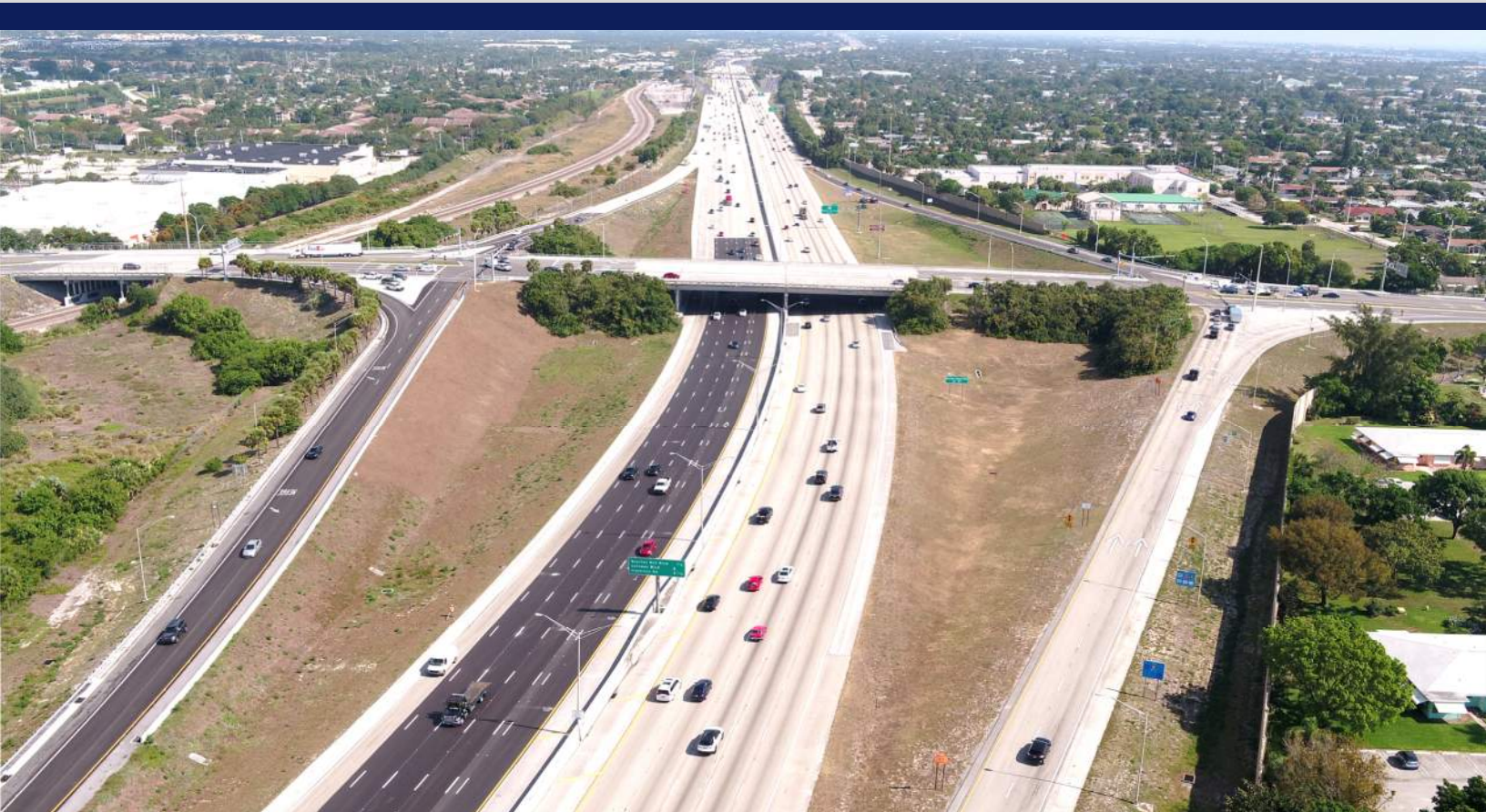




**SR 9/I-95 Project Development and Environment (PD&E) Study
from S. of Woolbright Road to N. of Woolbright Road
Palm Beach County, Florida**

FPID No.: 437279-1-22-02 | ETDM No.: 14341



**DRAFT
NATURAL RESOURCES
EVALUATION**

September 2020

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

NATURAL RESOURCES EVALUATION

SR 9/I-95 Project Development and Environment Study
From South of Woolbright Road to North of Woolbright Road
Boynton Beach, Palm Beach County, Florida
(From Mile Post 13.560 to Mile Post 13.995)

FPID: 437279-1-22-02

ETDM #: 14341

Prepared for:



Florida Department of Transportation
District Four
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September 2020

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EXECUTIVE SUMMARY

A Natural Resources Evaluation (NRE) was performed for the SR 9/1-95 Project Development and Environment (PD&E) Study, from South of Woolbright Road to North of Woolbright Road. The NRE was performed in general accordance with Part 2, Chapter 16, Protected Species and Habitat, Part 2, Chapter 9, Wetlands and Other Surface Waters and Part 2, Chapter 17, Essential Fish Habitat (EFH), of the January 14, 2019 Florida Department of Transportation (FDOT) PD&E Manual. This project was screened in the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) by FDOT District 4 and a Summary Report was published on May 3, 2018 (ETDM #14341).

Federal and State-listed species with the potential to be present in the project corridor were evaluated based on a review of literature and a field reconnaissance conducted on May 27, 2020. It was determined that the project would have no effect or no adverse effect on the Florida scrub jay (*Aphelocoma coerulescens*), West Indian manatee (*Trichechus manatus*) and tiny polygala (*Polygala arenicola*). An effects determination of *may affect, not likely to adversely affect* was assigned for the wood stork (*Mycteria americana*) and Eastern indigo snake (*Drymarchon corais couperi*). It was determined that the project would have no effect on the burrowing owl (*Athene cunicularia*) and no adverse effect anticipated on the little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), roseate spoonbill (*Platalea ajaja*) and gopher tortoise (*Gopherus polyphemus*).

A wetland assessment was conducted for the projected in conjunction with the wildlife survey conducted on May 27, 2020. No jurisdictional wetlands were observed within the project limits or 500-foot buffer zone. The E-4 Canal runs through the western portion of the project limits, however, due to the negligible littoral zones or emergent aquatic vegetation, this canal is considered “other surface waters” by regulatory agencies. Minor fill impacts to the northern side of the E-4 Canal are anticipated due to the widening of Woolbright Road. The E-4 Canal is under jurisdiction of the Lake Worth Drainage District.

Per the ETDM Summary Report comments, an Essential Fish Habitat (EFH) Assessment was not required for this project. No EFH habitat was identified within the project limits and buffer zone.

Avoidance and minimization of impacts to protected species will occur through the implementation of the following during construction: *Habitat Management Guidelines for the Wood Stork in the Southeast Region*, *Standard Manatee Conditions for In-Water Work* and the *Standard Protection Measures for the Eastern Indigo Snake* as specified in the effects determinations for these species. Although a no adverse effect determination was determined for the gopher tortoises, a follow-up 100 percent survey for the gopher tortoise is

recommended to occur in suitable habitat prior to construction. Coordination with the United States Fish and Wildlife Service (FWS) and the Florida Fish and Wildlife Conservation Commission (FWC) will occur regarding the effect determinations for these species.

DRAFT

1. SUMMARY OF PROJECT

1.1 Project Description

This report contains information regarding the SR 9/I-95 (I-95) from South of Woolbright Road to North of Woolbright Road Project Development and Environment (PD&E) Study (Mile Post 13.560 to Mile Post 13.995) for a total length of 0.83 miles along I-95 and 0.85 miles along Woolbright Road. This project has been developed in compliance with Title VI of the Civil Rights Act of 1964 and other related federal and state nondiscrimination authorities. Neither the Florida Department of Transportation (FDOT) nor this project will deny the benefits of, exclude from participation in, or subject to discrimination anyone on the basis of race, color, national origin, age, sex, disability, or family status.

The FDOT, District Four is conducting a PD&E Study to identify long-term needs of I-95 and develop design concepts to address traffic spillback onto I-95, reduce congestion at the I-95 and Woolbright Road interchange, improve interchange operations, and improve safety at the study interchange through the 2045 design year horizon. This study will also consider Strategic Intermodal System (SIS) connector improvements needed within the project area and is consistent with plans for the I-95 mainline, including the potential extension of I-95 Managed Lanes through Palm Beach County. This study is investigating alternatives, including the no-build alternative, to improve the overall operating conditions and enhance safety within the interchange.

The improvements to the I-95 Interchange at Woolbright Road will provide additional capacity for vehicles travelling east-west as well as operational improvements north-south through the interchange. Local and network connectivity for the City of Boynton Beach will be improved.

The I-95 Interchange at Woolbright Road is located in Palm Beach County in the City of Boynton Beach. The project limits along I-95 extend from just south of Woolbright Road at SW 23rd Avenue to just north of Woolbright Road about 2,000 feet north of the interchange. The project limits along Woolbright Road extend from the SW 18th Street on the west to just east of I-95 at SW 2nd Street. The project area includes the signalized intersections at SW 8th Street, and the I-95 southbound and northbound ramps (**Figure 1-1. Project Location Map**). The South Florida Rail Corridor (SFRC)/CSX Railroad is adjacent to the project corridor and runs parallel along the west side of I-95. Tri-Rail operates along this rail corridor, with the nearest station; Boynton Beach Tri-Rail Station located 2.68 miles to the north of Woolbright Road, just north of the Gateway Boulevard interchange.

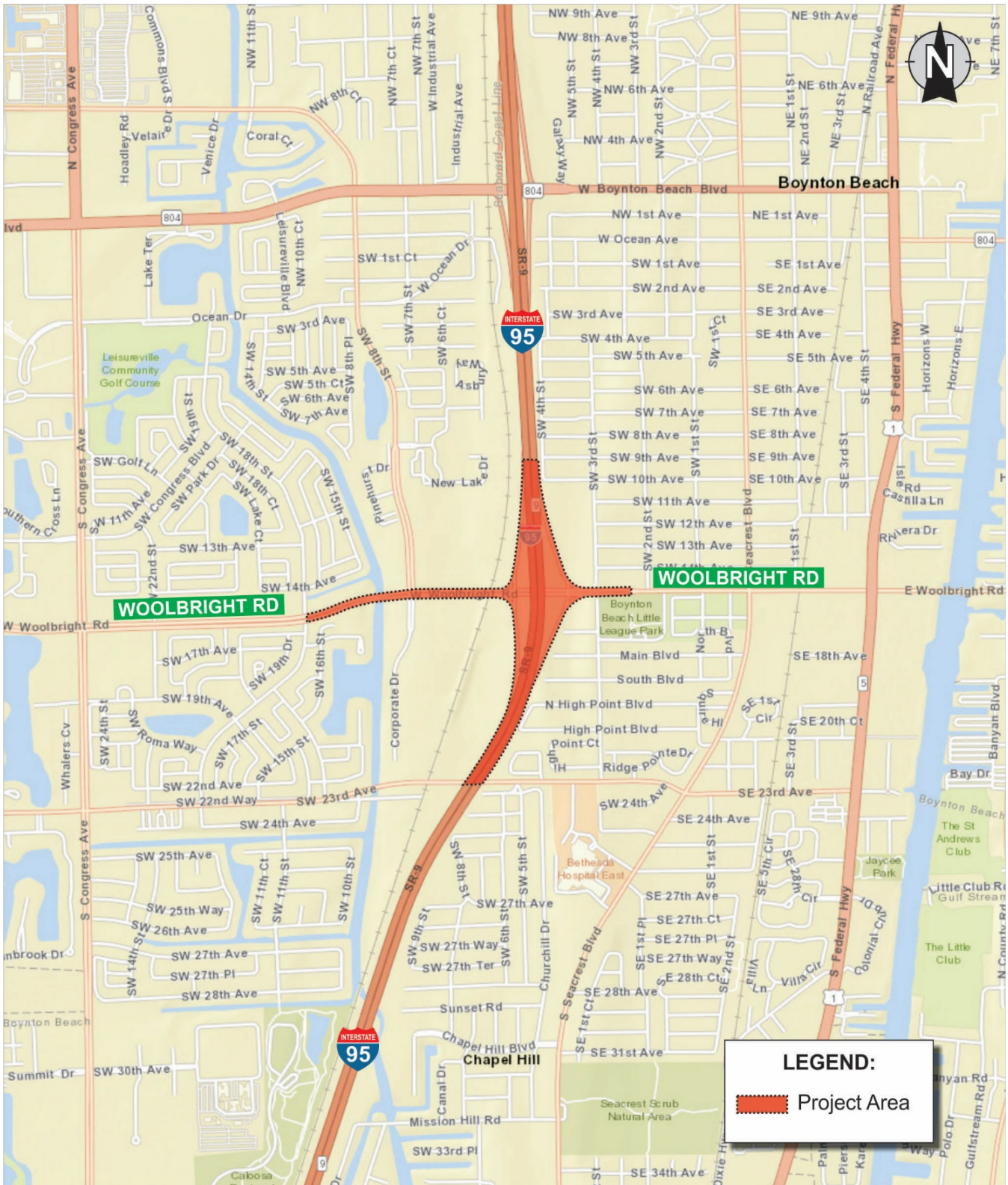


Figure 1-1: Project Study Area

Within the project limits, I-95 is a ten-lane divided interstate freeway providing four general purpose lanes and one high occupancy vehicle (HOV) lane in each direction. The project will be designed to complement the I-95 interim interchange design-build project recently completed, which constructed one additional left-turn lane onto I-95 in both the eastbound and westbound directions; a free-flow right-turn lane from the southbound off-ramp; and designated bicycle lanes along Woolbright Road within the limits of the interchange.

