STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

NATURAL RESOURCES EVALUATION

Florida Department of Transportation

District One

Fort Hamer Road Project Development and Environmental (PD&E) Study

Limits of Project: Fort Hamer Road from Upper Manatee River Road to US 301

Manatee County, Florida

Financial Management Number: Manatee County CIPs 6054767 & 6054768

ETDM Number: 14536

Date: September 26, 2024

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EXECUTIVE SUMMARY

Manatee County is conducting a Project Development & Environment (PD&E) Study to evaluate a 3.8-mile segment of Fort Hamer Road from Upper Manatee River Road to US 301 in Manatee County, Florida. The purpose of the project is to enhance safety, improve traffic operations, provide multimodal access, and meet future transportation demand. The study includes options for widening the existing two-lane roadway to a four-lane roadway with a raised median, widening the existing two-lane bridge over Manatee River to a four-lane roadway, and enhanced multimodal accommodations for all users.

In accordance with Presidential Executive Order (EO) 11990, Federal Highway Administration (FHWA) Technical Advisory T6640.8A, Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (ESA, P.L. 93-205), and the Florida Department of Transportation (FDOT) *Project Development and Environment (PD&E) Manual*, a Wetlands Evaluation, Protected Species and Habitat Assessment, and Essential Fish Habitat Assessment were conducted for the proposed widening of Fort Hamer Road. The project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and the Advance Notification Package was published November 20, 2023 (ETDM #14536).

This Natural Resources Evaluation (NRE) reviews the potential impacts to wetland systems and federal and state protected species, summarizes the results of these assessments, and identifies measures to avoid, minimize and mitigate for any potential impacts. A summary of the analysis of potential project impacts for the proposed roadway improvements is presented below.

Protected Species and Habitat

The project study area was evaluated for potential occurrences of federal and state listed plant and animal species in accordance with Section 7 of the Endangered Species Act of 1973 and Chapters 5B-40 and 68A-27 of the Florida Administrative Code (F.A.C.). The evaluation included coordination with the Florida Natural Areas Inventory (FNAI), literature review, database searches, and field assessments of the project area to identify the potential occurrence of protected species and/or presence of federal designated critical habitat. Field evaluations of the project area and adjacent habitats and general wildlife surveys were conducted by project environmental scientists on September 13, 2023, October 11, 2023, January 25, 2024, and August 13, 2024..

Per the PD&E Manual Chapter *Protected Species and Habitat Assessment*, 21 federally listed species, 1 federally proposed endangered species, and 20 state listed species have been reviewed for the potential to occur within the project study area. The project is within US Fish and Wildlife Service (USFWS) designated critical habitat for the West Indian manatee. It has been determined the proposed project would result in *no adverse modification or destruction of critical habitat* for the West Indian manatee. Based on evaluation of collected data and field reviews, the federal and state listed species listed in **Table ES-1-1** and **Table ES-1-2** below have been reviewed for the potential to occur within or adjacent to the project area. An effect determination was made for each of these federal and state listed species based on an analysis of the potential impacts of the proposed project on each species.

Table ES-1-1. Federal Protected Species Effect Determinations

Project Impact Determination	Federal Listed Species	
	Species	***Status****
"No effect"	***Flora***	
	Florida bonamia (*Bonamia grandiflora*)	FT
	Florida golden aster (*Chrysopsis floridana*)	FE
	Florida perforate cladonia (*Cladonia perforata*)	FE
	Pygmy fringe tree (*Chionanthus pygmaeus*)	FE
	Fauna	
	Audubon's crested caracara (*Caracara cheriway*)	FT
	Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	FT
	Everglade snail kite (*Rostrhamus sociabilis plumbeus*)	FE
	Florida bonneted bat (*Eumops floridanus*)	FE
	Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)	FE
	Florida scrub-jay (*Aphelocoma coerulescens*)	FT
	Green sea turtle (*Chelonia mydas*)	FT
	Hawksbill sea turtle (*Eretmochelys imbricata*)	FE
	Kemp's ridley sea turtle (*Lepidochelys kempii*)	FE
	Loggerhead sea turtle (*Caretta caretta*)	FT
	Piping plover (*Charadrius melodus*)	FT
"May affect, not likely to adversely affect"	***Fauna***	
	Eastern indigo snake (*Drymarchon couperi*)	FT
	Gulf sturgeon (*Acipenser oxyrinchus desotoi*)	FT
	Rufa red knot (*Calidris canutus rufa*)	FT
	Smalltooth sawfish (*Pristis pectinata*)	FE
	West Indian manatee (Florida manatee) (*Trichechus manatus (latirostris)*)	FT
	Wood stork (*Mycteria americana*)	FT

*FE – Federally endangered; FT – Federally threatened

Table ES-1-2. State Protected Species Effect Determinations

Project Impact Determination	State Listed Species	
	Species	***Status****
"No effect anticipated"	***Flora***	
	Giant orchid (*Pteroglossaspis ecristata*)	ST
	Large-plumed beaksedge (*Rhynchospora megaplumosa*)	SE
	Many-flowered grass-pink (*Calopogon multiflorus*)	ST
	Nodding pinweed (*Lechea cernua*)	ST
	Pinewoods bluestem (*Andropogon arctatus*)	ST
"No adverse effect anticipated"	***Flora***	
	Celestial lily (*Nemastylis floridana*)	SE
	Florida spiny-pod (*Matelea floridana*)	SE
	Redmargin zephyrlily (*Zephyranthes simpsonii*)	ST
	Sand butterfly pea (*Centrosema arenicola*)	SE
	Sanibel Island lovegrass (*Eragrostis pectinacea* var. *tracyi*)	SE
	Fauna	
	Florida burrowing owl (*Athene cunicularia floridana*)	ST
	Florida pine snake (*Pituophis melanoleucus mugitus*)	ST
	Florida sandhill crane (*Antigone canadensis pratensis*)	ST
	Gopher tortoise (*Gopherus polyphemus*)	ST
	Least tern (*Sternula antillarum*)	ST
	Little blue heron (*Egretta caerulea*)	ST
	Reddish egret (*Egretta rufescens*)	ST
	Roseate spoonbill (*Platalea ajaja*)	ST
	Southeastern American kestrel (*Falco sparverius paulus*)	ST
	Tricolored heron (*Egretta tricolor*)	ST

*SE – State endangered; ST – State threatened

Wetlands

For the purposes of this document, wetlands are defined as per Chapter 62-340, F.A.C. and Section 373.019 (27), Florida Statutes (F.S.). Surface waters are defined as open water bodies or streams/waterways, including roadside ditches. The jurisdictional limits of wetlands and surface waters were estimated in accordance with the State unified wetland delineation methodologies as adopted by the Florida Department of Environmental Protection (FDEP) and the water management districts per Chapter 62-340, F.A.C. as described in *The Florida Wetlands Delineation Manual* and the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual and regional supplement. The extent and types of wetlands in the project study area were documented in accordance with EO 11990, Protection of Wetlands, and the PD&E Manual.

Unavoidable wetland impacts will occur as a result of the Preferred Alternative. The wetlands to be impacted by the proposed project include previously disturbed wetlands adjacent to existing roadways. A total of 3.62 acres of wetlands, 4.56 acres of surface waters, and 0.10 acres of other surface waters are present within the footprint of the Preferred Alternative (**Table ES-2**). Other surface waters include permitted facilities such as stormwater or flood compensation ponds. Impacts to these facilities typically do not require mitigation to offset impacts and are therefore excluded from impact evaluations. A description of land use, dominant vegetation, soil types, and other information regarding these communities is provided in subsequent sections of this report. The Uniform Mitigation Assessment Methodology (UMAM) analysis was performed on representative wetland impact areas. Construction of the Preferred Alternative may result in an estimated loss of 5.975 functional units. Of the total 5.975 functional unit loss, 5.726 would result from direct impacts and 0.249 would result from secondary impacts.

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for direct and secondary wetland impacts and Essential Fish Habitat losses in the Manatee River will be completed through the use of a private mitigation bank and any other mitigation options that satisfy state and federal requirements.

Final determination of jurisdictional boundaries, in addition to mitigation requirements, will be coordinated between Manatee County and permitting agencies during the final design phase of the project. The results of the PD&E Study indicate there are no practicable alternatives to the proposed impacts due to the need for a roadway and bridge widening to reduce traffic congestion and address safety considerations. In accordance with Presidential EO 11990, Manatee County has undertaken all actions to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Manatee County has determined that there is no practicable alternative to construction impacts occurring in wetlands. The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function. Furthermore, all wetland impacts have been avoided and minimized to the greatest extent possible and have been limited to those areas which are required to meet minimum safety requirements.

Table ES-2. Wetland and Surface Water Impacts

Wetland IDs	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage
Surface Waters 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10	510	Streams and Waterways	R4SBC	1.70
Other Surface Waters 8 and 32	530	Reservoirs	PUBHx	0.10
Surface Water 11	540	Bays and Estuaries	E1UBL	2.86
Wetlands 1, 2, and 3	612	Mangrove Swamps	E2FO3	0.51
Wetlands 4, 5, and 6	615	Streams and Lake Swamps – Bottomland	PFO1Fd	0.97
Wetland 8	619	Exotic Wetland Hardwoods	E2FO1N	0.09
Wetlands 10, 12, 16, and 19	630	Wetland Forested Mixed	PFO1/3Cd	0.31
Wetlands 25, 26, 27, and 30	642	Saltwater Marshes	E2EM1N	1.72
Wetland 31	643	Wet Prairies	PEM1A	0.02
			Total Surface Water Acreage	**4.66**
			Total Wetland Acreage	**3.62**
			Total Acreage	**8.28**

R4SBC: Riverine, Intermittent, Streambed, Seasonally Flooded
PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated
E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal
E2FO3: Estuarine, Intertidal, Forested, Broad-Leaved Evergreen
PFO1Fd: Palustrine, Forested, Broad-Leaved Deciduous, Semipermanently Flooded, Partly Drained/Ditched
E2FO1N: Estuarine, Intertidal, Forested, Broad-Leaved Deciduous, Regularly Exposed
PFO1/3Cd: Palustrine, Forested, Broad-Leaved Deciduous/Evergreen, Seasonally Flooded, Partly Drained/Ditched
PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded
E2EM1N: Estuarine, Intertidal, Emergent, Persistent, Regularly Exposed
PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded

Essential Fish Habitat

The proposed project is within the Gulf of Mexico Fishery Management Council's (GMFMC) area of jurisdiction. The Magnuson-Stevens Fishery Conservation and Management Act reflects the authority and responsibilities of the Secretary of Commerce and the Fishery Management Councils for the protection of Essential Fish Habitat (EFH). EFH is defined by the Act as "those waters and substrate necessary for spawning, breeding, feeding, or growth to maturity." The term "fish" includes finfish, crabs, shrimp, and lobsters in the Gulf of Mexico Region. The National Oceanic and Atmospheric Administration (NOAA) and National Marine Fisheries Service (NMFS) review potential impacts to EFH.

Estuarine habitats of the Manatee River identified as EFH Categories by the GMFMC or NMFS within the study area include 1) mangroves, 2) salt marshes, 3) estuarine water column, and 4) mud, sand, shell, and rock substrates. Thus, all tidal waters and substrates within the Manatee River and the adjoining wetlands, including intertidal zones, are considered EFH by the GMFMC. Submerged aquatic vegetation (i.e. seagrasses) is also reviewed below as an EFH category with the potential to occur within the project study area.

Permanent impacts to EFH are based on the clearing, dredging, filling, and shading of areas within the Manatee River. The proposed bridge widening analyzed in the PD&E Study is not anticipated to deviate substantively from the original construction conditions of the existing Fort Hamer Bridge. The areas of EFH with the potential to be directly impacted by the proposed bridge widening activities include approximately 1.15 acres of salt marsh, 1.40 acres of mangroves, and 1.75 acres of bays and estuaries within the Manatee River (estuarine water column & mud, sand, shell, and rock substrates). A submerged aquatic vegetation (SAV) survey will be performed during the design and permitting phase of the project to determine the presence of SAV occurring within the project study area. EFH impacts for the bridge widening are expected to be compensated for through wetland mitigation that will compensate for wetland and surface water impacts. Therefore, wetland compensation as well as implemented avoidance and minimization measures are expected to offset any impacts to fish populations or their prey species. The impacts of shading beneath the proposed bridge are not anticipated to adversely affect GMFMC or NMFS managed fishery species or their prey. Temporary impacts to the water column and sediments may occur due to the construction of the bridge and due to the impact of pile driving during construction. During construction, Best Management Practices (BMPs) for erosion control will be employed to minimize impacts to the adjacent habitats, water column, and sediments. The proposed project will also be constructed in accordance with all permit conditions for maintaining water quality during construction. Additionally, all stormwater runoff from the roadway and bridge structure will be directed to stormwater treatment ponds; no stormwater runoff will be directly discharged to the Manatee River or adjacent wetlands. Based on this preliminary information, impacts to EFH or EFH-dependent species are anticipated to be ***minimal***.

1.0 INTRODUCTION

Manatee County is conducting a Project Development & Environment (PD&E) Study to evaluate a 3.8-mile segment of the existing Fort Hamer Road from Upper Manatee River Road to US 301, within unincorporated Manatee County, as depicted in **Figure 1-1 Project Location Map** and **Figure 1-2 USGS Topographic Map**.

The purpose of the PD&E Study is to evaluate engineering and environmental data and document information that will aid in determining the type, preliminary design, and location of the proposed improvements. The study is being conducted to meet the requirements of the National Environmental Policy Act (NEPA) and other related federal and state laws, rules, and regulations.

This study evaluated the benefits, costs, and impacts of widening this portion of Fort Hamer Road from a two-lane undivided roadway to a four-lane divided roadway. The bridge (Bridge #134123) included within the project limits, carrying Fort Hamer Road across the Manatee River, is also proposed to be widened up to four lanes and the roadway improvements include intersection roundabouts.

In accordance with Presidential Executive Order 11990, Federal Highway Administration (FHWA) Technical Advisory T6640.8A, Section 7(c) of the Endangered Species Act (ESA) of 1973 (ESA, P.L. 93-205), and the Florida Department of Transportation (FDOT) *Project Development and Environment (PD&E) Manual*, a Wetlands Evaluation, Protected Species and Habitat Assessment, and Essential Fish Habitat (EFH) Analysis were conducted for the proposed widening of Fort Hamer Road. The project was screened through the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and the Advanced Notification Package was published November 20, 2023 (ETDM #14536).

This Natural Resources Evaluation (NRE) reviews the potential impacts to wetland systems, EFH, and federal and state protected species, summarizes the results of these assessments, and identifies measures to avoid, minimize and mitigate for any potential impacts.

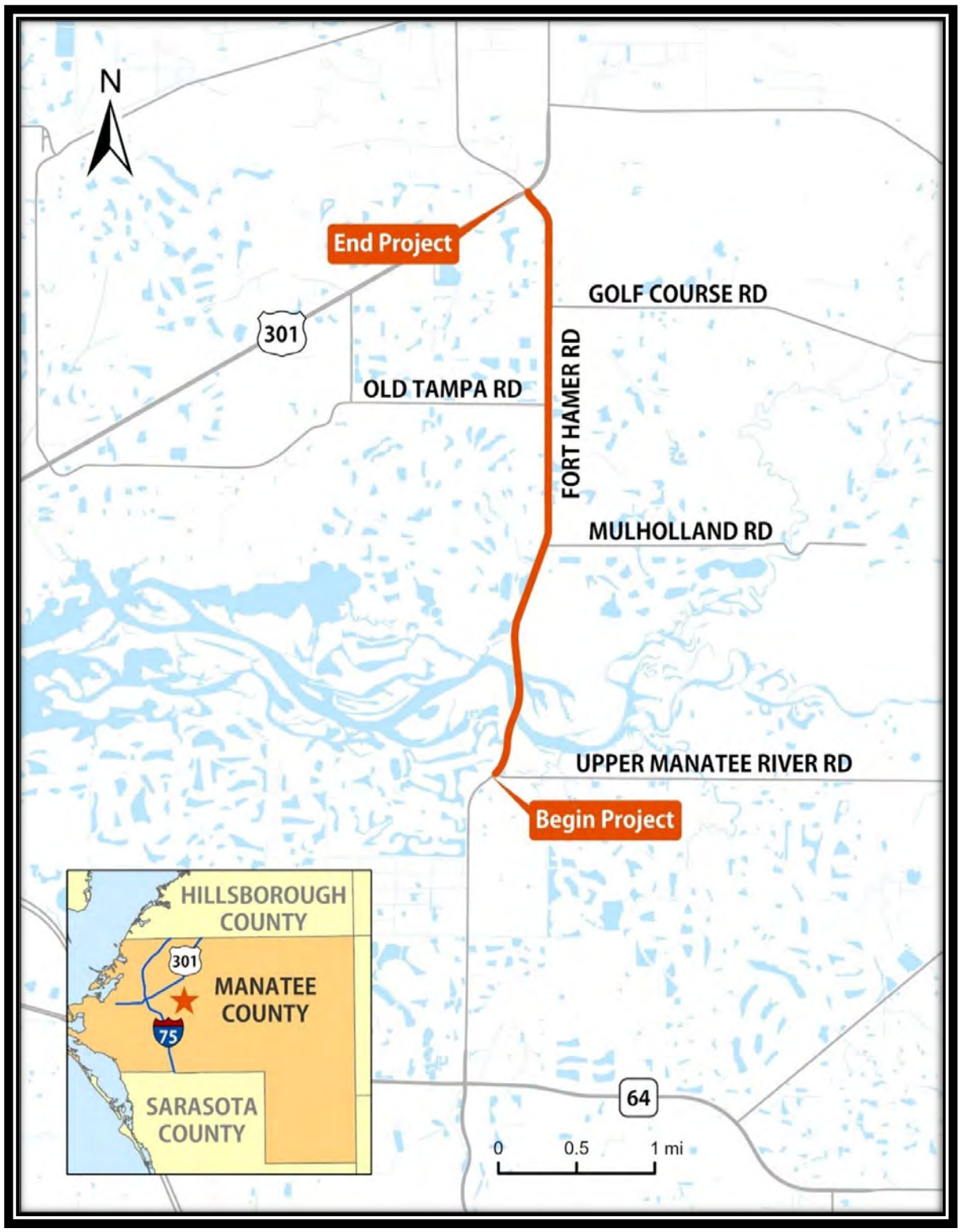

Figure 1-1 Project Location

0 1,000 2,000 Feet

N

Source: US Geological Survey

Legend

- Fort Hamer Study Corridor (± 77.94 acres)
- Project Study Area (± 562.59 acres)

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Manatee County FLORIDA

USGS Quad Map, Parrish FL

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 2,000 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 1-2

2.0 PROJECT DESCRIPTION

This project proposes the potential widening of approximately 3.8 miles of the existing two-lane, undivided Fort Hamer Road up to four lanes from Upper Manatee River Road to US 301, within unincorporated Manatee County. The bridge (Bridge #134123) included within the project limits, carrying Fort Hamer Road across the Manatee River, is also proposed to be widened up to four lanes. Fort Hamer Road provides a crucial north-south connection across the Manatee River as one of four crossings of the river. It also runs adjacent and parallel to I-75, serving as a potential north-south alternate route to I-75 during periods of congestion and major traffic-related incidents.

Fort Hamer Road is classified as "Minor Arterial" and consists of two undivided 12-foot lanes along most of the roadway. An open drainage system with grass swales provides stormwater conveyance along both sides of the existing roadway. The posted speed limit is 45 miles per hour (mph), and the context classification is C3R-Suburban Residential. The existing fixed span bridge over the Manatee River consists of two undivided 12-foot lanes. It was constructed in 2017 and is in good condition. The existing clearances of the main bridge span include a minimum 26-foot vertical clearance above mean high water and a minimum 75-foot horizontal clearance measured perpendicular to the navigable channel of the Manatee River. The proposed project is not anticipated to alter the existing navigable channel required clearances. Typical sections of the existing roadway and existing bridge are provided in **Section 2.2.2**.

A continuous five-foot sidewalk is present on the east side of Fort Hamer Road from the southern project limit across the bridge. North of the bridge, a continuous five-foot sidewalk is present on the west side of the road to the northern project limit. Intermittent sidewalks also occur on the east side of the road north of the bridge. Designated 5-foot-wide bicycle lanes are present along the road and bridge for the length of the project. The Sarasota-Manatee Metropolitan Planning Organization's (MPO) Active Transportation Plan includes Fort Hamer Road in the Alignment Vision Network. As such, bicycle, and pedestrian facilities (including sidewalks/marked bicycle lanes/shared-use paths) are proposed to be accommodated as part of the project. Typical sections of the Preferred Alternative roadway and bridge are provided in **Section 2.2.3**.

The existing roadway right of way (ROW) varies from 84 feet to more than 120 feet. Additional ROW is anticipated to accommodate the proposed improvements, including for stormwater facilities.

2.1 Purpose and Need

The purpose of this project is to address capacity and transportation demand of Fort Hamer Road (including Bridge #134123) from Upper Manatee River Road to US 301 within Manatee County. Other goals of the project are to enhance safety conditions and accommodate multimodal activity within the area. The need for the project is based on the following:

2.1.1 Operational Capacity

The existing and preliminary projected future conditions of the Fort Hamer Road project corridor are listed below. The 2022 existing Annual Average Daily Traffic (AADT) along the project corridor

was obtained from Manatee County's July 2023 Transportation Concurrency Link Sheet. The 2050 future AADT was preliminarily forecasted by using the FDOT District One Regional Planning Model (D1RPM) output volume for 2045, then applying an annual growth rate for five years out to 2050. The service volume thresholds used to determine the Level of Service (LOS) were derived from the generalized service volume tables published in FDOT's 2023 Quality/Level of Service Handbook.

Existing Conditions (2-Lane Undivided)
2022 AADT: 13,500 / LOS C

Future Conditions (2-Lane Undivided, No-Build)
2050 AADT: 22,900 / LOS F

Future Conditions (4-Lane Divided, Build)
2050 AADT: 36,100 / LOS D

Under the Future No Build condition, if no capacity improvements occur to the roadway and bridge, the facility is anticipated to operate at LOS F by 2050. A facility operating at LOS F has reached a point where the demand has exceeded capacity. LOS F is characterized by stop-and-go traffic movement, poor travel times, low comfort and convenience, and increased crash exposure. During periods of congestion and major traffic-related incidents on I-75, Fort Hamer Road helps to relieve congestion and accommodate traffic as a continuous north-south alternate route to the adjacent, parallel I-75 crossing of the Manatee River.

2.1.2 Transportation Demand

There are several large residential and mixed-use developments along the corridor of Fort Hamer Road, either recently built, under construction, or planned to be constructed, including Kingsfield, Chelsea Oaks, Waterlefe, Cross Creek, Lakeside Preserve, Windwater, Travis 55, and River Wilderness. Based on the FDOT D1RPM, revised to account for the area developments, the population along the corridor is expected to grow by 153% from 15,213 in 2015 to 38,447 in 2045 (4.93% annual growth rate) and employment is expected to increase by 135% from 941 in 2015 to 2,211 in 2045 (4.35% annual growth rate).

As all motorists crossing the Manatee River are limited to using the four existing bridges along arterial roadways, the projected increase in traffic volumes is expected to lead to further congestion and increased travel times for automobile trips. Fort Hamer Road is planned to be extended north to the county line and is identified as a four-lane facility on the 2045 Future Traffic Circulation Number of Lanes Map of the Manatee County Comprehensive Plan.

2.1.3 Enhance Safety Conditions

Crash data along the project corridor was obtained from Signal Four Analytics for a five-year period from January 1, 2018 to December 31, 2022. During the five-year period, 159 crashes occurred. This data indicates that the five-year average crash rate (i.e., crashes per million vehicle miles traveled) for the project corridor is 2.08. This is higher than the statewide average crash rate for similar facilities (Suburban 2-3 Lanes, 2-Way Undivided), which is 1.23.

Of the 159 crashes, there were zero fatalities; however, there were seven crashes with incapacitating injuries and 16 with non-incapacitating injuries. Crash locations are spread throughout the corridor; however, there are crash hot spots at the following Fort Hamer Road intersections: Mulholland Road, Old Tampa Road, and US 301. Rear-end, off-road, and left-turn crashes were the most common crash types recorded. Rear-end crashes are typically associated with congestion. Without any improvements to the corridor, increasing traffic volumes are anticipated to lead to more congestion and, in turn, crashes.

2.1.4 Modal Interrelationships

Fort Hamer Road currently contains designated bicycle lanes throughout the length of the project corridor. A continuous sidewalk is present on the east side of the road from the southern project limits across the bridge. North of the bridge, a continuous sidewalk is present on the west side of the road to the northern project limit. Intermittent sidewalks also occur on the east side of the road north of the Fort Hamer Bridge. Accommodating bicycle and pedestrian activity within the corridor is particularly important given that this activity is expected to increase with the growing number of residential developments within this area. The Sarasota/Manatee MPO's Active Transportation Plan includes Fort Hamer Road in the Alignment Vision Network, which identifies locations for focused bicycle and pedestrian infrastructure improvements to address gaps in these networks to provide regional connectivity.

2.2 Proposed Improvements

2.2.1 Alternative Analysis Summary

Initial alternatives were screened for impacts, as well as ability to address the project purpose and need. A 120-foot proposed corridor width was evaluated for initial impacts associated with widening the existing roadway to the left only (Left-Side Widening), to the right only (Right-Side Widening), or on center. Wetlands and surface waters were considered for all alternatives to avoid and minimize impacts to wetlands to the greatest extent possible. Because the majority of the proposed impacts are associated with the widening of the Fort Hamer Bridge, and because wetland and surface water types and acreages are similar on each side of the existing bridge, wetland impacts were similar for all evaluated alternatives. An optimized alignment that meandered along the project length was identified as having the least impacts. The corridor analysis (including other non-natural resource factors) will be included in the Preliminary Engineering Report.

Two viable alternatives along the optimized alignment were developed in more detail and presented at the Alternatives Public Information Meeting:

- Alternative 1 – optimized alignment with signalized intersections; and
- Alternative 2 – optimized alignment with roundabout intersections (hereafter referred to as the **Preferred Alternative**)

The corridor for the Preferred Alternative, Left-Side Widening, and Right-Side Widening are provided as a map series in **Section 2.2.3**.

2.2.2 Existing Road and Bridge Typical Sections

The existing Fort Hamer Road and bridge was constructed in 2017. Within the project limits, Fort Hamer Road is a two-lane undivided roadway with 12-foot lanes and intermittent right-turn and left-turn lanes. There are generally 5-foot paved shoulders on each side of the roadway, within at least 77 feet of the existing right-of-way, or property that Manatee County already owns. Stormwater runoff is collected in roadside ditches. The posted speed limit is generally 45 miles per hour. Sidewalks are primarily located along the west side of Fort Hamer Road. Typical sections of the existing roadway and existing bridge are provided in **Figures 2-1** and **2-2**.

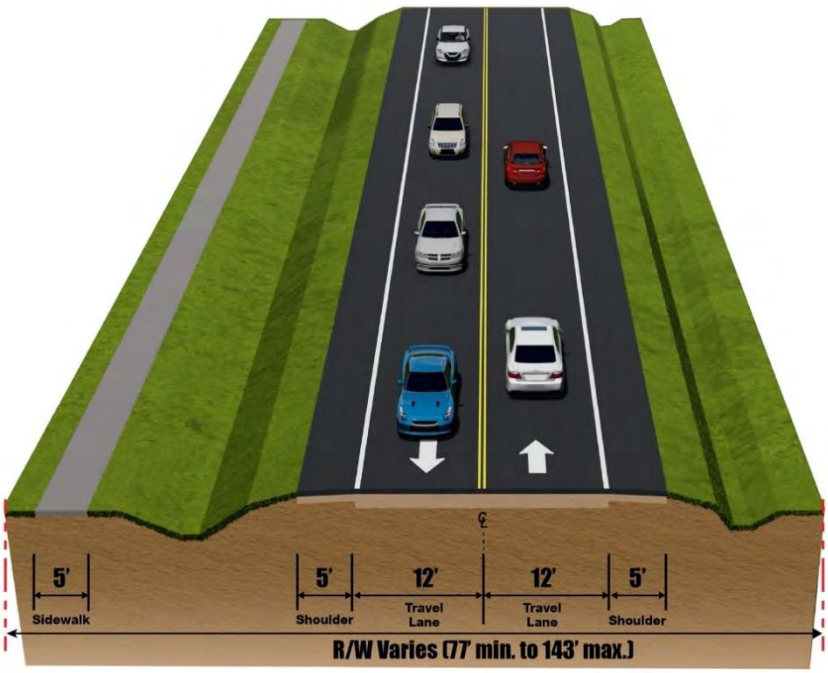

Figure 2-1. Existing Fort Hamer Road Typical Section

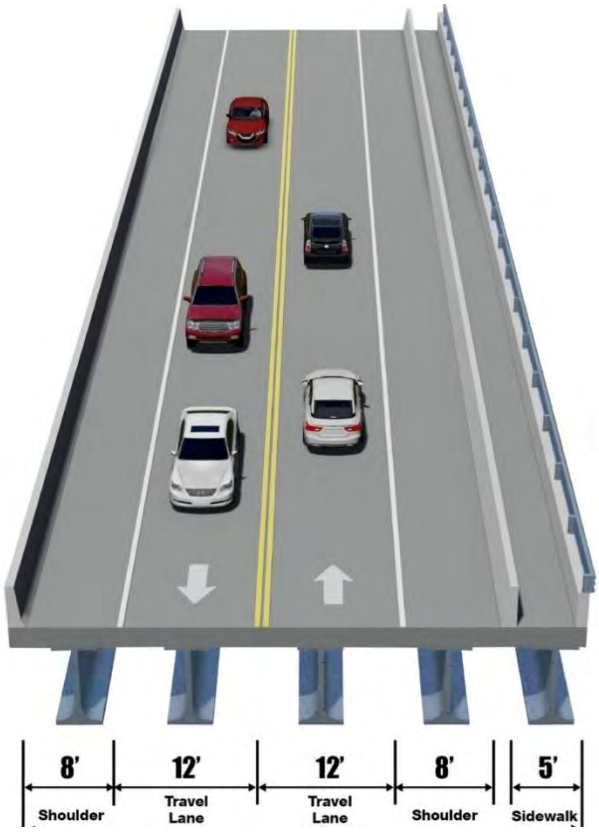

Figure 2-2. Existing Fort Hamer Bridge Typical Section

2.2.3 Preferred Alternative Road and Bridge Sections

The Preferred Alternative for Fort Hamer Road (with roundabout intersections) includes widening the road to a four-lane divided roadway, as well as bicycle and pedestrian accommodations on sidewalks, shared-use paths, and bike lanes. This alternative would include two 11-foot lanes with each direction, separated by a 22-foot raised median, street lighting, and a 40 mile per hour speed limit. The roadway would also include curb and gutter, and stormwater pipes for conveying stormwater to new ponds. Bicyclists and pedestrians would be accommodated by a 10-foot shared use path on the west side of the roadway and a 6-foot sidewalk on the east side. Similar accommodations will be incorporated into the proposed bridge sections. These improvements would generally require a minimum 120-foot of right-of-way. Typical sections of the Preferred Alternative roadway and bridge are provided in **Figures 2-3** and **2-4**. An alternatives map is provided as **Figure 2-5**.

The Preferred Alternative best meets the project purpose with:

- Additional travel lanes for vehicle capacity;
- New roundabout intersections for enhanced operations and safety;
- New raised median for improved safety;
- Additional sidewalk for accessibility; and
- New shared use path for multimodal accommodations.

