWC stated that the plan to minimize disturbance would be reviewed by their wading bird experts, who would also consult on the need for a permit.

FTE proposed an effect determination of "no adverse effect anticipated" at this time for the little blue heron, tricolored heron, and roseate spoonbill, and the FWC agreed.

6. Southeastern American Kestrel

FTE explained that they have not found documentation of kestrels within the project area; however, potential for utilization of the project area will be continually assessed in man-made (i.e., wooden utility poles) and natural structures.

FTE discussed the latest kestrel guidelines, which mention minor projects/existing facility impacts on kestrels, including potential for the need to coordinate with FWC for milling and resurfacing projects. FTE requested FWC input regarding kestrels in the project area and widening in existing ROW inquiring if, based on current guidance, FTE will be required to conduct surveys throughout the length of the corridor. FWC asked if FTE has contacted Jonathan Dickinson State Park to see if they have record of kestrel use of the park. FTE stated they would follow-up with the park. FWC indicated that the project area does not contain much suitable kestrel habitat; however, if surveys are conducted, they can be restricted to areas with good kestrel habitat and disregard cleared farmland with cleared ROW adjacent to it and the species will not likely be in suburban areas.

FTE stated they will put together a plan during design with areas proposed for survey for FWC review and agreement. FWC agreed with this approach and noted that by the time the project goes into construction, the project corridor may likely be more developed.

FTE proposed a determination of "no adverse effect anticipated" at this time for the Southeastern American kestrel and FWC agreed, recommending FTE contact Jonathan Dickinson State Park for documented occurrences.

7. Gopher Tortoise

FTE noted that gopher tortoise burrows had been documented within the project area and that current guidelines will be followed. A permit application will be submitted for burrows that cannot be avoided and tortoises relocated. FTE proposed an effect determination of "no adverse effect anticipated" for the gopher tortoise due to permitting process and mitigation, and FWC agreed.

8. Florida Pine Snake

FTE stated that there have been no known documented occurrences of pine snakes within 1 mile of the project area; however, gopher tortoise burrows are present. Surveys are not proposed for the pine snake and the species will be addressed as a commensal species with gopher tortoise permitting during design. FTE proposed an effect determination of "no adverse effect anticipated" for the Florida pine snake and FWC agreed.

9. Least Tern

FTE indicated that least terns have been documented nesting along the project area on flat roofed buildings, with the closest nesting location approximately 300 feet from the project.

FTE inquired on FWC's current approach regarding proximity to nesting and what qualifies as disturbance. FWC stated that rooftop colonies are accustomed to disturbance and buffer distances, other than required for the use of explosives, do not apply. FWC indicated that if 300 feet is the closest nesting activity, then they should not be of concern. FTE indicated that blasting was not currently being considered for project construction.

FTE inquired if additional surveys were warranted. FWC stated that they keep track of rooftop nesting terns internally and at this time surveys would not be required. Surveys would be warranted if work occurred adjacent to the project area (i.e., sand mine) that created nesting habitat, but currently there is no existing habitat other than rooftops. If nesting occurs within closer proximity to the project area, this would not be detrimental to the project if avoidance and minimization measures were implemented. FTE proposed an effect determination of "no adverse effect anticipated" for the least tern and FWC agreed.

10. State Protected Plants – Florida Department of Agriculture and Consumer Services (FDACS)

- Golden Leather Fern (*Acrostichum aureum*), Meadow Jointvetch (*Aeschynomene pratensis* var *pratensis*), Many-flowered Grass-pink (*Calopogon multiflorus*), Piedmont Joint Grass (*Coelorachis tuberculosa*), Cutthroat Grass (*Coleataenia abscissa*), Florida Tree Fern (*Ctenitis sloanei*), Cuplet Fern (*Dennstaedtia bipinnata*), Night-scented Orchid (*Epidendrum nocturnum*), Redberry Eugenia (*Eugenia confusa*), Coastal Vervain (*Glandularia maritima*), Spreading Pinweed (*Lechea divaricata*), Celestial Lily (*Nemastylis floridana*), Giant Sword Fern (*Nephrolepis biserrata*), Hand Fern (*Ophioglossum palmatum*), Scrub Bluestem (*Schizachyrium niveum*), Ray Fern (*Schizaea pennula*), Southern Ladies'-tresses (*Spiranthes torta*), Toothed Maiden Fern (*Thelypteris serrata*), Banded Wild-pine (*Tillandsia flexuosa*), Scentless Vanilla (*Vanilla mexicana*), and Redmargin Zephyrlily (*Zephyranthes simpsonii*) and others

FTE noted that they are cognizant of the potential for state protected plant species to occur along the project corridor and will coordinate with FDACS as required. FWC agreed that FTE should coordinate with the FDACS regarding state protected plants.

11. Federal Species

- USFWS/NMFS Technical Assistance Meeting with John Wrublik (USFWS) and Jennifer Schull (NMFS) scheduled for Monday 10/26/2020
- Species being addressed with coordination with USFWS include:
  - American alligator (*Alligator mississippiensis*)
  - Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
  - Florida scrub-jay (*Aphelocoma coerulescens*)
  - Audubon's crested caracara (*Caracara cheriway*)
  - Eastern indigo snake (*Drymarchon couperi*)

- Florida bonneted bat (*Eumops floridanus*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Red-cockaded woodpecker (*Leuconotopicus borealis*)
- Wood stork (*Mycteria americana*)
- Everglade snail kite (*Rostrhamus sociabilis plumbeus*)
- West Indian manatee (*Trichechus manatus*)
- Federal listed plants
- NMFS Protected Species: Smalltooth sawfish (*Pristis pectinata*)

FTE provided an overview of the species to be discussed with USFWS and NMFS during a future Technical Assistance Meeting. FWC noted that FDEP will be assuming Section 404 review from the USACE and that the USFWS and FWC are currently working on agreements for review of project effects on federal protected species from Section 404 permit assumption. FWC indicated that they will eventually take over the role of commenting on effects to federal protected species resulting from Section 404 permit assumption. FWC anticipates that USFWS will continue to be involved on any FDEP assumed projects that result in a "jeopardy" determination.

FWC inquired about potential crested caracara involvement. FTE stated that a single caracara was documented within 1 mile of the proposed project; however, this documentation is from 1995. FWC stated that there was red-cockaded woodpecker habitat at Port St. Lucie that has since been cleared. FTE inquired if FWC would want to attend the USFWS/NMFS Technical Assistance Meeting or receive meeting minutes. FWC explained that they would wait until they are aware of their responsibilities after the Section 404 assumption was completed.

12. Wildlife Habitat Connectivity

FTE noted coordination efforts with the NPS regarding the Loxahatchee River crossing. The Loxahatchee River crossing has natural habitat on both sides and meets FDOT criteria for potential consideration of wildlife crossings and habitat connections. FTE indicated that they are considering adding a dry wildlife path underneath the bridge but noted that potential future constriction resulting from improvements to I-95 were unknown at this time. FTE inquired if there are other crossings FWC would want them to consider for wildlife habitat connectivity. FWC agreed the Loxahatchee River crossing is a good location and inquired if FTE was leaving the existing structure. FTE discussed that the current plan was to replace the existing FTE bridge with a similar design and pile arrangement to the abutting the I-95 bridge. The mainline widening at the Loxahatchee crossing would be to the west, noting that I-95 and FTE share ROW. FWC indicated they were concerned with habitat loss. FTE noted that they are intending to span the Loxahatchee River channel (from approx. OHWL to OHWL) and will be removing pilings from the middle of Loxahatchee River channel. This will keep the river channel open and the dry shelf will enable wildlife passage under the bridge.

FWC noted their concern with the potential need to take public conservations lands, which would need to be replaced. FTE indicated that they will be staying within the mainline ROW, especially in sensitive areas, and avoiding, to the maximum extent practicable, the taking of public conservation lands.

FWC inquired about the Cypress Creek bridge. FTE indicated that bridge is mostly over wetland, with minimal clearance for wildlife during dry season. FWC inquired if this was the same at the I-95 bridge. FWC recommended considering this area due to habitat on both sides and to see if clearance is sufficient for potential for wildlife crossing. FTE noted that they would review the potential for connectivity at the Cypress Creek bridge location to benefit to wildlife, noting the location of the adjacent I-95 bridge.

13. Roundtable/Questions/Comments

Florida Department of TRANSPORTATION

Florida Fish & Wildlife Conservation Commission Technical Assistance

Project Development and Environment (PD&E) Study

for Florida's Turnpike from Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70)

Palm Beach, Martin and St. Lucie Counties, FL

Financial Project ID #: 423374-1-22-01
October 16, 2020

1

Agenda

- Project Process & Overview
- Project Challenges
- Widening & Interchange Concepts
- Future Phases & Schedule



2

Project Process



3

PD&E Study

- Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70)
  - 2045 Traffic Demand
  - Improve Access
  - Enhance Safety & Evacuation

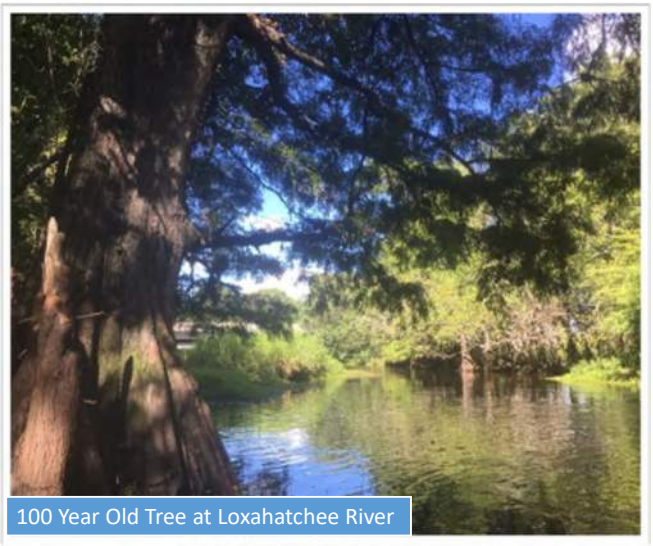
Project Facts
36 Miles
3 Counties
1 Service Plaza



4

Project Challenges

- Florida Gas Transmission (FGT) within Right of Way
  - Primarily on East side
  - Three gas lines
- I-95 (FDOT District 4)
  - Master Plan
  - Shared Right of Way
- Loxahatchee River
  - Wild and Scenic
- Thomas B. Manuel Bridge
  - St. Lucie Canal

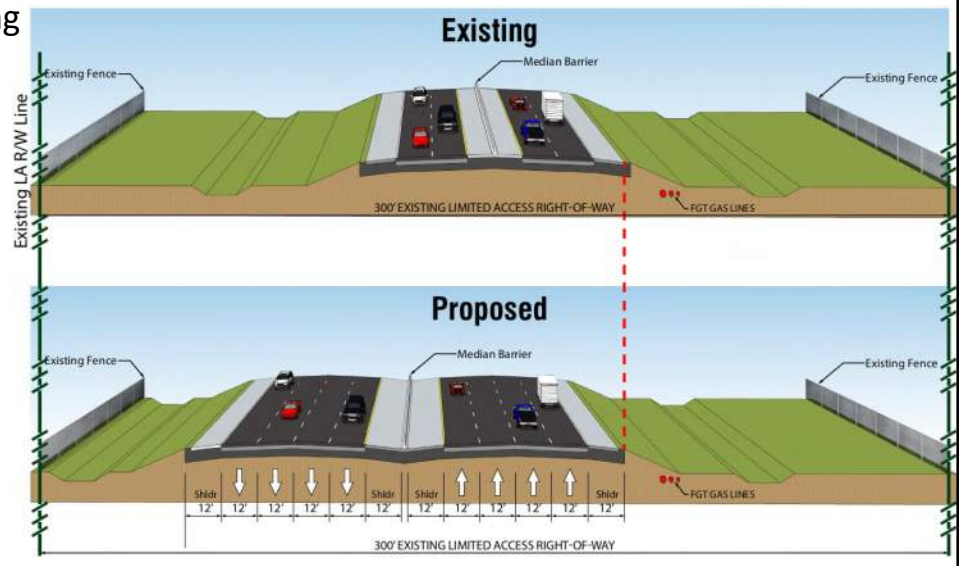


100 Year Old Tree at Loxahatchee River

5

Proposed Improvements

- Mainline Widening
  - 4 to 8 Lanes
  - FGT Constraints
  - Widen to West
- Interchanges
  - Modify Existing
  - New Interchanges



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Interchanges

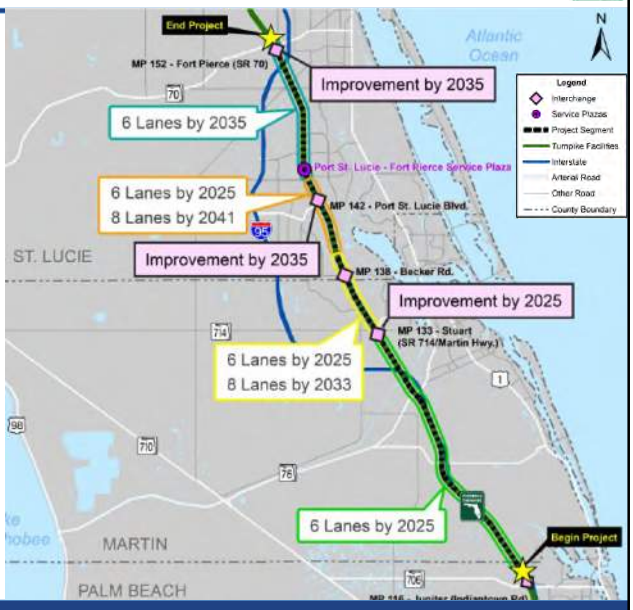
- Existing Interchange Modifications
  - SR 714 / SW Martin Hwy (Exit 133)
  - Becker Road (Exit 138)
  - Port St. Lucie Blvd. (Exit 142)
  - SR 70 / Okeechobee Road (Exit 152)
- Potential Interchange Locations
  - I-95 Direct Connection
    - To be evaluated under a separate study (FPID 446975-1)
  - Crosstown Pkwy (MP 145)
  - Midway Road (MP 150)



7

Future Phases

- No Future Phases Programmed
- Unfunded Needs Ranking*
  - #15 – Widening Mainline from Indiantown Rd to SR 70 (through 2030)
  - #25 - Interchange SR 714 (through 2030)



* Source: 2019 Traffic Trends

8

Questions?

U.S. Coast Guard Technical Assistance Meeting Notes

October 19, 2020

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FDOT, Florida's Turnpike Enterprise/U.S. Coast Guard Technical Assistance Meeting Notes

FPID 423374-1-22-01 (Turnpike)
Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, and St. Lucie Counties

Date: Monday, October 19, 2020
Time: 11:00 am
Venue: Microsoft TEAMS meeting
Facilitator: Brian Ribaric BPR

Note: The italicized text below in the meeting agenda are the notes for the topics that were discussed during the meeting.

1. **Introductions**
   - **USCG, Director, District Bridge Program – Randall Overton, MPA**
   - **USCG Bridge Management Specialist – Lisia Kowalczyk**
   - **FTE Environmental Administrator – Philip Stein**
   - **FTE Environmental Permits Coordinator - Annemarie Hammond**
   - **FTE Project Manager – Brian Ribaric, PE (Atkins)**
   - **FTE Permits Coordinator – Fred Gaines, PWS (Atkins)**
   - **FTE Environmental Management Office – Douglas Zang, AICP (Atkins)**
   - **Lochner Project Manager – William Howell, PE**
   - **KCA Project Manager/Chief Environmental Scientist – Robert Whitman**

2. **Project Overview (Refer to USCG Technical Assistance Meeting Attachments)**
   - Current Alignment
     - Approx. 37-mile segment of proposed widening of existing 4-lane facility to 8-lanes within existing right of way with four existing and two proposed interchanges being studied.

   - ETDM No. 14295 published on May 19, 2017
     - U.S. Coast Guard concerns included potential impacts to the St. Lucie Canal (C-44 Canal):
       - Existing U.S. Coast Guard Permit No. 9-01-7
       - Congressional Authorized Federal Navigation Project channel
       - Navigable Waters of the United States

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Name	Latitude	Longitude	Section	Township	Range
Loxahatchee River	26.9542020	-80.1655250	32	40S	42E
Unnamed Tributary to Cypress Creek	26.9666090	-80.1746990	30	40S	42E
Cypress Creek	26.9720150	-80.1784300	19	40S	42E
Unnamed Tributary to South Fork St. Lucie River #1	27.0773870	-80.2492590	16	39S	41E
Unnamed Tributary to South Fork St. Lucie River #2	27.0833930	-80.2519350	16	39S	41E
Roebuck Creek	27.1155760	-80.2733490	43	38S	41E
St. Lucie Canal (C-44; Permit No. 9-01-7)	27.1176300	-80.2748670	Not Available		
Unnamed Tributary to Mapps Creek	27.128227	-80.2822730	Not Available		
Mapps Creek	27.1345670	-80.2865330	Not Available		
Danforth Creek	27.1550590	-80.3005280	24	38S	40E
Unnamed Tributary to Bessy Creek	27.1741970	-80.3133330	14	38S	40E
Bessy Creek	27.1842820	-80.3202270	10	38S	40E
County Line Canal (C-23)	27.2054550	-80.3317800	3	38S	40E
Winters Creek	27.2269820	-80.3416500	28	37S	40E
Blakeslee Creek	27.2340600	-80.3434900	28	37S	40E
Rim Ditch (C-24)	27.2624260	-80.3523430	17	37S	40E
Tenmile Creek	27.4026050	-80.3979050	25	35S	39E

Florida's Turnpike Enterprise (FTE) provided an overview of the project and interchanges. A background and current status of the project was provided, which included the project location, and major waterway crossings including the Thomas B. Manuel Bridge across the St. Lucie Canal (C-44) and the Turnpike crossing of the Loxahatchee River, a National Wild and Scenic River (Turnpike crossing is a Scenic Segment). FTE acknowledged the existing USCG Bridge Permit (No. 9-01-7) for the Thomas B. Manuel Bridge crossing. FTE noted that the project proposes widening from the existing 4 lane typical section to an ultimate 8 lane section, and includes improvements to existing interchanges, as well as evaluation of two new interchanges. FTE indicated that the widening is proposed principally to the west, with a few exceptions, due to the location of the FGT gas lines. FTE indicated that the project construction was currently unfunded, and discussed potential interim 6-lane segment needs, in comparison with the ultimate 8-lane facility. FTE noted that USCG reviewed and provided comment on the project's ETDM Programming Screen, published in 2017.

USCG inquired if federal funds would be involved in order to determine the lead federal agency. FTE indicated that FTE operates on state funds and federal funds would likely not be involved with this project. USCG inquired if the US Army Corps of Engineers (USACE) had been contacted, and FTE acknowledged that a pre-application meeting had been held with the USACE and the South Florida Water Management District (SFWMD). FTE also informed the USCG of the upcoming technical assistance meeting with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). FTE assumes that the USACE will be the lead federal agency for the permitting of this project if it moves forward into design.

FTE indicated the project environmental document was being prepared as a State Environmental Impact Report (SEIR), which is consistent with the National Environmental Policy Act (NEPA). The differences between a SEIR and federal NEPA documents were discussed and focused on

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Section 4(f) properties as the major difference. USCG indicated that they are not bound by Section 4(f) properties in their review of bridge permit applications and instructed FTE to follow the guidance provided in the USCG Bridge Permit Application Guide (BPAG) for their requirements. If FTE sends an email to USCG, they will forward a link to the USCG BPAG.

FTE indicated that the project is anticipated to be a Type 2 Categorical Exclusion (CE) if a federal document was being produced. FTE will send the supporting environmental documentation along with the SEIR when USCG Bridge Permit applications are submitted. USCG indicated that they only require the conclusion documentation resulting from technical assistance with cooperating federal agencies, such as concurrence with species effects determinations from USFWS and NMFS. FTE agreed with this approach.

FTE proceeded with a review of the project's waterway bridge crossings including the Loxahatchee River (OFW, Wild and Scenic River), Cypress Creek, tributaries to the South Fork of the St. Lucie River, Roebuck Creek, St. Lucie Canal (C-44), Mapps Creek, Danforth Creek, Bessy Creek, County Line Canal (C-23) Canal, Winters Creek, Blakeslee Creek, Rim Ditch (C-24), Tenmile Creek, and other unnamed tributaries. FTE continued with a discussion of the larger waterways aided by the aerial photographic exhibits. These crossings included the St. Lucie Canal (C-44 Canal), the Rim Ditch (C-24 Canal), Tenmile Creek, and the Loxahatchee River. FTE noted that the presence of a vertical weir in the County Line Canal (C-23 Canal) effectively excluded any marine navigation into the project area along this waterway.

3. St. Lucie Canal (C-44 Canal) – Thomas B. Manuel Bridge

- For new southbound replacement structure, maintain existing navigational horizontal and vertical clearances of newer northbound structure proposed for widening
- Modification of Existing USCG Permit No. 9-01-7 for new bridge construction activities
- Neighborhood southwest of bridge; noise will be a concern if bridge is widened closer to the neighborhood and should be evaluated
- NEPA documentation and approvals

The proposed improvements to the Thomas B. Manuel Bridge crossing of the St. Lucie Canal were discussed and aided by bridge concept drawings. The USCG indicated that a Permit Amendment to the existing USCG Bridge Permit (No. 9-01-7) would be required for the St. Lucie Canal (C-44 Canal) crossing.

USCG also indicated that the St. Lucie Canal is a federal channel administered by the USACE, and a Section 408 authorization from the USACE in Jacksonville would be required for this crossing. FTE acknowledged their understanding that Section 408 approval would be needed. Since this section of the St. Lucie Canal is not operated by SFWMD, USCG recommended that FTE contact the Section 408 reviewers directly to coordinate the proposed project during design. USCG indicated that they would only need the Section 408 approval letter for their permit file.

USCG indicated that the proposed design should not include additional encroachment into the existing navigational envelope and maintenance of the existing horizontal and vertical navigational clearances at the crossing at a minimum would address permit related criteria.

The existing bridge fender system was discussed. USCG indicated that if the existing fender system were evaluated and proposed for modification or removal, discussions about the fender system would be best held before the permit application was submitted.

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FTE indicated the neighborhood adjacent to the bridge had raised concerns about additional noise and light due to additional traffic resulting from the widening. FTE indicated that studies to address these items would be performed to support the design of the bridge widening project. USCG agreed to the approach.

USCG discussed that their public notification process for projects that they are not the lead federal agency addresses navigation aspects only and is separate from the USACOE Section 404 permit process. The USCG process involves mailing a 1-page notice of availability of a Public Notice (PN) to nearby residents and marine interests with waterfront access within ½ mile of the bridge. Public navigation related comments received during the comment period (usually 30 days) are forwarded to the applicant for response through the USCG, all other comments are forwarded to the applicant for response directly to the commenter. USCG indicated that if the project moves into design, a bridge permit amendment would be issued by the USCG Miami District offices instead of a new bridge permit.

4. Rim Ditch (C-24 Canal)

- Discussion on potential USCG permitting requirements

The proposed improvements to the Turnpike crossing of the C-24 Canal (Rim Ditch) were discussed. The USCG indicated that a Bridge Permit would be required for the C-24 Canal crossing, and that this waterway would not qualify for an Advance Approval as the vessels appear to exceed the size for USCG advanced approval. FTE identified a water control structure located approx. 0.44 miles upstream that limited navigation. USCG recommended that FTE reach out to the residents west of the Turnpike bridge to discuss the proposed project prior to submitting an application. USCG indicated that no formal vessel survey would be required to document waterway usage, just a generalized characterization of the types of vessel using the C-24 Canal, both east and west of the Turnpike crossing. USCG requested that any downstream structures be identified as to their impact on navigation and specified the bridge at SE Oaklyn Street. FTE stated that coordination with the SFWMD resulted in identifying the requirement for a SFWMD ROW Occupancy Permit for crossing the C-24 Canal.

5. Tenmile Creek

- Discussion on potential USCG permitting requirements

The proposed improvements to the Turnpike crossing over Tenmile Creek were discussed. The USCG indicated that a Bridge Permit would not be required for the Tenmile Creek crossing due to the proximity of the upstream control structure to the bridge, and that no USCG coordination would be required for the proposed Turnpike improvements crossing Tenmile Creek. If FTE would like documentation of this for the file, then USCG can provide but not required by USCG.

6. Loxahatchee River Bridge

- No USCG Permit required based on previous coordination with USCG

The proposed improvements to the Turnpike crossing over the Loxahatchee River were discussed. The USCG indicated that a Bridge Permit would not be required for the Loxahatchee River crossing since only non-motorized river traffic is allowed at the crossing. FTE inquired about USCG involvement and coordination with the National Park Service (NPS) due to the river's classification as a National Wild and Scenic River. USCG indicated that they would only be concerned if a USCG Bridge Permit were required for this crossing; and it is not.

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7. Other Waterway Crossings

- Determination of navigable waters of US and need for USCG Permit at each location

The proposed improvements to the Turnpike crossing over County Line Canal (C-23 Canal) were discussed. FTE reiterated the presence of a vertical weir in the County Line Canal (C-23 Canal) preventing navigation at the Turnpike crossing. The USCG indicated that a Bridge Permit would not be required for the C-23 Canal crossing, and that no USCG coordination would be required for the proposed Turnpike improvements crossing the C-23 Canal. The USCG did indicate that in some situations, that a portage can maintain navigability of a waterway and if there were signs of commercial waterway usage, but that was not the case at the C-23 Canal crossing.

A brief review of the other smaller waterway crossings resulted in the USCG acknowledging that no further USCG coordination would be required for these other crossings.

