

**SELMON
EXPRESSWAY**

Whiting Street PD&E Study

**Natural Resources
Evaluation
Technical Memorandum**

April 2024

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1.0 Project Overview

1.1 Project Description

In July 2019, the Tampa Hillsborough Expressway Authority (THEA), in coordination with the City of Tampa, began a Project Development and Environment (PD&E) Study to evaluate the needs, costs, and effects of extending East Whiting Street (Whiting Street) and reconfiguring the eastbound on-ramp of the Selmon Expressway at North Jefferson Street (Jefferson Street) and eastbound off-ramps at South Florida Avenue (Florida Avenue) and Channelside Drive. The study considered extending Whiting Street to North Meridian Avenue (Meridian Avenue) and included improvements and realignment of the existing segment of Whiting Street, from Jefferson Street to North Brush Street (Brush Street). The extension would provide a direct connection of the Whiting Street corridor to Meridian Avenue, thereby improving traffic flow and safety for all transportation modes and offer additional connections within the street network.

It was anticipated that the Florida Avenue off-ramp (Ramp 6A) would be widened to two lanes, the Channelside Drive off-ramp (Ramp 6B) would be removed, and a new Whiting Street off-ramp would extend from the Selmon Expressway, near Morgan Street, to Nebraska Avenue and intersect with the new Whiting Street alignment to provide a direct connection from the Selmon Expressway. See **Figure 1-1** for the project location map.

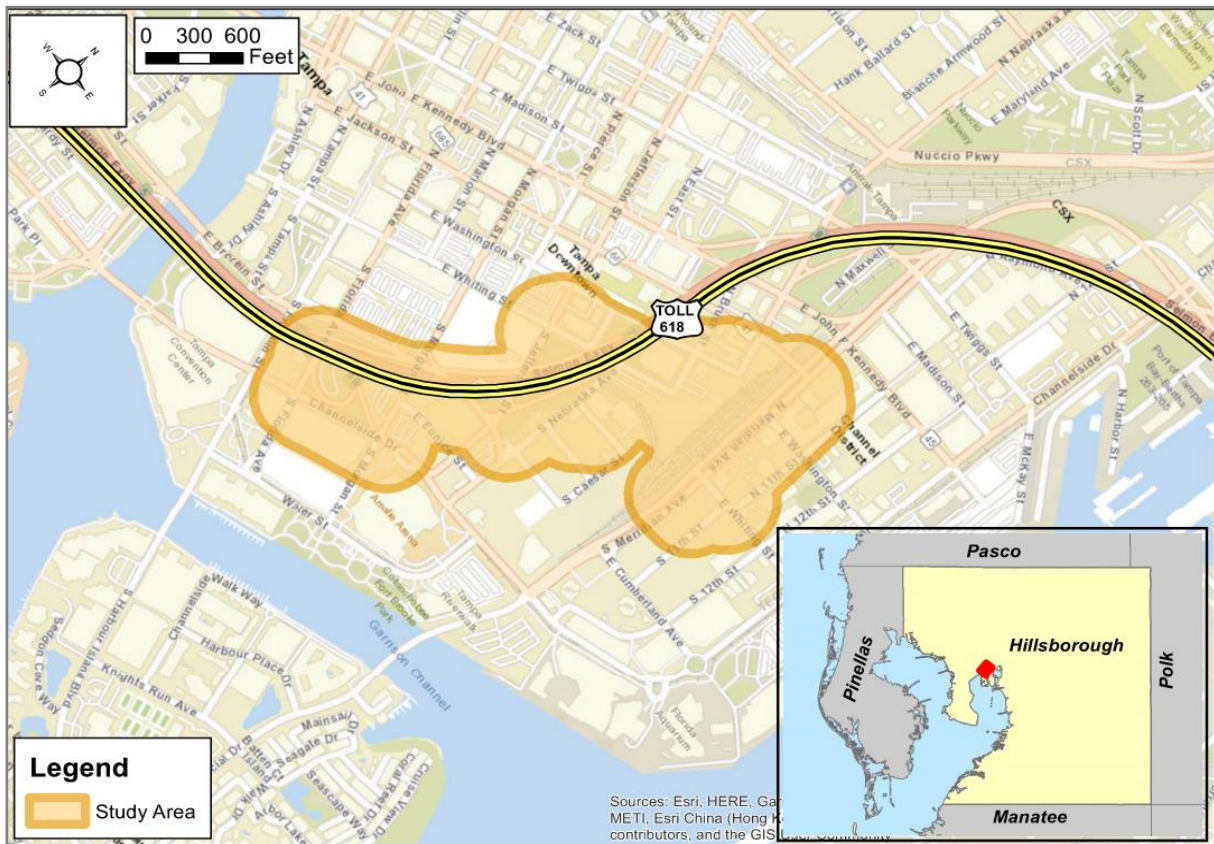


Figure 1-1: Project Location Map

On February 22, 2022, a Public Hearing was held at the THEA boardroom to present the project's preferred alternative to the general public, project stakeholders, and other interested parties. Based on comments received during this hearing, and during subsequent meetings with project stakeholders such as the City of Tampa, it was determined that the project preferred alternative should be revised to only address proposed improvements to Whiting Street and its connection to Meridian Avenue, and the removal of the eastbound Channelside Avenue off-ramp and replace it with a ramp connecting to Whiting Street. Widening of the Florida Avenue off-ramp to two lanes would no longer be proposed. However, rectangular rapid flash beacon (RRFB) pedestrian signals would be installed at the ramp's connection with Florida Avenue.

These modifications to the project's preferred alternative also resulted in the need to revise the project's purpose and need to reflect the vision of project stakeholders. The revised purpose and need for the project are provided in **Section 1.2** below.

1.2 Project Purpose & Need

The purpose of this project is to provide a direct connection of the Whiting Street corridor to Meridian Avenue to improve traffic flow and safety for all transportation modes and offer additional connections within the street network. The project will also reconfigure the eastbound on-ramp to the Selmon Expressway at Jefferson Street and remove the eastbound off-ramp from the Selmon Expressway to Channelside Drive and replace it with a ramp connection to Whiting Street. These improvements will improve safety, traffic circulation, and access to Whiting Street and Meridian Avenue.

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

Roadway System Linkage

Based on volume forecasts found in the Tampa Bay Regional Planning Model (TBRPM) Version 8.2, the proposed additional development associated with the Water Street Development plan, and future development plans at the former Ardent Mill site, traffic demand and congestion along the capacity constrained Channelside Drive and Cumberland Avenue corridors are expected to significantly increase by the design year (2046). The proposed extension of Whiting Street to Meridian Avenue will provide a parallel route for these facilities which would better distribute vehicular demand, promote safety, and improve traffic operations along these corridors. Additionally, the Whiting Street extension will also support the City of Tampa's accessibility objectives through grid network enhancement.

Multimodal Linkage

The Tampa Center City Plan envisions Tampa as a community of livable places and connected people. One of the "building blocks" for this future is livable connections for "safe pedestrian and bicycle access around town". Proposed improvements along Whiting Street include the addition of a 10-foot-wide two-way cycle track and 10-foot-wide sidewalks on both the north and south sides of the roadway. These improvements will provide safe travel facilities for both pedestrians and bicyclists, as well as a connection between the Selmon Greenway Trail and Meridian Avenue Trail, and to the Riverwalk via City of Tampa's proposed "Quick Build" cycle track along Whiting Street west of Jefferson Street, which will further enhance multimodal linkages.

Safety

The Channelside Drive off-ramp (Ramp 6B) terminates into a 5-leg intersection at Channelside Drive and Morgan Street, which is a major pedestrian access point to the Amalie Arena. This creates both safety and operational concerns at this location. Six (6) years of data (2013-2018) were reviewed, and 14 crashes have occurred at this ramp. As the Water Street Project builds out to the east of the ramp system, pedestrian

conflicts are expected to be exacerbated. Also, the planned widening of the Selmon Expressway south of the downtown ramps will alleviate congestion issues and result in higher speed and higher volume interactions at this ramp. As such, eliminating pedestrian conflicts, and redirecting Downtown East traffic beyond the Water Street District is critical to proactively address safety concerns as both the Selmon Expressway and Downtown Tampa continue to develop.

Transportation Demand

Based upon the Tampa Bay Regional Planning Model (TBRPM) Version 8.2, Jefferson Street (39,000 average annual daily traffic (AADT) and Kennedy Boulevard (34,000 AADT) are expected to reach their operational capacity by 2040. As the Water Street Project develops, the vehicle demand is expected to increase. The proposed connection of Whiting Street could carry up to 14,800 AADT, providing valuable route divergence and congestion relief to the parallel facilities.

1.3 Preferred Alternative

THEA has committed to provide a new connection to Meridian Avenue, by extending Whiting Street between Brush Street and Meridian Avenue. In order to construct the extension of Whiting Street, existing railroad tracks, located between Whiting Street and Meridian Avenue will need to be removed. Removing the railroad tracks and completing the extension to Meridian Avenue will offer an additional connection within the street network, thereby providing additional route choices and alleviating congestion. Proposed project improvements can be broken up into four distinct locations. See **Figure 1-2** for each location of proposed improvements.

Below is a detailed description of the proposed improvements for each location.