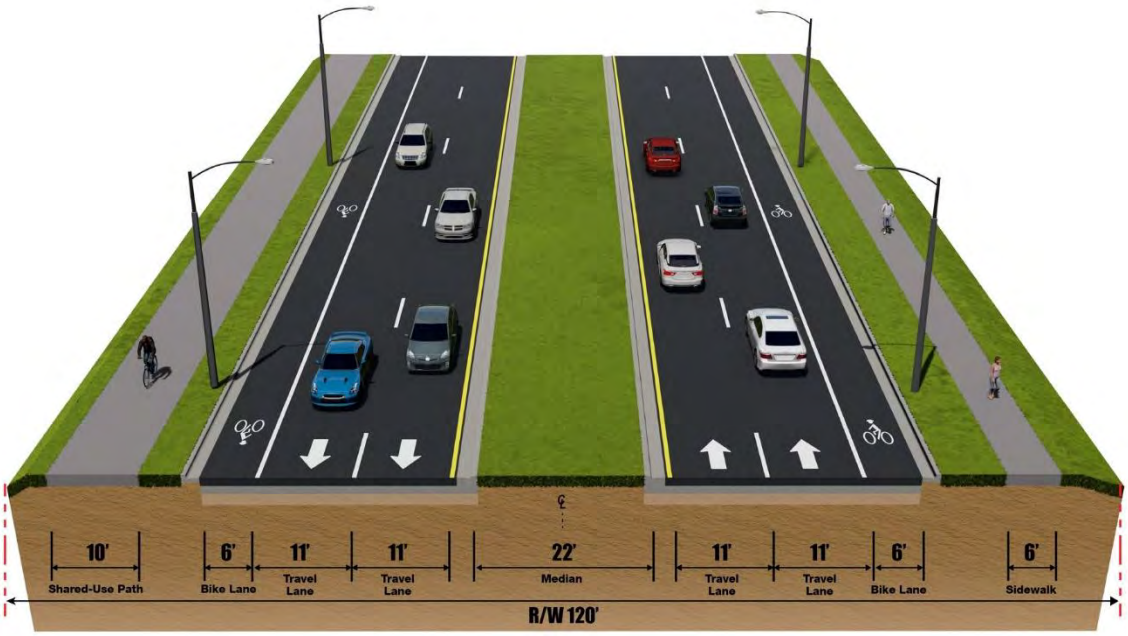

Figure 2-3. Fort Hamer Road Preferred Alternative Typical Section

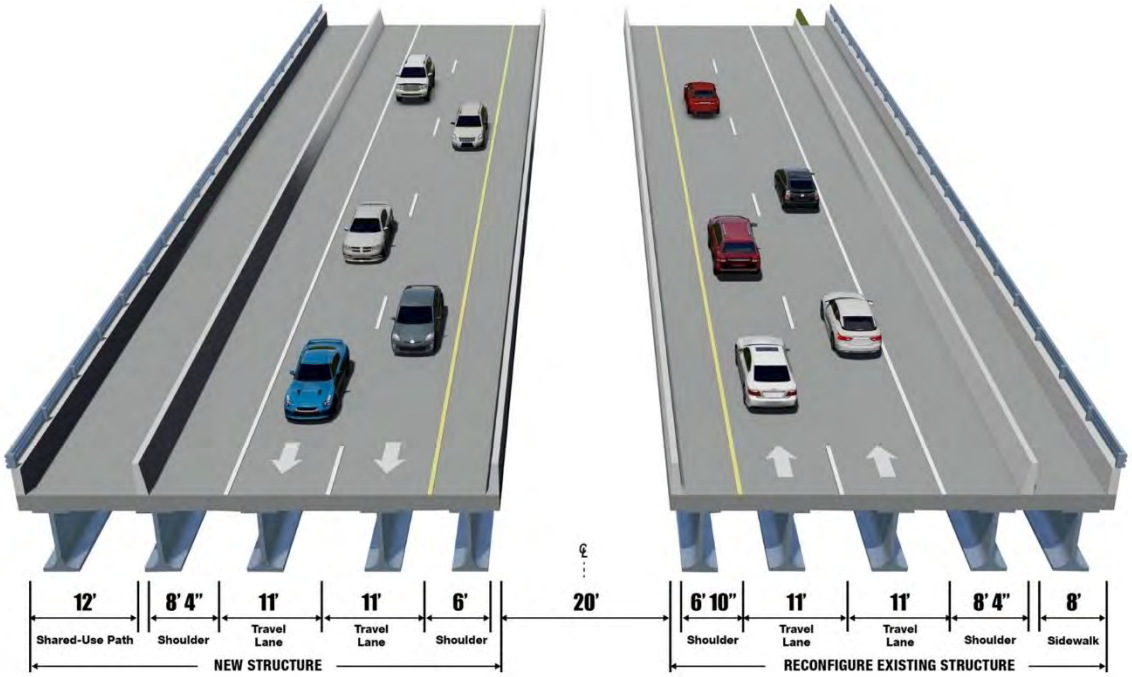

Figure 2-4. Fort Hamer Bridge Preferred Alternative Typical Section

0 200 400 Feet

N

Creole Ct

Little Country Rd

Fort Hamer Rd

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve & Gamble Creek

Waterlefe Golf & River Club

FT. HAMER PARK

Fort Hamer

Fort Hamer Rd

MANATEE RIVER

HIDDEN HARBOUR PARK

WATERLEFE GOLF & RIVER CLUB

Source: Nearmap WMS (2023)

Legend

- Preferred Alternative with Signals
- Preferred Alternative with Roundabouts
- Left Side Widening
- Right Side Widening

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FDOT

Alternatives Map

Fort Hamer PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 400 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 2-5 - Page 2 of 6

0 200 400 Feet

N

Red Leaf Rd

Woodland Farms Dr

Fort Hamer Rd

WILLIAMS ELEMENTARY

US Highway 301 N

River Wilderness Golf & Country Club

The Hammocks at River Wilderness

Chelsea Oak

Fort Hamer

Twin River Preserve at Gamble Creek

Waterlefe Golf & River Club

Country Rd

Mulholland Rd

Creole Ct

123rd Pl E

124th Ave E

124th Dr E

23rd St E

River Plantation

22nd Ct E

Source: Nearmap WMS (2023)

Legend

- Preferred Alternative with Signals
- Preferred Alternative with Roundabouts
- Left Side Widening
- Right Side Widening

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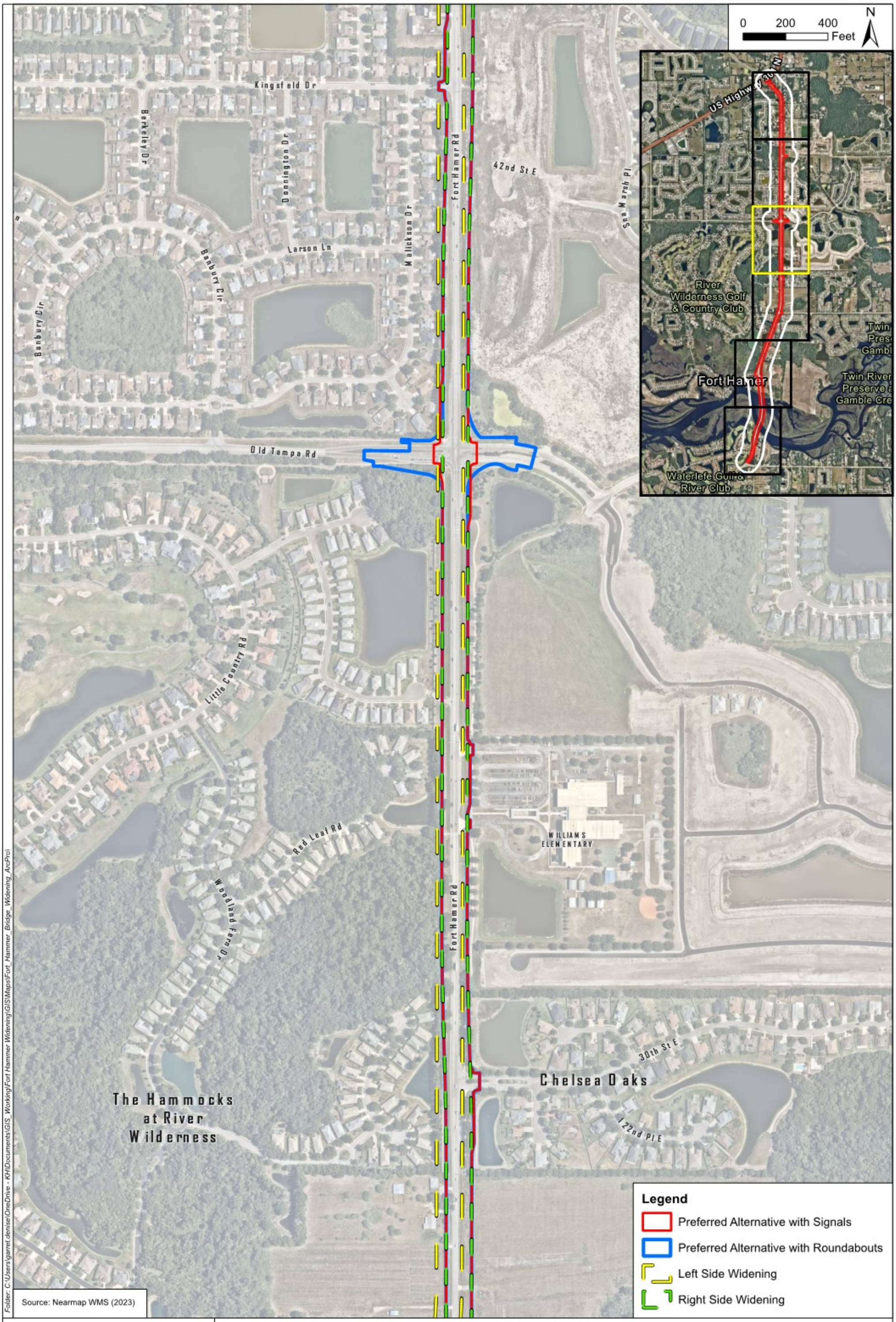
FDOT

Alternatives Map

Fort Hamer PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 400 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 2-5 - Page 3 of 6



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FDOT

Alternatives Map

Fort Hamer PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 400 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 2-5 - Page 4 of 6

0 200 400 Feet

N

Red Rooster Rd

120th Ave E

Fort Hamer Rd

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve & Gamble Creek

Waterlefe Golf & River Club

Warwick Cir

Kingsfield Dr

Berkeley Dr

Donnington Dr

Wallickson Dr

Larson Ln

Banbury Cir

Old Tampa Rd

42nd St E

Cedar Pass Trl

Sea Marsh Trl

Hopsack Dr

Legend

- Preferred Alternative with Signals
- Preferred Alternative with Roundabouts
- Left Side Widening
- Right Side Widening

Source: Nearmap WMS (2023)

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FDOT

Alternatives Map

Fort Hamer PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 400 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 2-5 - Page 5 of 6

0 200 400 Feet

N

121st Ave E

US Highway 301 N

Darsey Rd

Bella Rd

Doris Rd

60th St E

119th Ter E

56th St E

Lakeside Preserve

120th Ave E

Red Rooster Rd

Fort Hamer Rd

54th St E

123rd Ave E

124th Ave E

51st St E

49th St E

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve & Gamble Cre

Waterlefe Golf & River Club

Legend

- Preferred Alternative with Signals
- Preferred Alternative with Roundabouts
- Left Side Widening
- Right Side Widening

Source: Nearmap WMS (2023)

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FDOT

Alternatives Map

Fort Hamer PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 400 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 2-5 - Page 6 of 6

0 200 400 Feet

N

121st Ave E

US Highway 301 N

Darsey Rd

Bella Rd

Doris Rd

60th St E

119th Ter E

56th St E

Lakeside Preserve

120th Ave E

Red Rooster Rd

Fort Hamer Rd

54th St E

123rd Ave E

124th Ave E

51st St E

49th St E

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve & Gamble Cre

Waterlefe Golf & River Club

Legend

- Preferred Alternative with Signals
- Preferred Alternative with Roundabouts
- Left Side Widening
- Right Side Widening

Source: Nearmap WMS (2023)

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FDOT

Alternatives Map

Fort Hamer PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 400 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 2-5 - Page 6 of 6

3.0 EXISTING CONDITIONS

The project study area extends approximately 575 feet from the roadway centerline along Fort Hamer Road from Upper Manatee River Road to US 301. This section includes a description of existing conditions within the project study area, including soils and land use/vegetative cover types in both wetlands and uplands. **Section 4.0** provides a description of the potential impacts to federal and state listed species and proposed conservation measures to offset these impacts. **Section 5.0** includes a description of wetland and surface water impacts that would result from construction of the proposed project and a discussion of the mitigation options to offset these impacts.

3.1 Methodology

To assess the approximate locations and boundaries of existing wetland and upland communities within the project study area, the following site-specific data were collected and reviewed:

- FDOT, Efficient Transportation Decision Making Environmental Screening Tool, (https://etdmpub.fla-etat.org/est/); 2024
- Aerial photographs (scale, 1 inch = 400 feet), ESRI 2023;
- University of Florida (UF), UF Digital Collections, *Aerial Photography: Florida*, (https://original-ufdc.uflib.ufl.edu/aerials), September 2023;
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Web Soil Survey* (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx), September 2023;
- Florida Association of Environmental Soil Scientists, *Hydric Soils of Florida Handbook*, 4th Edition (Hurt, 2007);
- Florida Department of Transportation, *Florida Land Use, Cover and Forms Classification System (FLUCFCS) Handbook*, 3rd Edition (FDOT, 1999);
- Southwest Florida Water Management District (SWFWMD) FLUCFCS Geographic Information System (GIS) Database (2020);
- SWFWMD, *Southwest Florida Water Management District Geospatial Open Data Portal*. (https://data-swfwmd.opendata.arcgis.com/), 2023;
- USFWS, National Wetlands Inventory, *Wetlands Online Mapper* (https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper), August 2023;
- USFWS, *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979);
- USACE 1987 *Corps of Engineers Wetland Delineation Manual* (Y-87-1); and
- 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0)* (ERDC/EL TR-10-20).

For the purposes of this document, wetlands are defined as per Chapter 62-340, F.A.C. and Section 373.019 (27), F.S. Surface waters are defined as open water bodies or streams/waterways, including roadside ditches.

Environmental scientists familiar with Florida's natural communities conducted field reviews of the study area on September 13, 2023, October 11, 2023, January 25, 2024, and August 13, 2024. Field reviews consisted of pedestrian transects throughout natural habitat types found within the project study area. The purpose of these evaluations was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. During field investigations, wetland and surface water habitats within the project study area was visually inspected and photographed. Attention was given to identifying plant species composition for each community. Exotic plant infestations and other disturbances such as soil subsidence, clearing, ditching, power lines, etc., were noted. Attention was also given to identifying wildlife and signs of wildlife usage in habitats within the project study area.

3.2 Results

Based on site-specific database reviews and field evaluations, a total of 13 soil types, 14 upland land uses and habitat types, and 11 wetland and surface water habitat types were identified within the project study area. The following subsections describe the soils, the upland and wetland community types, and the individual wetlands and surface waters that occur within the project study area.

3.2.1 Soils

Based on the *Custom Soil Resource Report for Manatee County, Florida* obtained from NRCS Web Soil Survey, the project study area is comprised of 13 soil types. **Figure 3-1 NRCS Soils Map** shows an aerial map depicting the boundaries of each soil type within the project study area. **Appendix A** provides individual soil descriptions and their general characteristics. According to the *Hydric Soils of Florida Handbook*, 12 of the soil types reported within the project study area are classified as hydric and one is classified as non-hydric. Mapped hydric soils comprise 513.64 acres (91.29 percent) and non-hydric soils cover 23.81 acres (4.23 percent) of the project study area.

Table 3-1 lists the soil types reported within the project study area, their corresponding NRCS reference numbers reported in the *Custom Soil Resource Report for Manatee County, Florida*, their hydric classification, and the approximate acreage and percentage of each soil type within the project study area.

Table 3-1. Soil Types and Coverage within the Project Study Area

Map Unit Symbol	Soil Type	Hydric Y/N	Acres in Study Area	Percent of Study Area
4	Bradenton Fine Sand, 0 to 2 percent slopes	Y	7.16	1.27%
6	Broward Variant Fine Sand	Y	5.70	1.01%
7	Canova, Anclote, and Okeelanta Soils	Y	13.83	2.46%
11	Cassia Fine Sand, 0 to 2 percent slopes	N	23.81	4.23%
16	Delray Complex	Y	4.95	0.88%
17	Delray-EauGallie Complex	Y	1.77	0.31%
20	EauGallie-EauGallie Wet, Fine Sand, 0 to 2 percent slopes	Y	402.92	71.61%
24	Felda-Wabasso Association, frequently flooded	Y	13.38	2.38%
25	Floridana Fine Sand, 0 to 2 percent slopes	Y	18.54	1.48%
26	Floridana-Immokalee-Okeelanta Association	Y	8.34	1.48%
34	Okeelanta Muck, tidal	Y	14.19	2.52%
38	Palmetto Sand	Y	16.33	2.90%
48	Wabasso-Wabasso, Wet, Fine Sand, 0 to 2 percent slopes	Y	6.53	1.16%
99 / 100	Water / Water of the Gulf of Mexico	N/A	25.19	4.48%
Total Hydric Soils			**513.64**	**91.29%**
Total Non-Hydric Soils			**23.81**	**4.23%**
Total Water			**25.19**	**4.48%**
Totals for Project Study Area			**562.64**	**100%**

0 250 500 Feet

N

River Shores Trl

Rive Isle Run

Fort Hamer

Ft. Hamer Park

MANATEE RIVER

Fort Hamer Rd

US Highway 301 N

River Wilderness Golf & Country Club

Twin Rivers Preserve & Gamble Creek

Waterlefe Golf & River Club

34

20

99

34

34

34

24

24

100

11

20

Riverbank Ter

The Cape at Waterlefe

The Shores at Waterlefe

26

7

6

20

26

48

26

Upper Manatee River Rd

Gates Creek Rd

Gates Creek

The Meadows at Waterlefe

Source: Nearmap WMS (2023), NRCS

Legend

- Preferred Alternative
- Project Study Area

NRCS Soil: Description

- 6: Broward variant fine sand
- 7: Canova, Anclote, and Okeelanta soils
- 11: Cassia fine sand, 0 to 2 percent slopes
- 20: Delray-EauGallie complex
- 24: Felda-Wabasso association, frequently flooded
- 26: Floridana-Immokalee-Okeelanta association
- 34: Okeelanta muck, tidal
- 48: Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes
- 99: Water
- 100: Waters of the Gulf of Mexico

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Manatee County FLORIDA

NRCS Soils Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-1 - Page 1 of 6

0 250 500 Feet

N

Little Country Rd

Creole Ct

Little Country Rd

Fort Hamer Rd

US Highway 301 N

River Wilderness Golf & Country Club

Twin Preserve at Gamble Creek

Fort Hamer

Twin River Preserve at Gamble Creek

Waterlefe Golf & River Club

20

38

7

7

38

34

Shores Trl

Fort Hamer

Ft. Hamer Park

Rive Isle Run

MANATEE RIVER

Fort Hamer Rd

99

Hidden Harbour Park

34

34

34

24

24

100

Waterlefe Golf & River Club

11

20

MANATEE RIVER

The Cape at terlefe

Waterlefe Golf & River Club

Source: Nearmap WMS (2023), NRCS

Legend

- Preferred Alternative
- Project Study Area

NRCS Soil: Description

- 7: Canova, Anclote, and Okeelanta soils
- 11: Cassia fine sand, 0 to 2 percent slopes
- 20: Delray-EauGallie complex
- 24: Felda-Wabasso association, frequently flooded
- 34: Okeelanta muck, tidal
- 38: Palmetto sand
- 99: Water
- 100: Waters of the Gulf of Mexico

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Manatee County FLORIDA

NRCS Soils Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-1 - Page 2 of 6

0 250 500 Feet

N

Little Country Rd

Red Leaf Rd

Woodland Fern Dr

Fort Hamer Rd

Williams Elementary

River Wilderness Golf & Country Club

US Highway 301 N

Fort Hamer

Twin River Preserve at Gamble Creek

Waterlefe Golf & River Club

The Hammocks at River Wilderness

Chelsea Oaks

122nd Pl E

Oak Ridge Dr

Little Country Rd

Creole Ct

Mulholland Rd

123rd Pl E

124th Ave E

24th St E

125th Dr E

23rd St E

River Plantation

22nd Ct E

23rd St E

124th

38

26

7

26

20

7

38

7

34

38

Legend

Preferred Alternative

Project Study Area

NRCS Soil: Description

7: Canova, Anclote, and Okeelanta soils

20: Delray-EauGallie complex

26: Floridana-Immokalee-Okeelanta association

34: Okeelanta muck, tidal

38: Palmetto sand

Source: Nearmap WMS (2023), NRCS

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Manatee County FLORIDA

NRCS Soils Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-1 - Page 3 of 6

0 250 500 Feet

N

Major Turner Run

Kingsfield Dr

Berkeley Dr

Colyar Ln

Banbury Cir

Larson Ln

Malickson Dr

Fort Hamer Rd

42nd St E

Sea Marsh Pl

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve a Gamble Cre

Waterlefe Golf & River Club

Old Tampa Rd

Glenridge Ln

Little Country Rd

Red Leaf Rd

Woodland Fern Dr

Williams Elementary

Chelsea Oaks

122nd Pl E

The Hammocks at River Wilderness

Oak Ridge Dr

Mulholland R

25 48 17 20 1 16 38 26 7

Legend

- Preferred Alternative
- Project Study Area

NRCS Soil: Description

- 7: Canova, Anclote, and Okeelanta soils
- 11: Cassia fine sand, 0 to 2 percent slopes
- 16: Delray complex
- 17: Delray-EauGallie complex
- 20: Delray-EauGallie complex
- 25: Floridana fine sand, 0 to 2 percent slopes
- 26: Floridana-Immokalee-Okeelanta association
- 38: Palmetto sand
- 48: Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes

Source: Nearmap WMS (2023), NRCS

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Manatee County FLORIDA

NRCS Soils Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-1 - Page 4 of 6

0 250 500 Feet

N

Lakeside Preserve

56th St E

301

Red Rooster Rd

120th Ave E

Fort Hamer Rd

123rd Ave E

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve & Gamble Creek

Waterlefe Golf & River Club

Golf Course Rd

Major Turner Run

Kingsfield Dr

Berkeley Dr

Colyar Ln

Banbury Cir

Larson Ln

Malickson Dr

42nd St E

Cedar Pass Trl

Sea Marsh Pl

Golden Creek Ter

Old Tampa Rd

Little Country Rd

38
26
20
7
25
4
48
17
20
11
16
38
20
26

Source: Nearmap WMS (2023), NRCS

Legend

- Preferred Alternative
- Project Study Area

NRCS Soil: Description

- 4: Bradenton fine sand, 0 to 2 percent slopes
- 7: Canova, Anclote, and Okeelanta soils
- 11: Cassia fine sand, 0 to 2 percent slopes
- 16: Delray complex
- 17: Delray-EauGallie complex
- 20: Delray-EauGallie complex
- 25: Floridana fine sand, 0 to 2 percent slopes
- 26: Floridana-Immokalee-Okeelanta association
- 38: Palmetto sand
- 48: Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes

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Manatee County FLORIDA

NRCS Soils Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-1 - Page 5 of 6

0 250 500 Feet

N

US Highway 301 N

121st Ave E

64th St

Wade Canal

Darsey Rd

Bella Rd

Doris Rd

301

20

11

38

26

7

25

4

48

17

Lakeside Preserve

56th St E

120th Ave E

Red Rooster Rd

Fort Hamer Rd

54th Ct E

123rd Ave E

Golf Course

Major Turner Run

River Wilderness Golf & Country Club

Fort Hamer

Waterlefe Golf & River Club

Twin River Preserve & Gamble Cre

Legend

- Preferred Alternative
- Project Study Area

NRCS Soil: Description

- 4: Bradenton fine sand, 0 to 2 percent slopes
- 7: Canova, Anclote, and Okeelanta soils
- 11: Cassia fine sand, 0 to 2 percent slopes
- 17: Delray-EauGallie complex
- 20: Delray-EauGallie complex
- 25: Floridana fine sand, 0 to 2 percent slopes
- 26: Floridana-Immokalee-Okeelanta association
- 38: Palmetto sand
- 48: Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes

Source: Nearmap WMS (2023), NRCS

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Manatee County FLORIDA

NRCS Soils Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-1 - Page 6 of 6

3.2.2 Existing Land Use

Existing land use within the project study area was determined through the interpretation of aerial photography, review of land cover GIS data obtained from the SWFWMD, and field reconnaissance of the project study area conducted on September 13, 2023, October 11, 2023, January 25, 2024, and August 13, 2024. Land uses were characterized using their FLUCFCS Descriptions.

A total of 14 upland habitat types or developed land uses and 11 wetland and surface water habitat types were identified within the project study area. **Figure 3-2 FLUCFCS Map** depicts the boundaries of existing land uses within the project study area. **Appendix B** provides individual land use descriptions as well as their general characteristics and locations within the project study area. **Table 3-2** provides land use and habitat types and their FLUCFCS classifications, in addition to their total acreage and percent coverage within the project study area.

Upland communities comprise 429.24 acres (76.29 percent) of the project study area and generally include residential, commercial and services, educational facilities, religious facilities, recreational areas, golf courses, open land, pastureland, shrub and brushland, pine – mesic oak, upland hardwood coniferous mix, mixed hardwoods, and transportation. Wetland and surface water communities comprise 133.40 acres (23.71 percent) of the project study area and are generally comprised of streams and waterways, reservoirs, bays and estuaries, mangrove swamps, stream and lake swamp bottomland, exotic wetland hardwoods, wetland forested mixed, freshwater marshes, saltwater marshes, and emergent aquatic vegetation.

Table 3-2. Existing Land Uses within the Project Study Area

FLUCFCS Classification	FLUCFCS Description	USFWS Classification[1]	Acreage within Study Area	Percent of Study Area
110	Residential Low Density < 2 Dwelling Units Per Acre	N/A	107.36	19.08%
120	Residential Med Density 2 To 5 Dwelling Units Per Acre	N/A	146.65	26.06%
140	Commercial And Services	N/A	5.15	0.91%
171	Educational Facilities	N/A	9.63	1.71%
172	Religious	N/A	8.13	1.44%
180	Recreational	N/A	8.61	1.53%
182	Golf Courses	N/A	10.48	1.86%
190	Open Land	N/A	41.74	7.42%
210	Cropland and Pastureland	N/A	31.60	5.62%
320	Shrub and Brushland	N/A	2.59	0.46%
414	Pine – Mesic Oak	N/A	2.03	0.36%
434	Upland Hardwood – Coniferous Mix	N/A	3.18	0.57%
438	Mixed Hardwoods	N/A	9.87	1.75%
810	Transportation	N/A	42.23	7.50%
		Total Uplands	**429.24**	**76.29%**

FLUCFCS Classification	FLUCFCS Description	USFWS Classification[1]	Acreage within Study Area	Percent of Study Area
510	Streams and Waterways	R4SBC	2.58	0.46%
530	Reservoirs	PUBHx	45.23	8.04%
540	Bays and Estuaries	E1UBL	29.86	5.31%
612	Mangrove Swamps	E2FO3	2.26	0.40%
615	Streams and Lake Swamps – Bottomland	PFO1Fd	21.47	3.82%
619	Exotic Wetland Hardwoods	E2FO1N	1.74	0.31%
630	Wetland Forested Mixed	PFO1/3Cd	12.03	2.14%
641	Freshwater Marshes	PEM1C	3.23	0.57%
642	Saltwater Marshes	E2EM1N	13.06	2.32%
643	Wet Prairies	PEM1A	0.02	0.004%
644	Emergent Aquatic Vegetation	PUBHx	1.92	0.34%
Total Wetlands and Surface Waters			**133.40**	**23.71%**
Total			**562.64**	**100%**

R4SBC: Riverine, Intermittent, Streambed, Seasonally Flooded

PUBHx: Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated

E1UBL: Estuarine, Subtidal, Unconsolidated Bottom, Subtidal

E2FO3: Estuarine, Intertidal, Forested, Broad-Leaved Evergreen

PFO1Fd: Palustrine, Forested, Broad-Leaved Deciduous, Semipermanently Flooded, Partly Drained/Ditched

E2FO1N: Estuarine, Intertidal, Forested, Broad-Leaved Deciduous, Regularly Exposed

PFO1/3Cd: Palustrine, Forested, Broad-Leaved Deciduous/Evergreen, Seasonally Flooded, Partly Drained/Ditched

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded

E2EM1N: Estuarine, Intertidal, Emergent, Persistent, Regularly Exposed

PEM1A: Palustrine, Emergent, Persistent, Temporarily Flooded

0 250 500 Feet

N

River Shores Trl

Rive Isle Run

Fort Hamer

Ft. Hamer Park

MANATEE RIVER

Fort Hamer Rd

US Highway 301 N

River Wilderness Golf & Country Club

Twin River Preserve at Gamble Creek

Waterlefe Golf & River Club

The Cape at Waterlefe

Riverbank Ter

The Shores at Waterlefe

Upper Manatee River Rd

Gates Creek Rd

Gates Creek

The Meadows at Waterlefe

615 530 530 190 190 190 810 530 190 180 530 530 530 434 320 642 434 630 630 612 642 642 182 642 540 642 642 642 612 615 540 642 630 619 642 642 612 182 810 120 530 438 110 810 120 810 182 810 190 643 210 530 630 630 182 438 530 630 630 190 110 190 210 438 110

Source: Nearmap WMS (2023), FWC, USFWS

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density
- 120: Residential Medium Density
- 180: Recreational
- 182: Golf Courses
- 190: Open Land
- 210: Cropland and Pastureland
- 320: Shrub and Brushland
- 434: Upland Hardwood - Confierous Mix
- 438: Mixed Hardwoods
- 530: Reservoirs
- 540: Bays and Esturaries
- 612: Mangrove Swamps
- 615: Stream and Lake Swamps (Bottomlands)
- 619: Exotic Wetland Hardwoods
- 630: Wetland Forested Mixed
- 642: Saltwater Marshes
- 643: Wet Prairies
- 810: Transportation

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Manatee County FLORIDA

Florida Land Use, Covers and Forms Classification System Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-2 - Page 1 of 6

0 250 500 Feet

N

Little Country Rd

Creole Ct

Little Country Rd

Fort Hamer Rd

US Highway 301 N

River Wilderness Golf & Country Club

Twin River Preserve at Gamble Creek

Fort Hamer

Waterlefe Golf & River Club

Fort Hamer

Ft. Hamer Park

Rive Isle Run

MANATEE RIVER

Hidden Harbour Park

Waterlefe Golf & River Club

The Cape at Waterlefe

MANATEE RIVER

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Source: Nearmap WMS (2023), FWC, USFWS

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

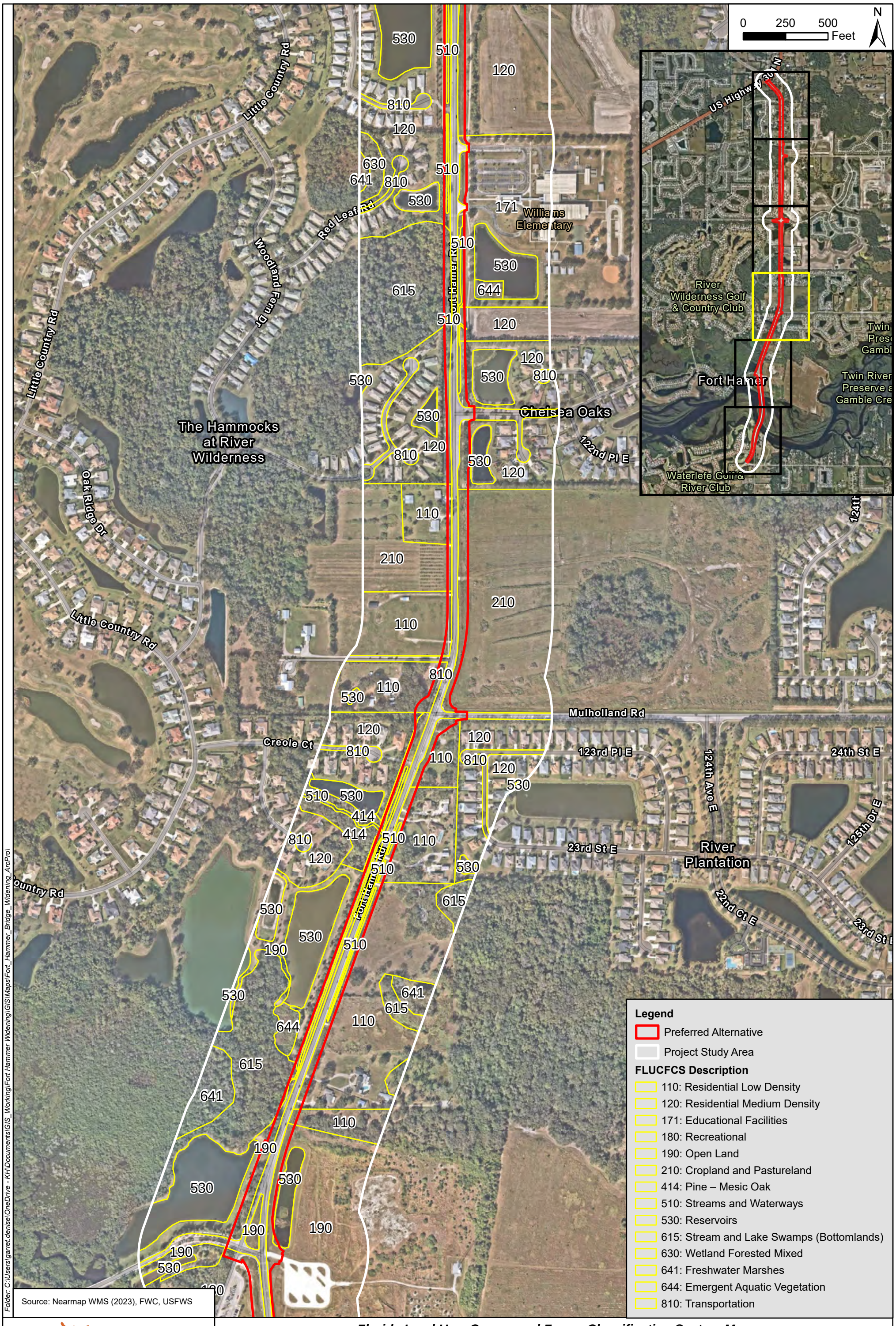
- 110: Residential Low Density
- 120: Residential Medium Density
- 180: Recreational
- 182: Golf Courses
- 190: Open Land
- 210: Cropland and Pastureland
- 320: Shrub and Brushland
- 414: Pine – Mesic Oak
- 434: Upland Hardwood - Confierous Mix
- 438: Mixed Hardwoods
- 510: Streams and Waterways
- 530: Reservoirs
- 540: Bays and Esturaries
- 612: Mangrove Swamps
- 615: Stream and Lake Swamps (Bottomlands)
- 619: Exotic Wetland Hardwoods
- 630: Wetland Forested Mixed
- 641: Freshwater Marshes
- 642: Saltwater Marshes
- 644: Emergent Aquatic Vegetation
- 810: Transportation

Manatee County FLORIDA

Florida Land Use, Covers and Forms Classification System Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-2 - Page 2 of 6



Source: Nearmap WMS (2023), FWC, USFWS

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Manatee County FLORIDA

Florida Land Use, Covers and Forms Classification System Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-2 - Page 3 of 6

0 250 500 Feet

N

Major Turner Run

Kingsfield Dr

Berkeley Dr

Colyar Ln

Banbury Cir

Larson Ln

Matheson Dr

Fort Hamer Rd

42nd St E

Sea Marsh Pl

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve at Gamble Creek

Waterlefe Golf & River Club

Old Tampa Rd

Little Country Rd

Red Leaf Rd

Woodland Fern Dr

Oak Ridge Dr

The Hammocks at River Wilderness

Williams Elementary

Chelsea Oaks

Glenridge Ln

122nd Pl E

Mulholland

630 120 510 110 530 120 120 530 530 120 530 644 120 530 530 630 810 510 530 810 120 810 630 641 810 510 530 171 510 530 644 510 120 530 120 810 530 120 530 110 210 110 530 110 120 190 110 120

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density
- 120: Residential Medium Density
- 171: Educational Facilities
- 190: Open Land
- 210: Cropland and Pastureland
- 510: Streams and Waterways
- 530: Reservoirs
- 615: Stream and Lake Swamps (Bottomlands)
- 630: Wetland Forested Mixed
- 641: Freshwater Marshes
- 644: Emergent Aquatic Vegetation
- 810: Transportation

Source: Nearmap WMS (2023), FWC, USFWS

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Manatee County FLORIDA

Florida Land Use, Covers and Forms Classification System Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-2 - Page 4 of 6

0 250 500 Feet

N

Lakeside Preserve

56th St E

Red Rooster Rd

120th Ave E

Fort Hamer Rd

123rd Ave E

Golf Course Rd

Major Turner Run

Kingsfield Dr

Berkeley Dr

Colyar Ln

Banbury Cir

Larson Ln

Matchson Dr

42nd St E

Sea Marsh Pl

Cedar Pass Trl

Golden Creek Ter

Old Tampa Rd

Little Country Rd

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Waterlefe Golf & River Club

Twin River Preserve & Gamble Cre

Twin Pres Gambl

438 120 530 190 110 190 120 172 530 530 110 530 110 190 530 120 530 630 110 530 190 630 530 510 110 630 120 510 530 120 810 530 120 530 644 120 530 530 630 810 510 120 530 810 510 171

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density
- 120: Residential Medium Density
- 171: Educational Facilities
- 172: Religious
- 190: Open Land
- 438: Mixed Hardwoods
- 510: Streams and Waterways
- 530: Reservoirs
- 630: Wetland Forested Mixed
- 641: Freshwater Marshes
- 644: Emergent Aquatic Vegetation
- 810: Transportation

Source: Nearmap WMS (2023), FWC, USFWS

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Manatee County FLORIDA

Florida Land Use, Covers and Forms Classification System Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-2 - Page 5 of 6

0 250 500 Feet

N

US Highway 301 N

64th St

121st Ave E

Wade Canal

Darsey Rd

Doris Rd

Bella Rd

Fort Hamer Rd

Lakeside Preserve

56th St E

Red Rooster Rd

120th Ave E

54th Ct E

123rd Ave E

124th Ave E

51st St E

Major Turner Run

River Wilderness Golf & Country Club

Twin Rivers Preserve & Gamble Creek

Waterlefe Golf & River Club

110 140 530 810 140 810 120 190 438 530 190 110 120 530 120 172 530 530 110 190 530 630 110 530 190 530 530 630 190 510 630 120 510 110 120 530 120

Legend

- Preferred Alternative
- Project Study Area

FLUCFCS Description

- 110: Residential Low Density
- 120: Residential Medium Density
- 140: Commercial and Services
- 172: Religious
- 190: Open Land
- 438: Mixed Hardwoods
- 510: Streams and Waterways
- 530: Reservoirs
- 630: Wetland Forested Mixed
- 810: Transportation

Source: Nearmap WMS (2023), FWC, USFWS

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Manatee County FLORIDA

Florida Land Use, Covers and Forms Classification System Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-2 - Page 6 of 6

3.2.3 Wetlands and Surface Waters

Approximate wetland boundaries were delineated within the project study area during field reviews on September 13, 2023, October 11, 2023, January 25, 2024, and August 13, 2024; however, they have not been reviewed or approved by regulatory agencies. Formal wetland boundary delineations and surveys will need to be completed as part of the state and federal permit process during the final design phase of the project.

Based on collected field data and desktop reviews, a total of 11 wetland and surface water habitat types were identified within the project study area. These included eight wetland types and three surface water types. The wetland types were classified as mangrove swamp, stream and lake swamp bottomland, exotic wetland hardwoods, wetland forested mixed, freshwater marshes, saltwater marshes, wet prairies, and emergent aquatic vegetation. The surface waters included streams and waterways, reservoirs, and estuaries.

Appendix C provides individual descriptions of all identified wetlands and surface waters within the project study area, and **Figure 3-3 Wetlands and Surface Waters Map** shows the location of the systems present within the Preferred Alternative. There are no wetlands or surface waters designated as Outstanding Florida Waters, Aquatic Preserves, or Wild and Scenic Rivers within the project study area.