Woolbright Road is currently a six-lane urban divided minor arterial to the west of I-95 and a four-lane urban divided minor arterial to the east of I-95. There is a raised median from SW 18th Street west of I-95 to just west of SW 2nd Street east of I-95. At SW 2nd Street, Woolbright Road transitions to a five-lane roadway section with a two-way left-turn lane in the middle. There are sidewalks on both sides of Woolbright Road throughout the project area and designated bicycle lanes within the limits of the interchange.

The land use adjacent to the interchange is zoned as Public Usage, Single Family, Duplex, Neighborhood Commercial, and Light Industrial. The area southeast of the interchange is zoned Recreation, Multi Family, Public Usage, and Planned Unit Development. Zoning northwest of the interchange consists of Planned Commercial Development, Planned Unit Development, Light Industrial, Office Professional, Neighborhood Commercial, and Single Family, and southwest of the interchange is zoned Community Commercial, Office Professional, Planned Industrial Development, and Single Family.

Improvement to the I-95 interchange at Woolbright Boulevard is consistent with the Cost Feasible Plan of the Palm Beach County Metropolitan Planning Organization (MPO)'s 2045 Long Range Transportation Plan (LRTP). "The purpose is to improve interchange operations and reduce congestion, reduce potential for traffic spillback onto I-95, and increase safety. The improvements are needed to ensure that the I-95 interchange will meet FDOT Level-of-Service standards through year 2045."

This project has been screened through the Efficient Transportation Decision Making (ETDM) process. The Advance Notification (AN) was distributed during the programming screening event, which occurred on October 23, 2017. The Programming Screen Summary Report was re-published on May 3, 2018 and can be viewed under the ETDM # 14341.

1.2 Background

The FDOT made improvements to the I-95 mainline in Palm Beach County in the 1990s and 2000s, adding High Occupancy Vehicle (HOV) lanes and auxiliary lanes from south of Linton Boulevard to north of PGA Boulevard. Minor interchange improvements were also made to eight of the existing 18 interchanges along this section of the corridor. At the time of the project, FDOT committed to re-examine the need for long-term improvements at those interchanges that were not improved during the I-95 mainline project. FDOT District Four also identified the need to re-examine the 2003 I-95 Master Plan Study for Palm Beach County to develop new improvements to interchanges based on changes in traffic volumes and updated design standards since the Master Plan was developed.

A Concept Development Report (CDR) was prepared by the FDOT District Four Office of Planning and Environmental Management in August of 2014. The following are the recommendations identified for short-term improvements that have been recently completed as part of the Design-Build project:

- One additional left-turn lane onto I-95 in both the eastbound and westbound directions;
- A free-flow right-turn lane from the southbound off-ramp; and
- Designated bicycle lanes along Woolbright Road within the limits of the interchange.

1.3 Purpose and Need

The purpose of this study is to identify long-term needs of I-95 and develop concepts to address traffic spillback onto I-95, reduce congestion on I-95 and Woolbright Road, improve interchange operations, and improve safety at the I-95 and Woolbright Road interchange through the 2045 design year horizon. This project will also consider SIS connector improvements needed within the project area and will be consistent with plans for the I-95 mainline, including the potential extension of I-95 Express lanes through Palm Beach County.

Additional considerations for the purpose and need for this project are further described in the following sections that include System Linkage, Capacity, Transportation Demand, Social Demands/Economic Development, Modal Interrelationships, and Safety.

System Linkage: I-95 is a part of the SIS and National Highway System (NHS). A need exists to ensure that I-95 continues to meet the minimum requirements as a component of those two systems. The project is not proposing to change system linkage; however, the interchange modifications would improve movements within the existing systems. The proposed project at I-95 and Woolbright Road will help improve connectivity and

capacity within the roadway network by addressing traffic spillback onto I-95 and improving interchange connections.

Capacity: Using field review data collected in 2018, A.M. and P.M. peak conditions were observed at all intersections in the study area. At the Corporate Drive/SW 8th Street intersection, during the P.M. peak hour, all approaches experienced minimal queues, except for the westbound and eastbound directions. The westbound left-turn queue experienced spillback into the through lanes and the eastbound direction experienced long queues. During the P.M. peak hour on the I-95 southbound ramp intersection, the eastbound approach experienced long queues, but all queues cleared the intersection during each signal cycle. The southbound approach experienced significant queues, with the queue not clearing during one signal cycle. During the P.M. peak hour at the I-95 northbound ramps intersection, the eastbound approach experienced minimal queue buildup and the northbound and westbound approaches experienced long queues; however, all queues cleared the intersection in one signal cycle for all approaches.

Transportation Demand: Interchange improvements to I-95 at Woolbright Road is included in the Palm Beach County Transportation Planning Agency's 2045 LRTP under projects funded with SIS revenues, which includes federal funds. The project is consistent with the plans for the I-95 mainline, including the extension of express lanes into Palm Beach County.

Social Demands/Economic Development: Social and economic demands on the I-95 corridor will continue to increase as population and employment increase. The Palm Beach County TPA 2040 LRTP states that the population would grow 27 percent from 1.32 million in 2010 to 1.68 million in 2040. The employment forecasted to grow from 571,000 to 820,000 employees in the same 30 year period for an increase of nearly 44 percent. The predicted increase in population and employment will increase congestion in the study area.

Modal Interrelationships: Currently, sidewalks and crosswalks are provided on both sides of Woolbright Road. Palm Tran Route 70 services Seacrest Boulevard both north and south of Woolbright Road east of the interchange, as well as the Boynton Beach Tri-Rail station 2.68 miles north of Woolbright Road. The project proposes to provide undesignated bicycle lanes on both sides of Woolbright Road. Capacity improvements at the interchange will enhance the mobility of people and goods by alleviating current and future congestion at the interchange and the surrounding freight and transit networks. Reduced congestion will serve to maintain and improve viable access to the major transportation facilities and businesses in the area.

Safety: The crash data for the latest available five-year period (2012 to 2016) along Woolbright Road (93220000) from SW 8 Street to S. Seacrest Boulevard was retrieved from FDOT's Crash Analysis Reporting System (CARS) on-line database and from Signal 4 Analytics database. The study corridor encompasses the I-95 Interchange. The crash data from both databases were summarized separately for the entire corridor and for the I-95 interchange.

Overall, there was a total of 680 crashes during the 5-year period. Based on crash severity, of the 680 crashes reported, 240 (35.5%) were injury type crashes, 437 (64.3%) were property damage only crashes, and three fatal crashes were reported. Two of the fatal crashes occurred in 2012 and were classified as overturn and collision with parked vehicle type and the third fatal crash occurred in 2016 and it was classified as angle collision. There were 150 wet pavement crashes (22.1%) reported. The frequency of wet pavement crashes was constant through the 5-year analysis period. This may indicate a crash pattern of wet pavement crashes. There were 171 nighttime/dusk/dawn/dark crashes (25.1%) reported. The leading crash type was rear-end with a total of 338 crashes (49.7%) followed by sideswipe with a total of 94 crashes (13.8%). Careless driving or negligent manner was the most predominate contributing causes of these crashes. Most of the crashes (178) occurred during the morning hours (6 AM to 9 AM), which correspond to the typical morning rush period.

2. Proposed Alternatives

The following describes the alternatives considered for this project.

No Build Alternative

- This alternative would keep the existing interchange roadway network into the future without improvements.
- The No Build Alternative has a number of positive aspects, since it would not require expenditure of public funds for design, right-of-way acquisition, construction, or utility relocation. Traffic would not be disrupted due to construction, therefore, avoiding inconveniences to local residents and businesses. Also, there would be no direct or secondary impacts to the environment, the socio-economic characteristics, or community cohesion of the area.
- The No Build Alternative fails to fulfill the purpose and need of the project. Operational and safety conditions within the interchange area will become progressively worse as traffic volumes continue to increase, thereby increasing the number of crashes and deteriorating access of this interchange.

Alternative 1 – Tight Diamond Interchange (TDI) – Recommended Alternative

- Modify the existing Diamond Interchange by widening the existing Woolbright Road bridge over I-95 and the bridge over the South Florida Rail Corridor to accommodate one additional through lane in each direction through the interchange
- Add one additional left-turn lane (triple lefts) at the northbound and southbound I-95 off-ramp intersections
- Add one additional westbound through lane at the Corporate Drive/SW 8th Street intersection
- Add one additional left-turn lane in the eastbound and westbound direction at the Corporate Drive/SW 8th Street intersection
- Widen the existing bridge over the E-4 Canal to accommodate the additional westbound through lane and bicycle lanes
- Extend the bicycle lanes from the interchange to SW 18th Street
- Refer to [Figure 2-1](#).

Alternative 2 – Diverging Diamond Interchange (DDI)

- Reconstruct the existing Diamond Interchange to a Diverging Diamond Interchange (DDI) configuration, which provides three continuous through lanes through the interchange with two free flow left-turn lanes into the I-95 on-ramps
- Add one additional westbound through lane at the Corporate Drive/SW 8th Street intersection
- Add one additional left-turn lane in the eastbound and westbound direction at the Corporate Drive/SW 8th Street intersection

- Widen the existing bridge over the E-4 Canal to accommodate the additional westbound through lane and bicycle lanes
- Extend the bicycle lanes from the interchange to SW 18th Street
- Refer to [Figure 2-2](#).

Alternative 3 – Single Point Urban Interchange (SPUI)

- Reconstruct the existing Diamond Interchange to a Single Point Urban Interchange (SPUI) configuration, which provides two continuous through lanes through the interchange
- Add one additional left-turn lane (triple lefts) at the southbound I-95 off-ramp intersection
- Add one additional westbound through lane at the Corporate Drive/SW 8th Street intersection
- Add one additional left-turn lane in the eastbound and westbound direction at the Corporate Drive/SW 8th Street intersection
- Widen the existing bridge over the E-4 Canal to accommodate the additional westbound through lane and bicycle lanes
- Extend the bicycle lanes from the interchange to SW 18th Street
- Refer to [Figure 2-3](#).