Figure 1-2: Project Improvements Map

Location A

Whiting Street currently ends at Brush Street, west of the existing railroad tracks. The preferred alternative proposes to extend Whiting Street, from Brush Street to Meridian Avenue, with a new signal at the T-intersection of Whiting Street and Meridian Avenue. The proposed typical section for the Whiting Street extension includes two 11-foot-wide travel lanes in the eastern direction, one 11-foot-wide travel lane in the western direction, a 10-foot-wide cycle track separated from the north side of the westbound travel lane by a four-foot traffic separator, curb and gutter, and 10-foot-wide sidewalks on both the north and south sides of the road. The eastbound approach to Meridian Avenue includes one 11-foot-wide dedicated left turn lane and one 11-foot-wide left/right turn lane. The existing grassed median on Meridian Avenue will be split in order to accommodate the proposed signalized intersection. The preferred alternative includes the addition of a northbound dedicated left turn lane from Meridian Avenue to Whiting Street and the opening of the median to feed a southbound left turn lane from Meridian Avenue to Whiting Street. The preferred alternative does not propose any other improvements to Meridian Avenue.

Location B

Whiting Street is currently a two-lane roadway with on-street parking on both the north and south sides of the road. East of the Selmon Expressway, Whiting Street is a brick road in need of repair. The preferred alternative proposes to widen/reconstruct Whiting Street from two to three lanes with two 11-foot-wide travel lanes in the eastern direction, one 11-foot-wide travel lane in the western direction, a 10-foot-wide cycle track separated from the north side of the westbound travel lane by a four-foot traffic separator, curb and gutter, and 10-foot-wide sidewalks on both the north and south sides of the road. The 10-foot-wide cycle track will extend to Jefferson Street. The preferred alternative also includes the installation of a new traffic signal at the intersection of Whiting Street and Brush Street.

Location C

The existing exit Ramp 6B provides users the ability to travel east along Channelside Drive, towards the Amalie Arena and the Florida Aquarium. The preferred alternative proposes relocating exit Ramp 6B approximately 700 feet north and providing a direct connection to Whiting Street. The proposed ramp includes a single 15-foot-wide ramp lane, which will remain on structure beyond the existing Jefferson Street on-ramp. From this point, the ramp profile begins to decrease and the ramp will be supported by a Mechanically Stabilized Earth (MSE) wall, which ends approximately 100 feet south of Whiting Street. The ramp widens to three 12-foot-wide lanes at the intersection, with one dedicated left turn lane and two dedicated right turn lanes. The proposed ramp will cut off access north, along Nebraska Avenue, and therefore requires a horizontal curve to connect Nebraska Avenue to Finley Street. The existing Jefferson Street on-ramp entrance will be shifted to the north to accommodate the new Whiting Street off-ramp.

Location D

The current configuration of exit Ramp 6A includes a tight single lane loop ramp that merges onto Florida Avenue under a free-flow condition. Modifications to this ramp include striping improvements to the ramp gore. In addition, safety improvements, including the addition of a high friction surface treatment, the addition of RRFB pedestrian signals at the ramp's connection with Florida Avenue, and removal of existing landscaping within the inside of the ramp loop to improve sight distance are proposed.

1.4 Purpose of Report

This purpose of this Natural Resources Evaluation (NRE) is to document the natural resources analysis performed to support decisions related to the evaluation of project alternatives and to summarize potential impacts to wetlands, federal and state protected species, and protected habitats. Measures considered to avoid, minimize, and mitigate for potential impacts are also discussed. There is no Essential Fish Habitat (EFH) within the project area, so EFH is not discussed in this report. The report provides the documentation and rationale to support effect determinations for protected resources within the project limits.

1.5 Existing Environmental Conditions

In order to assess the Whiting Street project area, soils and vegetative communities within the project study area were evaluated and species composition within each community type was determined using published data and field reviews.

1.5.1 Methodology

In order to determine the approximate locations and boundaries of existing upland and wetland communities within the project study area, available site-specific data was collected and reviewed. The project study area includes the proposed improvements along Whiting Street and the Selmon Expressway plus an approximate 300-foot buffer. In addition, potential stormwater management facilities are included. The following information was collected and analyzed:

- U.S. Department of Agricultural, Natural Resources Conservation Service (NRCS), Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>).
- U.S. Geological Survey (USGS), Topographic Quadrangle maps, 7.5 minute series, Tampa FL Map, 2015.
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Wetlands Mapper (<http://www.fws.gov/wetlands/Wetlands-Mapper.html>).
- Southwest Florida Water Management District (SWFWMD) Land Use and Cover, 2017.
- Florida Department of Transportation (FDOT), Florida Land Use, Cover and Forms Classification System, 3rd edition, 1999.
- U.S. Fish and Wildlife Service (USFWS), Classification of Wetlands and Deepwater Habitats of the United States, (Cowardin, et. al. 1979).
- Florida Natural Areas Inventory's (FNAI). 2010. Guide to the Natural Communities of Florida: 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL.
- Digital Format Aerial Photographs of the project area (APLUS, 2020, <https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem/>).

Using the above referenced information, the approximate boundaries of soil types and land uses (upland and wetland communities) within the project study area were mapped on color aerial photographs. Each community type was classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT 1999). Wetlands were also classified using the USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et. al. 1979).

1.5.2 Soils

From review of the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Web Soil Survey, it was determined that one (1) soil type, Urban Land, is present within the project area. The soil type is not classified as hydric, according to the Hydric Soils of Florida Handbook (Hurst, 2007). A detailed description of this soil type is provided below. **Table 1-1** summarizes the soils within the project area. A Soils Map is provided in **Figure 1-3**.

Table 1-1: Soils within Project Area

ID #	Name	Hydric (Yes/No)	Size (Acres)	Percent of Total
56	Urban Land	No	86.50	100.0%
Total			86.50	100.0%

56 - Urban Land

This series consists of miscellaneous areas that are covered by asphalt, buildings, or other impervious surfaces.



Figure 1-3: Soils Map

1.5.3 Land Use

In January 2021, project scientists familiar with Florida natural communities conducted field reviews of the study area. Field reviews were re-performed in Summer 2023. The primary purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and photo interpretation. The secondary purpose was to identify evidence of wildlife usage within available habitat. During field investigations, each upland and wetland community within the project study area was visually inspected. Plant species composition for each community was identified. Exotic plant infestations, shifts in historical plant communities, and any other disturbances such as soil subsidence, clearing, canals, power lines, etc. were noted.

Based on review of the SWFWMD land use and cover data and field reviews of the project study area, thirteen (13) land uses were identified and are summarized in **Table 1-2**. A description of the land uses is provided below. A Land Use Map is provided in **Figure 1-4**.

Table 1-2: Land Uses within the Project Study Area

FLUCFCS Code	Description	USFWS Code	Size (Acres)	% of Total
Uplands				
134	Multiple Dwelling Units, High Rise <Three stories or more>	N/A	10.57	12.22
140	Commercial and Services	N/A	8.54	9.87
143	Professional Services	N/A	1.32	1.53
145	Tourist Services	N/A	1.04	1.20
149	Commercial and Services Under Construction	N/A	0.33	0.38
150	Industrial	N/A	7.18	8.31
171	Educational Facilities	N/A	1.39	1.61
187	Stadiums <Those facilities not associated with high schools, colleges, or universities>	N/A	1.40	1.61
191	Undeveloped Land within urban areas	N/A	1.05	1.21
812	Railroads	N/A	4.10	4.74
814	Roads and Highways	N/A	32.21	37.24
818	Auto Parking Facilities <When not directly related to other land use>	N/A	15.47	17.88
Upland Subtotal			84.60	97.8%
Wetlands and Other Surface Waters				
534	Reservoir	POWx	1.90	2.20
Wetland Subtotal			1.90	2.2%
TOTAL			86.50	100.0%

1.5.3.1 Upland Land Uses

Multiple Dwelling Units, High Rise <Three stories or more>**FLUCFCS: 134**

This category is composed of urban and built-up land that is occupied by buildings that contain three stories or more.

Commercial and Services**FLUCFCS: 140**

Commercial and services is primarily associated with the distribution of products and services. It includes associated structures, driveways, parking lots, and landscaped areas.

Professional Services**FLUCFCS: 143**

This land use type is under the commercial services category and is predominantly associated with offices such as law offices, consulting firms, architectural firms, medical offices, and dental offices.

Tourist Services**FLUCFCS: 145**

This category includes all primary and secondary facilities that can be identified as supporting overnight tourist/travel lodging. Within the study area, this includes the Hilton Hotel on Washington Street and Ashley Drive.

Industrial**FLUCFCS: 150**

This land use type is composed of areas where manufacturing, assembly, or the processing of materials takes place. Industrial areas can range from light manufacturing to heavy manufacturing. Within the study area, this includes the flour mill on Whiting Street.

Educational Facilities**FLUCFCS: 171**

This land use type includes all supporting facilities including parking lots, stadiums, and all buildings and any other features that can be related to the facility. Within the study area, this include the Carlton Day School located at the corner of N Brush Street and E Washington Street.

Stadiums <Those facilities not associated with high schools, colleges or universities>**FLUCFCS: 187**

This land use type is composed of urban and built-up land that includes stadium that are not associated with high schools, colleges, or universities. Within the study area, this includes the Amalie Arena at the corner of S Morgan Street and Channelside Drive.

Undeveloped Land within urban areas**FLUCFCS: 191**

This land use type is under the Open Land category and is associated with land that is open and undeveloped.

Railroads**FLUCFCS: 812**

This land use type is under the transportation category and consists of railroads and any related uses such as holding and trans-shipment yards, repair facilities, and associated buildings.

Roads and Highways

FLUCFCS: 814

This land use type is under the transportation category and is primarily associated with roads and highways such as limited access roads, divided highways, two-lane highways, county roads, and trails.

Auto Parking Facilities

FLUCFCS: 818

This land use type is under the transportation category and is primarily associated with parking lots.

1.5.3.2 Wetland Land Uses

Reservoirs less than 10 acres (4 hectares) which are dominant features

FLUCFCS: 534

USFWS: POWx (Palustrine, Open Water, excavated)

Reservoirs are artificial impoundments of water. Within the project area this land use consists of a manmade stormwater management facility associated with the existing surface water management system. Stormwater management facilities are considered non-jurisdictional wetland systems.