0 150 300 Feet

N

SW-11

WL-27

WL-4

WL-2

SW-11

WL-12

WL-1

WL-8

WL-26

WL-25

WL-31

WL-10

Waterlefe Golf & River Club

The Cape at Waterlefe

Big Bass Pl

Rainbow Ct

Winding Stream Way

Upper Manatee River Rd

Gates Creek

US Highway 301 N

River Wilderness Golf & Country Club

Fort Hamer

Twin River Preserve a Gamble Cre

Twin Pres Gamb

Waterlefe Golf &

Legend

- Preferred Alternative
- Surface Water
- Wetland Boundary

Source: Nearmap WMS (2023)

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Manatee County FLORIDA

Wetland and Surface Water Map

Fort Hamer Road PD&E (FPID# 452775-3-22-01)
Manatee County, Florida

1 IN = 300 FT	*PROJECT NUMBER: 148400120*	*MAY 2024*	*FIGURE 3-3 - Page 1 of 5*

0 150 300 Feet

N

Little Country Rd

SW-1

SW-3

SW-2

Fort Hamer Rd

WL-5

US Highway 301 N

River Wilderness Golf & Country Club

Twin Pres Gamb

Fort Hamer

Twin River Preserve a Gamble Cre

Waterlefe Golf &

Ft Hamer Rd

OSW-8

Rive Isle Run

Rive Isle Run

Ft. Hamer Park

Fort Hamer Rd

Fort Hamer Rd

WL-30

WL-3

Hido

SW-11

WL-27

WL-4

WL-2

Legend

- Preferred Alternative
- Surface Water
- Other Surface Water
- Wetland Boundary

Source: Nearmap WMS (2023)

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Manatee County FLORIDA

Wetland and Surface Water Map

Fort Hamer Road PD&E (FPID# 452775-3-22-01)
Manatee County, Florida

1 IN = 300 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-3 - Page 2 of 5

0 150 300 Feet

N

WL-6

SW-6

SW-5

Woodland Fern Dr

The Hammocks at River Wilderness

Maple Ridge Dr

Woodland Fern Dr

Fort Hamer Rd

Chel

US Highway 301

River Wilderness Golf & Country Club

Twin Pres Gamb

Fort Hamer

Twin River Preserve a Gamble Cre

Waterlefe Golf &

Mulholland Rd

Creole Ct

Fort Hamer Rd

123rd Pl E

124th Ave E

Chardonnay Ter

23rd St E

SW-4

SW-1

SW-3

123rd Ter E

SW-2

Fort Hamer Rd

Source: Nearmap WMS (2023)

Legend

- Preferred Alternative
- Surface Water
- Wetland Boundary

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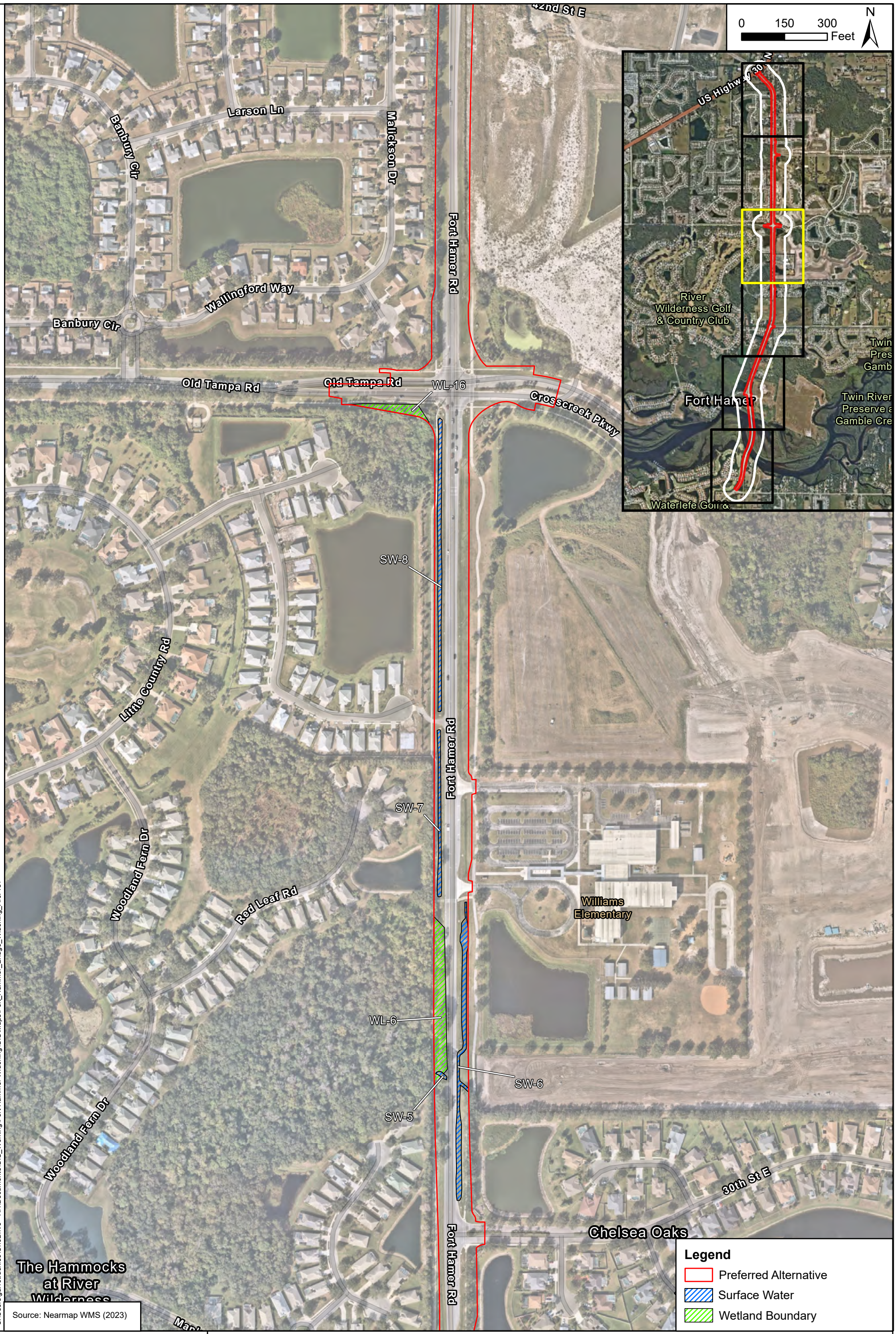
Manatee County FLORIDA

Wetland and Surface Water Map

Fort Hamer Road PD&E (FPID# 452775-3-22-01)
Manatee County, Florida

1 IN = 300 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-3 - Page 3 of 5



Manatee County FLORIDA

Wetland and Surface Water Map

Fort Hamer Road PD&E (FPID# 452775-3-22-01)
Manatee County, Florida

1 IN = 300 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 3-3 - Page 4 of 5

0 150 300 Feet

N

720th Ave E

Fort Hamer Rd

Wildcat Blvd

Wildcat Blvd

US Highway 301 N

River Wilderness Golf & Country Club

Twin Pres Gamb

Fort Hamer

Twin River Preserve a Gamble Cre

Waterlefe Golf &

OSW-32

SW-9

WL-19

SW-10

Summerlake Cir

Warwick Cir

Warwick Cir

Kingsfield Dr

Berkeley Dr

Fort Hamer Rd

Cedar Pass Trl

Sea Marsh Pl

42nd St E

Sea Marsh Pl

Larson Ln

Banbury Cir

Malickson Dr

Wallingford Way

Fort Hamer Rd

Source: Nearmap WMS (2023)

Legend

- Preferred Alternative
- Surface Water
- Other Surface Water
- Wetland Boundary

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Manatee County FLORIDA

Wetland and Surface Water Map

Fort Hamer Road PD&E (FPID# 452775-3-22-01)
Manatee County, Florida

1 IN = 300 FT	*PROJECT NUMBER: 148400120*	*MAY 2024*	*FIGURE 3-3 - Page 5 of 5*

4.0 PROTECTED SPECIES

This project was evaluated for impacts to protected species and habitat resources, in accordance with 50 CFR Part 402 of the Endangered Species Act (ESA) of 1973, as amended, the Florida Endangered and Threatened Species Act, Section 379.2291, F.S.), and the PD&E Manual. Listed species are afforded special protective status by federal and state agencies. This special protection is federally administered by the United States Department of the Interior, USFWS, and National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA-NMFS) pursuant to the Endangered Species Act of 1973 (as amended). The USFWS administers the federal list of animal species (50 CFR 17) and plant species (50 CFR 23). Federal protection of managed marine species is the responsibility of the NOAA-NMFS.

Administered by the Florida Fish and Wildlife Conservation Commission (FWC), the State of Florida affords special protection to animal species designated as state designated Threatened pursuant to Chapter 68A-27, F.A.C. The State of Florida also protects and regulates plant species designated as endangered, threatened or commercially exploited as identified on the Regulated Plant Index (5B-40.0055, F.A.C.), which is administered by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry, pursuant to Chapter 5B-40, F.A.C. Protected species evaluations were completed in accordance with FHWA's 2002 Memorandum, titled "Management of the Endangered Species Act Environmental Analysis and Consultation Process." Species that are federally listed species are also considered state listed species (Chapter 68A-27.003(b)).

The project is located within the USFWS Consultation Areas (CAs) of three federally protected species, the Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), Florida scrub-jay (*Aphelocoma coerulescens*), and Audubon's crested caracara (*Caracara cheriway*), and within the Core Foraging Area (CFA) of one wood stork (*Mycteria americana*) colony.

An ETDM Advance Notification Package was published on November 20, 2023 containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. The USFWS, FWC, FDACS, and SWFWMD were commenting agencies for Protected Species and Habitat. Protected Species and Habitat were assigned a Summary Degree of Effect of Moderate. Non-listed rare plants were not identified by stakeholders in the ETDM Programming Screen Summary Report process. The following ETAT comments were provided for consideration:

- Conduct wildlife surveys should be conducted to determine the occurrence of protected species both along the corridor right-of-way and within sites proposed for drainage retention areas;
- Surveys for rare and listed plants should be conducted and protected or translocated to a suitable alternative site, if present;
- Any lost suitable wood stork foraging habitat should be mitigated in the same core foraging area;
- FDOT should prepare a Biological Assessment for the project during the PD&E process.

The following sections describe the methodology used to assess the potential for occurrence of protected species and to identify the effects that implementation of the proposed project alternatives may have on protected species.

4.1 Methodology

Available site-specific data was collected and evaluated to determine federal and state listed protected plant and animal species that have potential to occur within the project study area and to identify the approximate locations of existing upland and wetland communities.

Literature reviewed, and databases searched as part of this evaluation included:

- USFWS, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12, July 2022;
- Florida Natural Areas Inventory (FNAI) *Biodiversity Matrix*, September 2023, (https://www.fnai.org/BiodiversityMatrix/index.html);
- USFWS, Information for Planning and Consultation (IPaC) data, (https://ipac.ecosphere.fws.gov/), September 2023;
- FWC, *Florida's Endangered Species and Threatened Species*, December 2022;
- FWC, *Terrestrial Resources Geographic Information System* (http://ocean.floridamarine.org/TRGIS/Description_Layers_Terrestrial.htm), September 2023;
- Audubon Florida EagleWatch Public Nest website (https://www.arcgis.com/apps/webappviewer/index.html?id=9ade9794b8494d2b84c8dea339ea1428), 2023;
- USFWS, 2010-2019 Wood Stork Nesting Colonies Maps (http://fgdl.org), September 2023*;*
- USFWS, Critical Habitat Portal website (http://criticalhabitat.fws.gov/crithab/), September 2023.
- Review of *Proposed New Crossing of the Manatee River. Biological Assessment. 2014*.

Environmental scientists familiar with Florida natural communities conducted field reviews of the project study area and adjacent habitats and general species surveys on September 13, 2023, October 11, 2023, January 25, 2024, and August 13, 2024. Field reviews consisted of reviewing natural habitat types located within the project study area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. During field investigations, upland and wetland communities within the project study area were visually inspected. Attention was given to identifying dominant plant species composition for each community. Additional attention was given to identifying wildlife and signs of wildlife usage in each wetland and upland community identified within the project study area. The FNAI Biodiversity Matrix and USFWS IPaC data were reviewed for potential occurrences of listed species within one mile of the project study area (see **Appendix D**).

Based on the evaluation of collected data, field reviews, and database searches, the federal and state listed protected species discussed in **Section 4.2** were considered as having the potential to occur within or adjacent to the project study area. For a species to be considered potentially present the project study area must be within the species' distribution range. An effect determination was then made for each federal and state listed species based on an analysis of the potential impacts of the Preferred Alternative to each species.

4.2 Results

Based on the information collected and field reviews, a list of protected species with the potential to occur within the project study area was generated. This list includes a total of 44 federal or state listed species that have the potential for occurrence within the project study area. These protected species include 14 floral, two piscine, four mammalian, seven reptilian, and 17 avian species. **Table 4-1** presents a list of protected species with the potential to occur within the project study area, their federal or state protection status, suitable habitat, and a ranking of potential occurrence. Locations of all listed species documented within one mile of the project study area as well as the locations of all protected species observed during field reviews are also provided in **Figure 4-1 Listed Species Map**.

The potential for occurrence for each species was designated as No, Low, Moderate, or High based on the type of habitat present within the project study area, its relative condition, and if the species has been previously documented or was observed within the project study area. A *No* rating indicates that no habitat for that species was found within the project study area. A *Low* rating indicates that minimal/suboptimal habitat for that species was found within the project study area, but the species has not been documented within the project study area. A *Moderate* rating indicates that suitable habitat exists, and the species has been documented within one mile of the project study area. A *High* rating indicates that suitable habitat exists, and the species was observed during field reviews.

While the proposed project has taken all practicable measures to avoid and minimize impacts to potentially occurring protected species and their habitats, unavoidable impacts may occur because of roadway and pond site construction. A determination of the anticipated project effect on protected species was made based on their probability of occurrence within the project study area, the proposed changes to their habitat quality, quantity, and availability as a result of project construction, and how each species is expected to respond to anticipated habitat changes. Listed below are the effect determinations for each species.

Table 4-1. Protected Species Potential for Occurrence

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Flora					
Celestial lily (*Nemastylis floridana*)	NL	SE	E	Wet flatwoods, prairies, marshes, and cabbage palm hammocks edges	Low
Florida bonamia (*Bonamia grandiflora*)	FT	FT	T	Open and disturbed areas in white sand scrub on central Florida ridges that include scrub oaks, sand pine, and lichens	No
Florida golden aster (*Chrysopsis floridana*)	FE	FE	E	Open areas in scrub	No
Florida perforate cladonia (*Cladonia perforata*)	FE	FE	E	Rosemary scrub on the Panhandle coasts, Lake Wales Ridge, and Atlantic Coast Ridge	Low
Florida spiny-pod (*Matelea floridana*)	NL	SE	E	Occurs on a variety of wooded habitats from fairly moist woods to upland hardwood forests	Low
Giant orchid (*Pteroglossaspis ecristata*)	NL	ST	T	Sandhill, scrub, pine flatwoods, and pine rocklands	No
Large-plumed beaksedge (*Rhynchospora megaplumosa*)	NL	SE	E	Sands and sandy peats of pine flatwoods scrub and flatwoods-sandscrub transition	No
Many-flowered grass-pink (*Calopogon multiflorus*)	NL	ST	T	Well-drained soils of open, damp to somewhat drier pine savannas-flatwoods and meadows	No
Nodding pinweed (*Lechea cernua*)	NL	ST	T	Deep sands, usually ancient dunes, on which the most common forest is a mixture of evergreen scrub oaks	No
Pinewoods bluestem (*Andropogon arctatus*)	NL	ST	T	Open flatwoods, savanna, sand pine scrub, and can be found in seepage bogs	No
Pygmy fringe tree (*Chionanthus pygmaeus*)	FE	FE	E	Scrub, sandhills, hammocks, flatwoods, and transition zones between these habitats	No
Redmargin Zephyrlily (*Zephyranthes simpsonii*)	NL	ST	T	Peaty or sandy pastures, mowed roadsides, and pine savannas in the coastal plain of the southeastern United States	Low
Sand butterfly pea (*Centrosema arenicola*)	NL	SE	E	Sandhill, scrubby flatwoods, dry upland woods	No

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Sanibel Island lovegrass (*Eragrostis pectinacea* var. *tracyi*)	NL	SE	E	Disturbed sites such as roadsides, railroad embankments, gardens, and cultivated fields	Low
Avian					
Audubon's crested caracara (*Caracara cheriway*)	FT	FT		Wet prairies with cabbage palms, wooded areas with saw palmetto, cypress, scrub oaks, and pastures	Low
Bald eagle * (*Haliaeetus leucocephalus*)	NL	NL		Open country such as dry prairie and pasture lands with scattered cabbage palm, cabbage palm/live oak hammocks, and shallow ponds and sloughs; cabbage palms or live oaks with low-growing surrounding vegetation are required for nesting	Moderate
Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	FT	FT		Salt and brackish marshes with dense cover but can also be found in upland areas of these marshes	Low
Everglade snail kite (*Rostrhamus sociabilis plumbeus*)	FE	FE		Large freshwater lakes and marshes; favors shallow waters, with stands of sawgrass and cattails mixed with areas of open water and with a few shrubs or low trees	No
Florida burrowing owl (*Athene cunicularia floridana*)	NL	ST		Wide-open, sparsely vegetated areas like prairies, deserts, grasslands and agricultural fields	Low
Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)	FE	FE		Large treeless grasslands dominated by bunch grasses, low shrubs, and saw palmetto with enough interspersed bare ground to forage effectively	No
Florida sandhill crane (*Antigone canadensis pratensis*)	NL	ST		Freshwater marshes, prairies, and pastures	Moderate
Florida scrub-jay (*Aphelocoma coerulescens*)	FT	FT		Sand pine and xeric oak scrub, and scrubby flatwoods	No
Least tern (*Sternula antillarum*)	NL	ST		Areas along the coasts of Florida including estuaries and bays, as well as areas around rivers in the Great Plains	Low
Little blue heron (*Egretta caerulea*)	NL	ST		Fresh, salt, and brackish water environments including swamps, estuaries, ponds, lakes, and rivers	Low

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Piping plover (*Charadrius melodus*)	FT	FT		Sandy beaches, sand flats, and mudflats along coastal areas	No
Reddish egret (*Egretta rufescens*)	NL	ST		Coastal areas, mainly on estuaries near mangroves, and lagoons, but they can also be found on dredge spoiled islands	Moderate
Roseate spoonbill (*Platalea ajaja*)	NL	ST		Forages in shallow water with muddy bottom, in both salt and fresh water, including tidal ponds, coastal lagoons, extensive inland marshes; nests in colonies, in Florida mainly in red mangroves	Low
Rufa red knot (*Calidris canutus rufa*)	FT	FT		Coastal marine and estuarine habitats with large areas of exposed intertidal sediments	Low
Southeastern American kestrel (*Falco sparverius paulus*)	NL	ST		Open woodlands, sandhill, and fire-maintained savannah pine habitats; will also use alternative habitats which include pastures and open fields located in residential areas	Low
Tricolored heron (*Egretta tricolor*)	NL	ST		Fresh, salt, and brackish water environments including swamps, estuaries, ponds, lakes, and rivers	Low
Wood stork (*Mycteria americana*)	FT	FT		Nest in mixed hardwood swamps, sloughs, mangroves, and cypress domes/strands in Florida; forage in a variety of wetlands including both freshwater and estuarine marshes, although limited to depths less than 10-12 inches	Moderate
Reptilian					
Eastern indigo snake (*Drymarchon couperi*)	FT	FT		Pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps	Low
Florida pine snake (*Pituophis melanoleucus mugitus*)	NL	ST		Dry, upland areas with well-drained, sandy soils, characterized by pine-dominated or pine-oak woodland	Low
Gopher tortoise (*Gopherus polyphemus*)	NL	ST		Open areas of pine scrub habitat, sandhills, and scrub and disturbed areas such as abandoned fields, roadsides, and fire lanes	High
Green sea turtle (*Chelonia mydas*)	FT	FT		In U.S. Atlantic and Gulf of Mexico waters, found in inshore and nearshore waters from Texas to Maine, the U.S. Virgin Islands, and Puerto Rico	Low

Species	Designated Status			Habitat Preference	Potential for Occurrence
	Federal	State	FDACS		
Hawksbill sea turtle (*Eretmochelys imbricata*)	FE	FE		Found primarily on reefs in the Florida Keys and along the southeastern Atlantic coast	Low
Kemp's ridley sea turtle (*Lepidochelys kempii*)	FE	FE		Neritic waters off the Gulf of Mexico and the western North Atlantic Ocean	Low
Loggerhead sea turtle (*Caretta caretta*)	FT	FT		Atlantic and Gulf of Mexico beaches host one of the largest loggerhead nesting aggregations in the world	Low
Mammalian					
Florida black bear ** (*Ursus americanus floridanus*)	NL	NL		Can be found almost anywhere in Florida, they prefer a mixture of flatwoods, swamps, scrub oak ridges, bayheads and hammock habitats	Low
Florida bonneted bat (*Eumops floridanus*)	FE	FE		Forage in a variety of habitats including semitropical forests with tropical hardwood, pineland, and mangrove habitats, as well as man-made areas such as golf courses and neighborhoods; roosts in tree cavities and buildings	Low
Tricolored bat (*Perimyotis subflavus*)	PE	NL		Roosts in caves, tree foliage, tree cavities, and occasionally buildings and other man-made structures	Low
West Indian manatee (Florida manatee) (*Trichechus manatus* (*latirostris*))	FT	FT		Shallow, slow-moving waters of rivers, estuaries, saltwater bays, canals, and coastal areas	High
Piscine					
Gulf sturgeon (*Acipenser oxyrinchus desotoi*)	FT	FT		Migrate into brackish and salt water during the fall and feed there throughout the winter months. In the spring, they migrate into freshwater rivers and remain there through the summer months	Low
Smalltooth sawfish (*Pristis pectinata*)	FE	FE		Juveniles inhabit estuaries, river mouths, and bays year-round; Adults primarily inhabit open-water habitats	Low

FE: Federally Endangered; PE: Proposed Endangered; FT: Federally Threatened; FT(S/A): Federally Threatened due to Similarity of Appearance;
SE: State Endangered; ST: State Threatened; NL: Not Listed
*Protected by the Bald and Golden Eagle Protection Act (BGEPA), Migratory Bird Treaty Act (MCTA), and the Florida Eagle Rule (F.A.C. 68A-16.002)
**Protected by the Florida Black Bear Conservation Rule (F.A.C. 68A-4.009)

0 2,000 4,000 Feet

N

Moccasin Wallow Rd

US Highway 301 N

State Road 62

MN054

Parrish

MN017

Long Lake

River Wilderness Golf & Country Club

Twin Rivers Preserve at Gamble Creek

Fort Hamer

MN013

River Strand Golf & Country Club

Waterlefe Golf & River Club

Rye

Bennett Park

Heritage Harbour

E State Road 64

64

Stoneybrook Golf Course

Bob Gardner Community Park

Legend

- Eagle Nest Location Map
- Gopher Tortoise Burrow Location
- Wood Stork Sighting
- 2 Mile Buffer
- Preferred Alternative

Source: Nearmap WMS 2023, EagleWatch

Project boundary falls within the Consultation Areas of the Florida Scrub Jay and Crested Caracara as well as the Grasshopper Sparrow.

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Manatee County FLORIDA

Listed Species Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 4,000 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 4-1

4.2.1 Federal Protected Species

4.2.1.1 Flora

Florida Bonamia (*Bonamia grandiflora*)

The Florida bonamia is a morning glory vine with large, blue flowers that is listed as ***threatened*** by the **USFWS**. This species is a member of the morning-glory (*Convolvulaceae*) family and occurs on open or disturbed areas in white sand scrub on central Florida ridges that include scrub oaks, sand pine, and lichens. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, Florida bonamia has not been documented historically within one mile of the project study area and was not observed during the field reviews of the project study area. Based on this information and the lack of preferred habitat within the project study area, it has been determined that the project will have "**no effect**" on the Florida bonamia.

Florida Goldenaster (*Chrysopsis floridana*)

The Florida golden aster is a perennial herb with small, golden flowers that is listed as ***endangered*** by the **USFWS**. This species is a member of the daisy (*Asteraceae*) family and occurs on sunny, bare patches of sand in sand pine scrub and scrubby flatwoods, as well as disturbed areas of loose sand. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, Florida golden aster has not been documented historically within one mile of the project study area. Based on this information and the lack of preferred habitat within the project study area, it has been determined that the project will have "**no effect**" on the Florida golden aster.

Florida Perforate Cladonia (*Cladonia perforata*)

The Florida perforate cladonia, also known as reindeer lichen, is a short lichen that is listed as ***endangered*** by the **USFWS**. This species is a member of the lichen (*Cladoniaceae*) family and occurs in rosemary scrub habitat on the Florida panhandle coast, on the Lake Wales Ridge, and on the Atlantic Coastal Ridge. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, Florida perforate cladonia has not been documented historically within one mile of the project study area. Based on this information, it has been determined that the project will have "**no effect**" on the Florida perforate cladonia.

Pygmy Fringe Tree (*Chionanthus pygmaeus*)

The pygmy fringe tree is a shrub/small tree with white and green flowers that is listed as ***endangered*** by the **USFWS**. This species is a member of the olive (*Oleaceae*) family and occurs on scrub, sandhill, and xeric hammocks, primarily on the Lake Wales Ridge. The USFWS IpaC data indicates that project study area is within the habitat range of the pygmy fringe tree. However, no individuals or suitable habitat for this species were observed during field reviews. Additionally, according to FNAI data, the pygmy fringe tree has not been documented within one mile of the project study area. Based on this information, it has been determined that the project will have "**no effect**" on the pygmy fringe tree.

4.2.1.2 Fauna

Piscine

Gulf Sturgeon (*Acipenser oxyrinchus desotoi*)

The gulf sturgeon is a sub-species of the Atlantic sturgeon that is listed as ***threatened*** by the **USFWS**. This species can be found from Lake Pontchartrain and the Pearl River system in Louisiana and Mississippi to the Suwannee River in Florida. Sturgeon are anadromous, a term used to describe fish that spend a significant part of their lives in saltwater, yet travel upstream in freshwater rivers to spawn. According to FNAI data, this species was listed as potentially occurring within one mile of the project study area. No gulf sturgeon were observed during field reviews; however, large wetland and surface water systems along the Manatee River were observed during fieldwork that provide suitable habitat and it is reasonable to expect that this species could utilize suitable habitat within the project study area. Based on this information, it has been determined that the project "**may affect, not likely to adversely affect**" the gulf sturgeon.

Smalltooth Sawfish (*Pristis pectinata*)

The smalltooth sawfish is listed as ***endangered*** by the **NMFS**. This species inhabits shallow coastal areas, estuaries, and river mouths wherever water temperatures range from 22-28°C. In Florida, they occur along the Atlantic and Gulf coasts but are more common along the peninsular tip of Florida. The project is not located within the USFWS designated Critical Habitat for the smalltooth sawfish. No smalltooth sawfish were observed during field reviews and no individuals have been documented within one mile of the project site, according to FNAI data; however, large wetland and surface water systems along the Manatee River were observed, including mangrove habitat, during fieldwork that provide suitable habitat for this species. Based on this, it is reasonable to expect that this species could utilize suitable habitat within the project study area. It is recommended that the NMFS *Sea Turtle and Smalltooth Sawfish Construction Conditions* (**Appendix E**) be implemented for any proposed in-water work.

Manatee County commits to reinitiating consultation during design and permitting with NMFS for the smalltooth sawfish and providing the information necessary to determine the type, degree, and extent of potential impacts to the smalltooth sawfish from the proposed project. Manatee County will develop mitigation measures in consultation with the NMFS to offset unavoidable impacts. Completion of consultation and documentation of the project's compliance with the avoidance, minimization, and mitigation requirements for the impacted resources will be provided by Manatee County prior to advancing to construction. Based on the preliminary review and commitments, it is anticipated the proposed project "**may affect, not likely to adversely affect**" the smalltooth sawfish.

Reptilian

Eastern Indigo Snake (*Drymarchon couperi*)

The eastern indigo snake is a large, glossy black snake that is listed as ***threatened*** by the **USFWS**. This species can be found in a variety of habitat types, including pine flatwoods, scrubby

flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, as well as human-altered habitats. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures within its range. According to FNAI data, this species has the potential to occur within the project study area. While there is suitable habitat for this species throughout the undeveloped areas of the project study area, the eastern indigo snake was not observed during field reviews and has not been documented within one mile of the project study area. However, it is reasonable to expect that this species could utilize suitable habitat within the project study area.

To minimize potential adverse impacts to the eastern indigo snake, the most recent version of the USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be utilized during construction (see **Appendix F**). Additionally, surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC. With the implementation of these measures, it has been determined that the project "**may affect, not likely to adversely affect**" the eastern indigo snake. The path to this determination followed the *Eastern Indigo Snake Programmatic Effect Determination Key* (North Florida Ecological Service Office), steps A →B→C→D→MANLAA as shown in **Appendix F**.

Sea Turtles – Loggerhead Sea Turtle (*Caretta caretta*), Green Sea Turtle (*Chelonia mydas*), Hawksbill Sea Turtle (*Eretmochelys imbricata*), and Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)

The loggerhead is a large sea turtle with a large head and reddish-brown carapace and is listed as ***threatened*** by **USFWS**. A considerable portion of the loggerhead diet is comprised of jellyfish, though they also consume crabs, pelagic snails, barnacles, and other organisms. Loggerhead sea turtles inhabit the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans and nest on beaches from Texas to Virginia within the continental United States. Nesting concentrations occur on the coastal islands of North Carolina, South Carolina, and Georgia, and on the Atlantic and Gulf coasts of Florida, with approximately 80% of the nesting activity occurring in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward counties.

The green sea turtle is a moderate-sized sea turtle with a heart-shaped shell and is listed as ***threatened*** by **USFWS**. This species can be found in tropical, subtropical, and temperate oceans of the world. These turtles are often found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets; they are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. Adult green sea turtles average between 3 to 4 feet in length and weighs 300 to 350 pounds.

The hawksbill sea turtle has an irregularly patterned, brown, carapace (upper shell) that is sharply serrated and somewhat heart shaped and is listed as ***endangered*** by **USFWS**. They have a white to yellow plastron (lower shell) and the upper jaw is narrowly pointed as a beak, giving the turtle its name. Hawksbills inhabit marine coastal and oceanic waters, and are commonly associated with coral reefs, keys, and mangroves. While inhabiting these areas, their diet consists primarily

of sponges. These sea turtles nest on sandy beaches and nesting in Florida is largely restricted to the southeastern coast between Volusia and Dade Counties, and Monroe County.

The Kemp's ridley sea turtle is the rarest and smallest of the sea turtles, with adults reaching about 2 feet in length and weighing up to 100 pounds. The Kemp's ridley is listed as ***endangered*** by **USFWS**. Adults of this species have an oval carapace that is almost as wide as it is long and is usually olive-gray in color. Nesting females have a unique synchronized nesting behavior, where they gather near the nesting beach and come ashore during the day in large groups; these group nesting events are called "arribadas". While juveniles can be found in association with floating Sargassum algae, adult Kemp's ridleys primarily occupy neritic habitats in the Gulf of Mexico. These turtles are shallow water benthic feeders with a diet consisting primarily of crustaceans, as well as mollusks, jellyfish, and sea urchins.

While nesting habitat is not present within the project site, potential foraging habitat is present within the aquatic portions of the project site for these sea turtle species (loggerhead sea turtle, green sea turtle, hawksbill sea turtle, and Kemp's ridley sea turtle). No sea turtle mortalities have been documented within one mile of project site. The probability of occurrence of sea turtles within the project study area has been determined to be *low*. The *NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office)* (**Appendix G**) will be adhered to during construction of the proposed project. Based on this information, it has been determined that the project will have "**no effect**" on the loggerhead sea turtle, green sea turtle, hawksbill sea turtle, and Kemp's ridley sea turtle.

Avian

Audubon's Crested Caracara (*Caracara cheriway*)

The Audubon's crested caracara (crested caracara) is a large, boldly patterned raptor with a crest that is listed as ***threatened*** by the **USFWS**. This species often inhabits open country, such as dry prairie and pasture lands with scattered cabbage palms, cabbage palm/live oak hammocks, and shallow ponds and sloughs. It also requires cabbage palms or live oaks with low-growing surrounding vegetation for nesting. The project study area lies within the USFWS Crested Caracara CA. No nesting habitat was observed for this species within the project study area or the proposed pond locations. Furthermore, the potential foraging habitats identified near Hidden Harbor Park were determined to be fragmented and suboptimal for foraging, due to the presence of dense patches of cogongrass (*Imperata cylindrica*) and other invasive exotics in the segments of open land within project study area. Additionally, according to FNAI data, the crested caracara has not been documented within one mile of the project study area, and no individuals were observed during field reviews. Based on this information, it is anticipated the project will have "**no effect**" on the crested caracara.

Eastern Black Rail (*Laterallus jamaicensis* ssp. *jamaicensis*)

The eastern black rail is a wetland dependent bird that is listed as ***threatened*** by the **USFWS**. This species requires dense overhead cover and soils that are moist to saturated and interspersed with very shallow water (< 6 centimeters). The vegetative structure and depth of water is most important in determining suitable habitat for this species. If there are open patches within the vegetative structure, the eastern black rail is less likely to utilize the habitat as it increases the

chance of predation. Additionally, if the water depth is greater than 6 cm these birds have a hard time traversing the area and reduces the reproductive success of the species. Along the south Atlantic, eastern black rail habitat can include the upland areas of salt and brackish marshes. Potential habitat for this species was initially identified based on desktop reviews of the wetlands within the project study area. A biologist reviewed aerial drone footage within the project study area and potential appropriate vegetative structure for this species was identified.

Based on this, a field review was conducted to verify the vegetative structure and evaluate the onsite hydrologic conditions of the potential habitat. The field review was conducted on August 13, 2024, during the high tide of a waxing gibbous moon between 0600 and 0730 hours. The nearest NOAA station data (Station ID: 8726278 Redfish Point, Manatee River, FL) marked the high tide on that day to be +2.15ft at 0719 hours. The survey of the habitat showed the vegetative structure had open areas where patches of water could be observed and hydrology was approximately 15 inches above the substrate. Therefore, it was determined that this wetland did not have suitable habitat for the eastern black rail. Representative photographic data and water depth measurements were collected within this wetland (see ***Appendix H***). Additionally, no individuals were seen or heard during the field reviews, and the eastern black rail has not been documented within one mile of the project study area, according to FNAI data. Based on this information, it is anticipated that the project will have "**no effect**" on the eastern black rail.

Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)

The Everglade snail kite is listed as ***endangered*** by **USFWS** due to degradation of its restricted range of foraging habitat and its highly specific diet, which is made up almost exclusively of apple snails (*Pomacea paludosa*). Everglade snail kites typically prefer large, open, freshwater marshes and shallow lakes (< 4 ft. deep) with a low density of emergent vegetation and typically nest in low trees or shrubs over water (commonly willow, wax myrtle, pond apple, or buttonbush, but also in non-woody vegetation like cattail or sawgrass). Everglade snail kites do not exhibit fidelity to a specific nest site from year to year.

Marginal suitable habitat exists within the project area, and the project study area is not located within the USFWS Everglades Snail Kite CA. Furthermore, no individuals were observed during field reconnaissance or species surveys, and no evidence of apple snails was observed. According to FNAI data, no Everglade snail kites have historically been documented within one mile of the project study area. Therefore, it has been determined that the proposed project will have "**no effect**" on the Everglade snail kite.

Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)

The Florida grasshopper sparrow is a small, short-tailed, flat-headed sparrow that is listed as ***endangered*** by the **USFWS**. This species requires large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging. It may persist in pasture lands that have not been intensively managed. A small section (approximately 55-acres) of the northern extents of the project study area is located within the USFWS Florida Grasshopper Sparrow CA. However, no suitable habitat for this species is present within this portion of the study area. The potential foraging habitat identified during preliminary desktop reviews was not located within the CA and subsequent field reviews determined these areas to be fragmented and containing dense patches

of cogongrass. Additionally, no individuals were observed during field reviews. According to FNAI data, the Florida grasshopper sparrow has not been documented within one mile of the project study area and the species is not known to occur in Manatee County. Based on this information, it has been determined that the project will have "**no effect**" on the Florida grasshopper sparrow.

Florida Scrub-Jay (*Aphelocoma coerulescens*)

The Florida scrub-jay is similar to the common blue jay in size and shape, with a pale blue crestless head, nape, wings, and tail. It is listed as ***threatened*** by the **USFWS**. Optimal Florida scrub-jay habitat consists of low growing, scattered scrub species with patches of bare sandy soil such as those found in sand pine scrub and scrubby flatwoods habitats that are occasionally burned. In areas where these types of habitats are unavailable, Florida scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks. The project study area is located within the USFWS Florida Scrub-jay CA. However, no individuals or potential habitat for this species was observed within the project study area during field reviews. According to FNAI data, the Florida scrub-jay has not been documented within one mile of the project study area. Based on this information, it has been determined that the project will have "**no effect**" on the Florida scrub-jay.

Piping Plover (*Charadrius melodus*)

The piping plover is a small plover with a short, stout, black bill, yellow to greenish-olive legs, and very pale upperparts that is listed as ***threatened*** by the **USFWS**. This species can be found on open, sandy beaches and on tidal mudflats and sandflats along both coasts. The project study area is not located within the USFWS Piping Plover CA. No potential habitat for this species was observed within the project study area and no individuals were observed during the field reviews. According to FNAI data, the piping plover has not been documented within one mile of the project study area. Based on this information, it has been determined that the project will have **"no effect"** on the piping plover.

Rufa Red Knot (*Calidris canutus rufa*)

This small, plump shorebird with mottled gray back plumage and a rust-colored breast is listed as ***threatened*** by the **USFWS**. The red knot migrates through Florida during winter where it utilizes non-vegetated to sparsely vegetated tidal mudflats and sand flats along inlets and creeks for foraging. Suitable foraging habitat is present within the project study area for this species; however, there have been no documented sightings of the red knot within one mile of the project site, and no individuals were observed during field reconnaissance. Based on this information, it has been determined that the project **"may affect, not likely to adversely affect"** the rufa red knot.

Wood Stork (*Mycteria americana*)

The wood stork is a large, white, wading bird that is listed as ***threatened*** by the **USFWS**. The wood stork is opportunistic and utilizes various habitat types including freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures, and ditches. Water that is relatively calm, uncluttered by dense aquatic vegetation, and with a permanent or seasonal water depth between 2 and 15 inches is considered suitable foraging habitat for this species. According to FNAI data,

the wood stork has not been documented within one mile of the project study area. However, suitable foraging habitat for this species was observed within the project study area. Additionally, one individual was observed during field reviews.

According to the USFWS wood stork colony website, the project study area is located within the core foraging area (CFA) of one active wood stork colony: the Ayers Point – Dot Dash colony. This nesting colony has a 15-mile CFA buffer; however, the colony is located approximately six miles from the project study area (**Figure 4-2 - Wood Stork Core Foraging Areas Map**). The primary concern for this species is loss of suitable foraging habitat within the CFA of a wood stork colony. Since anticipated impacts are more than 0.5 acres, a wood stork suitable foraging analysis was completed (**Appendix I**). There are 5.43 acres of wetlands or surface waters that could be utilized by the wood stork for foraging in the Preferred Alternative. Wood stork foraging biomass productivity is calculated based on hydroperiods of class of affected wetlands. The Preferred Alternative may impact 0.02 acres of short hydroperiod wetlands and 5.41 acres of long hydroperiod wetlands and result in the net loss of 21.78 kg total (fish and crayfish) biomass.

Manatee County will provide mitigation for impacts to wood stork Suitable Foraging Habitat within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank. Therefore, it has been determined that the proposed project "**may affect, not likely to adversely affect**" the wood stork. The path to this determination followed the USFWS *Effect Determination Key for the Wood Stork in Central and North Peninsular Florida*, steps A→B→C→D→E→*NLAA* as shown in **Appendix I**.

Mammalian

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat is listed as ***endangered*** by the **USFWS** and is the largest bat species endemic to Florida. This species occurs as far south as Miami-Dade County and Monroe County and as far north as Osceola and Polk Counties. This species is known to roost in natural tree cavities and tree cavities created by woodpeckers and other species. The Florida bonneted bat has been detected foraging in a variety of habitats including semitropical forests with tropical hardwood, pineland, and mangrove habitats, as well as man-made areas such as golf courses and neighborhoods. Potential foraging and roosting habitat for this species exists within the study area. However, the project study area is not located within the USFWS Florida Bonneted Bat CA, no evidence of individuals was observed during field reviews, and no observations have been documented within the one mile of the study area. Therefore, it was determined that project will have **"no effect"** on the Florida bonneted bat.

Tricolored bat (*Perimyotis subflavus*)

The tricolored bat is a ***proposed endangered*** species for federal listing with the **USFWS**; this species is not state listed but has state protections per Chapter 68A of the Florida Administrative Code. It is Florida's smallest bat and distinguished by its unique tricolored fur and pink forearms that contrast their black wings. This wide-ranging species is found throughout the central and eastern United States, and portions of Canada, Mexico, and Central America. Typically hibernating in caves and mines during the winter, tricolored bats in the southern U.S. have an

0 2 4 Miles

N

Project Area

Source: Nearmap WMS 2023, FGDL

Legend

- Preferred Alternative
- Ayers Point - Dot Dash Core Foraging Area
- Ayers Point - Dot Dash Colony

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Manatee County FLORIDA

Wood Stork Core Foraging Areas Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 in = 4 miles	*PROJECT NUMBER: 148400120*	*MAY 2024*	*FIGURE 4-2*

increased utilization of culverts as hibernacula, with shorter hibernation durations and increased winter activity. The tricolored bat is mostly associated with forested habitats and requires habitat suitable for roosting, foraging, and commuting between winter and summer habitats. Roosting singly or in small groups, the tricolored bat prefers to roost in caves, tree foliage, tree cavities, Spanish moss, and man-made structures such as buildings and culverts. They form summer colonies in forested habitats, utilizing cavities, bark, and foliage. They forage most commonly over water courses and along forest edges.

Potential roosting and foraging habitat was observed within the project study area; however, the project corridor is mostly developed. If the listing status of the tricolored bat is elevated by USFWS to threatened or endangered and the proposed site is located within the consultation area during the design and permitting phase of the proposed project, Manatee County commits to reinitiating consultation with the USFWS to determine the appropriate survey methodology and to address USFWS regulations regarding the protection of the tricolored bat.

West Indian (Florida) Manatee (*Trichechus manatus (latirostris)*)

The Florida manatee is a large gray, nearly hairless, aquatic mammal that is listed as ***threatened*** by the **USFWS**. The manatee is an herbivorous marine mammal typically found in coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms of the Gulf of Mexico and the Atlantic Ocean. No individuals were observed during field reconnaissance, however suitable habitat is present within the project study area for this species, and there have been documented sightings of the manatee within one mile of the project study area. Additionally, the project study area is located within USFWS Critical Habitat for the West Indian manatee and within a FWC Manatee Protection Zone. The most recent version of the USFWS- and FWC-approved *Standard Manatee Conditions for In-Water Work* will be adhered to during construction of the proposed project (**Appendix J**). Based on this information, it has also been determined that the proposed project activities **"may affect, not likely to adversely affect"** the West Indian manatee.

4.2.2 State Protected Species

4.2.2.1 Flora

Celestial Lily (*Nemastylis floridana*)

The celestial lily is a perennial herb with a single, tall, slender stem and a dark blue flower that is listed as ***endangered*** by the **FDACS**. This species is a member of the iris (*Iridaceae*) family and occurs in wet flatwoods, prairies, marshes, and cabbage palm hammocks edges. Suitable habitat for this species was observed within the project study area. Additionally, according to FNAI data, the celestial lily has the potential to occur within the project study area; however, it has not been documented within one mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the celestial lily.

Florida Spiny-Pod (*Matelea floridana*)

The Florida spiny-pod is a deciduous herbaceous vining plant that is listed as ***endangered*** by the **FDACS**. This species is a member of the milkweed (*Asclepiadaceae*) family and occurs on a variety of wooded habitats from fairly moist woods to upland hardwood forests. Suitable habitat for this species was observed within the project study area. According to FNAI data, the Florida spiny-pod has the potential to occur within the project study area, but it has not been documented within one mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the Florida spiny-pod.

Giant Orchid (*Pteroglossaspis ecristata*)

The giant orchid is a perennial herb with yellow-green flowers twisted in towards the stalk that is listed as ***threatened*** by the **FDACS**. This species is a member of the orchid (*Orchidaceae*) family. This species occurs on sandhill, scrub, pine flatwoods, and pine rocklands. Potential suitable habitat for this species was not observed within the project study area. According to FNAI data, the giant orchid has the potential to occur within the project study area, but it has not been documented within one mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have **"no effect anticipated"** on the giant orchid.

Large-Plumed Breaksedge (*Rhynchospora megaplumosa*)

The large-plumed beaksedge is a perennial herb that often forms in clumps with short leaves which form rosettes and a single flowering stem. This species is listed as ***endangered*** by the **FDACS**. This species is a member of the sedges (*Cyperaceae*) family and occurs in sands and sandy peats of pine flatwoods scrub and flatwoods-sandscrub transition. Suitable habitat for this species was not observed within the project study area. According to FNAI data, the large-plumed beaksedge has the potential to occur within the project study area, but it has not been documented within one mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have "**no effect anticipated**" on the large-plumed beaksedge.

Many-Flowered Grass-Pink (*Calopogon multiflorus*)

The many-flowered grass-pink is a small plant with grass like leaves and dark pink flowers that is listed as ***threatened*** by the **FDACS**. This species is a member of the orchid (*Orchidaceae*) family and occurs on dry to moist flatwoods with longleaf pine, saw palmetto, and wiregrass. Suitable habitat for this species was not observed within the project study area. According to FNAI data, the many-flowered grass-pink has the potential to occur within the project study area, but it has not been documented within one mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have "**no effect anticipated**" on the many-flowered grass-pink.

Nodding Pinweed (*Lechea cernua*)

The nodding pinweed is a small erect forb that is listed as ***threatened*** by the **FDACS**. This species is a member of the rock-rose (*Cistaceae*) family and is found in deep sands, usually ancient dunes, on which the most common forest is a mixture of evergreen scrub oaks. Suitable habitat for this species was not observed within the project study area. According to FNAI data, the nodding pinweed has not been historically documented within one mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it has been determined that the project will have **"no effect anticipated"** on the nodding pinweed.

Pinewoods bluestem (*Andropogon arctatus*)

The pinewoods bluestem is listed as ***threatened*** by the **FDACS**. This species is a member of the grass (*Poaceae*) family and is often found in open, wiregrass-dominated areas with widely spaced pines, often in the ecotone between flatwoods and wet prairies. Suitable habitat for this species was not observed within the project study area. According to FNAI data, the pinewoods bluestem has not been historically documented within one mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it had been determined that the project will have **"no effect anticipated"** on the pinewoods bluestem.

Redmargin Zephyrlily (*Zephyranthes simpsonii*)

The redmargin zephyrlily is listed as ***threatened*** by the **FDACS**. This species is a member of the lily (*Liliaceae*) family and is found in hydric flatwoods and meadows, as well as in ditches and hydric pastures. Limited suitable habitat for this species was observed within the project study area. According to FNAI data, the redmargin zephyrlily has not been historically documented within one mile of the project study area. Additionally, this species was not observed during the field reviews of the project study area. Based on this information, it had been determined that the project will have **"no adverse effect anticipated"** on the redmargin zephyrlily.

Sand Butterfly Pea (*Centrosema arenicola*)

The sand butterfly pea is a large perennial vine with purplish-blue flowers that is listed as ***endangered*** by the **FDACS**. This species is a member of the pea (*Fabaceae*) family and typically occurs on sandhill, scrubby flatwoods, and dry upland woods. Limited suitable habitat for this species was observed within the project study area. According to FNAI data, the sand butterfly pea has the potential to occur within the project study area, but it has not been documented within one mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the sand butterfly pea.

Sanibel Lovegrass (*Eragrostis pectinacea* var. *tracyi*)

The Sanibel lovegrass is listed as ***endangered*** by the **FDACS**. This species is a member of the grass (Poaceae) family and occurs on drier, compact soils of disturbed beach dunes, maritime hammocks, coastal strands, coastal grasslands, roadsides, railroad embankments, gardens, and

cultivated fields. Limited suitable habitat for this species was observed within the project study area. According to FNAI data, the Sanibel lovegrass has the potential to occur within the project study area, but it has not been documented within one mile of the project study area. During field reviews, this species was not observed within the project study area. Based on this information, it has been determined that the project will have **"no adverse effect anticipated"** on the Sanibel lovegrass.

4.2.2.2 Fauna

Reptilian

Florida Pine Snake (*Pituophis melanoleucus mugitus*)

The Florida pine snake is listed as ***threatened*** by the **FWC**. This species inhabits areas that feature well-drained sandy soils with a moderate to open canopy, such as xeric hammock and scrub habitat. The pine snake occurs throughout Florida, excluding the Everglades. Limited and fragmented suitable habitat for this species was observed within the project study area. Additionally, according to FNAI data, individuals have not been documented within one mile of the project study area. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the Florida pine snake.

Gopher Tortoise (*Gopherus polyphemus*)

The gopher tortoise is listed as ***threatened*** by the **FWC**. This species requires well-drained and loose sandy soils for burrowing and low-growing herbs and grasses for food. These conditions are best found in the sandhill (longleaf pine-xeric oak) community, although tortoises are known to use many other habitats including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods, and ruderal sites. Suitable habitat for this species was observed within the project study area. According to FNAI data, individuals have not been documented within one mile of the project study area. However, two gopher tortoise burrows were observed within the project study area during field reviews (see **Figure 4-1**). Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC. With the implementation of these measures, it has been determined that this project will have "**no adverse effect anticipated**" on the gopher tortoise.

Avian

Florida Burrowing Owl (*Athene cunicularia floridana*)

The Florida burrowing owl is a small, ground-dwelling owl that is listed as ***threatened*** by the **FWC**. This species requires areas of short, herbaceous groundcover such as prairies, sandhills, and farmland. They often dig their own burrow and line the entrance with decorative materials prior to laying eggs at the bottom of the burrow. Limited suitable habitat for this species was observed within the project study area; however, no individuals were observed during field reviews. According to FNAI data, no individuals have been documented within one mile of the project study area. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the Florida burrowing owl.

Florida Sandhill Crane (*Antigone canadensis pratensis*)

The Florida sandhill crane is a tall, long-necked, long-legged crane that is listed as ***threatened*** by the **FWC**. This species requires wet and dry prairies, marshes, and marshy lake edges. Nests are generally a mound of herbaceous plant material in shallow water or on the ground in marshy areas. According to FNAI data, no individuals have been documented within one mile of the project study area. However, suitable habitat was observed within the project study area and individuals were observed in the vicinity of the project study area. Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, Manatee County will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. With the implementation of these measures, it has been determined that the project will have "**no adverse effect anticipated**" on the Florida sandhill crane.

Least Tern (*Sternula antillarum*)

This light gray bird with a black cap and nape, white forehead and black line running from the crown through eye to base of bill is listed as ***threatened*** by the **FWC**. The preferred nesting habitat for this species is sparsely vegetated coastal beaches above the high tide line; however, they will also build nests on gravel rooftops and recently disturbed baren soils. The least tern forages in nearshore open water habitats by diving into the water after prey. During construction, Manatee County will ensure that any stockpile areas are covered when not in use to avoid potential least tern nesting, which occurs April through August. With the implementation of these measures, it has been determined that the project will have "**no adverse effect anticipated**" on the least tern.

Southeastern American Kestrel (*Falco sparverius paulus*)

The southeastern American kestrel is the smallest falcon in United States. It is listed as ***threatened*** by the **FWC**. Kestrels are secondary cavity nesters using abandoned woodpecker cavities and prefer to nest in open pine habitats, woodland edges, prairies, and pastures throughout much of Florida. Nest sites are in tall dead trees or utility poles generally with an unobstructed view of surroundings. Sandhill habitats seem to be preferred, but kestrels have been observed in flatwoods settings. Open patches of grass or bare ground are necessary for kestrels to effectively utilize flatwoods settings, since thick palmettos may prevent detection of prey. According to FNAI data, no individuals have been documented within one mile of the project study area. Within the project study area, suitable habitat for the southeastern American kestrel was observed but is limited, and cavity trees were not observed during field reviews. No individuals or nests were observed during field reviews. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the southeastern American kestrel.

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

The little blue heron, tricolored heron, reddish egret, and roseate spoonbill are listed as ***threatened*** by the **FWC**. The limpkin (*Aramus guarauna*), snowy egret (*Egretta thula*), and white

ibis (*Eudocimus albus*) are listed as ***species of special concern*** by the **FWC**. While each species is distinct, wading birds are discussed collectively since they occupy similar habitats and have similar feeding patterns. These wading birds nest and forage among both fresh and saltwater habitats such as freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies, and bay swamps. The populations of these species have been primarily impacted by the destruction of wetlands for development and by the drainage of wetlands for flood control and agriculture. Suitable habitat for these species is present within the project study area. According to FNAI data and the FWC Wading Bird Rookery Database, none of these species or rookeries have been documented within one mile of the project study area.

The primary concern for impacts to these species is the loss of foraging habitat (wetlands). As part of implementing the proposed project, all wetland impacts will be mitigated to prevent a net loss of wetland habitat functions and values. Since the mitigation of impacts will be undertaken by Manatee County, it has been determined that the proposed project will have "**no adverse effect anticipated**" on the little blue heron, tricolored heron, reddish egret, and roseate spoonbill.

4.2.3 Other Species of Concern

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle is a large raptor with a distinctive white head and yellow bill. This species has been federally de-listed by the USFWS. However, it remains federally protected under the Bald and Golden Eagle Protection Act (BGEPA) in accordance with the 16 United States Code 668 and the Migratory Bird Treaty Act of 1918. In addition, the FWC has implemented a bald eagle management plan. The bald eagle tends to utilize riparian habitat associated with coastal areas, lake shorelines, and riverbanks. Nests are generally located near water bodies that provide a dependable food source. Nests within Florida are monitored by the Florida Audubon. The Florida Audubon also maintains a website of known bald eagle nest locations, which was last updated in 2023.

According to this database, one active bald eagle nest is located within the project study area. This bald eagle nest, ID MN013, is located approximately 0.5 miles west of the Fort Hamer bridge and was documented as occupied during the 2022-2023 nesting season (see **Figure 4-1**). Surveys to update locations of active bald eagle nest sites will be conducted during the design phase, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place, as necessary.

Florida Black Bear (*Ursus americanus floridanus*)

The Florida black bear was removed from the FWC list of state threatened species in August 2012; however, the Florida black bear remains protected under other rules and regulations, primarily through the Florida Black Bear Conservation Rule 68A-4.009 (F.A.C.) and the FWC Florida Black Bear Management Plan. Based on these regulations, pursuing, hunting, molesting, capturing, killing, or attempting those actions, whether or not such actions result in possession of the bear, is unlawful. In addition, Rule 68A-4.009, F.A.C., generally prohibits anyone from possessing, injuring, shooting, wounding, trapping, collecting, or selling bears or their parts or attempting to engage in such actions without prior authorization from FWC. Black Bear

Management Units (BMU) have also been established based on the seven geographically distinct bear subpopulations in Florida. The project study area is located within the South Central BMU.

Black bears are adaptable and inhabit a variety of forested habitats including seasonally inundated pine flatwoods, tropical hammocks, hardwood swamps, mangrove swamps, and xeric sand pine-scrub oak communities. Suitable habitat for this species was observed within the project study area. However, based on a review of GIS databases, there are no reported bear telemetry, nuisance reports, or road kills within one mile of the project study area. Additionally, no black bears or evidence of black bears were observed during field reconnaissance. Manatee County will require contractors to remove garbage daily from the construction site or use bear proof containers for securing of food and other debris from the project work area to prevent these items from becoming an attractant for the Florida black bear. Any interaction with nuisance bears will be reported to the FWC Wildlife Alert hotline 888-404-FWCC (3922). By adhering to these Best Management Practices, the project is anticipated to have **no anticipated impacts** on the Florida black bear.

4.2.4 Non-Listed Rare Plants

Non-listed rare native plant species are generally not afforded the type of protection that state or federally protected listed plant or wildlife species are. However, some non-listed rare plants or species of interest/concern are considered important to native plant organizations or members of the public interested in plant conservation (stakeholders).The FDOT Office of Environment Management (OEM) partnered with the Florida Wildflower Foundation (FWF) and the Florida Native Plant Society (FNPS) to form the Native Florida Plants FDOT Working Group. Through the working group, the FWF and FNPS can engage and review projects early in the process so that their comments regarding potential plants of concern can be considered by FDOT. The working group also includes representatives from FDACS to ensure the procedures under 581.185 Florida Statutes and Chapter 5B-40, F.A.C. are followed.

FDACS recommended surveys for rare and listed plants be conducted, and if present, plants should be protected or translocated to a suitable alternative site by a qualified organization such as the FDOT working group. No non-listed rare plants were identified by stakeholders in the ETDM Programming Screen Summary Report process as having the potential to occur within the project study area. Additionally, the Peninsular Florida Genera of Concern List (2021) provided by FNPS was reviewed and the genera identified within the report were not observed during field reviews.

4.2.5 Critical Habitat

The project study area was evaluated for the occurrence of Critical Habitat as defined by the Endangered Species Act of 1973 as amended and 50 CFR part 424. The USFWS and NMFS have the authority to protect critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of listed species. Critical Habitat is defined as the specific areas within the geographical area occupied by a species. This habitat has those physical or biological features essential to the conservation of the species and which defined may require special management considerations or protection. Final Critical Habitat for the West Indian manatee is located within the project study area (see **Figure 4-3 - West Indian Manatee Protection Areas and Mortality Map**) starting from the Lake Manatee Dam

downstream to the Gulf of Mexico. No other designated critical habitat occurs within the project study area.

Submerged aquatic vegetation (SAV) is an important food source for the West Indian manatee. Within the waters of the Manatee River within the project study area, sparce (less than 10%), narrow strips of submerged aquatic vegetation (widgeon grass (*Ruppia cirrhosa*)) were previously identified, prior to the construction of the Fort Hamer Bridge, along the shore of a peninsula. The widgeon grass identified in this area occurred in patches of generally short, thin bladed stems and leaves that show signs of stress from wave energy. Manatee County will survey for SAV during the design phase and during the appropriate season, per USACE SAV Survey Guidelines. Coordination with the USFWS and NMFS will take place, as necessary. The presence of any submerged aquatic vegetation potentially occurring within the project area currently will be determined by an SAV Survey performed between June 1 and September 30 during the design and permitting phase of the project. Potential impacts will be assessed and will be compensated for in the mitigation plan.

It was originally determined that the proposed construction of the Fort Hamer Bridge *"may affect, but is not likely to adversely affect"* the final critical habitat for the West Indian manatee. The USFWS concurred with this determination in 2001 when the project was proposed by the FHWA/FDOT (see **Appendix K**, FWS letter dated October 3, 2001). The proposed bridge widening analyzed in this PD&E Study is not anticipated to deviate substantively from the original construction conditions and impacts of the Fort Hamer Bridge; Based on this information, it has been determined the proposed project would result in ***no adverse modification or destruction of critical habitat*** for the West Indian manatee.

0 750 1,500 Feet

N

Old Tampa Rd
Old Tampa Woods
Old Tampa Rd
Silkwood Way
Brookridge
Wilderness Blvd W
Wilderness Blvd E
Little Country Rd
Fort Hamer Rd
Williams Elementary
The Hammocks at River Wilderness
Chelsea Oaks
ver Woods
River Wilderness Golf & Country Club
28th Street Cir E
Forrest Ln
Savannah Lakes
Island Estates Dr
Creole Ct
Little Country Rd
Fort Hamer Rd
Mulholland Rd
Mulholland Rd
Mulholland Preserve
22nd Ct
River Plantation
22nd Ct E
20th St E
Twin R
Preser
Gamble
Harbourside Ln
Rio Vista Ter
Rio Vista Ter
Fort Ham r
Hidden Harbour Park
Twin Rivers Preserve at Gamble Creek
Riverbank Ter
The Cape at Waterlefe
The Shores at Waterlefe
Waterlefe
Upper Manatee River Rd
Upper Manatee Ri
The Glades at Waterlefe
The Arbors at Waterlefe
Waterlefe Golf & River Club
Gates Creek Rd
Greyhawk Blvd
128th St NE
133st Ct NE
134th St NE
7th Ave NE
Daisy Pl
The Oaks at Waterlefe
Waterlefe Blvd
The Meadows at Waterlefe
Moores Dairy Rd
3rd Ave NE
Gates Creek Rd
115th St NE
Gates Creek
Dahlia Ct
Natureview Cir
Daisy Pl
Aster Ave
Port Harbor Pkwy
Port Harbor Pkwy
Van Gogh Cv
Upper Manatee River Rd NE
Snapdragon Loop
2nd Ave E
3rd Ave E
Gates Creek
116th St E
The Links at
Old Grove Cir
Rosemary
117th

Source: Nearmap WMS (2023), FWC, USFWS

Legend

- Preferred Alternative
- Project Study Area
- USFWS Critical Habitat
- FWC Manatee Protection Zones
- 1 Mile Buffer

FWC Manatee Carcass Recovery

- Watercraft
- Perinatal
- Cold Stress
- Undetermined

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Manatee County FLORIDA

West Indian Manatee Protection Areas and Mortality Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 1,500 FT	PROJECT NUMBER: 148400120	MAY 2024	FIGURE 4-3

5.0 WETLANDS EVALUATION

Pursuant to Presidential EO 11990 entitled “Protection of Wetlands,” the United States Department of Transportation (USDOT) has developed the policy Preservation of the Nation’s Wetlands (USDOT Order 5660.1A), dated August 24, 1978, which requires all federally-funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, the project study area was evaluated to assess potential wetland impacts that may be associated with the proposed improvements.

An ETDM Advance Notification Package was published on November 20, 2023, containing comments from the ETAT on the project’s effects on various natural, physical, and social resources. The FDEP, USACE, NMFS, USFWS, U.S. Environmental Protection Agency (EPA), and SWFWMD were commenting agencies for Wetlands and Surface Waters. Wetlands and Surface Waters were assigned a Summary Degree of Effect of Moderate. The following ETAT comments were provided for consideration:

- A formal wetland and surface water delineation must take place before permitting;
- Coordination with the mitigation banks should occur to confirm the proper type and amount of mitigation credits available to offset the wetland impact functional loss as assessed through UMAM;
- The estuarine habitats that exist within the Manatee River have been identified as EFH for numerous species (including prey species). Salt marshes, mangroves, estuarine water column, and mud, sand, shell, and rock substrates are specific categories of EFH that may be directly impacted by the project;
- Sensitive aquatic resources should be identified and/or surveyed during the SAV survey to assist in permitting and the calculation of total wetland/open water impacts;
- Bottomlands in the area have been classified as Sovereign Submerged Lands (SSL), and the existing bridge is associated with Perpetual Easement #41698 (with Manatee County as the easement holder).

5.1 Wetland and Surface Water Impacts

The jurisdictional limits of wetlands and surface waters were estimated in accordance with the State of Florida unified wetland delineation methodologies as adopted by the FDEP and the water management districts per Chapter 62-340, F.A.C. and described in *The Florida Wetlands Delineation Manual* and the USACE 1987 *Wetland Delineation Manual* and regional supplement. The extent and types of wetlands in the project study area were documented in accordance with EO 11990, Protection of Wetlands, and the PD&E Manual.

For the purposes of this document, wetlands are defined as per 62-340, F.A.C. and Section 373.019 (27), F.S. Surface waters are defined as open water bodies. Formal wetland boundary delineation and surveys were not conducted as part of this study and will be completed as part of the state and federal permit process.

Potential direct impacts to wetlands and surface waters were assessed for the Preferred Alternative. A total of 3.62 acres of wetlands, 4.56 acres of surface waters, and 0.10 acres of other surface waters are present within the footprint of the Preferred Alternative (**Table 5-1**). Other

surface waters include permitted facilities such as stormwater or flood compensation ponds. Impacts to these facilities typically do not require mitigation to offset impacts and, therefore, are excluded from impact evaluations presented in **Table 5-2**. **Figure 3-3** shows the locations of the proposed wetland and surface water impacts. A description of all wetlands and surface waters identified within the project study area is provided in **Appendix C**.

Table 5-1. Proposed Wetland and Surface Water Impacts

Wetland IDs	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage
Surface Waters 1, 2. 3. 4, 5, 6, 7, 8, 9, and 10	510	Streams and Waterways	R4SBC	1.70
Other Surface Waters 8 and 32	530	Reservoirs	PUBHx	0.10
Surface Water 11	540	Bays and Estuaries	E1UBL	2.86
Wetlands 1, 2, and 3	612	Mangrove Swamps	E2FO3	0.51
Wetlands 4, 5, and 6	615	Streams and Lake Swamps – Bottomland	PFO1Fd	0.97
Wetland 8	619	Exotic Wetland Hardwoods	E2FO1N	0.09
Wetlands 10, 12, 16, and 19	630	Wetland Forested Mixed	PFO1/3Cd	0.31
Wetlands 25, 26, 27, and 30	642	Saltwater Marshes	E2EM1N	1.72
Wetland 31	643	Wet Prairies	PEM1A	0.02
			Total Surface Water Acreage	**4.66**
			Total Wetland Acreage	**3.62**
			Total Acreage	**8.28**

5.2 Secondary Impacts

Secondary effects are those impacts that are reasonably certain to occur later in time as a result of the proposed project, and which may occur outside of the area directly affected by the proposed project. Potential secondary effects include increased noise, traffic, lighting, and development, which could impact wildlife or result in a change in wildlife migration patterns by reducing habitat connectivity. Secondary impacts will be further addressed through agency coordination during the project's design and permitting phase. A brief summary of these impacts is provided below.

Secondary impacts of edge effects are anticipated to occur as a result of the Preferred Alternative. At locations where natural areas meet development, edge effects such as increased cover of nuisance/exotic vegetation and changes in microclimate generally take place adjacent to areas of direct disturbance. Some wetlands within the Preferred Alternative project footprint already

experience edge effects due to neighboring community developments and utility lines that are present within the project study area. Species such as Brazilian pepper (*Schinus terebinthifolia*) and cogongrass are particularly aggressive and successful colonizers. These species are already prevalent throughout the project study area. The severity of these edge effects will vary based on pre-existing exposure to habitat alteration. It is anticipated that edge effects migrate to the new transitional area between remaining wetlands and new construction and would be greater in previously undisturbed areas.

Direct and secondary wetland impacts will be further assessed during the design phase for this project and will also include identification of mitigation needs to offset any unavoidable wetland impacts, at which time mitigation required will be quantified and pursued.

5.3 Uniform Mitigation Assessment Methodology

The UMAM per Chapter 62-345, F.A.C., is a state and federally approved method used to assess wetlands in the State of Florida. UMAM was developed by the FDEP and the water management districts to determine the amount of mitigation required to offset adverse impacts to wetlands. The methodology was designed to assess functions provided by wetlands, the amount those functions are reduced by a proposed impact, and the amount of mitigation necessary to offset the proposed functional losses. This method is also used to determine the degree of improvement in ecological value that will be created by proposed mitigation activities.

The UMAM assessment includes a Qualitative Characterization (Part 1) as well as a Quantitative Assessment and Scoring (Part 2). The Qualitative Assessment is a basic descriptor of the site being evaluated. The variables described include the following:

- Significant nearby features;
- Water classifications;
- Assessment area size;
- Hydrology and relationship to contiguous off-site wetlands;
- Uniqueness of the assessment area;
- Functions of the assessment area; and
- Wildlife utilization.

The Quantitative Assessment provides a score of the assessment area in both the current condition and “with impact” condition. The assessment scoring evaluates the following parameters:

- Location and landscape support,
- Water environment, and
- Vegetative community.

Secondary impacts will also be assessed using the UMAM at the time of permitting to determine loss within these systems and to estimate the required mitigation to compensate for the wetland impacts.

5.4 Uniform Mitigation Assessment Methodology Results

Representative UMAM scores were developed for each wetland and surface water habitat type (by FLUCFCS category) affected by the proposed project.

To calculate functional loss, the difference between the existing condition (current) scores and the proposed condition (with) scores for each habitat type within the Preferred Alternative was multiplied by the acreage of proposed impact to determine the lost value of functions to fish and wildlife resulting from construction of the Preferred Alternative. The completed UMAM data sheets for each habitat type within the Preferred Alternative are provided in **Appendix L**. Functional loss was calculated by habitat type for the Preferred Alternative. Construction of the Preferred Alternative may result in an estimated loss of 5.975 functional units. Of the total estimated functional unit loss, 5.726 functional units would result from direct impacts and 0.249 functional units would result from secondary impacts.

These UMAM calculations are estimates and are based on existing conditions. The UMAM scores and values presented in **Table 5-2** are subject to agency review and may change during the state and federal permitting process.

Table 5-2. Estimated UMAM Functional Loss for Wetlands and Surface Waters

Wetland IDs	FLUCFCS Classification	USFWS Classification	UMAM Delta	Impact Acres	Functional Loss
Direct Impacts					
Surface Waters 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10	510: Streams and Waterways	R4SBC	0.53	1.70	0.907
Surface Water 11	540: Bays and Estuaries	E1UBL	0.77	2.86	2.193
Wetlands 1, 2, and 3	612: Mangrove Swamps	E2FO3	0.77	0.51	0.391
Wetlands 4, 5, and 6	615: Streams and Lake Swamps – Bottomland	PFO1Fd	0.73	0.97	0.711
Wetland 8	619: Exotic Wetland Hardwoods	E2FO1N	0.50	0.09	0.045
Wetlands 10, 12, 16, and 19	630: Wetland Forested Mixed	PFO1/3Cd	0.67	0.31	0.207
Wetlands 25, 26, 27, and 30	642: Saltwater Marshes	E2EM1N	0.73	1.72	1.261
Wetland 31	643: Wet Prairies	PEM1A	0.53	0.02	0.011
			Direct Impact Total	**8.18**	**5.726**

Wetland IDs	FLUCFCS Classification	USFWS Classification	UMAM Delta	Impact Acres	Functional Loss
Secondary Impacts					
Surface Waters 1, 6, 9, and 10	510: Streams and Waterways	R4SBC	0.07	0.05	0.003
Surface Water 11	540: Bays and Estuaries	E1UBL	0.07	1.16	0.077
Wetlands 1, 2, and 3	612: Mangrove Swamps	E2FO3	0.10	0.19	0.019
Wetlands 4, 5, and 6	615: Streams and Lake Swamps – Bottomland	PFO1Fd	0.10	0.68	0.068
Wetland 8	619: Exotic Wetland Hardwoods	E2FO1N	0.03	0.07	0.002
Wetlands 10, 12, 13, 16, and 19	630: Wetland Forested Mixed	PFO1/3Cd	0.07	0.56	0.037
Wetlands 25, 26, 27, and 30	642: Saltwater Marshes	E2EM1N	0.07	0.64	0.043
			Secondary Impact Total	**3.35**	**0.249**
			Total Impacts	**11.53**	**5.975**

5.5 Avoidance and Minimization

As part of this evaluation, the Preferred Alternative was evaluated in the PD&E Study. Wetlands and surface waters were considered for all alternatives to avoid and minimize impacts to wetlands to the greatest extent possible. Because the majority of the proposed impacts are associated with the widening of the Fort Hamer Bridge, and because wetland and surface water types and acreages are similar on each side of the existing bridge, wetland impacts were similar for all evaluated alternatives. Therefore, other factors helped determine the selection of the Preferred Alternative. A corridor analysis (including other non-natural resource factors) will be included in the Preliminary Engineering Report provided under a separate cover and in the project file.