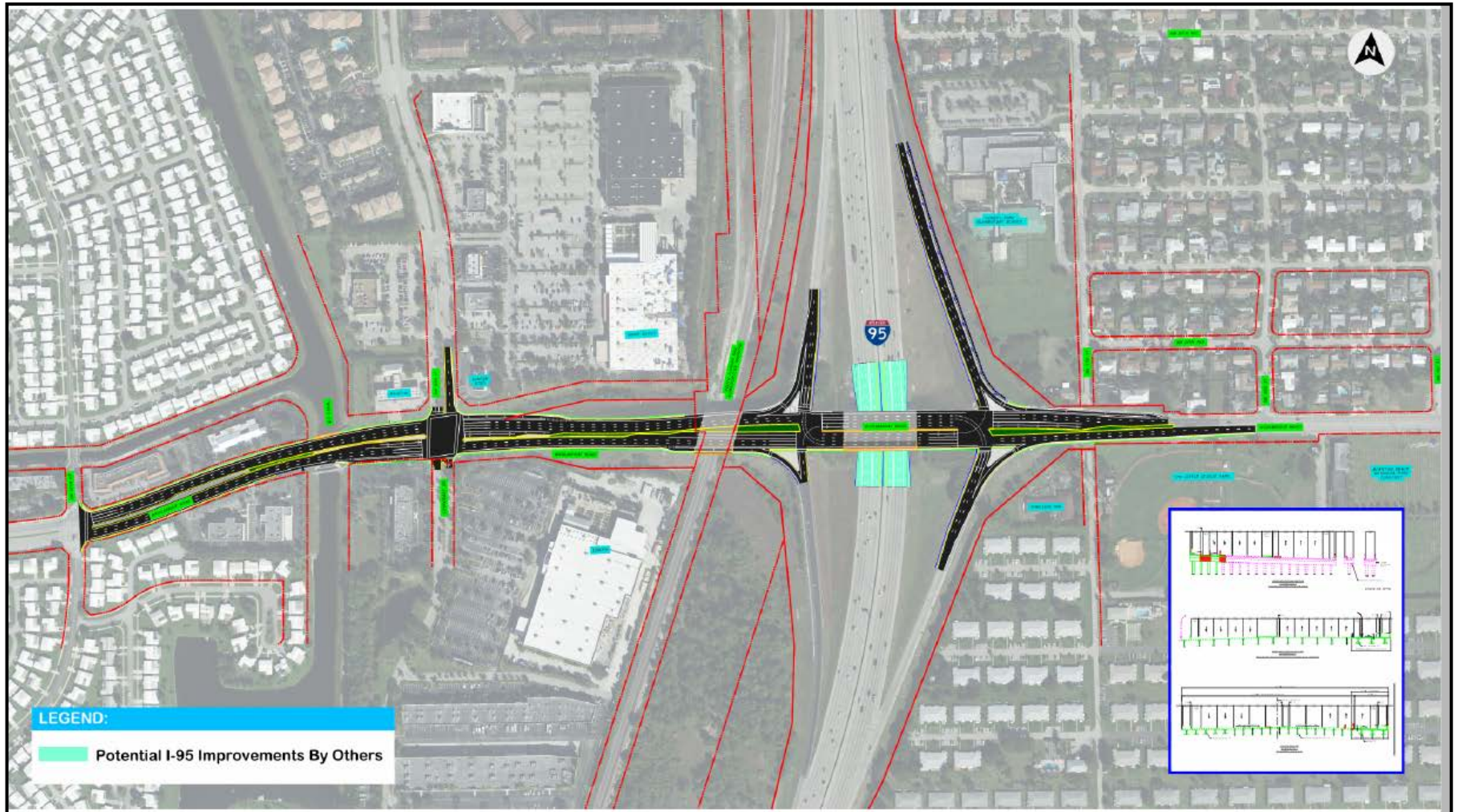


Figure 2-1. Alternative 1: TDI

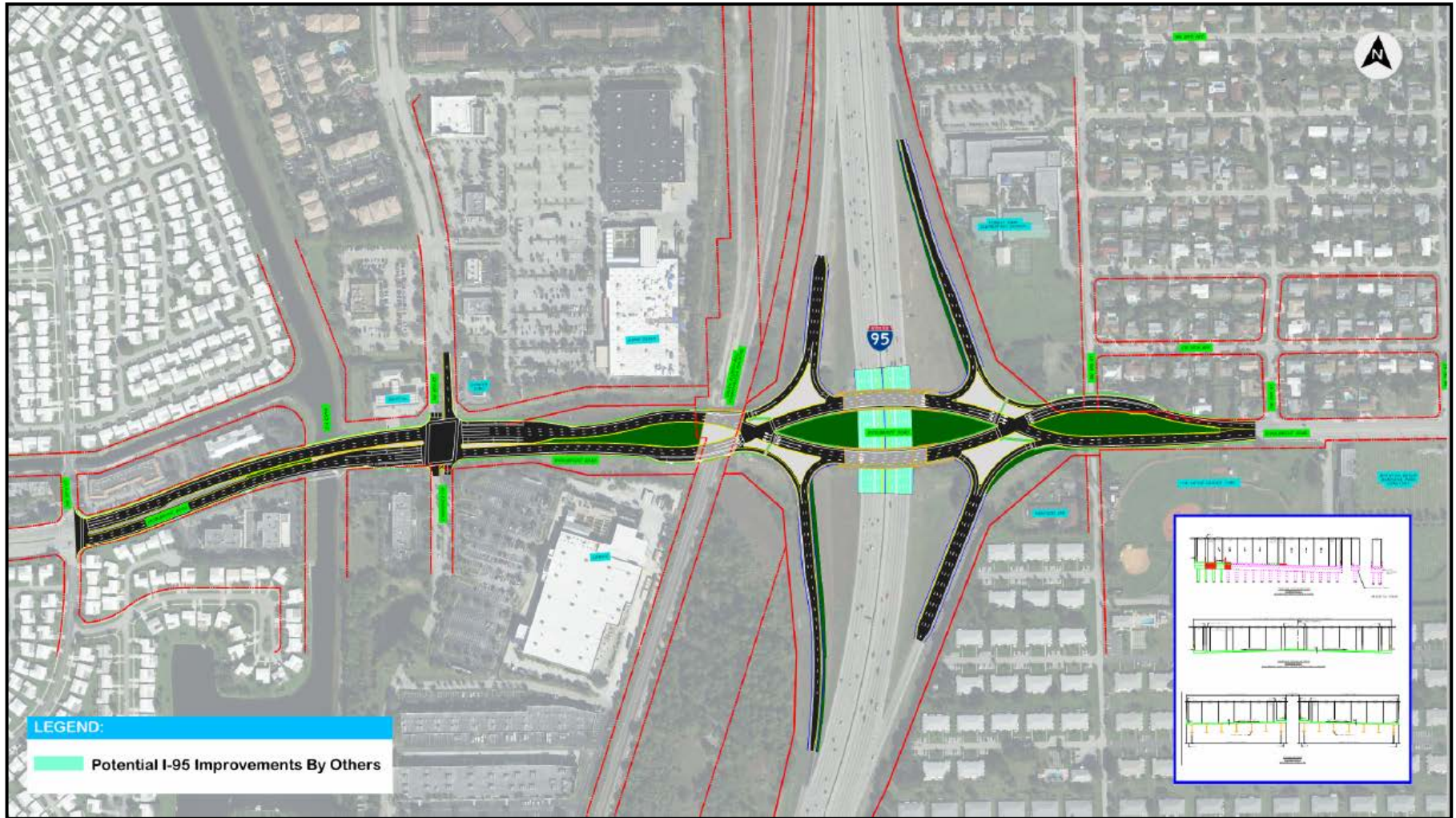


Figure 3-2. Alternative 2: DDI

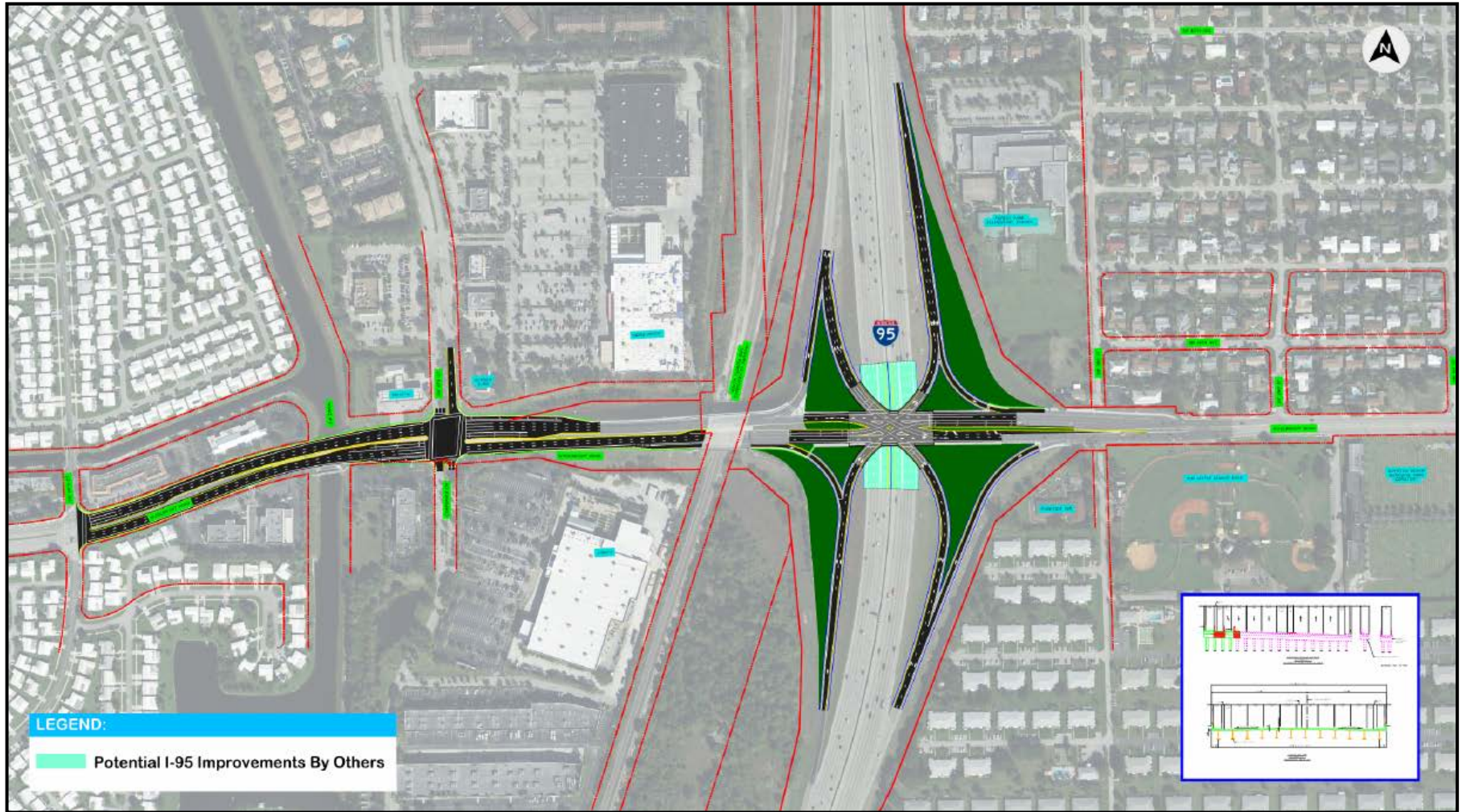


Figure 4-3. Alternative 3: SPUI

3. Existing Environmental Conditions

3.1 Existing Land Use

Existing land use within the project area was determined through the interpretation of aerial photography (**Figure 3-1 – Aerial Map**) and a field reconnaissance of the project corridor conducted on May 27, 2020. Existing land use within a 500-foot buffer of the project limits was based on the Florida Land Use, Cover and Forms Classification System (FLUCCS) (FDOT, 1999) using the South Florida Water Management District (SFWMD) 2014-2016 land use/land cover layer (**Figure 3-2 – Existing Land Use Map**).

The existing land use within 500 feet of the project corridor is predominantly roads and highways (FLUCCS Code 8140), consisting of I-95. Fixed single-family units (FLUCCS Code 1210) is second most dominant land use in the 500-foot buffer. Followed by shopping centers (FLUCCS Code 1411) as the third most dominant land use. Other land uses in the project corridor, in order of areal coverage, include other multiple dwelling units, upland mixed coniferous/ hardwood, pine flatwoods, parks and zoos, educational facilities, commercial and services, open land, channelized waterways, canals, other light industries and cemeteries.

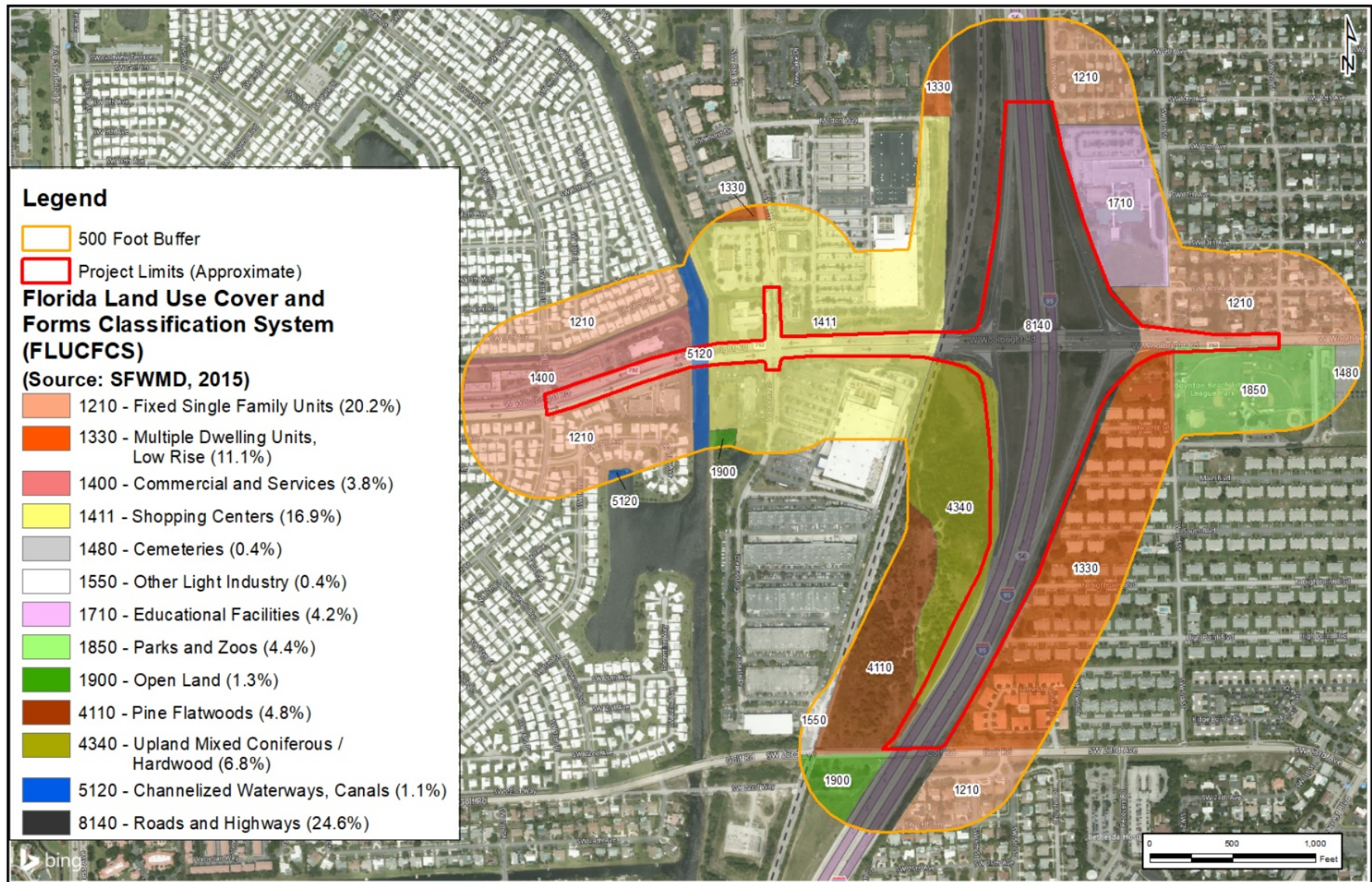


Figure 3-2. Land Use Map

3.2 National Wetlands Inventory

Per review of the National Wetlands Inventory (NWI), no jurisdictional wetlands are present within 500 feet of the project limits. The E-4 Canal and feeder canals are located west of I-95 and west of SW 8th Street/Corporate Drive (**Figure 3-3 – NWI Map**). These water bodies display relatively steep banks, are too deep to support emergent wetland vegetation and are therefore classified as Other Surface Waters.

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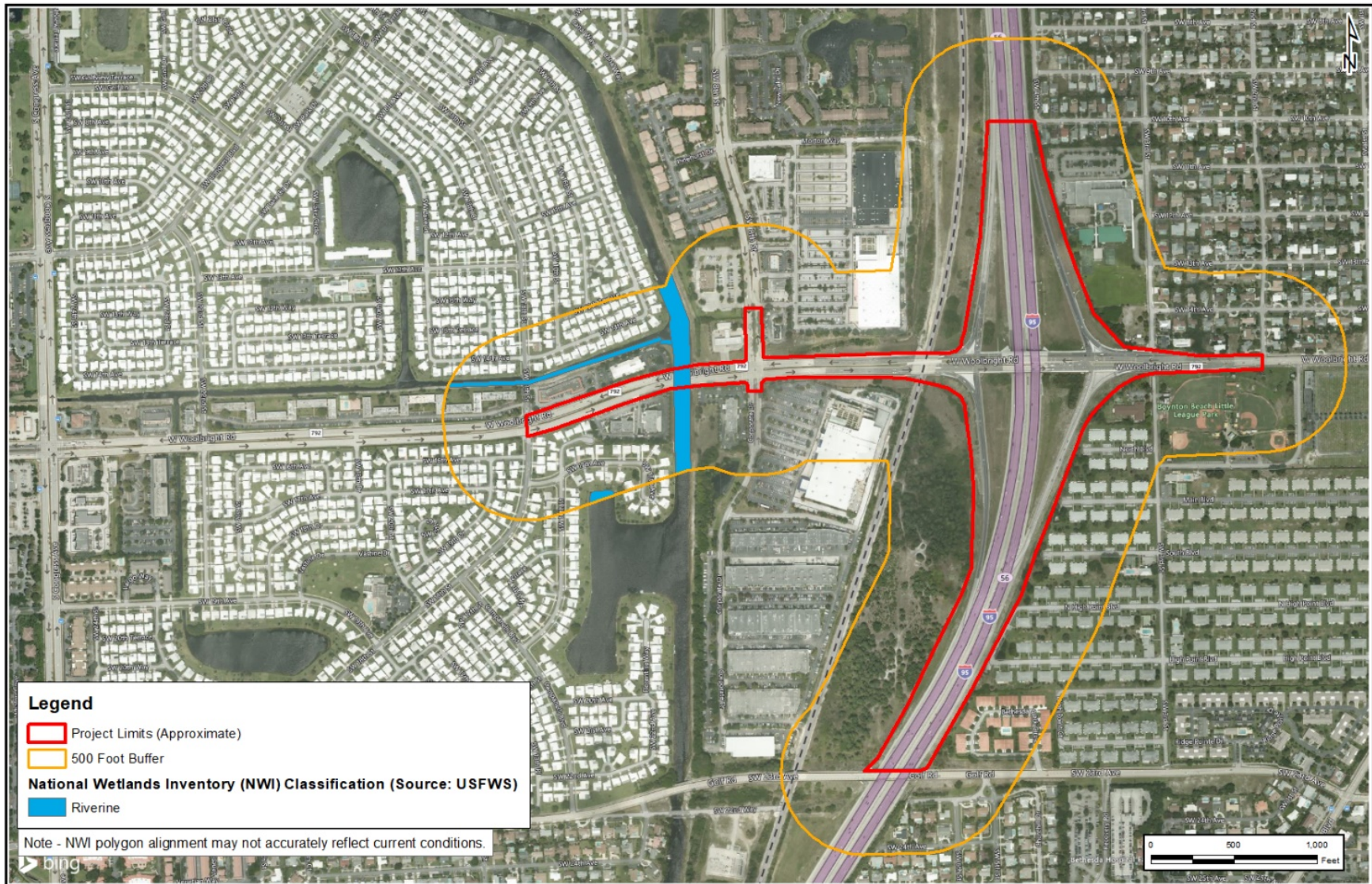


Figure 3-3. NWI Map

3.3 Soils Analysis

Table 3-1 provides a summary of the soil types identified within the project limits and 500-foot buffer per the US Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Soil Survey of Palm Beach County Area, Florida (1978) (**Figure 3-4 – Soils Map**). The remainder of the project limits and buffer zone are listed as “water” (i.e. not classified as soil types) per the USDA Soil Survey.

Table 3 - 1: Soil Types within Project Limits and 500-Foot Buffer Zone	
Soil Type	Description
Basinger Fine Sand, 0 to 2 Percent Slopes	Consists of very deep, very poorly and poorly drained, rapidly permeable soil in low flats, sloughs, depressions and poorly defined drainage-ways primarily in Southern Florida Flatwoods, and to a less extent in South-Central Florida Ridge, Florida Everglades and Associated Areas and Southern Florida Lowlands. They formed in sandy marine sediments. Soil depth up to ±80 inches.
Basinger and Myakka Sands, Depressional	Variable coverage by Basinger Fine Sand and Myakka Fine sand. Bassinger Fine Sand is described above. Myakka Fine Sand consists of very deep, very poorly or poorly drained, moderately rapid or moderately permeable soils that occur primarily in mesic flatwoods of peninsular Florida. They formed in sandy marine deposits. Soil depth is up to ±85 inches.
Pomello Fine Sand, 0 to 6 Percent Slopes	Consists of nearly level to gently sloping, moderately well drained, deep, sandy soil that has a dark, weakly cemented layer below a depth of 30 inches. This soil is on low ridges and knolls. The natural vegetation is slash pine, sand pine, scrub oak, saw-palmetto, inkberry and other native grasses.
Quartzipsamments, Shaped, 0 to 5 Percent Slopes	This mapping unit consists of nearly level to gently sloping, well drained, deep, sandy soils in areas where natural soils have been altered by cutting down ridges and spreading the soil material over adjacent lower soils, by filling low areas above natural ground level. The water table is below a depth of 60 inches. Permeability is very rapid. The available water capacity is very low.
St. Lucie Paola - Urban Land Complex, 0 to 8 Percent Slopes	This complex consists of St. Lucie sand and Urban land. About 50 to 70 percent of this complex is open land, such as lawns and vacant lots. These areas are made up of nearly level to sloping, excessively drained St. Lucie soils. In places, these soils have been modified for urban development. About 30 to 50% of the complex is covered by streets, sidewalks, buildings and other structures. The remaining portions of the complex are comprised of Paola and Pomello soils.

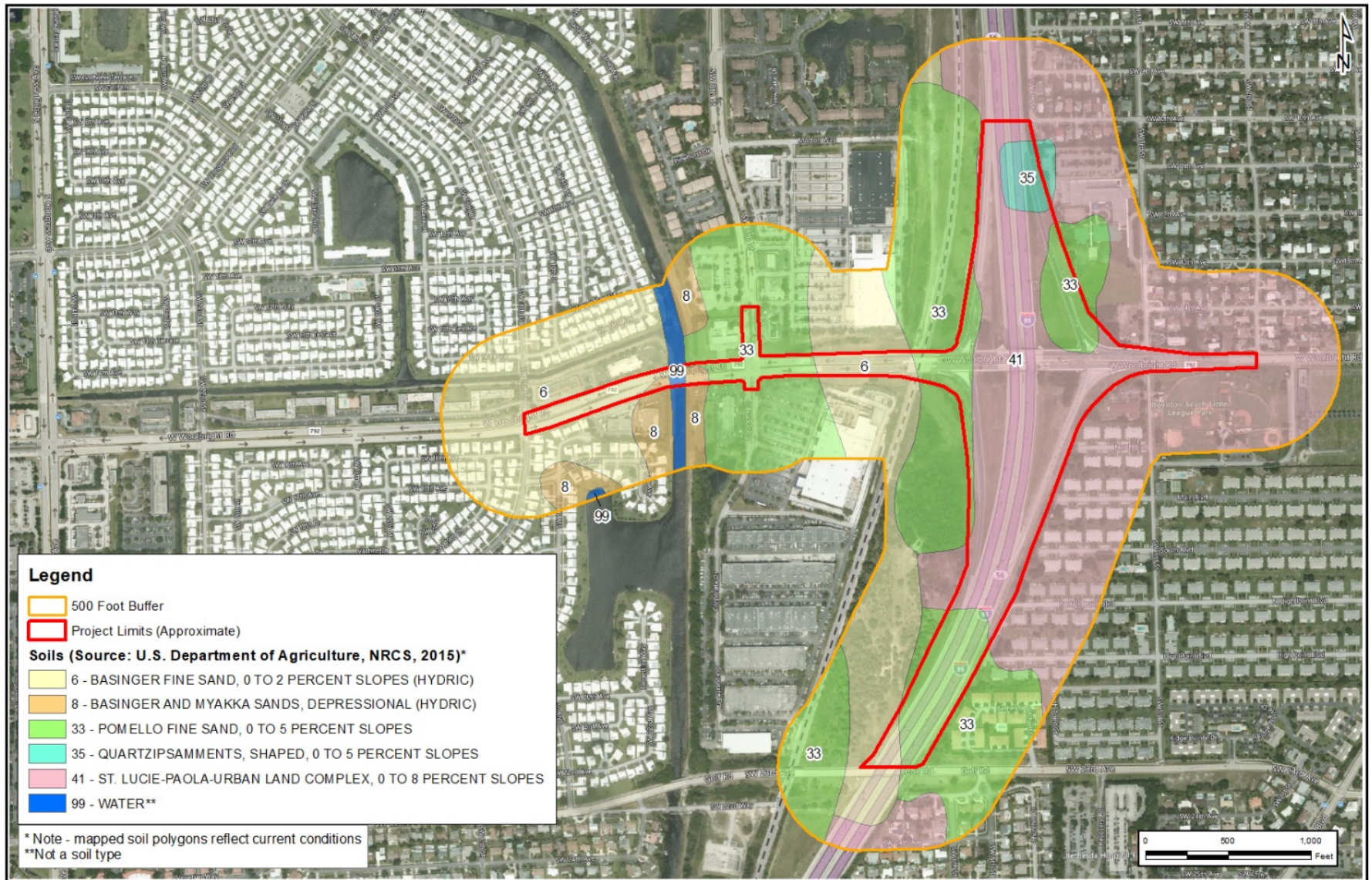


Figure 3-4. Soils Map

4. Protected Species and Habitat

An evaluation of the potential occurrence of protected species and habitat was conducted in accordance with Part 2, Chapter 16 of the January 14, 2019 FDOT PD&E Manual, Protected Species and Habitat, to ensure compliance with the Endangered Species Act of 1973, as amended, and the Florida Endangered and Threatened Species Act, Section 379.2291, Florida Statutes (F.S.). Continued coordination with natural resource and regulatory agencies, including FWS and FWC, regarding threatened and endangered species and Critical Habitat will be required during the design, permitting and construction phases of the project.

4.1 Environmental Technical Advisory Team (ETAT) Comments

The project was screened in the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) by FDOT District 4 (ETDM # 14341). The Planning Screen Summary Report was published on May 3, 2018. During the ETDM screening of the project, FWC and FWS both assigned a Minimal degree of effect to the wildlife and habitat issue. The reviewers stated the landcover in the assessment area is predominantly urban, except for a small tract of slash pines with a mostly mowed understory southwest of the interchange between I-95 and the railroad tracks. FWC is concerned about possible impacts to remnant gopher tortoises (*Gopherus Polyphemus*) that might occupy dry soils adjacent to the interchange ramps. The FWS stated the following species have the potential to occur in or near the project site: Eastern indigo snake (*Drymarchon corais couperi*), West Indian manatee (*Trichechus manatus*), wood stork (*Mycteria americana*) and listed plants.

The reviewers recommended conducting wildlife surveys to determine the potential presence of protected species or habitat that would support protected species. The commenting agencies emphasized avoidance and minimization to impacts to any wetlands present throughout the planning process.

4.2 Protected Species and Habitat Evaluation Methods

Evaluation of the potential occurrence of listed species within the study area was accomplished by conducting a review of the following documents and Geographic Information System (GIS) databases:

- The ETDM EST.
- Most current FWS and FWC lists of Threatened and Endangered Species and Critical Habitat (reviewed April 2020).

- FWS Information for Planning and Consultation (IPaC) (<https://ecos.fws.gov/ipac/location/ETRJMD5635BXJE36QGIUFTU7CM/resources>)
- The Florida Natural Areas Inventory (FNAI) database of listed species (wildlife and plant species) and their habitats; FNAI Biodiversity Matrix (https://data.labins.org/mapping/FNAI_BioMatrix/GridSearch.cfm?sel_id=69204,69205&extent=789781.1098,283181.7679,791390.4549,286400.4559)
- FWC Waterbird Colony Locator
- Selected GIS data from FWS and FWC
- FWS effects determination keys
- Available land cover/land use GIS data as well as agency comments to project effects during the ETDM Planning Screen.

Prior to the field visit, a list of protected wildlife species potentially present within the project area was generated from a review of the literature and GIS information listed above. Likelihood of occurrence for each species was then estimated based on the literature review of species’ habitat needs and the results of the field survey. A summary of listed species and their federal and/or State status is provided below in **Table 4-1**. The probability of occurrence was rated as High, Moderate or Low depending on the presence of preferred habitat in the project area and observations of records of occurrence.

Table 4 - 1. Listed Species Potentially Present in the Project Area

Common Name	Scientific Name	Federal Status	State Status	Probability of Occurrence
Birds				
Florida Scrub Jay*	<i>Aphelocoma coerulescens</i>	T	T	Low
Wood stork**	<i>Mycteria americana</i>	T	T	Low
Burrowing owl	<i>Athene cunicularia</i>	N	T	Low
Little blue heron	<i>Egretta caerulea</i>	N	T	Low
Roseate spoonbill	<i>Platalea ajaja</i>	N	T	Low
Tricolor heron	<i>Egretta tricolor</i>	N	T	Low
Mammals				
West Indian manatee	<i>Trichechus manatus</i>	T	T	Low
Plants				
Tiny Polygala	<i>Polygala smallii</i>	E	E	Low
Reptiles				

Table 4 - 1. Listed Species Potentially Present in the Project Area

Common Name	Scientific Name	Federal Status	State Status	Probability of Occurrence
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T	Moderate
Gopher tortoise	<i>Gopherus polyphemus</i>	N	T	Moderate

Notes: Species: *=Project falls within FWS Consultation Area for this species; **=Project falls within Core Foraging Area of three wood stork nesting colonies (Lox NC-4, Solid Waste Authority and Wakodahatchee).

Status: T = Threatened, N = Not Listed

Probability of Occurrence: High = preferred habitat exists within project limits and species have been observed or reported in the project areas; Moderate = some preferred habitat exists within the project limits and there is a potential for the species to be present, but has not been observed in the project area; Low = preferred habitat is limited or lacking within the project limits and species have not been observed in the project area.

A listed species assessment of the project corridor was conducted by E Sciences’ biologists on May 27, 2020. Most of this highly urbanized project corridor consists of developed land (commercial and residential). Undeveloped areas that could provide habitat for wildlife were limited to the E-4 Canal and I-95 right-of-way. The wildlife field assessment consisted of visually inspecting vegetation for direct and secondary wildlife indicators via pedestrian survey.

4.3 Federally Listed Species and Habitat

The following sections describe federally listed wildlife species that have a reasonable likelihood of occurrence within the project limits and buffer zone (based on research described in Section 4.2). Where applicable, species “Consultation Areas” or other special designated species areas that overlap with the project limits or buffer zone are listed within the species descriptions.

The “effect determinations” for the wood stork (*Mycteria americana*), West Indian manatee (*Trichechus manatus*) and Eastern indigo snake (*Drymarchon corais couperi*) are based on the FWS Effects Determination Keys for these species. These keys provide formal, step-by-step guidance in determining the likelihood of impacts to a species based upon various factors including the presence of potential habitat for the species, the quality of that habitat and the amount of that habitat proposed to be potentially impacted by the project. For the other species, effect determinations were generated based on observations of potential species habitat and the quality of that habitat relative to species requirements.

4.3.1 Birds

4.3.1.1 Florida Scrub Jay

The Florida scrub jay, or “scrub jay” (*Aphelocoma coerulescens*) is a federal and state listed threatened species. The scrub jay prefers low growing oak scrub habitats, including sand pine and scrubby flatwoods. Optimal habitat includes scrub oak with most of the oaks and other shrubs limited to one to four meters in height, interspersed with numerous small patches of bare sand. Fire is a frequent natural event in scrub habitats and serves to maintain the habitat. Fire suppression and development of the habitat has made this species vulnerable to extinction.

Scrub jays are similar in size and shape to its relative, the blue jay, but they differ strikingly in color pattern. The scrub jays are subtly marked as opposed to the blue jay. They have a pale blue head, nape, wings and tail and are pale gray on the back and belly. A white eyebrow blends with a frosted white forehead. The throat and upper breast are faintly striped and bordered by pale blue, forming a distinct bib. The scrub jay is relatively sedentary and rarely sustains a flight of more than a kilometer. The Florida scrub jay is a non-migratory species.

Nesting season is generally defined as March to October and scrub jays willingly vocalize in response to taped Florida scrub jay vocalizations during nesting. Defense of a territory is especially active during March, July and October which corresponds to nesting, egg laying, hatching and fledging of young, respectively.

The proposed project falls within FWS Consultation Area for this species. However, no suitable scrub jay habitat was observed within the project limits and buffer zone and, therefore, a scrub jay survey was not performed for the project. As a result, it is anticipated that the project will have *no effect* on the Florida scrub jay.

4.3.1.2 Wood Stork

The wood stork (*Mycteria americana*) is listed as threatened by both the FWC and FWS. The historical decline of this species is generally attributed to habitat disruption caused by changes in the distribution, timing, and quantity of water flow in Florida. Wood storks are typically found in marshes, cypress swamps, and mangrove swamps, but their presence in artificial ponds, seasonally flooded roadside or agricultural ditches, and managed impoundments has become common. Wood stork breeding areas extend from South Florida through Georgia and along the coastal areas of South Carolina. Large, colonial nesting areas are typically established in swamps

or islands surrounded by broad, open water areas. Stands of cypress and red mangrove trees are common nesting habitats. The same colony site may be used over many years, provided the site remains undisturbed and sufficient foraging habitat is available. Individual nests are large, rigid structures found in the forks of large branches or limbs of medium to tall trees.

Female storks will lay a single clutch of two to five eggs (usually three) as early as October and as late as June. If the initial nest fails early in the breeding season, a second clutch may be laid. Wood storks may nest with other wading bird species, including white ibises (*Eudocimus albus*), tricolored herons (*Egretta tricolor*), snowy egrets (*Egretta thula*), and great blue herons (*Ardea Herodias*).

Wood storks forage in a variety of habitats, including freshwater marshes, stocked ponds, shallow ditches, narrow tidal creeks, shallow tidal pools, and depressional areas of cypress heads and swamp sloughs. Calm, shallow water areas (between 10 and 25 centimeters) that are not overgrown with dense, aquatic vegetation provide suitable foraging habitat.

Based on the Active Nesting Colonies and Core Foraging Areas 2010-2019 Map from the FWS, three nesting colonies or Core Foraging Areas (CFAs) are located within the project corridor. They include the Lox NC-4, Solid Waste Authority and Wakodahatchee colonies. Based on the May 27, 2020 field survey, no suitable foraging habitat (SFH) is present within the project area. Per review of the FWS Wood Stork Effect Determination Key an A > B path was determined (**Appendix A**). The project is greater than 0.47 miles from an active colony site and had negligible hydroperiods and therefore, no suitable foraging habitat within the project area and buffer zone. Therefore, the project *may affect*, is *not likely to adversely affect* wood storks. Additionally, the most current edition of the *Habitat Management Guidelines for the Woodstork in the Southeast Region* will be followed to avoid and/or minimize project impacts to the wood stork.

4.3.2 Mammals

4.3.2.1 West Indian Manatee

The West Indian manatee is listed as threatened by both the FWS and the FWC. The West Indian manatee is a large, gray, nearly hairless, aquatic mammal weighing between 400 and 900 pounds. The species inhabits coastal waters, bays, rivers, and occasionally lakes. West Indian manatees require warm water refugia such as springs or cooling effluent during cold weather. The diet of the manatee primarily consists of marine and freshwater

vegetation. West Indian manatees can breed and give birth throughout the year; however, birthing usually peaks in the spring. West Indian manatees have a low reproductive rate, only giving birth to an average of one calf every three to five years. The main threats to West Indian manatees are boat collisions and the loss of warm water habitat. West Indian manatees feed in shallow waters making them susceptible to interactions with boats.

The section of the E-4 Canal within the project limits/buffer zone does not display an open surface water connection to coastal marine waters due to upstream and downstream control structures, thereby limiting manatee access. In addition, surface water impacts will be limited to minor expansions on the northern side of the Woolbright Road bridge over the E-4 Canal. The most recent revision of the *Standard Manatee Conditions for In-Water Work* will be implemented during construction to avoid and minimize potential but unlikely manatee encounters. Per review of the Effect Determination Key for the Manatee in Florida (2013, 2019), as highlighted in **Appendix B**, it is determined that the project will have *no effect* on the West Indian manatee.

4.3.3 Plants

4.3.3.1 *Tiny Polygala*

The tiny polygala (*Polygala smallii*) is listed as endangered by both the FWS and FWC. The tiny polygala is endemic to the Atlantic Coastal Ridge of Southeast Florida. They typically grow in pine rocklands, scrub habitat, sandhill and open coastal spoil piles. The tiny polygala is a perennial herb that typically grows to four inches tall. Leaves are succulent, lance-shaped and slightly wider toward the tip. The tiny polygala's flowers are small, numerous in a crowded head, are yellow green and flower all year. There are 11 known populations, seven of which occur in managed areas. The remaining four populations occur on lands that are anticipated to be purchased for conservation.

No tiny polygalas were observed during the May 27, 2020 field review. A small tract of slash pines was observed within the project buffer zone; however, the understory was mostly maintained (i.e. mowed) and therefore precludes the growth of tiny polygala. The project is anticipated to have *no effect* on tiny polygala.

4.3.3 Reptiles

4.3.3.1 Eastern Indigo Snake

The Eastern indigo snake (*Drymarchon corais couperi*) is listed as threatened by both the FWS and the FWC due to the decline in population. This decline is attributed to the loss of the habitat and to specimen collection for the pet industry.

The eastern indigo snake is a very large, stout-bodied, shiny black snake and is one of the largest North American snakes. Eastern indigo snakes can attain a length of well over eight feet, although it has an average length of five feet. The snake is black ventrally, but the chin, throat, and sides of head may be reddish or rarely white. Scales are typically smooth and without ridges, though males have a keel on the front half of some scales. Young snakes appear similar to the adults although they are often more reddish anteriorly. Throughout Florida, this snake is widespread but uncommon.

Generally, this species lives and hunts in a wide variety of habitats and their territories can cover large areas. Preferred Florida habitats include dry glades areas, tropical hammocks, fields and some flatwoods areas, disturbed areas and mangrove swamps as well as upland and even urban habitats. The eastern indigo snake can be associated with gopher tortoise burrows as a commensal species. In south-central Florida, the eastern indigo snake's breeding season occurs from June and January, with females laying eggs between April and July. Hatching occurs from mid-summer to early fall.

Although unlikely to be present within the project limits and/or buffer zone due to a lack of suitable quality habitat, the project does fall within the known range for the eastern indigo snake. The FWS developed a statewide Programmatic Concurrence key for the Eastern indigo snake for use by the United States Army Corps of Engineers (USACE) in determining effects to this species as part of the Section 404 Dredge and Fill permitting process (key included in **Appendix C**). An A > B > C path was determined (**Appendix C**). Based on a review of the key, if the *Standard Protection Measures for Eastern Indigo Snake* are implemented during construction and there are no gopher tortoise burrows or other refugia where a snake could be trapped, then the project is not likely to adversely affect the eastern indigo snake. Because the standard protection measures are proposed to be implemented by FDOT during construction, the eastern indigo snake is unlikely to be present in the project area and no gopher tortoise burrows were observed during the May 27, 2020 field visit, the effect determination is that the project *may affect*, is *not likely to adversely affect* this species.

4.4 State Listed Species and Habitat

The following sections describe state listed wildlife species that have a reasonable likelihood of occurrence within the project limits and buffer zone (based on research described in Section 4.2). The following effect determinations for state imperiled wildlife species are used: no effect anticipated, no adverse effect anticipated and potential for adverse effect.

4.4.1 Birds

4.3.4.1 Burrowing Owl

The burrowing owl (*Athene cunicularia*) is listed as threatened by FWC. The decline in population is due to the loss of their native habitat. Threats to habitat include construction activities, development and flooding.

The burrowing owl is one of the smallest owls in Florida. Burrowing owls have brown dorsal feathers with patches of white spots and a white underside with brown bar-shaped spots. They also have large yellow eyes and a white chin.

The burrowing owl lives in open areas that have very little understory vegetation, where they spend most of their time on the ground. These areas include golf courses, airports, pastures, agricultural fields and vacant lots. The diet of the burrowing owl primarily consists of insects. The typical breeding season for the Florida burrowing owl is February 15 to July 10, but they have been known to breed outside this breeding season. Burrowing owls are different than other owls as they are active during the day rather than at night during breeding season. During the non-breeding season, they become more nocturnal.

No burrowing owls were observed during the May 27, 2020 field review. Additionally, limited suitable foraging and nesting habitat (i.e. vacant lots) were present within the project limits and buffer zone. Therefore, the project is anticipated to have *no effect* on the burrowing owl.

4.3.4.2 Wading Birds

Three species of State-listed wading birds have the potential to inhabit the project area. They include the little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*) and roseate spoonbill (*Platalea ajaja*). They each are all listed as threatened by FWC.

The little blue heron is an opportunistic feeder and travels to find areas where conditions are suitable, and food is abundant. This species of bird feeds in shallow freshwater, brackish, and saltwater habitats. The largest nesting colonies occur in coastal areas, but these species prefer foraging in freshwater lakes, marshes, swamps, and streams. These birds' nest in a variety of woody vegetation types, including cypress, willow, maple, black mangrove, and cabbage palm. They usually breed in mixed-species colonies in flooded vegetation or on islands. A wide variety of wetland types must be available within 5-7 miles to support breeding colonies.

The tricolored heron is a colorful heron with a mix of blue-gray, lavender and white. They forage alone or at the edge of groups of mixed wading birds. This species of bird can be found in coastal estuaries, saltmarshes, mangroves and lagoons during the breeding season. Outside the breeding season, they use coastal areas as well as freshwater marshes, canals, and lakes. They usually breed in mixed-species colonies in flooded vegetation or on islands. A wide variety of wetland types must be available within 5-7 miles to support breeding colonies. The breeding success of tricolored herons is tied to water-level fluctuations.

The roseate spoonbill is most notably known for its pink colored body and long bill that is flattened into a spoon shape at the end. Spoonbills forage, roost, and nest in groups often with ibises, herons and egrets. They forage in the shallows of fresh, brackish and marine water including bays, mangroves, forested swamps and wetlands. Most of the known breeding sites occur within federally owned national parks and wildlife refuges and National Audubon Society sanctuaries. Nests are found in Florida from Tampa Bay on the Gulf coast and Brevard County on the Atlantic coast, south to Northern Florida Bay.

No wading birds were observed during the May 27, 2020 field review. Habitat for these species is limited due to the steep banks and negligible native shoreline vegetation within the E-4 Canal. In addition, surface water impacts will be limited to minor expansions of the Woolbright Road bridge over the E-4 Canal. As such, it is anticipated that this project will have *no adverse effect* on the little blue heron, tri-color heron or roseate spoonbill.

4.4.2 Reptiles

4.3.4.2 Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is listed as threatened by the FWC. The primary threat to the gopher tortoise is habitat loss through habitat destruction, fragmentation and degradation, particularly from urbanization and development.

The gopher tortoise is a moderate-sized, terrestrial turtle, averaging 9-11 inches in length. The species is identifiable by its shovel-like forelimbs covered in thick scales. Hatchling and juvenile tortoises tend to be yellow-orange and brown in color. The shell of an adult gopher tortoise is generally tan, brown, or gray in coloration.

Gopher tortoises can live 40 to 60 years in the wild. The breeding season occurs between March and October. Gopher tortoises spend up to 80 percent of their time near their burrows. Their burrows maintain a stable temperature and humidity year-round, providing protection from extreme temperatures, drought and fire. Gopher tortoises can be active year-round in Florida, though peak activity outside burrows occurs from May through August. They are opportunistic grazers and feed on low-growing plants, like broadleaf grasses and gopher apple.

Gopher tortoises prefer well-drained, sandy soils found in habitats such as longleaf pine sandhills, xeric oak hammocks, scrub, pine flatwoods and dry prairies. They are found in a variety of disturbed habitats including pastures and urban areas.

A gopher tortoise survey was conducted during the May 27, 2020 field visit. The survey consisted of meandering transects within the right-of-way and in a 25-foot buffer around the right-of-way. No gopher tortoises or burrows were observed during the reconnaissance. The right-of-way consisted of maintained roadside grass swales that are not suitable for gopher tortoise habitat. The 25-foot buffer area around the right-of-way, contained areas with facultative wetland species, which indicates periodic flooding of the area. Wet areas are not suitable for a gopher tortoise to dig its burrow. The vast majority of the 25-foot buffer zone (over 75%) consisted of either dense coverage by Brazilian pepper (*Schinus terebinthifolia*), saw palmetto (*Serenoa repens*) or muscadine grape vine (*Vitis rotundifolia*). The vegetation in both of these communities was too dense for gopher tortoise movement, and they were devoid of grasses needed for foraging. However, limited suitable conditions for the gopher tortoise were observed within the southern portion of the southwest quadrant of the

project buffer zone. These areas displayed low canopy and vine coverage and moderate coverage by grasses (e.g. Bahia grass [*Paspalum notatum*]) suitable for foraging, however, no tortoises or burrows were present at time of the field visit (**Appendix D**). Since gopher tortoises may be present in the project area, but habitat impacts will be limited, this project is anticipated to have *no adverse effect* on the gopher tortoise. A follow-up 100 percent gopher tortoise survey will be conducted in suitable habitat prior to construction.

4.5 Summary of Project Effects

It was determined that the project would have no effect on the Florida scrub jay, the West Indian Manatee and tiny polygala. The project may affect, but is not likely to adversely affect, the wood stork and Eastern indigo snake. The project was determined to have no effect on the burrowing owl and no adverse effect on the gopher tortoise and wading birds, including the little blue heron, tricolor heron and roseate spoonbill.

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5. Wetlands and Surface Waters Evaluation

A wetland and surface water evaluation was conducted in accordance with Executive Order 11990, Protection of Wetlands, US Department of Transportation Order 5660.1A, Preservation of the Nation's Wetlands, and Part 2, Chapter 9 of the January 14, 2019 FDOT PD&E Manual, Wetlands and Other Surface Waters.

5.1 Environmental Technical Advisory Team (ETAT) Comments

During the ETDM Planning Screen of this Project, the US Environmental Protection Agency (EPA) assigned a Moderate degree of effect to the Wetland and Surface Waters issue. The USACE, South Florida Water Management District (SFWMD) and FWS assigned a Minimal degree of effect. Several reviewers noted that the widening improvements of Interchange I-95 at Woolbright Road will increase the impervious surface area and increase stormwater runoff, which will contribute to surface drainage. Additionally, widening of the roadway may require a partial fill of the canal. The reviewers also emphasized avoidance and minimization to the maximum extent practicable for impacts to jurisdictional waters of the U.S., which include wetlands and streams.

An USACE Nationwide Permit 14 or SAJ-92 would be required. Additionally, an Environmental Resource Permit (ERP) will be required from SFWMD.

5.2 Wetland Survey Methods

Following the desktop data analysis, a wetland survey was conducted on May 27, 2020. E Sciences' biologists conducted a survey on May 27, 2020 to identify wetlands within the project area and 500-foot buffer zone. The survey was conducted in general accordance with the Florida Wetlands Delineation Manual (FDEP, 1995) *Delineation of the Landward Extent of Wetlands and Other Surface Waters* (Chapter 62-340 Florida Administrative Code), *Corps of Engineers Wetlands Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (November, 2010). Hydric vegetation, soil and hydrologic features were observed to identify potential wetlands within the project area.

5.3 Wetland and Surface Water Impacts and Mitigation

A review of the project area was conducted on May 27, 2020. There are no jurisdictional wetlands within the proposed areas of construction. Per the alternatives, minor fill impacts are anticipated to the northern side of the E-4 Canal due to the widening of Woolbright Road. This canal has steep banks, is approximately 75 feet wide and 10 to 15 feet deep and is classified as Other Surface Waters by the regulatory agencies. No submerged aquatic vegetation was observed in this portion of the canal during the field review. Therefore, no impacts to wetlands or submerged aquatic vegetation are anticipated that would require mitigation from the regulatory agencies.

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6. Essential Fish Habitat

Essential Fish Habitat (EFH) are those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. The Magnuson-Stevens Fishery Conservation and Management Act mandated regional Fishery Management Councils to identify, describe, map and protect EFH in their region and create and amend Fishery Management Plans for EFH for either an individual species or an assemblage of species. This project is located within the South Atlantic Fishery Management Council (SAFMC). However, the National Marine Fisheries Service (NMFS) provided comments in the EST on October 24, 2017 and assigned a degree of effect of no involvement. Per Part 2, Chapter 17 of the January 14, 2019 FDOT PD&E Manual, NMFS concluded that the proposed project would not directly impact areas that support EFH or National Oceanographic and Atmospheric Administration (NOAA) trust fishery resources and would not require an EFH Assessment.

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7. Permitting Requirements

It is anticipated that the following permits will be required for the project relative to natural resource impacts:

- USACE Nationwide Permit (NWP) 14
- SFWMD Environmental Resource Permit modification to existing “No Notice General Permit for Activities in Uplands for Woolbright Road and I-95 Intersection Improvement” (Application Number 090831-14).
- SFWMD Right-of-Way Permit
- Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination System (NPDES) General Construction Permit authorization

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8. Conclusions and Commitments

No listed wildlife species were observed within the project limits or buffer zone during the May 27, 2020 field visit. In general, the highly urbanized intersection contains minimal undeveloped areas. Undeveloped uplands are limited to either actively maintained (i.e. mowed) turf grass areas, or areas overgrown with Brazilian pepper (*Schinus terebinthifolia*), saw palmetto (*Serenoa repens*) and muscadine grape vine (*Vitis rotundifolia*). Aquatic habitats were limited to constructed drainage canals with steep banks and negligible littoral zones or emergent aquatic vegetation. Based on the desktop analysis and May 27, 2020 field review, no jurisdictional wetland impacts are anticipated in association with the proposed project. The project is anticipated to incur minor fill impacts to north side of the E-4 Canal in association with widening of Woolbright Road.

Based on desktop research, several listed wildlife species were determined to have ranges that include the project's 500-foot buffer zone, including the Florida scrub jay, wood stork, west Indian manatee, eastern indigo snake, burrowing owl, little blue heron, tricolored heron, roseate spoonbill and gopher tortoise. However, due to the negligible habitat value present for these species, combined with the avoidance and minimization of surface water impacts, it was determined that the project would either have *no effect* on the Florida scrub jay west Indian manatee and tiny polygala and "*may affect, not likely to adversely affect*" the wood stork and Eastern indigo snake. It was determined that the project would have no effect on the burrowing owl and no adverse effect anticipated on the little blue heron, tricolored heron, roseate spoonbill, and gopher tortoise. A follow-up 100 percent survey for the gopher tortoise is recommended to occur in suitable habitat prior to construction

FDOT commits to the following measures to minimize impacts to wetlands/surface waters and wildlife species and potential wildlife habitat:

- In order to avoid and/or minimize project impacts to the wood stork, FDOT will commit to follow the most current edition of the *Habitat Management Guidelines for the Woodstork in the Southeast Region* and implement as applicable.
- In order to avoid and/or minimize project impacts to the west Indian manatee, FDOT will commit to follow the most current edition of the *Standard Manatee Conditions for In-Water Work* and implement as applicable.

- In order to avoid and/or minimize project impacts to the Eastern indigo snake, FDOT will commit to follow the most current edition of the *Standard Protection Measures for the Eastern Indigo Snake* and implement as applicable.

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9. References

- Florida Department of Environmental Protection. 1995. *The Florida Wetlands Delineation Manual. Delineation of the Landward Extent of Wetlands and Other Surface Waters (Chapter 62-340 Florida Administrative Code)*. Tallahassee.
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- US Fish and Wildlife Service. 2019. WOST colonies update 2019, Jacksonville FL <https://www.fws.gov/northflorida/>.

APPENDIX A - FWS WOOD STORK EFFECT DETERMINATION KEY

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

May 18, 2010

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Service Federal Activity Code: 41420-2007-FA-1494
Service Consultation Code: 41420-2007-I-0964
Subject: South Florida Programmatic
Concurrence
Species: Wood Stork

Dear Mr. Kinard:

This letter addresses minor errors identified in our January 25, 2010, wood stork key and as such, supplants the previous key. The key criteria and wood stork biomass foraging assessment methodology have not been affected by these minor revisions.

The Fish and Wildlife Service's (Service) South Florida Ecological Services Office (SFESO) and the U.S. Army Corps of Engineers Jacksonville District (Corps) have been working together to streamline the consultation process for federally listed species associated with the Corps' wetland permitting program. The Service provided letters to the Corps dated March 23, 2007, and October 18, 2007, in response to a request for a multi-county programmatic concurrence with a criteria-based determination of "may affect, not likely to adversely affect" (NLAA) for the threatened eastern indigo snake (*Drymarchon corais couperi*) and the endangered wood stork (*Mycteria americana*) for projects involving freshwater wetland impacts within specified Florida counties. In our letters, we provided effect determination keys for these two federally listed species, with specific criteria for the Service to concur with a determination of NLAA.

The Service has revisited these keys recently and believes new information provides cause to revise these keys. Specifically, the new information relates to foraging efficiencies and prey base assessments for the wood stork and permitting requirements for the eastern indigo snake. This letter addresses the wood stork key and is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). The eastern indigo snake key will be provided in a separate letter.

Wood stork

Habitat

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically construct their nests 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, 1996; Rodgers et al. 1996). Successful colonies are those that have limited human disturbance and low exposure to land-based predators. Nesting colonies 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.

Successful nesting generally involves combinations 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, which 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 sites, a variety of wetland types should be present, with both short and long hydroperiods. The Service (1999) describes a short hydroperiod as a 1 to 5-month wet/dry cycle, and a long hydroperiod as greater than 5 months. During the wet season, wood storks generally feed in the shallow water of the 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).

Wood storks occur in a wide variety of wetland habitats. Typical foraging sites for the wood stork include freshwater marshes and stock ponds, shallow, seasonally flooded roadside and agricultural ditches, narrow tidal creeks and shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Through tactolocation, or grope feeding, wood storks in south Florida feed almost exclusively on fish between 2 and 25 centimeters [cm] (1 and 10 inches) in length (Ogden et al. 1976). Good foraging conditions are characterized by water that is relatively calm, uncluttered by dense thickets of aquatic vegetation, and having a water depth between 5 and 38 cm (5 and 15 inches) deep, although wood storks may forage in other wetlands. Ideally, preferred foraging wetlands would include a mosaic of emergent and shallow open-water areas. The emergent 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 seasonal dry-down of the wetland.

Conservation Measures

The Service routinely concurs with the Corps' "may affect, not likely to adversely affect" determination for individual project effects to the wood stork when project effects are insignificant due to scope or location, or if assurances are given that wetland impacts have been avoided, minimized, and adequately compensated such that there is no net loss in foraging potential. We utilize our *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (Service 1990) (Enclosure 1) (HMG) in project evaluation. The HMG is currently under review and once final will replace the enclosed HMG. There is no designated critical habitat for the wood stork.

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 determination¹. 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 site³ "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”.

B. Project impact to SFH is less than 0.20 hectare (one-half acre)⁶.....NLAA¹”

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 sitego to D

Project impacts to SFH within the CFA of a colony sitego 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 hydroperiod⁷ 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 guidance⁸..... NLAA¹”

Project not as above..... “may affect⁴”

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 hydroperiod⁷ 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 guidance⁸ “NLAA¹”

Project does not satisfy these elements “may affect⁴”

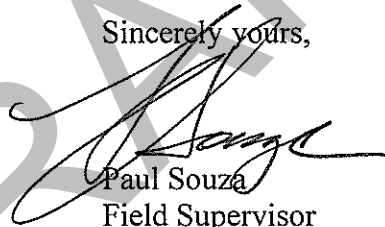
This Key does not apply to Comprehensive Everglades Restoration Plan projects, as they will require project-specific consultations with the Service.

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)

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*APPENDIX B - EFFECT DETERMINATION KEY FOR THE MANATEE IN
FLORIDA*

DRAFT





United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

April 25, 2013

Donald W. Kinard
Chief, Regulatory Division
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Dear Mr. Kinard:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) receipt of your April 12, 2013, letter requesting concurrence on the U.S. Army Corps of Engineers' (Corps) implementation of the revised Manatee Key and its enclosures dated April 2013. This letter represents the Service's views on the potential effects of the proposed action in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 *et seq.*). For future reference, we have assigned this concurrence letter to Service Consultation Code 2013-I-0151.

The Manatee Key is a tool that has been used by the Corps' Regulatory Division since 1992 to assist in making its effect determinations, as required under 50 CFR 402.14(a), on permit applications for in-water activities such as, but not limited to, maintenance dredging, the placement of fill material for shoreline stabilization, the construction or placement of other in-water structures, as well as the construction of docks, marinas, boat ramps, boat slips, dry storage or any other watercraft access structures or facilities. Your agency has determined utilization of the 2013 Manatee Key, and its enclosures, to review projects in waters accessible to the endangered West Indian manatee (*Trichechus manatus*) may affect, but is not likely to adversely affect the manatee or its designated critical habitat.

Since July 2011, the Service has worked closely with the Corps and the Florida Fish and Wildlife Conservation Commission (FWC) on revising the March 2011 version of the Manatee Key and its associated maps. Minor changes to the March 2011 Manatee Key were made to ensure consistency with the manatee programmatic consultation co-developed by the Corps and the Service in cooperation with the FWC.

For all new or expanding multi-slip facilities located in a county with a State-approved MPP in place that reach a "may affect, not likely to adversely affect" determination using the 2013 Manatee Key, the Service concurs with these determinations and no further consultation with the Service is necessary.

For all applications to construct residential dock facilities that reach a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key, the Service concurs with these determinations and no further consultation with the Service is necessary. As such, the Service will not receive permit applications from the Corps for these types of facilities.

For those counties with a watercraft-related mortality rate that averages less than one dead manatee a year, we conclude take is not reasonably certain to occur as a result of new or expanding watercraft access facilities in these counties. Therefore, for multi-slip facilities proposed to be built or expanded in those counties that reach a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key, the Service concurs with these effect determinations and no further consultation with the Service is necessary.

For all applications to repair or replace existing multi-slip facilities that do not provide new watercraft access and reach a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key, the Service concurs with these determinations. As such, the Service will not receive permit applications from the Corps for these types of existing facilities since they were covered by the Service’s March 17, 2011, consultation on the 2011 Manatee Key.

All other future applications for multi-slip facilities reaching a “may affect, not likely to adversely affect” determination using the 2013 Manatee Key will be forwarded to the Service for concurrence. The Corps agreed to forward to the Service those applications that are consistent with the Manatee Key.

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. 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 and no further consultation with the Service is necessary.

We have examined the April 2013 version of the Manatee Key and its enclosures and agree with its structure and content. Currently, the FWC does not require implementation of the signage component of the standard construction conditions for in-water work for the State’s review of the permit application. However, the Corps and the Service will require applicants to implement the signage component of the standard construction conditions for any in-water work authorized by a Department of the Army permit. Therefore, except as noted above, for all future applications reviewed with the April 2013 version of the Manatee Key in which the Corps reaches a “may affect, not likely to adversely affect” determination with respect to the manatee and/or its designated critical habitat, the Service hereby concurs with those determinations in accordance with 50 CFR 402.14(b)1. As such, the March 2011 version of the Manatee Key and its associated maps, as well as other earlier versions of the Manatee Key, are no longer applicable.

The Service does not anticipate the proposed action will result in the incidental take of manatees. Furthermore, the Service is not including an incidental take authorization for marine mammals at this time because the incidental take of marine mammals is not expected to occur and has not been authorized under section 101(a)(5) of the MMPA and/or its 1994 Amendments. Following issuance of such regulations or authorizations, the Service may reinstate consultation to include an incidental take statement for marine mammals, if deemed appropriate.

This concurrence letter fulfills the requirements of section 7 of the Act and no further action is required. If modifications are made to the Manatee Key, if additional information involving potential effects to listed species becomes available, or if a new species is listed or new critical habitat is designated that may be affected by the project, then reinitiation of consultation may be necessary.

This concurrence letter represents the collective assessment of the April 2013 version of the Manatee Key and its enclosures from the Service's three field offices in Florida: Panama City, North Florida, and South Florida. If you have any questions or concerns about this consultation, please feel free to contact Kalani Cairns at 772-469-4240.

Sincerely yours,



Larry Williams
State Supervisor

cc: electronic copy only
Corps, Jacksonville, Florida (Stuart Santos)
Service, Atlanta, Georgia (Jack Arnold)
Service, Jacksonville, Florida (Dawn Jennings)
Service, Panama City, Florida (Don Imm)

**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.

DRAFT

MANATEE KEY
Florida¹
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 structure³ 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 Maps⁴); [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 Maps⁴) D
- Project is not located in an Important Manatee Area (IMA) (see Glossary and accompanying Maps⁴) 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 new⁵ 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 new⁵ 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 Map⁴) *May affect*
- Project is not located in the Braden River Area of Inadequate Protection (Manatee County) (see Glossary and accompanying AIP Map⁴)..... 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, DESOTO⁷, FLAGLER, GLADES, HENDRY, HILLSBOROUGH, LEVY, MANATEE, MONROE⁷, PASCO⁷, 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 vegetation⁸, emergent vegetation or mangrove will have beneficial, insignificant, discountable⁹ or no effects on the manatee¹⁰ O

Project impacts to submerged aquatic vegetation⁸, emergent vegetation or mangrove may adversely affect the manatee¹⁰ *May affect*

O. Project proponent **elects** to follow standard manatee conditions for in-water work¹¹ and requirements, as appropriate for the proposed activity, prescribed on the maps⁴ P

Project proponent **does not elect** to follow standard manatee conditions for in-water work¹¹ and appropriate requirements prescribed on the maps⁴ *May affect*

P. If project is for a new or expanding⁵ 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 appropriate¹² and no further consultation with the Service is necessary.

If project is for a new or expanding⁵ 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 appropriate¹² 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 appropriate¹² 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 new⁵ multi-slip facility, residential dock facility, shoreline stabilization, or dredging, and does not provide new⁵ access for watercraft or

improve an existing access to allow increased watercraft usage, the determination of “*May affect, not likely to adversely affect*” is appropriate¹² 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 appropriate¹¹ 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 (*Juncus 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 any 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*).

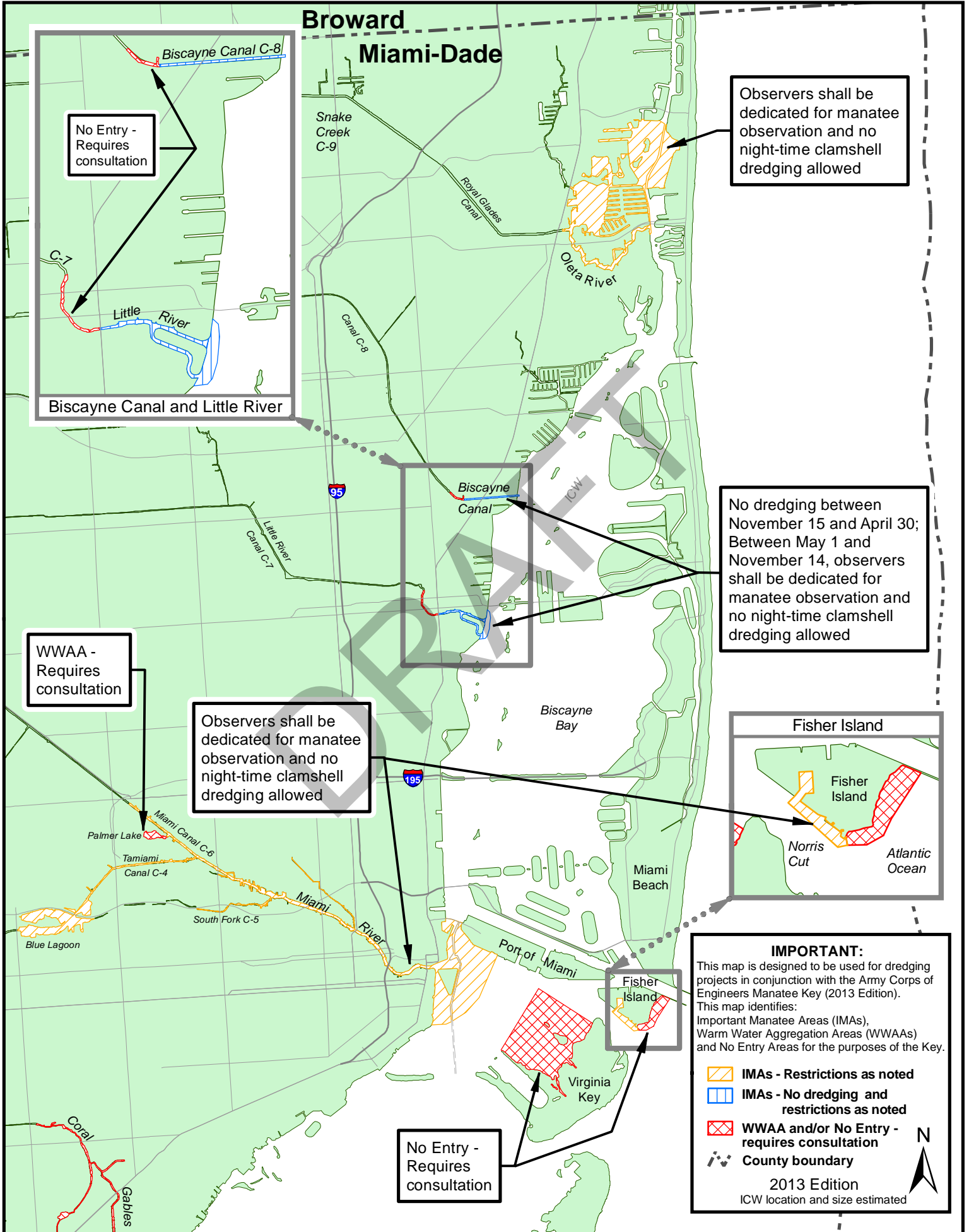
Warm Water Aggregation Areas (WWAAs) and No Entry Areas – Areas within certain counties where increased densities of manatees occur due to the proximity of artificial or natural warm water discharges or springs and are considered necessary for survival. Some of these areas may be federally-designated 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.