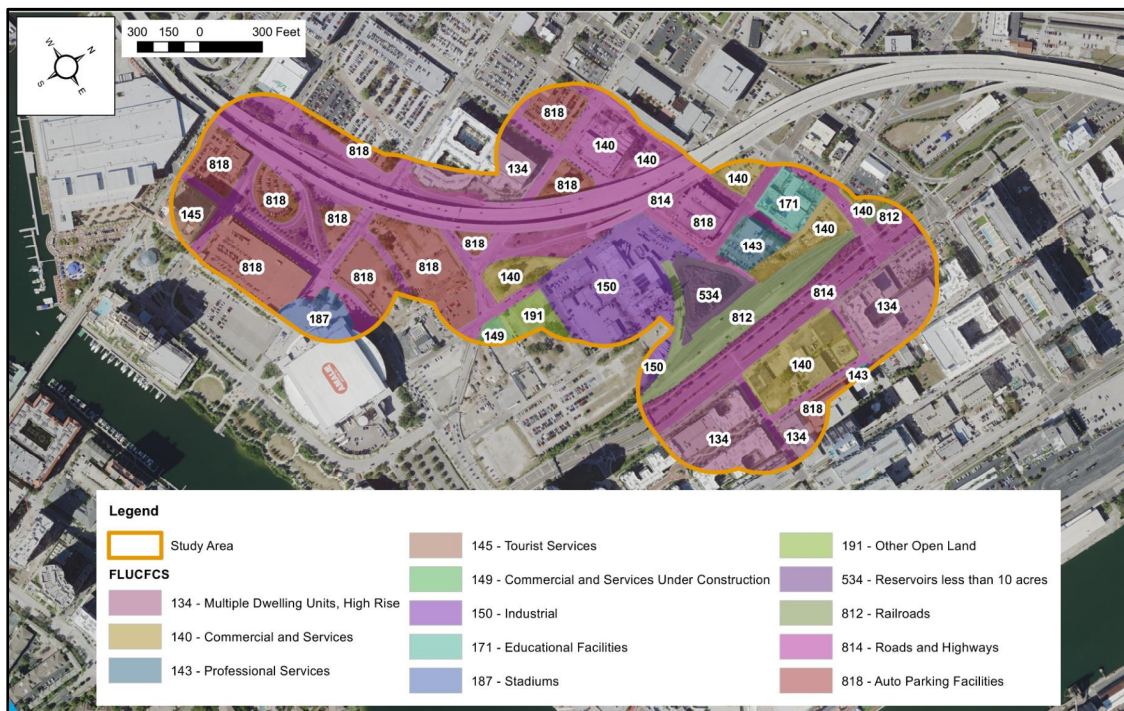


Figure 1-4: Land Use Map

2.0 Protected Species and Habitat

An assessment of federally and state protected wildlife and plant species involvement was conducted in accordance with 50 CFR Part 402, the Endangered Species Act (ESA) of 1973 as amended, the PD&E Manual, Part 2 – Chapter 16, and Chapters 5 and 68 of the Florida Administrative Code (F.A.C.). Wildlife agencies with jurisdiction in the project study area include the USFWS, Florida Fish and Wildlife Conservation Commission (FWC), National Marine Fisheries Service (NMFS) and the Florida Department of Agriculture and Consumer Services (FDACS).

2.1 Methodology

Literature searches and a field review were conducted to identify suitable habitat, evidence of protected species use, and critical habitat that might be expected to occur within the project study area. The literature search included review of the following data sources:

- USFWS, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12; 2020
- USFWS, Information for Planning and Consultation (IPaC) (<https://ecos.fws.gov/ipac>);
- USFWS, Critical Habitat portal (<http://ecos.fws.gov/crithab/>);
- USFWS, Florida Wood Stork Colonies Core Foraging Areas map (https://www.fws.gov/northflorida/WoodStorks/WOST_Data/2019-WOST_FL_colonies_map_update_20190508.pdf);
- FWC, Florida's Endangered Species and Threatened Species, December 2018;
- FWC, Florida's Imperiled Species Management Plan, updated December 2018;
- FWC Breeding Bird Atlas Project;
- Audubon Florida EagleWatch Nest Map (<https://cbop.audubon.org/conservation/about-eaglewatch-program>)
- Rules for the Department of Agriculture and Consumer Services, Division of Plant Industry, Chapter 5B-40, Preservation of Native Flora of Florida; 2020
- Notes on Florida's Endangered and Threatened Plants. Botany Contribution No. 38, 4th edition. FDACS, Division of Plant Industry, Coile, N.C. and M.A. Garland. 2003;
- Florida Natural Areas Inventory (FNAI) maps and database.

In January 2021, environmental scientists familiar with Florida natural communities conducted field reviews of the study area. Field reviews were re-performed in Summer 2023. The field reviews consisted of pedestrian transects throughout 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 photo interpretation. During field investigations, each upland and wetland community within the project study area was visually inspected. Attention was given to identifying plant species composition for each community. Exotic plant infestations, shifts in historical plant communities, and any other disturbances such as, soil subsidence, clearing, canals, power lines, etc. were noted. Attention was also given to identifying wildlife and signs of wildlife usage.

2.2 Protected Species Evaluation

A review of USFWS, NMFS, FWC, FDACS, and FNAI data indicates forty-seven (47) species of protected plants and animals are known to occur in Hillsborough County with potential to occur in the project study area. Thirteen (13) of the species are federally listed endangered or threatened including; 4 plants, 3 reptiles, 5 birds, and 1 mammal. Thirty-two (32) additional species are state listed endangered or threatened including; 19 plants, 3 reptiles, and 10 birds. In addition, two (2) species are not listed, but are still managed and protected. One is the bald eagle (*Haliaeetus leucocephalus*), which is protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and State law (F.A.C. 68A-16.002). The second is the Florida black bear (*Ursus americanus floridanus*), which is afforded protection under the Florida Black Bear Conservation Rule 68A-4.009 F.A.C.

The entire study area is located within the consultation area for three (3) federally listed species: Florida scrub jay (*Aphelocoma coerulescens*), piping plover (*Charadrius melodus*), and west Indian manatee (*Trichechus manatus*). However, no habitat for these species is present within the project area.

Based on a review of the USFWS Critical Habitat Mapper, no Critical Habitat is within the project study area. Therefore, **the project will not result in the destruction or adverse modification of Critical Habitat.**

The protected species listed in **Table 2-1** were compiled from information obtained from the various sources mentioned above and from on-site field investigations. The table provides the USFWS, FWC, and/or FDACS protection status for each animal and plant species. The probability of occurrence within the project limits is shown within the table as No, Low, Moderate, or High and is based on the habitat requirements for each species and the presence of the habitat within the project study area. A None rating indicates that no suitable habitat for that species was found to exist within the study area. A Low rating indicates that sub-optimal habitat exists within the study area. A Moderate rating indicates that suitable habitat exists within the study area. A High rating indicates that suitable habitat exists and the species was observed during field reviews or documented in one or more of the above-referenced databases as being located within the study area.

Coordination was conducted with the FNAI requesting information regarding the location of, or the potential for, protected species in the vicinity of the proposed project. The FNAI report identified one occurrence of a protected plant [Incised groove-bur (*Agrimonia incisa*)] documented in 1834 approximately ½ mile west of the project area. The FNAI Data Report is provided in **Appendix A**.

Table 2-1: Protected Species Potentially Found in the Project Study Area

Scientific Name	Common Name	Habitat Preference	Habitat Presence	Listing Status		Probability of Occurrence
				USFWS	FDACS	
PLANTS						
<i>Adiantum tenerum</i>	Brittle maidenhair fern	Moist, shaded, limestone ledges.	No	NL	E	No
<i>Agrimonia incisa</i>	Incised groove-bur	Sandy upland in lower Coastal Plain.	No	NL	T	High
<i>Andropogon arctatus</i>	Pinewoods bluestem	Wet pine flatwoods	No	NL	T	No
<i>Asplenium erosum</i>	Auricled spleenwort	Epiphytic on tree trunks and logs in swamps and hammocks.	No	NL	E	No
<i>Bonamia grandiflora</i>	Florida bonamia	Openings or disturbed areas in white sand scrub on central Florida ridges, with scrub oaks, sand pine, and lichens.	No	T	E	No
<i>Campanula robinsiae</i>	Brooksville bellflower	Wet prairies and along the edges of ponds near pastureland.	No	E	E	No
<i>Carex chapmannii</i>	Chapman's sedge	Hydric hammock and bottomland forest.	No	NL	T	No
<i>Centrosema arenicola</i>	Sand butterfly pea	Sandhill, scrubby flatwoods, dry upland woods.	No	NL	E	No
<i>Chionanthus pygmaeus</i>	Pygmy fringe tree	Scrub, sandhill, and xeric hammock.	No	E	E	No
<i>Chrysopsis floridana</i>	Florida golden aster	Sand pine scrub	No	E	E	No
<i>Glandularia tampensis</i>	Tampa vervain	Live oak-cabbage palm hammocks and pine palmetto flatwoods.	No	NL	E	No
<i>Lechea cernua</i>	Nodding pinweed	Shrubland/chaparral	No	NL	T	No
<i>Lechea divaricata</i>	Pine pinweed	Scrub and scrubby flatwoods.	No	NL	E	No
<i>Nemastylis floridana</i>	Celestial lily	Wet flatwoods, prairies, marshes, cabbage palm hammocks edges.	No	NL	E	No
<i>Ophioglossum palmatum</i>	Hand fern	Bases of cabbage palms in maritime hammocks and wet hammocks.	No	NL	E	No
<i>Pecluma plumula</i>	Plume polypody	Rockland hammocks and wet woods.	No	NL	E	No
<i>Pteroglossaspis ecristata</i>	Giant orchid	Sandhill, scrub, pine flatwoods, pine rocklands, and occasionally old fields.	No	NL	T	No
<i>Rhynchospora megaplumosa</i>	Large-plumed beaksedge	Pine woodlands	No	NL	E	No