Manatee County has undertaken all actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Impacts to wetlands are unavoidable for the Preferred Alternative due to their location within the project area, therefore Manatee County has determined that there is no practicable alternative to the proposed construction impacts occurring in wetlands. However, measures have been taken to minimize potential wetland impacts to the extent possible, including the incorporation of bridges over the wetlands to reduce direct and secondary impacts, by maintaining wetland connectivity and reducing the amount of fill for these portions of the project, and minimizing water quality impacts from stormwater discharges from roadway surfaces through the use of stormwater management systems. The proposed project will have no significant short-term or long-term adverse impacts to wetlands. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

5.6 Mitigation

Compensatory mitigation for this project will be completed through the use of mitigation banks and any other regionally significant mitigation options that satisfy state and federal requirements. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

In 2008, the USACE and the EPA issued regulations governing compensatory mitigation for activities authorized by the Department of the Army. These regulations, as promulgated in 33 Code of Federal Regulations (CFR) Part 332, establish a hierarchy for determining the type and location of compensatory mitigation. To summarize, the rule establishes the goal for mitigation to be performed under a watershed approach to protect and enhance regionally significant wetland and other native habitat resources. Although there is a preference for the use of mitigation bank credits if a mitigation bank has the appropriate number and resource type of credits available, other mitigation options (including on-site mitigation in the form of restoration, enhancement, creation, and preservation) are considered acceptable, especially where no mitigation credits are available for the same resource type.

The proposed impacts associated with the Preferred Alternative are currently located within the service area of the following mitigation banks: Braden River, Manatee, Mangrove Point, and Tampa Bay. The Manatee Mitigation Bank is the only mitigation bank with federal credits servicing the Manatee River Basin; however, due to the mitigation bank's location in the upper part of the watershed, this bank does not offer estuarine credits. Nevertheless, mitigation options will be fully vetted during the final design and permitting phase of this project.

Most of the proposed wetland impacts from this project are estuarine wetlands with EFH. Compensatory mitigation for this project can potentially be sought through the construction of onsite mitigation at the Hidden Harbor Park, located within the project study area and within the Manatee River watershed. The Hidden Harbor Tract is located just north of the Manatee River and adjacent to the east of the Fort Hamer Road project. This property was previously used for agricultural row crops and was purchased by Manatee County Government in 2004 to use as a park and to provide mitigation and restoration opportunities for Manatee County projects in eastern Manatee County. The Hidden Harbor Tract is proximally located within the project study area and the Manatee River watershed. The park also has the potential for tidal wetland creation, restoration, and enhancement, and EFH compensation.

All UMAM scores, UMAM calculations, preliminary wetland lines and determinations discussed are subject to revision and approval by regulatory agencies during the permitting process. The exact type of mitigation used to offset wetland impacts from the proposed improvements will be coordinated with the USACE, SWFWMD, and Manatee County during the permitting phase(s) of this project.

6.0 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 *et seq.* 104-208) reflects the authority and responsibilities of the Secretary of Commerce and the Fishery Management Council for the protection of essential fishery habitat. The Act specifies that each federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect EFH identified under this Act. EFH is defined by the Act as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The NOAA and NMFS review potential impacts to EFH.

The proposed project is within the Gulf of Mexico Fishery Management Council's (GMFMC) area of jurisdiction, which is from 3 to 200 miles off the coasts of Louisiana, Mississippi, and Alabama, and 9 to 200 miles off Texas and the west coast of Florida.

As a subset of the areas identified as EFH, Fisheries Management Councils can also identify Habitat Areas of Particular Concern (HAPC). HAPC are those areas within EFH that are of ecological importance to the long-term sustainability of managed species or are rare or susceptible to degradation or development. EFH-HAPC are areas of special significance to the managed species. The EFH-HAPC includes significant or critical areas, regions or habitats, which serve as spawning, nursery, feeding, or refuge areas. EFH-HAPC under the GMFMC's jurisdiction are almost entirely located in marine offshore habitats. No EFH-HAPC are located within the project study area.

6.1 Methodology

The EFH evaluation was conducted in accordance with the FDOT PD&E Manual as well as the Magnusson-Stevens Fishery Conservation and Management Act. Literature reviewed, and databases searched as part of this evaluation included:

- FDOT, Efficient Transportation Decision Making Environmental Screening Tool, (https://etdmpub.fla-etat.org/est/), 2024;
- NMFS EFH Mapper (https://www.habitat.noaa.gov/apps/efhmapper/), September 2023;
- GMFMC EFH 5-Year Review (https://gulfcouncil.org/wp-content/uploads/EFH-5-Year-Revew-plus-App-A-and-B_Final_12-2016.pdf), 2016;
- GMFMC Environmental Impact Statement for the Generic EFH Amendment (https://gulfcouncil.org/wp-content/uploads/March-2004-Final-EFH-EIS.pdf), 2004;
- FWC, Fish and Wildlife Research Institute's (FWRI) Marine Ecosystem GIS database (https://atoll.floridamarine.org/arcgis/rest/services/FWC_GIS/OpenData_MarineEco/MapServer), September 2023;
- FWC, Fisheries-Independent Monitoring (FIM) stratified-random sampling records (https://atoll.floridamarine.org/arcgis/rest/services/FWC_GIS/OpenData_FWSppLoc/MapServer/), September 2023;

Available site-specific and publicly available data were collected and evaluated to determine managed fishery species that have potential to occur within the project study area.

6.2 EFH Present within Project Study Area

Data obtained from the NMFS EFH Mapper indicate that waters of the Manatee River within the project study area overlap with the designated EFH boundaries of four Fishery Management Units (FMUs) managed by the GMFMC: Shrimp, Red Drum, Reef Fish, and Coastal Migratory Pelagics. EFH was also identified by NMFS within the study area for the spiny lobster FMU and for certain Highly Migratory Species: sharpnose shark (Gulf of Mexico stock), blacktip shark, bull shark, and spinner shark. **Table 6-1** lists the EFH designation for each FMU and Highly Migratory Species identified by the GMFMC or NMFS.

Table 6-1. EFH Designations for Fishery Management Units Identified within the Project Study Area

Fishery Management Unit	Management Council	Data Source	EFH Designations
Red Drum	GMFMC	EFH Mapper	All Gulf of Mexico estuaries; Vermilion Bay, Louisiana, to the eastern edge of Mobile Bay, Alabama, out to depths of 25 fathoms; Crystal River, Florida, to Naples, Florida, between depths of 5 and 10 fathoms; and Cape Sable, Florida, to the boundary between the areas covered by the GMFMC and the SAFMC between depths of 5 and 10 fathoms.
Reef Fish	GMFMC	EFH Mapper	All Gulf of Mexico estuaries; the US/Mexico border to the boundary between the areas covered by the GMFMC and the SAFMC from estuarine waters out to depths of 100 fathoms. Reef, seagrass, and mangrove habitat.
Coastal Migratory Pelagics (Mackerels)	GMFMC	EFH Mapper	All Gulf of Mexico estuaries; the US/Mexico border to Florida from estuarine waters out to depths of 100 fathoms.
Shrimp	GMFMC	EFH Mapper	All estuaries; the US/Mexico border to Fort Walton Beach, Florida, from estuarine waters out to depths of 100 fathoms; Grand Isle, Louisiana, to Pensacola Bay, Florida, between depths of 100 and 325 fathoms; Pensacola Bay, Florida, to the boundary between the areas covered by the Gulf of Mexico (GMFMC) and the South Atlantic FMC (SAFMC) out to depths of 35 fathoms, Crystal River, Florida, to Naples, Florida, to 25 fathoms and in Florida Bay to 10 fathoms. Marsh, seagrass, mangrove, and open water habitats.

Fishery Management Unit	Management Council	Data Source	EFH Designations
Spiny Lobster	GMFMC	NMFS ETDM Review	From Tarpon Springs, Florida, to Naples, Florida, out to 10 fathoms; and Cape Sable, Florida, to the boundary between the areas covered by the GMFMC and the SAFMC out to depths of 15 fathoms. Hardbottom habitats with macroalgae, seagrass, and mangrove habitats.
Atlantic Sharpnose Shark	NMFS	EFH Mapper	<25 m Galveston to Mexico; <40 m MS & Atchafalaya deltas; <50 m MS Sound & Galveston to Laguna Madre
Blacktip Shark	NMFS	NMFS ETDM Review	<25 m Ten Thousand Isl to Cedar Key, FL; <25 m FL Keys to Cedar Key, Cape San Blas to MS delta, and Galveston to Mexico; <50 m FL Bay to Cape San Blas, FL
Bull Shark	NMFS	NMFS ETDM Review	Inlets, estuaries, coastal waters <25 m, Ten Thousand Isl. to Cedar Key, Appalachicola to Mobile, and Galveston to Mexico; inlets, estuaries, coastal waters <25 m, Charlotte Harbor to Anclote Key, FL
Spinner Shark	NMFS	NMFS ETDM Review	<25 m, FL Keys to 29.25E N

The GMFMC separates EFH into estuarine inshore and marine offshore categories. Estuarine inshore habitats include estuarine emergent vegetation (salt marsh and brackish marsh), mangrove wetlands, submerged aquatic vegetation (i.e. seagrasses), algal flats, estuarine water column, and mud, sand, shell, and rock substrates. Marine offshore habitats include continental shelf features, geologic features, coral reefs, live bottoms, vegetated bottoms, non-vegetated bottoms, and the water column. EFH for species managed under the NMFS Billfish and Highly Migratory Species plans falls within the marine or estuarine water column habitats designated by the Council.

Estuarine habitats of the Manatee River identified as EFH Categories by the GMFMC or NMFS within the Study Area include 1) mangroves, 2) salt marshes, 3) estuarine water column, and 4) mud, sand, shell, and rock substrates. Thus, all tidal waters and substrates within the Manatee River and the adjoining wetlands, including intertidal zones, are considered EFH by the GMFMC. Submerged aquatic vegetation (SAV; i.e. seagrasses) is also reviewed below as an EFH category with the potential to occur within the project study area.

Mangroves

The GMFMC has designated mangroves as EFH. Mangrove wetlands occur within the project study area, primarily along the banks of the Manatee River. The mangroves exist along the tidal edges of the Manatee River and connect to other wetland systems within the project study area.

Black and red mangroves with Brazilian pepper interspersed in some areas were identified during field reviews. These habitats are routinely flooded thereby providing nursery, feeding, and refuge for both recreationally and commercially important fisheries.

Saltwater Marshes

Salt marsh wetlands occur within the project study area and are located along the banks of the Manatee River and within the peninsula between the north and south shorelines of the river. The GMFMC has designated saltwater marshes as EFH. Saltwater marshes within the project area were composed mostly of black needlerush (*Juncus roemerianus*) and smooth cordgrass (*Spartina alterniflora*). These habitats are routinely flooded thereby providing nursery, feeding, and refuge for both recreationally and commercially important fisheries.

Estuarine Water Column

The estuarine water column and underlying sediments of the Manatee River are classified as EFH by the GMFMC. The open water areas of the Manatee River are influenced by tidal currents, and seasonal fluctuations in temperature, salinity, dissolved oxygen, nutrients, phytoplankton, and organic matter are likely to occur in this area. These characteristics make the water column an important transport mechanism for the dispersal of organic and inorganic detritus, nutrients, and planktonic eggs and larvae, as well as migrating organisms.

Mud, Sand, Shell, And Rock Substrates

The estuarine water column and underlying sediments of the Manatee River are classified as EFH by the GMFMC. Mud, sand, shell, and rock substrates provide settlement and foraging potential for benthic organisms during several important life stages. Sediment type plays a role in determining the associated fish communities; for example, shrimp distributions closely match sediment distribution and some shrimp have been shown to actively select for substrate type. The sediment within the project study area of the Manatee River primarily consists of mud and sand, which would be considered a soft bottom habitat. Soft bottom habitats are often inhabited by various infauna and epifauna that act as ecosystem engineers.

Submerged Aquatic Vegetation (Seagrasses)

The GMFMC has designated SAV habitats as EFH. Seagrass meadows are highly productive submerged habitats typically located in estuarine and nearshore waters. Severe losses of seagrass habitat have occurred throughout Florida and the world as the result of human impacts. Sparse patches (less than 10%) of widgeon grass (*Ruppia maritima*) were previously identified along the north bank of the Manatee River channel, however these patches have not been verified during recent field reviews. No other seagrasses have been documented or observed within the Preferred Alternative or within one mile of the project study area. The presence of any submerged aquatic vegetation potentially occurring within the project area will be determined by a SAV Survey performed between June 1 and September 30, per USACE SAV Survey Guidelines.

6.3 Managed Species Potentially Present in Project Study Area

The GMFMC has identified and described EFH for 55 managed species and the coral complex. The NMFS has identified and described EFH for 21 highly migratory species. The species accounts of each managed species and highly migratory species were reviewed to assess the potential occurrence of these species within the proposed project area during any stage of their life cycle. **Table 6-2** lists each of the species identified by the GMFMC and NMFS and its potential to occur within the project study area.

The potential for occurrence for each species was designated as No, Low, Moderate, or High based on species ranges, the type of EFH present within the project study area, and if the species has been previously documented within the project study area. A *No* rating indicates that the study area is not within the species' range or depth and no suitable habitat for any life stage of that species occurs within the project study area. A *Low* rating indicates that the study area is at the edge of the species' range or depth and marginal/suboptimal habitat for that species occurs within the project study area, but the species has not been documented within the project study area. A *Moderate* rating indicates that the study area is within the species range and suitable habitat exists within the study area, but the species has not been documented within the Manatee River. A *High* rating indicates that the study area is within the species' range, suitable habitat exists within the study area, and the species has been documented within the Manatee River. Of the 59 representative species identified by the GMFMC or NMFS, seven species are considered to have a *High* potential to occur within the study area: red drum, gray snapper, lane snapper, goliath grouper, gag grouper, pink shrimp, and Atlantic sharpnose shark (Gulf of Mexico stock).

Table 6-2. GMFMC and NMFS Managed Fish Species and Their Potential for Occurrence within the Project Study Area

Common Name	Scientific Name	Potential Occurrence within Study Area	Comments
Coastal Migratory Pelagics (Mackerels) Fishery			
Cobia	*Rachycentron canadum*	Moderate	Occurs in Tampa Bay
King mackerel	*Scomberomorus cavalla*	Low	Prefers off-shore/outer-reef habitats
Spanish mackerel	*Scomberomorus maculatus*	Moderate	Occurs in Tampa Bay
Red Drum Fishery			
Red drum	*Sciaenops ocellatus*	High	Occurs in Tampa Bay and Manatee River
Reef Fish Fishery			
Balistidae – Triggerfishes			
Gray triggerfish	*Balistes capriscus*	Low	Prefers outer-reef hard-bottom habitats

Common Name	Scientific Name	Potential Occurrence within Study Area	Comments
Carangidae – Jacks			
Greater amberjack	*Seriola dumerili*	No	An off-shore circumglobal species
Lesser amberjack	*Seriola fasciata*	No	An off-shore benthopelagic species
Almaco jack	*Seriola rivoliana*	No	An off-shore circumglobal species
Banded rudderfish	*Seriola zonata*	No	Prefers off-shore/outer-reef habitats
Labridae – Wrasses			
Hogfish	*Lachnolaimus maximus*	Moderate	Occurs in Tampa Bay; Juveniles occur in estuarine SAV habitats
Lutjanidae – Snappers			
Queen snapper	*Etelis oculatus*	No	A deep-water bathydemersal species
Mutton snapper	*Lutjanus analis*	Moderate	Occurs in Tampa Bay; Juveniles occur in estuarine SAV, mangrove, and emergent marsh habitats
Schoolmaster	*Lutjanus apodus*	Moderate	Occurs in Tampa Bay; Juveniles occur in estuarine SAV, mangrove, and emergent marsh habitats
Blackfin snapper	*Lutjanus buccanella*	Low	Prefers off-shore/outer-reef habitats near continental shelf ledges
Red snapper	*Lutjanus campechanus*	Low	Prefers off-shore/outer-reef habitats; Nearshore juveniles more common in central and western Gulf of Mexico
Cubera snapper	*Lutjanus cyanopterus*	Moderate	Juveniles and adults occur in estuarine SAV, mangrove, and emergent marsh habitats
Gray (mangrove) snapper	*Lutjanus griseus*	High	Occurs in Tampa Bay and Manatee River
Dog snapper	*Lutjanus jocu*	Moderate	Juveniles occur in estuarine SAV, mangrove, and emergent marsh habitats
Mahogany snapper	*Lutjanus mahogoni*	Low	Prefers nearshore or offshore hard-bottom or reef habitats

Common Name	Scientific Name	Potential Occurrence within Study Area	Comments
Lane snapper	*Lutjanus synagris*	High	Occurs in Tampa Bay and Manatee River
Silk snapper	*Lutjanus vivanus*	No	An off-shore/deep-water species
Yellowtail snapper	*Ocyurus chrysurus*	Moderate	Occurs in Tampa Bay; Juveniles occur in estuarine SAV, mangrove, soft-bottom, and emergent marsh habitats
Wenchman snapper	*Pristipomoides aquilonaris*	No	An off-shore/deep-water species
Vermilion snapper	*Rhomboplites aurorubens*	Low	Prefers moderately deep-water hard-bottom habitats
Malacanthidae – Tilefish			
Goldface tilefish	*Caulolatilus chrysops*	No	Prefers off-shore/outer-reef habitats
Blackline tilefish	*Caulolatilus cyanops*	No	Prefers off-shore/outer-reef habitats
Anchor tilefish	*Caulolatilus intermedius*	No	Prefers off-shore/outer-reef habitats
Blueline tilefish	*Caulolatilus microps*	No	Prefers off-shore/outer-reef habitats
Golden tilefish	*Lopholatilus chamaeleonticeps*	No	Prefers off-shore/outer-reef habitats
Serranidae – Groupers			
Dwarf sand perch	*Diplectrum bivittatum*	Low	Prefers near-shore soft-bottom habitats, not estuarine-dependent
Sand perch	*Diplectrum formosum*	Moderate	Occurs in Tampa Bay; Prefers near-shore habitats, not estuarine-dependent
Rock hind	*Epinephelus adscensionis*	Low	Prefers hard-bottom habitats
Speckled hind	*Epinephelus drummondhayi*	No	An off-shore/deep-water species
Yellowedge grouper	*Hyporthodus flavolimbatus*	No	An off-shore/deep-water species
Red hind	*Epinephelus guttatus*	Low	Prefers nearshore reef and hard-bottom habitats
Goliath grouper	*Epinephelus itajara*	High	Occurs in Tampa Bay and Manatee River

Common Name	Scientific Name	Potential Occurrence within Study Area	Comments
Red grouper	*Epinephelus morio*	Moderate	Occurs in Tampa Bay; Juveniles occur in estuarine SAV and hard-bottom habitats
Misty grouper	*Epinephelus mystacinus*	No	An off-shore/deep-water species
Warsaw grouper	*Epinephelus nigritus*	No	Generally an off-shore/deep-water species; Juveniles can occur in nearshore reefs
Snowy grouper	*Epinephelus niveatus*	No	Generally an off-shore/deep-water species; Juveniles can occur in nearshore reefs
Nassau grouper	*Epinephelus striatus*	No	Nearshore juveniles not common in Florida waters northwest of keys
Marbled grouper	*Epinephelus inermis*	No	Prefers off-shore/outer-reef habitats near continental shelf ledges
Black grouper	*Mycteroperca bonaci*	Moderate	Prefers outer-reef habitats; Juveniles and adults occur in estuarine SAV and mangrove habitats
Yellowmouth grouper	*Mycteroperca interstitialis*	Moderate	Juveniles occur in estuarine and nearshore mangrove habitats
Gag grouper	*Mycteroperca microlepis*	High	Occurs in Tampa Bay and Manatee River
Scamp grouper	*Mycteroperca phenax*	Moderate	Juveniles occur in nearshore mangroves
Yellowfin grouper	*Mycteroperca venenosa*	Low	Not common in U.S. Gulf waters; Juveniles occur in nearshore seagrass beds
Shrimp Fishery			
Brown shrimp	*Penaeus aztecus*	Moderate	Occurs in Tampa Bay
White shrimp	*Penaeus setiferus*	Low	More common in central and western Gulf of Mexico
Pink shrimp	*Penaeus duorarum*	High	Occurs in Tampa Bay and Manatee River
Royal red shrimp	*Pleoticus robustus*	No	An off-shore/deep-water species

Common Name	Scientific Name	Potential Occurrence within Study Area	Comments
Spiny Lobster Fishery			
Spiny lobster	*Panulirus argus*	Moderate	Preferred habitat is offshore coral reefs and seagrasses
Slipper lobster	*Scyllarides nodife*	Low	Preferred habitat is offshore coral reefs
Highly Migratory Species			
Atlantic sharpnose shark (Gulf of Mexico stock)	*Rhizoprionodon terraenovae*	High	Occurs in Tampa Bay and Manatee River
Blacktip Shark	*Carcharhinus limbatus*	Moderate	Occurs in Tampa Bay
Bull Shark	*Carcharhinus leucas*	Moderate	Occurs in Tampa Bay
Spinner Shark	*Carcharhinus brevipinna*	Low	Generally an off-shore species; Juveniles can occur in bays, but avoid areas of low salinity

Ratings are No, Low, Moderate, and High and are based on habitat suitability and species range as follows:

No – Suitable habitat does not occur within the study area for any life stage of this species. The study area is not within the species' range or depth strata.
Low – Marginally suitable habitat exists within the study area. The study area is at the edge of the species' range or depth strata and the species is not documented in the area.
Moderate – Suitable habitat exists within the study area. The study area is within the species' range, but the species is not documented in the area.
High – Suitable habitat exists within the study area. The study area is within the species' range and the species is documented in the area.

Based on the evaluation of collected data, field reviews, and database searches, the managed fish species determined to have a *High* potential to occur within or adjacent to the project study area are discussed below.

Red Drum Fishery

In the Gulf of Mexico, red drum occur in a variety of habitats, ranging from depths of about 43 m offshore to very shallow estuarine waters. They commonly occur in all the Gulf's estuaries where they are associated with a variety of substrate types, including sand, mud, and oyster reefs. Estuaries are important to red drum for both habitat requirements and for dependence on prey species which include shrimp, blue crab, striped mullet, and pinfish. The GMFMC considers all estuaries to be EFH for the red drum. Larval, juvenile, and adult red drum could utilize any estuarine emergent marshes, SAV, and soft bottom habitats present within the project study area. Schools of large red drum are common in the deep Gulf waters with spawning occurring in deeper water near the mouths of bays and inlets, and on the Gulf side of the barrier islands. The Tampa Bay EFH estuarine map shows red drum juveniles to be abundant in the fall and winter and common in the spring and summer. Additionally, red drum have been documented by the FWC Fisheries-Independent Monitoring (FIM) Program within one mile of the project study area (see **Figure 6-1 Essential Fish Habitat Map**).

Reef Fish Fishery

The GMFMC considers all estuaries to be EFH for managed reef fish species. Within the Reef Fish FMU, the gray snapper, lane snapper, goliath grouper, and gag grouper have been identified as having a *high* potential to occur within the project study area. Many species within this FMU occupy nearshore areas during juvenile stages, where they feed on estuarine-dependent prey. As these species mature, they generally move to offshore waters and change their feeding habits.

The gray snapper generally occurs in the shelf waters of the Gulf and also occur in almost all the Gulf's estuaries. Gray snapper are demersal and occur in marine, estuarine, and riverine habitats. They are found among mangroves, sandy grass beds, and coral reefs, and over sandy muddy bottoms. Spawning for this species occurs offshore, with post-larvae moving into estuarine habitat over dense beads of *Halodule* and *Syringodium* grasses. Juveniles are found in most nearshore marine, estuarine, and riverine habitats, but they appear to most prefer seagrass meadows and mangrove roots. Post-larval, juvenile, and adult gray snapper could utilize any estuarine emergent marshes, mangroves, SAV, and soft bottom habitats present within the project study area. Species distribution maps indicate that nursery areas exist within estuarine areas of Tampa Bay. Additionally, gray snapper have been documented by the FWC FIM Program within one mile of the project study area (see **Figure 6-1**).

The lane snapper typically prefers mangrove roots and grassy estuarine areas, as well as sandy and muddy bottoms. Adults generally occur offshore at sand bottoms, natural channels, banks, and manmade reefs and structures. Gulf distribution maps indicate that the lane snapper use shallow coastal waters, including Tampa Bay and areas outside of State waters, as nursery areas. Post-larval, juvenile, and adult lane snapper could utilize any estuarine SAV, mangroves, and soft bottom habitats present within the project study area. Lane snapper have not been documented within one mile of the project study area but have been documented approximately 5 miles downstream and near the mouth of the Manatee River.

The goliath grouper typically occurs in shallow nearshore waters and prefers rocky and artificial reefs as well as muddy substrates. Adults are territorial and occupy limited home ranges with little inter-reef movement, but are known to form spawning groups in offshore waters near rock ledges and shipwrecks. Early juveniles are found in bays and estuaries, seagrass beds, canals, and mangroves, which serve as important nurseries for this species. Species distribution maps indicate that nursery areas exist within estuarine areas of Tampa Bay. Post-larval and juvenile goliath grouper could utilize any estuarine SAV or mangroves present within the project study area. Goliath grouper have not been documented within one mile of the project study area but have been documented approximately 3 miles downstream and near the mouth of the Manatee River.

The gag grouper is demersal and is most common in the eastern Gulf, especially the west Florida shelf. Post larvae and pelagic juveniles move through inlets, coastal lagoons, and high salinity estuaries in April-May where they settle into grass flats and oyster beds. Late juveniles move offshore in the fall. Adults prefer hard bottom areas, offshore reefs and wrecks, and coral and live bottom habitats. The species EFH distribution maps indicate presence throughout the Gulf including estuarine areas. Juvenile gag grouper could utilize any estuarine SAV present within

the project study area. Gag grouper have not been documented within one mile of the project study area, but have been documented approximately 5 miles downstream and near the mouth of the Manatee River.

Shrimp Fishery

Within the Shrimp FMU, the pink shrimp has been identified as having a high potential to occur within the project study area. Juvenile pink shrimp inhabit most estuaries in the Gulf but are most abundant in Florida. Juveniles are commonly found in estuarine areas with seagrass. Post-larvae, juveniles, and subadults may prefer coarse sand/shell/mud mixtures. Adults inhabit offshore marine waters, with the highest concentration in depths of 10 to 48 m. According to the NMFS species distribution map, pink shrimp use Tampa Bay from the larval stage until the species matures to the late juvenile stage. Post-larval, juvenile, and adult pink shrimp could utilize any SAV or soft bottom habitat present within the project study area. Additionally, pink shrimp have been documented by the FWC FIM Program within one mile of the project study area (see **Figure 6-1**).

Highly Migratory Species

The Highly Migratory Species listed above are managed by the NMFS. Most highly migratory shark species are found beyond the 50, 100, and 200 m contours, however the Atlantic sharpnose shark has been identified as having a *high* potential to occur within the project study area. This small demersal shark species occurs commonly in both warm-temperate and tropical waters, from the Bay of Fundy to the Yucatan, and at a range of depths up to 280 m. They are most frequently found feeding in the surf zone, bays, and river mouths. Although adults can tolerate lower salinities, primarily neonates and young of the year inhabit harbors and estuaries. Neonate and juvenile Atlantic sharpnose shark could utilize any soft bottom habitat present within the project study area. Highly Migratory Species have not been documented within one mile of the project study area, but Atlantic sharpnose shark have been documented approximately 10 miles downstream and within to the mouth of the Manatee River.

6.4 Habitat Impacts

Within the project study area, portions of SW 11, WL 1, WL 2, WL 3, WL 4, WL 8, WL 12, WL 25, WL 26, WL 27, and WL 30 contain areas of EFH that are expected to be impacted by the proposed bridge widening activities. These wetlands and surface waters contain a mixture of mangrove swamps, stream and lake swamp bottomlands, exotic wetland hardwoods, wetland forested mixed, saltwater marsh, and open water (estuarine) habitat. Several fish, mollusk, and other invertebrate species may use this EFH as juveniles or adults, and several species may require low-salinity habitats during early life history stages. The project has been designed to avoid and minimize wetland impacts where practical. In addition, compared to the overall available EFH within the project study area, the areas anticipated to be impacted represent a small percentage of the total amount of the EFH present within the landscape.

The proposed bridge widening analyzed in the PD&E Study is not anticipated to deviate substantively from the original construction conditions and impacts of the Fort Hamer Bridge.

Estimates of the proposed impacts to wetlands and surface waters are provided below, however further details on bridge construction and acreage of impact will be refined during the design and permitting phase of the proposed project. These impacts are not expected to adversely affect important recreational and commercial fish species and their prey species.

Direct Impacts

Permanent impacts to EFH are based on the clearing, dredging, filling, and shading of areas within the Manatee River. The construction of new bridge pilings/footings within the wetland and open water portions of the Manatee River is expected to result in similar dredge and fill impacts as the existing Fort Hamer bridge, as well as potential increased shading impacts. The impacts to wetlands and surface waters were classified by EFH category and a conservative estimate for the acreage of the existing bridge was deducted from the respective categories. The areas of EFH with the potential to be directly impacted by the proposed bridge widening activities include approximately 1.15 acres of salt marsh, 1.40 acres of mangroves, and 1.75 acres of bays and estuaries within the Manatee River (estuarine water column & mud, sand, shell, and rock substrates). An SAV survey will be performed during the design and permitting phase of the project to determine the presence of SAV occurring within the project study area.

In August 2001, the NMFS responded to the draft Wetland Evaluation Report (WER) for the FDOT Fort Hamer Bridge project, and noted that the WER adequately described the fishery resources in the project area and adequately described the potential adverse impacts associated with the proposed project (see **Appendix K**). The WER had described the shading impacts were anticipated to be minimal, due to the general north-to-south orientation of the bridge and the width (approximately 50 ft) and height of the bridge (approximately 32 feet) above mean high water. These conditions allow light to penetrate the water column under the bridge. Because the width of the bridge is anticipated to roughly double with this project, there is expected to be additional shading impacts. Shading impacts will be assessed using the UMAM and mitigation for these impacts will be provided.

The increased shading impacts would not affect the hydrology of the affected wetlands but may result in a decrease of vegetation and secondary productivity beneath the bridge. Bridges with height-width ratios of greater than 0.7 do not adversely impact the productivity or function of the underlying vegetation. Approximately 48% of the Fort Hamer Bridge has a height-width ratio of 0.7 or greater, including the portions of the bridge over saltmarsh and mangrove. These effects of shading impacts on the productivity and ecological function beneath the bridge are minimized due to the north-south orientation of the bridge. Based on this information, the impacts of shading beneath the proposed bridge are not anticipated to adversely affect GMFMC or NMFS managed fishery species or their prey.

Indirect Impacts

The proposed bridge widening is not anticipated to deviate substantively from the original construction conditions of the existing Fort Hamer Bridge and is therefore expected to result in similar indirect impacts as well. The use of a temporary work trestle would result in temporary shading impacts to wetlands. These impacts are expected to be minimal and should restore

naturally following the removal of the structure. Temporary impacts to the water column and sediments may occur due to the construction of the bridge and due to the impact of pile driving during construction. During construction, Best Management Practices (BMPs) for erosion control will be employed to minimize impacts to the adjacent habitats, water column, and sediments.

Water quality degradation could affect designated EFH within the study area. To minimize potential water quality impacts, the project will be constructed in accordance with all permit conditions for maintaining water quality during construction. All stormwater runoff from the roadway and bridge structure would be directed to stormwater treatment ponds; no stormwater runoff would be directly discharged to the Manatee River or adjacent wetlands. As a result, no water quality impacts to EFH or EFH-dependent species are anticipated.

Manatee County commits to reinitiating consultation during design and permitting with NMFS for EFH impacts and providing the information necessary to determine the type, degree, and extent of these impacts. Manatee County will develop mitigation measures in consultation with the NMFS to offset unavoidable impacts. Completion of consultation and documentation of the project's compliance with the avoidance, minimization, and mitigation requirements for the impacted resources will be provided by Manatee County. Based on this information, as well as the preliminary desktop and field reviews indicating an absence of seagrasses within the project study area, the proposed impacts to EFH or EFH-dependent species is anticipated to be ***minimal***.

0 750 1,500 Feet

N

Estuarine habitats of the Manatee River identified as EFH within the Study Area include 1) salt marshes, 2) mangroves, 3) estuarine water column, and 4) mud, sand, shell, and rock substrates.

No seagrasses were identified within 1 mile of the preferred alternative.

Legend

- Preferred Alternative
- Project Study Area
- 1 Mile Buffer

FWC Fisheries Independent Monitoring Program

- Gray Snapper
- Pink Shrimp
- Red Drum

EFH Categories

- Mangrove Swamp
- Saltwater Marshes
- Manatee River (water column & substrates)

Source: Nearmap WMS (2023), FWC, USFWS

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Manatee County FLORIDA

Essential Fish Habitat Map

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

1 IN = 1,500 FT	*PROJECT NUMBER: 148400120.3.420*	*MAY 2024*	*FIGURE 6-1*

7.0 PERMITTING REQUIREMENTS AND COORDINATION

The USACE and SWFWMD regulate impacts to wetlands within the project study area. Other agencies, including the USFWS, NMFS, EPA, and the FWC, review and comment on wetland permit applications. The FWC also issues permits for gopher tortoise relocation activities and incidental take permits for state protected avian species. The USFWS is the lead agency for eagle nest take permitting or coordination. In addition, the FDEP regulates stormwater discharges from construction sites. The complexity of the permitting process will depend on the degree of the impact to jurisdictional areas. It is anticipated that the following permits will be required during the design and permitting phase for this project:

Permit	Issuing Agency
Environmental Resource Permit (ERP)	SWFWMD
Section 404 Federal Permit (CWA)	USACE
Section 10 (Rivers and Harbors Act)	USACE
Bridge Permit (Rivers and Harbors Act)	USCG
National Pollutant Discharge Elimination System (NPDES)	FDEP
Incidental Take Permit (as necessary)	USFWS
Incidental Take Permit (as necessary)	FWC
Gopher Tortoise Relocation Permit (as necessary)	FWC

Environmental Resource Permit

The project study area is located within the boundaries of the SWFWMD service area. SWFWMD requires an ERP when construction of any project results in the creation of a new or modification of an existing surface water management system or results in impacts to Waters of the State, including wetlands. The complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts. Under current state rules, the SWFWMD will likely require an individual permit for this project.

USACE 404 Dredge and Fill Permit

The authority to grant permission for temporary or permanent alterations to Waters of the United States (WOTUS) is contained in Section 404 of the Clean Water Act. The USACE is responsible for overseeing permitting for any project proposing dredge or fill activities within WOTUS wetlands or surface waters. The federal 404 Program is a separate program from the State ERP program, and projects with proposed impacts to WOTUS require both an ERP and USACE 404 Program authorization. Several wetlands and surface waters associated with this project would be considered WOTUS and would therefore require a 404 permit for impacts.

USACE Section 10 Permit

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the Ordinary High Water (OHW) elevation of navigable WOTUS be approved by the USACE. Regulated activities include the placement or removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils or sediments, or modification of a navigable waterway. Applications for a permit or letter of permission for work regulated under Section 404 (CWA) and Section 10 (Rivers and Harbors Act) can be made by submitting one application form: *Engineer Form 4345, Application for a Department of Army Permit*. This form serves as an application for both Section 404 and Section 10 permits. A letter of approval from USACE may be required for work within navigable WOTUS when this work is not covered under an existing nationwide or regional general permit.