DRAFT

Miami-Dade County - North





United States Department of the Interior



FISH AND WILDLIFE SERVICE
1339 20th Street
Vero Beach, Florida 32960

May 13, 2019

Andrew D. Kelly, Jr., Colonel
District Commander
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Colonel Kelly:

The U.S. Fish and Wildlife Service (Service) and the U.S. Army Corps of Engineers (Corps) currently use a dichotomous key (Key) to assist in making effect determinations pursuant to the Endangered Species Act for in-water activities that may affect manatees. Recently, Corps and Service staff identified the need to make several revisions to the 2013 Key to address new issues and changed circumstances. Although a more complete revision is needed in the future, three issues need to be addressed as soon as possible: 1) requirements associated with clamshell dredge head operation; 2) locations and conditions related to impact hammer driven metal piles and/or sheet piles; and 3) incorporation of the current list of counties that have approved Manatee Protection Plans (MPPs).

For the purpose of continuing to use the Key on projects that involve clamshell dredging or impact driving of metal piles or sheet piles, the Service is issuing this letter as an addendum to the Key. The Service finds work that keys out as “not likely to adversely affect” the manatee or its critical habitat using the 2013 Key is still the appropriate determination provided there is adherence to the following additional conditions:

- 1) During clamshell dredging operations, the dredge operator shall gravity-release the clamshell bucket only at the water’s surface, and only after confirmation that there are no manatees within the safety distance identified in the standard construction conditions (or a 75-foot buffer if dredging is authorized at night);
- 2) Installation of metal pilings or metal sheet piles by impact hammer – if not within Important Manatee Areas, Warm Water Aggregation Areas, or Federal manatee sanctuaries or state-designated No Entry Areas - may occur under the following conditions: a) Use of at least one dedicated manatee observer, with all work being stopped if a manatee is observed within 1000 feet; b) no work shall occur outside of daylight hours (defined as one-half hour after sunrise to one-half hour before sunset); and, c) no more than 5 piles/day may be installed. If within any of the above-described areas, an informal or formal project-specific consultation with the Service is required.

In addition, the following change will allow projects in Charlotte County and Flagler County to be properly handled using the Key:

- 3) Charlotte County and Flagler County shall be added to the list of counties that have an approved Manatee Protection Plan (couplet J of the 2013 Key) and removed from the list of counties included in couplet L and the second category of couplet P of the 2013 Key.

With the above-described changes, the Service affirms that such work would not likely adversely affect the West Indian manatee and no further consultation is required provided all other conditions of the 2013 Key are met. The above changes, and possibly others, will ultimately be reflected in an updated version of the Key. We hope this letter provides the Corps with the ability to continue to work with the 2013 Key and in-water construction conditions until a revised and updated Key is approved.

Thank you for your continued support to facilitate recovery of the West Indian manatee and other species protected under the Endangered Species Act. If you have any questions, please contact Mr. Scott Calleson by e-mail at charles_calleson@fws.gov or by phone at (904) 731-3326.

Sincerely,



Larry Williams
State Supervisor

cc:

Service, Jacksonville, Florida (Jay Herrington)

Service, Vero Beach, Florida (Bob Progulske, Roxanna Hinzman)

*APPENDIX C - FWS STATEWIDE PROGRAMMATIC CONCURRENCE KEY
FOR THE EASTERN INDIGO SNAKE*

DRAFT





United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

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

IN REPLY REFER TO:

August 13, 2013

Colonel Alan M. Dodd, District Engineer
Department of the Army
Jacksonville District Corps of Engineers
P.O Box 4970
Jacksonville, Florida 32232-0019
(Attn: Mr. David S. Hobbie)

RE: Update Addendum to USFWS Concurrence Letter to U.S. Army Corps of Engineers
Regarding Use of the Attached Eastern Indigo Snake Programmatic Effect Determination Key

Dear Colonel Dodd:

This letter is to amend the January 25, 2010, letter to the U.S. Army Corps of Engineers regarding the use of the attached eastern indigo snake programmatic effect determination key (key). It supersedes the update addendum issued January 5, 2012.

We have evaluated the original programmatic concurrence and find it suitable and appropriate to extend its use to the remainder of Florida covered by the Panama City Ecological Services Office.

On Page 2

The following replaces the last paragraph above the signatures:

“Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to Annie Dziergowski (North Florida ESO) at 904-731-3089, Harold Mitchell (Panama City ESO) at 850-769-0552, or Victoria Foster (South Florida ESO) at 772-469-4269.”

On Page 3

The following replaces both paragraphs under “Scope of the key”:

“This key should be used only in the review of permit applications for effects determinations for the eastern indigo snake within the State of Florida, and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH).”

On Page 4

The following replaces the first paragraph under Conservation Measures:

“The Service routinely concurs with the Corps’ “not likely to adversely affect” (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that

our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes.htm> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.”

On Page 4 and Page 5 (Couplet D)

The following replaces D. under Conservation Measures:

D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... "may affect"

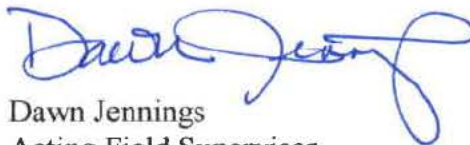
On Page 5

The following replaces footnote #3:

“³If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a FWC 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>.”

Thank you for making these amendments concerning the Eastern Indigo Snake Key. If you have any questions, please contact Jodie Smithem of my staff at the address on the letterhead, by email at jodie_smithem@fws.gov, or by calling (904)731-3134.

Sincerely,


Dawn Jennings
Acting Field Supervisor

cc:

Panama City Ecological Services Field Office, Panama City, FL
South Florida Ecological Services Field Office, Vero Beach, FL



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

January 25, 2010

David S. Hobbie
Chief, Regulatory Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2009-FA-0642

Service Consultation Code: 41420-2009-I-0467

41910-2010-I-0045

Subject: North and South Florida
Ecological Services Field Offices
Programmatic Concurrence for Use
of Original Eastern Indigo Snake
Key(s) Until Further Notice

Dear Mr. Hobbie:

The U.S. Fish and Wildlife Service's (Service) South and North Florida Ecological Services Field Offices (FO), through consultation with the U.S. Army Corps of Engineers Jacksonville District (Corps), propose revision to both Programmatic concurrence letters/keys for the federally threatened Eastern Indigo Snake (*Drymarchon corais couperi*), (indigo snake), and now provide one key for both FO's. The original programmatic key was issued by the South Florida FO on November 9, 2007. The North Florida FO issued a revised version of the original key on September 18, 2008. Both keys were similar in content, but reflected differences in geographic work areas between the two Field Offices. The enclosed key satisfies each office's responsibilities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*).

Footnote number 3 in the original keys indicated "A member of the excavation team should be authorized for Incidental Take during excavation through either a section 10(a)(1)(A) permit issued by the Service or an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission (FWC)." We have removed this reference to a Service issued Section 10(a)(1)(A) permit, as one is not necessary for this activity. We also referenced the FWC's revised April 2009 Gopher Tortoise Permitting Guidelines with a link to their website for updated excavation guidance, and have provided a website link to our Standard Protection Measures. All other conditions and criteria apply.

We believe the implementation of the attached key achieves our mutual goal for all users to make consistent effect determinations regarding this species. The use of this key for review of projects

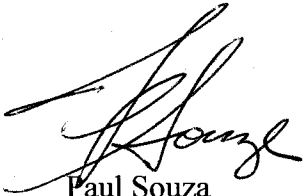
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located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced documents and is submitted in accordance with section 7 of the Act.

Should circumstances change or new information become available regarding the eastern indigo snake or implementation of the key, the determinations may be reconsidered as deemed necessary.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to either Allen Webb (Vero Beach) at 772-562-3909, extension 246, or Jay Herrington (Jacksonville) at 904-731-3326.

Sincerely,



Paul Souza
Field Supervisor
South Florida Ecological Services Office



David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

cc: electronic only
FWC, Tallahassee, Florida (Dr. Elsa Haubold)
Service, Jacksonville, Florida (Jay Herrington)
Service, Vero Beach, Florida (Sandra Sneckenberger)

Eastern Indigo Snake Programmatic Effect Determination Key

Scope of the key

This key should be used only in the review of permit applications for effects determinations within the North and South Florida Ecological Services Field Offices Geographic Areas of Responsibility (GAR), and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH). Counties within the **North** Florida 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.

Counties in the **South** Florida GAR include Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, St. Lucie.

Habitat

Over most of its range, the eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Eastern indigo snakes appear to need a mosaic of habitats to complete their life cycle. Wherever the eastern indigo snake occurs in xeric habitats, it is closely associated with the gopher tortoise (*Gopherus polyphemus*), the burrows of which provide shelter from winter cold and summer desiccation (Speake et al. 1978; Layne and Steiner 1996). Interspersion of tortoise-inhabited uplands and wetlands improves habitat quality for this species (Landers and Speake 1980; Auffenberg and Franz 1982).

In south Florida, agricultural sites, such as sugar cane fields, created in former wetland areas are occupied by eastern indigo snakes (Enge pers. comm. 2007). Formerly, indigo snakes would have only occupied higher elevation sites within the wetlands. The introduction of agriculture and its associated canal systems has resulted in an increase in rodents and other species of snakes that are prey for eastern indigo snakes. The result is that indigos occur at higher densities in these areas than they did historically.

Even though thermal stress may not be a limiting factor throughout the year in south Florida, indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigos use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumii*) burrows in coastal areas (Service 2006). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges. In extreme south Florida (the Everglades and Florida Keys), indigo snakes are found in tropical

hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is suspected that they prefer hammocks and pine forests, because most observations occur in these habitats disproportionately to their presence in the landscape (Steiner et al. 1983). Hammocks may be important breeding areas as juveniles are typically found there. The eastern indigo snake is a snake-eater so the presence of other snake species may be a good indicator of habitat quality.

Conservation Measures

The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. 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 and no additional correspondence will be necessary¹. This key is subject to revisitation as the Corps and Service deem necessary.

- 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 *Standard Protection Measures For The Eastern Indigo Snake* 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 requested² "may affect"
- C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activitiesgo to D
 There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities "NLAA"
- D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... "may affect"

- E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow³. If an 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 indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... "NLAA"

Permit will not be conditioned as outlined above and consultation with the Service is requested² "may affect"

¹With an outcome of "no effect" or "NLAA" as outlined in this key, the requirements of section 7 of the Act are fulfilled for the eastern indigo snake and no further action is required.

²Consultation may be concluded informally or formally depending on project impacts.

³ If burrow excavation is utilized, it should be performed by experienced personnel. The method used should minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the Florida Fish and Wildlife Conservation Commission's revised April 2009 Gopher Tortoise Permitting Guidelines located at http://myfwc.com/License/Permits_ProtectedWildlife.htm#gophertortoise. A member of the excavation team should be authorized for Incidental Take during excavation through an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission.

APPENDIX D - PHOTO DOCUMENTATION LOG

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PHOTO DOCUMENTATION LOG



Photo 1

Overview of buffer zone in southwest quadrant, facing south.



Photo 2

Overview of buffer zone in southwest quadrant, facing north. Area displays evidence of periodic flooding, including facultative species present. No suitable conditions for gopher tortoise (*Gopherus polyphemus*) habitat present.



Photo 3

Overview of buffer zone in southwest quadrant in northern-third of project area, facing south. Dense coverage by Brazilian pepper (*Schinus terebinthifolia*) and muscadine grape vine (*Vitis rotundifolia*), limiting habitat value of gopher tortioses.



Photo 4

Overview of midponit of southwest quadrant, facing south. Dense coverage by muscadine grape vine and saw palmetto (*Serenoa repens*), limiting habitat value of gopher tortioses. Minor coverage of prickly pear cactus (*Opuntia*).



Photo 5

Overview of southern most end of the southwest quadrant, facing north. Area displays upland species and potential gopher tortoise habitat. However no burrows present at this time.



Photo 6

Overview of the southeast infield quadrant, facing south. Area is maintained and mowed regularly, precluding suitable habitat for gopher tortoise.



Photo 7

Overview of the southeast shoulder quadrant, facing north. Area is maintained and mowed regularly, precluding suitable habitat for gopher tortoise.

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