Table 2-1 (Continued): Protected Species Potentially Found in the Project Study Area

Scientific Name	Common Name	Habitat Preference	Habitat Presence	Listing Status		Probability of Occurrence
				USFWS	FDACS	
<i>Schizachyrium niveum</i>	Scrub bluestem	White sand patches in rosemary scrub; also sand pine scrub and oak scrub.	No	NL	E	No
<i>Tephrosia angustissima</i> var. <i>curtissii</i>	Coastal hoary-pea	Pine rocklands	No	NL	E	No
<i>Thelypteris serrata</i>	Toothed maiden fern	Cypress swamps, sloughs, floodplains.	No	NL	E	No
<i>Triphora amazonica</i>	Broad-leaved nodding-caps	Well-drained, moist humus of upland hardwood hammocks.	No	NL	E	No
<i>Zephyranthes simpsonii</i>	Redmargin zephyrlily	Highly organic sands of wet pine flatwoods, meadows, pastures, roadsides.	No	NL	T	No
Scientific Name	Common Name	Habitat Preference	Habitat Presence	Listing Status		Probability of Occurrence
				USFWS	FWC	
REPTILES						
<i>Caretta caretta</i>	Loggerhead sea turtle	Marine coastal and oceanic waters; nest on coastal sand beaches.	No	T	T	No
<i>Dermochelys coriacea</i>	Leatherback sea turtle	Oceanic waters; nests on coastal sand beaches.	No	E	E	No
<i>Eretmochelys imbricate</i>	Hawksbill sea turtle	Marine coastal and oceanic waters, commonly associated with coral reefs, keys, and mangroves. Nests in coastal sand beaches.	No	E	E	No
<i>Gopherus polyphemus</i>	Gopher tortoise	Dry upland habitats, including sandhills, scrub, xeric oak hammock, and pine flatwoods	No	NL	T	No
<i>Lampropeltis extenuate</i>	Short-tailed snake	Dry upland habitats, principally sandhill, xeric hammock, and sand pine scrub.	No	NL	T	No
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	Dry, upland areas with well-drained, sandy soils and moderate to open canopy.	No	NL	T	No
BIRDS						
<i>Antigone canadensis pratensis</i>	Florida sandhill crane	Dry prairies, freshwater marshes, and wet prairies	Yes	NL	T	Moderate
<i>Aphelocoma coerulescens</i>	Florida scrub jay	Fire dominated, low-growing, oak scrub habitat found on well-drained sandy soils.	No	T	T	No

Table 2-1 (Continued): Protected Species Potentially Found in the Project Study Area

Scientific Name	Common Name	Habitat Preference	Habitat Presence	Listing Status		Probability of Occurrence
				USFWS	FWC	
<i>Athene cunicularia floridana</i>	Florida burrowing owl	High, sparsely vegetated, sandy ground. Natural habitats include dry prairie and sandhill. Makes extensive use of ruderal areas.	No	NL	T	No
<i>Calidris canutus rufa</i>	Rufa red knot	Salt and brackish marshes with dense cover.	No	T	T	No
<i>Charadrius nivosus</i>	Snowy plover	Restricted to dry, sandy beaches, where they nest in shallow depressions, usually near some vegetation or debris.	No	NL	T	No
<i>Charadrius melodus</i>	Piping plover	Sandy beaches, sand flats, and mudflats along coastal areas.	No	T	T	No
<i>Egretta caerulea</i>	Little blue heron	Feeds in shallow freshwater, brackish, and saltwater habitats. Largest nesting colonies occur in coastal areas, but prefers foraging in freshwater lakes, marshes, swamps, and streams.	Yes	NL	T	Moderate
<i>Egretta tricolor</i>	Tricolored heron	Most nesting colonies occur on mangrove islands or in willow, thickets in fresh water, but nesting sites include other woody thickets on islands or over standing water. Prefers coastal environments.	Yes	NL	T	Moderate
<i>Egretta rufescens</i>	Reddish egret	Almost exclusively coastal. In Florida, typically nests on coastal mangrove islands or in Brazilian pepper on manmade dredge spoil islands, near suitable foraging habitat.	No	NL	T	No
<i>Haliaeetus leucocephalus</i>	Bald eagle	Pine flatwoods, coastal wetlands, lakes, and rivers.	No	NL ¹	NL ¹	No
<i>Haematopus palliatus</i>	American oystercatcher	Require large areas of beach, sandbar, mud flat, and shellfish beds for foraging. They use sparsely vegetated, sandy areas for nesting, but also will use beach wrack and marsh grass.	No	NL	T	No
<i>Laterallus jamaicensis ssp. Jamaicensis</i>	Eastern black rail	Higher elevation wetland zones with some shrubby vegetation. Impounded and unimpounded intermediate marshes (marshes closer to high elevation areas).	Yes	T	T	Moderate

Table 2-1 (Continued): Protected Species Potentially Found in the Project Study Area

Scientific Name	Common Name	Habitat Preference	Habitat Presence	Listing Status		Probability of Occurrence
				USFWS	FWC	
<i>Mycteria americana</i>	Wood stork	Coastal marshes, freshwater marshes, wet prairies, cypress swamps, hardwood swamps, and mangrove swamps.	Yes	T	T	Moderate
<i>Platalea ajaja</i>	Roseate Spoonbill	Primarily nests in mixed-species colonies on coastal mangrove islands or in Brazilian pepper on man-made dredge spoil islands near suitable foraging habitat. Occasionally nests in willow heads at freshwater sites.	Yes	NL	T	Moderate
<i>Rynchops niger</i>	Black skimmer	Coastal waters, including beaches, bays, estuaries, sandbars, tidal creeks (foraging), and also inland waters of large lakes, phosphate pits, and flooded agricultural fields. Nests primarily on sandy beaches, small coastal islands, and dredge spoil islands, but also on gravel rooftops.	No	NL	T	No
<i>Sternula antillarum</i>	Least tern	Coastal waters.	No	NL	T	No
MAMMALS						
<i>Trichechus manatus</i>	West Indian manatee	Coastal waters, bays, rivers and lakes.	No	T	T	No
<i>Ursus americanus floridanus</i>	Florida black bear	Mixed hardwood pine, cabbage palm hammock, upland oak scrub, and forested wetlands.	No	NL ²	NL ²	No

USFWS = U.S. Fish and Wildlife Service

FWC = Florida Fish and Wildlife Conservation Commission

FDACS = Florida Department of Agriculture and Consumer Services

T = Threatened

E = Endangered

NL = Not Listed

¹ The bald eagle was delisted from protection under the Endangered Species Act in 2007. However, the bald eagle is still protected under the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA), and State law (F.A.C. 68A-16.002).

² The Florida black bear is no longer state listed by the FWC; however, it is afforded protection under the Florida Black Bear Conservation Rule 68A-4.009 F.A.C

2.2.1 Federally Listed Species

Thirteen (13) species are listed by the USFWS as endangered or threatened. In-house research and field reviews were conducted evaluating the habitat requirements for each species and the types of habitats present within the project study area. Eleven (11) of the 13 species were determined to have a no probability of occurrence due to a lack of preferred habitat within the project study area. The proposed project will have **no effect** on these species.

A description of the two (2) remaining species is provided below. A summary of the federally listed species and effect determinations is provided in **Table 2-2**.

2.2.1.1 Birds

Eastern Black Rail

The Eastern black rail (*Laterallus jamaicensis jamaicensis*), listed by the USFWS as threatened, is a small black to gray bird that is 10-15 centimeters in length and exhibits bright red eyes. The nape of its neck is a chestnut color and it has small white spots on its feathers. This bird species utilizes saltwater and freshwater marshes with dense cover as its habitat. The probability of occurrence for the Eastern rail was designated as moderate due to the potential presence of preferred habitat within the project study area. Due to disturbance from the surrounding urban environment, it is proposed that the project will have **no effect** on the Eastern black rail.

Wood Stork

The wood stork (*Mycteria americana*), listed by the USFWS as threatened, is a large, white wading bird with black in its wings and a short black tail. It nests colonially in a variety of inundated wetlands including cypress swamps, mixed hardwood swamps, sloughs, and mangroves and utilize fresh water marshes, flooded pastures, and roadside ditches for feeding. This project occurs within the Core Foraging Area (CFA) of seven (7) wood stork breeding colonies: Lake Forest, Alligator Lake, Cross Creek, Cypress Creek I-75, Ferman Corporation, Northlakes-Sagebrush, Sheldon Rd-Citrus Park. The probability of occurrence for the wood stork was designated as moderate due to the potential presence of preferred habitat within the project study area. The *Effect Determination Key for the Wood Stork in Central and North Peninsular Florida* was utilized for this project (see **Appendix B**). The path followed through the Key was A > B = No Effect. The project is located more than 2,500 feet from a colony and the project does not affect suitable foraging habitat. As described in footnote 2 of the Effect Determination Key, the stormwater pond located in the project area is not suitable foraging habitat because it is heavily vegetated and does not contain patches of relatively open (<25% aquatic vegetation). Therefore, the project will have **no effect** on the wood stork.