Florida Department of TRANSPORTATION

United States Coast Guard Technical Assistance

Project Development and Environment (PD&E) Study

for Florida's Turnpike from Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70)

Palm Beach, Martin and St. Lucie Counties, FL

Financial Project ID #: 423374-1-22-01
October 19, 2020

1

Agenda

- Project Process & Overview
- Project Challenges
- Widening & Interchange Concepts
- Future Phases & Schedule



2

Project Process



3

PD&E Study

- Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70)
  - 2045 Traffic Demand
  - Improve Access
  - Enhance Safety & Evacuation

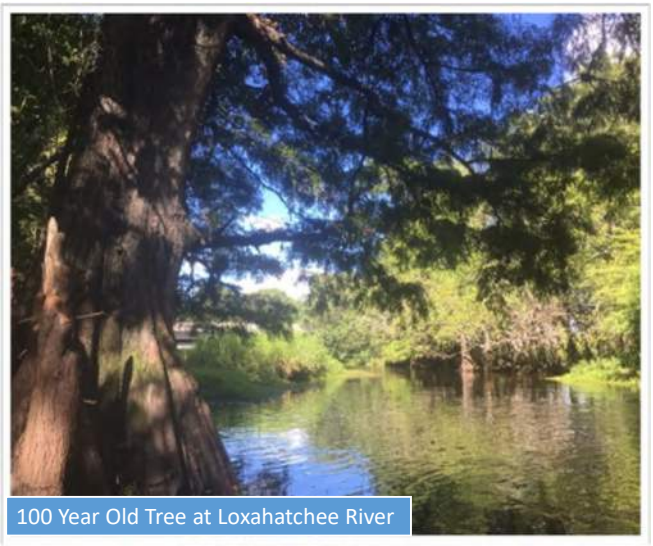
Project Facts
36 Miles
3 Counties
1 Service Plaza



4

Project Challenges

- Florida Gas Transmission (FGT) within Right of Way
  - Primarily on East side
  - Three gas lines
- I-95 (FDOT District 4)
  - Master Plan
  - Shared Right of Way
- Loxahatchee River
  - Wild and Scenic
- Thomas B. Manuel Bridge
  - St. Lucie Canal

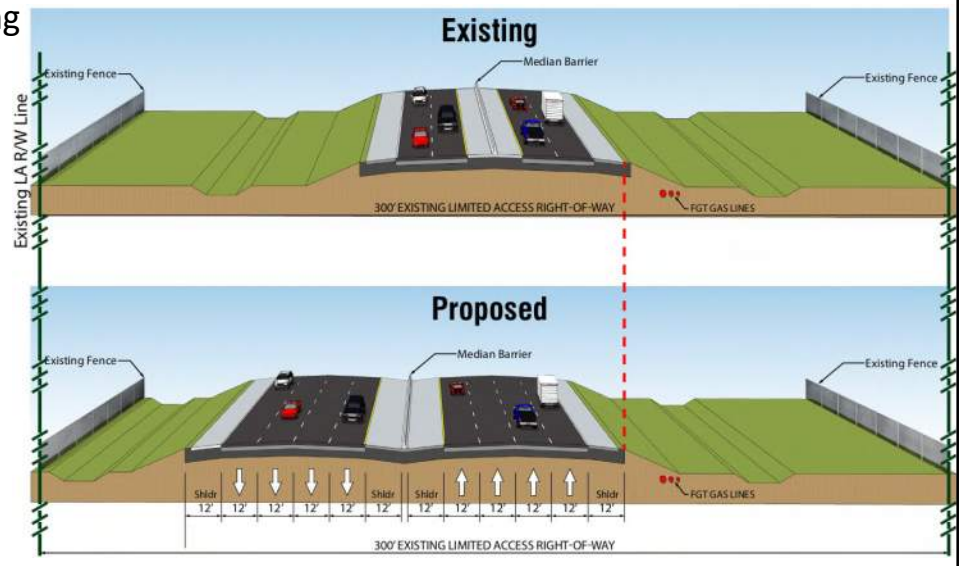


100 Year Old Tree at Loxahatchee River

5

Proposed Improvements

- Mainline Widening
  - 4 to 8 Lanes
  - FGT Constraints
  - Widen to West
- Interchanges
  - Modify Existing
  - New Interchanges



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Interchanges

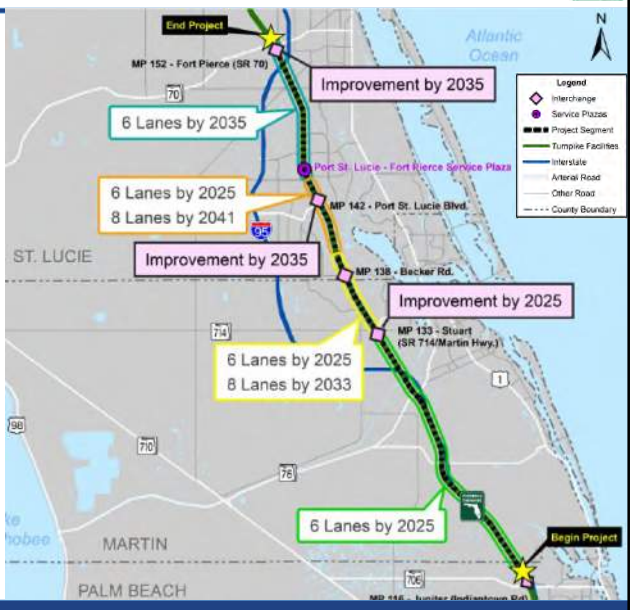
- Existing Interchange Modifications
  - SR 714 / SW Martin Hwy (Exit 133)
  - Becker Road (Exit 138)
  - Port St. Lucie Blvd. (Exit 142)
  - SR 70 / Okeechobee Road (Exit 152)
- Potential Interchange Locations
  - I-95 Direct Connection
    - To be evaluated under a separate study (FPID 446975-1)
  - Crosstown Pkwy (MP 145)
  - Midway Road (MP 150)



7

Future Phases

- No Future Phases Programmed
- Unfunded Needs Ranking*
  - #15 – Widening Mainline from Indiantown Rd to SR 70 (through 2030)
  - #25 - Interchange SR 714 (through 2030)



* Source: 2019 Traffic Trends

8

Questions?

U.S. Fish and Wildlife Service / National Marine Fisheries Service Technical Assistance Meeting Notes

December 18, 2020

ATKINS
Florida's Turnpike Headquarters
P.O. Box 613069
Florida's Turnpike Milepost 263, Building 5315
Ocoee, Florida 34761-3069
Telephone: +1.407.532.3999

FDOT, Florida's Turnpike Enterprise/U.S. Fish and Wildlife Service/National Marine Fisheries Service Technical Assistance Meeting Notes

FPID 423374-1-22-01 (Turnpike)
Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, and St. Lucie Counties

Date: October 26, 2020
Time: 10:00-11:00 am
Venue: Microsoft TEAMS meeting
Facilitator: Brian Ribaric BPR

Note: The italicized text below in the meeting agenda are the notes for topics that were discussed during the meeting.

1. **Introductions**
   - **USFWS Staff – John Wrublik**
   - **NMFS Staff – Jennifer Schull**
   - **FTE Environmental Administrator – Philip Stein**
   - **FTE Environmental Permits Coordinator - Annemarie Hammond**
   - **FTE Project Development Engineer - Rax Jung, PhD, PE**
   - **FTE Project Manager – Brian Ribaric, PE (Atkins)**
   - **FTE Permit Coordinator – Fred Gaines, PWS (Atkins)**
   - **FTE Senior Environmental Scientist - Douglas Zang (Atkins)**
   - **Lochner Project Manager – William Howell, PE**
   - **KCA Project Manager/Chief Environmental Scientist – Robert Whitman**
   - **KCA Senior Environmental Scientist – Ashley Abdel-Hadi**

2. **Project Overview (map provided)**

Florida's Turnpike Enterprise (FTE) provided an overview of the project and interchanges. A background and current status of the project was provided, which included the project location and summary of primary land uses within the proposed project area. FTE noted that the 37-mile project proposes widening from the existing 4 lane typical section to an ultimate 8 lane section, and includes improvements to existing interchanges, as well as evaluation of two new interchanges. FTE indicated that the widening is proposed principally to the west, with a few exceptions, due to the location of the FGT gas lines. FTE discussed other important project details including the Loxahatchee River National Wild and Scenic River, the close proximity of I-95 (an FDOT District Four facility), and the Thomas B. Manuel Bridge crossing of the St. Lucie Canal (C-44). FTE stated that a related project, the I-95 Direct Connection Interchange, which will provide a direct connection between the Turnpike and I-95, will be evaluated under a separated study, in compliance with NEPA. FTE indicated that the project construction was currently unfunded, and discussed potential interim 6-lane segment needs, in comparison with the ultimate 8-lane facility.

NMFS inquired when permitting would occur, and if permitting would be for the 6-lane facility or 8-lane facility. FTE stated that the project would be divided into several design segments, and that these design segments were currently not included on the FTE 5-Year Work Program. FTE stated that the permitting time frame is uncertain at this time and that permitting will depend on how project segments are ultimately scheduled in the FTE work program. FTE noted that some segments are in greater need and may proceed directly to 8-lanes, while other segments may advance to 6-lanes first, before expanding to the ultimate 8-lane facility.

USFWS inquired if this project will have federal funding. FTE stated that it will not, and that the project will be funded through FTE toll revenue and other non-federal funds. USFWS stated that if the project requires a USACE permit that will be the federal nexus for their consultation.

FTE noted that meetings had been held with the USACE (and SFWMD), the NPS (National Park Service) regarding the Loxahatchee River (Wild and Scenic River) crossing, and the USCG regarding three of the bridge crossings. FTE indicated that the SEIR for this project will be prepared to be consistent with NEPA.

FTE proceeded with a review of the project aerial photographic exhibits and discussed the existing general land uses within the project corridor and the riverine/canal systems that the project will be crossing, including the Loxahatchee River (OFW, Wild and Scenic River), Cypress Creek, tributaries to the South Fork of the St. Lucie River, Roebuck Creek, St. Lucie Canal (C-44), Mapps Creek, Danforth Creek, Bessy Creek, County Line Canal (C-23) Canal, Winters Creek, Blakeslee Creek, Rim Ditch (C-24), Tenmile Creek, and other unnamed tributaries.

FTE summarized the USFWS and NMFS review comments included in the project's ETDM No. 14295 Programming Screen, published in May 2017. These comments related to federally protected species and Essential Fish Habitat for the white shrimp. FTE provided the preliminary wetland and surface water impact acreage of - 62.67 acres of wetlands and 365.54 acres of surface waters for a total of 428.21 acres *and noted that these impacts include areas within the existing ROW and proposed ROW for the preferred interchange alternatives and involve many surfacewater ditches. FTE noted that these preliminary impacts were for the Build Alternative, and that the No-Build Alternative remains a viable project option. FTE then initiated a discussion of federally protected species.*

3. American Alligator

FTE stated that the American alligator is listed as threatened due to similarity in appearance to the American crocodile; however, there is no habitat for the American crocodile and proposed determination of "no effect" on the American alligator.

USFWS agreed with the "no effect" determination and stated they would not consult on the species as they would for other federally protected species due to threatened by similarity of appearance.

4. Florida Grasshopper Sparrow

FTE stated that the project area is within the Florida Grasshopper Sparrow Consultation Area and there is dry prairie habitat near the St. Lucie interchanges. FTE noted that this area is not burned and does not meet the known habitat requirements for the species. FTE explained that some of the species requirements are met in pasturelands; however, these areas are not prime Florida grasshopper sparrow habitat and there is no known documentation of this species within 30 miles. FTE proposed an effect determination of "'may affect, but is not likely to adversely affect", and proposed that no surveys would be performed for this species.

USFWS explained that the effect determination for this species could be changed to "no effect" if there is no habitat or evidence of Florida grasshopper sparrows. FTE inquired if a "no effect" determination could be based on lack of habitat and observations without surveys. USFWS noted that it is preferred to survey if there is potential habitat, though unlikely to encounter the species. USFWS further clarified that surveys could be conducted in appropriate habitat areas and then if the species was determined to be absent the effect determination could be changed to "no effect". FTE stated that the effect determination would be kept as "may affect, but is not likely to adversely affect" but inquired if surveys would be required. USFWS explained that they do not

anticipate Florida grasshopper sparrows within the project area and would likely not request surveys during design based on the location of the project.

5. Florida Scrub-jay

FTE indicated that the project is within the Florida Scrub-jay Consultation Area; however, there are no documented occurrences within 1 mile of the project. FTE explained that based on the habitat distribution map, there is some Type I and Type II habitat, but no historic occurrence of Florida scrub-jay families within 1 mile. FTE noted that there are Florida scrub-jays in Jonathan Dickinson State Park, approximately 4 miles northeast of project. FTE stated that surveys during design will be conducted in Type I, Type II and consider surveying Type III and adjacent habitats, if appropriate. FTE noted that, based on observations, potential Florida scrub-jay habitat within the project vicinity generally appeared to be of low quality and unmanaged for the species.

FTE is proposing a determination of "may affect" until surveys are conducted during design and will change to 'may affect, but is not likely to adversely affect" if the species is determined to be absent from the project area. USFWS agreed with the proposed determination. FTE inquired if surveys of adjacent habitat to Jonathan Dickinson State Park will be necessary during design and USFWS stated that surveys should be conducted in suitable habitat with scrub oaks.

6. Audubon's Crested Caracara

FTE indicated that the project is within the Crested Caracara Consultation Area. The FTE noted that a single caracara was documented in 1995 within 1 mile of the project, based on the USFWS telemetry data, and that the project contains potential foraging and nesting habitat adjacent to the project area in large tracts of pastureland in the area near the C-23 Canal. FTE stated that they anticipate performing surveys for this species during design and are proposing a determination of "may affect" until survey results are known. The USFWS agreed with this determination and approach.

7. Eastern Indigo Snake

FTE stated that there are no known observations within 1 mile of the preferred alternative. FTE is currently relying on the Eastern Indigo Snake Programmatic Effect Determination Key. FTE explained that they are not proposing surveys for this species, but will implement the Standard Protection Measures for the Eastern Indigo Snake during project construction. FTE proposed an effect determination of "may affect, but is not likely to adversely affect" due to lack of observations within 1 mile and no real scrub habitat. USFWS agreed with this determination.

8. Florida Bonneted Bat

FTE noted that the project is within the Florida Bonneted Bat Consultation Area and there is potential roosting habitat and natural habitats proposed for impacts in the interchanges. FTE proposed hybrid presence/absence surveys during design in existing cleared right of way areas with minimal tree presence and full acoustic surveys in new right of way areas with natural vegetative communities (i.e., interchanges). USFWS agreed with the conceptual survey approach. FTE is proposing a determination of "may affect" until surveys are completed and USFWS agreed with this determination.

9. Red-cockaded Woodpecker

FTE indicated that there are no known red cockaded-woodpecker colonies within 1 mile of the project, but the project is within the Red-cockaded Woodpecker Consultation Area. FTE noted that pine flatwoods are present throughout project area, particularly near the Loxahatchee River, Bessy Creek, and Tenmile Creek. FTE discussed that the majority of existing flatwoods habitat is fire suppressed; however, flatwoods are managed in areas within and near Jonathan Dickinson State Park. FTE proposed conducting limited surveys during design for this species in areas of higher quality habitat. FTE is proposing a determination of "may affect" until surveys are conducted during design. The USFWS agreed with this effect determination and approach.

10. Wood Stork

FTE stated that the project is within the CFA of 5 wood stork colonies; however, none are within 1,500 feet of the project. FTE noted that wood stork foraging habitat will be addressed during design and surveys for the species are not proposed. FTE explained that they will follow the Wood Stork Effect Determination Key and propose mitigation as required. FTE proposed a determination of "may affect, but is not likely to adversely affect" and USFWS agreed with this determination.

11. Everglade Snail Kite

FTE explained that there is documented Everglade snail kite nesting in the reservoirs associated with and to the northwest of Tenmile Creek and the project is within the Everglade Snail Kite Consultation Area. FTE proposes limited survey areas during design adjacent to the project where the species has been observed or nesting documented, and not the remainder of project area. USFWS agreed with the approach. FTE proposed a determination of "may affect" until surveys are completed but noted that they are not anticipating impacts. The USFWS agreed with this effect determination.

12. West Indian Manatee

FTE discussed that they are not impacting critical manatee areas and will implement the Standard Manatee Conditions for In-water Work. FTE explained that Critical Habitat is within a 1-mile buffer surrounding the project area near the Loxahatchee River and Cypress Creek. FTE proposed an effect determination of "may affect, but is not likely to adversely affect" and USFWS agreed with the determination.

13. Federal Protected Plants

- Okeechobee Gourd (*Cucurbita okeechobeensis*)

FTE stated that there are no observations or documentation of federal protected plant species, including the Okeechobee gourd, within 1 mile of the project. FTE proposed a determination of "no effect" and USFWS agreed with the determination.

14. Bald Eagle

FTE explained that there are no bald eagle nests proposed to be impacted by the project and if there is work proposed within 660 feet on an eagle nest, FTE will seek technical assistance with the USFWS Bald Eagle group (Ulgonda Kirkpatrick).

USFWS agreed that no additional federal listed species needed to be included in the evaluation at this time.

15. NMFS Protected Species: Smalltooth Sawfish

FTE stated that there was the potential for involvement with the smalltooth sawfish at the C-24 Canal and St. Lucie Canal (C-44 Canal). FTE stated that the Sea Turtle and Smalltooth Sawfish Construction Conditions would be implemented during construction. FTE proposed an effect determination of "may affect, but is not likely to adversely affect", will implement the construction conditions and is not proposing surveys. NMFS agreed, stating that blasting is the only thing of concern. FTE noted that they are not proposing blasting currently, but design will have to confirm and that other unknowns include potential SFWMD requirements for channel deepening/dredging at Turnpike crossings. NMFS noted that the closest known smalltooth sawfish documentation was approximately 3 miles away. ~~NMFS would most likely not disagree with a "no effect" determination.~~ NMFS indicated that further coordination during design would involve informal consultation unless blasting was proposed, but agreed that the species should be included in the FTE's assessment.

FTE explained that they had previously coordinated with SFWMD and they anticipate that Section 408 coordination with the USACE will be required for the St. Lucie Canal crossing. FTE inquired if NMFS coordination would be required with USACE for Section 408 approval, or only under Section 404. NMFS anticipates that the S404 consultation should address S408 aspects as well but indicated they would investigate this further. NMFS indicated that the smalltooth sawfish could tolerate low salinities and they were interested if reasonable and appropriate habitat for the species was available within or nearby the project area. NMFS indicated that mangrove lined shorelines provide habitat for the smalltooth sawfish and would not consider anything upstream of salinity-control structures (barriers) to be habitat for this species. FTE stated that there is mangrove habitat along the St. Lucie Canal. NMFS agreed with the "may affect, but is not likely to adversely affect" determination for the smalltooth sawfish, and the implementation of the construction conditions.

16. Essential Fish Habitat

FTE discussed the existing GIS database sources of Essential Fish Habitat (EFH). EFH mapped along the Loxahatchee River and Cypress Creek crossings is outside of the project area and FTE is not proposing an EFH assessment of these locations. NMFS stated that the GIS databases are good sources but should not be relied on exclusively. NMFS explained that anything upstream of a salinity control structure would not be considered EFH, and that EFH must be tidally influenced and accessible by NOAA managed fisheries species. NMFS further explained that any tidal river or canal bottom would be considered EFH for penaeid shrimp (white shrimp) and other habitats they would be concerned with are mangroves and submerged aquatic vegetation (SAV; seagrasses) in tidally influenced areas.

FTE indicated that the existing water management dam structures along the Loxahatchee River are located upstream of the Loxahatchee River crossing. FTE inquired if structures located downstream of the Turnpike crossings would allow elimination of those areas from consideration for EFH involvement. NMFS referred to the discussion above and stated they would have to research this further in more detail. FTE referenced the ETDM comments (7 crossings listed in ETDM). FTE stated that a salinity control structure was located downstream of the Turnpike crossing at the C-23 Canal. NMFS agreed that no EFH involvement would be considered at the C-23 Canal crossing. FTE discussed the Tenmile Creek crossing, which has a water control structure located upstream of the Turnpike. NMFS indicated that this area would be considered EFH if it were tidal and accessible to NOAA managed fisheries species. NMFS and FTE discussed the potential for NMFS providing the locations of EFH involvement for Turnpike crossings, and if not readily available, FTE will reach out again during design permitting.

NMFS stated that they would require implementation of avoidance and minimization measures, but mitigation requirements for impacts to penaeid shrimp EFH (river and canal bottoms) would likely be minimal, if even required as these areas typically rebound quickly. NMFS explained that they are most concerned with impacts to mangroves and seagrasses. FTE explained that no seagrasses or SAV have been documented in the project area, thus far, but that they will look further into tidal regimes and SAV during project design and permitting.

FTE and NMFS further discussed the potential for EFH involvement at Turnpike crossings:

- *Roebuck Creek – FTE stated this crossing is likely somewhat tidally influenced and will be assessed in more detail during design.*
- *St. Lucie Canal – FTE stated this crossing is tidally influenced and will be assessed during design.*
- *Unnamed tributary to Mapps Creek – EFH mapped within ½ mile and FTE will investigate if it is tidal during design.*
- *C-23 Canal – FTE stated there is a major structure upstream and weir downstream with water flowing west to east. NMFS agreed this would not be*

considered EFH.

- *C-24 Canal – FTE noted this crossing is tidal and will address this crossing moving forward during design.*
- *Tenmile Creek – FTE stated there are some tidal gauges and will look further into it during design. NMFS stated this was on their list as tidal.*

FTE inquired if an EFH assessment is only required for major bridge crossings or if an assessment is also necessary for culverts and minor crossings. NMFS explained that this depends if culverts are receiving tidal water and accessible by NOAA fisheries trust resources. NMFS indicated that if these culverts have tidal water exchange, and they are considered accessible to NMFS species, then they should be considered as EFH for assessment. FTE inquired if utilizing the nearest appropriate tidal gauge would be sufficient in determining if a crossing was tidally influenced. NMFS agreed and stated that if flow is not impacted or restricted (i.e., culvert sizes/volumes were maintained or increased and associated extension minimal impacts) by the project, then NMFS would find that there were no impacts to EFH for these crossings.

NMFS noted that FTE will likely have mangrove impacts and mitigation will be challenging as limited mitigation banking options are currently available in the area. FTE stated they have not yet specifically quantified project impacts and inquired if mangroves growing in manmade areas (rip-rap, sand cement revetments) could be cut back, maintained, or potentially buried during replacement without requiring mitigation, as mangroves would likely recruit into the replaced rip rap after construction. NMFS explained that all mangroves are important and are considered EFH regardless if they are on manmade riprap or natural shorelines. FTE stated that they will propose a survey methodology to document mangrove impacts for NMFS early in the design process to avoid issues during permitting. NMFS agreed with the approach.

17. Wildlife Habitat Connectivity

FTE inquired if USFWS has concerns or issues with wildlife habitat connectivity. USFWS stated the project area is mostly developed and the project involves widening of an existing facility. FTE explained that they have coordinated with NPS regarding dry wildlife crossing (shelf) under the replaced Loxahatchee River Bridge. USFWS indicated that anything that could be done to improve or enhance wildlife connectivity would be appreciated, but that USFWS was not currently contemplating requirements for wildlife crossings for this project.

18. Roundtable/Questions/Comments

NMFS inquired on timeline and next steps. FTE explained that they are planning public hearings for early 2021 and completing the PD&E study. FTE stated the design for this project has not made it into the current 5-year work program. Some design segments of the overall project have the potential to be included within the next 10-year plan and that will be when the agencies are engaged again. NMFS inquired if this would be permitted in segments and FTE confirmed that design/construction of the overall project will be divided into segments.

FDOT, Florida's Turnpike Enterprise/U.S. Fish and Wildlife Service/National Marine Fisheries Service Technical Assistance Meeting Agenda

FPID 423374-1-22-01 (Turnpike)
Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, and St. Lucie Counties

Date: October 26, 2020
Time: 10:00-11:00 am
Venue: GoTo Meeting`

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1. **Introductions**

2. **Project Overview (map provided)**
   - Current Alignment
     - Approx. 37-mile segment of proposed widening of existing 4-lane facility to 8-lanes within existing right of way with four existing & 2 proposed interchanges being studied.
     - Loxahatchee River Wild and Scenic River designation - NPS

   - ETDM No. 14295 published on May 19, 2017
     - USFWS concerns included potential impacts to the following federal listed species:
       - American alligator (*Alligator mississippiensis*)
       - Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
       - Florida scrub-jay (*Aphelocoma coerulescens*)
       - Audubon's crested caracara (*Caracara cheriway*)
       - Eastern indigo snake (*Drymarchon couperi*)
       - Florida bonneted bat (*Eumops floridanus*)
       - Red-cockaded woodpecker (*Leuconotopicus borealis*)
       - Wood stork (*Mycteria americana*)
       - Everglade snail kite (*Rostrhamus sociabilis plumbeus*)
       - West Indian manatee (*Trichechus manatus*)
       - Federal listed plants
       - Bald eagle (*Haliaeetus leucocephalus*)
       - NMFS Protected Species:
         - Smalltooth sawfish (*Pristis pectinata*)
         - Essential fish habitat

   - 428.21 acres of wetland impacts anticipated with the preferred alternative (preliminary impacts - 62.67 acres of wetlands and 365.54 acres of surface waters)

3. **American Alligator**

4. **Florida Grasshopper Sparrow**

5. **Florida Scrub-jay**

6. **Audubon's Crested Caracara**

7. **Eastern Indigo Snake**

8. **Florida Bonneted Bat**

9. **Red-cockaded Woodpecker**

10. **Wood Stork**

11. **Everglade Snail Kite**

12. **West Indian Manatee**

13. **Federal Protected Plants**
    - Okeechobee Gourd (*Cucurbita okeechobeensis*)

14. **Bald Eagle** – coordinate proposed impacts with USFWS Bald Eagle group

15. **NMFS Protected Species:**
    - **Smalltooth Sawfish**

16. **Essential Fish Habitat**

17. **Wildlife Habitat Connectivity**

18. **Roundtable/Questions/Comments**

Florida Department of TRANSPORTATION

USFWS & NMFS
Technical Assistance

Project Development and Environment (PD&E) Study
for Florida's Turnpike from Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70)

Palm Beach, Martin and St. Lucie Counties, FL

Financial Project ID #: 423374-1-22-01
October 26, 2020

1

Agenda

- Project Process & Overview
- Project Challenges
- Widening & Interchange Concepts
- Future Phases & Schedule



2

Project Process



3

PD&E Study

- Jupiter (Indiantown Rd/SR 706) to Ft. Pierce (Okeechobee Rd/SR 70)
  - 2045 Traffic Demand
  - Improve Access
  - Enhance Safety & Evacuation

Project Facts
36 Miles
3 Counties
1 Service Plaza



4

Project Challenges

- Florida Gas Transmission (FGT) within Right of Way
  - Primarily on East side
  - Three gas lines
- I-95 (FDOT District 4)
  - Master Plan
  - Shared Right of Way
- Loxahatchee River
  - Wild and Scenic
- Thomas B. Manuel Bridge
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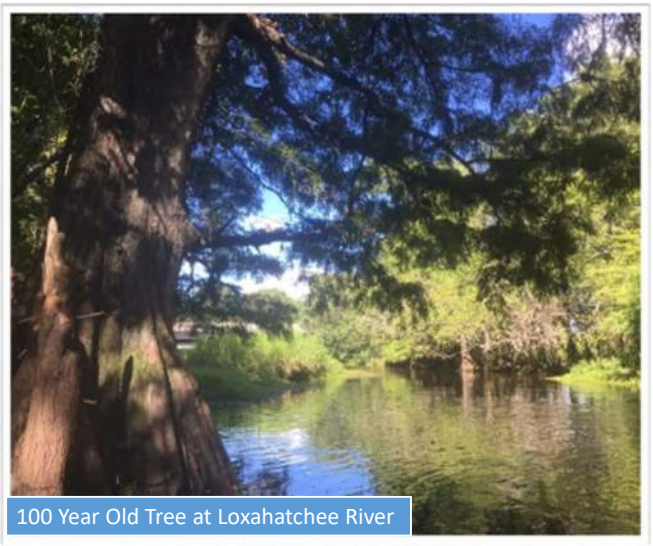

100 Year Old Tree at Loxahatchee River

5

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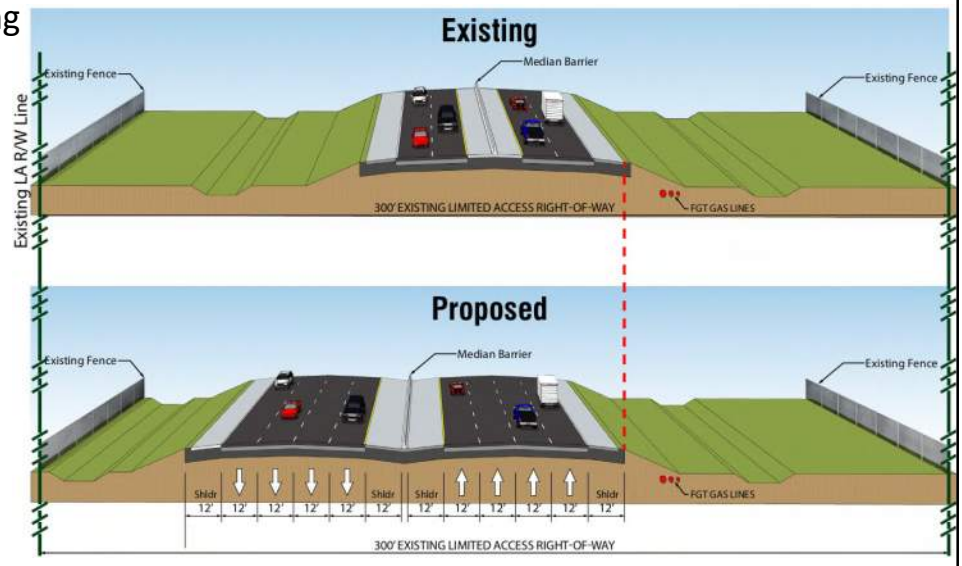

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- Existing Interchange Modifications
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  - Port St. Lucie Blvd. (Exit 142)
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- Potential Interchange Locations
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  - Crosstown Pkwy (MP 145)
  - Midway Road (MP 150)



7

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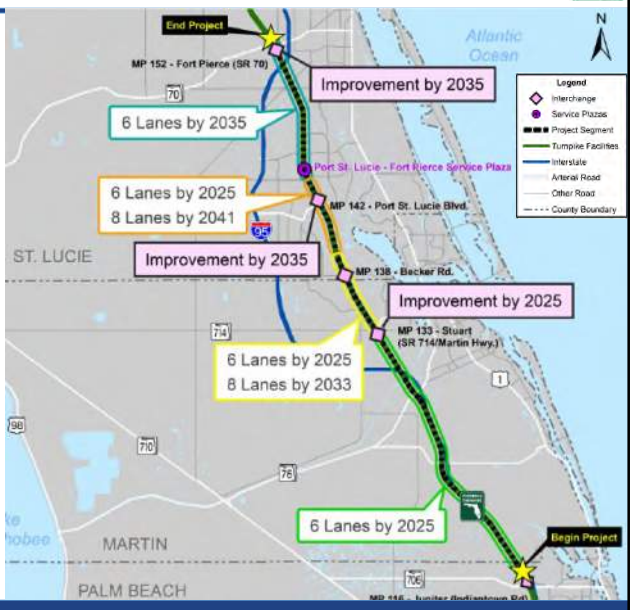
- No Future Phases Programmed
- Unfunded Needs Ranking*
  - #15 – Widening Mainline from Indiantown Rd to SR 70 (through 2030)
  - #25 - Interchange SR 714 (through 2030)



* Source: 2019 Traffic Trends

8

Questions?