USCG Bridge Permit

The USCG approves the location and clearances of bridges constructed over WOTUS through the issuance of bridge permits, under the authority of Section 9 of the Rivers and Harbors Act of 1899 and the General Bridge Act of 1946. The USCG is required to ensure that the environmental and navigational considerations are given careful attention in each bridge permitting decision. Bridge permit applications are submitted to and reviewed by the Bridge Administration Program within the appropriate USCG District Office. Any bridge permit associated with this project would be processed through the Seventh Coast Guard District Office in Miami, FL. The application package is reviewed by both the District Commander and the USCG headquarters before a permit is issued or denied.

FDEP NPDES Permit

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

USFWS Incidental Take Permit (as necessary)

Based on field reviews, suitable foraging or nesting habitat exists within the project study area for the species listed in **Section 5.2.2**. A permit for removal of federally protected species must be secured from the USFWS before initiating incidental take. If formal consultation is required, District One would prepare a BA to submit to the USFWS. When an action is reasonably certain to result in the incidental take of a species but is not likely to jeopardize its continued existence, the USFWS will then prepare a Biological Opinion (BO) in which the terms and conditions of mitigation and/or implementation measures will be finalized. Further technical assistance will be reinitiated during the design phase of the project, if needed.

FWC Incidental Take Permit (as necessary)

Based on field reviews, suitable foraging or nesting habitat exists within the project study area for the species listed in **Section 4.2.2**. A permit for removal of state protected species must be secured from the FWC before initiating incidental take. While avoidance and minimization are the preferred course of actions, a Listed Species Incidental Take Permit is available for situations that require the removal of these species. Further technical assistance will be reinitiated during the design phase of the project, if needed.

FWC Gopher Tortoise Relocation Permit (as necessary)

At the time of the site reviews, two gopher tortoise burrows were observed within the project study area, approximately 400 feet east of Fort Hamer Rd. Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase. Permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.

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

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

In accordance with the requirements of Rules 68A-25.002 and 68A-27.004, F.A.C., a permit for gopher tortoise capture/release activities must be secured from FWC before initiating any relocation work. The FWC will require a 100 percent gopher tortoise survey to be conducted within 90 days of construction commencement.

8.0 CONCLUSIONS

8.1 Protected Species and Habitat

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

Table 8-1. Federal Protected Species Impact Determinations

Project Impact Determination	Federal Listed Species	
	Species	***Status****
"No effect"	***Flora***	
	Florida bonamia (*Bonamia grandiflora*)	FT
	Florida golden aster (*Chrysopsis floridana*)	FE
	Florida perforate cladonia (*Cladonia perforata*)	FE
	Pygmy fringe tree (*Chionanthus pygmaeus*)	FE
	Fauna	
	Audubon's crested caracara (*Caracara cheriway*)	FT
	Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	FT
	Everglade snail kite (*Rostrhamus sociabilis plumbeus*)	FE
	Florida bonneted bat (*Eumops floridanus*)	FE
	Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)	FE
	Florida scrub-jay (*Aphelocoma coerulescens*)	FT
	Green sea turtle (*Chelonia mydas*)	FT
	Hawksbill sea turtle (*Eretmochelys imbricata*)	FE
	Kemp's ridley sea turtle (*Lepidochelys kempii*)	FE
	Loggerhead sea turtle (*Caretta caretta*)	FT
	Piping plover (*Charadrius melodus*)	FT
"May affect, not likely to adversely affect"	***Fauna***	
	Eastern indigo snake (*Drymarchon couperi*)	FT
	Gulf sturgeon (*Acipenser oxyrinchus desotoi*)	FT
	Rufa red knot (*Calidris canutus rufa*)	FT
	Smalltooth sawfish (*Pristis pectinata*)	FE
	West Indian manatee (Florida manatee) (*Trichechus manatus (latirostris)*)	FT
	Wood stork (*Mycteria americana*)	FT

*FE–Federally endangered; FT–Federally threatened

Table 8-2. State Protected Species Impact Determinations

Project Impact Determination	State Listed Species	
	Species	***Status****
"No effect anticipated"	***Flora***	
	Giant orchid (*Pteroglossaspis ecristata*)	ST
	Large-plumed beaksedge (*Rhynchospora megaplumosa*)	SE
	Many-flowered grass-pink (*Calopogon multiflorus*)	ST
	Nodding pinweed (*Lechea cernua*)	ST
	Pinewoods bluestem (*Andropogon arctatus*)	ST
"No adverse effect anticipated"	***Flora***	
	Celestial lily (*Nemastylis floridana*)	SE
	Florida spiny-pod (*Matelea floridana*)	SE
	Redmargin zephyrlily (*Zephyranthes simpsonii*)	ST
	Sand butterfly pea (*Centrosema arenicola*)	SE
	Sanibel Island lovegrass (*Eragrostis pectinacea* var. *tracyi*)	SE
	Fauna	
	Florida burrowing owl (*Athene cunicularia floridana*)	ST
	Florida pine snake (*Pituophis melanoleucus mugitus*)	ST
	Florida sandhill crane (*Antigone canadensis pratensis*)	ST
	Gopher tortoise (*Gopherus polyphemus*)	ST
	Least tern (*Sternula antillarum*)	ST
	Little blue heron (*Egretta caerulea*)	ST
	Reddish egret (*Egretta rufescens*)	ST
	Roseate spoonbill (*Platalea ajaja*)	ST
	Southeastern American kestrel (*Falco sparverius paulus*)	ST
	Tricolored heron (*Egretta tricolor*)	ST

* SE–State endangered; ST–State threatened

8.2 Wetland Evaluation

The proposed project alternatives were evaluated for impacts to wetlands in accordance with EO 11990 and the PD&E Manual. The proposed project will not have significant short-term and long-term adverse impacts to wetlands. In accordance with EO 11990, Manatee County has undertaken all actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. Nonetheless, Manatee County has determined that there is no practicable alternative to construction impacts occurring in wetlands. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

A UMAM analysis (**Appendix L**) was performed to estimate the functional loss due to wetland impacts from the Preferred Alternative. The total impacts associated with the Preferred Alternative are anticipated to include 3.62 acres of wetlands and 4.66 acres of surface waters (**Table 5-1**). Construction of the Preferred Alternative may result in an estimated loss of 5.975 functional units. Of the total estimated functional unit loss, 5.726 would result from direct impacts and 0.249 would result from secondary impacts (**Table 5-2**).

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

8.3 Essential Fish Habitat

Estuarine habitats of the Manatee River identified as EFH Categories by the GMFMC or NMFS within the Study Area include 1) mangroves, 2) salt marshes, 3) estuarine water column, and 4) mud, sand, shell, and rock substrates. Thus, all tidal waters and substrates within the Manatee River and the adjoining wetlands, including intertidal zones, are considered EFH by the GMFMC.

Permanent impacts to EFH are based on the clearing, dredging, filling, and shading of areas within the Manatee River. The proposed bridge widening analyzed in the PD&E Study is not anticipated to deviate substantively from the original construction conditions of the existing Fort Hamer Bridge. The impacts to wetlands and surface waters were classified by EFH category and a conservative estimate for the acreage of the existing bridge was deducted from the respective categories. The areas of EFH with the potential to be directly impacted by the proposed bridge widening activities include approximately 1.15 acres of salt marsh, 1.40 acres of mangroves, and 1.75 acres of bays and estuaries within the Manatee River (estuarine water column & mud, sand, shell, and rock substrates). An SAV survey will be performed during the design and permitting phase of the project to determine the presence of SAV occurring within the project study area More details on bridge construction and acreage of impact will be refined during the design and permitting phase of the proposed project. EFH impacts for the bridge widening are expected to be compensated for through wetland mitigation that will compensate for wetland and surface water impacts. Therefore, wetland compensation as well as implemented avoidance and minimization measures are expected to offset any impacts to fish populations or their prey species. The impacts of shading beneath the proposed bridge are not anticipated to adversely affect GMFMC or NMFS managed fishery species or their prey.

Temporary impacts to the water column and sediments may occur due to the construction of the bridge and due to the impact of pile driving during construction. During construction, BMPs for erosion control will be employed to minimize impacts to the adjacent habitats, water column, and sediments. The proposed project will also be constructed in accordance with all permit conditions for maintaining water quality during construction. Additionally, all stormwater runoff from the roadway and bridge structure will be directed to stormwater treatment ponds; no stormwater runoff will be directly discharged to the Manatee River or adjacent wetlands. As a result, no water quality impacts to EFH or EFH-dependent species are anticipated.

Manatee County commits to reinitiating consultation during design and permitting with NMFS for EFH and providing the information necessary to determine the type, degree, and extent of impacts to EFH. Manatee County will develop mitigation measures in consultation with the NMFS to offset unavoidable impacts. Based on this information, as well as the preliminary desktop and field reviews, impacts to EFH or EFH-dependent species are anticipated to be ***minimal***.

8.4 Implementation Measures

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

- Manatee County will survey for SAV during the design phase and during the appropriate season, per USACE SAV Survey Guidelines. Coordination with the USFWS and NMFS will take place, as necessary.
- Surveys for gopher tortoise burrows, as well as commensal species, will be conducted during the design phase and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.
- Surveys to update locations of active bald eagle nest sites will be conducted during the design phase, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place as necessary.
- Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, Manatee County will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- Manatee County will ensure that any stockpile areas are covered when not in use to avoid potential nesting by least terns, which occurs April through August.

8.5 Commitments

Based on the field and literature reviews outlined in this report, federal or state listed species have the potential to occur within the project study area. In order to assure that the proposed project will not adversely impact these species, Manatee County will make the following commitments:

- If the listing status of the tricolored bat or monarch butterfly is elevated by USFWS to Threatened or Endangered and the Preferred Alternative is located within the consultation area, Manatee County commits to re-initiating consultation with USFWS during the design and permitting phase to determine the appropriate survey methodology and address USFWS regulations regarding the protection of these species.
- A survey for listed plant species will be performed during the design phase and coordination with FDACS will occur if impacts to these species are anticipated.
- The most recent version of the USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be adhered to during construction of the proposed project.
- The most recent version of the NMFS *Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office)* will be adhered to during construction of the proposed project.

- The most recent version of the USFWS- and FWC-approved *Standard Manatee Conditions for In-Water Work* will be adhered to during construction of the proposed project.
- Manatee County commits to reinitiating consultation during design and permitting with NMFS for the smalltooth sawfish and providing the information necessary to determine the type, degree, and extent of potential impacts to the smalltooth sawfish by the proposed project. Manatee County will develop mitigation measures in consultation with the NMFS to offset unavoidable impacts.
- Manatee County commits to reinitiating consultation during design and permitting with NMFS for EFH and providing the information necessary to determine the type, degree, and extent of impacts to EFH by the proposed project. Manatee County will develop mitigation measures in consultation with the NMFS to offset unavoidable impacts.
- Manatee County will delineate project seagrass beds, which are not anticipated to be impacted, with floating buoys to reduce the potential for unforeseen impacts to the beds.
- Mooring of work barges or vessels shall maintain at least 1.5-ft clearance above the water body bottom to allow sturgeon passage and to minimize potential disturbance to bottom sediments and submerged aquatic vegetation.
- Manatee County will coordinate with FDEP during the design and permitting phase of the project to appropriately address any SSL requirements.
- Manatee County will require contractors to remove garbage daily from the construction site or use bear proof containers for securing of food and other debris from the project work area to prevent these items from becoming an attractant for the Florida black bear. Any interaction with nuisance bears will be reported to the FWC Wildlife Alert hotline 888-404-FWCC (3922).
- Manatee County will provide mitigation for impacts to wood stork Suitable Foraging Habitat within the Service Area of a Service-approved wetland mitigation bank or any other regionally significant mitigation option that satisfy state and federal requirements.

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APPENDIX A
NRCS Soils Descriptions

4 – Bradenton Fine Sand, 0 to 2 percent slopes

Bradenton fine sand is poorly drained soil and can be found in flats on marine terraces. These soils formed in unconsolidated loamy marine sediments influenced by fine calcareous material. Its slopes range from 0 to 2 percent and sits nearly level to convex. They are located on low ridges, flood pains, or poorly defined drainage ways, and the water table sits at a depth of about 3 to 18 inches during most years. Permeability is moderate throughout, and the available water capacity is moderately high to high. Bradenton fine sands are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

6 – Broward Variant Fine Sand

Broward variant fine sand is poorly drained soil and can be found in rises or flatwoods on marine terraces. These soils formed in sandy marine deposits overlying limestone bedrock. Its slopes range from 0 to 2 percent and sits nearly level to convex. The water table sits at a depth of about 6 to 18 inches. Permeability ranges from poorly drained to somewhat poorly drained throughout, and the available water capacity is moderately high to high. Broward variant fine sands are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

7 – Canova, Anclote, and Okeelanta Soils

Canova, Anclote, and Okeelanta soils are a complex of these three parent soil types and are described below. This soil complex formed in moderately thick deposits of decomposed hydrophytic non-woody sapric material overlying thick beds of marine sediments. Its slopes range from 0 to 2 percent and sits nearly level to concave. In undrained areas the water table typically sits at depths of less than 10 inches or sits above the soil surface for about 6 to 12 months during most years. Permeability ranges from moderately slow to rapid and the available water capacity is moderately high to very high. Canova, Anclote, and Okeelanta soils are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

11 – Cassia Fine Sand, 0 to 2 percent slopes

Cassia fine sand is somewhat poorly drained soil that can be found in knolls or rises in flatwoods on marine terraces. Its slopes range from 0 to 2 percent and sits nearly level to convex and the water table sits at a depth of about 18 to 42 inches of the surface for about 6 months during most years, and within about 30 to 80 inches the rest of the year. Permeability ranges from moderate to rapid depending on the composition of the horizon, and the available water capacity also ranges from moderately high to very high depending on the composition of the horizon. Cassia fine sands are not classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

16 – Delray Complex

Delray series complex is very poorly drained soil that can be found in broad flats, drainageways, or depressions on marine terraces. These soils formed in either sandy or loamy marine sediments influenced by limey materials. Its slopes range from 0 to 2 percent and sits nearly level to concave. The water table sits at depths of less than 12 inches for 6 to 9 months in most years and depressions are ponded for 6 months or more most years. Permeability is rapid in the sandy surface layers and ranges from moderate to moderately rapid in the sandy clay loam subsurface

layers. Delray series complex are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

17 – Delray-EauGallie Complex

Delray-EauGallie Complex soils are a complex of these two parent soil types and are described below. This soil complex formed in flats or depressional areas on marine terraces. Its slopes range from 0 to 2 percent and sits nearly level. The water table sits at depths of 0 to 6 inches from the surface. Permeability ranges from rapidly permeable to slowly permeable depending on the composition of the horizon, and the available water capacity is moderately high to high. Delray-EauGallie complex are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

20 – EauGallie-EauGallie Wet, Fine Sand, 0 to 2 percent slopes

EauGallie-EauGallie wet, fine sand consists of very deep, very poorly or poorly drained, slowly permeable soils in flats, sloughs, or depressional areas on marine terraces. This soil formed in sandy and loamy marine sediments in Peninsula Florida. Its slopes range from 0 to 2 percent and sits nearly level to convex. The water table sits at depths of 3 to 18 inches for periods of 1 to 4 months during most years and depressional areas are covered with standing water 3 to 6 months during most years. Permeability ranges from rapidly permeable to slowly permeable depending on the composition of the horizon, and the available water capacity is moderately high to high. EauGallie-EauGallie wet, fine sands are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

24 – Felda-Wabasso Association, frequently flooded

Felda-Wabasso associations are a complex of these two parent soil types and are described below. These soils formed in sandy and loamy marine deposits and can be found in flats, sloughs, depressions, or flood plains on marine terraces. Slopes are linear to concave and range from 0 to 2 percent. The water table typically sits at depths of 0 to 6 inches from the surface for 2 to 6 months during most years and within 12 to 24 inches of the surface most of the rest of the year. Permeability ranges from very slow to rapid depending on the composition of the horizon, and the available water capacity ranges from moderately low to very high depending on the composition of the horizon. Felda-Wabasso associations are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

25 – Floridana Fine Sand, 0 to 2 percent slopes

Floridana fine sand is very poorly drained soil that can be found in broad flats, floodplains, drainageways, or depressions on marine terraces. These soils formed in thick beds of sandy and loamy marine sediments. Its slopes range from 0 to 2 percent and sits nearly level to concave. They are often located in areas where sandy sediment overlays loamy soils on hydric or mesic lowlands, and the water table typically sits at the surface. Permeability is very slow and the available water capacity ranges from moderately low to moderately high. Floridana fine sands are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

26 – Floridana-Immokalee-Okeelanta Association

Floridana-Immokalee-Okeelanta associations are a complex of these three parent soil types and are described below. These soils formed in moderately thick deposits of decomposed hydrophytic non-woody sapric material overlying marine sand and are often located in large freshwater marshes or small depressional areas on marine terraces. Its slopes range from 0 to 2 percent and sits nearly level to concave. The water table typically sits at or above the soil surface 6 to 12 months during most years. Permeability ranges from very slow to rapid depending on the composition of the horizon, and the available water capacity ranges from moderately high to very high depending on the composition of the horizon. Floridana-Immokalee-Okeelanta associations are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

34 – Okeelanta Muck, tidal

Okeelanta muck is very poorly drained soil that can be found in tidal marshes on marine terraces. These soils formed in moderately thick deposits of sapric material overlying marine sand. Its slopes range from 0 to 2 percent and sits at a concave slope. In undrained areas, the water table typically sits above the soil surface for about 6 to 12 months during most years. Permeability is rapid throughout and the available water capacity ranges from high to very high. Okeelanta muck is classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

38 – Palmetto Sand

Palmetto sand is poorly drained soil that can be found in drainageways or sloughs on marine terraces. These soils formed in unconsolidated sandy and loamy marine deposits. Its slopes range from 0 to 2 percent and sits nearly level to concave. The water table typically sits at the surface and at depths less than 10 inches for 2 to 6 months in most years. Permeability ranges from moderately slow to rapid depending on the composition of the horizon, and the available water capacity is moderately high. Palmetto sands are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

48 – Wabasso-Wabasso, Wet, Fine Sand, 0 to 2 percent slopes

Wabasso-Wabasso wet, fine sand consists of very deep, very poorly or poorly drained soils that that formed in sandy and loamy marine sediments. These soils can be found in flats, sloughs, depressions, or flood plains on marine terraces. Its slopes range from 0 to 2 percent and sits nearly level. The water table typically sits at the surface during wet seasons or at depths of 3 to 18 inches in most years. Permeability ranges from very slowly permeable to rapidly permeable depending on the composition of the horizon, and the available water capacity is moderately high to high. Wabasso-Wabasso wet, fine sands are classified as hydric by the *Hydric Soils of Florida Handbook* (Hurt, 2007).

APPENDIX B
Land Use Descriptions

Upland Habitats and Land Uses

FLUCFCS: 110 (Residential Low Density, Less Than Two Dwelling Units Per Acre)

This land use falls under the low density residential classification as it contains less than two (2) dwelling units per acre. Rural areas, forested or open areas, and recreational subdivisions are included in the Residential category when they are committed to residential use. Several areas of this land use are located throughout the length of the project study area. Low density residential land use comprises 107.36 acres (19.08 percent) of the project study area.

FLUCFCS: 120 (Residential Medium Density, Two to Five Dwelling Units Per Acre)

Fixed single family units land use falls under the medium density residential classification, as it contains two (2) to five (5) dwelling units per acre. This land use is also located throughout the length of the project study area. Medium density residential land use comprises 146.65 acres (26.06 percent) of the project study area. Both medium density and low density residential developments respectively represent the two largest land uses within the project study area.

FLUCFCS: 140 (Commercial and Services)

The commercial and services classification consists of land associated with the distribution of products and services, including secondary structures such as sheds, warehouses, office buildings, driveways, parking lots, and landscaped areas. This land use can be found at the intersection of US 301 and Fort Hamer Road. This area contains little to no natural habitat. Commercial and services comprises 5.15 acres (0.91 percent) of the project study area.

FLUCFCS: 171 (Educational Facilities)

Educational facilities fall under the Institutional classification and are comprised of any buildings, grounds, parking lots, or any other areas that compose the facility (such as dormitories, stadiums, etc.). This classification represents the Annie Lucy Williams Elementary School, located near the center of the project study area and on the eastern side of Fort Hamer Road. This area contains little to no natural habitat. This educational facility comprises 9.63 acres (1.71 percent) of the project study area.

FLUCFCS: 172 (Religious)

The Religious classification falls under the Institutional classification and is comprised of any buildings, grounds, parking lots, or any other areas that compose the facility. This classification represents the North River Church, located near the northern portion of the project study area and on the western side of Fort Hamer Road. This area contains little to no natural habitat. This religious facility comprises 8.13 acres (1.44 percent) of the project study area.

FLUCFCS: 180 (Recreational)

Recreational areas are those areas whose physical structure(s) indicate that community recreation or user-oriented recreation is intended within a given area, including parks. This classification represents the Fort Hamer Park and Fort Hamer boat ramp, located on the northern

shores of the Manatee River and on the western side of Fort Hamer Road near the southern portion of the project study area. The recreational classification comprises 8.61 acres (1.53 percent) of the project study area.

FLUCFCS: 182 (Golf Courses)

Golf courses fall under the Recreational classification and are comprised of areas designated for recreation and excludes residential properties located in the area. This classification represents the Waterlefe Golf & River Club, located on the southern shores of the Manatee River and on the western side of Fort Hamer Road near the southern end of the project study area. This classification comprises 10.48 acres (1.86 percent) of the project study area.

FLUCFCS: 190 (Open Land)

The open land classification includes undeveloped land within urban areas or inactive land with street patterns but without structures. Areas under this classification can be found throughout the length of the project study area. The open land classification comprises 41.74 acres (7.42 percent) of the project study area.

FLUCFCS: 210 (Cropland and Pastureland)

Cropland and pastureland fall under the agriculture classification which is managed for the production of row or field crops, as well as improved, unimproved, or woodland pastures. Areas under this classification are typically cleared, tilled, or regularly improved with brush control or fertilizer, and can be found primarily in the central and southern portions of the project study area. The cropland and pastureland classification comprises 31.60 acres (5.62 percent) of the project study area.

FLUCFCS: 320 (Shrub and Brushland)

This rural open lands classification includes herbaceous or shrubby vegetated areas in rural settings. Areas under this classification are typically improved or disturbed to some degree. This classification represents several herbaceous transitional areas that are located along the outer boundaries of the project study area. The shrub and brushland classification comprises 2.59 acres (0.46 percent) of the project study area.

FLUCFCS: 414 (Pine – Mesic Oak)

This classification includes upland forested areas in which one or more pine species grow in association with a variety of mesic oaks and other hardwood species. This classification represents a forested area to the west of Fort Hamer Road near Mulholland Road and bordering a residential community associated with the River Wilderness Golf & Country Club. Vegetation in this area consisted primarily of live oak, slash pine, and saw palmetto. The pine – mesic oak classification comprises 2.03 acres (0.36 percent) of the project study area.

FLUCFCS: 434 (Upland Hardwood – Coniferous Mix)

The hardwood-coniferous mixed classification is reserved for those upland forested areas in which neither upland conifers nor hardwoods achieve crown canopy dominance. Areas under this classification could be found in the forested uplands bordering the northern banks of the Manatee River. The canopy of these areas consisted primarily of live oak and slash pine, with cabbage palm and invasive exotics present in the understory. The upland hardwood – coniferous mix classification comprises 3.18 acres (0.57 percent) of the project study area.

FLUCFCS: 438 (Mixed Hardwoods)

This is a hardwood community classification in which no single species or group appears to achieve dominance of the canopy. This classification represents two upland forested communities located at the far northern and southern extents of the project study area. The mixed hardwoods classification comprises 9.87 acres (1.75 percent) of the project study area.

FLUCFCS: 810 (Transportation)

This classification consists of transportation facilities used for the movement of people and goods and encompass all areas used for intersections and Right of Way, including pavement, medians, and buffers. Therefore, they are major influences on land and many land use boundaries are outlined by them. This classification is comprised of Fort Hamer Road and the various intersecting roadways throughout the project study area. Although these areas can have native species, they are usually developed features with roadside ditches and have limited habitat restoration potential. Transportation comprises 42.23 acres (7.50 percent) of the project study area.

APPENDIX C
Wetland and Surface Water Descriptions

Wetland and Surface Water Habitats

Name: **Surface Water 1 through 10**
FLUCFCS: **510** **(Streams and Waterways)**
USFWS: **R4SBC** **(Riverine, Intermittent, Streambed, Seasonally Flooded)**

This habitat type includes rivers, creeks, canals, and other linear bodies of water. These waterbodies consist primarily of roadside ditches and swales along either side of Fort Hamer Road throughout the project study area. Some of these features may be considered wetland-cut. Vegetation in these areas includes ruderal grasses and forbs common to ROWs, including frog fruit, manyflower pennywort, and dayflower. Streams and waterways comprise 2.58 acres (0.46 percent) of the project study area.

Name: **Other Surface Water 1 through 41**
FLUCFCS: **530** **(Reservoirs)**
USFWS: **PUBHx** **(Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated)**

The reservoirs of this classification consist of stormwater retention ponds located along Fort Hamer Road, as well as those bordering various developments throughout the project study area. Dominant vegetation within the littoral edge of these reservoirs included cattail, pickerelweed, and alligator flag. Reservoirs comprise 45.23 acres (8.04 percent) of the project study area.

Name: **Surface Water 11**
FLUCFCS: **540** **(Bays and Estuaries)**
USFWS: **E1UBL** **(Estuarine, Subtidal, Unconsolidated Bottom, Subtidal)**

Bays and estuaries are inlets or arms of the sea that extend into the land. Waterbodies within this classification consist of segments or inlets of the Manatee River. Bays and estuaries comprise 29.86 acres (5.31 percent) of the project study area.

Name: **Wetland 1 through 3**
FLUCFCS: **612** **(Mangrove Swamps)**
USFWS: **E2FO3** **(Estuarine, Intertidal, Forested, Broad-Leaved Evergreen)**

This coastal hardwood community is composed purely or predominantly of mangroves. These habitats are located along the north and south banks of the Manatee River, as well as along the banks of a peninsula that extends into the project study area. Dominant vegetation consists of red mangrove, black mangrove, and Brazilian pepper. Mangrove swamps comprise 2.26 acres (0.40 percent) of the project study area.

Name: **Wetland 4 through 7**
FLUCFCS: **615** **(Streams and Lake Swamps – Bottomland)**
USFWS: **PFO1Fd** **(Palustrine, Forested, Broad-Leaved Deciduous, Semipermanently Flooded, Partly Drained/Ditched)**

Bottomlands are low-lying areas usually found on river, creek, and lake floodplains or adjacent overflow areas. This classification can be found along the Manatee River as well as the associated tributaries that extend further northward within the project study area. Dominant vegetation within these areas consisted primarily of laurel oak, water oak, red maple, sweetgum, and cypress. Bottomlands comprise 21.47 acres (3.82 percent) of the project study area.

Name: **Wetland 8**
FLUCFCS: **619** **(Exotic Wetland Hardwoods)**
USFWS: **E2FO1N** **(Estuarine, Intertidal, Forested, Broad-Leaved Deciduous, Regularly Exposed)**

This forested classification represents an area located along the south bank of the Manatee River, primarily within the Waterlefe Golf & River Club west of Fort Hamer Road. This area contains some mangroves, but is dominated by Brazilian pepper. Exotic wetland hardwoods comprise 1.74 acres (0.31 percent) of the project study area.

Name: **Wetland 9 through 20**
FLUCFCS: **630** **(Wetland Forested Mixed)**
USFWS: **PFO1/3Cd** **(Palustrine, Forested, Broad-leaved Deciduous/Evergreen, Seasonally Flooded, Partly Drained/Ditched)**

This habitat type includes mixed wetland forest communities in which neither hardwood nor conifers dominate the canopy. These communities are scattered along the corridor of Fort Hamer Road within the project study area. Dominant vegetation includes water oak, red maple, slash pine, and cypress. Wetland forested mixed communities comprise 12.03 acres (2.14 percent) of the project study area.

Name: **Wetland 21 through 23**
FLUCFCS: **641** **(Freshwater Marshes)**
USFWS: **PEM1C** **(Palustrine, Emergent, Persistent, Seasonally Flooded)**

Freshwater marshes are defined by their long hydroperiod and are typically dominated by hydrophytic grasses, sedges, shrubs, and emergent aquatic vegetation. This classification represents herbaceous wetlands associated with the mixed forested wetlands and bottomlands of the Manatee River, as well as floodplain compensation areas associated with Fort Hamer Road and the surrounding community developments. Vegetation within these areas was primarily comprised of softrush, Peruvian primrose willow, and Carolina willow. Freshwater marshes comprise 3.23 acres (0.57 percent) of the project study area.

Name: **Wetland 24 through 30**
FLUCFCS: **642** **(Saltwater Marshes)**
USFWS: **E2EM1N** **(Estuarine, Intertidal, Emergent, Persistent, Regularly Exposed)**

Saltwater marshes are characterized by their lack of tree cover, however the communities in these habitats are dominated by halophilic flora and fauna. Saltwater marshes within the project study area are concentrated within and surrounding the Manatee River. Dominant vegetation consists of cord grass, black needle rush, and leather fern, as well as black and red mangrove recruits. Saltwater marshes comprise 13.06 acres (2.32 percent) of the project study area.

Name: **Wetland 31**
FLUCFCS: **643** **(Wet Prairies)**
USFWS: **PEM1A** **(Palustrine, Emergent, Persistent, Temporarily Flooded)**

Wet prairies are composed predominately of grassy vegetation on hydric soils and are usually distinguished from marshes by having less water and shorter herbage. This classification represents a small depressional area located between a forested wetland system and a roadside swale bordering the west side of Fort Hamer Road. Vegetation in this area consisted of tall hydrophytic grasses, such as maidencane and torpedo grass. Wet prairies comprise 0.02 acres (0.004 percent) of the project study area.

Name: **Wetland 32 through 24**
FLUCFCS: **644** **(Emergent Aquatic Vegetation)**
USFWS: **PUBHx** **(Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated)**

This habitat type is characterized by floating vegetation. These aquatic vegetation communities within the project study area are primarily located within the littoral edge of permitted stormwater ponds. Dominant vegetation consists of cattail, pickerelweed, and alligator flag, water lilies, and water lettuce. Emergent aquatic vegetation communities comprise 1.92 acres (0.34 percent) of the total project study area.

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APPENDIX D
FNAI Biodiversity Matrix and USFWS IPaC Reports

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

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

UNOFFICIAL REPORT

Created 11/20/2023

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 10 Matrix Units: 26016 , 26017 , 26018 , 26019 , 26020 , 26287 , 26288 , 26289 , 26290 , 26291

Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 26016

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26017

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing

Haliaeetus leucocephalus Bald Eagle	G5	S3	N	N

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26018

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26019

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26020

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26287

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26288
0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

2 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26289
0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26290
0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

2 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit ID: 26291
0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

2 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	T	FT

Matrix Unit IDs: 26016 , 26017 , 26018 , 26019 , 26020 , 26287 , 26288 , 26289 , 26290 , 26291
25 **Potential** Elements Common to Any of the 10 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Acipenser oxyrinchus desotoi Gulf Sturgeon	G3T2T3	S2?	T	FT
Andropogon arctatus pinewoods bluestem	G3	S3	N	T
Bonamia grandiflora Florida bonamia	G3	S3	T	E
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Charadrius melodus Piping Plover	G3	S2	T	FT
Chrysopsis floridana Florida goldenaster	G3	S3	E, PDL	E
Corynorhinus rafinesquii Rafinesque's Big-eared Bat	G3G4	S1	N	N
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Eragrostis pectinacea var. tracyi Sanibel lovegrass	G5T1	S1	N	E
Eretmochelys imbricata Hawksbill Sea Turtle	G3	S1	E	FE
Eumops floridanus Florida bonneted bat	G1	S1	E	FE
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Lechea cernua nodding pinweed	G3	S3	N	T
Lithobates capito Gopher Frog	G2G3	S3	N	N
Matelea floridana Florida spiny-pod	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Pteroglossaspis ecristata giant orchid	G2G3	S2	N	T
Rallus longirostris scottii Florida Clapper Rail	G5T3?	S3?	N	N
Rhynchospora megaplumosa large-plumed beaksedge	G2	S2	N	E
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Setophaga discolor paludicola Florida Prairie Warbler	G5T3	S3	N	N
Trichechus manatus latirostris Florida Manatee	G2G3T2	S2S3	T	N
Zephyranthes simpsonii redmargin zephyrlily	G2G3	S2S3	N	T

Unofficial Report
These results are considered unofficial. FNAI offers a Standard Data Request option for those needing certifiable data.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Manatee County, Florida

Local office

Florida Ecological Services Field Office

(772) 562-3909
(772) 562-4288
fw4flesregs@fws.gov

1339 20th Street
Vero Beach, FL 32960-3559

https://www.fws.gov/office/florida-ecological-services

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
West Indian Manatee Trichechus manatus Wherever found There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/4469	Threatened Marine mammal

Birds

NAME	STATUS
Crested Caracara (audubon''s) [fl Dps] Polyborus plancus audubonii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8250	Threatened
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477	Threatened
Everglade Snail Kite Rostrhamus sociabilis plumbeus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7713	Endangered
Rufa Red Knot Calidris canutus rufa Wherever found There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Wood Stork Mycteria americana — Threatened

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8477

Reptiles

NAME	STATUS

Eastern Indigo Snake Drymarchon couperi — Threatened

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/646

Green Sea Turtle Chelonia mydas — Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/6199

Loggerhead Sea Turtle Caretta caretta — Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1110

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus — Candidate

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS

Pygmy Fringe-tree Chionanthus pygmaeus — Endangered

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1084

Lichens

NAME	STATUS

Florida Perforate Cladonia Cladonia perforata No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7516	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
West Indian Manatee Trichechus manatus https://ecos.fws.gov/ecp/species/4469#crithab	Final

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

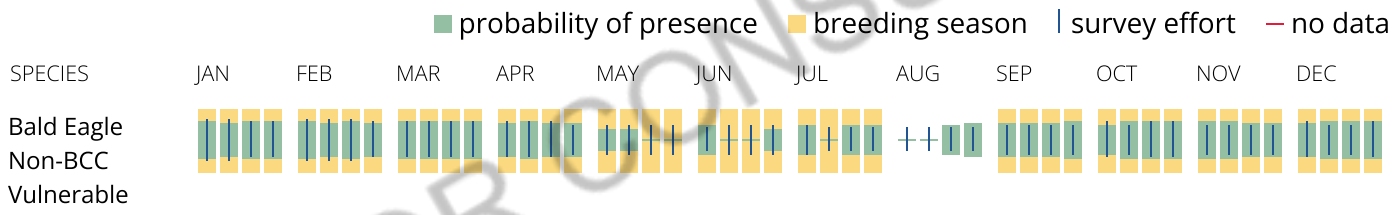
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date

range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
American Oystercatcher Haematopus palliatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Great Blue Heron Ardea herodias occidentalis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Jan 1 to Dec 31

Gull-billed Tern Gelochelidon nilotica — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9501

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Painted Bunting Passerina ciris — Breeds Apr 25 to Aug 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Reddish Egret Egretta rufescens — Breeds Mar 1 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/7617

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Swallow-tailed Kite Elanoides forficatus — Breeds Mar 10 to Jun 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8938

Willet Tringa semipalmata — Breeds Apr 20 to Aug 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