Table 2-2: Effect Determination for Federally Listed Species

Scientific Name	Common Name	USFWS Designation	Effect Determination
PLANTS			
<i>Bonamia grandiflora</i>	Florida bonamia	T	No Effect
<i>Campanula robinsiae</i>	Brooksville bellflower	E	No Effect
<i>Chrysopsis floridana</i>	Florida golden aster	E	No Effect
<i>Chionanthus pygmaeus</i>	Pygmy fringe tree	E	No Effect
REPTILES			
<i>Caretta caretta</i>	Loggerhead sea turtle	T	No Effect
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E	No Effect
<i>Eretmochelys imbricate</i>	Hawksbill sea turtle	E	No Effect
BIRDS			
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	T	No Effect
<i>Calidris canutus rufa</i>	Rufa red knot	T	No Effect
<i>Charadrius melodus</i>	Piping plover	T	No Effect
<i>Laterallus jamaicensis ssp. Jamaicensis</i>	Eastern black rail	T	No Effect
<i>Mycteria americana</i>	Wood stork	T	No Effect
MAMMALS			
<i>Trichechus manatus</i>	West Indian manatee	T	No Effect

USFWS = U.S. Fish and Wildlife Service

T = Threatened

E = Endangered

2.2.2 State Listed Species

Thirty-two (32) species are listed by FWC and FDAC as endangered or threatened. In-house research and field reviews were conducted evaluating the habitat requirements for each species and the types of habitats present within the project study area. Twenty-seven (27) of the species were determined to have no probability of occurrence due to a lack of suitable habitat within the project study area. Therefore, these species have been assigned a **no effect anticipated** determination for this project.

A summary of the five (5) remaining species is provided below. A summary of the state-listed species and effect determinations is provided in **Table 2-3**.

2.2.2.1 Plants

Incised groove-bur

The incised groove-bur (*Agrimonia incisa*), listed by the FWC and FDAC as threatened in Florida, is an herbaceous perennial in the rose family. This plant species utilizes longleaf pine forests, scrub oak woods, and dry mixed pine/hardwood forests. Coordination was conducted with the FNAI requesting information regarding the location of, or the potential for, protected species in the vicinity of the proposed project. The FNAI report identified one occurrence of this species documented in 1834 approximately ½ mile west of the project. The FNAI Data Report is provided in **Appendix B**. Due to an occurrence identified in the FNAI data report, the probability of occurrence is high. However, due to age of the observed occurrence and the developing urban area in which the project is found and the lack of observed species evidence during field reviews, the effect determination for this plant species is **no effect anticipated**.

2.2.2.2 Birds

Florida Sandhill Crane

Florida sandhill crane (*Antigone Canadensis pratensis*), listed by the FWC as threatened, is a tall, long-necked, long-legged bird with a clump of feathers that droops over the rump. It has an overall gray color, a whitish chin, cheek, and upper throat, dull red skin on the crown, and its feathers exhibit brownish-red staining. This bird species utilizes prairies, freshwater marshes, and pasture lands as its habitat. It can also be found in agricultural areas and open lawns such as golf courses. Due to the potential presence of suitable habitat in the form of grassed greenspace located within the Meridian Greenway and berm of the stormwater pond, the probability of occurrence was designated as moderate. However, because of the disturbance from the developing urban area in which the project is found, and the lack of observed species evidence during field reviews, the effect determination for the Florida sandhill crane is **no effect anticipated**.

Little Blue Heron

Little blue heron (*Egretta caerulea*), listed by the FWC as threatened, is a medium sized heron with purplish to maroon-brown head and neck, slate-blue body, and a small white patch on its throat and upper neck. It occurs in shallow freshwater, brackish, and saltwater habitats. Its nesting vegetation varies, breeding in bald cypress, Carolina willow, red maple, buttonbush, red mangrove, black mangrove, cabbage palm, and Brazilian pepper. Due to the potential presence of suitable habitat in the one stormwater pond located within the project area, the probability of occurrence was designated as moderate. However, because of the disturbance from the developing urban area in which the project is found, and the lack of observed species evidence during field reviews, the effect determination for the Little blue heron is **no effect anticipated**.

Tricolored Heron

Tricolored heron (*Egretta tricolor*), listed by the FWC as threatened, is a medium-sized bird that exhibits a two-toned coloration with a dark gray color on its head, neck, a white underbelly, and a reddish-brown streak along its neck. This bird species nests in mangrove colonies, willow thickets in fresh water, but they prefer coastal environments. Tricolored heron also feed in permanently or seasonally flooded wetlands, mangrove swamps, tidal creeks, ditches, and the edges of ponds and lakes. Due to the potential presence of suitable habitat in the one stormwater pond located within the project area, the probability of occurrence was designated as moderate. However, because of the disturbance from the developing urban area in which the project is found, and the lack of observed species evidence during field reviews, the effect determination for the Tricolored heron is **no effect anticipated**.

Roseate Spoonbill

Roseate spoonbill (*Platea ajaja*), listed by the FWC as threatened, is medium-sized wading bird that has a characteristic pink color, a white neck, and a spoon-like bill. This bird species nests in coastal mangrove islands or in occasionally in willow heads at freshwater sites. They can also be found foraging in shallow of brackish, fresh, marine waters including, mangroves, bays, forested swamps, and wetlands. Due to the potential presence of suitable habitat in the one stormwater pond located within the project area, the probability of occurrence was designated as moderate. However, because of the disturbance from the developing urban area in which the project is found and the lack of observed species evidence during field reviews, the effect determination for the Roseate spoonbill is **no effect anticipated**.

Table 2-3: Effect Determination for State Listed Species

Scientific Name	Common Name	FWC/FDACS Designation	Effect Determination
PLANTS			
<i>Adiantum tenerum</i>	Brittle maidenhair fern	E	No Effect Anticipated
<i>Andropogon arctatus</i>	Pinewoods bluestem	T	No Effect Anticipated
<i>Asplenium erosum</i>	Auricled spleenwort	E	No Effect Anticipated
<i>Carex chapmannii</i>	Chapman’s sedge	T	No Effect Anticipated
<i>Centrosema arenicola</i>	Sand butterfly pea	E	No Effect Anticipated
<i>Glandularia tampensis</i>	Tampa vervain	E	No Effect Anticipated
<i>Lechea cernua</i>	Nodding pinweed	T	No Effect Anticipated
<i>Lechea divaricate</i>	Pine pinweed	E	No Effect Anticipated
<i>Ophioglossum palmatum</i>	Hand fern	T	No Effect Anticipated
<i>Pecluma plumula</i>	Plume polypody	E	No Effect Anticipated
<i>Pteroglossaspis ecristata</i>	Giant orchid	T	No Effect Anticipated
<i>Rhynchospora megaplumosa</i>	Large-plumed beaksedge	E	No Effect Anticipated
<i>Schizachyrium niveum</i>	Scrub bluestem	E	No Effect Anticipated
<i>Tephrosia angustissima var. curtissii</i>	Coastal hoary-pea	E	No Effect Anticipated
<i>Thelypteris serrata</i>	Toothed maiden fern	E	No Effect Anticipated
<i>Triphora amazonica</i>	Broad-leaved nodding-caps	E	No Effect Anticipated
<i>Zephyranthes simpsonii</i>	Redmargin zephyrlily	T	No Effect Anticipated
<i>Agrimonia incisa</i>	Incised groove-bur	T	No Effect Anticipated
<i>Nemastylis floridana</i>	Celestial lily	E	No Effect Anticipated
REPTILES			
<i>Gopherus polyphemus</i>	Gopher tortoise	T	No Effect Anticipated
<i>Lampropeltis extenuate</i>	Short-tailed snake	T	No Effect Anticipated
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	T	No Effect Anticipated

Table 2-3 (Continued): Effect Determination for State Listed Species

Scientific Name	Common Name	FWC/FDACS Designation	Effect Determination
BIRDS			
<i>Athene cunicularia floridana</i>	Florida burrowing owl	T	No Effect Anticipated
<i>Antigone candensis pratensis</i>	Florida sandhill crane	T	No Effect Anticipated
<i>Charadrius nivosus</i>	Snowy plover	T	No Effect Anticipated
<i>Egretta caerulea</i>	Little blue heron	T	No Effect Anticipated
<i>Egretta tricolor</i>	Tricolored heron	T	No Effect Anticipated
<i>Haematopus palliatus</i>	American oystercatcher	T	No Effect Anticipated
<i>Platalea ajaja</i>	Roseate spoonbill	T	No Effect Anticipated
<i>Rynchops niger</i>	Black skimmer	T	No Effect Anticipated
<i>Sternula antillarum</i>	Least tern	T	No Effect Anticipated
<i>Egretta rufescens</i>	Reddish egret	T	No Effect Anticipated

FWC = Florida Fish and Wildlife Conservation Commission
 FDACS = Florida Department of Agriculture and Consumer Services
 T = Threatened
 E = Endangered

2.2.3 Managed and Protected Species

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and State law. It is a large bird with dark plumage, white head (in adults), white tail, and large yellow bill. Bald eagles are commonly observed near large open water habitats such as rivers, lakes, and the coast. Bald eagles nest in large pine trees near water bodies that provide dependable food source. The location and activity of bald eagle nest sites throughout the state are closely monitored by FWC and Audubon. The closest known nest (HL072) is located approximately 1 mile southeast of the project and for the 2023 season is was noted as destroyed. No suitable nesting trees or nests were found during field surveys. No involvement with the project is anticipated.

Florida Black Bear

The Florida black bear (*Ursus americanus floridanus*) is afforded protection under the Florida Black Bear Conservation Rule 68A-4.009 F.A.C. The Florida black bear is the largest land mammal in Florida and prefers a variety of forested habitats that provide an assortment of nutritional benefits. The range of black bears has been reduced to six core areas in Florida; all of which are considered to be important areas for bears. The project is located within bear range in which bears are occasionally seen; however, the project is located in a highly developed urban area with no natural habitat present. No evidence of bear activity was observed during field reviews and no involvement with the project is anticipated.

3.0 Wetland Evaluation

In accordance with Presidential Executive Order 11990 entitled "Protection of Wetlands" and United States Department of Transportation Order 5660.1A, "Preservation of the Nation's Wetlands" and Part 2, Chapter 9 of the PD&E Manual, the project study area was reviewed to identify, quantify, and map wetland communities that are located within the proposed project boundaries. In order to protect, preserve, and enhance wetlands to the fullest extent possible, Tampa Hillsborough Expressway Authority has assessed wetlands that may be affected by proposed roadway improvements.

3.1 Methodology

In January 2021, environmental scientists familiar with Florida natural communities conducted field reviews of the project study area. Field reviews were re-performed in Summer 2023. The purpose of the reviews was to verify and/or refine preliminary wetland boundaries and classification codes established through in-office literature reviews and photo interpretation. Approximate wetland boundaries were delineated in accordance with the State of Florida Wetlands Delineation Manual (Chapter 62-340, F.A.C.) and the 1987 USACE Wetlands Delineation Manual (Technical Report Y-87-1). During field investigations, wetlands within the project study area were visually inspected. Attention was given to identifying plant species composition for each wetland and adjacent upland habitats. Exotic plant infestations, shifts in historical plant communities, and any other disturbances such as, soil subsidence, clearing, canals, power lines, etc. were noted. Attention was also given to identifying wildlife and signs of wildlife usage at each wetland and adjacent upland community. In addition, a Uniform Mitigation Assessment Method (UMAM) (Chapter 62-345, F.A.C.) assessment was performed on any wetlands requiring mitigation.

3.2 Wetland and Surface Water Communities

Based on the NWI, land use and cover data, and field reviews of the project study area, one (1) wetland and surface water community types were identified within the project area. The locations and approximate boundary of the habitat are shown on an aerial map provided in **Figure 3-1**. The wetland and surface water community types identified in the project study area are described below.

Reservoirs less than 10 acres (4 hectares) which are dominant features

FLUCFCS: 534

USFWS: POWx (Palustrine, Open Water, excavated)

Reservoirs are artificial impoundments of water. Within the project area, it consists of a manmade stormwater management facility associated with the existing surface water management system and is non-jurisdictional because it is a permitted stormwater management facility (SWFWMD Permit No. 4001660.032).

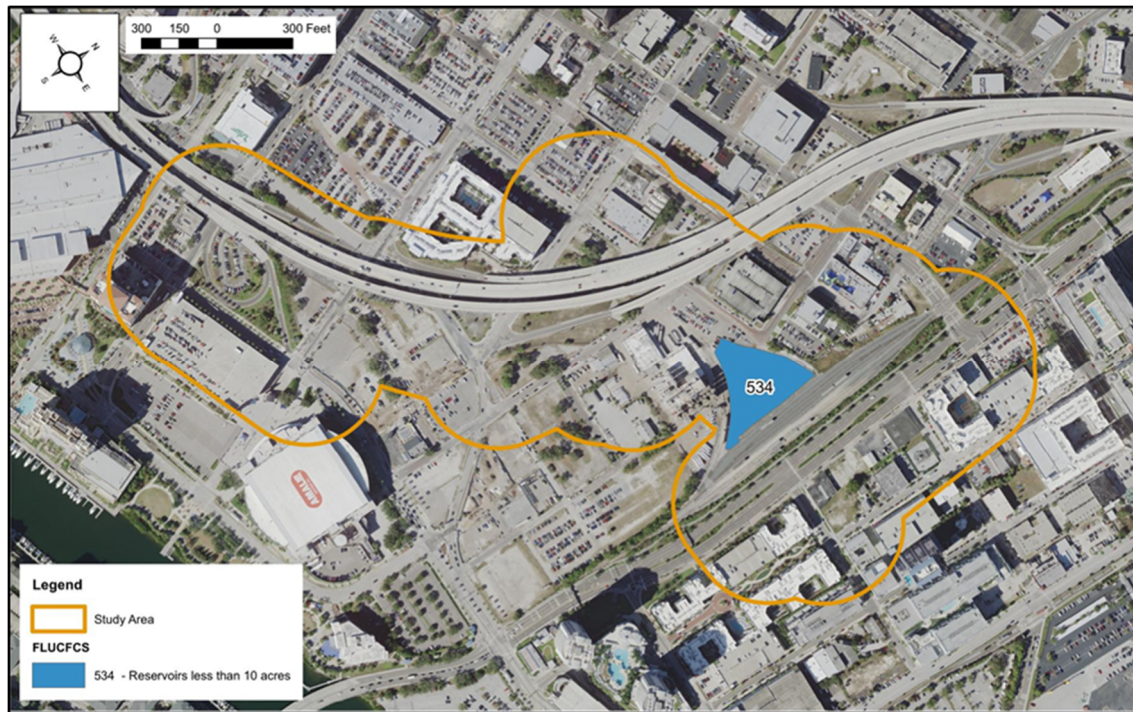


Figure 3-5: Wetland Map

3.3 Project Impacts

The proposed improvements will not result in any impacts to jurisdictional wetlands.

No long-term adverse effects are anticipated for functions and values associated with wetland and surface water systems in the region as a result of this project. There is no loss of wetlands and surface waters, thus the project will not adversely affect public health, safety, or welfare. Water supplies will not be affected, and no flood or storm hazards are anticipated. Design plans for the proposed project will not disturb the existing hydrologic dynamics of non-impacted wetlands and surface waters in the area.

While short-term adverse impacts are possible during the construction of the roadway project, none are anticipated. Specific permit conditions and a project specific erosion control plan will be followed to ensure maximum protection to wetlands and surface waters and to minimize construction-related water quality impacts. Furthermore, Best Management Practices (BMPs) will be employed during construction to reduce short-term degradation of water quality.

4.0 Anticipated Permits

Three agencies regulate wetlands and surface waters within the project area. These agencies include the FDEP, SWFWMD, and Hillsborough County Environmental Protection Commission (HCEPC). Other agencies, including the USFWS, USEPA, NMFS, and the FWC, review and comment on wetland permit applications. In addition, FDEP regulates stormwater discharges from construction sites.

It is currently anticipated that the following permits will be required for this project:

<u>Permits/Licenses</u>	<u>Issuing Agency</u>
Environmental Resource Permit (ERP)	SWFWMD
National Pollutant Discharge Elimination System (NPDES) Permit	FDEP

SWFWMD requires an Environmental Resource Permit (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 or isolated wetlands. In addition to potential wetland impacts, SWFWMD reviews water quality issues relating to the operation of the proposed project and water quantity attenuation resulting from project related changes in land use. The complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts. While there are no wetland impacts associated with the project, an ERP will be required by SWFWMD to address the water quality issues associated with the project.

Federal law 40 CFR Part 122 prohibits point source discharges of stormwater associated with large construction activities (as defined at 40 CFR 122.26(b)(14)(x)) and small construction activity (as defined at 40 CFR 122.26(b)(15)(x)) to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit. Under the State of Florida's delegated authority to administer the NPDES program, operators that have stormwater discharge associated with construction activity to surface waters of the State must file for and obtain 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 that will be used to reduce the pollutants.

Appendices



Appendix A
FNAI Data Report



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

Genesis Zambrano
H.W. Lochner, Inc.
4350 W. Cypress Street, Suite 800
Tampa, FL 33607

January 12, 2021

Dear Ms. Zambrano,

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: Whiting Street PD&E Study
Date Received: 1/6/2021
Location: Hillsborough County

Element Occurrences

A search of our maps and database indicates that we currently have several historical 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.

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 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.



Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

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> .

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

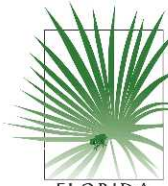
Kerri Brinegar
GIS / Data Services

Encl

Whiting Street PD&E Study

Site boundaries are approximate.

Hillsborough County



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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
- State
- Local
- Private
- State Aquatic Preserves

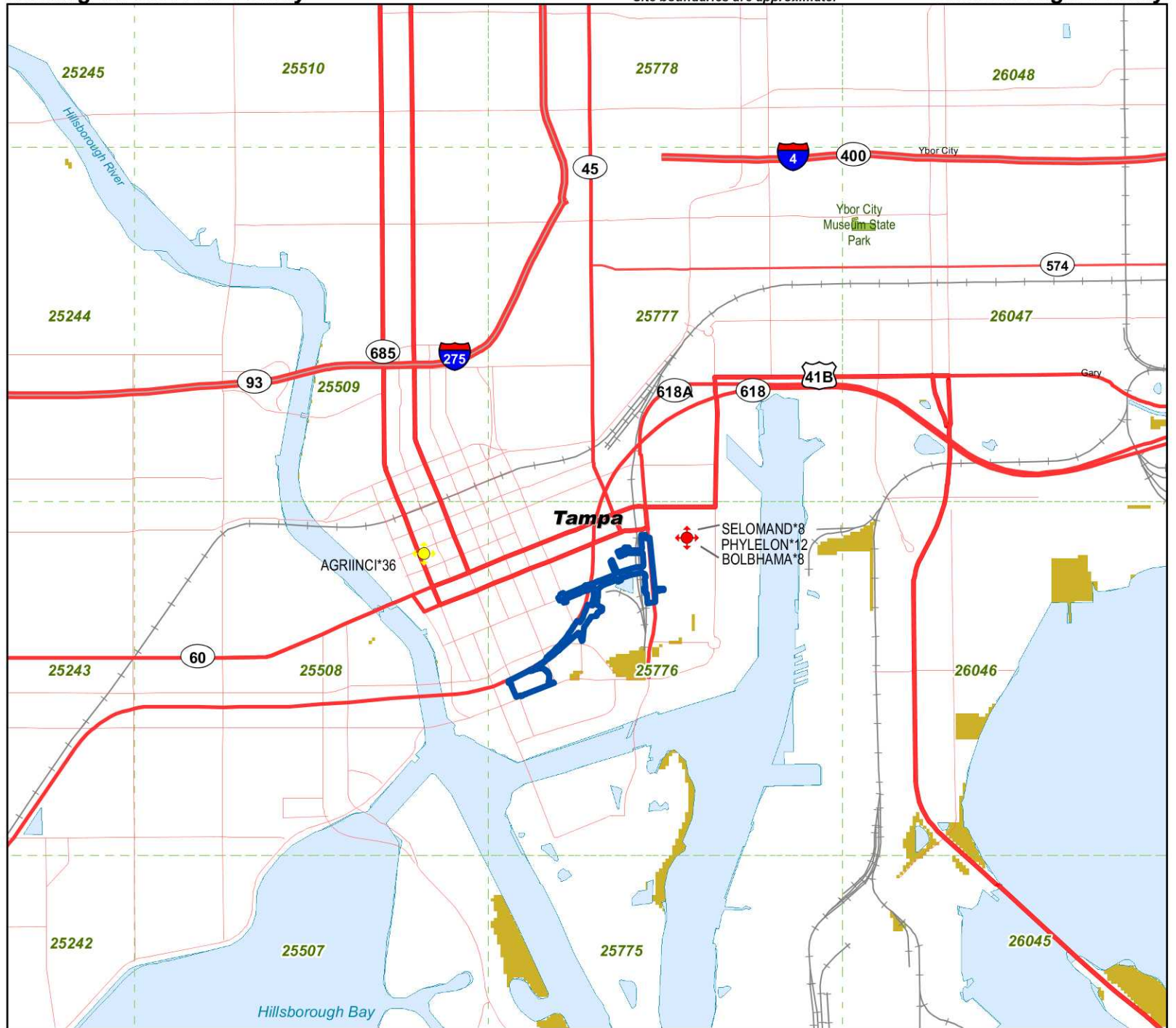


Land Acquisition Projects

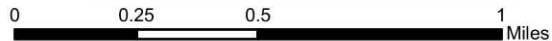
Florida Forever Board of Trustees Projects

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

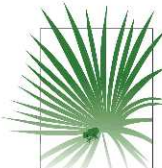
- County Boundary
- Roads
- Water



NOTE
This map contains environmentally sensitive information. Please do not distribute or publish without prior consent from FNAI. Map should not be interpreted without accompanying documents.



Map produced by KAB
1/12/2021



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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

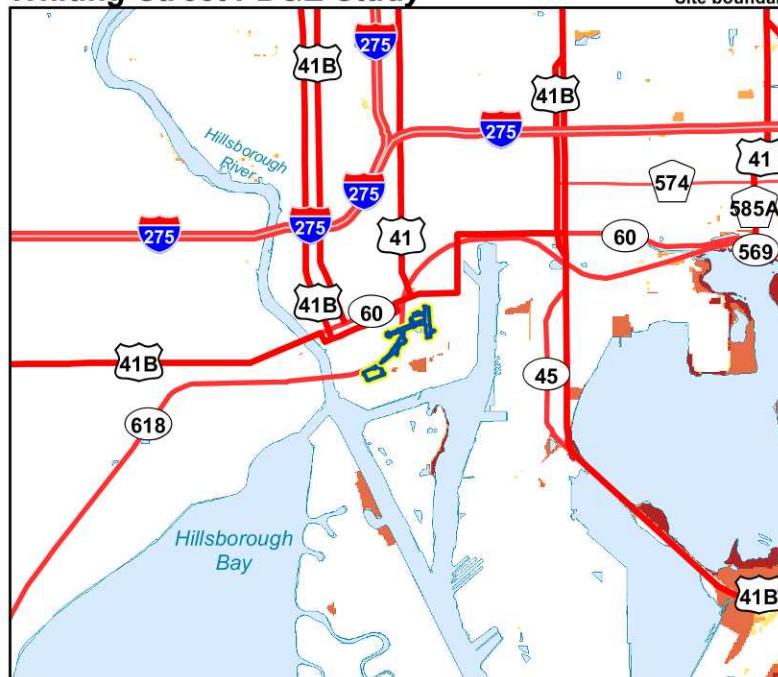
Map should not be interpreted without accompanying documents.

Critical Lands and Waters Identification Project (CLIP) is a cooperative effort between the FSU Florida Natural Areas Inventory, UF Center for Landscape Conservation Planning, and FL Fish & Wildlife Conservation Commission, with additional funding from FL Dept of Environmental Protection and US Fish & Wildlife Service.

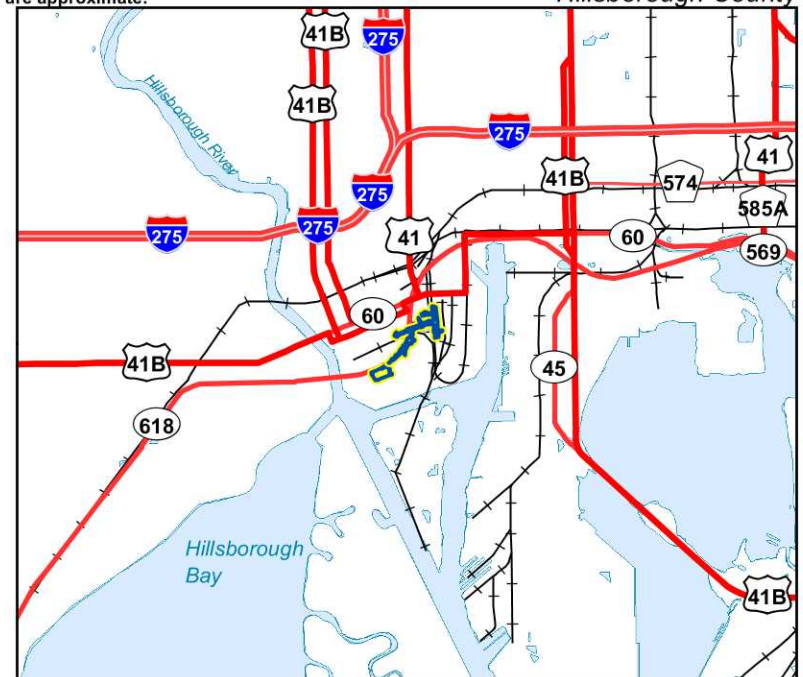
Whiting Street PD&E Study

Site boundaries are approximate.

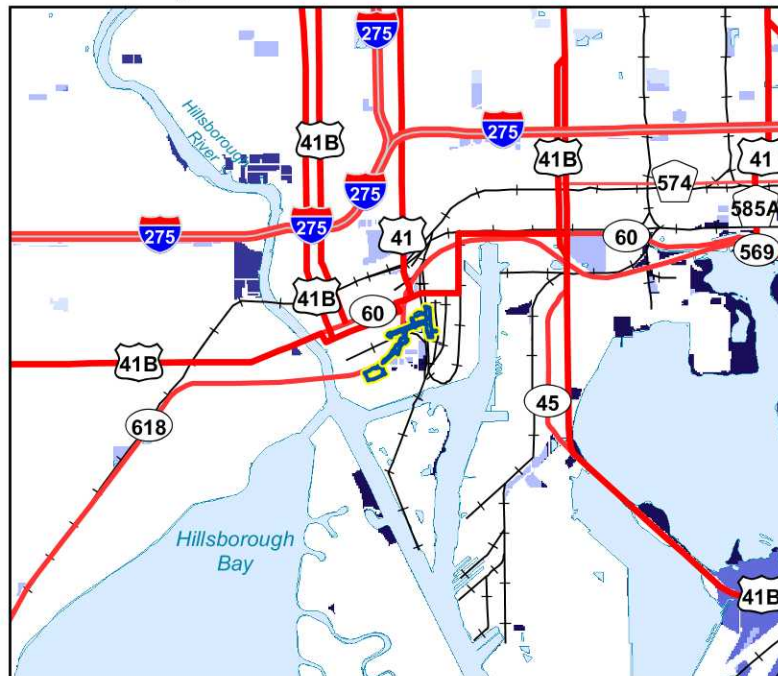
Hillsborough County



CLIP Biodiversity Resource Priorities



CLIP Landscape Resource Priorities



CLIP Surface Water Resource Priorities



CLIP Aggregated Resource Priorities





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FNAI ELEMENT OCCURRENCE REPORT on or near
Whiting Street PD&E Study



Map Label	Scientific Name	Common Name	Global State Federal State Observation				Date	Description	EO Comments
			Rank	Rank	Status	Listing			
AGRIINCI*36	<i>Agrimonia incisa</i>	incised groove-bur	G3	S2	N	T	1834	None given.	One flowering specimen collected
BOLBHAMA*8	<i>Bolbocerosoma hamatum</i>	Bicolored Burrowing Scarab Beetle	G3G4	S3	N	N	1964-11-04	1964-11-04: No description given (B73WOO01FLUS).	1964-11-04: One specimen was collected by Jean Beem (B73WOO01FLUS).
PHYLELON*12	<i>Phyllophaga elongata</i>	Elongate June Beetle	G3	S3	N	N	1966-08-29	1966-08-29: No description given (B89WOO01FLUS).	1966-08-29: One specimen was collected by T.J. Favoroso using a Steiner trap. 1965-08-12: T.J. Favoroso collected 2 specimens in a Japanese beetle trap. 1952-08: J. Gross collected 1 specimen(B89WOO01FLUS).
SELOMAND*8	<i>Selonodon mandibularis</i>	Large-Jawed Cebrionid Beetle	G2G4	S2S4	N	N	1958-08-08	1958-08-08: No description given (B99GAL01FLUS).	1958-08-08: 1 specimen was collected and deposited at FSCA (B99GAL01FLUS). 1916-05-18: 3 specimens were collected and deposited at LACM (B99GAL01FLUS). 1916-05-10: 1 specimen was collected and deposited to LACM (B99GAL01FLUS).



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FLORIDA
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Florida Natural Areas Inventory

Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 25776					
Likely					
<i>Mycteria americana</i>	Wood Stork	G4	S2	T	FT
<i>Trichechus manatus</i>	West Indian Manatee	G2G3	S2	T	FT
Potential					
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	G3T2T3	S2?	T	FT
<i>Agrimonia incisa</i>	incised groove-bur	G3	S2	N	T
<i>Antigone canadensis pratensis</i>	Florida Sandhill Crane	G5T2	S2	N	ST
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	G4T3	S3	N	ST
<i>Bolbocerosoma hamatum</i>	Bicolored Burrowing Scarab Beetle	G3G4	S3	N	N
<i>Centrosema arenicola</i>	sand butterfly pea	G2Q	S2	N	E
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	G2	S2	E	FE
<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S2?	T	FT
<i>Eretmochelys imbricata</i>	Hawksbill Sea Turtle	G3	S1	E	FE
<i>Eumops floridanus</i>	Florida bonneted bat	G1	S1	E	FE
<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	ST
<i>Gymnopogon chapmanianus</i>	Chapman's skeletongrass	G3	S3	N	N
<i>Lampropeltis extenuata</i>	Short-tailed Snake	G3	S3	N	ST
<i>Nemastylis floridana</i>	celestial lily	G2	S2	N	E
<i>Phyllophaga elongata</i>	Elongate June Beetle	G3	S3	N	N
<i>Pteroglossaspis ecristata</i>	giant orchid	G2G3	S2	N	T
<i>Rallus longirostris scottii</i>	Florida Clapper Rail	G5T3?	S3?	N	N
<i>Sciurus niger niger</i>	Southeastern Fox Squirrel	G5T5	S3	N	N
<i>Selonodon mandibularis</i>	Large-Jawed Cebrionid Beetle	G2G4	S2S4	N	N
<i>Setophaga discolor paludicola</i>	Florida Prairie Warbler	G5T3	S3	N	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.

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 B
Effect Determination Key for the
Wood Stork in Central and North
Peninsular Florida

**THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, U. S. FISH AND
WILDLIFE SERVICE, JACKSONVILLE ECOLOGICAL SERVICES FIELD
OFFICE AND STATE OF FLORIDA EFFECT DETERMINATION KEY FOR
THE WOOD STORK IN CENTRAL AND NORTH PENINSULAR FLORIDA
September 2008**

Purpose and Background

The purpose of this document is to provide a tool to improve the timing and consistency of review of Federal and State permit applications and Federal civil works projects, for potential effects of these projects on the endangered wood stork (*Mycteria americana*) within the Jacksonville Ecological Services Field Office (JAFL) geographic area of responsibility (GAR see below). The key is designed primarily for Corps Project Managers in the Regulatory and Planning Divisions and the Florida Department of Environmental Protection or its authorized designee, or Water Management Districts. The tool consists of the following dichotomous key and reference material. The key is intended to be used to evaluate permit applications and Corps' civil works projects for impacts potentially affecting wood storks or their wetland habitats. At certain steps in the key, the user is referred to graphics depicting known wood stork nesting colonies and their core foraging areas (CFA), footnotes, and other support documents. The graphics and supporting documents may be downloaded from the Corps' web page at <http://www.saj.usace.army.mil/permit> or at the JAFL web site at <http://www.fws.gov/northflorida/WoodStorks>. We intend to utilize the most recent information for both the graphics and supporting information; so should this information be updated, we will modify it accordingly. **Note: This information is provided as an aid to project review and analysis, and is not intended to substitute for a comprehensive biological assessment of potential project impacts. Such assessments are site-specific and usually generated by the project applicant or, in the case of civil works projects, by the Corps or project co-sponsor.**

Explanatory footnotes provided in the key must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effects determinations on wood storks within the JAFL GAR, and not for other listed species. Counties within the JAFL GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

The final effect determination will be based on project location and description, the potential effects to wood storks, and any measures (for example project components, special permit conditions) that avoid or minimize direct, indirect, and/or cumulative

impacts to wood storks and/or suitable wood stork foraging habitat. Projects that key to a “no effect” determination do not require additional consultation or coordination with the JAFL. Projects that key to “NLAA” also do not need further consultation; however, the JAFL staff will assist the Corps if requested, to answer questions regarding the appropriateness of mitigation options. 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 should request the JAFL to initiate formal consultation on the Wood stork.

Summary of General Wood Stork Nesting and Foraging Habitat Information

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). Successful breeding sites are those that have limited human disturbance and low exposure to land based predators. Nesting sites protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. These colonies have water depths between 0.9 and 1.5 meters (3 and 5 feet) during the breeding season.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. Such habitat generally results from a combination of average or above-average rainfall during the summer rainy season, and an absence of unusually rainy or cold weather during the winter-spring breeding season (Kahl 1964; Rodgers et al. 1987). This pattern produces widespread and prolonged flooding of summer marshes that tends to maximize production of freshwater fishes, followed by steady drying that concentrate fish during the season when storks nest (Kahl 1964). Successful nesting colonies are those that have a large number of foraging sites. To maintain a wide range of foraging opportunities, a variety of wetland habitats exhibiting short and long hydroperiods should be present. In terms of wood stork foraging, the Service (1999) describes a short hydroperiod as one where a wetland fluctuates between wet and dry in 1 to 5-month cycles, and a long hydroperiod where the wet period is greater than five consecutive months. Wood storks during the wet season generally feed in the shallow water of short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (though usually retaining some surface water throughout the dry season).

Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the wood stork include freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Good foraging conditions are characterized by water that is relatively calm, open, and having water depths between 5 and 15 inches (5 and 38 cm). Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydrologic

regimes ranging from dry to wet. The vegetative component provides nursery habitat for small fish, frogs, and other aquatic prey, and the shallow, open-water areas provide sites for concentration of the prey during daily or seasonal low water periods.

WOOD STORK KEY

Although designed primarily for use by Corps Project Managers in the Regulatory and Planning Divisions, and State Regulatory agencies or their designees, project permit applicants and co-sponsors of civil works projects may find this key and its supporting documents useful in identifying potential project impacts to wood storks, and planning how best to avoid, minimize, or compensate for any identified adverse effects.

- A. Project within 2,500 feet of an active colony site¹.....*May affect*
Project more than 2,500 feet from a colony site.....go to B
- B. Project does not affect suitable foraging habitat² (SFH).....*no effect*
Project impacts SFH².....go to C
- C. Project impacts to SFH are less than or equal to 0.5 acre³.....*NLAA*⁴
Project impacts to SFH are greater than or equal to 0.5 acre.....go to D
- D. Project impacts to SFH not within a Core Foraging Area⁵ (see attached map) of a colony site, and no wood storks have been documented foraging on site.....*NLAA*⁴
Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFAgo to E
- E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see *Wood Stork Foraging Habitat Assessment Procedure*⁶ for guidance), is not contrary to the Service's *Habitat Management Guidelines For The Wood Stork In The Southeast Region* and in accordance with the CWA section 404(b)(1) guidelines.....*NLAA*⁴
Project does not satisfy these elements.....*May affect*

¹ An active nesting site is defined as a site currently supporting breeding pairs of wood storks, or has supported breeding wood storks at least once during the preceding 10-year period.

² Suitable foraging habitat (SFH) is described as any area containing patches of relatively open (< 25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm). 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 and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. See above *Summary of General Wood Stork Nesting and Foraging Habitat Information*.

³ On an individual basis, projects that impact less than 0.5 acre of SFH generally will not have a measurable effect on wood storks, although we request the Corps to require mitigation for these losses when appropriate. Wood Storks are a wide ranging species, and individually, habitat change from impacts to less than 0.5 acre of SFH is 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.

⁴ Upon Corps receipt of a general concurrence issued by the JAFL through the Programmatic Concurrence on this key, "NLAA" determinations for projects made pursuant to this key require no further consultation with the JAFL.

⁵ The U.S. Fish and Wildlife Service (Service) has identified core foraging area (CFA) around all known wood stork nesting colonies that is important for reproductive success. In Central Florida, CFAs include suitable foraging habitat (SFH) within a 15-mile radius of the nest colony; CFAs in North Florida include SFH within a 13-mile radius of a colony. The referenced map provides locations of known colonies and their CFAs throughout Florida documented as active within the last 10 years. The Service believes loss of suitable foraging wetlands within these CFAs may reduce foraging opportunities for the wood stork.

⁶This draft document, *Wood Stork Foraging Habitat Assessment Procedure*, by Passarella and Associates, Incorporated, may serve as further guidance in ascertaining wetland foraging value to wood storks and compensating for impacts to wood stork foraging habitat.

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 that were determined "may affect, not likely to adversely affect." It is requested that information on date, Corps identification number, project acreage, project wetland acreage, and latitude and longitude in decimal degrees be sent to the Service quarterly.

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Ogden, J.C. 1991. Nesting by wood storks in natural, altered, and artificial wetlands in central and northern Florida. *Colonial Waterbirds* 14:39-45.

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U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Fish and Wildlife Service; Atlanta, Georgia. Available from:
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