APPENDIX L

Pond Siting Evaluation Memorandum

POND SITING EVALUATION MEMORANDUM
TURNPIKE MAINLINE WIDENING PD&E STUDY
FROM JUPITER TO FORT PIERCE
Palm Beach, Martin, and St. Lucie Counties, Florida
Financial Project No.: 423374-1-22-01

INTRODUCTION

Florida's Turnpike Enterprise is evaluating options for the widening of a 37-mile segment of the Florida Turnpike from Jupiter (Indiantown Road) to Okeechobee Road (SR 70) in Palm Beach, Martin, and St. Lucie Counties. As part of this proposed project, stormwater management facilities (SMF) will be required in order to treat and attenuate runoff from roadway improvements. To meet this requirement, 35 alternative pond sites and 5 alternative treatment swales have been identified. The purpose of this memorandum is to provide information on the land cover and soils found within each pond site and treatment swale, and to identify potential impacts to wetlands and protected species resulting from use of the sites.

The project limits are shown in **Figure 1-1 – Project Location Map** and alternative pond site locations are shown in **Attachment A – Pond Site Location Map**.

METHODOLOGY

Literature reviews, agency database searches, field reviews, and desktop evaluations were conducted to document existing habitat types within the proposed pond site locations and to identify state and federally protected species and/or critical habitat occurring or potentially occurring within each location. Information sources and databases utilized include the following:

- Audubon EagleWatch Program, Florida EagleWatch Nest Map website (https://cbop.audubon.org/conservation/about-eaglewatch-program), March 2020;
- Florida Department of Transportation (FDOT), Florida Land Use Cover, and Forms Classification System (FLUCFCS), 3rd ed., January 1999;
- Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service, Florida's Federally Listed Plant Species website (2010) (https://www.fdacs.gov/Divisions-Offices/Plant-Industry/Bureaus-and-Services/Entomology-Nematology-Plant-Pathology/Botany/Florida-s-Endangered-Plants/Endangered-Threatened-and-Commercially-Exploited-Plants-of-Florida);
- Florida Fish and Wildlife Conservation Commission (FWC), Florida's Endangered and Threatened Species, December 2018;
- FWC, Wading Bird Rookeries website (http://ocean.floridamarine.org/TRGIS/Description_Layers_Terrestrial.htm), September 1999;
- Florida Natural Areas Inventory (FNAI) Biodiversity Matrix Map Server (http://www.fnai.org/biointro.cfm), May 2019;

FIGURE 1-1 – PROJECT LOCATION MAP



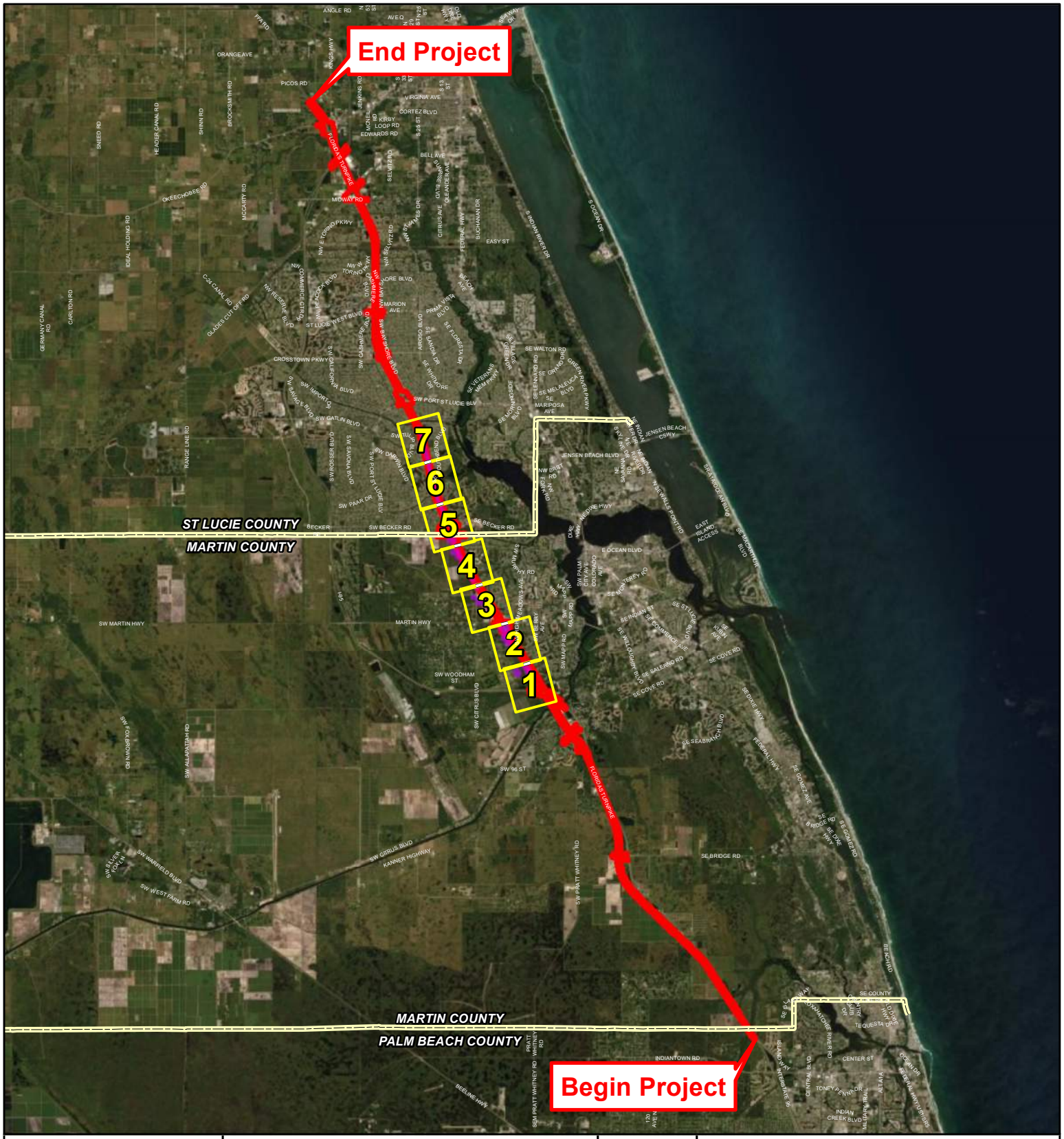
- FNAI Standard Data Report, January 2020;
- South Florida Water Management District (SFWMD), Florida Land Use, Cover and Forms Classification System GIS Database, (SFWMD 2016);
- True color aerial imagery of the assessment area (1" = 200'), ESRI 2018;
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Martin County, Florida, 1981;
- USDA, NRCS, Soil Survey of St. Lucie County Area, Florida, 1980;
- United States Fish and Wildlife Service (USFWS), Critical Habitat Portal website (https://ecos.fws.gov/ecp/report/table/critical-habitat.html), November 2019;
- USFWS, National Wetlands Inventory (NWI), Wetlands online Mapper, May 2019;
- USFWS, Information for Planning and Consultation (https://ecos.fws.gov/ipac/), November 2019.

INDIVIDUAL SITES

Descriptions of the preferred pond site alternatives are summarized in **Table 1**. **Table 1** provides soils, land use, and wetland and other surface water impact information. **Table 2** provides the potential for the presence of state or federal protected species within the preferred pond sites. Protected species with potential for involvement within the preferred pond sites were designated as *Low*, *Medium*, or *High*. A *Low* potential for involvement was designated for species with minimal or suboptimal habitat for the species. A *Medium* potential for involvement was designated for species with suitable habitat present and documentation within proximity of the pond alternative. A *High* potential for involvement was designated for species with suitable habitat present and observation within the pond site.

Attachment B provides a soils summary table and map for all pond site alternatives. A land use summary table and map for all pond site alternatives is provided in **Attachment C**. Protected species documented occurrences, field observations, and consultation areas associated with the pond site alternatives are depicted in **Attachment D. Attachment D** also includes a table of protected species with potential for involvement for the pond site alternatives.

Attachment A: Pond Site Location Map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ST LUCIE COUNTY
MARTIN COUNTY
MARTIN COUNTY
PALM BEACH COUNTY
FLORIDA'S TURNPIKE
SW MARTIN HWY
MARTIN HWY
SW WOODHAM ST
SW 96 ST
SE BRIDGE RD
SW PORT ST LUCIE BLV
SE BECKER RD
SW BECKER RD
JENSEN BEACH BLVD
E OCEAN BLVD
SE MONTEREY RD
SE COVE RD
SE SALERNO RD
SE DIXIE HWY
SE SEABRANCH BLVD
SE OCEAN BLVD
SE BRIDGE RD
SW CITRUS BLVD
SW PRATT WHITNEY RD
SW GATLIN BLVD
SW BAYSHORE BLVD
SW WARFIELD BLVD
SW WEST PALM RD
SW ALLAPATTAH RD
SW SILVER PALM LN
SW FOX BROWN RD
SW DARWIN BLVD
SW SAVANNA BLVD
SW IMPORT DR
SW SAVAGE BLVD
SW CROSSTOWN PKWY
SW CASHMERE BLVD
SW PAAR DR
SE WALTON RD
SE LENNARD RD
SE MELALEUCA BLVD
SE MARIPOSA AVE
SE MORNINGSIDE BLVD
SE VETERANS MEMORIAL PKWY
SE GRAND DR
GREEN RIVER PKWY
SE SANDPIPER RD
SE WHITMORE DR
SE SANTA BARBARA DR
SE FLORESTA DR
SE PRIMA VISTA BLVD
SE ARAGON BLVD
SE ALICANTE AVE
SE GRANADA BLVD
SE CASTILLE AVE
SE ROMAN WAY
SE BRYAN AVE
SE SEWELLS POINT RD
SE OCEAN BLVD
SE MONTEREY RD
SE INDIAN ST
SE COMMERCE AVE
SE KANNER HWY
SE WILLOUGHBY BLVD
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SW KANNER HWY
SW BALBOA AVE
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SW GIBBS BLVD
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SW PRATT WHITNEY RD
SW WARFIELD BLVD
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SW ALLAPATTAH RD
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SW SAVANNA BLVD
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SW GATLIN BLVD
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SW PAAR DR
SW BECKER RD
ST LUCIE WEST BLVD
CORPORATE BLVD
NW COMMERCE CENTER DR
NW RESERVE BLVD
C-24 CANAL RD
GLADES CUT OFF RD
OKEECHOBEE RD
MIDWAY RD
MARION AVE
CORTEZ BLVD
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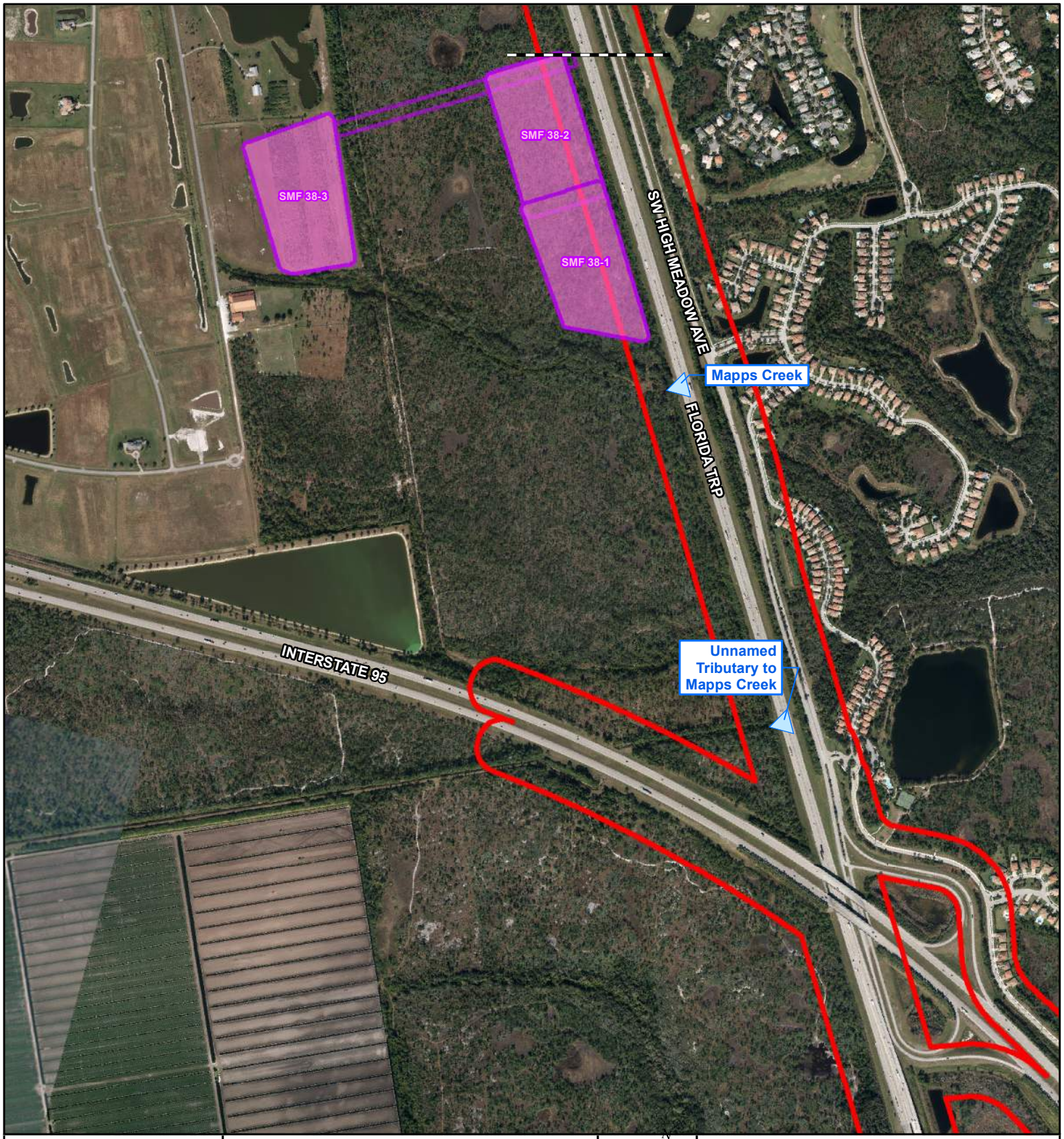

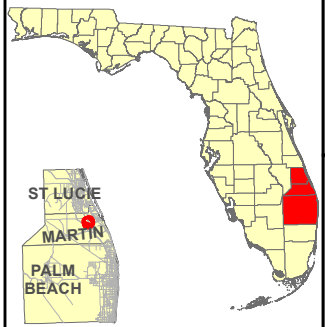

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

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Pond Site Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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www.kisingercampo.com

Attachment A

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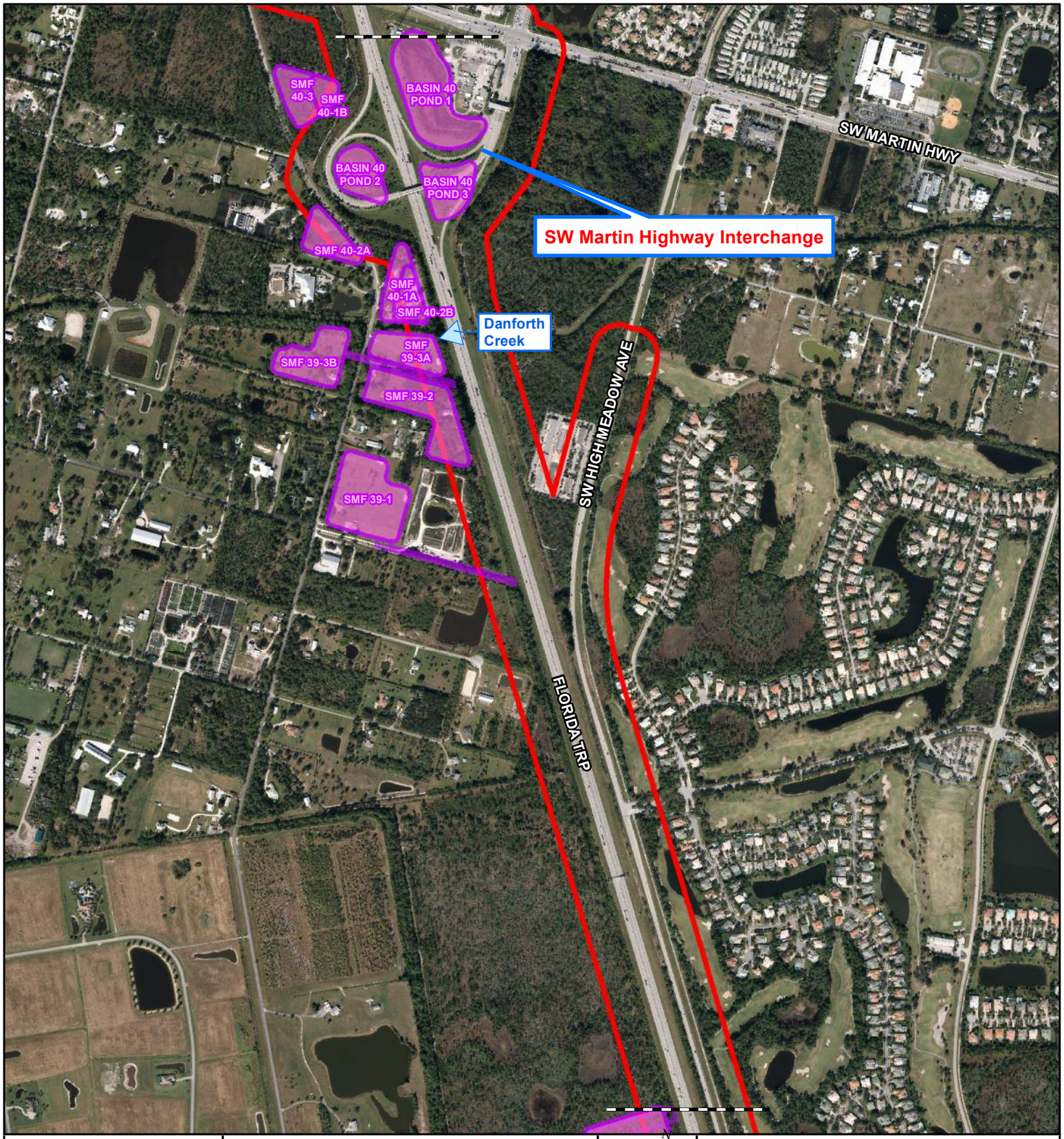

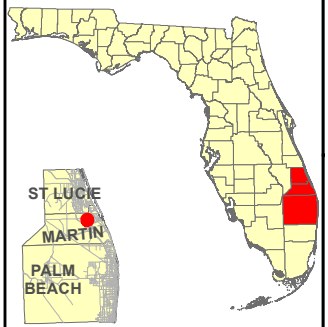

Legend

- Project Study Area
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- Easement
- Other Surface Water Crossing

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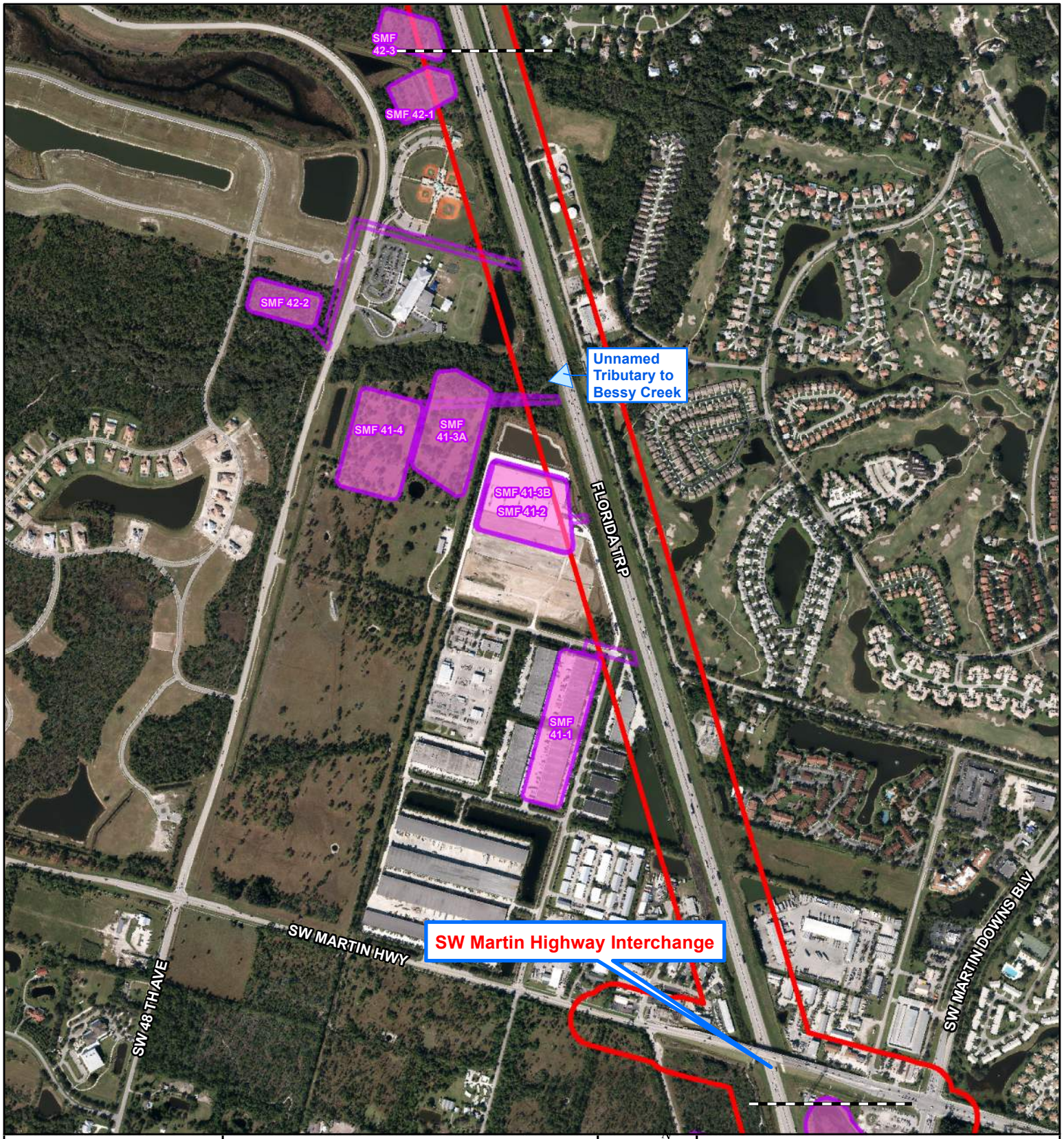
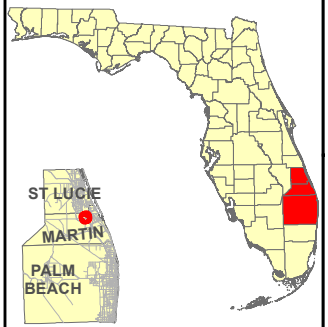
Page 2 of 7





Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

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Pond Site Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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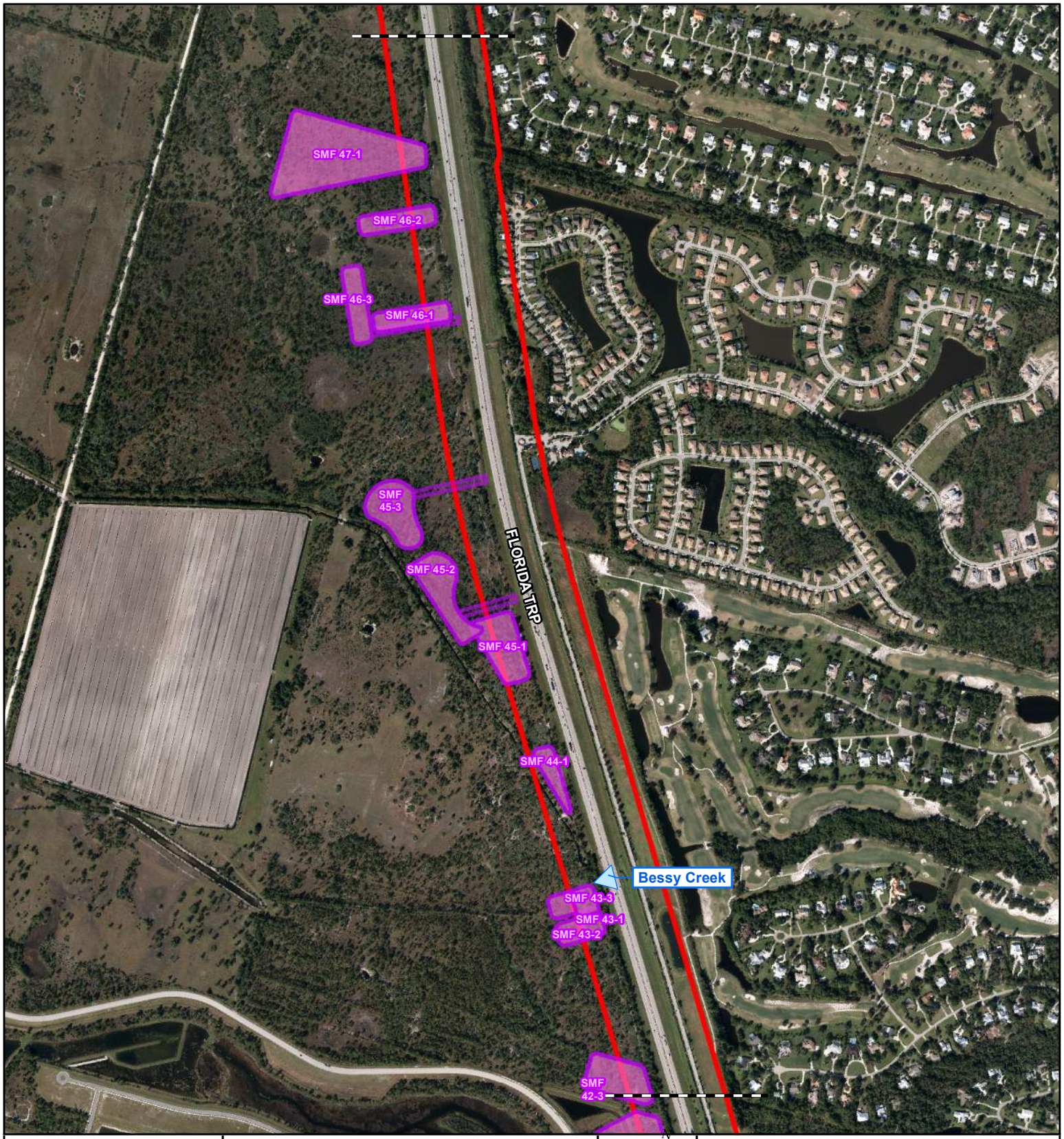

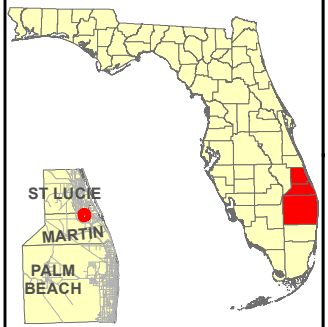

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

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Pond Site Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Page 4 of 7

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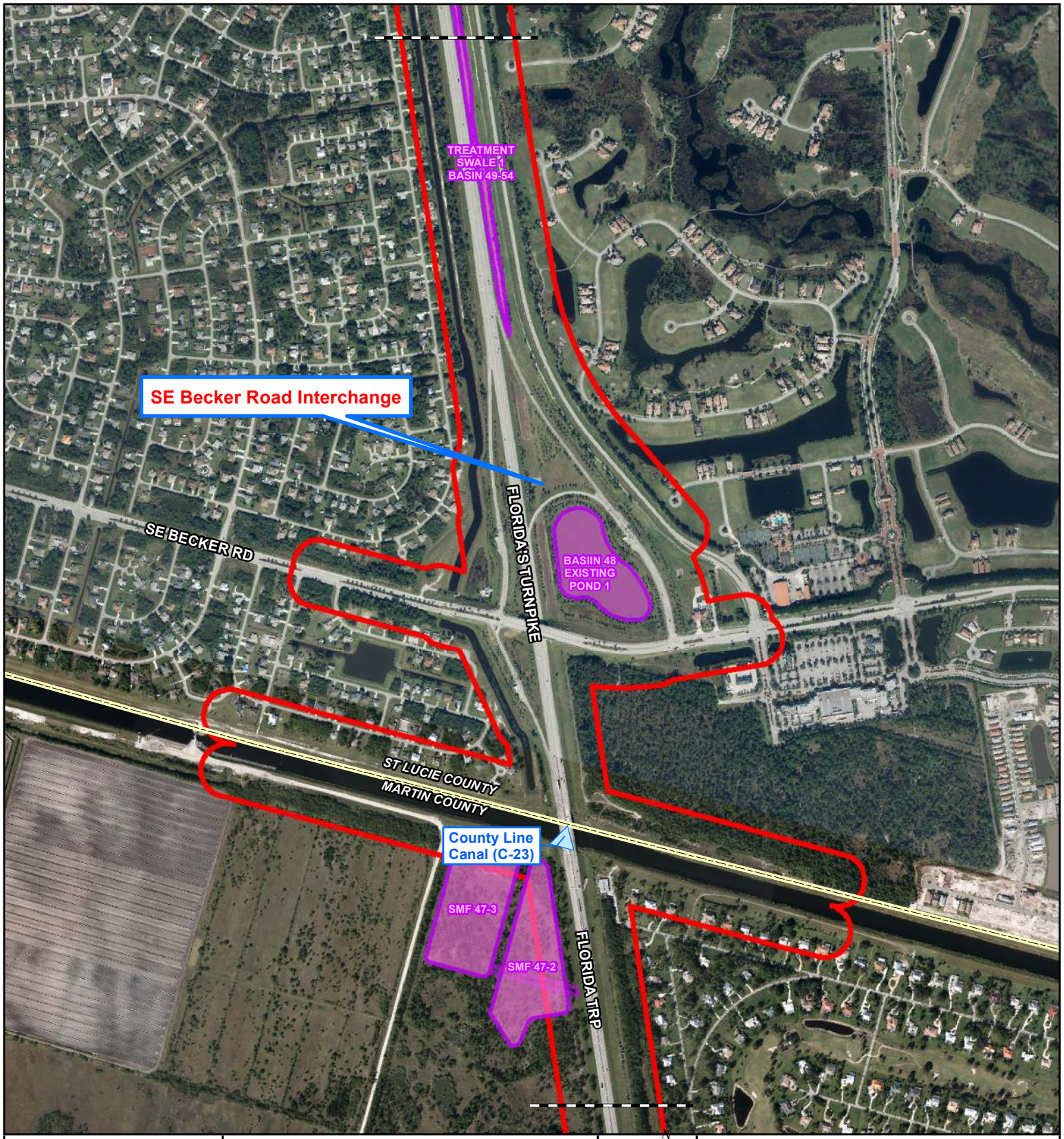

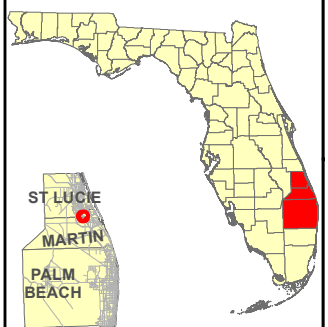

Legend

- Project Study Area
- Pond Site
- Easement
- County Line
- Other Surface Water Crossing

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Pond Site Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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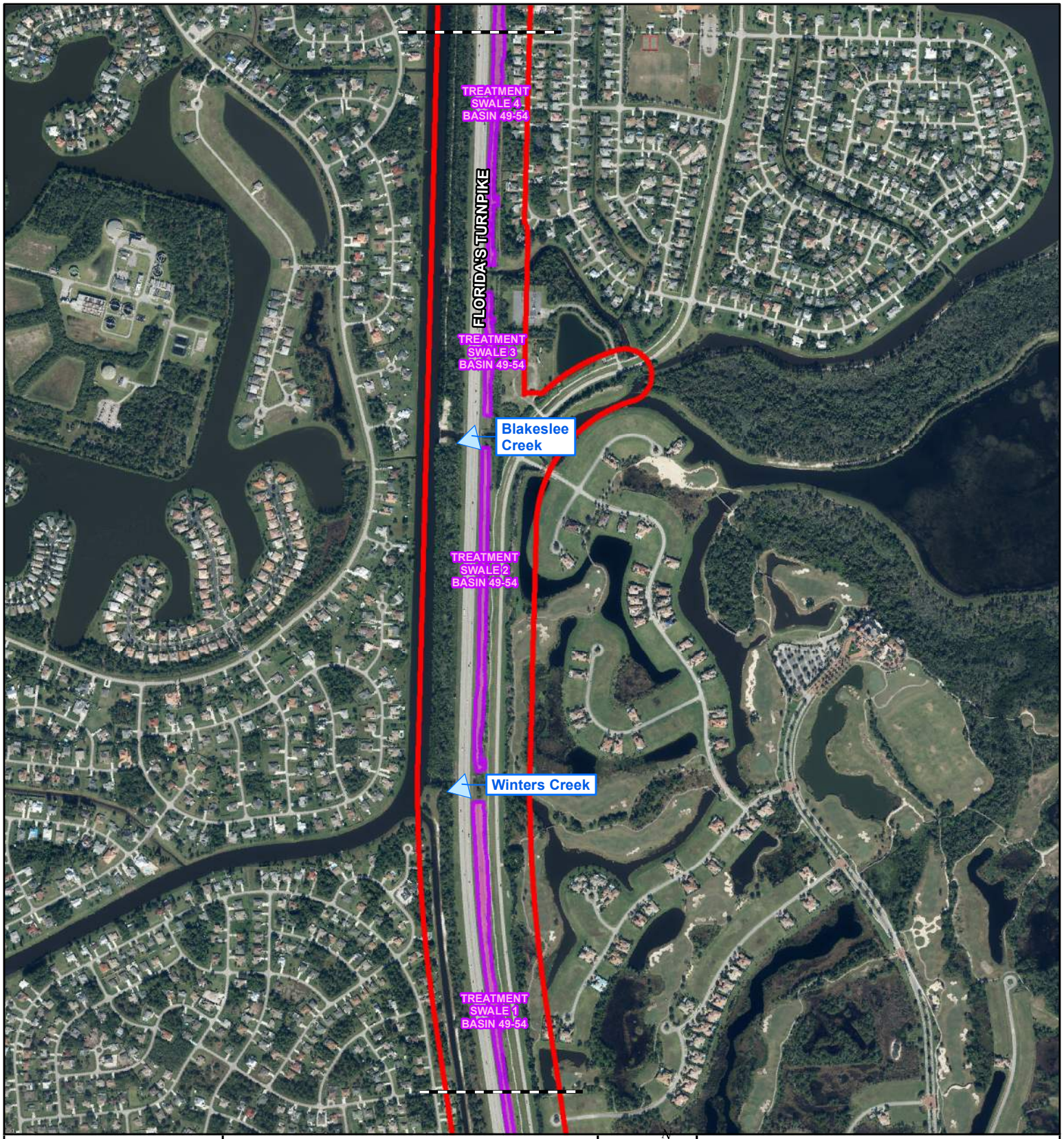
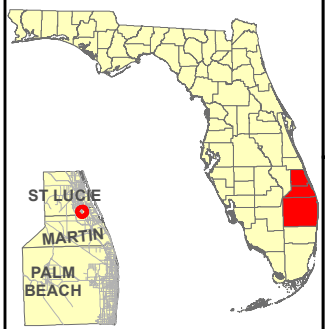
Page 5 of 7





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- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

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Pond Site Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Page 6 of 7

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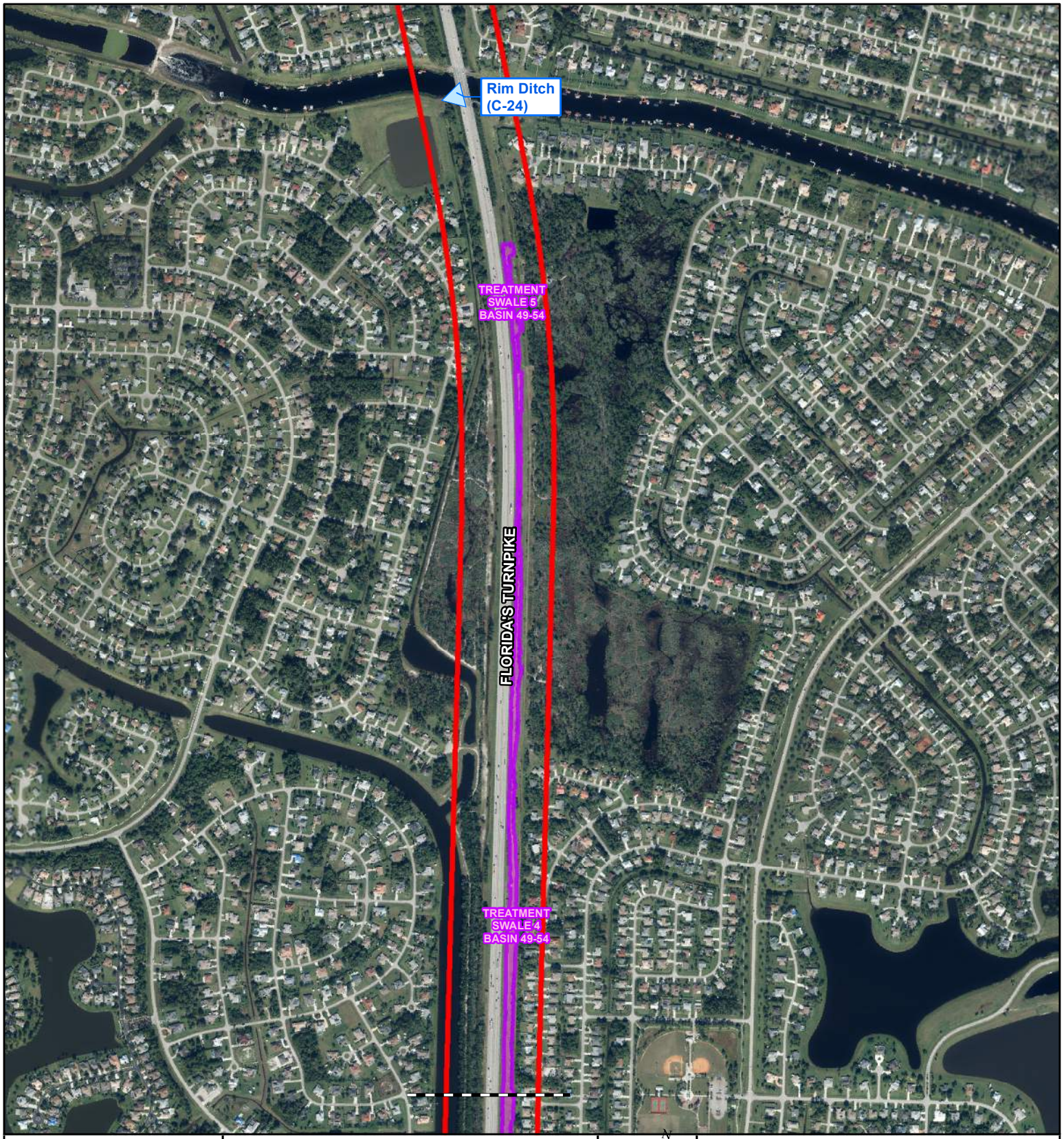

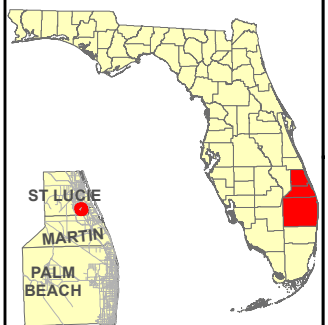

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

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Pond Site Location Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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Attachment A
Page 7 of 7

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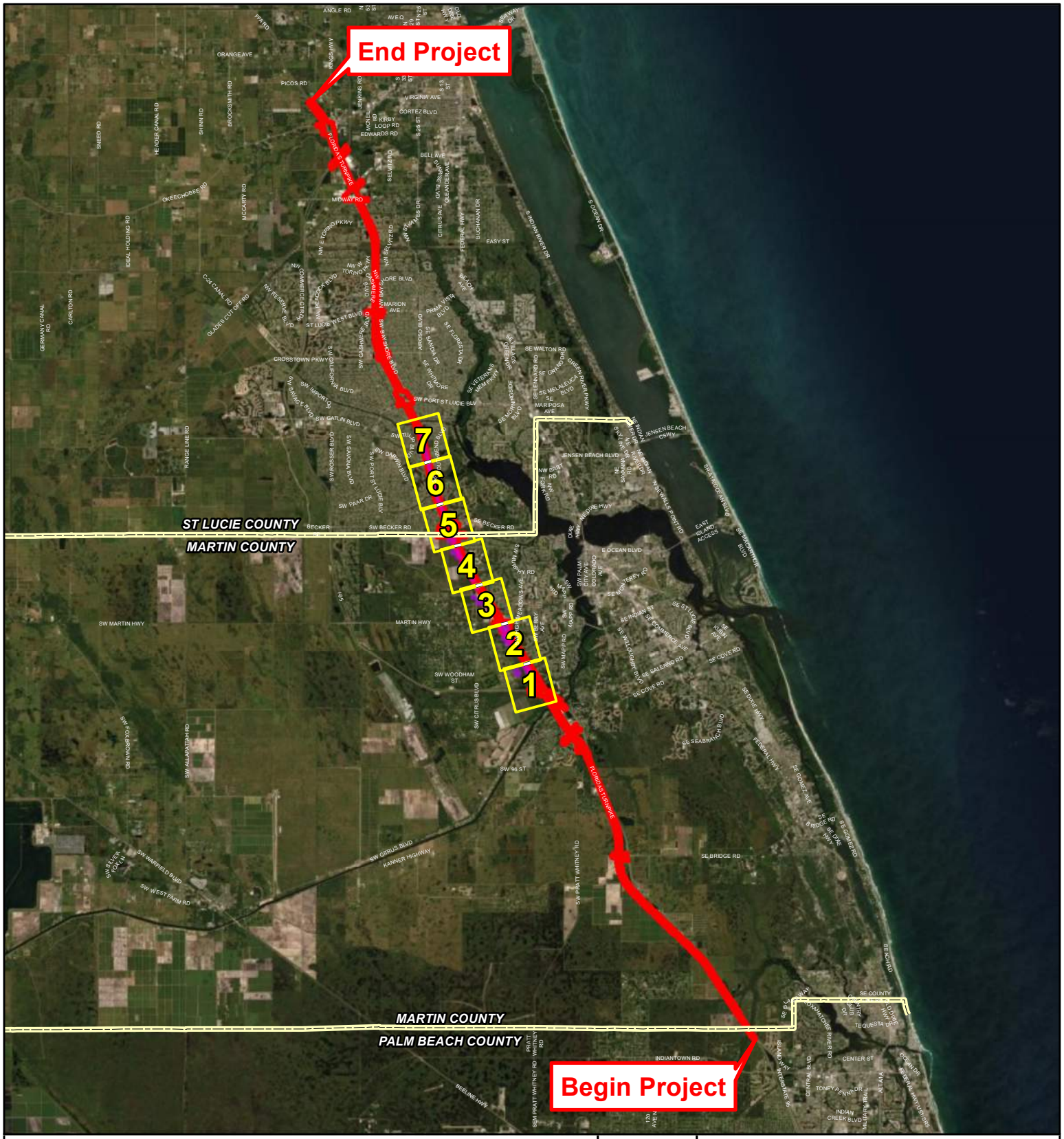
Attachment B: NRCS Soils Table and Map

Pond Site NRCS Soils Table

Outfall	Basin	Pond Site	Total Acreage	Soil Types
Mapps Creek	Basin 38	**SMF 38-1 (Preferred)**	**16.23**	**63: Nettles Sand**
		SMF 38-2	16.21	63: Nettles Sand
		SMF 38-3	20.57	63: Nettles Sand
Danforth Creek	Basin 39	SMF 39-1	7.43	36: Arents, 0 to 2 Percent Slopes 63: Nettles Sand
		SMF 39-2	5.82	36: Arents, 0 to 2 Percent Slopes 63: Nettles Sand
		SMF 39-3A (Preferred)	**2.90**	**63: Nettles Sand**
		SMF 39-3B (Preferred)	**4.29**	**52: Malabar Fine Sand, High** **63: Nettles Sand**
Danforth Creek	Basin 40	**SMF 40-1A (Preferred)**	**3.16**	**36: Arents, 0 to 2 Percent Slopes** **52: Malabar Fine Sand, High** **63: Nettles Sand**
		SMF 40-1B (Preferred)	**1.00**	**63: Nettles Sand**
		SMF 40-2A	2.41	53: Udorthents, 0 to 35 Percent Slopes 63: Nettles Sand
		SMF 40-2B	1.61	52: Malabar Fine Sand, High 63: Nettles Sand
		SMF 40-3	3.29	63: Nettles Sand
		Basin 40 Pond 1	7.63	36: Arents, 0 to 2 Percent Slopes 99: Water
		Basin 40 Pond 2	2.66	36: Arents, 0 to 2 Percent Slopes
		Basin 40 Pond 3	3.08	36: Arents, 0 to 2 Percent Slopes
Bessy Creek	Basin 41	SMF 41-1	9.06	63: Nettles Sand
		SMF 41-2	8.64	61: Hobe Fine Sand, 0 to 5 Percent Slopes 63: Nettles Sand
		SMF 41-3A	8.99	56: Wabasso and Oldsmar Fine Sands, Depressional 61: Hobe Fine Sand, 0 to 5 Percent Slopes 63: Nettles Sand 67: Kesson Sand, Tidal
		SMF 41-3B	8.14	61: Hobe Fine Sand, 0 to 5 Percent Slopes 63: Nettles Sand
		SMF 41-4 (Preferred)	**9.74**	**61: Hobe Fine Sand, 0 to 5 Percent Slopes** **63: Nettles Sand** **67: Kesson Sand, Tidal**
Bessy Creek	Basin 42	SMF 42-1	3.10	63: Nettles Sand
		SMF 42-2	5.82	61: Hobe Fine Sand, 0 to 5 Percent Slopes 63: Nettles Sand
		SMF 42-3 (Preferred)	**3.07**	**63: Nettles Sand**
Bessy Creek	Basin 43	**SMF 43-1 (Preferred)**	**1.40**	**63: Nettles Sand**
		SMF 43-2	1.40	63: Nettles Sand
		SMF 43-3	1.40	63: Nettles Sand
Bessy Creek	Basin 44	**SMF 44-1 (Preferred)**	**1.23**	**63: Nettles Sand**

Outfall	Basin	Pond Site	Total Acreage	Soil Types
Bessy Creek	Basin 45	SMF 45-1	3.24	63: Nettles Sand
		SMF 45-2 (Preferred)	**3.74**	**63: Nettles Sand**
		SMF 45-3	3.87	63: Nettles Sand
Bessy Creek	Basin 46	**SMF 46-1 (Preferred)**	**1.99**	**63: Nettles Sand**
		SMF 46-2	1.98	63: Nettles Sand
		SMF 46-3	2.76	56: Wabasso and Oldsmar Fine Sands, Depressional 63: Nettles Sand
County Line Canal (C-23)	Basin 47	SMF 47-1	10.61	63: Nettles Sand
		SMF 47-2 (Preferred)	**10.65**	**63: Nettles Sand**
		SMF 47-3	11.42	53: Udorthents, 0 to 35 Percent Slopes 56: Wabasso and Oldsmar Fine Sands, Depressional 63: Nettles Sand
County Line Canal (C-23)	Basin 48	Basin 48 Existing Pond 1	8.28	2: Ankona and Farmton Sands
Basins 49 - 54		Treatment Swale 1	5.85	2: Ankona and Farmton Sands 50: Waveland and Immokalee Fine Sands 51: Waveland-Lawnwood Complex, Depressional
		Treatment Swale 2	2.96	14: Fluvaquents, Frequently Flooded 29: Pendarvis and Pomello Sands, 0 to 5 Percent Slopes 50: Waveland and Immokalee Fine Sands
		Treatment Swale 3	1.09	39: Salerno and Punta Sands 40: Samsula Muck, Depressional
		Treatment Swale 4	7.49	2: Ankona and Farmton Sands 19: Jonathan Sand, 0 to 5 Percent Slopes 39: Salerno and Punta Sands 50: Waveland and Immokalee Fine Sands
		Treatment Swale 5	0.86	2: Ankona and Farmton Sands



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- Project Study Area
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- Pond Site
- County Line

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NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Attachment B
Key Sheet

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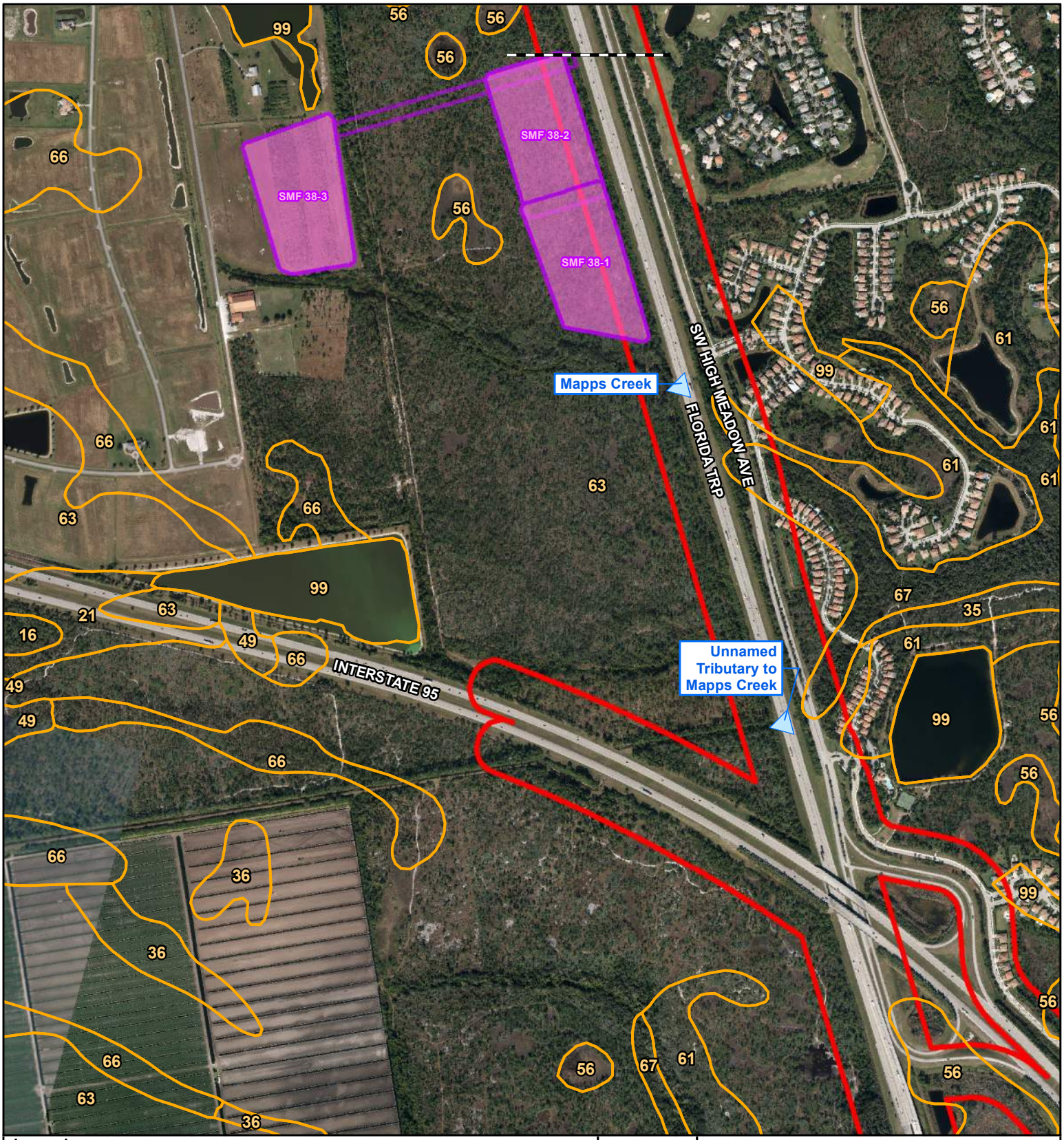