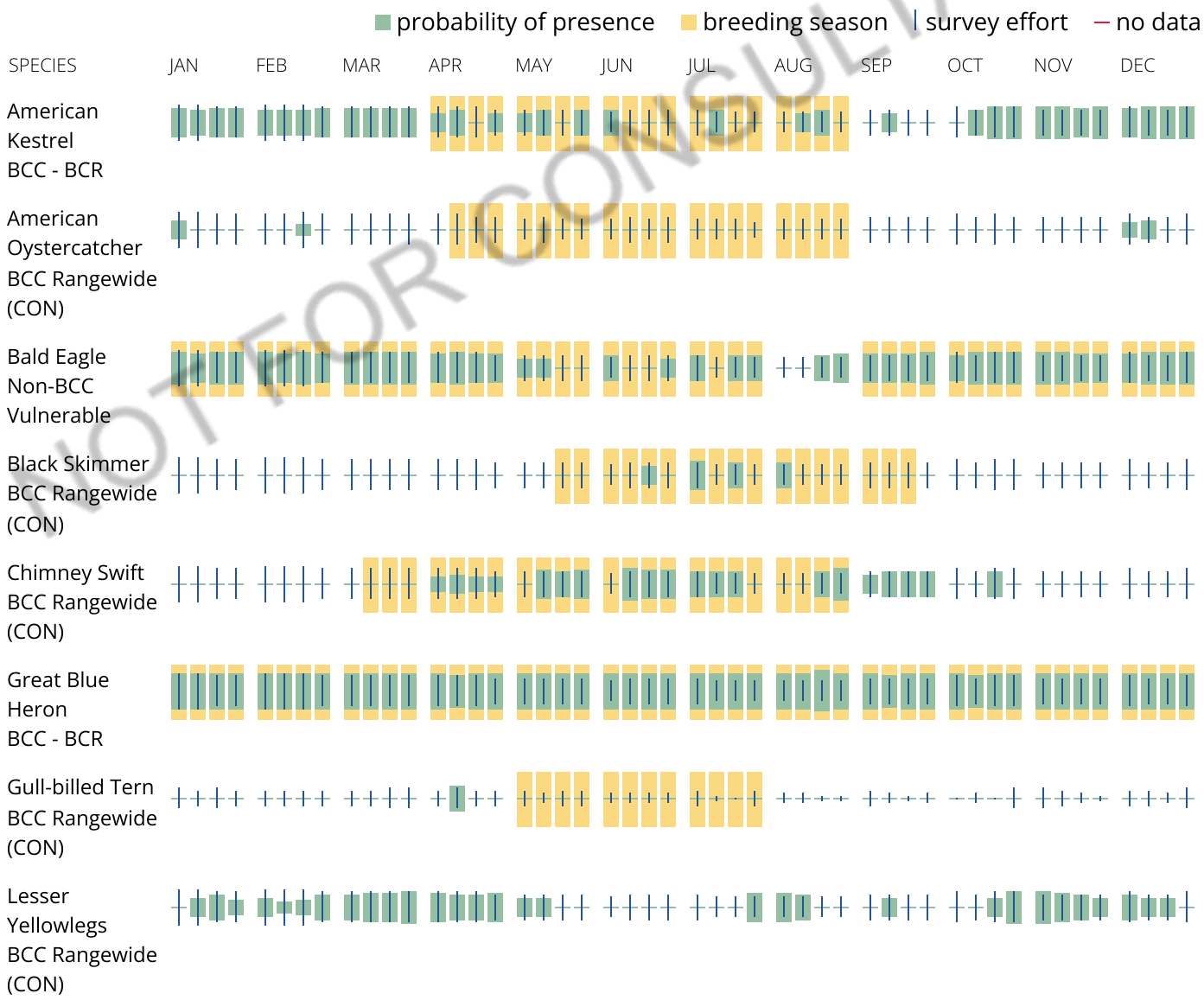
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

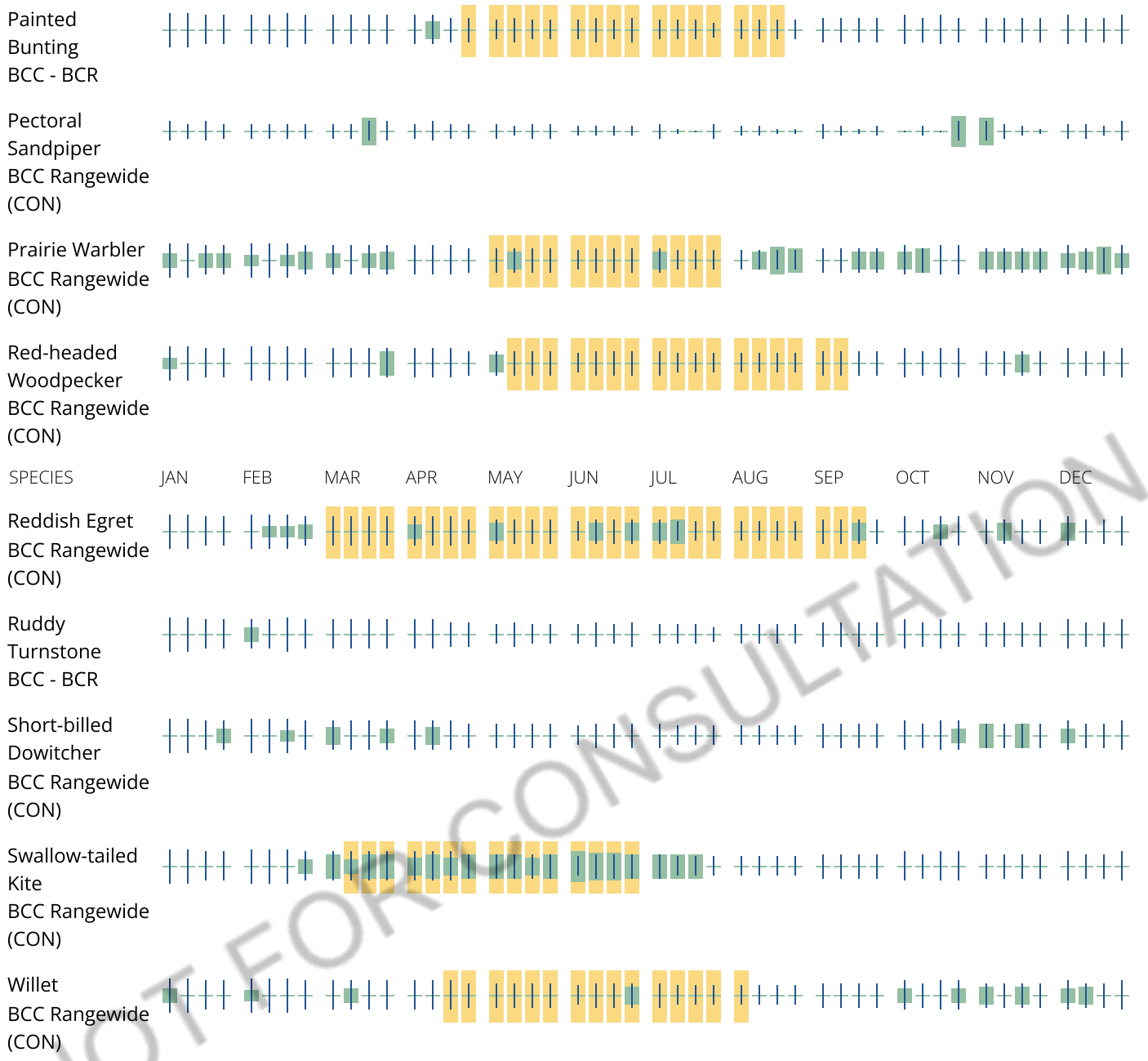
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Marine mammals

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*
https://ecos.fws.gov/ecp/species/4469

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER
- E1UBL

ESTUARINE AND MARINE WETLAND
- E2EM1N
- E2EM1P

FRESHWATER EMERGENT WETLAND
- PEM1/SS1R
- PEM1Fx

FRESHWATER FORESTED/SHRUB WETLAND
- PFO1Rd
- PFO1/3Cd
- PFO1R
- PFO1Fd
- PFO1Cd
- PFO1/3R
- PSS1Fx

FRESHWATER POND
- PUBHx
- PAB4Hx

LAKE
- L2UBHx

RIVERINE
- R4SBC
- R5UBFx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX E
NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006
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APPENDIX F
Standard Protection Measures for the Eastern Indigo Snake and Species Determination Key Paths

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

U.S. Fish and Wildlife Service

December 2023

The Standard Protection Measures for the Eastern Indigo Snake (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida and Georgia for use by project proponents and their construction personnel help minimize adverse impacts to eastern indigo snakes. However, implementation of this Plan does not replace any state of federal consultation or regulatory requirements. At least 30 days prior to any land disturbance activities, the project proponent shall notify the appropriate USFWS Field Office (see Field Office contact information) via e-mail that the Plan will be implemented as described below.

As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the approved poster and pamphlet (USFWS Eastern Indigo Snake Conservation webpage), no further written confirmation or approval from the USFWS is needed regarding use of this Plan as a component of the project.

If the project proponent decides to use an eastern indigo snake protection/education plan other than the approved Plan below, written confirmation or approval from the USFWS that the plan is adequate must be obtained. The project proponent shall submit their unique plan for review and approval. The USFWS will respond via e-mail, typically within 30 days of receiving the plan, either concurring that the plan is adequate or requesting additional information. A concurrence e-mail from the appropriate USFWS Field Office will fulfill approval requirements.

STANDARD PROTECTION MEASURES

BEFORE AND DURING CONSTRUCTION ACTIVITIES:

- All Project personnel shall be notified about the potential presence and appearance of the federally protected eastern indigo snake (*Drymarchon couperi*).
- All personnel shall be advised that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting the species, in knowing violation of the Endangered Species Act of 1973.
- The project proponent or designated agent will post educational posters in the construction office and throughout the construction site. The posters must be clearly visible to all construction staff and shall be posted in a conspicuous location in the

Project field office until such time that Project construction has been completed and time charges have stopped.

- Prior to the onset of construction activities, the project proponent or designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational pamphlet including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office. Photos of eastern indigo snakes may be accessed on USFWS, Florida Fish and Wildlife Conservation Commission and/or Georgia Department of Natural Resources websites.
- Each day, prior to the commencement of maintenance or construction activities, the Contractor shall perform a thorough inspection for the species of all worksite equipment.
- If an eastern indigo snake (alive, dead or skin shed) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Office. The contact information for the USFWS is provided below and on the referenced posters and pamphlets.
- During initial site clearing activities, an onsite observer is recommended to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).
- Periodically during construction activities, the project area should be visited to observe the condition of the posters and Plan materials and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.
- For erosion control use biodegradable, 100% natural fiber, net-free rolled erosion control blankets to avoid wildlife entanglement.

POST CONSTRUCTION ACTIVITIES:

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion (See USFWS Field Office Contact Information).

USFWS FIELD OFFICE CONTACT INFORMATION

Georgia Field Office: Phone: (706) 613-9493, email: gaes_assistance@fws.gov
Florida Field Office: Phone: (352) 448-9151, email: fw4flesregs@fws.gov

POSTER & PAMPHLET INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (final posters for Plan compliance are available on our website in English and Spanish and should be printed on 11 x 17in or larger paper and laminated (USFWS Eastern Indigo Snake Conservation webpage). Pamphlets are also available on our webpage and should be printed on 8.5 x 11in paper and folded, and available and distributed to staff working on the site.

POSTER CONTENT (ENGLISH):

ATTENTION

Federally-Threatened Eastern Indigo Snakes may be present on this site!

Killing, harming, or harassing eastern indigo snakes is strictly prohibited and punishable under State and Federal Law.

IF YOU SEE A LIVE EASTERN INDIGO SNAKE OR ANY BLACK SNAKE ON THE SITE:

• Stop land disturbing activities and allow the snake time to move away from the site without interference. Do NOT attempt to touch or handle the snake.

• Take photographs of the snake, if possible, for identification and documentation purposes.

• Immediately notify supervisor/agent, and a U.S. Fish and Wildlife Service (USFWS) Ecological Services Field Office, with the location information and condition of the snake.

• If the snake is located near clearing or construction activities that will cause harm to the snake, the activities must pause until a representative of the USFWS returns the call (within one day) with further guidance.

IF YOU SEE A DEAD EASTERN INDIGO SNAKE ON THE SITE:

• Stop land disturbing activities and immediately notify supervisor/applicant, and a USFWS Ecological Services Field Office, with the location information and condition of the snake.

• Take photographs of the snake, if possible, for identification and documentation purposes.

• Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, reaching up to 8 ft long. Named for the glossy, blue-black scales above and slate blue below, they often have orange to reddish color (cream color in some cases)

in the throat area. They are not typically aggressive.

SIMILAR SPECIES: The black racer resembles the eastern indigo snake. However, black racers have a white or cream chin, and thinner bodies.

LIFE HISTORY: Eastern indigo snakes live in a variety of terrestrial habitat types. Although they prefer uplands, they also use wetlands and agricultural areas. They will shelter inside gopher tortoise burrows, other animal burrows, stumps, roots, and debris piles. Females may lay from 4 to 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTED STATUS: The eastern indigo snake is protected by the USFWS, Florida Fish and Wildlife Conservation Commission, and Georgia Department of Natural Resources. Any attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage eastern indigo snakes is prohibited by the U.S. Endangered Species Act. Penalties include a maximum fine of $25,000 for civil violations and up to $50,000 and/or imprisonment for criminal offenses. Only authorized individuals with a permit (or an Incidental Take Statement associated with a USFWS Biological Opinion) may handle an eastern indigo snake.

Please contact your nearest USFWS Ecological Services Field Office if a live or dead eastern indigo snake is encountered:

Florida Office: (352) 448-9151

Georgia Office: (706) 613-9493

POSTER CONTENT (SPANISH):

ATENCIÓN

¡Especie amenazada, la culebra Índigo del Este, puede ocupar el área!

Matar, herir o hostigar culebras Índigo del Este es estrictamente prohibido bajo la Ley Federal.

SI VES UNA CULEBRA ÍNDIGO DEL ESTE O UNA CULEBRA NEGRA VIVA EN EL ÁREA:

• Pare excavación y permite el movimiento de la culebra fuera del área sin interferir. NO atentes tocar o recoger la culebra.

• Fotografié la culebra si es posible para identificación y documentación.

• Notifique supervisor/agente, y la Oficina de Campo de Servicios Ecológicos del Servicio Federal de Pesca y Vida Silvestre (USFWS) apropiada con información acerca del sitio y condición de la culebra.

• Si la culebra está cerca de un área de construcción que le pueda causar daño, las actividades deben parar hasta un representante del USFWS regrese la llamada (dentro de un día) con más orientación.

SI VES UNA CULEBRA ÍNDIGO DEL ESTE MUERTA EN EL ÁREA:

• Pare excavación. Notifique supervisor/aplicante, y la Oficina de Campo de Servicios Ecológicos apropiada con información acerca del sitio y condición de la culebra.

• Fotografié la culebra si es posible para identificación y documentación.

• Emerge completamente la culebra en agua y congele la especie hasta que personal apropiado de la agencia de vida silvestre la recoja.

DESCRIPCIÓN. La culebra Índigo del Este es una de las serpientes sin veneno más grande en Norte América, alcanzando hasta 8 pies de largo. Su nombre proviene del color azul-negro brilloso de sus escamas, pero pueden tener un color anaranjado-rojizo (color crema en algunos casos) en su mandíbula inferior. No tienden a ser agresivas.

SERPIENTES PARECIDAS. La corredora negra, que es de color negro sólido, es la única otra serpiente que se asemeja a la Índigo del Este. La corredora negra se diferencia por una mandíbula inferior color blanca o crema y un cuerpo más delgado.

HÁBITATS Y ECOLOGÍA. La culebra Índigo del Este vive en una variedad de hábitats, incluyendo tierras secas, humedales, y áreas de agricultura. Ellas buscan refugio en agujeros o huecos de tierra, en especial madrigueras de tortugas de tierra. Las hembras ponen 4 hasta 12 huevos blancos entre abril y junio, y la cría emergen entre julio y octubre.

PROTECCIÓN LEGAL. La culebra Índigo del Este es clasificada como especie amenazada por el USFWS, la Comisión de Conservación de Pesca y Vida Silvestre de Florida y el Departamento de Recursos Naturales de Georgia. Intento de matar, hostigar, herir, lastimar, perseguir, cazar, disparar, capturar, colectar o conducta parecida hacia las culebras Índigo del Este es prohibido por la Ley Federal de Especies en Peligro de Extinción. Penalidades incluyen un máximo de $25,000 por violaciones civiles y $50,000 y/o encarcelamiento por actos criminales. Solos individuales autorizados con un permiso o Determinación de toma incidental (Incidental Take Statement) asociado con una Opinión Biológico del USFWS pueden recoger una Índigo del Este.

Por favor de contactar tu Oficina de Campo de Servicios Ecológicos más cercana si encuentras una culebra Índigo del Este viva o muerta:

Oficina de Florida: (352) 448-9151

Oficina de Georgia: (706) 613-9493

United States Department of the Interior

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

August 1, 2017

Donnie Kinard
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Subject: Consultation Key for the Eastern Indigo Snake – Revised

Dear Mr. Kinard:

This letter revises and replaces the January 25, 2010, and August 13, 2013, letters to the U.S. Army Corps of Engineers (Corps) regarding the use of the eastern indigo snake programmatic effect determination key (Key) for projects occurring within the South Florida Ecological Service's Office (SFESO) jurisdiction. This revision supersedes all prior versions of the Key in the SFESO area. The purpose of this revision is to clarify portions of the previous keys based on questions we have been asked, specifically related to habitat and refugia used by eastern indigo snakes (*Drymarchon corais couperi*), in the southern portion of their range and within the jurisdiction of the SFESO. This Key is provided pursuant to the Service's authorities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*). This Key revision has been assigned Service Consultation Code: 41420-2009-I-0467-R001.

The purpose of this Key is to assist the Corps (or other Federal action agency) in making appropriate effects determinations for the eastern indigo snake under section 7 of the Act, and streamline informal consultation with the SFESO for the eastern indigo snake when the proposed action can be walked through the Key. The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

This Key uses project size and home ranges of eastern indigo snakes as the basis for making determinations of "may affect, but is not likely to adversely affect" (NLAA) and "may affect. and is likely to adversely affect" (may affect). Suitable habitat for the eastern indigo snake consists of a mosaic of habitats types, most of which occur throughout South Florida. Information on home ranges for individuals is not available in specific habitats in South Florida. Therefore, the SFESO uses the information from a 26-year study conducted by Layne and Steiner (1996) at Archbold Biological Station, Lake Placid, Florida, as the best available

information. Layne and Steiner (1996) determined the average home range size for a female eastern indigo snake was 46 acres and 184 acres for a male.

Projects that would remove/destroy less than 25 acres of eastern indigo snake habitat are expected to result in the loss of a portion of an eastern indigo snakes home range that would not impair the ability of the individual to feed, breed, and shelter. Therefore, the Service finds that take would not be reasonably certain to occur due to habitat loss. However, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take. Consequently, projects less than 25 acres that include the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013 or most current version) and a commitment to excavate underground refugia as part of the proposed action would be expected to avoid take and thus, may affect, but are not likely to adversely affect the species.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

Projects that would remove 25 acres or more of eastern indigo snake habitat could remove more than half of a female eastern indigo snakes home range. This loss of habitat within a home range would be expected to significantly impair the ability of that individual to feed, breed, and shelter. Therefore, the Service finds take through habitat loss would be reasonably certain to occur and formal consultation is appropriate. Furthermore, these projects have the potential to injure or kill an eastern indigo snake if the individual is crushed by equipment during site preparation or other project aspects. The Service's *Standard Protection Measures* for the *Eastern Indigo Snake* (Service 2013 or most current version) and the excavation of underground refugia (where a snake could be buried, trapped and/or injured), when implemented, are designed to avoid these forms of take.

Eastern indigo snakes use a variety of habitat and are difficult to detect. Therefore, site specific information on the land use, observations of eastern indigo snakes within the vicinity, as well as other factors, as appropriate, will all be considered by the Service when making a final recommendation on the appropriate effects determination and whether it is appropriate to conclude consultation with the Corps (or other Federal action agency) formally or informally for projects that will impact 25 acres or more of habitat. Accordingly, when the use of the Key results in a determination of "may affect," the Corps (or other Federal action agency) is advised that consultation may be concluded informally or formally, depending on the project specific effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps (or other Federal action agency) desires to proceed with a consultation request prior to receiving

additional technical assistance from the Service, we recommend the agency documents the biological rationale for their determination and proceed with a request accordingly.

If the use of the Key results in a determination of "no effect," no further consultation is necessary with the SFESO. If the use of the Key results in a determination of "NLAA," the SFESO concurs with this determination based on the rationale provide above, and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake. For "no effect" or "NLAA" determinations, the Service recommends that the Corps (or other Federal action agency) documents the pathway used to reach your no effect or NLAA determination in the project record and proceed with other species analysis as warranted.

Eastern Indigo Snake Programmatic Effect Determination Key
Revised July 2017
South Florida Ecological Service Office

Scope of the Key

This Key should be used only in the review of permit applications for effects determinations for the eastern indigo snake (*Drymarchon corais couperi*) within the South Florida Ecological Service's Office (SFESO) area (Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, and St. Lucie Counties). There is no designated critical habitat for the eastern indigo snake.

This Key is subject to revision as the Corps (or other Federal action agency) and Service deem necessary and in particular whenever there is new information on eastern indigo snake biology and effects of proposed projects.

The Key is a tool available to the Corps (or other Federal action agency) for the purposes of expediting section 7 consultations. There is no requirement to use the Key. There will be cases when the use of the Key is not appropriate. These include, but are not limited to: where project specific information is outside of the scope of the Key or instances where there is new biological information about the species. In these cases, we recommend the Corps (or other Federal action agency) initiates traditional consultation pursuant to section 7 of the Act, and identify that consultation is being requested outside of the Key.

Habitat

Habitat use varies seasonally between upland and wetland areas, especially in the more northern parts of the species' range. In southern parts of their range eastern indigo snakes are habitat generalists which use most available habitat types. Movements between habitat types in northern areas of their range may relate to the need for thermal refugia (protection from cold and/or heat).

In northern areas of their range eastern indigo snakes prefer an interspersion of tortoise-inhabited sandhills and wetlands (Landers and Speake 1980). In these northern regions eastern indigo

snakes most often use forested areas rich with gopher tortoise burrows, hollowed root channels, hollow logs, or the burrows of rodents, armadillos, or land crabs as thermal refugia during cooler seasons (Lawler 1977; Moler 1985a; Layne and Steiner 1996). The eastern indigo snake in the northern region is typically classified as a longleaf pine savanna specialist because here, in the northern four-fifths of its range, the eastern indigo snake is typically only found in vicinity of xeric longleaf pine–turkey oak sandhills inhabited by the gopher tortoise (Means 2006).

In the milder climates of central and southern Florida, comprising the remaining one fifth of its range, thermal refugia such as those provided by gopher tortoise burrows may not be as critical to survival of indigo snakes. Consequently, eastern indigo snakes in these regions use a more diverse assemblage of habitats such as pine flatwoods, scrubby flatwoods, floodplain edges, sand ridges, dry glades, tropical hammocks, edges of freshwater marshes, muckland fields, coastal dunes, and xeric sandhill communities; with highest population concentrations of eastern indigo snakes occurring in the sandhill and pineland regions of northern and central Florida (Service 1999). Eastern indigo snakes have also been found on agricultural lands with close proximity to wetlands (Zeigler 2006).

In south Florida, agricultural sites (*e.g.*, sugar cane fields and citrus groves) are occupied by eastern indigo snakes. The use of sugarcane fields by eastern indigo snakes was first documented by Layne and Steiner in 1996. In these areas there is typically an abundance of wetland and upland ecotones (due to the presence of many ditches and canals), which support a diverse prey base for foraging. In fact, some speculate agricultural areas may actually have a higher density of eastern indigo snakes than natural communities due to the increased availability of prey. Gopher tortoise burrows are absent at these locations but there is an abundance of both natural and artificial refugia. Enge and Endries (2009) reporting on the status of the eastern indigo snake included sugarcane fields and citrus groves in a Global Information Systems (GIS)-base map of potential eastern indigo snake habitat. Numerous sightings of eastern indigo snakes within sugarcane fields have been reported within south Florida (Florida Fish and Wildlife Conservation Commission Indigo Snake Database [Enge 2017]). A recent study associated with the Comprehensive Everglades Restoration Plan (CERP) (A-1 FEB Project formerly A-1 Reservoir; Service code: 41420-2006-F-0477) documented eastern indigo snakes within sugarcane fields. The snakes used artificial habitats such as piles of limerock, construction debris, and pump stations. Recent studies also associated with the CERP at the C-44 Project (Service code: 41420-2009-FA-0314), and C-43 Project (Service code: 41420-2007-F-0589) documented eastern indigo snakes within citrus groves. The snakes used artificial habitats such as boards, sheets of tin, construction debris, pipes, drain pipes in abandoned buildings and septic tanks.

In extreme south Florida (*i.e.*, the Everglades and Florida Keys), eastern indigo snakes also utilize tropical hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats. Though eastern indigo snakes have been found in all available habitats of south Florida it is thought they prefer hammocks and pine forests since most observations occur there and use of these areas is disproportionate compared to the relatively small total area of these habitats (Steiner *et al.* 1983).

Even though thermal stress may not be a limiting factor throughout the year in south Florida, eastern indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigo snakes 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 guanhumi*) burrows in coastal areas (Layne and Steiner 1996; Wilson and Porras 1983). 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.

Minimization Measures

The Service developed protection measures for the eastern indigo snake "Standard Protection Measures for the Eastern Indigo Snake" (Service 2013) located at: https://www.fws.gov/verobeach/ReptilesPDFs/20130812_EIS%20Standard%20Protection%20Measures_final.pdf. These protections measures (or the most updated version) are considered a minimization measure for projects proposed within eastern indigo snake habitat.

Determinations

If the use of this Key results in a determination of "**no effect**," no further consultation is necessary with the SFESO.

If the use of this Key results in a determination of "**NLAA**," the SFESO concurs with this determination and no further consultation is necessary for the effects of the proposed action on the eastern indigo snake.

For no effect or NLAA determinations, the Corps (or other Federal action agency) should make a note in the project file indicating the pathway used to reach your no effect or NLAA determination.

If a proposed project would impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, the subsequent Key should not be used. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range.

If the use of this Key results in a determination of "**may affect**," consultation may be concluded informally or formally depending on project effects to eastern indigo snakes. Technical assistance from the Service can assist you in making a determination prior to submitting a request for consultation. In circumstances where the Corps desires to proceed with a consultation request prior to receiving additional technical assistance from the Service, we recommend the Corps document the biological rationale for their determination and proceed with a request accordingly.

A. Project is not located in open water or salt marsh.....go to B

Project is located solely in open water or salt marsh.....**no effect**

B. Permit will be conditioned for use of the Service's most current guidance for Standard Protection Measures For The Eastern Indigo Snake (currently 2013) during site preparation and project construction.....go to C

Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested.....**may affect**

C. The project will impact less than 25 acres of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....go to D

The project will impact 25 acres or more of eastern indigo snake habitat (*e.g.*, sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandoned citrus groves], and coastal dunes).....**may affect**

D. The project has no known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and/or injured during project activities.....**NLAA**

The project has known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped and /or injured.....go to E

E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow[1]. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work.....**NLAA**[2]

Permit will not be conditioned as outlined above.....**may affect**

End Key

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[1] If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a Florida Fish and Wildlife Conservation Commission Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at http://myfwc.com/gophertortoise.

[2] Please note, if the proposed project will impact less than 25 acres of vegetated eastern indigo snake habitat (not urban/ human-altered) completely surrounded by urban development, and an eastern indigo snake has been observed on site, NLAA is not the appropriate conclusion. The Service recommends formal consultation for this situation because of the expected increased value of the vegetated habitat within the individual's home range

Working with the Fish and Wildlife Foundation of Florida, the Service has established a fund to support conservation and recovery for the eastern indigo snake. Any project that has the potential to affect the eastern indigo snake and/or its habitat is encouraged to make a voluntary contribution to this fund. If you would like additional information about how to make a contribution and how these monies are used to support eastern indigo snake recovery please contact Ashleigh Blackford, Connie Cassler, or José Rivera at 772-562-3559.

This revised Key is effective immediately upon receipt by the Corps. Should circumstances change or new information become available regarding the eastern indigo snake and/or implementation of the Key, the determinations herein may be reconsidered and this Key further revised or amended.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. If you have any questions or comments regarding this Key, please contact the SFESO at 772-562-3909.

Sincerely,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services

Cc:
Corps, Jacksonville, Florida (Dale Beter, Muriel Blaisdell, Ingrid Gilbert, Angela Ryan, Irene Sadowski, Victoria White, Alisa Zarbo)
Service, Athens, Georgia (Michelle Elmore)
Service, Jacksonville, Florida (Annie Dziergowski)
Service, Panama City, Florida (Sean Blomquist)

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APPENDIX G
NMFS Protected Species Construction Conditions (NOAA Fisheries Southeast Regional Office)

PROTECTED SPECIES CONSTRUCTION CONDITIONS, NOAA FISHERIES SOUTHEAST REGIONAL OFFICE

The action agency and any permittee shall comply with the following construction conditions for protected species under the jurisdiction of NOAA Fisheries Southeast Regional Office (SERO) Protected Resources Division (PRD):[1]

Protected Species Sightings–The action agency and any permittee shall ensure that all personnel associated with the project are instructed about the potential presence of species protected under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). All on-site project personnel are responsible for observing water-related activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing listed species and all marine mammals. To determine which protected species and critical habitat may be found in the transit area, please review the relevant marine mammal and ESA-listed species at Find A Species (https://www.fisheries.noaa.gov/find-species) and the consultation documents that have been completed for the project.

1. **Equipment**–Turbidity curtains, if used, shall be made of material in which protected species cannot become entangled and be regularly monitored to avoid protected species entrapment. All turbidity curtains and other in-water equipment shall be properly secured with materials that reduce the risk of protected species entanglement and entrapment.

    a. In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) shall be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, shall be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line shall be allowed in the water. All anchoring shall be in areas free from hardbottom and seagrass.

    b. Turbidity curtains and other in-water equipment shall be placed in a manner that does not entrap protected species within the project area and minimizes the extent and duration of their exclusion from the project area.

    c. Turbidity barriers shall be positioned in a way that minimizes the extent and duration of protected species exclusion from important habitat (e.g. critical habitat, hardbottom, seagrass) in the project area.

2. **Operations**–For construction work that is generally stationary (e.g., barge-mounted equipment dredging a berth or section of river, or shore-based equipment extending into the water):

    a. Operations of moving equipment shall cease if a protected species is observed within 150 feet of operations.

[1] Manatees are managed under the jurisdiction of the U.S. Fish and Wildlife Service.

b. Activities shall not resume until the protected species has departed the project area of its own volition (e.g., species was observed departing or 20 minutes have passed since the animal was last seen in the area).

3. **Vessels**–For projects requiring vessels, the action agency, and any permittee shall ensure conditions in the Vessel Strike Avoidance Measures are implemented as part of the project/permit issuance (https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance).

4. **Consultation Reporting Requirements–**Any interaction with a protected species shall be reported immediately to NOAA Fisheries SERO PRD and the local authorized stranding/rescue organization.

   To report to NOAA Fisheries SERO PRD, send an email to takereport.nmfsser@noaa.gov. Please include the species involved, the circumstances of the interaction, the fate and disposition of the species involved, photos (if available), and contact information for the person who can provide additional details if requested. Please include the project's Environmental Consultation Organizer (ECO) number and project title in the subject line of email reports.

   To report the interaction to the local stranding/rescue organization, please see the following website for the most up to date information for reporting sick, injured, or dead protected species:

   Reporting Violations–To report an ESA or MMPA violation, call the NOAA Fisheries Enforcement Hotline. This hotline is available 24 hours a day, 7 days week for anyone in the United States.

   NOAA Fisheries Enforcement Hotline (800) 853-1964

5. **Additional Conditions–**Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the project consultation and must also be complied with.

For additional information, please contact NOAA Fisheries SERO PRD at:
NOAA Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
Tel: (727) 824-5312
Visit us on the web at Protected Marine Life in the Southeast
(https://www.fisheries.noaa.gov/region/southeast#protected-marine-life)

Revised: May 2021

APPENDIX H

Photographic Log

Eastern Black Rail Habitat Survey

Potential Eastern black rail habitat identified in the Manatee River within the Preferred Alternative via drone footage captured on 5/3/2024 facing north (top) and south (bottom).

Representative photos of the field review conducted on August 13, 2024 during a +2.25 ft high tide (nearest NOAA station ID: 8726278). Average water depth was approximately 15 in.

Photographic Log – Eastern Black Rail Habitat Survey

Fort Hamer Road PD&E (FPID #452775-3-22-01)
Manatee County, Florida

Scale: NTS	*Project Number: 148400120*	*August 2024*	*Appendix H*

APPENDIX I

Wood Stork Foraging Assessment Memorandum

and Species Determination Key Paths

WOOD STORK FORAGING HABITAT ASSESSMENT

1.0 INTRODUCTION

Manatee County, on behalf of the Florida Department of Transportation (FDOT) District One, is conducting a Project Development and Environment (PD&E) Study to evaluate the needs, costs, and effects of constructing improvements that will increase traffic capacity and safety on Fort Hamer Road in Manatee County. The purpose of this PD&E Study is to evaluate engineering and environmental data and document information that will support District One in determining the type, preliminary design, and location of the proposed improvements. Depending on the needs, this roadway project proposes the potential widening of approximately 4.0 miles of the existing two-lane, undivided Fort Hamer Road up to four lanes from Upper Manatee River Road to US 301. The bridge (Bridge #134123) included within the project limits, carrying Fort Hamer Road across the Manatee River, is also proposed to be widened up to four lanes. The study was conducted to meet the requirements of the FDOT, the National Environmental Policy Act (NEPA), and other related federal and state laws, rules, and regulations.

2.0 WOOD STORK NESTING AND SUITABLE FORAGING HABITAT

The wood stork (*Mycteria americana*) is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located in swamps or on islands surrounded by relatively broad expanses of open water. Successful breeding sites are those that have limited human disturbance and low exposure to land-based predators. Nesting sites protected from land-based predators are characterized as areas 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.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the wood stork include freshwater marshes, depressions in cypress heads, swamps sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Suitable foraging habitat is described as wetland or open water areas that are relatively calm, uncluttered by dense thickets of aquatic vegetation and have a water depth between 2 and 15 inches. Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydraulic regimes that exhibit short and long hydroperiods. The vegetative component provides nursery habitat for small fish, crayfish, frogs, and other aquatic prey, and the shallow open-water areas provide sites for concentration of the prey during daily or seasonal low water periods. Within Manatee County, suitable wetland and open water habitats within 15.0 miles of a wood stork nesting colony are considered Core Foraging Areas (CFA) by the U.S. Fish and Wildlife Service (USFWS).

The loss of wetland habitats, or wetland function, has been the primary cause of the wood stork population decline in the United States. The alteration of wetlands and the manipulation of wetland hydroperiods to suit human needs have also reduced the amount of available habitat to wood storks and affected prey base availability. The altered hydrology of these systems has also enhanced the invasion of these systems by exotic plant species. These exotic plants can produce a dense understory and closed canopy, limiting suitability of these wetland systems for foraging by wood storks, although a sufficient prey base may be present in the wetlands.

Four (4) variables are indicative of the necessities and functions of optimal or suitable foraging habitat required by the wood stork:

1. *Vegetation Density*: the density of vegetation within habitats suitable for wood stork foraging;
2. *Wetland Hydroperiods*: the hydroperiod of the wetland, which includes two (2) subcomponents; (1) the fish and crayfish density per hydroperiod; and (2) the fish and crayfish biomass per hydroperiod;
3. *Prey Size Suitability*: the suitability of prey size for the wood stork, which provides an adjustment to the fish and crayfish biomass per hydroperiod and is referenced hereafter as the "wood stork suitability prey base"; and
4. *Competition with other wading bird species*: the likelihood that the wood stork is the wading bird species that actually consumes the concentrated prey.

3.0 SUITABLE WOOD STORK FORAGING HABITATS WITHIN THE BUILD ALTERNATIVE

The proposed project study area contains wood stork foraging habitat and is located within the CFA of one (1) active wood stork nesting colony: Ayers Point - Dot Dash. There are approximately 3.63 acres of wetlands and approximately 1.80 acres of surface waters that could be utilized by the wood stork for foraging in the Preferred Alternative that were used in this habitat assessment. These wetlands were grouped by similar habitat types and evaluated relative to exotic species density and hydroperiod.