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

16: OLDSMAR FINE SAND

21: PINEDA AND RIVIERA FINE SANDS

35: SALERNO SAND

36: ARENTS, 0 TO 2 PERCENT SLOPES

49: RIVIERA FINE SAND, DEPRESSIONAL (Martin County)

56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL

61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES

63: NETTLES SAND

66: HOLOPAW FINE SAND

67: KESSON SAND, TIDAL

99: WATER

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NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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Attachment B

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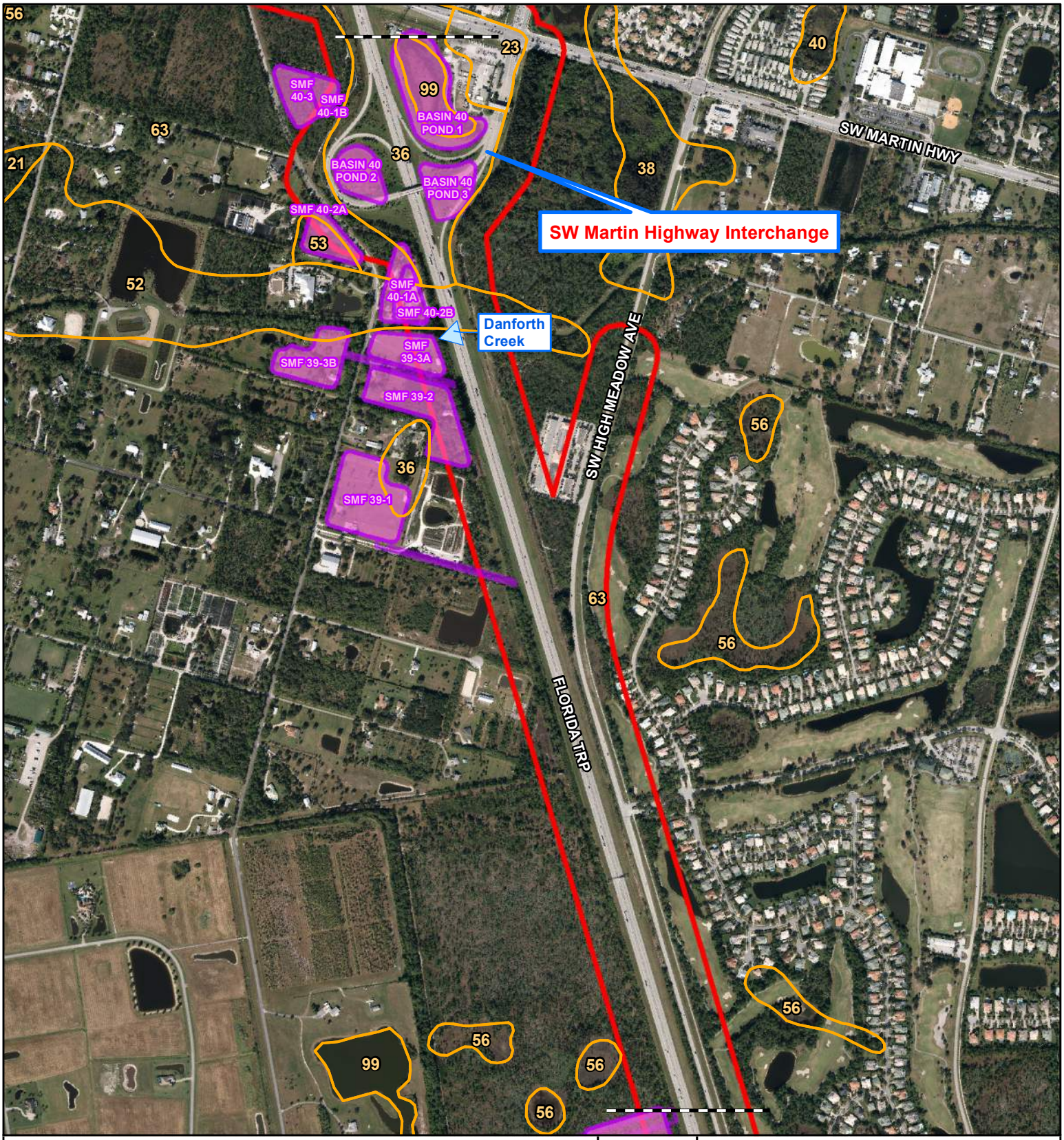

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

21: PINEDA AND RIVIERA FINE SANDS

23: URBAN LAND

36: ARENTS, 0 TO 2 PERCENT SLOPES

38: FLORIDANA FINE SAND, DEPRESSIONAL

40: SANIBEL MUCK

52: MALABAR FINE SAND, HIGH

53: UDORTHENTS, 0 TO 35 PERCENT SLOPES

56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL

63: NETTLES SAND

99: WATER

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NRCS Soils Map
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Attachment B

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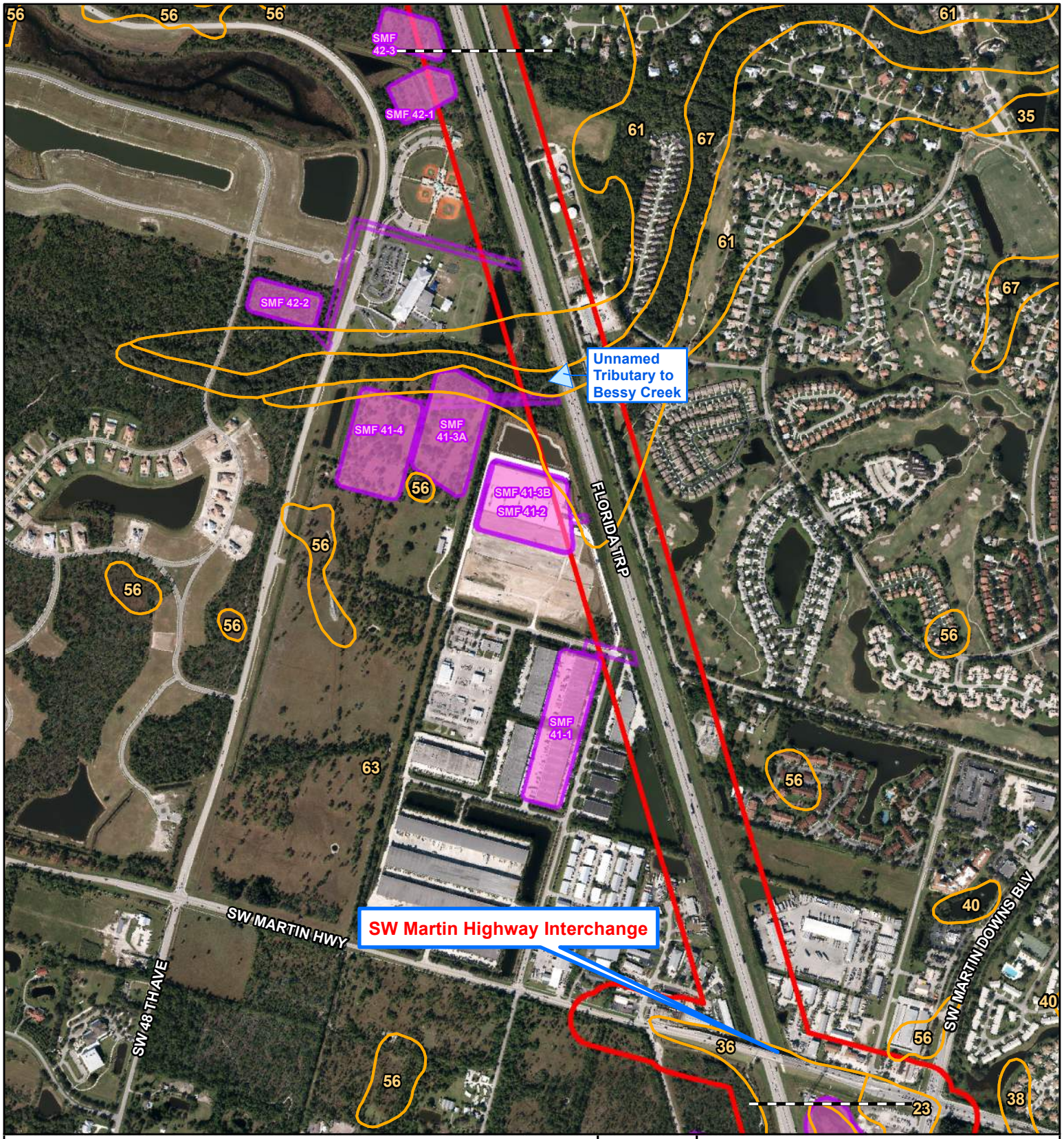

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

23: URBAN LAND

35: SALERNO SAND

36: ARENTS, 0 TO 2 PERCENT SLOPES

38: FLORIDANA FINE SAND, DEPRESSIONAL

40: SANIBEL MUCK

56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL

61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES

63: NETTLES SAND

67: KESSON SAND, TIDAL

99: WATER

N W E S

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Feet

NRCS Soils Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
201 N. Franklin Street, Suite 400
Tampa, FL 33602
Phone: 813/871-5331
www.kisingercampo.com

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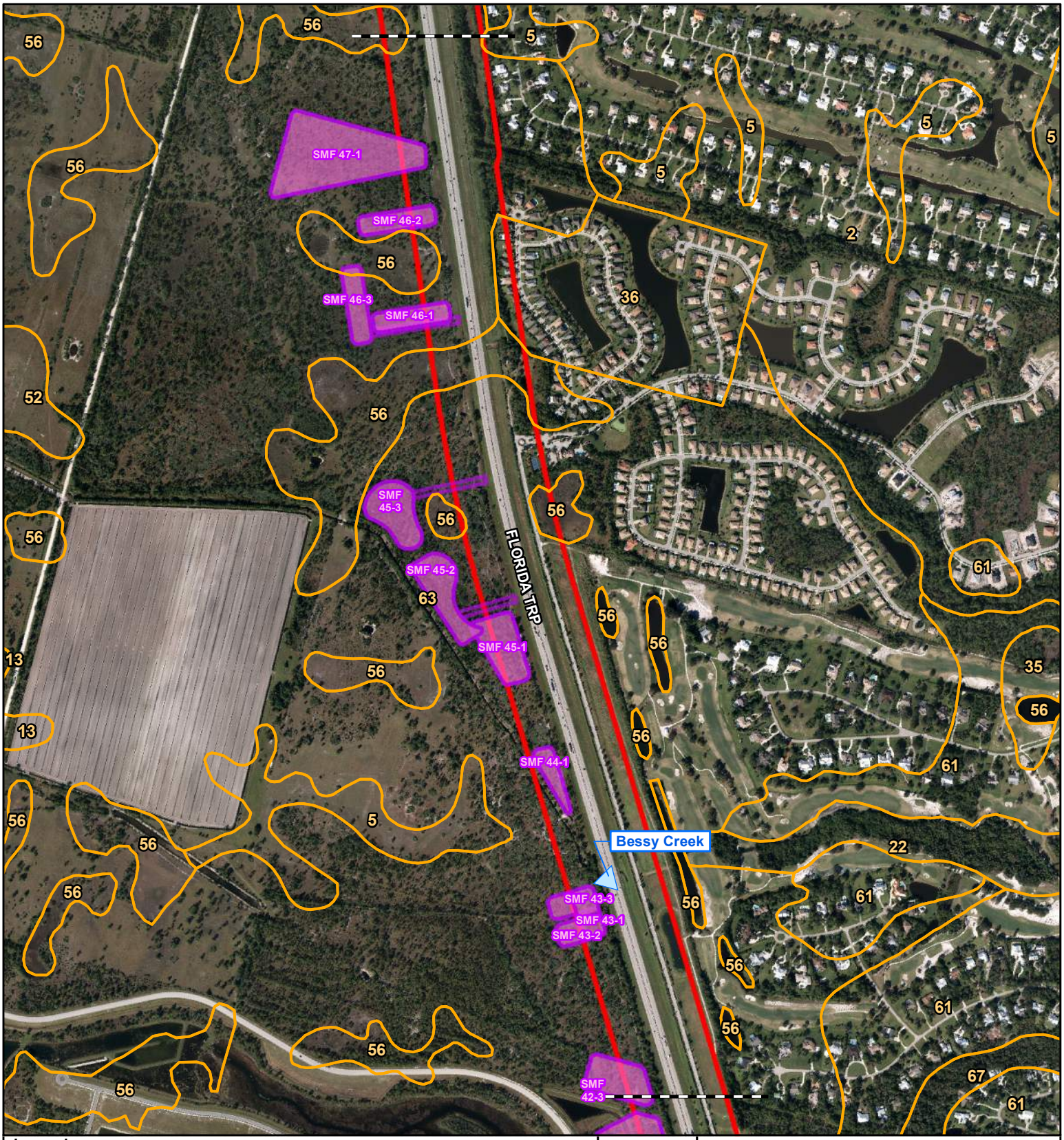

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

2: LAWNWOOD AND MYAKKA FINE SANDS (Martin County)

5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL

13: PLACID AND BASINGER FINE SANDS, DEPRESSIONAL

22: OKEELANTA MUCK

35: SALERNO SAND

36: ARENTS, 0 TO 2 PERCENT SLOPES

52: MALABAR FINE SAND, HIGH

56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL

61: HOBE FINE SAND, 0 TO 5 PERCENT SLOPES

63: NETTLES SAND

67: KESSON SAND, TIDAL

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Feet

NRCS Soils Map
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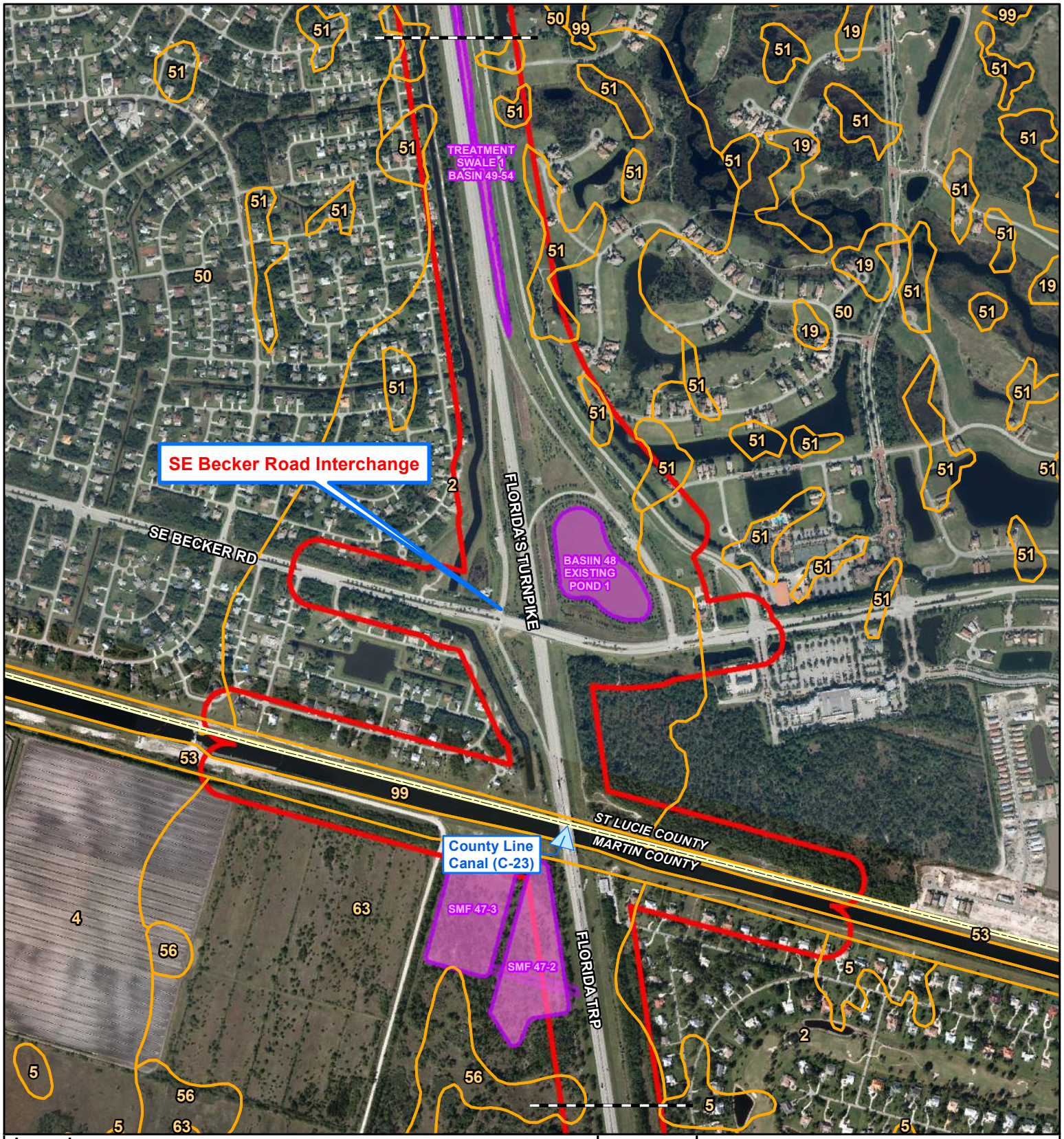

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing
- County Line

2: ANKONA AND FARMTON SANDS (St. Lucie County)

2: LAWNWOOD AND MYAKKA FINE SANDS (Martin County)

4: WAVELAND AND IMMOKALEE FINE SANDS (Martin County)

5: WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL

19: JONATHAN SAND, 0 TO 5 PERCENT SLOPES

50: WAVELAND AND IMMOKALEE FINE SANDS

51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL

53: UDORTHENTS, 0 TO 35 PERCENT SLOPES

56: WABASSO AND OLDSMAR FINE SANDS, DEPRESSIONAL

63: NETTLES SAND

99: WATER

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Feet

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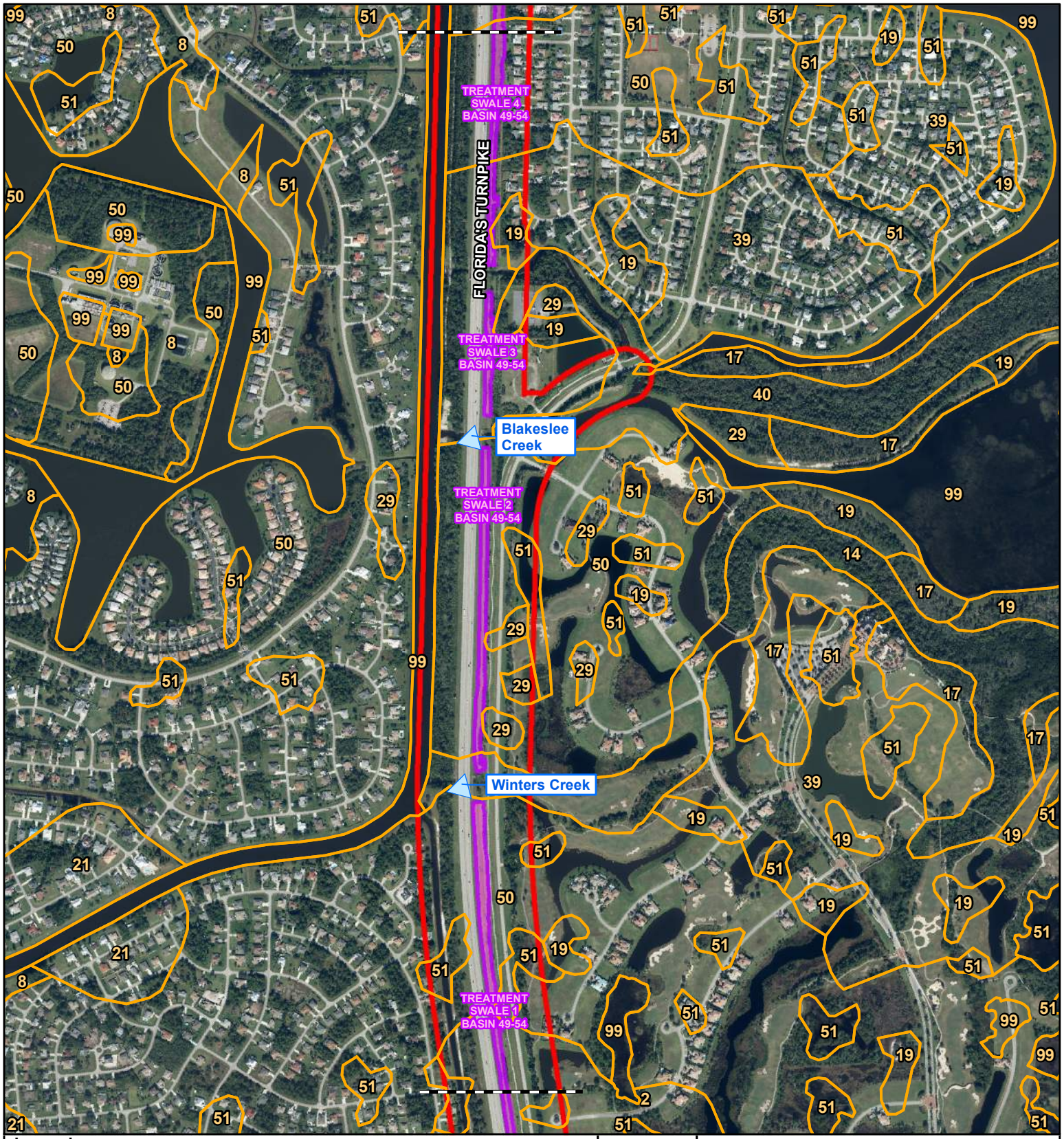

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

2: ANKONA AND FARMTON SANDS (St. Lucie County)

8: BASINGER SAND

14: FLUVAQUENTS, FREQUENTLY FLOODED

17: HOBE SAND, 0 TO 5 PERCENT SLOPES

19: JONATHAN SAND, 0 TO 5 PERCENT SLOPES

21: LAWNWOOD AND MYAKKA SANDS

29: PENDARVIS AND POMELLO SANDS, 0 TO 5 PERCENT SLOPES

39: SALERNO AND PUNTA SANDS

40: SAMSULA MUCK, DEPRESSIONAL

50: WAVELAND AND IMMOKALEE FINE SANDS

51: WAVELAND-LAWNWOOD COMPLEX, DEPRESSIONAL

99: WATER

N W E S

1,000 0 1,000

Feet

NRCS Soils Map
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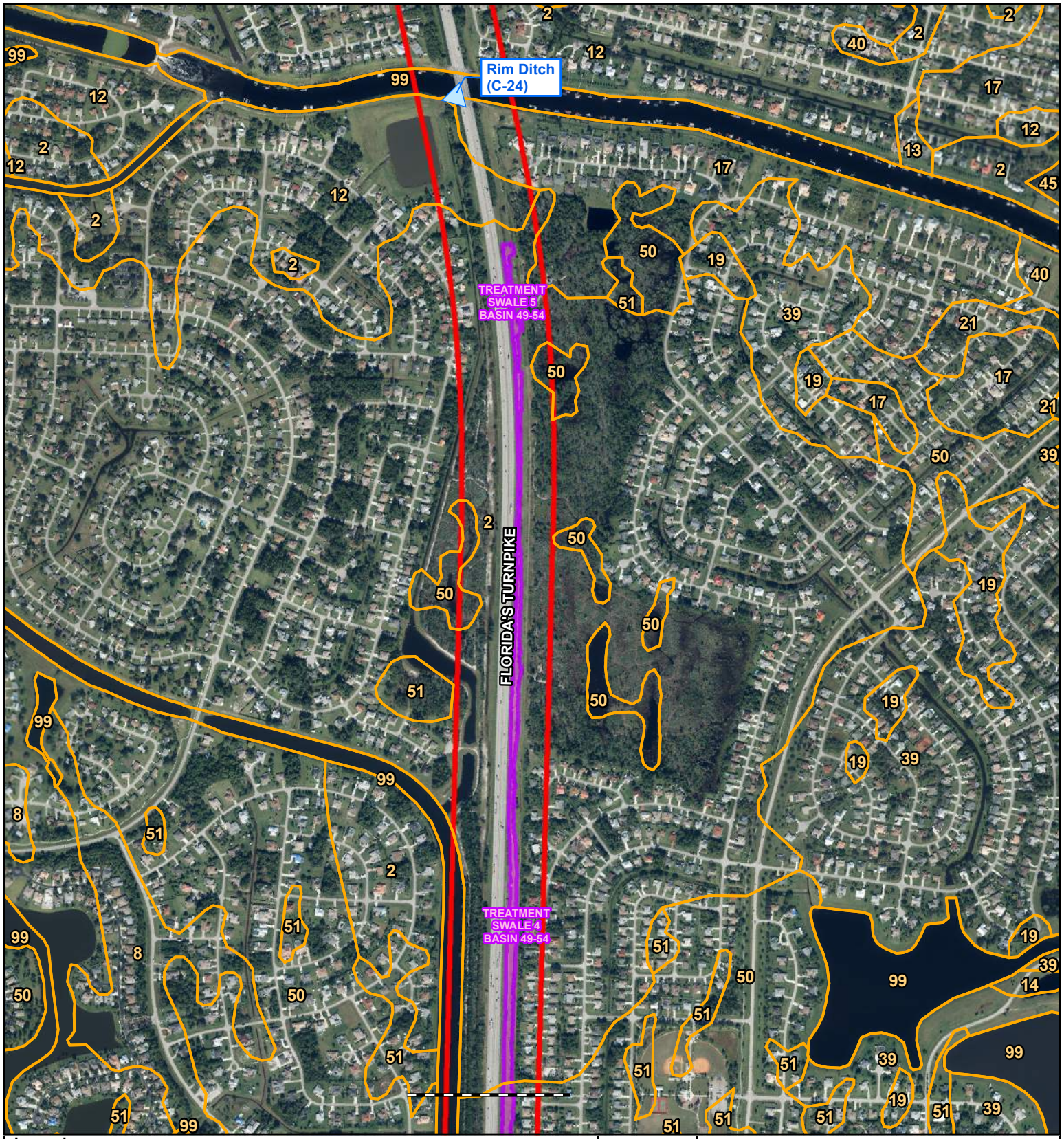

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

2: ANKONA AND FARMTON SANDS (St. Lucie County)

8: BASINGER SAND

12: ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES

13: FLORIDANA SAND, DEPRESSIONAL

14: FLUVAQUENTS, FREQUENTLY FLOODED

17: HOBE SAND, 0 TO 5 PERCENT SLOPES

19: JONATHAN SAND, 0 TO 5 PERCENT SLOPES

21: LAWNWOOD AND MYAKKA SANDS

39: SALERNO AND PUNTA SANDS

40: SAMSULA MUCK, DEPRESSIONAL

45: TERRA CEIA MUCK, FREQUENTLY FLOODED

50: WAVELAND AND IMMOKALEE FINE SANDS

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99: WATER

N W E S

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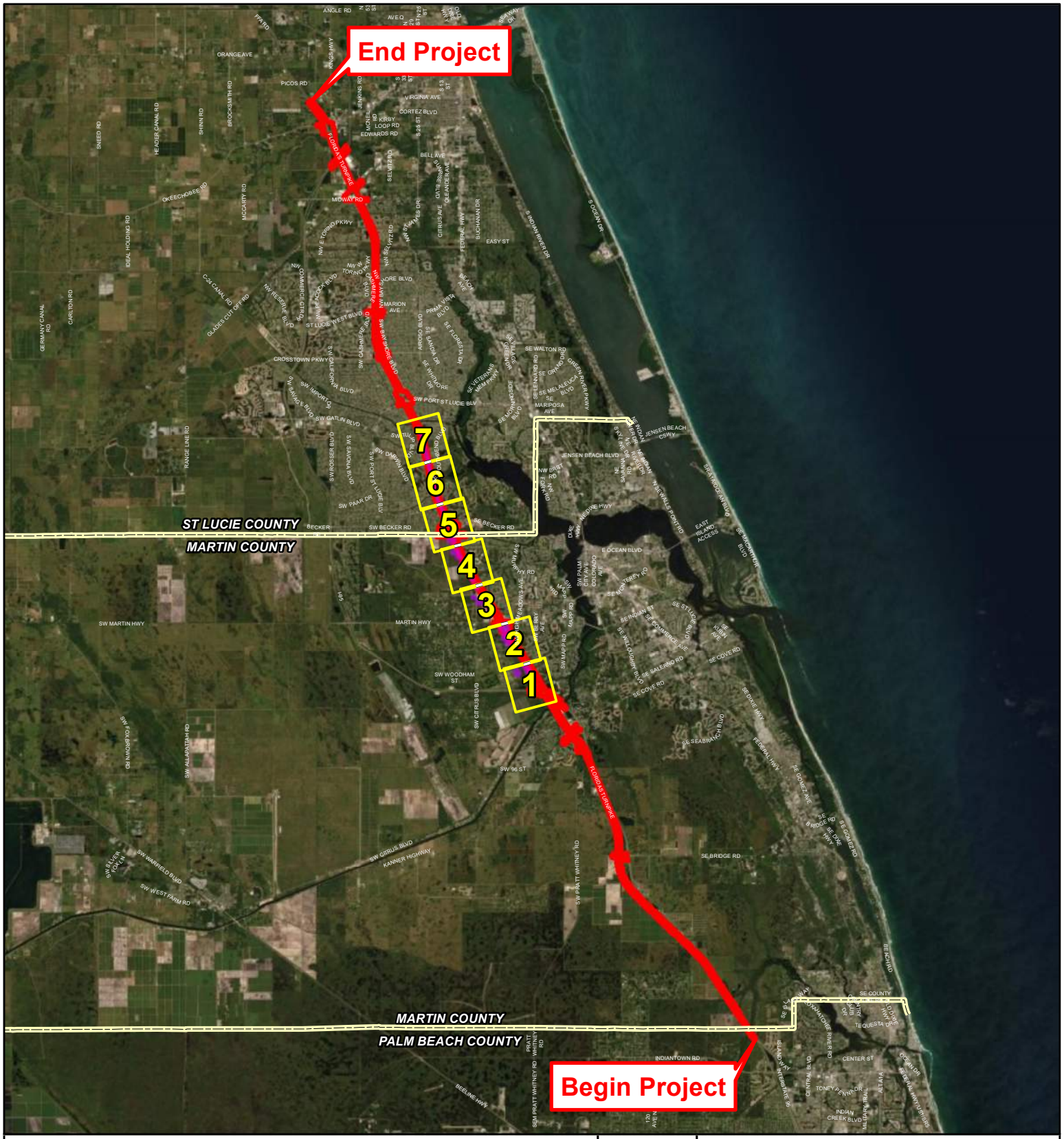
Attachment C: FLUCFCS Land Use Table and Map

Pond Site Land Use Table

Outfall	Basin	Pond Site	Total Acreage	FLUCFCS Classifications	Wetland and Other Surface Water Impact Acreage
Mapps Creek	Basin 38	**SMF 38-1 (Preferred)**	**16.23**	**411: Pine Flatwoods**	**None**
		SMF 38-2	16.21	411: Pine Flatwoods	None
		SMF 38-3	20.57	241: Tree Nurseries 310: Herbaceous (Dry Prairie) 411: Pine Flatwoods 510: Streams and Waterways	0.07 ac. other surface waters
Danforth Creek	Basin 39	SMF 39-1	7.43	211: Improved Pastures 254: Aquaculture 411: Pine Flatwoods 510: Streams and Waterways	0.26 ac.other surface waters
		SMF 39-2	5.82	243: Ornamentals 411: Pine Flatwoods 510: Streams and Waterways	0.002 ac. other surface waters
		SMF 39-3A (Preferred)	**2.90**	**243: Ornamentals**	**None**
		SMF 39-3B (Preferred)	**4.29**	**211: Improved Pastures** **243: Ornamentals** **510: Streams and Waterways**	**0.02 ac. other surface waters**
Danforth Creek	Basin 40	**SMF 40-1A (Preferred)**	**3.16**	**411: Pine Flatwoods**	**None**
		SMF 40-1B (Preferred)	**1.00**	**411: Pine Flatwoods**	**None**
		SMF 40-2A	2.41	631: Wetland Scrub	2.41 ac. shrub wetlands
		SMF 40-2B	1.61	411: Pine Flatwoods	None
		SMF 40-3	3.29	411: Pine Flatwoods	None
		Basin 40 Pond 1	7.63	530: Reservoirs 814: Roads and Highways 820: Communications	4.41 ac. other surface waters
		Basin 40 Pond 2	2.66	530: Reservoirs 814: Roads and Highways	2.01 ac. other surface waters
		Basin 40 Pond 3	3.08	411: Pine Flatwoods 530: Reservoirs 814: Roads and Highways	0.25 ac. other surface waters
Bessy Creek	Basin 41	SMF 41-1	9.06	140: Commercial and Services 411: Pine Flatwoods 510: Streams and Waterways	0.08 ac. other surface waters
		SMF 41-2	8.64	140: Commercial and Services 530: Reservoirs 740: Disturbed Land	0.01 ac. other surface waters
		SMF 41-3A	8.99	212: Unimproved Pastures 510: Streams and Waterways	0.04 ac. other surface waters
		SMF 41-3B	8.14	140: Commercial and Services 530: Reservoirs 740: Disturbed Land	0.01 ac. other surface waters
		SMF 41-4 (Preferred)	**9.74**	**212: Unimproved Pastures** **510: Streams and Waterways**	**0.04 ac. other surface waters**
Bessy Creek	Basin 42	SMF 42-1	3.10	411: Pine Flatwoods 530: Reservoirs	0.44 ac. other surface waters
		SMF 42-2	5.82	129: Medium Density Under Construction 171: Educational Facilities 411: Pine Flatwoods 510: Streams and Waterways 617: Mixed Wetland Hardwoods	0.07 ac. other surface waters 0.02 ac. forested wetlands
		SMF 42-3 (Preferred)	**3.07**	**411: Pine Flatwoods**	**None**

Outfall	Basin	Pond Site	Total Acreage	FLUCFCS Classifications	Wetland and Other Surface Water Impact Acreage
Bessy Creek	Basin 43	**SMF 43-1 (Preferred)**	**1.40**	**411: Pine Flatwoods**	**None**
		SMF 43-2	1.40	411: Pine Flatwoods	None
		SMF 43-3	1.40	411: Pine Flatwoods	None
Bessy Creek	Basin 44	**SMF 44-1 (Preferred)**	**1.23**	**411: Pine Flatwoods**	**None**
Bessy Creek	Basin 45	SMF 45-1	3.24	411: Pine Flatwoods 641: Freshwater Marshes	0.003 ac. herbaceous wetlands
		SMF 45-2 (Preferred)	**3.74**	**411: Pine Flatwoods** **510: Streams and Waterways** **814: Roads and Highways**	**0.02 ac. other surface waters**
		SMF 45-3	3.87	411: Pine Flatwoods 510: Streams and Waterways 625: Wet Pinelands Hydric Pine	0.02 ac. other surface waters 0.21 ac. forested wetlands
Bessy Creek	Basin 46	**SMF 46-1 (Preferred)**	**1.99**	**411: Pine Flatwoods**	**None**
		SMF 46-2	1.98	411: Pine Flatwoods	None
		SMF 46-3	2.76	411: Pine Flatwoods	None
County Line Canal (C-23)	Basin 47	SMF 47-1	10.61	411: Pine Flatwoods	None
		SMF 47-2 (Preferred)	**10.65**	**411: Pine Flatwoods**	**None**
		SMF 47-3	11.42	411: Pine Flatwoods	None
County Line Canal (C-23)	Basin 48	Basin 48 Existing Pond 1	8.28	530: Reservoirs 814: Roads and Highways	8.02 ac. other surface waters
Basins 49 - 54		Treatment Swale 1	5.85	129: Medium Density Under Construction 814: Roads and Highways	None
		Treatment Swale 2	2.96	129: Medium Density Under Construction 510: Streams and Waterways 814: Roads and Highways	1.46 ac. other surface waters
		Treatment Swale 3	1.09	129: Medium Density Under Construction 630: Wetland Forested Mixed 814: Roads and Highways	0.03 ac. forested wetlands
		Treatment Swale 4	7.49	121: Fixed Single Family Units 510: Streams and Waterways 814: Roads and Highways	3.90 ac. other surface waters
		Treatment Swale 5	0.86	814: Roads and Highways	None


End Project
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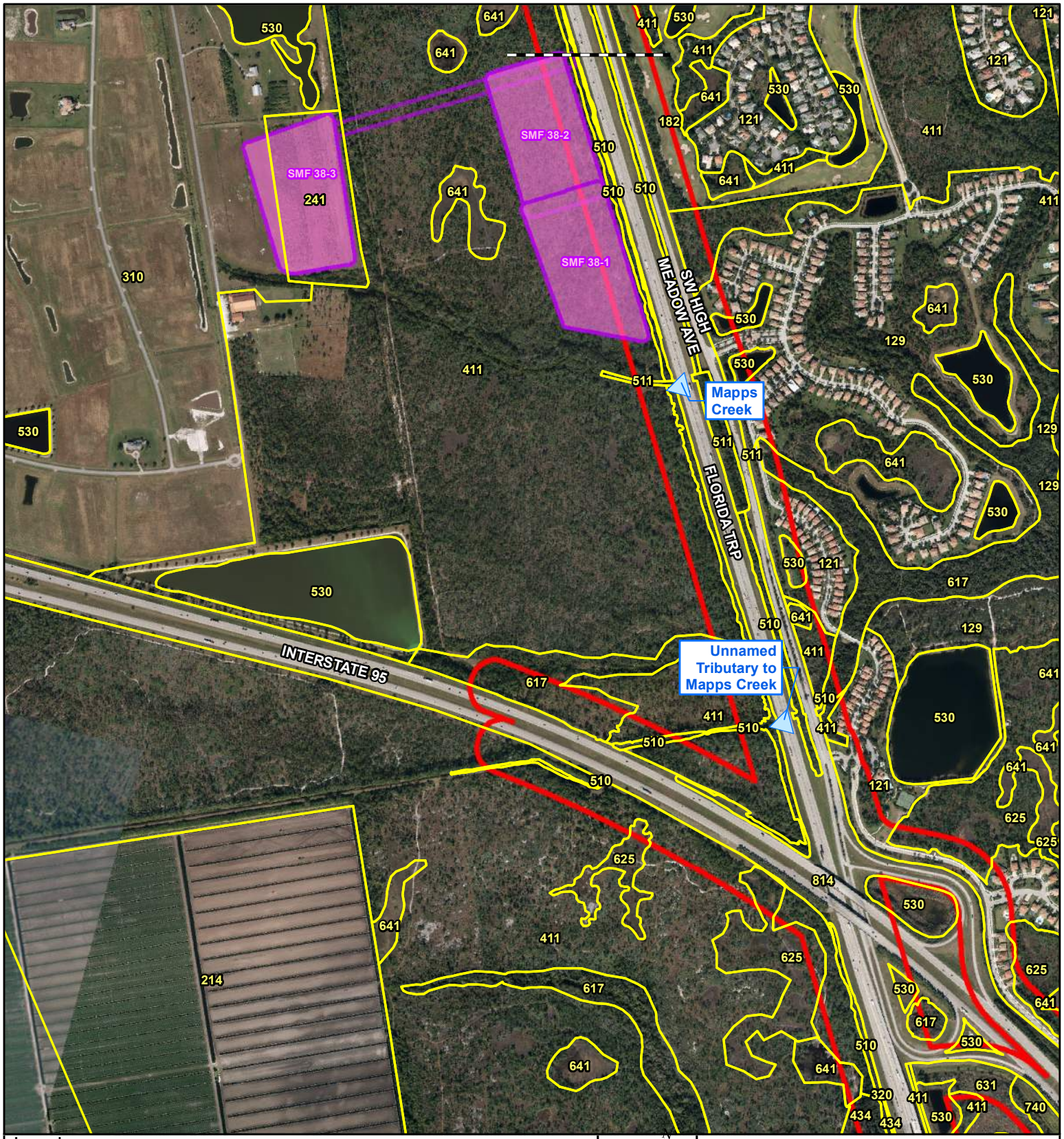
ST LUCIE COUNTY
MARTIN COUNTY
MARTIN COUNTY
PALM BEACH COUNTY
FLORIDA'S TURNPIKE
SW MARTIN HWY
SW WOODHAM ST
SW 96 ST
SE BRIDGE RD
INDIANTOWN RD
SW KANNER HIGHWAY
SW GIBBS BLVD
SW PRATT WHITNEY RD
SW WARFIELD BLVD
SW WEST PALM RD
SW CITRUS BLVD
SW ALLAPATTAH RD
SW FOX BROWN RD
SW SILVER SPUR LN
SE SALERNO RD
SE COVE RD
SE INDIAN ST
SE COMMERCE AVE
SE DIXIE HWY
SE SEABRANCH BLVD
SE OCEANIC AVE
SE BRIDGE RD
SE DOVE WAY
SE DOVE RD
SE CLOVE RD
SE COUNTY
TEQUESTA DR
CENTER ST
OCEAN DR
BEACH RD
INDIAN CREEK BLVD
SE OCEAN BLVD
E OCEAN BLVD
JENSEN BEACH BLVD
JENSEN BEACH CSWY
SE FEDERAL HWY
SE MONTEREY RD
SE WILLOUGHBY BLVD
SE MAPP RD
SW MAPP RD
SW PALM CITY RD
SW MONTEREY RD
SW BAYSHORE BLVD
SW PORT ST LUCIE BLV
SW GATLIN BLVD
SW BECKER RD
SE BECKER RD
SW PAAR DR
SW DARWIN BLVD
SW SAVANNAS BLVD
SW IMPORT DR
SW SAVAGE BLVD
SW CROSSTOWN PKWY
SW GABRIELLE BLVD
SW COMMERCE CENTRE DR
NW COMMERCE CENTRE DR
NW RESERVE BLVD
NW E TORINO PKWY
NW W TORINO PKWY
ST LUCIE WEST BLVD
SE WALTON RD
SE LENNARD RD
SE GRAND DR
SE MELALEUCA BLVD
SE MARIPOSA AVE
SE MORNINGSIDE BLVD
SE VERANO BLVD
SE PRIMA VISTA BLVD
SE FLORESTA DR
SE SANTA BARBARA BLVD
SE SANTA CRUZ BLVD
SE SANTA ROSA BLVD
SE SANTA MARIA BLVD
SE SANTA CRUZ DR
SE SANTA ROSA DR
SE SANTA MARIA DR
SE WHITMORE DR
SE VETERANS MEMORIAL PKWY
SE MARIPOSA AVE
SE PORT ST LUCIE BLVD
SE RIVERSIDE DR
SE OCEAN DR
S OCEAN DR
S INDIAN RIVER DR
GREEN RIVER PKWY
NW BRIGHT RD
NW DAVIS RD
NW WILLS POINTE
EAST ISLAND ACCESS
SE MONTEREY RD
SE WILLOUGHBY BLVD
SE MAPP RD
SW MAPP RD
SW PALM CITY RD
SW MONTEREY RD
SE INDIAN ST
SE COMMERCE AVE
SE COVE RD
SE SALERNO RD
SE WILLOUGHBY BLVD



Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing
- 121: Fixed Single Family Units, Med. Density
- 129: Medium Density Under Construction
- 182: Golf Course
- 214: Row Crops
- 241: Tree Nurseries
- 310: Herbaceous (Dry Prairie)
- 320: Upland Shrub and Brushland
- 411: Pine Flatwoods
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 511: Natural River, Stream, Waterway
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 625: Wet Pinelands Hydric Pine
- 631: Wetland Scrub
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 740: Disturbed Land
- 814: Roads and Highways

N W E S

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FLUCFCS Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
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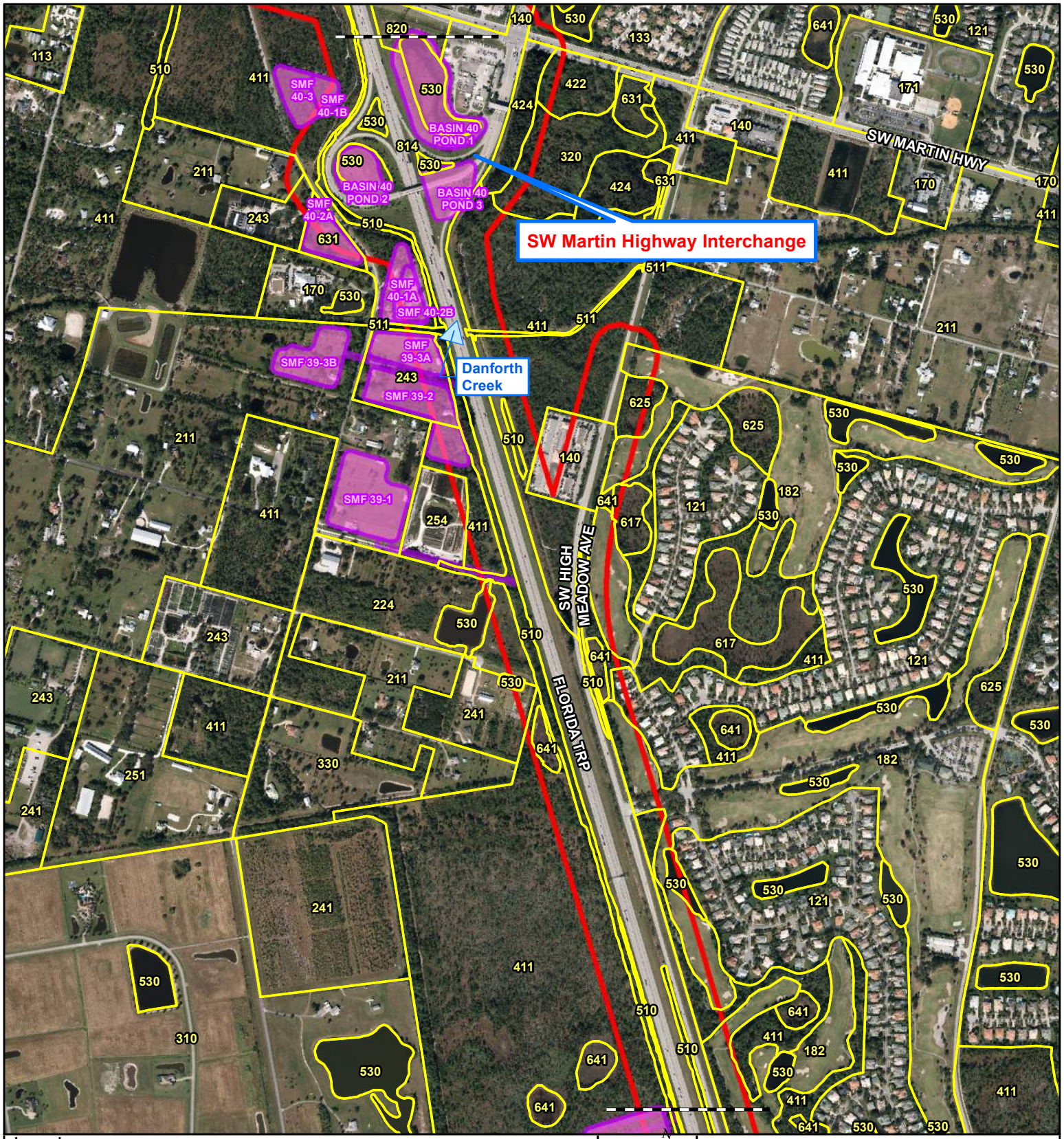

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing
- 113: Mixed Units, Fixed and Mobile Home Units
- 121: Fixed Single Family Units, Med. Density
- 133: Multiple Dwelling Units, Low Rise
- 140: Commercial and Services
- 170: Institutional
- 171: Educational Facilities
- 182: Golf Course
- 211: Improved Pastures
- 224: Abandoned Groves
- 241: Tree Nurseries
- 243: Ornamentals
- 251: Horse Farms
- 254: Aquaculture
- 310: Herbaceous (Dry Prairie)
- 320: Upland Shrub and Brushland
- 330: Mixed Rangeland
- 411: Pine Flatwoods
- 422: Brazilian Pepper
- 424: Melaleuca
- 510: Streams and Waterways
- 511: Natural River, Stream, Waterway
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 625: Wet Pinelands Hydric Pine
- 631: Wetland Scrub
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 814: Roads and Highways
- 820: Communications

N W E S

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Feet

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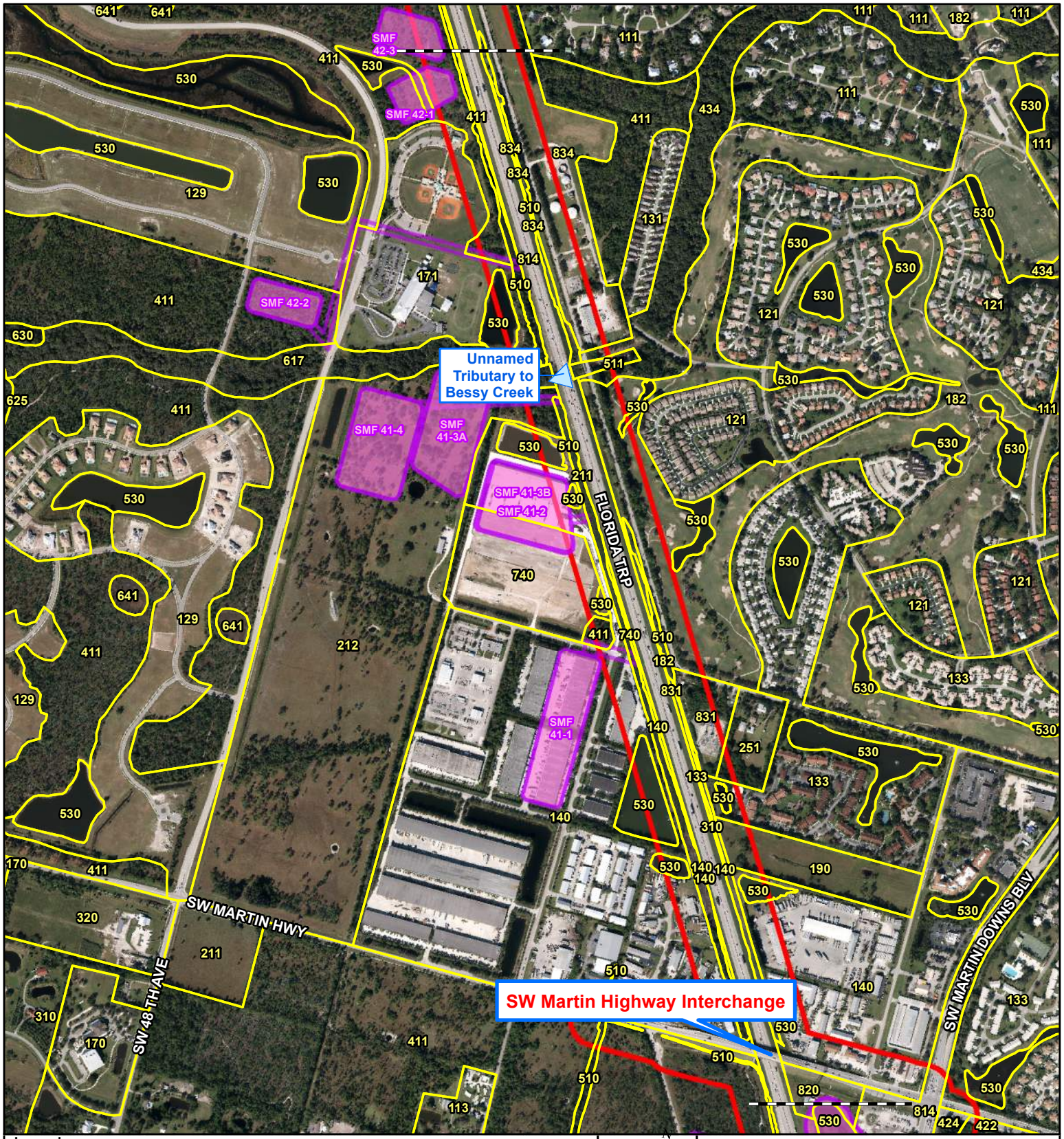

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

111: Fixed Single Family Units
113: Mixed Units, Fixed and Mobile Home Units
121: Fixed Single Family Units, Med. Density
129: Medium Density Under Construction
131: Fixed Single Family Units, (>6 units/acre)
133: Multiple Dwelling Units, Low Rise
140: Commercial and Services
170: Institutional
171: Educational Facilities
182: Golf Course
190: Open Land
211: Improved Pastures
212: Unimproved Pastures
251: Horse Farms
310: Herbaceous (Dry Prairie)
320: Upland Shrub and Brushland
411: Pine Flatwoods
422: Brazilian Pepper
424: Melaleuca
434: Upland Mixed Coniferous / Hardwood
510: Streams and Waterways
511: Natural River, Stream, Waterway
530: Reservoirs
617: Mixed Wetland Hardwoods
625: Wet Pinelands Hydric Pine
630: Wetland Forested Mixed
641: Freshwater Marshes / Graminoid Prairie - Marsh
740: Disturbed Land
814: Roads and Highways
820: Communications
831: Electrical Power Facilities
834: Sewage Treatment

N W E S

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Feet

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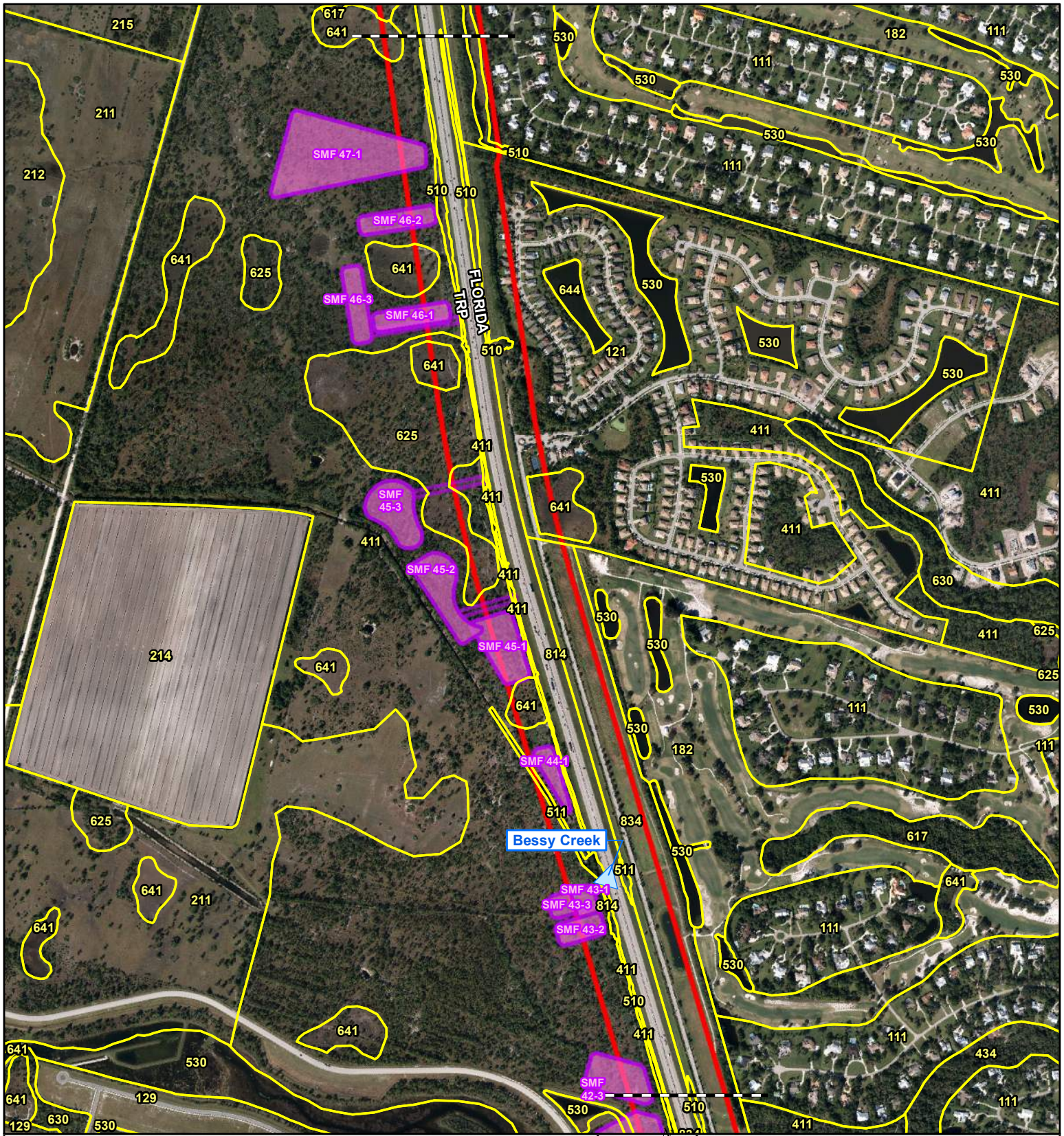

Legend

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- 111: Fixed Single Family Units
- 121: Fixed Single Family Units, Med. Density
- 129: Medium Density Under Construction
- 182: Golf Course
- 211: Improved Pastures
- 212: Unimproved Pastures
- 214: Row Crops
- 215: Field Crops
- 411: Pine Flatwoods
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 511: Natural River, Stream, Waterway
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 625: Wet Pinelands Hydric Pine
- 630: Wetland Forested Mixed
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 644: Emergent Aquatic Vegetation
- 814: Roads and Highways
- 834: Sewage Treatment

N W E S

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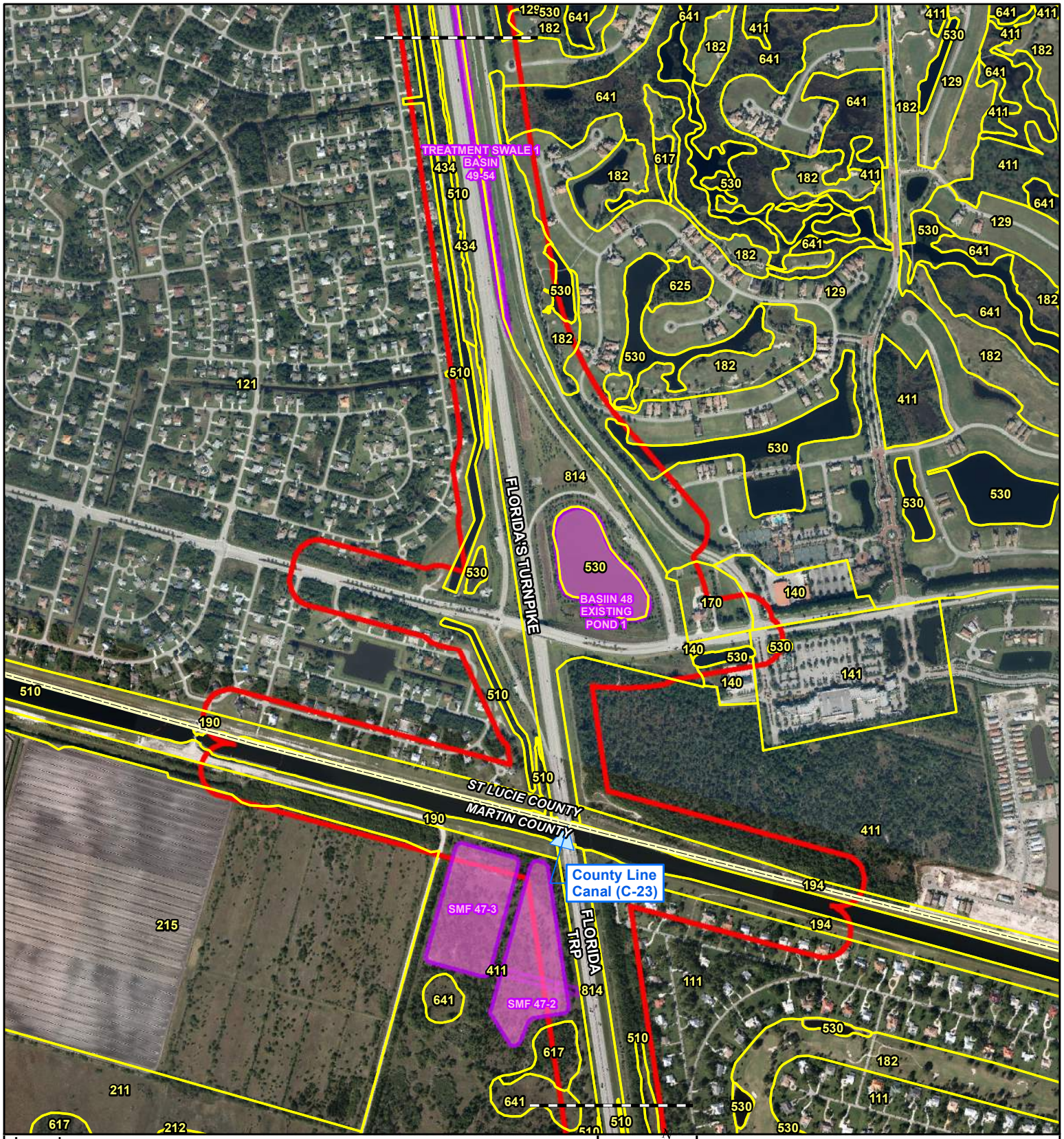

Legend

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- Easement
- Other Surface Water Crossing
- County Line
- 111: Fixed Single Family Units
- 121: Fixed Single Family Units, Med. Density
- 129: Medium Density Under Construction
- 140: Commercial and Services
- 141: Shopping Centers
- 170: Institutional
- 182: Golf Course
- 190: Open Land
- 194: Other Open Land
- 211: Improved Pastures
- 212: Unimproved Pastures
- 215: Field Crops
- 411: Pine Flatwoods
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 530: Reservoirs
- 617: Mixed Wetland Hardwoods
- 625: Wet Pinelands Hydric Pine
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 814: Roads and Highways

N W E S

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Feet

FLUCFCS Land Use Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

Kisinger Campo & Associates, Corp.
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Phone: 813/871-5331
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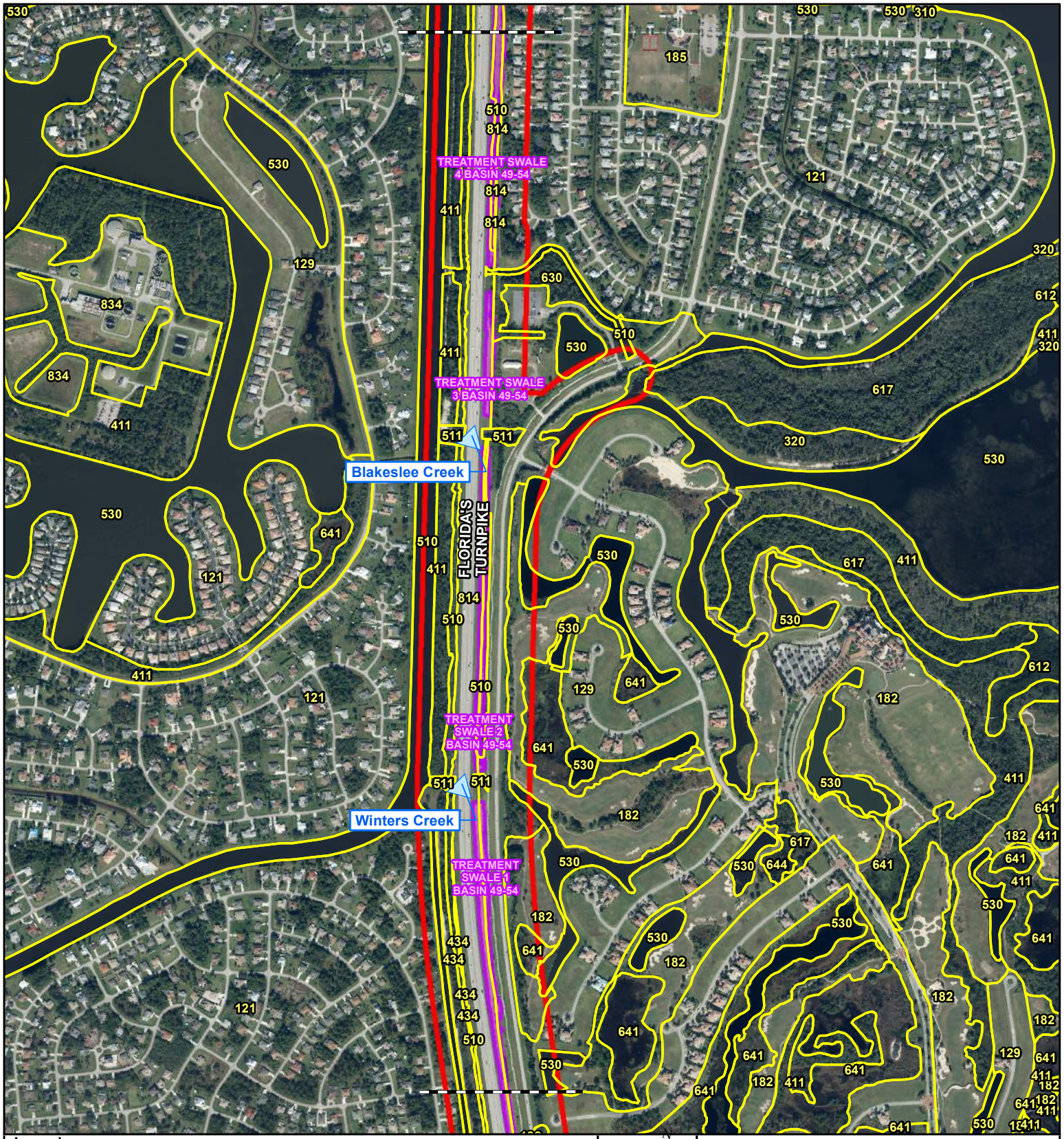
Attachment C
Page 5 of 7



Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing
- 121: Fixed Single Family Units, Med. Density
- 129: Medium Density Under Construction
- 182: Golf Course
- 185: Parks and Zoos
- 310: Herbaceous (Dry Prairie)
- 320: Upland Shrub and Brushland
- 411: Pine Flatwoods
- 434: Upland Mixed Coniferous / Hardwood
- 510: Streams and Waterways
- 511: Natural River, Stream, Waterway
- 530: Reservoirs
- 612: Mangrove Swamp
- 617: Mixed Wetland Hardwoods
- 630: Wetland Forested Mixed
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 644: Emergent Aquatic Vegetation
- 814: Roads and Highways
- 834: Sewage Treatment

N W E S

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Feet

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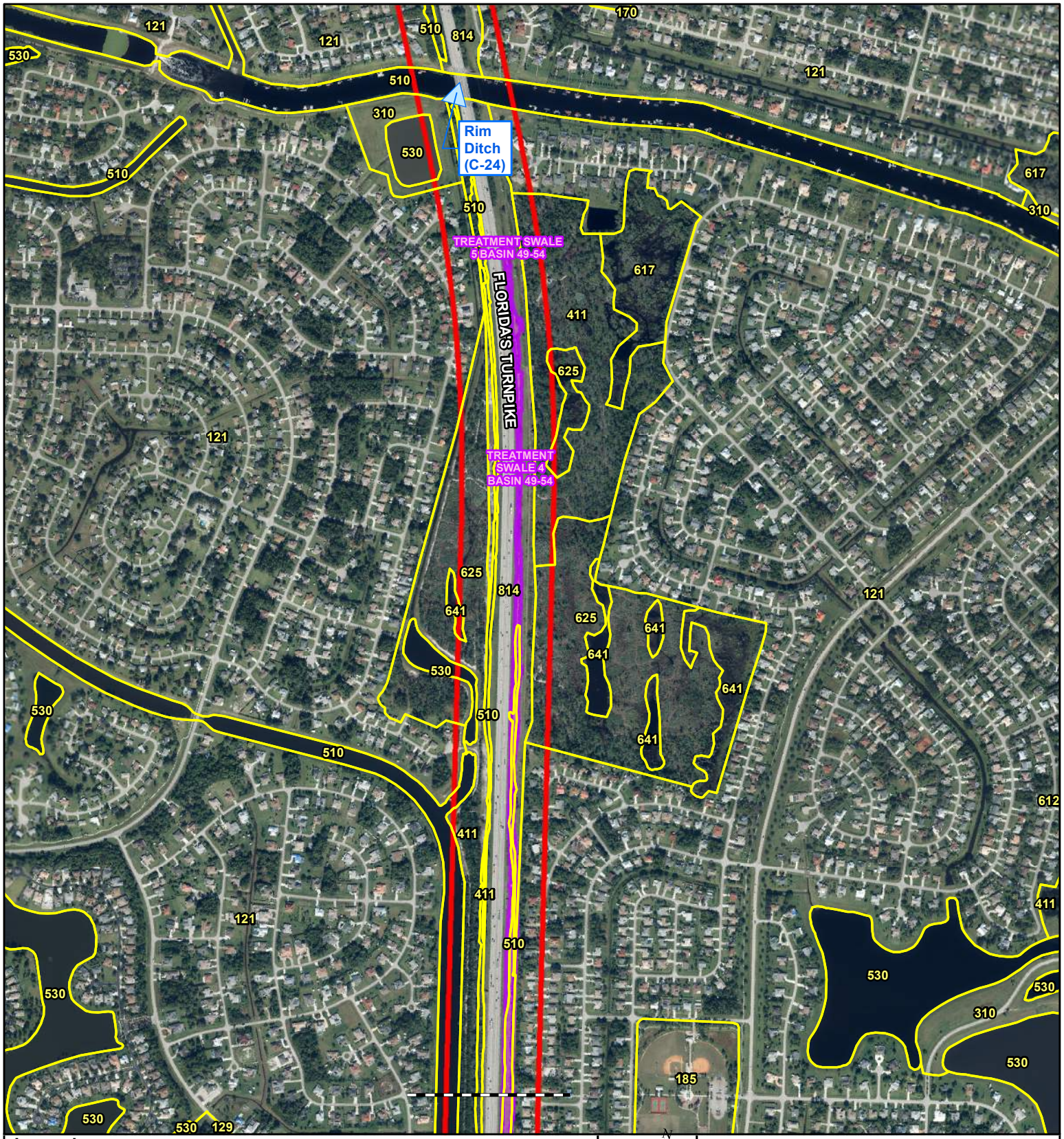

Legend

- Project Study Area
- Pond Site
- Easement
- Other Surface Water Crossing

121: Fixed Single Family Units, Med. Density

129: Medium Density Under Construction

170: Institutional

185: Parks and Zoos

310: Herbaceous (Dry Prairie)

411: Pine Flatwoods

510: Streams and Waterways

530: Reservoirs

612: Mangrove Swamp

617: Mixed Wetland Hardwoods

625: Wet Pinelands Hydric Pine

641: Freshwater Marshes / Graminoid Prairie - Marsh

814: Roads and Highways

N W E S

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Feet

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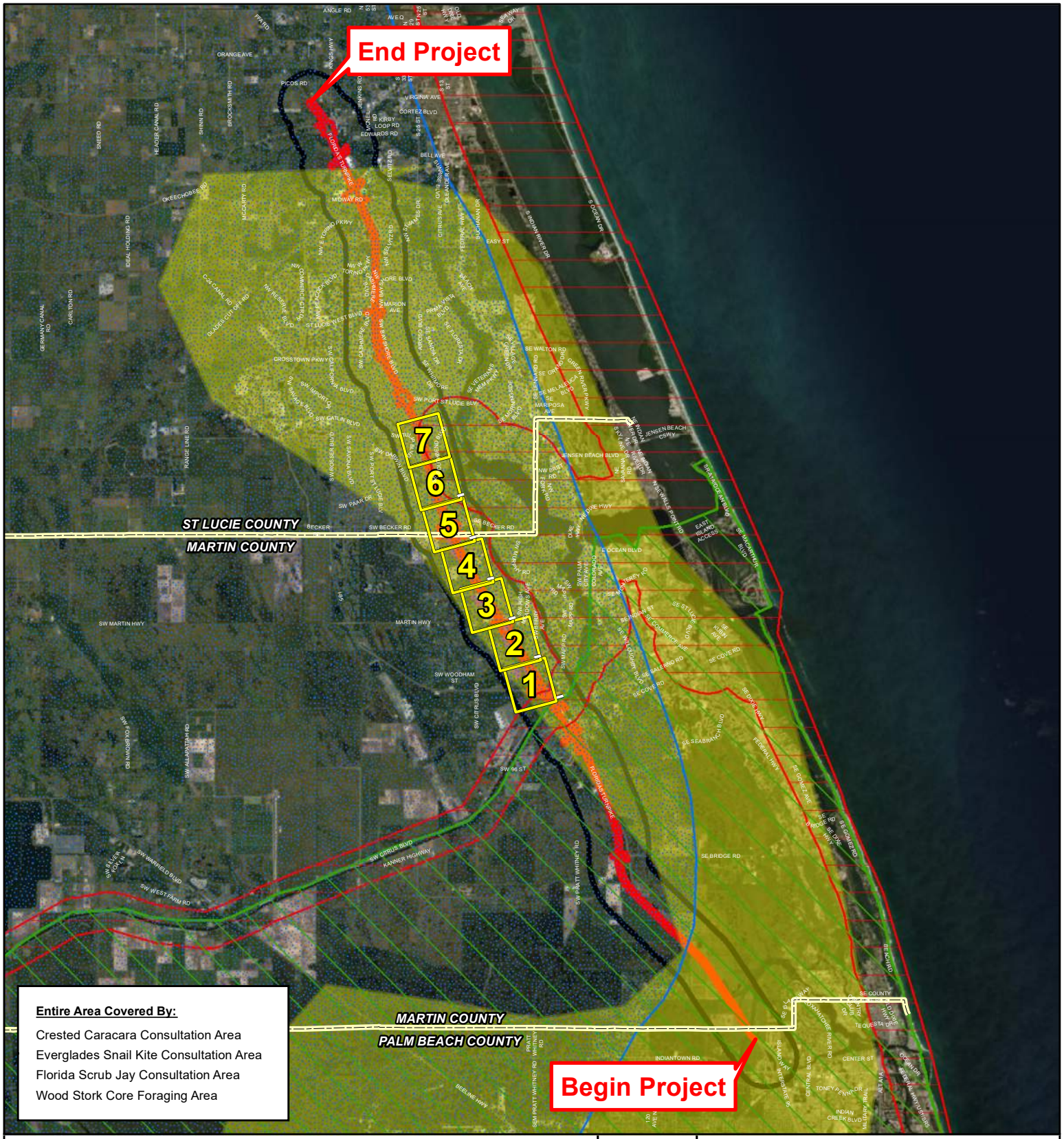
Attachment D: Protected Species Table and Map

Potential Protected Species Involvement Table

Pond Site	Hand Fern (*Ophioglossum palmatum*)	Toothed Maiden Fern (*Thelypteris serrata*)	Smalltooth Sawfish (*Pristis pectinata*)	American Alligator (*Alligator mississippiensis*)	Eastern Indigo Snake (*Drymarchon couperi*)	Gopher Tortoise (*Gopherus polyphemus*)	Florida Pine Snake (*Pituophis melanoleucus mugitus*)	Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)	Florida Sandhill Crane (*Antigone canadensis pratensis*)	Florida Scrub-jay (*Aphelocoma coerulescens*)	Florida Burrowing Owl (*Athene cunicularia floridana*)	Crested Caracara (*Caracara cheriway*)	Little Blue Heron (*Egretta caerulea*)	Tricolored Heron (*Egretta tricolor*)	Southeastern American Kestrel (*Falco sparverius paulus*)	Red-cockaded Woodpecker (*Leuconotopicus borealis*)	Wood Stork (*Mycteria americana*)	Roseate Spoonbill (*Platalea ajaja*)	Everglade Snail Kite (*Rostrhamus sociabilis*)	Least Tern (*Sternula antillarum*)	Florida Bonneted Bat (*Eumops floridanus*)	West Indian Manatee (*Trichechus manatus*)	Florida Grasshopper Sparrow	Florida Scrub-jay	Crested Caracara	Red-cockaded Woodpecker	Everglade Snail Kite	West Indian Manatee
	Potential Habitat Present																						**Consultation Area**					
SMF 38-1 (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 38-2					X	X	X								X	X					X		X	X	X	X	X	
SMF 38-3				X	X	X	X	X	X		X	X	X	X	X		X	X	X		X		X	X	X	X	X	
SMF 39-1				X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 39-2				X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 39-3A (Preferred)																							**X**	**X**	**X**	**X**	**X**	
SMF 39-3B (Preferred)				**X**	**X**	**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**	**X**		**X**	**X**	**X**		**X**		**X**	**X**	**X**	**X**	**X**	
SMF 40-1A (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 40-1B (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 40-2A				X	X				X				X	X			X	X					X	X	X	X	X	
SMF 40-2B					X	X	X								X	X					X		X	X	X	X	X	
SMF 40-3					X	X	X								X	X					X		X	X	X	X	X	
Basin 40 Pond 1				X		X			X				X	X			X	X	X				X	X	X	X	X	
Basin 40 Pond 2				X		X			X				X	X			X	X	X				X	X	X	X	X	
Basin 40 Pond 3				X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 41-1				X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 41-2				X		X			X				X	X			X	X	X				X	X	X	X	X	
SMF 41-3A				X	X	X	X	X	X		X	X	X	X			X	X	X		X		X	X	X	X	X	
SMF 41-3B				X	X	X	X	X	X		X	X	X	X	X		X	X	X		X		X	X	X	X	X	
SMF 41-4 (Preferred)				**X**	**X**	**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**			**X**	**X**	**X**		**X**		**X**	**X**	**X**	**X**	**X**	
SMF 42-1				X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 42-2	X	X		X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 42-3 (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 43-1 (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 43-2					X	X	X								X	X					X		X	X	X	X	X	
SMF 43-3					X	X	X								X	X					X		X	X	X	X	X	
SMF 44-1 (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 45-1				X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 45-2 (Preferred)				**X**	**X**	**X**	**X**						**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**		**X**	**X**	**X**	**X**	**X**	
SMF 45-3	X	X		X	X	X	X		X				X	X	X	X	X	X	X		X		X	X	X	X	X	
SMF 46-1 (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 46-2					X	X	X								X	X					X		X	X	X	X	X	
SMF 46-3					X	X	X								X	X					X		X	X	X	X	X	
SMF 47-1					X	X	X								X	X					X		X	X	X	X	X	
SMF 47-2 (Preferred)					**X**	**X**	**X**								**X**	**X**					**X**		**X**	**X**	**X**	**X**	**X**	
SMF 47-3					X	X	X								X	X					X		X	X	X	X	X	
Basin 48 Existing Pond 1				X		X			X				X	X			X	X	X				X	X	X	X	X	
Treatment Swale 1						X																	X	X	X	X	X	
Treatment Swale 2				X		X			X				X	X			X	X	X				X	X	X	X	X	
Treatment Swale 3	X	X		X	X	X							X	X			X	X			X		X	X	X	X	X	
Treatment Swale 4				X		X			X				X	X			X	X	X				X	X	X	X	X	X
Treatment Swale 5						X																	X	X	X	X	X	X



Legend

- Project Study Area
- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Page Number
- County Line
- Florida Grasshopper Sparrow Consultation Area
- Florida Bonneted Bat Consultation Area
- West Indian Manatee Consultation Area
- Red Cockaded Woodpecker Consulation Area

N W E S

24,000 0 24,000

Feet

Protected Species Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

Palm Beach, Martin, St. Lucie Counties, FL
FPID No.: 423374-1-22-01

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Attachment D
Key Sheet

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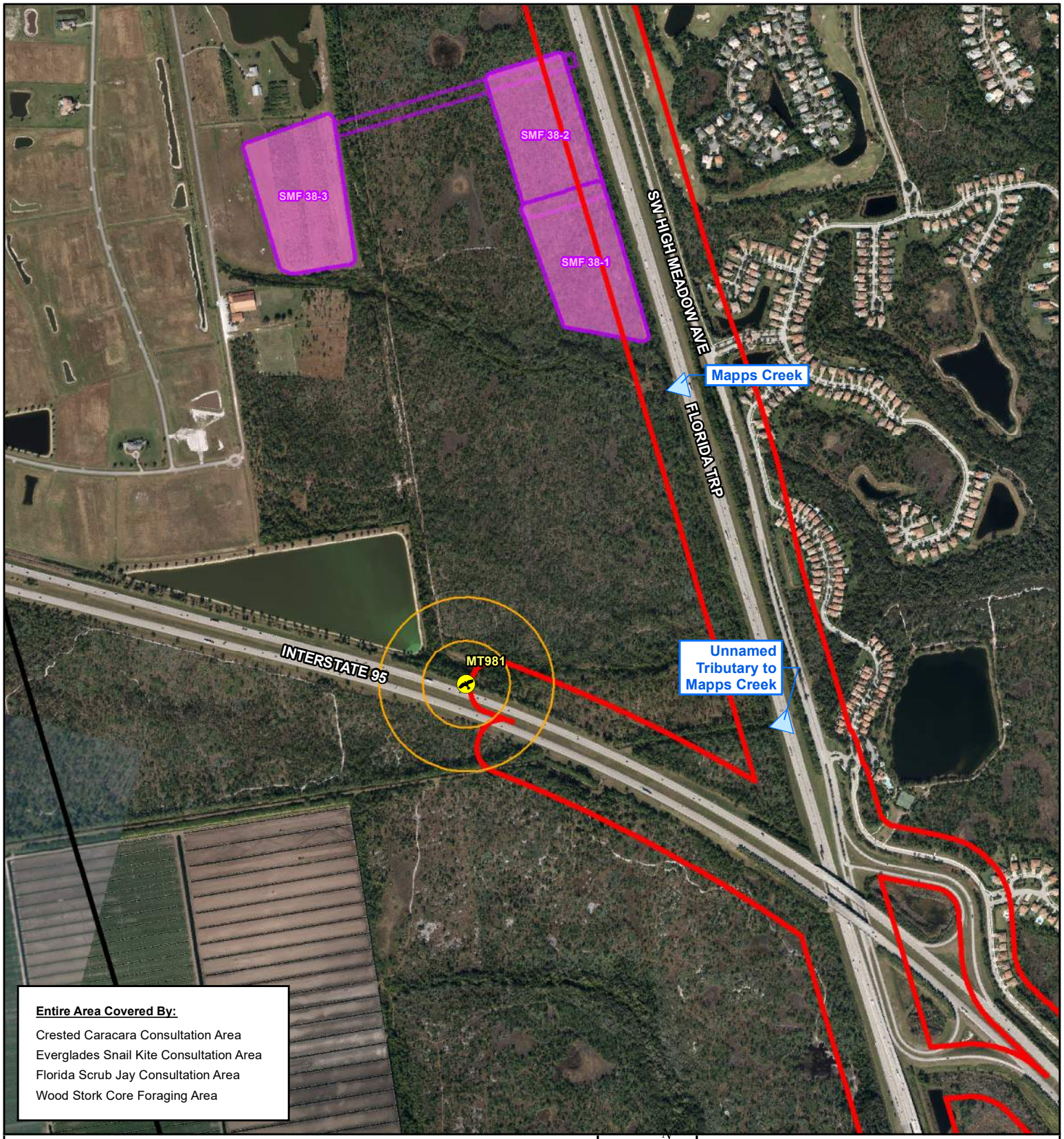

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing
- Bald Eagle Nest
- 330/660ft Eagle Nest Buffer

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Feet

Protected Species Map
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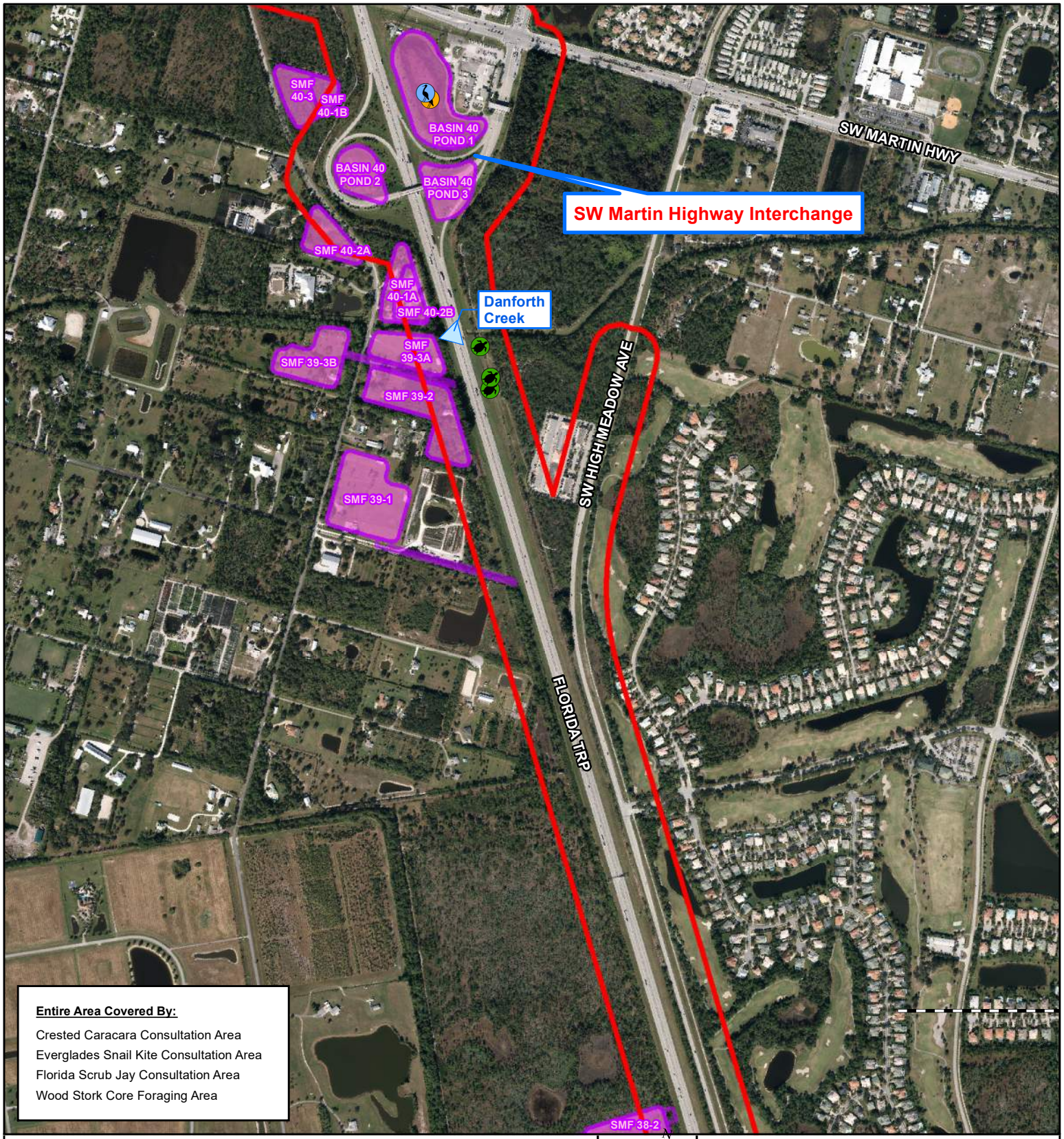

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing
- Florida Sandhill Crane Nest
- Gopher Tortoise Burrow
- Little Blue Heron

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Feet

Protected Species Map
Florida's Turnpike Mainline Widening from Jupiter to Fort Pierce

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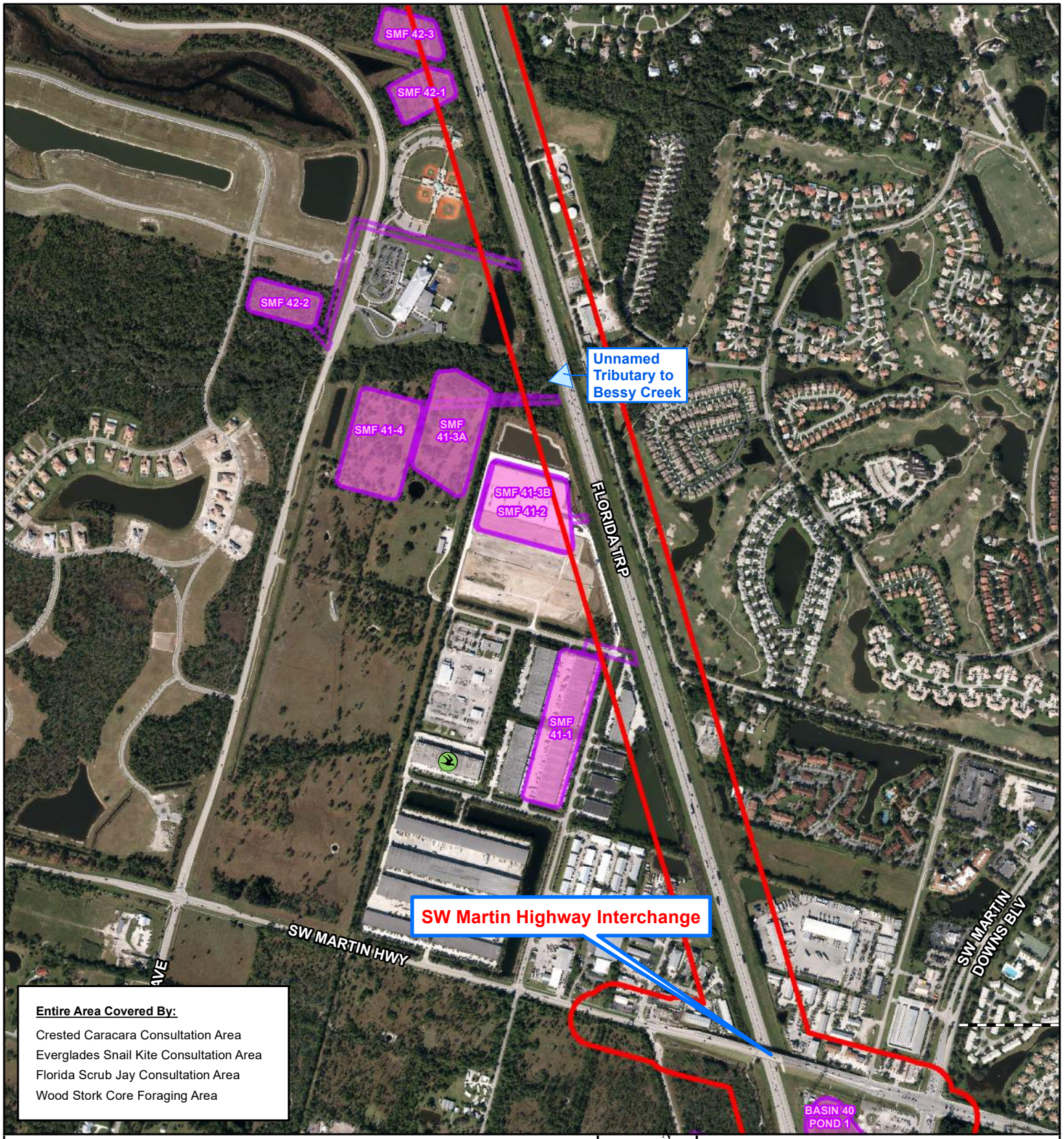

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing
- Least Tern

N W E S

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Feet

Protected Species Map
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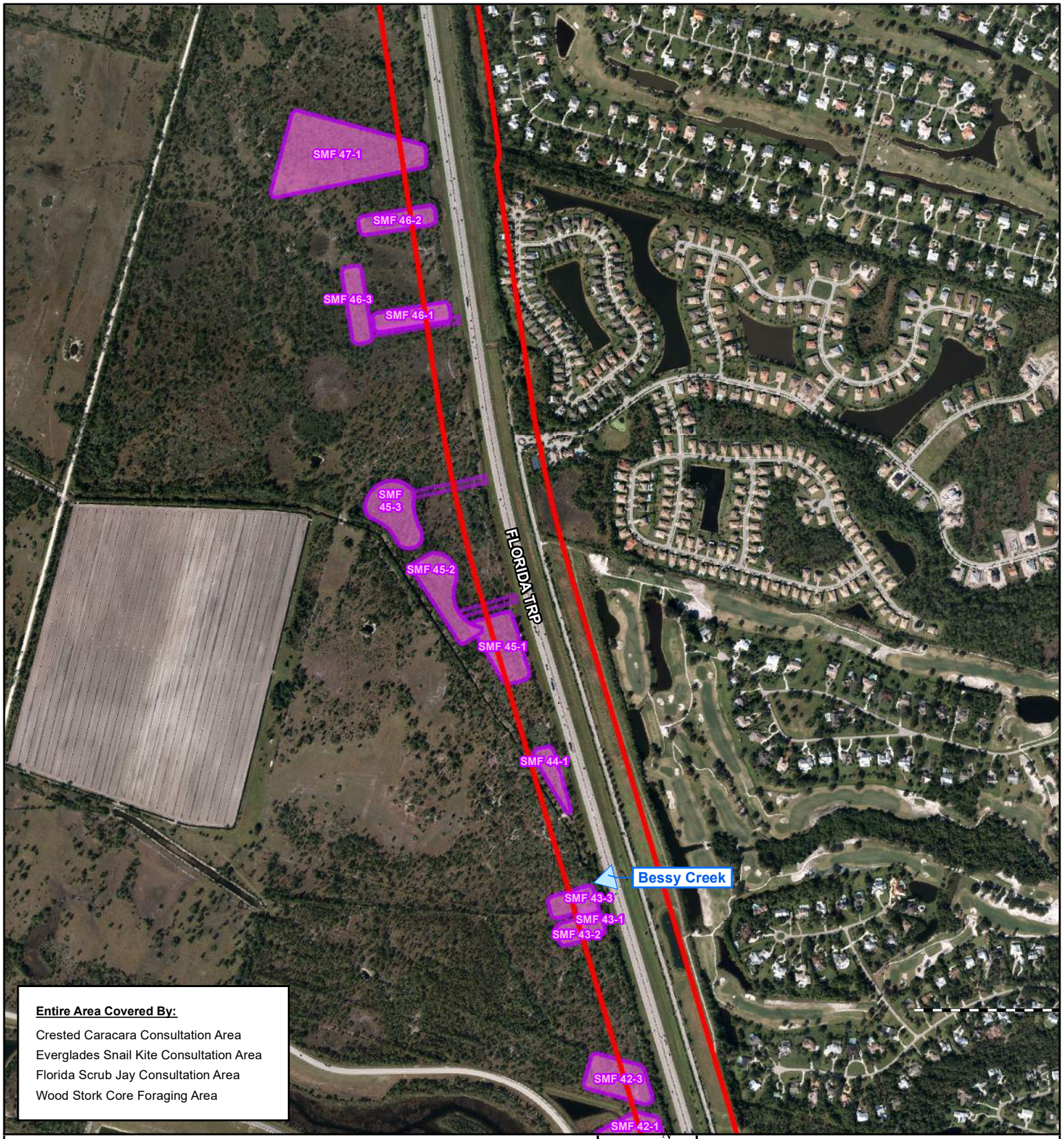

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing

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Feet

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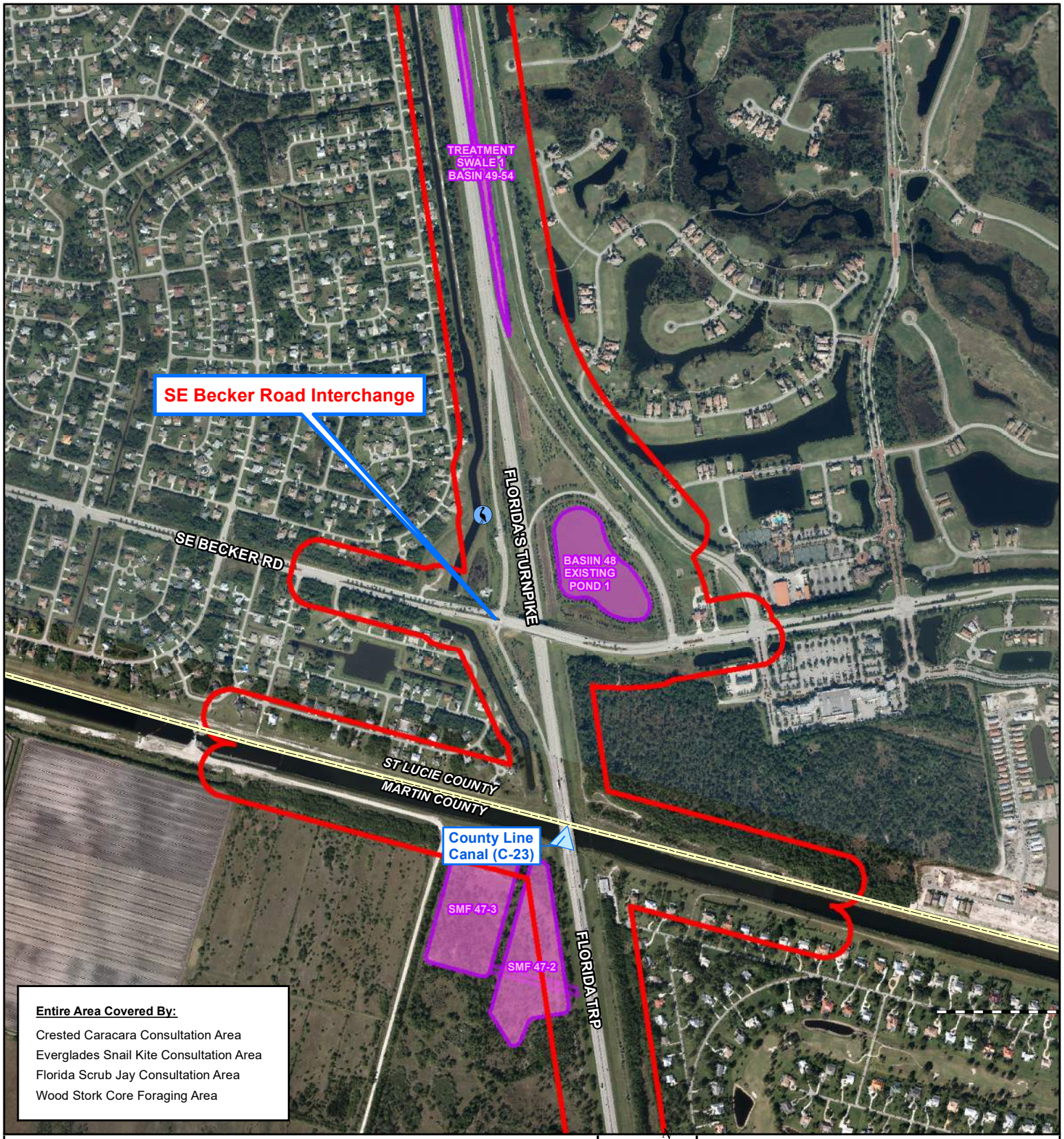

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing
- County Line
- Little Blue Heron

N W E S

1,000 0 1,000

Feet

Protected Species Map
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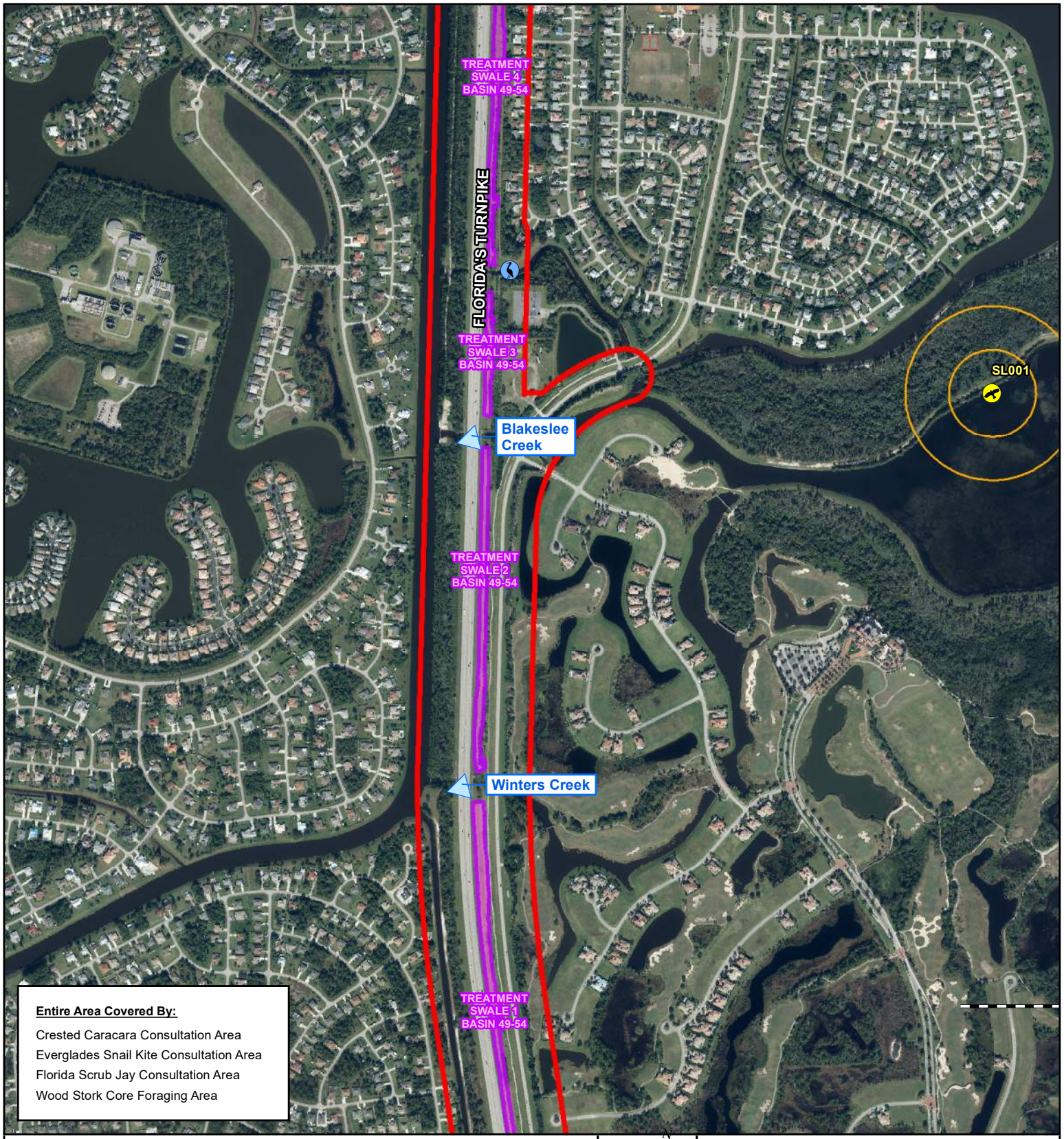

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing
- Bald Eagle Nest
- Little Blue Heron
- 330/660ft Eagle Nest Buffer

N W E S

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Feet

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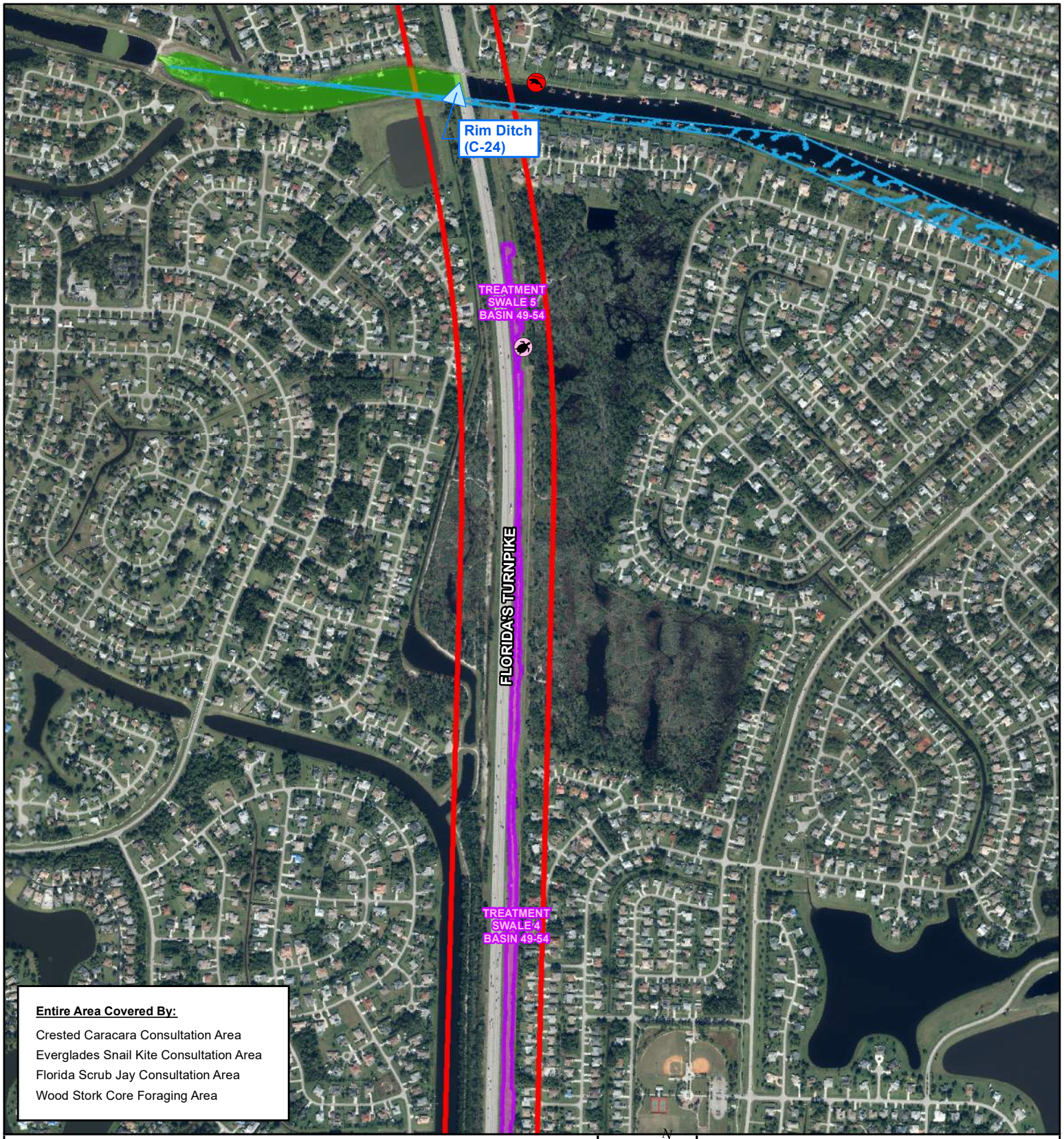

Legend

- 1 Mile Buffer of Preferred Alternative
- Pond Site
- Easement
- Project Study Area
- Other Surface Water Crossing
- Gopher Tortoise
- Manatee Mortality
- Essential Fish Habitat
- State Manatee Protection Zone

N W E S

1,000 0 1,000

Feet

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