Exotic Vegetation Density

Wood stork habitat quality can be adversely affected by the level of exotic species infestation within wetlands and surface waters. The availability of the prey base for wood storks and other foraging wading birds is reduced by the restriction of access caused from dense and thick exotic vegetation. **Table 1** provides the foraging suitability value (FSV) percentages used in the Wood Stork Biomass Analysis.

The wetland habitats within the Fort Hamer Road project study area vary in the percentage of exotic vegetation. Depending on the percent of exotics present, FSVs of 100, 64, 37, and 3 were assigned to the potential foraging habitat available to wood storks within the project study area.

Table 1 – Exotic Vegetation Cover Percentage Foraging Suitability Value

PERCENTAGE OF EXOTIC VEGETATION	FSV (PERCENT)
Between 0 and 25 Percent Exotics	**100**
Between 25 and 50 Percent Exotics	**64**
Between 50 and 75 Percent Exotics	**37**
Between 75 and 90 Percent Exotics	**3**
Between 90 and 100 Percent Exotics	**0**

Hydroperiod

The hydroperiod of the wetlands potentially affected by a project is an important consideration in determining effects on wood stork foraging habitat due to the dependency of fish and crayfish (potential foraging biomass) on hydroperiod. Wetlands and surface waters within the project area were grouped according to hydroperiod class.

4.0 IMPACTS

The Preferred Alternative for Fort Hamer Road (with roundabout intersections) includes widening to a four-lane divided roadway as well as bicycle and pedestrian accommodations on sidewalk, shared-use path, and bike lanes. Impacts will be limited to wetlands previously impacted by roadway activity and will utilize the existing corridor right of way to further minimize impacts. This section analyzes the impacts of the proposed project on the wood stork and wood stork foraging habitat.

For assessment purposes, this wood stork biomass analysis addresses the loss of wetlands within the proposed right-of-way of the Preferred Alternative. For the assessment of the Preferred Alternative, approximately 3.63 acres of wetlands and approximately 1.80 acres of surface waters were analyzed.

The analysis determined that the Preferred Alternative may result in the net loss of 21.78 kg total (fish and crayfish) biomass. **Table 2** presents the analysis of the impacts to wood stork foraging habitat for the Preferred Alternative.

Table 2 – Preferred Alternative Wood Stork Foraging Analysis Summary

Wood Stork Foraging Analysis Summary - Total Biomass (Including Crayfish and Fish)							
Impact Area							
Hydroperiods	**Acres**	**% Exotics**	**FSV**	**m^2**	**m^2 suitable**	**Crayfish and fish biomass g/m^2**	**Biomass loss (kg)**
Short Hydroperiods							
Class 3: 120-180 days	0.02	51-75	0.37	87.86	32.51	0.43	0.01
Long Hydroperiods							
Class 4: 180-240 days	0.16	51-75	0.37	645.38	238.79	1.52	0.07

Wood Stork Foraging Analysis Summary - Total Biomass (Including Crayfish and Fish)							
Impact Area							
Hydroperiods	**Acres**	**% Exotics**	**FSV**	**m^2**	**m^2 suitable**	**Crayfish and fish biomass g/m^2**	**Biomass loss (kg)**
Class 5: 240-300 days	2.99	0-25	1.00	12,101.10	12,101.10	16.19	11.52
Class 6: 300-330 days	1.76	0-25	1.00	7,111.95	7,111.95	5.46	7.77
Class 7: 330-365 days	0.51	0-25	1.00	2,046.69	2,046.69	3.54	2.41
Total	**5.43**			**21,992.98**	**21,531.04**	**27.14**	**21.78**

5.0 MITIGATION

Impacts to wetlands within the Preferred Alternative will be mitigated for within the CFA of the affected rookery or at a regional mitigation bank that has been approved by the USFWS or pursuant to Section 373.4137, F.S. Wetland mitigation will include compensation for the loss of wood stork foraging habitat and prey resulting from construction of the proposed project. Compensation for the loss of wetlands, as well as wood stork habitat and foraging area (long term hydroperiod wetlands), will be provided at a state and federal approved mitigation bank.

6.0 SUMMARY

The proposed project study area contains wood stork foraging habitat and is located within the CFA of one (1) active wood stork nesting colony: Ayers Point - Dot Dash. There are approximately 3.63 acres of wetlands and approximately 1.80 acres of surface waters that were analyzed as wood stork foraging habitat within the Preferred Alternative. Wood stork foraging biomass productivity is calculated based on hydroperiods of class of affected wetlands. The Preferred Alternative may potentially result in the net loss of 21.78 kg total (fish and crayfish) biomass. Loss of potential wood stork foraging habitat attributable to the project will be offset by providing the equivalent credits at a federally approved mitigation bank.

7.0 REFERENCES

Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services. Technical Publication FWS/OBS-79/31. 131 pp.

Kahl, M.P., Jr. 1964. Food Ecology of the Wood Stork (*Mycteria americana*) in Florida. Ecological Monographs 34:97 117.

Ogden, J.C. 1990. *Habitat Management Guidelines for the Wood Stork in the Southeast Region*. U.S. Fish and Wildlife Service Southeast Region. Atlanta, Georgia. 14 pp.

U.S. Fish and Wildlife Service. 2012. Wood Stork Foraging Habitat Assessment Methodology.

U.S. Fish and Wildlife Service. 1997. Revised Recovery Plan for the U.S. Breeding Population of the Wood Stork. U.S. Fish and Wildlife Service, Atlanta, Georgia. 41 pp.

U.S. Fish and Wildlife Service. 2008. United States Department of the Interior, Fish and Wildlife Service, Jacksonville District Corps of Engineers, Effect Determination Key for the Wood Stork in Central and North Peninsular Florida.

U.S. Fish and Wildlife Service. 2010. United States Department of the Interior, Fish and Wildlife Service, Jacksonville District Corps of Engineers, South Florida Programmatic Concurrence for the Wood Stork, Wood Stork Effect Determination Key. 34 pp.

U.S. Fish and Wildlife Service. 2019. Wood Stork Nesting Colonies and Core Foraging Areas, GIS Shapefiles.

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

Purpose and Background

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

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

Scope of the key

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

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

impacts to wood storks and/or suitable wood stork foraging habitat. Projects that key to a "no effect" determination do not require additional consultation or coordination with the JAFL. Projects that key to "NLAA" also do not need further consultation; however, the JAFL staff will assist the Corps if requested, to answer questions regarding the appropriateness of mitigation options. Projects that key to a "may affect" determination equate to "likely to adversely affect" situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For all "may affect" determinations, Corps Project Managers should request the JAFL to initiate formal consultation on the Wood stork.

Summary of General Wood Stork Nesting and Foraging Habitat Information

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

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

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

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

WOOD STORK KEY

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

A. Project within 2,500 feet of an active colony site[1]……*May affect*

Project more than 2,500 feet from a colony site……go to B

B. Project does not affect suitable foraging habitat[2] (SFH)…….*no effect*

Project impacts SFH[2]……go to C

C. Project impacts to SFH are less than or equal to 0.5 acre[3]…….....*NLAA*[4]

Project impacts to SFH are greater than or equal to 0.5 acre..……..go to D

D. Project impacts to SFH not within a Core Foraging Area[5] (see attached map) of a colony site, and no wood storks have been documented foraging on site…….....NLAA[4]

Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFA ……..….go to E

E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see *Wood Stork Foraging Habitat Assessment Procedure*[6] for guidance), is not contrary to the Service's *Habitat Management Guidelines For The Wood Stork In The Southeast Region* and in accordance with the CWA section 404(b)(1) guidelines……*NLAA*[4]

Project does not satisfy these elements.……....……...*May affect*

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

[2] Suitable foraging habitat (SFH) is described as any area containing patches of relatively open (< 25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm). SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to, freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. See above *Summary of General Wood Stork Nesting and Foraging Habitat Information*.

[3] On an individual basis, projects that impact less than 0.5 acre of SFH generally will not have a measurable effect on wood storks, although we request the Corps to require mitigation for these losses when appropriate. Wood Storks are a wide ranging species, and individually, habitat change from impacts to less than 0.5 acre of SFH is not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

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

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

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

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued that were determined "may affect, not likely to adversely affect." It is requested that information on date, Corps identification number, project acreage, project wetland acreage, and latitude and longitude in decimal degrees be sent to the Service quarterly.

Literature Cited

Kahl, M.P., Jr. 1964. Food ecology of the wood stork (*Mycteria americana*) in Florida. Ecological Monographs 34:97-117.

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

Rodgers, J.A. Jr., A.S. Wenner, and S.T. Schwikert. 1987. Population dynamics of wood storks in northern and central Florida, USA. Colonial Waterbirds 10:151-156.

Rodgers, J.A., Jr., S.T. Schwikert, and A. Shapiro-Wenner. 1996. Nesting habitat of wood storks in north and central Florida, USA. Colonial Waterbirds 19:1-21.

U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Fish and Wildlife Service; Atlanta, Georgia. Available from: http://verobeach.fws.gov/Programs/Recovery/vbms5.html.

APPENDIX J
USFWS- and FWC- Approved Standard Manatee Construction Conditions for In-Water Work

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.

d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com

f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:

Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC

APPENDIX K
Agency Coordination

333-40

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

August 17, 2001

Gwen G. Pipkin
Florida Department of Transportation
District One Environmental Management Office
PO Box 1249
Bartow, Florida 33831-1249

Dear Ms. Pipkin:

Subject: Draft Wetland Evaluation Report
Upper Manatee River Road PD& E Study
Financial Project No.: 199668-1-21-01
Federal Project ID No.: 8888 650 A
Manatee County, Florida

The National Marine Fisheries Service (NMFS) has reviewed the draft Wetland Evaluation Report provided on July 19, 2001. The Florida Department of Transportation (FDOT) has made a determination that the subject project is expected to have minimal adverse impacts on Essential Fish Habitat. We find that the descriptions of fishery resources and habitats in the project area are adequate. Additionally, the report adequately describes the potential adverse impacts associated with the proposed activity. Compensatory mitigation is expected to be accomplished by the Southwest Florida Water Management District (SWFWMD) via the provisions of Florida Statute 373.4137.

The report identifies indirect impacts to vegetative communities that would be shaded by the bridge structure. However, FDOT anticipates mitigating only for the direct impacts (i.e. filling) on wetlands. In view of this, the NMFS finds that the project as currently proposed could have a more than minimal adverse impact on EFH and associated fishery resources. Recognizing that final project plans will be developed during the design stage of the project; appropriate mitigation will be determined via the FDOT/SWFWMD's Mitigation Core Group; and, that EFH consultation will be completed during the permitting phase, the NMFS provides the following:

Preliminary EFH Conservation Recommendation

Compensatory mitigation should be provided for lost and reduced wetland functions resulting from direct and indirect project impacts such as filling, dredging, and shading.

We appreciate the opportunity to provide you with our comments. Please direct related comments, questions, or correspondence to Mr. David N. Dale in St. Petersburg, Florida. He may be contacted at 727/570-5311 or at the letterhead address above.

Sincerely,

for Andreas Mager, Jr.
Assistant Regional Administrator.
Habitat Conservation Division

cc:
F/SER4
F/SER43
FWS-St. Petersburg
EPA-Atlanta
FDEP-Tampa
FFWCC-Punta Gorda

United States Department of the Interior

FISH AND WILDLIFE SERVICE
6620 Southpoint Drive South
Suite 310
Jacksonville, Florida 32216-0912

IN REPLY REFER TO:
FWS/R4/ES-JAFL

October 3, 2001

Ms. Gwen Pipkin
Florida Department of Transportation
801 N. Broadway
Bartow, Florida 33830

Re: Draft Wetland Evaluation Report
FWS Log No: 01-1034 (2) (St. Pete)

Dear Ms. Pipkin:

This is in response to your Draft Wetland Evaluation Report provided July 19, 2001, requesting our review and concurrence that the impacts proposed for the Upper Manatee River Road will not adversely impact federally listed species.

The project purpose is to improve north-south traffic circulation between I-75 and Rye Road/C.R. 675 and S.R. 64 and U.S. 301. Four potential corridors have been identified for the project; expansion of I-75, Upper Manatee River Road/Fort Hammer Road, Rye Road/C.R. 675, and Rye Road/Golf Course Road.

The Service finds that the report adequately describes the potential impacts to habitats in the project area. Compensatory mitigation is expected to be accomplished by the Southwest Florida Water Management District via the provisions of Florida Statute 373.4137.

The report discusses indirect impacts to vegetative communities that could be shaded by the bridge The FDOT expects to mitigate for direct impacts to wetlands. The Service will comment on the appropriateness of the mitigation proposed for direct and indirect wetland impacts through the FDOT Mitigation Review process and the Corps' permitting process.

At this time the impacts to sea grasses are minimal and therefore are not likely to adversely affect critical habitat for the West Indian manatee (*Trichecus manatus*).

We appreciate the opportunity to comment. If you have any question please contact Shelley Norton, (727) 570-5398, extension 14.

Sincerely,

Don Palmer

for Peter M. Benjamin
Asst. Field Supervisor

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APPENDIX L
Uniform Mitigation Assessment Methodology Forms

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510	Streams and Waterways	Impact (Direct)	1.70 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surface Waters 1 through 10 primarily consist of roadside ditches and swales located along Fort Hamer Road, mostly surrounded by single-family residential land use.

Assessment area description

The assessment area consists of an assemblage of proposed surface water impacts within the project area, totaling 1.70 acres. Vegetation across the component surface waters within the AA is generally consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Road; Manatee River	This surface water is not unique compared to other surface waters in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
State-threatened wading birds, wood stork, amphibians, small fish	Wood stork - FT, State-Threatened wading birds - ST

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Cattle egret

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0	Generally surrounded by roadways and single-family residential development, with limited portions of the assessment area abutting wetlands to the east and west of the current ROW. Habitat availability outside the AA is moderate, and provides some support for species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent residential development and physical barriers including fencing. Area land uses have had adverse impacts to wildlife utilization of AA.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0	Short hydroperiod, and water levels and flow experience greater fluctuations than expected considering natural variation. Much of the plant community composition is characterized by species tolerant of and associated with moderate water quality degradation/alterations in the frequency and degree of inundation/saturation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with: 0	Limited species diversity with encroachment from surrounding uplands. Regular mowing/maintenance of the ROW and variable hydrology of the surface water limit the development of adequate vegetative community structure or diversity.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.533	with: 0	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.907

Delta = [with-current]
-0.533

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 1, 6, 9, and 10 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510	Streams and Waterways	Impact (Secondary)	0.05 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surface Waters 1, 6, 9, and 10 primarily consist of roadside ditches and swales located along Fort Hamer Road, mostly surrounded by single-family residential land use.

Assessment area description

The assessment area consists of an assemblage of proposed surface water impacts within the project area, totaling 0.05 acres. Vegetation across the component surface waters within the AA is generally consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Road; Manatee River	This surface water is not unique compared to other surface waters in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
State-threatened wading birds, wood stork, amphibians, small fish	Wood stork - FT, State-Threatened wading birds - ST

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Cattle egret

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 1, 6, 9, and 10 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	5	4	Generally surrounded by roadways and single-family residential development, with limited portions of the assessment area abutting wetlands to the east and west of the current ROW. Habitat availability outside the AA is moderate, and provides some support for species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent residential development and physical barriers including fencing. Area land uses have had adverse impacts to wildlife utilization of AA.
.500(6)(b)Water Environment (n/a for uplands)	6	6	Short hydroperiod, and water levels and flow experience greater fluctuations than expected considering natural variation. Much of the plant community composition is characterized by species tolerant of and associated with moderate water quality degradation/alterations in the frequency and degree of inundation/saturation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	4	Limited species diversity with encroachment from surrounding uplands. Regular mowing/maintenance of the ROW and variable hydrology of the surface water limit the development of adequate vegetative community structure or diversity.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.533	0.46667

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.003

Delta = [with-current]
-0.067

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 11 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
540	Bays and Estuaries	Impact (Direct)	2.86 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surface Water 11 consists of the waters of the Manatee River within the project area, surrounded by residential lands, recreational lands, and various wetlands.

Assessment area description

The assessment area consists of 2.86 acres of potential impacts within the footprint of the proposed Fort Hamer Bridge over the Manatee River.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This surface water is not unique compared to similar surface waters in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Sandhill crane - T, Florida manatee - T, Wood stork - T, Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Anhinga, great egret

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 11 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	8	0	Generally surrounded by residential lands, recreation lands, and various wetlands. Habitat availability outside the AA is mostly adequate, and provides support for species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent residential development and physical barriers including fencing. Area land uses have had minimal adverse impacts to wildlife utilization of AA.
.500(6)(b)Water Environment (n/a for uplands)	7	0	Surface Water 3 is the open water component of the Manatee River. The hydrology of the AA is derived from the flow and tidal cycles of the river.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	8	0	The AA consists of an open water system with little to no emergent vegetation. Benthic communities within the AA consist of a sand/silt substrate with sparse coverage of widgeon grass (*Ruppia maritima*) in some areas.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.767	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-2.193

Delta = [with-current]
-0.767

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 11 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
540	Bays and Estuaries	Impact (Secondary)	1.16 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surface Water 11 consists of the waters of the Manatee River within the project area, surrounded by residential lands, recreational lands, and various wetlands.

Assessment area description

The assessment area consists of 1.16 acres of potential impacts within the footprint of the proposed Fort Hamer Bridge over the Manatee River.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This surface water is not unique compared to similar surface waters in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Sandhill crane - T, Florida manatee - T, Wood stork - T, Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Anhinga, great egret

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Surface Water 11 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	8	7	Generally surrounded by residential lands, recreation lands, and various wetlands. Habitat availability outside the AA is mostly adequate, and provides support for species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent residential development and physical barriers including fencing. Area land uses have had minimal adverse impacts to wildlife utilization of AA.
.500(6)(b)Water Environment (n/a for uplands)	7	7	Surface Water 3 is the open water component of the Manatee River. The hydrology of the AA is derived from the flow and tidal cycles of the river.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	8	7	The AA consists of an open water system with little to no emergent vegetation. Benthic communities within the AA consist of a sand/silt substrate with sparse coverage of widgeon grass (*Ruppia maritima*) in some areas.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.767	0.7

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.077

Delta = [with-current]
-0.067

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 1, 2, and 3 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612	Mangrove Swamps	Impact (Direct)	0.51 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 1, 2, and 3 consist of various mangrove swamps growing along the banks of the Manatee River, primarily located along the north and south river banks and along a portion of a low-lying peninsula that extends into the project study area.

Assessment area description

The assessment area consists of 0.51 acres of potential wetland impacts within the proposed project area, primarily located around the Fort Hamer Bridge.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This wetland is not unique compared to other mangrove wetlands in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds; shoreline stabilization; carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Sandhill crane - T, Florida manatee - T, Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

green heron

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 1, 2, and 3 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 0	The AA consists of mangrove habitats growing along the northern and southern banks of the Manatee River and along a portion of a low-lying peninsula that extends into the project area under the Fort Hamer Bridge. Habitats outside the AA are available in sufficient quantity and variety to provide support for the species listed in Part 1. Areas within the AA located on the northern and southern banks of the river included limited encroachment by invasive exotics such as Brazilian pepper, but had minimal adverse effects on wetland functions provided by the AA.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 0	The hydrology of the AA is derived from the flow and tidal cycles of the Manatee River. Water levels observed were appropriate for this type of system. Water quality may be slightly degraded by runoff from adjacent residential developments. Some garbage/debris observed in the AA.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 8 with: 0	Mangroves are present and in good condition, with minimal presence of exotics within the AA. Species composition and strata are mostly appropriate for this type of system, with recruitment of mangroves and other appropriate species observed.	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.767	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.391

Delta = [with-current]
-0.767

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 1, 2, and 3 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612	Mangrove Swamps	Impact (Secondary)	0.19 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 1, 2, and 3 consist of various mangrove swamps growing along the banks of the Manatee River, primarily located along the north and south river banks and along a portion of a low-lying peninsula that extends into the project study area.

Assessment area description

The assessment area consists of 0.19 acres of potential wetland impacts within the proposed project area, primarily located around the Fort Hamer Bridge.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This wetland is not unique compared to other mangrove wetlands in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds; shoreline stabilization; carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Sandhill crane - T, Florida manatee - T, Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

green heron

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 1, 2, and 3 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 6	The AA consists of mangrove habitats growing along the northern and southern banks of the Manatee River and along a portion of a low-lying peninsula that extends into the project area under the Fort Hamer Bridge. Habitats outside the AA are available in sufficient quantity and variety to provide support for the species listed in Part 1. Areas within the AA located on the northern and southern banks of the river included limited encroachment by invasive exotics such as Brazilian pepper, but had minimal adverse effects on wetland functions provided by the AA.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 8	The hydrology of the AA is derived from the flow and tidal cycles of the Manatee River. Water levels observed were appropriate for this type of system. Water quality may be slightly degraded by runoff from adjacent residential developments. Some garbage/debris observed in the AA.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 6	Mangroves are present and in good condition, with minimal presence of exotics within the AA. Species composition and strata are mostly appropriate for this type of system, with recruitment of mangroves and other appropriate species observed.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.767	with: 0.66667	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.019

Delta = [with-current]
-0.100

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 4, 5, and 6 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
615	Stream and Lake Swamps (Bottomland)	Impact (Direct)	0.97 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 4, 5, and 6 consist of bottomland swamps located along Fort Hamer Road and the Manatee River, mostly surrounded by single-family residential land use.

Assessment area description

The assessment area consists of an assemblage of proposed wetland impacts within the project area, totaling 0.97 acres. Vegetation across the component bottomland swamps within the AA is generally consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	The assessment area is not unique compared to other bottomland swamps in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Sandhill crane - T, Florida manatee - T, Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

cattle egret, white ibis

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 4, 5, and 6 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 0	A portion of the AA is located within a low-lying peninsula surrounded by the waters of the Manatee River, adjacent to mangroves and saltmarshes. The remainder of the AA is scattered throughout the project area, but generally surrounded by single-family residential land uses. Habitat availability and connectivity outside the AA is available in sufficient quantity and variety to provide support for the species listed in Part 1.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 0	The hydrology of the AA within the peninsula surrounded by the Manatee River is primarily derived from the flows and tidal cycles of the Manatee River. In all areas of the AA, water levels and flows were appropriate and vegetation showed no sign of hydrologic stress. Water quality may be slightly degraded by runoff from adjacent residential developments.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	Moderate vegetative diversity observed, with limited encroachment by upland species and species typical of disturbed and/or transitional areas. Canopy vegetaion present. Prior land management practices in portions of the AA such as trimming and fencing have resulted in the alteration of natural features within the AA. Species composition and strata are mostly appropriate for this type of system, with recruitment of appropriate species observed.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.733	with: 0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.711

Delta = [with-current]
-0.733

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 4, 5, and 6 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
615	Stream and Lake Swamps (Bottomland)	Impact (Secondary)	0.68 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 4, 5, and 6 consist of bottomland swamps located along Fort Hamer Road and the Manatee River, mostly surrounded by single-family residential land use.

Assessment area description

The assessment area consists of an assemblage of proposed wetland impacts within the project area, totaling 0.68 acres. Vegetation across the component bottomland swamps within the AA is generally consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	The assessment area is not unique compared to other bottomland swamps in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Sandhill crane - T, Florida manatee - T, Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

cattle egret, white ibis

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 4, 5, and 6 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	7	6	A portion of the AA is located within a low-lying peninsula surrounded by the waters of the Manatee River, adjacent to mangroves and saltmarshes. The remainder of the AA is scattered throughout the project area, but generally surrounded by single-family residential land uses. Habitat availability and connectivity outside the AA is available in sufficient quantity and variety to provide support for the species listed in Part 1.
.500(6)(b)Water Environment (n/a for uplands)	8	8	The hydrology of the AA within the peninsula surrounded by the Manatee River is primarily derived from the flows and tidal cycles of the Manatee River. In all areas of the AA, water levels and flows were appropriate and vegetation showed no sign of hydrologic stress. Water quality may be slightly degraded by runoff from adjacent residential developments.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	7	5	Moderate vegetative diversity observed, with limited encroachment by upland species and species typical of disturbed and/or transitional areas. Canopy vegetaion present. Prior land management practices in portions of the AA such as trimming and fencing have resulted in the alteration of natural features within the AA. Species composition and strata are mostly appropriate for this type of system, with recruitment of appropriate species observed.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.733	0.63333

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.068

Delta = [with-current]
-0.100

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 8 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
619	Exotic Wetland Hardwoods	Impact (Direct)	0.09 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetland 8 primarily consists of an area located along the south bank of the Manatee River dominated by Brazilian pepper.

Assessment area description

The assessment area consists of 0.09 acres of potential impacts within the proposed project area, located under the southern end of the Fort Hamer Bridge.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This forested wetland is not unique compared to others in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	None

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 8 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	5	0	The AA is surrounded by a golf course, various wetlands, and Fort Hamer Road. Habitat availability and connectivity outside the AA is somewhat available to provide support for the species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent residential development, roadways, and physical barriers including fencing. Area land uses have had adverse impacts to wildlife utilization of AA.
.500(6)(b)Water Environment (n/a for uplands)	6	0	The hydrology of the AA is primarily derived from the flows and tidal cycles of the Manatee River. Water levels and flows were mostly appropriate and vegetation showed no sign of hydrologic stress. Dominance of species tolerant of moderate water quality degradation (Brazilian pepper) was observed. Water quality could be degraded by runoff from adjacent golf course and roadways.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	4	0	Minimal vegetative diversity observed, with encroachment by upland species and species typical of disturbed and/or transitional areas such as Brazilian pepper. Species composition and strata are not appropriate for this type of system, vegetation consisting almost entirely of Brazilian pepper and recruitment of appropriate species severely deficient.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.500	0

Delta = [with-current]
-0.500

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas	
FL = delta x acres =	-0.045

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 8 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
619	Exotic Wetland Hardwoods	Impact (Secondary)	0.07 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetland 8 primarily consists of an area located along the south bank of the Manatee River dominated by Brazilian pepper.

Assessment area description

The assessment area consists of 0.07 acres of potential impacts within the proposed project area, located under the southern end of the Fort Hamer Bridge.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This forested wetland is not unique compared to others in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Aquatic mammals, small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	None

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 8 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The AA is surrounded by a golf course, various wetlands, and Fort Hamer Road. Habitat availability and connectivity outside the AA is somewhat available to provide support for the species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent residential development, roadways, and physical barriers including fencing. Area land uses have had adverse impacts to wildlife utilization of AA.	5	4
.500(6)(b)Water Environment (n/a for uplands)	The hydrology of the AA is primarily derived from the flows and tidal cycles of the Manatee River. Water levels and flows were mostly appropriate and vegetation showed no sign of hydrologic stress. Dominance of species tolerant of moderate water quality degradation (Brazilian pepper) was observed. Water quality could be degraded by runoff from adjacent golf course and roadways.	6	6
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Minimal vegetative diversity observed, with encroachment by upland species and species typical of disturbed and/or transitional areas such as Brazilian pepper. Species composition and strata are not appropriate for this type of system, vegetation consisting almost entirely of Brazilian pepper and recruitment of appropriate species severely deficient.	4	4

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.500	0.46667

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.002

Delta = [with-current]
-0.033

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 10, 12, 16, and 19 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630	Wetland Forested Mixed	Impact (Direct)	0.31 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 10, 12, 16, and 19 consist of various mixed forested wetlands located along Fort Hamer Road and the Manatee River, mostly surrounded by single-family residential land uses.

Assessment area description

The assessment area consists of an assemblage of proposed wetland impacts to mixed forested wetlands within the project area, totaling 0.31 acres. Vegetation across the component mixed forested wetlands within the AA is generally consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This wetland is not unique compared to other mixed forested wetlands in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 10, 12, 16, and 19 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	0	Wetland forested mixed systems within the project study area are generally surrounded by residential lands, recreational lands, and various wetlands; the AA of Wetland 4 includes forested wetlands located near the northern end of Fort Hamer Bridge and located at the southwest corner of the Fort Hamer Road and Old Tampa Road intersection. The vegetative community composition is generally appropriate in the proximity of the AA, with some edge effects observed along areas closest to the roadways. Wildlife access to/from the AA is limited by human activity and the presence of physical barriers such as fences.
.500(6)(b)Water Environment (n/a for uplands)	7	0	Water levels and flows within the AA appear to be somewhat appropriate considering natural variation. Much of the plant community composition is characterized by species tolerant of and associated with moderate water quality degradation/alterations in the frequency and degree of inundation/saturation. Water quality likely moderately affected by surrounding land uses.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	7	0	The majority of plant cover within the AA is appropriate and in good condition. Invasive plant coverage is minimal within the interior of the AA. Recruitment and age/size distribution is typical for the type of habitat present, with no deviation from normal succession or mortality patterns observed.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.667	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.207

Delta = [with-current]
-0.667

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 10, 12, 13, 16, and 19 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630	Wetland Forested Mixed	Impact (Secondary)	0.56 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 10, 12, 13, 16, and 19 consist of various mixed forested wetlands located along Fort Hamer Road and the Manatee River, mostly surrounded by single-family residential land uses.

Assessment area description

The assessment area consists of an assemblage of proposed wetland impacts to mixed forested wetlands within the project area, totaling 0.56 acres. Vegetation across the component mixed forested wetlands within the AA is generally consistent throughout.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This wetland is not unique compared to other mixed forested wetlands in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small terrestrial mammals, wading birds, fishes, and aquatic invertebrates	State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 10, 12, 13, 16, and 19 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	6	5	Wetland forested mixed systems within the project study area are generally surrounded by residential lands, recreational lands, and various wetlands; the AA of Wetland 4 includes forested wetlands located near the northern end of Fort Hamer Bridge and located at the southwest corner of the Fort Hamer Road and Old Tampa Road intersection. The vegetative community composition is generally appropriate in the proximity of the AA, with some edge effects observed along areas closest to the roadways. Wildlife access to/from the AA is limited by human activity and the presence of physical barriers such as fences.
.500(6)(b)Water Environment (n/a for uplands)	7	7	Water levels and flows within the AA appear to be somewhat appropriate considering natural variation. Much of the plant community composition is characterized by species tolerant of and associated with moderate water quality degradation/alterations in the frequency and degree of inundation/saturation. Water quality likely moderately affected by surrounding land uses.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	7	6	The majority of plant cover within the AA is appropriate and in good condition. Invasive plant coverage is minimal within the interior of the AA. Recruitment and age/size distribution is typical for the type of habitat present, with no deviation from normal succession or mortality patterns observed.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.667	0.6

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.037

Delta = [with-current]
-0.067

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 25, 26, 27, and 30 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
642	Saltwater Marshes	Impact (Direct)	1.72 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 25, 26, 27, and 30 consist of salt marshes growing along the banks of the Manatee River, primarily located along the northern and southern banks and along a portion of a low-lying peninsula that extends into the project study area.

Assessment area description

The assessment area consists of 1.72 acres of potential freshwater marsh impacts within the footprint of the proposed Fort Hamer Bridge over the Manatee River. The AA is surrounded by residential lands, recreational lands, and various wetlands.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This wetland is not unique compared to other saltwater marshes in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds; shoreline stabilization; carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Florida manatee - T, Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

great blue heron

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 25, 26, 27, and 30 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 0	The portion of the AA in the low-lying peninsula is generally surrounded by the waters of the Manatee River. The remainder of the AA is surrounded by recreational and residential lands. Some of the plant community in the proximity of the AA consists of invasive exotics such as Brazilian pepper. Habitat availability outside the AA is available in sufficient quantity to provide support for the species listed in Part 1.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 0	The hydrology of the penisular portion of the AA is derived from the flow and tidal cycles of the Manatee River. In all areas of the AA, water levels and flows were appropriate and vegetation showed no sign of hydrologic stress. Water quality may be slightly degraded by runoff from adjacent residential developments.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	The majority of the plant community throughout the AA is appropriate and in generally good condition. Incursion of Brazilian pepper was observed along the portions of the AA along northern and southern banks of the Manatee River, but cover of invasives was minimal within the peninsular portion of the AA.	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.733	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-1.261

Delta = [with-current]
-0.733

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 25, 26, 27, and 30 Secondary

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
642	Saltwater Marshes	Impact (Secondary)	0.64 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetlands 25, 26, 27, and 30 consist of salt marshes growing along the banks of the Manatee River, primarily located along the northern and southern banks and along a portion of a low-lying peninsula that extends into the project study area.

Assessment area description

The assessment area consists of 0.64 acres of potential freshwater marsh impacts within the footprint of the proposed Fort Hamer Bridge over the Manatee River. The AA is surrounded by residential lands, recreational lands, and various wetlands.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Bridge; Manatee River	This wetland is not unique compared to other saltwater marshes in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds; shoreline stabilization; carbon storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, wading birds, fishes, and aquatic invertebrates	Gulf sturgeon - T, Smalltooth sawfish - E, Florida manatee - T, Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

great blue heron

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 25, 26, 27, and 30 Secondary
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Secondary)	Kimley-Horn	Jan-24

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The portion of the AA in the low-lying peninsula is generally surrounded by the waters of the Manatee River. The remainder of the AA is surrounded by recreational and residential lands. Some of the plant community in the proximity of the AA consists of invasive exotics such as Brazilian pepper. Habitat availability outside the AA is available in sufficient quantity to provide support for the species listed in Part 1.	7	6
.500(6)(b)Water Environment (n/a for uplands)	The hydrology of the penisular portion of the AA is derived from the flow and tidal cycles of the Manatee River. In all areas of the AA, water levels and flows were appropriate and vegetation showed no sign of hydrologic stress. Water quality may be slightly degraded by runoff from adjacent residential developments.	8	8
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The majority of the plant community throughout the AA is appropriate and in generally good condition. Incursion of Brazilian pepper was observed along the portions of the AA along northern and southern banks of the Manatee River, but cover of invasives was minimal within the peninsular portion of the AA.	7	6

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.733	0.66667

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.043

Delta = [with-current]
-0.067

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 31 Direct

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
643	Wet Prairies	Impact (Direct)	0.02 ac.

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Manatee River/SWFWMD Basin 9/HUC-8 03100202	Class III	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Wetland 31 consists of a small depressional area located between a forested wetland system and a roadside swale bordering the west side of Fort Hamer Road.

Assessment area description

The assessment area is a 0.02-acre area of impact within the proposed project area, located near the intersection of Fort Hamer Road and Upper Manatee River Road.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Fort Hamer Road	This wetland is not unique compared to other wet prairies in the region.

Functions	Mitigation for previous permit/other historic use
Water storage/conveyance; nutrient transport; foraging habitat for wading birds	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small terrestrial mammals and wading birds	Wood stork - T, State-Threatened wading birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

None

Assessment conducted by:	Assessment date(s):
Kimley-Horn	Jan-24

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Fort Hamer Road PD&E	TBD	Wetland 31 Direct
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact (Direct)	Kimley-Horn	Jan-24

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0	The AA is surrounded by roadways and a mixed forested wetland associated with the Waterlefe Golf & River Club. Habitat availability outside the AA is moderate, and provides limited support for species listed in Part 1. Wildlife access to/from AA is somewhat limited by adjacent recreational and residential developments, roadways, and physical barriers including fencing. Area land uses have had adverse impacts to wildlife utilization of AA.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0	Short hydroperiod; water levels and flow experience greater fluctuations than expected considering natural variation. The plant community composition is characterized by species tolerant of and associated with moderate water quality degradation/alterations in the frequency and degree of inundation/saturation.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with: 0	The AA exibits limited species diversity, with encroachment observed from surrounding uplands and ROW. Regular mowing/maintenance of the ROW and variable hydrology limit the development of adequate vegetative community structure or diversity.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.533	with: 0	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas	
FL = delta x acres =	-0.011

Delta = [with-current]
-0.533

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =