

Natural Resources Evaluation (NRE)

Florida Department of Transportation

District One

State Road (S.R.) 70 Project Development and Environment (PD&E) Study

From Jefferson Avenue to County Road (C.R.) 29

Highlands County, Florida

Financial Management Number: 414506-1-22-01

ETDM Number: 3054

Date: September 2026

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study to evaluate the proposed widening of approximately 7.1 miles of State Road (S.R.) 70 from west of Jefferson Avenue to east of County Road (C.R.) 29 in Highlands County, Florida

The proposed project will increase the capacity of the existing two-lane undivided roadway by widening it to a four-lane divided roadway. The purpose of the PD&E Study is to evaluate improvements for emergency evacuations, correct existing inadequate roadway cross-slope and substandard geometry, increase vehicular safety, and enhance economic competitiveness within a designated Rural Area of Economic Opportunity. The study provides engineering and environmental analysis and documentation to establish the optimal type and location of improvements to S.R. 70. The results of the study will aid Highlands County and FDOT District One in determining the type, preliminary design, and location of the proposed improvements.

The existing S.R. 70 facility consists of a two-lane undivided facility with 12-foot travel lanes (one in each direction) and 10-foot shoulders (5-foot paved). The existing right-of-way (ROW) varies from 45 to 200 feet. The posted speed limit on the east and west ends of the project limits is 60 miles per hour (mph), slowing to 45 mph at the United States (U.S.) 27 intersection, in the center of the project. Throughout the limits of this study, S.R. 70 is designated as a rural principal arterial highway. The project corridor lacks pedestrian and bicycle facilities.

This Natural Resources Evaluation (NRE) assesses the project's involvement with wetlands and other surface waters, federal and state protected species and designated critical habitat, and Essential Fish Habitat (EFH). The identification of measures to avoid, minimize and mitigate potential impacts is also discussed. The preferred alternative and associated stormwater management facilities (SMF) and floodplain compensation (FPC) sites were assessed.

Protected Species

The project study area was evaluated for potential occurrences of federal and state protected species in accordance with Section 7 of the Endangered Species Act of 1973 (ESA), as amended, and Chapters 5B-40 and 68A-27 of the Florida Administrative Code (F.A.C.). The evaluation included coordination with the United States Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FWC). The evaluation also included literature and database reviews, as well as field assessments and species-specific surveys of the project study area to identify the potential occurrence of protected species or presence of federal-designated critical habitat. Project biologists conducted field evaluations and species-specific surveys of the project study area beginning in 2016 through 2025. These prior assessments and surveys served as background data for this report. This NRE documents species-specific surveys and habitat assessments conducted in 2025.

Based on the evaluation of collected data and field reviews, the federal and state protected species discussed in **Table ES 1** and **Table ES 2** were observed or were determined to have the potential to occur within or adjacent to the project study area. An effect determination was made for each of these federal and state protected species based on an analysis of the potential impacts of the proposed project on each species.

Table ES 1: Federal Listed Species Effect Determinations

Effect Determination	Federal Listed Species
No effect	Red-cockaded woodpecker (<i>Picoides borealis</i>) - E
May affect, not likely to adversely affect	Florida bonamia (<i>Bonamia grandiflora</i>) – FT/SE
	Pygmy fringe tree (<i>Chionanthus pygmaeus</i>) - E
	Perforate reindeer lichen (<i>Cladonia perforata</i>) - E
	Short-leaved rosemary (<i>Conradina brevifolia</i>) - E
	Avon Park rabbit-bells (<i>Crotalaria avonensis</i>) - E
	Garrett's scrub balm (<i>Dicerandra christmanii</i>) - E
	Scrub mint (<i>Dicerandra frutescens</i>) - E
	Scrub buckwheat (<i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>) – FT/SE
	Wedge-leaved button-snakeroot (<i>Eryngium cuneifolium</i>) - E
	Lewton's polygala (<i>Polygala lewtonii</i>) - E
	Small's jointweed (<i>Polygonella myriophylla</i>) - E
	Scrub plum (<i>Prunus geniculata</i>) - E
	Scrub ziziphus (<i>Pseudoziziphus celata</i>) - E
	Carter's warea (<i>Warea carteri</i>) - E
	Florida grasshopper sparrow (<i>Ammodramus savannarum floridanus</i>) - E
	Eastern black rail (<i>Laterallus jamaicensis jamaicensis</i>) - T
	Everglade snail kite (<i>Rostrhamus sociabilis plumbeus</i>) - E
	Florida panther (<i>Puma concolor coryi</i>) - E
May affect, likely to adversely affect	Scrub pigeon wing (<i>Clitoria fragrans</i>) - T
	Highlands scrub hypericum (<i>Hypericum cumulicola</i>) - E
	Scrub blazing star (<i>Liatris ohlingerae</i>) - E
	Britton's beargrass (<i>Nolina brittoniana</i>) - E
	Paper nailwort (<i>Paronychia chartacea</i>) – FT/SE
	Florida jointweed (<i>Polygonum basiramia</i>) - E
	Eastern indigo snake (<i>Drymarchon couperi</i>) - T
	Blue-tailed mole skink (<i>Plestiodon egregius lividus</i>) - T
	Sand skink (<i>Plestiodon reynoldsi</i>) - T
	Florida scrub-jay (<i>Aphelocoma coerulescens</i>) - T
	Crested caracara (<i>Polyborus plancus audubonii</i>) - T
	Florida bonneted bat (<i>Eumops floridanus</i>) - E

E = endangered; T = threatened

Table ES 2: State Listed Species Effect Determinations

Effect Determination	State Listed Species
No effect anticipated	Chapman's sedge (<i>Carex chapmanii</i>) - T
	Piedmont jointgrass (<i>Mnesithea tuberculosa</i>) - T
	Narrowleaf naiad (<i>Najas filifolia</i>) - T
No adverse effect anticipated	Pinewoods bluestem (<i>Andropogon arctatus</i>) - T
	Many-flowered grass-pink (<i>Calopogon multiflorus</i>) - T
	Sand butterfly pea (<i>Centrosema arenicola</i>) - E
	Florida goldenaster (<i>Chrysopsis floridana</i>) - E
	Highlands goldenaster (<i>Chrysopsis highlandsensis</i>) - E
	Spurred neottia (<i>Eltroplectris calcarata</i>) - E
	Hartwrightia (<i>Hartwrightia floridana</i>) - T
	Pine pinweed (<i>Lechea divaricata</i>) - E
	Florida spiny-pod (<i>Matelea floridana</i>) - E
	Toothed maidenfern (<i>Meniscium serratum</i>) - E
	Celestial lily (<i>Nemastylis floridana</i>) - E
	Florida beargrass (<i>Nolina atopocarpa</i>) - T
	Yellow fringeless orchid (<i>Platanthera integra</i>) - E
	Giant orchid (<i>Pteroglossaspis ecristata</i>) - T
	Florida willow (<i>Salix floridana</i>) - E
	Scrub bluestem (<i>Schizachyrium niveum</i>) - E
	Redmargin zephyrlily (<i>Zephyranthes simpsonii</i>) - T
	Short-tailed snake (<i>Lampropeltis extenuata</i>) - T
	Florida pine snake (<i>Pituophis melanoleucus</i>) - T
	Florida burrowing owl (<i>Athene cunicularia floridana</i>) - T
	Little blue heron (<i>Egretta caerulea</i>) - T
	Tricolored heron (<i>Egretta tricolor</i>) - T
	Southeastern American kestrel (<i>Falco sparverius paulus</i>) - T
	Florida sandhill crane (<i>Grus canadensis pratensis</i>) - T
	Roseate spoonbill (<i>Platalea ajaja</i>) - T
	Least tern (<i>Sternula antillarum</i>) - T
Potential for adverse effect	Curtiss' milkweed (<i>Asclepias curtissii</i>) - E
	Ashe's savory (<i>Calamintha ashei</i>) - T
	Cutthroat grass (<i>Coleataenia abscissa</i>) - E
	Scrub spurge (<i>Euphorbia rosescens</i>) - E
	Garberia (<i>Garberia heterophylla</i>) - T
	Edison's ascyrum (<i>Hypericum edisonianum</i>) - E
	Nodding pinweed (<i>Lechea cernua</i>) - T
	Scrub stylisma (<i>Stylisma abdita</i>) - E
	Northern needleleaf (<i>Tillandsia balbisiana</i>) - T
	Cardinal airplant (<i>Tillandsia fasciculata</i>) - E
	Giant airplant (<i>Tillandsia utriculata</i>) - E
	Gopher tortoise (<i>Gopherus polyphemus</i>) - T

E = endangered; T = threatened

Additionally, the monarch butterfly (*Danaus plexippus*) and tricolored bat (*Pipistrellus subflavus*) were evaluated due to their proposed listings. The bald eagle (*Haliaeetus leucocephalus*), osprey

(*Pandion haliaetus*), and Florida black bear (*Ursus americanus floridanus*) were also evaluated due to documented occurrences within the project limits and additional protections that they are provided.

Wetland Evaluation

For the purposes of this document, wetlands are defined as per Chapter 62.340 F.A.C, Section 373.019(27) Florida Statutes (F.S.), and the *Corps of Engineers Wetland Delineation Manual with Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region*.

Although unavoidable wetland impacts will occur as a result of the Preferred Alternative, these wetlands are located within or adjacent to the existing roadway ROW and have generally been previously disturbed by agricultural and residential development, roadway construction, maintenance activities and the invasion of nuisance/exotic species. Wetlands to be impacted by the proposed improvements include wetland hardwood forests, stream and lake swamps, mixed wetland hardwoods, wetland forested mixed, vegetated non-forested wetlands, and freshwater marshes. The total wetland impacts are anticipated to be 13.66 acres and the **Table ES 3** summarizes the Preferred Alternative's impacts to wetlands and other surface waters. Consistent with Chapter 62.345 F.A.C., a Uniform Mitigation Assessment Methodology (UMAM) functional loss analysis was performed on representative wetland impact areas.

Table ES 3: Proposed Wetland and Other Surface Water Impacts and Estimated UMAM Functional Loss

Impact Type	Direct Impact Acres	Secondary Impact Acres	Total Impact Acres	Direct Functional Loss	Secondary Functional Loss	Total Functional Loss
Wetlands	10.54	3.12	13.66	-3.9	-0.45	-4.35

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 22 United States Code (U.S.C.) § 1344. Based on the type and location of project impacts, the FDOT has determined that there is no practicable alternative to the proposed construction in wetlands. In accordance with Executive Order (EO) 11990, the FDOT 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. The proposed project will not adversely impact wetlands as unavoidable impacts will be mitigated to achieve no net loss of wetland function. SWFWMD's FDOT Mitigation Plan (i.e. Senate Bill 1986) (373.4137, F.S.) will be considered as an option for mitigation. The FDOT will evaluate the project to use credits from the FDOT Mitigation Plan based on the availability of suitable and sufficient credits within the proposed project's watershed basin, the ability to satisfy commitments to regulatory and resource agencies, the availability of mitigation sites with suitable and sufficient credits initiated with FDOT funds under the

program and the ability to satisfy state and federal requirements, including long-term maintenance and liability.

In addition, the proposed project is located within the service area of the Lake Istokpoga Mitigation Bank, which currently has 1.56 emergent credits and 7.98 forested (federal) credits available. Kissimmee Ridge Mitigation Bank covers portions of the project between Placid Lakes Boulevard to just west of the S.R. 70 and U.S. 27 intersection. At the time of this report, Kissimmee Ridge has 3.89 forested and 0.04 emergent/herbaceous (federal) credits available. The FDOT is evaluating additional options such as regional offsite mitigation areas and permittee-responsible options. The status of available mitigation banks and credits will also be assessed as this project moves forward into design and permitting. At the time of permitting, if the use of the Senate Bill program, a mitigation bank, or in-lieu fee project is not available, a conceptual permittee-responsible mitigation plan may be created to offset the unavoidable impacts to wetlands that would result from construction of the proposed project. This conceptual mitigation plan may include restoring, enhancing, or creating wetland/other surface water habitats of similar type and quality (on-site or off-site) within the same drainage basin as the project study area.

Essential Fish Habitat

The project is being evaluated for Essential Fish Habitat (EFH) in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1996, Section 7 of the Endangered Species Act (ESA), and the FDOT PD&E Manual. No EFH is located within or adjacent to the project area; therefore, no involvement with EFH resources is anticipated.

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1 PROJECT OVERVIEW

1.1 Project Description

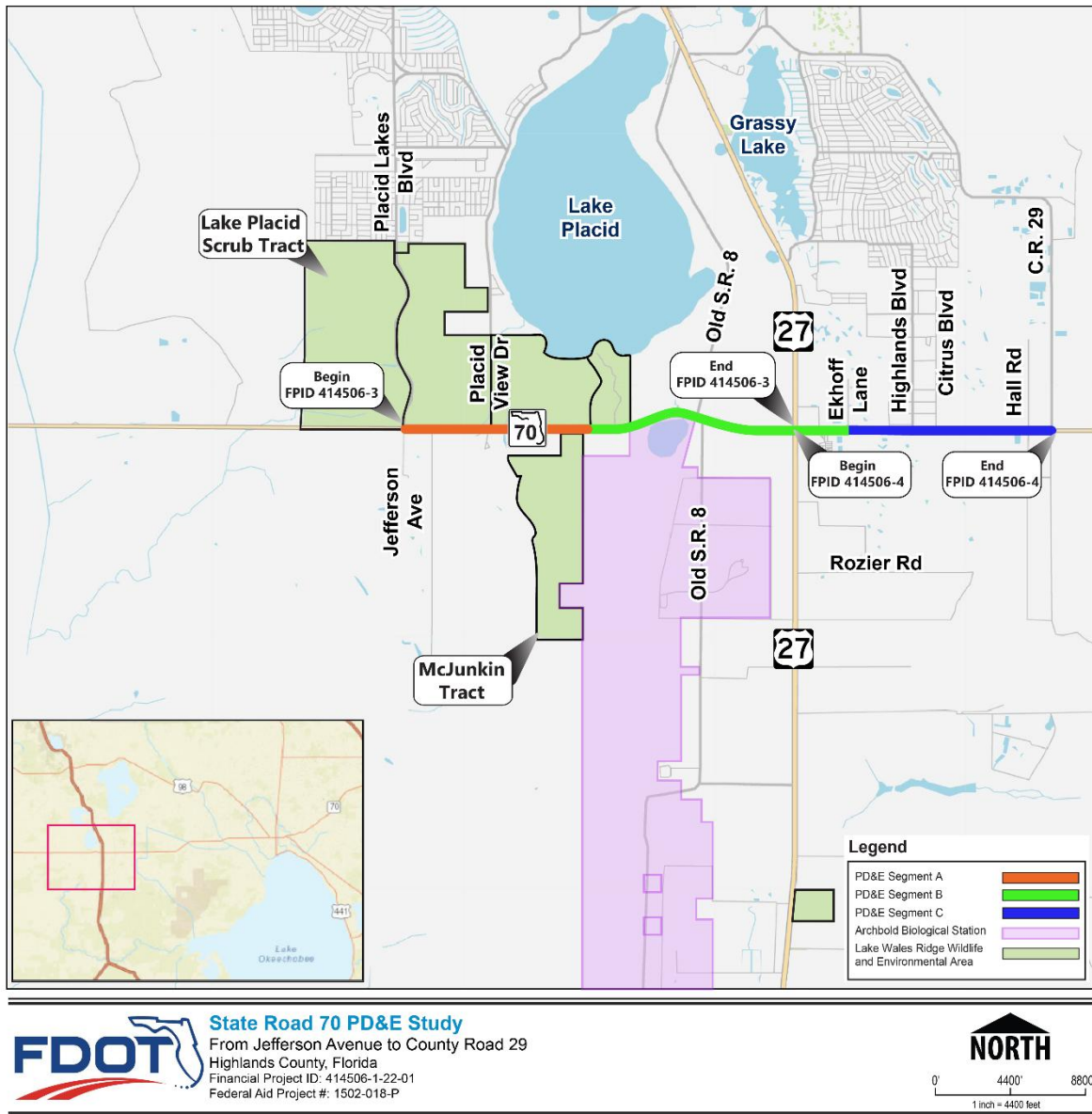
The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate options for widening State Road (S.R.) 70 in Highlands County. The project limits cover approximately seven miles of S.R. 70 beginning west of Jefferson Avenue/Placid Lakes Boulevard (Milepost (MP) 10.217) and ending at County Road (C.R.) 29 (MP 17.245). Due to the length of the corridor and differing existing right-of-way (ROW) widths, the project was divided into three (3) segments to aid in the description of the corridor, the project limits and segments are shown in **Figure 1-1**.

S.R. 70 is a Strategic Intermodal System (SIS) facility with daily truck percentages as high as 33% and it is a designated emergency evacuation route. The PD&E study limits have been divided into two design segments due to concurrent PD&E and Design phases, with U.S. 27 as the breakline. These design segments are separate from the descriptive corridor segments identified in **Figure 1-1** for the PD&E study. Financial Project Identification (FPID) 414506-3 is west of U.S. 27 and FPID 414506-4 is east of U.S. 27, while the PD&E study covers both limits under 414506-1.

The objective of the PD&E study is to evaluate widening the existing two-lane undivided roadway to a four-lane divided roadway. Project improvements associated with widening will also include wildlife crossing features, roadway signing and pavement markings, a shared use path, and the construction of stormwater management facilities, including treatment ponds and floodplain compensation sites.

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #3054. An ETDM Programming Screen Summary Report containing comments from the Environmental Technical Advisory Team (ETAT) was published on July 7, 2016. The ETAT evaluated the project's effects on various social, cultural, natural, and physical resources.

Figure 1-1: Project Location Map



1.2 Purpose and Need

The purpose of this project is to improve operational conditions for emergency evacuations along the S.R. 70 corridor from Jefferson Avenue to C.R. 29. The Florida Division of Emergency Management (FDEM) Statewide Regional Evacuation Study Program determined the segment of S.R. 70 between United States (U.S.) 27 to east of the end project limits at C.R. 29 to be a critical segment with the longest vehicle queues among all roadways in the Central Florida region. The need for the project is based on the following primary and secondary criteria:

PRIMARY CRITERIA

OPERATIONAL CONDITIONS: Improve Operational Capacity for Emergency Evacuations

This widening project is anticipated to improve traffic operations along S.R. 70 where emergency evacuation traffic modeling performed by the FDEM identified the roadway to include a critical segment with highest vehicle queues. Although nearly all roadways will have extended vehicle queues during an emergency evacuation, S.R. 70 from U.S. 27 to east of the end project limit demonstrated evacuation vehicle queues lasting among the longest time periods in the region under multiple evacuation scenarios.

Delay caused by traffic congestion contributes to prolonged clearance times. According to the Florida Statewide Regional Evacuation Study Program, key transportation improvement projects can impact the anticipated evacuation clearance times. The widening of S.R. 70 is anticipated to reduce evacuating vehicle queues and thereby reduce the clearance time during an evacuation by:

- Increasing the capacity of the roadway to accommodate evacuating vehicles, and
- Improving shoulders and roadside slopes to meet current criteria in order to better accommodate removal of disabled vehicles which can obstruct evacuating vehicles during an emergency.

SECONDARY CRITERIA

ROADWAY DEFICIENCIES: Correct Existing Inadequate Cross-Section and Substandard Geometrics

The entire project segment of S.R. 70 is included in Florida's Strategic Intermodal System (SIS). These facilities generally support major flows of interregional, interstate, and international travel and commerce. Facilities on the SIS are subject to special standards and criteria for number of lanes, design speed, access, level of service and other requirements. For SIS facilities, the minimum design speed is 65 miles per hour (mph) within C1 Natural or C2 Rural context classifications, and 50 mph within a C3C (Suburban Commercial) context classification. Cross sectional elements and geometrics along the existing S.R. 70 corridor are inadequate for an SIS facility with these context classifications.

The existing S.R. 70 facilities exhibit the following:

- Shoulder widths are required to be a minimum of 10 feet (ft) in width with five-ft paved. Existing S.R. 70 includes substandard eight-foot (ft) shoulders with four-ft paved.
- Front slopes are required at 1:6 or flatter for fill heights up to five-ft. For significant sections of the project limits, S.R. 70 includes existing front slopes steeper than 1:6.

- A clear zone with 36-ft of recoverable terrain free of obstructions is required from through travel lanes. Deficient existing clear zones provide recoverable areas less than 18-ft in some segments.
- An offset of 12-ft is required to guardrail. Existing guardrail offsets are less than seven-ft from the travel lanes.

Further, the primary function of SIS highway components is to provide for efficient interregional traffic movements. Access is highly regulated to accommodate high-speed and high-volume facilities that support these movements. FDOT criteria state that controlled access segments of the SIS highway component shall be consistent with Access Class 2 or 3 of the Florida Administrative Code (FAC) Rule 14-97. These access classifications include restrictive medians which physically prevent vehicle crossings. The widening of S.R. 70 to a four-lane divided facility will introduce a median capable of restricting these movements.

SAFETY: Increase Vehicular Safety

Historical crash data was collected and evaluated as part of this study. Crash data was acquired for the last five years (spanning from January 1, 2021 to December 31, 2025) via the Singal Four Analytics platform.

For the five-year study period from 2021 through 2025, the crash data collected within the entire PD&E study limits showed a total of 135 crashes, including 39 serious injuries and four fatalities, with yearly totals varying but severity trends remaining generally consistent. The project portion from the western terminus from Placid Lakes Boulevard/Jefferson Avenue to U.S. 27 had 78 crashes and the calculated crash rate of 1.960 per million vehicle miles (MVM) in this section exceeded the statewide average crash rate of 0.588 MVM for comparable facilities (233% higher). The portion from U.S. 27 to C.R. 29 had 57 crashes and the calculated crash rate of 2.013 MVM in this section exceeded the statewide average crash rate of 0.588 MVM (242% higher).

ECONOMIC DEVELOPMENT: Rural Area of Opportunity

The Governor of the State of Florida pursuant to Florida Statute (FS) Section 228.0656(7) issued Executive Order 11-81, in 2011, which included Highlands County among six counties identified as the South-Central Rural Area of Opportunity. The Florida Department of Economic Opportunity, Rural Economic Development Initiative (REDI) established a Sebring Highlands County Catalyst industrial development project adjacent to the Sebring Airport in Highlands County. The objective of the project is to create a significant economic effect to the entire region that will result in the development of high-wage and highly skilled jobs.

The REDI Sebring Highlands County Catalyst development is consistent with the stated goals for the Florida SIS which includes strengthening the linkage between transportation and economic development, assisting rural area of opportunity and enhancing economic competitiveness. The catalyst site connects to S.R. 70 via a second SIS highway component, U.S. 27, which intersects

S.R. 70 within the project limits. The S.R. 70 corridor is the nearest east-west SIS highway component providing interregional connectivity from the catalyst site directly to both coasts.

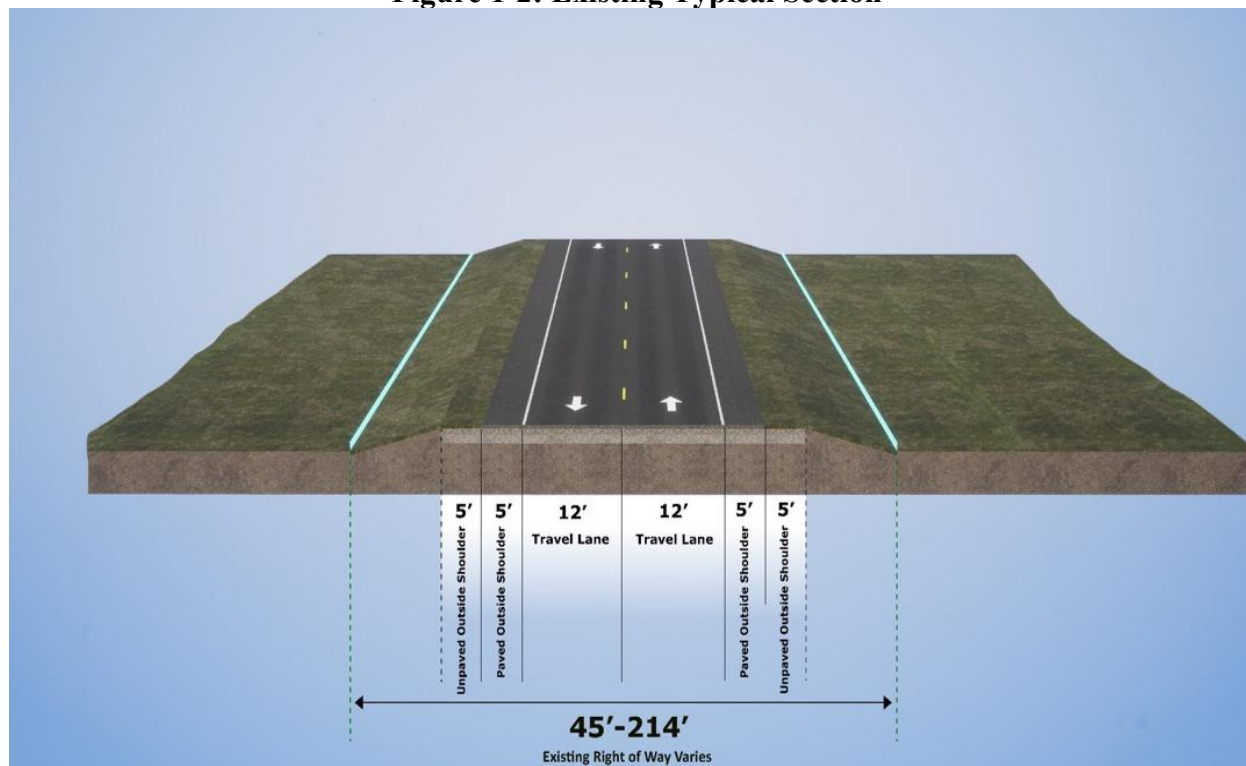
As described above, the existing project limits of the S.R. 70 are deficient for multiple criteria governing SIS highway components. Widening improvements to S.R. 70 will enhance its ability to function as a SIS highway component and accomplish SIS objectives for interregional transportation linked to economic development.

1.3 Existing Facility

1.3.1 Existing Typical Section

S.R. 70 is designated as a rural principal arterial highway, a SIS highway, and an evacuation route throughout the limits of this study. The context classification of the entire project limits, extending from Jefferson Avenue to C.R. 29, is C2-Rural. The existing S.R. 70 facility consists of a two-lane undivided roadway with 12-ft travel lanes, five-ft paved shoulders and open roadside ditches within varying existing ROW widths from 45-ft to 214-ft as shown in **Figure 1-2**.

Figure 1-2: Existing Typical Section



The MP ranges along with a description of the existing segments are as follows:

Segment A – Jefferson Avenue/Placid Lakes Boulevard (MP 10.217) to East of Placid View Drive (MP 12.349)

Segment A begins at the western project limit at Jefferson Avenue/Placid Lakes Boulevard (MP 10.217) and extends 2.1 miles to approximately 1.18 miles east of Placid View Drive (MP 12.349). The eastern half of Segment A is located within the Lake Placid urban area buffer beginning just west of Placid View Drive and extending 1.2 miles through the eastern limit of the segment. This segment contains a narrow, existing ROW corridor with a width ranging from 60 to 66-ft.

The entirety of Segment A runs parallel to the Florida Gas Transmission (FGT) gas pipeline easement, located approximately 30-ft south of the ROW, and to the north by both a Florida Power & Light (FP&L) overhead transmission easement and the Lake Wales Ridge Wildlife and Environmental Area (LWRWEA). The properties bordering Segment A are a mix of agricultural, residential, and conservation parcels.

Segment B – East of Placid View Drive (MP 12.349) to Ekhoff Lane (MP 15.090)

Segment B begins approximately 1.18 miles east of Placid View Drive (MP 12.349) and extends 2.7 miles to Ekhoff Lane (MP 15.090). Segment B is typically located within the Lake Placid urban area except for the section from just east of Old S.R. 8 through U.S. 27. This segment contains an existing ROW corridor with a typical width of 200-ft. There is an approximately 750-ft segment of the roadway located east of U.S. 27 where the existing ROW varies from 164 to 214-ft.

The western end of this segment is bordered to the south by an existing FGT gas pipeline easement. The FGT easement crosses underneath S.R. 70 just west of Nursery Lane and proceeds east along the northern side of S.R. 70 up until the Old S.R. 8 intersection. At Old S.R. 8, the FGT easement once again crosses underneath S.R. 70 and continues south along the southern leg of Old S.R. 8. There are also existing FP&L overhead electric transmission lines located along the northern edge of the existing ROW throughout the entirety of the segment.

Segment B is bordered along its northern side by the LWRWEA for approximately 2,000-ft from the beginning segment limits to just west of Nursery Lane. Segment B is also bordered to the south by the Archbold Biological Station from just west of Nursery Lane to the South Central Florida Express (SCFE) railroad crossing (Crossing No. 627642Y).

The western limits of Segment B typically contain a combination of agricultural and conservation parcels while the eastern limits are a combination of residential, agricultural, and industrial parcels. Segment B also contains a major intersection with U.S. 27, which is a SIS component and a designated evacuation route.

Segment C – Ekhoﬀ Lane (MP 15.090) to C.R. 29 (MP 17.245)

Segment C begins at Ekhoﬀ Lane (MP 15.090) and extends 2.2 miles to the eastern project limit at C.R. 29 (MP 17.245). Nearly all of Segment C is located within the Lake Placid urban area buffer. The urban buffer limits continue 1.9 miles from the western boundary of the segment to just east of Hall Road. The existing ROW is typically 200-ft in width from Ekhoﬀ Lane to approximately 1,600-ft west of Hall Road (MP 16.691). The existing ROW varies from 45 to 65-ft from MP 16.691 to the end project limit at C.R. 29.

Segment C also contains existing FPL overhead electric transmission lines along the northern edge of the existing ROW from the beginning of the segment limit to approximately 400-ft east of Citrus Boulevard.

The adjacent land use along the north side of Segment C is predominantly low density residential. There is an existing parallel local road network providing access to most of these residential parcels. The adjacent land use along the south side of Segment C is predominantly citrus groves and other agricultural uses.

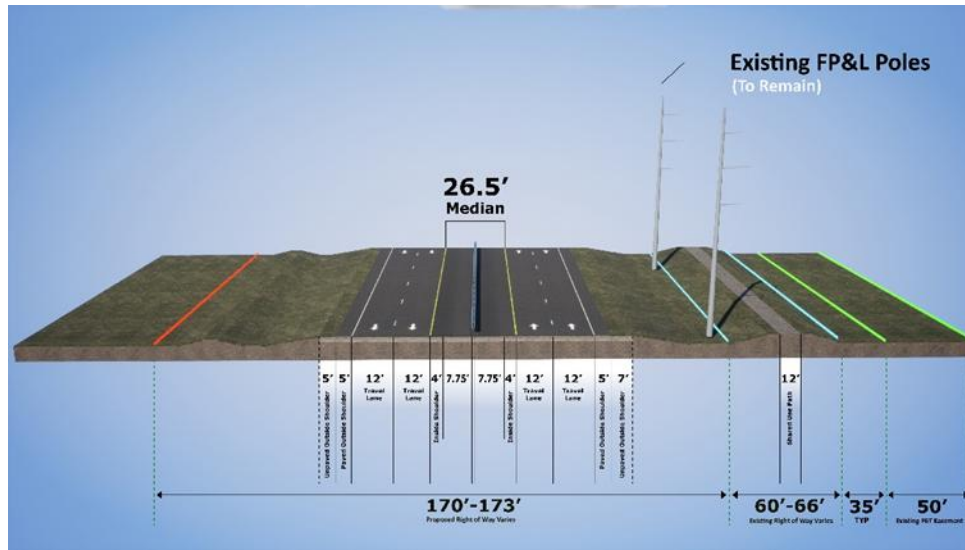
1.4 Proposed Improvements

To meet the project Purpose and Need, the Preferred Alternative will widen S.R. 70 from two to four lanes throughout the study limits. A description of the proposed corridor through each segment is provided within the sections below. The concept plans depicting the Preferred Alternative are included in **Appendix A**. For more information regarding the Preferred Alternative please see the *Preliminary Engineering Report* (PER) located in the project file.

1.4.1 Segment A - Jefferson Avenue/Placid Lakes Boulevard (MP 10.217) to East of Placid View Drive (MP 12.349)

Segment A is a four-lane typical section with median guardrail that maintains the existing southern S.R. 70 ROW boundary and realigns the roadway to the far north (See **Figure 1-3**) to avoid impacting the existing FP&L poles. The typical section consists of a 26.5-ft paved median. The roadway features 12-ft travel lanes, a five-ft paved shoulder, a seven-ft unpaved shoulder, a 12-ft shared use path within the existing ROW, and open roadside ditches/linear stormwater treatment ponds. The design, target, and posted speeds are 65 mph. A median width variation has been approved for this segment. The additional ROW required for this typical section varies from 170 to 173-ft.

Figure 1-3: Segment A Preferred Alternative Typical Section

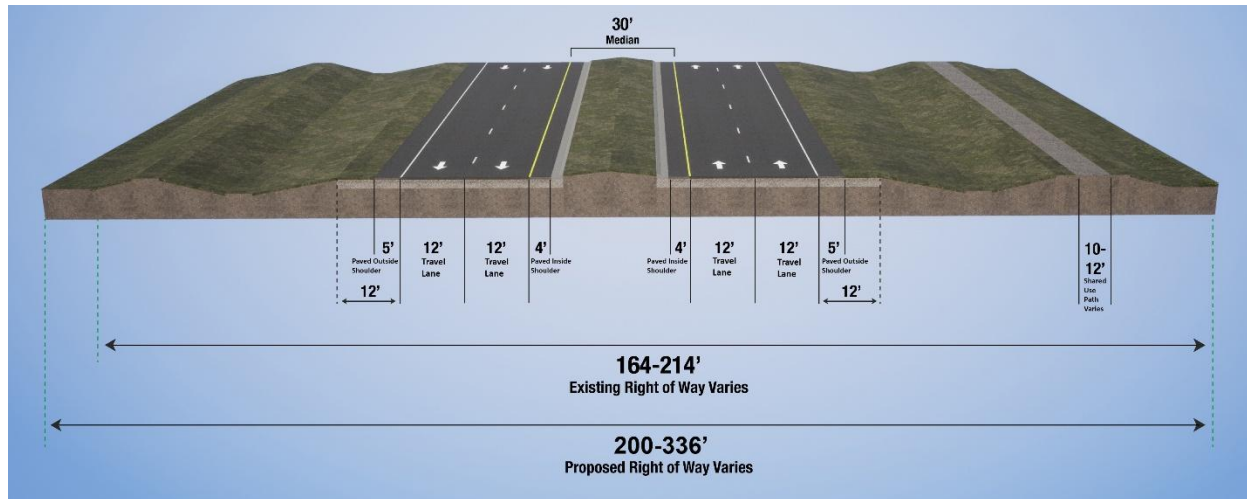


This alternative impacts the LWRWEA and existing FP&L easement located on the north side of the roadway; however, this alternative avoids impacts to the FGT easement along the south side of the corridor. Based on coordination with Florida Fish and Wildlife Conservation (FWC), FDOT will mitigate for the loss of approximately 46.37 acres of impacts to the LWRWEA and further evaluate the wildlife crossings within this segment during the design phase of this project.

1.4.2 Segment B - East of Placid View Drive (MP 12.349) to Ekhoﬀ Lane (MP 15.090)

Segment B includes 12-ft travel lanes, a 30-ft grass median including four-ft paved median shoulders, and a Type E curb and gutter. A 10 to 12-ft shared use path is proposed on the south side of the roadway (See **Figure 1-4**). The design, target, and posted speeds are 55 mph; a SIS design speed variation has been approved for this segment. The proposed ROW width is 200 to 336-ft. The existing ROW varies from 164 to 214-ft. This typical section typically fits within the existing ROW, however, near U.S. 27, the available ROW is narrower, and additional ROW acquisition ranging from 0 to 136-ft will be required.

Figure 1-4: Segment B Preferred Alternative Typical Section



1.4.3 Segment C - Ekhoﬀ Lane (MP 15.090) to C.R. 29 (MP 17.245)

Segment C has two typical sections, the first is from MP 15.090 to MP 16.845. This typical section consists of a 40-ft grass median, 12-ft travel lanes, and open roadside ditches. A 12-ft shared use path is included on the south side. The total proposed ROW width varies from 215 to 359-ft, (Figure 1-5) with the existing ROW being 45 to 200-ft. The widening will occur to the south. The design, target, and posted speeds are 65 mph.

From MP 16.845 to MP 17.245, there is a canal located on the south side of the existing corridor. The proposed typical section accommodates the canal in the proposed ROW. The total proposed ROW is 313 to 322-ft, widening to the south. The existing ROW is 45 to 65-ft. The typical section with the canal consists of a 40-ft grass median, 12-ft travel lanes, open roadside ditches, and a 12-ft shared use path on the south side (See Figure 1-6).

Figure 1-5: Segment C Preferred Alternative Typical Section (MP 15.090 to MP 16.845)

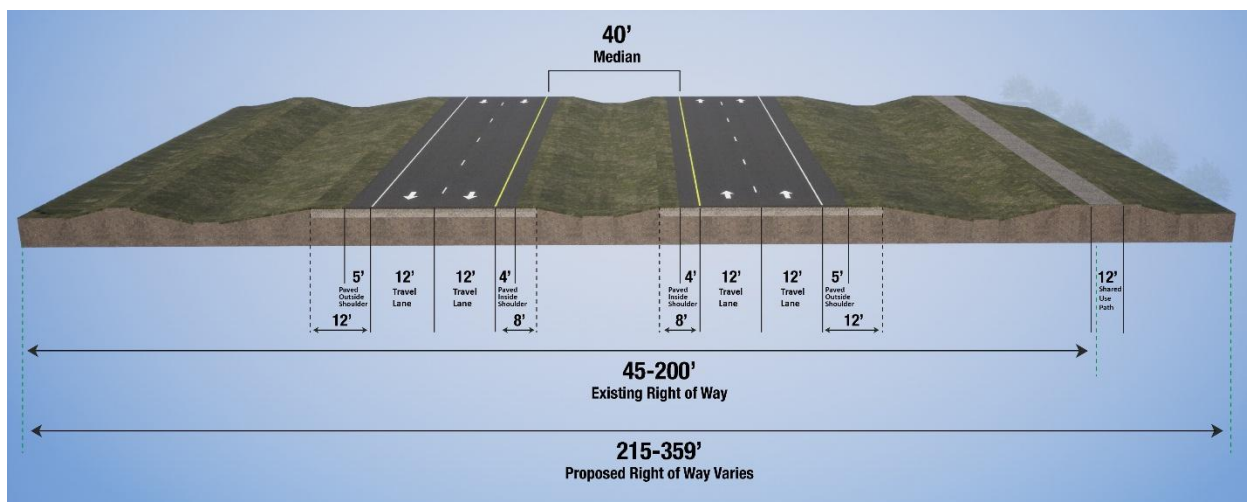
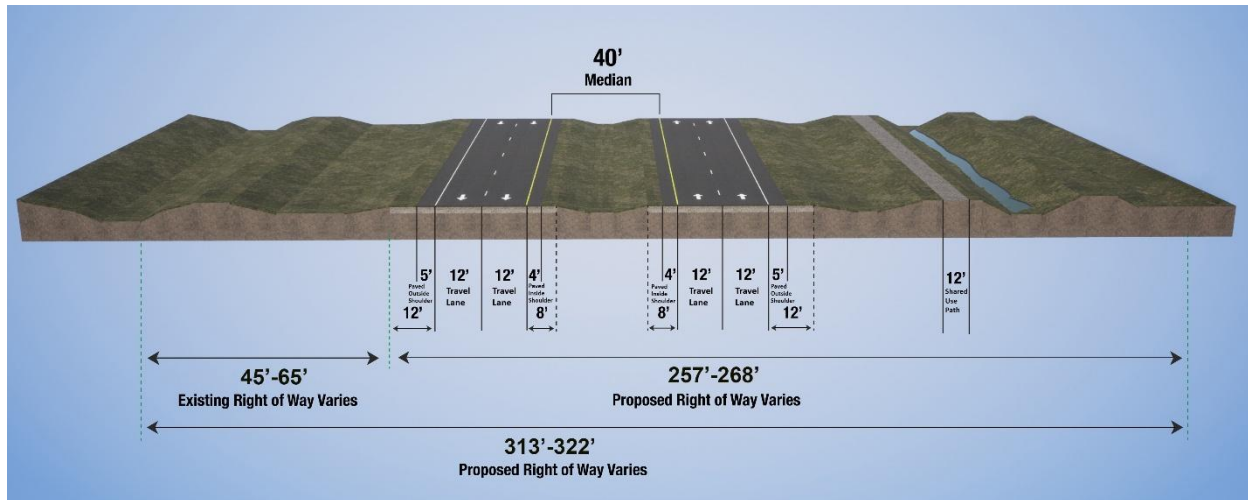


Figure 1-6: Segment C Preferred Typical Section (MP 16.845 to MP 17.245)



1.5 Report Purpose

The purpose of this NRE is to document the natural resources analysis performed to support decisions related to the evaluation of the project Preferred Alternative and to summarize potential impacts to federal and state protected species, wetlands and Essential Fish Habitat (EFH). Measures considered to avoid, minimize, and mitigate for potential impacts resulting from the proposed project are also discussed. This NRE was conducted in accordance with the PD&E Manual and state and federal natural resource regulations. No EFH is located within or adjacent to the project area; therefore, no involvement with EFH resources is anticipated.

2 EXISTING CONDITIONS

2.1 Project Study Area

The project study area is defined as the 500-foot buffer of the existing centerline, including proposed stormwater pond and Floodplain Compensation (FPC) sites. This section presents a description of existing conditions within the project study area, including soils and land use/vegetative cover types within both wetlands and uplands.

2.2 Methodology

To assess the approximate locations and boundaries of existing land use and habitat within the project study area, available site-specific data was collected and reviewed prior to field reviews. The following information was collected and reviewed:

- Aerial photographs (scale, 1 inch = 400 feet) ESRI 2026
- FDOT, Environmental Screening Tool (EST)
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Highlands County, Florida 2025 (NRCS 2025)
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th Edition (Hurt 2007)
- FDOT, Florida Land Use, Cover and Forms Classification System (FLUCFCS) Handbook, 3rd ed., January 1999
- South Florida Water Management District (SFWMD), FLUCFCS Geographic Information System (GIS) Database (2019)
- Southwest Florida Water Management District (SWFWMD), FLUCFCS GIS Database (2020)
- United States Fish and Wildlife Service (USFWS), Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al. 1979)
- USFWS, National Wetlands Inventory (NWI), Wetlands Online Mapper
- United States Geological Survey (USGS) 7.5-minute series topographic map, scale 1:24,000, Venus NW, Florida 2024
- USGS 7.5-minute series topographic map, scale 1:24,000, Childs, Florida 2024

Environmental scientists familiar with Florida natural communities conducted field reviews of the project study area and adjacent habitats in January through May 2023 and January through July 2025. Field reviews consisted of pedestrian transects throughout all natural habitat types located within the project study area. The purpose of the reviews was to verify and refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. All upland, wetland, and other surface water habitat types within the project study area were classified using FLUCFCS.

During field investigations, each upland and wetland community within the project study area was visually inspected. Attention was given to identifying dominant plant species composition and signs of wildlife usage in each community.

2.3 Soils

Based on the *Soil Survey of Highlands County, Florida*, the project study area is comprised of 17 soil types (**Appendix B**). According to the *NRCS Web Soil Survey*, eight of the soil types reported within the project study area are classified as hydric and nine are listed as non-hydric. Of the nine non-hydric soils, four are reported as having hydric soil inclusions. Mapped hydric soils comprise 237.95 acres (24.27%) and non-hydric soils cover 735.57 acres (75.03%) of the project study area. A portion of the study area included open water, and this value was retained in the table to ensure the total project area and associated percentages remained accurate.

Table 2-1 lists the soil types within the project study area, corresponding NRCS soil map unit reference numbers, hydric classification, and the approximate acreage and percentage of each soil type.

Table 2-1: Soil Types and Coverage within the S.R. 70 Project Study Area

Soil Map Unit: Description	Hydric Rating	Acreage	Percentage
	Y/N		
1: Paola Sand, 0 to 8 percent slopes	N	70.69	7.21%
5: Daytona Sand, 0 to 5 percent slopes	N	14.19	1.45%
7: Placid Fine Sand, frequently ponded, 0 to 1 percent slopes	Y	15.07	1.54%
9: Astatula Sand, 0 to 5 percent slopes	N	63.33	6.46%
10: Myakka Fine Sand, 0 to 2 percent slopes	N	35.68	3.64%
11: Orsino Sand, 0 to 5 percent slopes	N	66.90	6.82%
12: Basinger Fine Sand, 0 to 2 percent slopes	Y	92.73	9.46%
13: Felda Fine Sand, 0 to 2 percent slopes	Y	18.37	1.87%
14: Satellite Sand, 0 to 2 percent slopes	N	197.54	20.15%
20: Samsula Muck, frequently ponded, 0 to 1 percent slopes	Y	9.03	0.92%
21: Hontoon Muck, frequently ponded, 0 to 1 percent slopes	Y	63.38	6.47%
26: Tequesta Muck, frequently ponded, 0 to 1 percent slopes	Y	37.93	3.87%
28: Archbold Sand, 0 to 5 percent slopes	N	36.56	3.73%
33: Basinger, St. Johns, and Placid Soils	Y	0.63	0.06%
35: Sanibel Muck, frequently ponded, 0 to 1 percent slopes	Y	0.81	0.08%
45: Paola-Basinger Sand, Rolling	N	245.47	25.04%
47: Astatula Sand, 5 to 12 percent slopes	N	5.21	0.53%
99: Water	N/A	6.80	0.69%
Total Hydric Soils		237.95	24.27%
Total Non-Hydric Soils		735.57	75.03%

Soil Map Unit: Description	Hydric Rating	Acreage	Percentage
	Y/N		
Total Unranked Soils		6.80	0.69%
Total		980.32	100.00%

2.4 Land Use

Existing land uses and natural habitats within the project study area were classified using FLUCFCS. Wetlands were also classified using the USFWS' *Classification of Wetlands and Deepwater Habitats of the United States*, as discussed later within the Wetlands and Other Surface Waters Section. Within the project study area, unpaved portions of the existing roadway ROW are predominately comprised of weedy ruderal vegetation including Bahia grass (*Paspalum notatum*), Bermuda grass (*Cynodon dactylon*), beggarticks (*Bidens alba*), Mexican clover (*Richardia* spp.) and dog fennel (*Eupatorium capillifolium*). Roadside ditches are dominated by smartweed (*Polygonum hydropiperoides*), cattail (*Typha* spp.), beggarticks, Peruvian primrose willow (*Ludwigia peruviana*), Mexican primrose willow (*Ludwigia octovalvis*), Carolina willow (*Salix caroliniana*) and salt bush (*Baccharis halimifolia*). The natural areas abutting the existing road are composed of habitat fringes that have been impacted, to varying degrees, by construction of the existing roadway. A total of 18 upland habitat types and eleven wetland and other surface water habitat types were found within the project study area. **Table 2-2** lists all habitat types and their acreages within the project study area. A description of each undeveloped land use and maps depicting existing land uses and habitats within the project study area are provided in **Appendix C**.

Of the 18 upland land uses and habitats found within the project study area, dominant land uses include pasturelands, citrus groves, shrub and brushland and transportation. A total of 858.91 acres (87.62%) of upland land uses and habitats is located within the project study area.

Table 2-2: Land Uses Within the S.R. 70 Project Study Area

Habitat Type	FLUCFCS Classification	FLUCFCS Description	Acreage	Percentage
Developed	1100	Residential Low Density < 2 Dwelling Units	93.42	9.53%
	1130	Mixed Units, Fixed and Mobile Home Units	1.77	0.18%
	1180	Rural Residential	43.43	4.43%
	1300	Residential High Density	13.91	1.42%
	1400	Commercial and Services	3.39	0.35%
	1500	Industrial	25.96	2.65%
	8100	Transportation	153.83	15.69%
	8200	Communications	7.75	0.79%

Habitat Type	FLUCFCS Classification	FLUCFCS Description	Acreage	Percentage
	8300	Utilities	8.46	0.86%
Undeveloped	2110	Improved Pastures	26.88	2.74%
	2120	Unimproved Pastures	1.69	0.17%
	2130	Woodland Pastures	3.07	0.31%
	2210	Citrus Groves	240.36	24.52%
	2400	Nurseries and Vineyards	8.45	0.86%
	2600	Other Open Lands (Rural)	7.70	0.79%
	3200	Shrub and Brushland	181.72	18.54%
	4220	Brazilian Pepper	6.18	0.63%
	4340	Upland Hardwood – Coniferous Mix	30.94	3.16%
Total Uplands			858.91	87.62%
Other Surface Waters	5100	Streams and Waterways	1.10	0.11%
	5200	Lakes	8.00	0.82%
	5300	Reservoirs	4.95	0.50%
Wetlands	6100	Wetland Hardwood Forests	16.96	1.73%
	6150	Stream and Lake Swamps (Bottomland)	14.75	1.50%
	6170	Mixed Wetland Hardwoods	13.12	1.34%
	6300	Wetland Forested Mixed	3.71	0.38%
	6310	Wetland Scrub	16.87	1.72%
	6400	Vegetated Non-Forested Wetlands	3.36	0.34%
	6410	Freshwater Marshes	35.28	3.60%
	6430	Wet Prairies	3.31	0.34%
Total Wetlands and Other Surface Waters			121.41	12.38%
Total			980.32	100.00%

¹FDOT 1999

²Cowardin, et al, 1979

The project occurs on the Lake Wales Ridge from Jefferson Avenue to 900 feet west of Turner Road. The remaining half mile occurs off the Lake Wales Ridge where elevation drops significantly. For the portion of the project that occurs on the Ridge elevations range from approximately 100 to 150 feet above sea level. For the portion of the project not on the ridge the

elevation drops to approximately 50 feet above sea level. Although not within the Preferred Alternative, Lake Annie is located 150 feet south of the Preferred Alternative. ROW adjacent to Lake Annie will be fenced and gated to prevent public access. Lake Annie is one of the only subtropical lakes designated for research as part of the Global Lake Ecological Observatory Network (GLEON). GLEON has noted that the sediments of Lake Annie date over 37,000 years old and monthly observations are conducted by the Archbold Biological Station.

2.4.1 Conservation Areas

Lake Placid Scrub (located north of S.R. 70 in between Dexter Avenue and Nursery Lane) and McJunkin (located south of S.R. 70 in between Park Land Drive and Old S.R. 8) Tracts of the LWRWEA are owned, officially designated, and managed by the FWC. The LWRWEA's habitat is comprised of scrub, pine flatwoods, freshwater marshes, seepage slopes, and sinkhole lakes.

To offset project impacts to the LWRWEA, FDOT is committed to implementing the mitigative measures which will be outlined in the final FWC Consent Letter to the Florida Department of Environmental Protection (FDEP), as agreed upon by FDOT and FWC. FDOT and FWC will continue to work through the Acquisition and Restoration Council (ARC) process and FDOT will adhere to the final conditions included in the final Consent Letter. The final Consent Letter is anticipated to include mitigative measures such as the following:

- Purchase of appropriate replacement lands by FDOT in accordance with the State Linear Facilities Policy and chosen in coordination with FWC
- Replacement lands will be conveyed to FWC by FDOT
- FDOT will provide funding for restoration and management for replacement lands as requested by FWC
- FDOT will coordinate with FWC on other items for the replacement lands such as vegetation control, fencing, and firebreaks
- FDOT will coordinate with FWC on wildlife crossing locations in the project limits

3 PROTECTED SPECIES

3.1 Introduction

Listed species are afforded special protective status by federal and state agencies. This special protection is federally administered by the USFWS and National Oceanic and Atmospheric Administration – National Marine Fisheries Services (NMFS) pursuant to the Endangered Species Act (ESA) of 1973 (as amended). The USFWS administers the federal list of animal species (50 Code of Federal Regulations (CFR) 17) and plant species (50 CFR 23).

Administered by the FWC, the State of Florida affords special protection to animal species designated as State-designated Threatened or State-designated Endangered, pursuant to Chapter 68A-27, F.A.C. Within the state of Florida, federally-listed species are also afforded protection under Chapter 68A-27, F.A.C., along with state-listed species. The State of Florida also protects and regulates plant species designated as endangered, threatened, or commercially exploited as identified on the Regulated Plant Index, 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.

The following sections describe the methodology used to assess the potential for occurrence of protected species and to identify the effects that construction of the Preferred Alternative may have on protected species in accordance with the Protected Species and Habitat chapter of the FDOT PD&E Manual.

3.1.1 Agency Coordination

Coordination with the USFWS was initiated during this study in order to identify methods to quantify the potential impacts the proposed project may have on various federally-listed species. Survey methodologies were approved by the USFWS on August 30, 2017. An updated species survey methodology was sent to USFWS on March 19, 2025. Additionally, in an email dated February 9, 2026, USFWS determined that new surveys did not need to be conducted for all species in 2026 even though the 12-month timeframe will have passed. However, it was noted that surveys will need to be completed pre-construction to ensure accuracy and compliance. Prior agency review comments and additional agency coordination is provided in **Appendix D**.

As part of the ETDM Programming Screen, ETAT members indicated the following concerns. FWC listed federally listed species that have consultation areas overlapping the project as well as conservation areas near the project. FWC recommended following standard protocol for avoidance, minimization, and coordination. USFWS commented on federally listed species likely occurring in the area and recommended minimization, avoidance, and mitigation.

3.2 Methodology

To determine federal and state protected species that have potential to occur within the project study area, available site-specific data was collected and evaluated.

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

- FDOT, ETDM: Environmental Screening Tool (<https://www.fl-etat.org/est/secure/map/index.html>), March 2026
- USFWS (2026a). Endangered Species website. <https://www.fws.gov/endangered/>. US Fish and Wildlife Service.
- FDACS, Florida Forest Service, Florida's Federally Listed Plant Species website (2026) <https://www.fdacs.gov/Consumer-Resources/Protect-Our-Environment/Botany/Florida-s-Endangered-Plants/Endangered-Threatened-and-Commercially-Exploited-Plants-of-Florida>);
- FDOT, NRE for the S.R. 70 PD&E Study from Jefferson Avenue to C.R. 29, April 2020
- FWC, Florida's Endangered Species and Threatened Species, October 2025;
- FWC, Eagle Nest Locator website (<https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx>), March 2026;
- FWC, Wading Bird Rookeries website (http://ocean.floridamarine.org/TRGIS/Description_Layers_Terrestrial.htm), March 2026;
- FWC, Florida Black Bear Management Plan, (2019);
- Florida Natural Areas Inventory (FNAI) Biodiversity Matrix Map Server (<https://www.fnai.org/biodiversity-matrix-intro>), March 2026;
- FNAI Element Occurrence Data Report, February 2017;
- USFWS, Critical Habitat Portal website (<http://criticalhabitat.fws.gov/crithab/>), March 2026;
- USFWS, Information for Planning and Consultation (IPaC) Mapper (<https://ecos.fws.gov/ipac/location/index>), March 2026.

Field reviews included a combination of pedestrian transects, stationary observations, and acoustic/play call points as warranted by various species-specific survey methodologies (discussed herein and in **Appendices G & I-M**). Individual species-specific surveys were completed for protected plants, sand and blue-tailed mole skink, Florida grasshopper sparrow, Florida scrub-jay, eastern black rail, crested caracara, Everglade snail kite, Florida bonneted bat, and tricolored bat. The purpose of the surveys was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation, as well as determine species presence or absence to the extent possible. Due to the number of surveys that needed to be completed at different optimal seasons, some of the species memorandums use a different footprint than what is shown in this NRE. This is due to the

memorandums being written prior to the selection of the Preferred Alternative. The FNAI Data Report (**Appendix E**) was reviewed for documentation of occurrences of listed species in the vicinity of the project study area.

Based on the evaluation of collected data, field reviews, FNAI data, and database searches, the federal and state protected species discussed in **Section 3.3** were considered as having the potential to occur within or adjacent to the 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 protected species based on an analysis of the potential impacts of the proposed project alternatives to each species.

3.3 Results

Based on the information collected, field reviews, and species-specific surveys conducted from January through May 2023 and January through July 2025, a list of protected species with the potential to occur within the project study area was generated. This list includes a total of 67 federal or state protected species that have the potential for occurrence within the project study area. These protected species include 40 plants, one invertebrate, six reptiles, 16 birds, and four mammals. **Table 3-1** presents a list of protected species with the potential to occur within the project study area, suitable habitat, and ranking of potential occurrence. Locations of all protected 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 **Appendices F, G and I – M**. Additional information is also provided in **Figure 3-1** through **Figure 3-3**.

The potential for occurrence for each species was designated as No, Low, Moderate, or High potential based on the type of habitat present within the project action area, its relative condition, and if the species has been previously documented or was observed in the project action area. A No potential rating indicates that no suitable habitat for that species was found within the project action area and there have been no documented reports of the species within one mile of the project action area. A Low potential rating indicates that suitable habitat for that species was found within the project action area, but the species has not been documented within one mile of the project action area. A Moderate potential rating indicates that suitable habitat for that species exists within the project action area, and the species has been documented within one mile of the project action area or is otherwise expected to occur within the project action area. A High potential rating indicates that suitable habitat for that species exists within the project action area, and the species was observed during field reviews or has been documented within the project action area.

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. The following sections discuss all species with potential to occur within the project study area and the project's anticipated effect determinations on these species.

Table 3-1: Potential for Occurrence and Proposed Effect Determination for Federal Protected Species for the Project Study Area

Species	Listing Status	Potential for Occurrence
Plants		
Florida bonamia <i>Bonamia grandiflora</i>	USFWS – Threatened FDACS - Endangered	Low
Pygmy fringe tree <i>Chionanthus pygmaeus</i>	USFWS - Endangered	Low
Perforate reindeer lichen <i>Cladonia perforate</i>	USFWS - Endangered	Low
Scrub pigeon wing <i>Clitoria fragrans</i>	USFWS – Threatened FDACS - Endangered	High
Short-leaved rosemary <i>Conradina brevifolia</i>	USFWS - Endangered	Low
Avon park rabbit-bells <i>Crotalaria avonensis</i>	USFWS - Endangered	Low
Garrett's scrub balm <i>Dicerandra christmanii</i>	USFWS - Endangered	Low
Scrub mint <i>Dicerandra frutescens</i>	USFWS - Endangered	Moderate
Scrub buckwheat <i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	USFWS – Threatened FDACS - Endangered	Moderate
Wedge-leaved button-snakeroot <i>Eryngium cuneifolium</i>	USFWS - Endangered	Low
Highlands scrub hypericum <i>Hypericum cumulicola</i>	USFWS - Endangered	High
Scrub blazing star <i>Liatris ohlingerae</i>	USFWS - Endangered	High
Britton's beargrass <i>Nolina brittoniana</i>	USFWS - Endangered	High
Paper nailwort <i>Paronychia chartacea</i>	USFWS – Threatened FDACS - Endangered	High
Lewton's polygala <i>Polygala lewtonii</i>	USFWS - Endangered	Low
Florida jointweed <i>Polygonum basiramia</i>	USFWS - Endangered	High
Small's jointweed <i>Polygonella myriophylla</i>	USFWS - Endangered	Low
Scrub plum <i>Prunus geniculata</i>	USFWS - Endangered	Moderate
Scrub ziziphus <i>Pseudoziziphus celata</i>	USFWS - Endangered	Low
Carter's warea <i>Warea carteri</i>	USFWS - Endangered	Moderate
Reptiles		
Eastern indigo snake <i>Drymarchon couperi</i>	USFWS – Threatened	High
Blue-tailed mole skink <i>Plestiodon egregius lividus</i>	USFWS – Threatened	High
Sand skink <i>Plestiodon reynoldsi</i>	USFWS – Threatened	High
Birds		
Florida grasshopper sparrow <i>Ammodramus savannarum floridanus</i>	USFWS – Endangered	Low

Species	Listing Status	Potential for Occurrence
Florida scrub-jay <i>Aphelocoma coerulescens</i>	USFWS – Threatened	High
Eastern black rail <i>Laterallus jamaicensis jamaicensis</i>	USFWS – Threatened	Low
Red-cockaded woodpecker <i>Picoides borealis</i>	USFWS – Endangered	No
Crested caracara <i>Polyborus plancus audubonii</i>	USFWS – Threatened	High
Everglade snail kite <i>Rostrhamus sociabilis plumbeus</i>	USFWS – Endangered	Moderate
Mammals		
Florida bonneted bat <i>Eumops floridanus</i>	USFWS – Endangered	High
Florida panther <i>Puma concolor coryi</i>	USFWS – Endangered	High
Other Protected Species		
Monarch butterfly <i>Danaus plexippus</i>	USFWS – Proposed Threatened	High
Bald eagle <i>Haliaeetus leucocephalus</i>	BGEPA	High
Osprey <i>Pandion haliaetus</i>	MBTA	High
Tricolored bat <i>Pipistrellus subflavus</i>	USFWS – Proposed Endangered	High

Table 3-2: Potential for Occurrence and Proposed Effect Determination for State Protected Species for the Project Study Area

Species	Listing Status	Potential for Occurrence
Plants		
Pinewoods bluestem <i>Andropogon arcatus</i>	FDACS – Threatened	Low
Curtiss' milkweed <i>Asclepias curtissii</i>	FDACS – Endangered	High
Ashe's savory <i>Calamintha ashei</i>	FDACS – Threatened	High
Many-flowered grass-pink <i>Calopogon multiflorus</i>	FDACS – Threatened	Low
Chapman's sedge <i>Carex chapmanii</i>	FDACS – Threatened	No
Sand butterfly pea <i>Centrosema arenicola</i>	FDACS – Endangered	Low
Florida goldenaster <i>Chrysopsis floridana</i>	FDACS – Endangered	Low
Highlands goldenaster <i>Chrysopsis highlandsensis</i>	FDACS – Endangered	Low
Cutthroat grass <i>Coleataenia abscissa</i>	FDACS – Endangered	High
Spurred neottia <i>Eltroplectris calcarata</i>	FDACS – Endangered	Low

Species	Listing Status	Potential for Occurrence
Scrub spurge <i>Euphorbia roscens</i>	FDACS – Endangered	High
Garberia <i>Garberia heterophylla</i>	FDACS – Threatened	High
Hartwrightia <i>Hartwrightia floridana</i>	FDACS – Threatened	Low
Edison's ascyrum <i>Hypericum edisonianum</i>	FDACS – Endangered	High
Nodding pinweed <i>Lechea cernua</i>	FDACS – Threatened	High
Pine pinweed <i>Lechea divaricata</i>	FDACS – Endangered	Low
Florida spiny-pod <i>Matelea floridana</i>	FDACS – Endangered	Low
Piedmont jointgrass <i>Mnesithea tuberculosa</i>	FDACS – Threatened	No
Narrowleaf naiad <i>Najas filifolia</i>	FDACS – Threatened	No
Celestial lily <i>Nemastylis floridana</i>	FDACS – Endangered	Low
Florida beargrass <i>Nolina atopocarpa</i>	FDACS – Threatened	Low
Yellow fringeless orchid <i>Platanthera integra</i>	FDACS – Endangered	Low
Giant orchid <i>Pteroglossaspis ecristata</i>	FDACS – Threatened	Low
Florida willow <i>Salix floridana</i>	FDACS – Endangered	Low
Scrub bluestem <i>Schizachyrium niveum</i>	FDACS – Endangered	Low
Scrub stylisma <i>Stylisma abdita</i>	FDACS – Endangered	High
Toothed maidenfern <i>Meniscium serratum</i>	FDACS – Endangered	Low
Northern needleleaf <i>Tillandsia balbisiana</i>	FDACS – Threatened	High
Cardinal airplant <i>Tillandsia fasciculata</i>	FDACS – Endangered	High
Giant airplant <i>Tillandsia utriculata</i>	FDACS – Endangered	High
Redmargin zephyrlily <i>Zephyranthes simpsonii</i>	FDACS – Threatened	Low
Reptiles		
Gopher tortoise <i>Gopherus polyphemus</i>	FWC - Threatened	High
Short-tailed snake <i>Lampropeltis extenuata</i>	FWC - Threatened	Low
Florida pine snake <i>Pituophis melanoleucus</i>	FWC - Threatened	Low
Birds		
Florida burrowing owl <i>Athene cunicularia floridana</i>	FWC - Threatened	Low
Little blue heron <i>Egretta caerulea</i>	FWC - Threatened	High
Tricolored heron <i>Egretta tricolor</i>	FWC - Threatened	High

Species	Listing Status	Potential for Occurrence
Southeastern American kestrel <i>Falco sparverius paulus</i>	FWC - Threatened	High
Florida sandhill crane <i>Grus canadensis pratensis</i>	FWC - Threatened	High
Roseate spoonbill <i>Platalea ajaja</i>	FWC - Threatened	High
Least tern <i>Sternula antillarum</i>	FWC - Threatened	Low
Other Protected Species		
Florida black bear <i>Ursus americanus floridanus</i>	FWC - FBBC	High

3.3.1 Natural Habitat Descriptions

The Lake Wales Ridge Plants Consultation Area encompasses portions of central Florida that contain suitable habitat conditions for federally listed and sensitive plant species associated with the region's ancient dune systems. This area is defined by the presence of xeric upland communities such as scrub, sandhills, and scrubby flatwoods. Vegetation within the consultation area is typically sparse to moderately dense, reflecting the nutrient-poor soils and the influence of periodic fire. Habitat structure varies across the ridge, creating a patchwork of shrub thickets, open sand patches, and transitional plant communities. Due to its ecological distinctiveness and concentration of rare plant assemblages, the area is managed with particular attention to habitat preservation and appropriate fire regimes.

Scrub oak habitat (scrub) is characterized by deep, excessively drained sandy soils (St. Lucie, Archbold, Astatula, and Paola) that support a mix of low, evergreen shrubs and open sandy gaps. Vegetation cover is patchy, with dense thickets interspersed with areas of bare sand that reflect the habitat's xeric and nutrient-poor conditions. This habitat relies on fire to maintain its unique plant and animal communities.

Scrubby flatwoods are a transitional upland community characterized by a sparse pine canopy over a dense shrub layer typical of scrub habitats with areas of bare sand. The soils are sandy (Pomello and Satellite), creating xeric conditions that support drought-tolerant vegetation. This habitat is maintained by periodic fire, which limits canopy closure and promotes a patchy understory structure.

Hydric pine flatwoods are a forested wetland habitat characterized by pine-dominated canopies, poorly drained soils, and seasonally or permanently saturated conditions. They occur primarily in low-lying flat landscapes where water naturally accumulates, creating wetland conditions for significant portions of the year.

Wet prairies are herbaceous, seasonally inundated wetland ecosystems characterized by a treeless or sparsely wooded landscape, shallow hydroperiods, and dense groundcover of hydrophytic grasses, sedges, and forbs which occur on nutrient deficient, saturated soils (Basinger) and the

most common variant is the cutthroat seep dominated by cutthroat grass. They often form transitional zones between dry/mesic flatwoods and deeper marshes or cypress wetlands.

A wet hammock is an evergreen hardwood and/or palm forest that develops on moist to wet soils, often where the water table is at or near the surface for long periods. These habitats form slightly elevated tree islands surrounded by wetter landscapes such as marshes, swamps, and floodplains.

A strand swamp is a type of forested wetland found primarily in south Florida, characterized by linear, shallow depressions or channels that hold slow-moving, seasonally to persistently inundated water. These habitats form where flat topography, high water tables, and lack of slope prevent the formation of defined streams.

3.3.2 Federal Species

3.3.2.1 Flora

Protected plant surveys were conducted in 2018 and 2023 by FDOT as a part of the ongoing PD&E study, which can be found in the SWEPT project file. Recent surveys were conducted on May 19, 20, 28, and 29th of 2025 (**Appendix G**). The timing of the surveys did not overlap optimal survey seasons for several summer and fall flowering rare plant species. As a result, some previously documented occurrences of summer and fall flowering species were not observed. In these instances, the locations of these species documented in the most recent available surveys were assumed to be extant.

Federal-listed plants with low potential to occur

The project study area contains suitable habitat for the federally endangered pygmy fringe tree, perforate reindeer lichen, short-leaved rosemary, Avon Park rabbit-bells, Garrett's scrub balm, wedge-leaved button-snakeroot, Lewton's polygala, Small's jointweed, scrub ziziphus and the federally threatened species Florida bonamia. Florida bonamia prefers openings or disturbed areas in white sand scrub on central Florida ridges, with scrub oaks, sand pine, and lichen. The pygmy fringe tree prefers scrub, sandhills, and xeric hammocks. Perforate reindeer lichen prefers rosemary scrub. Short-leaved rosemary prefers xeric white sands that support rosemary scrub. Avon park rabbit-bells prefer bare patches of white sand in Lake Wales Ridge scrub; occasionally in disturbed areas or in partial shade. Garrett's scrub balm prefers openings in oak scrub on the Lake Wales Ridge. Wedge-leaved button-snakeroot prefers sand pine scrub, usually in gaps on rosemary balds. Lewton's polygala prefers sandhill, scrubby flatwoods and oak-hickory scrub on yellow sands. Small's jointweed prefers scrub and scrubby flatwoods. Scrub ziziphus prefers oak-hickory scrub, scrubby flatwoods, or sandhills on yellow sand.

Scrub habitat on the Lake Wales Ridge consists of xeric, open gaps of nutrient-poor sandy soils supporting a dense shrub layer and patchy groundcover maintained by periodic fire. The Preferred Alternative is anticipated to impact approximately 44.52 acres of this habitat. According to FNAI data, these species have not been documented within one mile of the project study area.

Additionally, these species were not observed during field reviews or species-specific surveys. Based on the lack of documented observations, it has been determined that the occurrence for these species in the project area is **low** and the proposed project “*may affect, not likely to adversely affect*” the Florida bonamia, pygmy fringe tree, perforate reindeer lichen, short-leaved rosemary, Avon Park rabbit-bells, Garrett’s scrub balm, wedge-leaved button-snakeroot, Lewton’s polygala, Small’s jointweed, and scrub Ziziphus.

Federal-listed plants with moderate potential to occur

The project study area contains suitable habitat for the federally endangered scrub mint, Carter’s warea, scrub plum and the federally threatened scrub buckwheat. Scrub mint prefers oak-hickory scrub and sand pine scrub with yellow sands, Carter’s warea prefers sandhill, scrubby flatwoods and disturbed sandy areas, and scrub buckwheat and scrub plum prefer scrub habitat. Scrub habitat on the Lake Wales Ridge consists of xeric, open gaps of nutrient-poor sandy soils supporting a dense shrub layer and patchy groundcover maintained by periodic fire. The Preferred Alternative is anticipated to impact approximately 44.52 acres of scrub habitat. According to FNAI data, these species have been documented within one mile of the project study area. However, these species were not observed during field reviews or species-specific surveys. Based on this information and the lack of visual observations, it has been determined that the potential for occurrence of these species within the project study area is **moderate** and the proposed project “*may affect, not likely to adversely affect*” scrub mint, Carter’s warea, scrub buckwheat, and scrub plum.

Federal-listed plants with high potential to occur

The project study area contains available suitable habitat for the federally endangered Highlands scrub hypericum, scrub blazing star, Britton’s beargrass, Florida jointweed and the federally threatened scrub pigeon-wing and paper nailwort. Scrub pigeon-wing was listed as threatened by the USFWS in 1993. This species is endemic to sandy, well- drained soils in central Florida, particularly in yellow sands of scrubs and sandhills, though it is also found in other xeric sites with various soil types. Highlands scrub hypericum prefers natural sandy openings within scrub and scrubby flatwoods habitats as well as sandy management roads and firebreaks. Scrub blazing star prefers openings in rosemary scrub, scrubby flatwoods, and occasionally oak scrub. Britton’s beargrass prefers xeric habitats including scrub, scrubby flatwoods, sandhill and xeric hammock. Paper nailwort prefers openings in scrub and scrubby flatwoods on xeric soils, including disturbed roadsides and firebreaks. Florida jointweed prefers openings in rosemary scrub, sand pine scrub, oak scrub and scrubby flatwoods with white sands. The Preferred Alternative is anticipated to impact approximately 44.52 acres of this habitat.

Scrub pigeon-wing was observed at six locations during the Archbold 2017 survey (**Appendix F**) but was not encountered during the 2023 or 2025 FDOT Plant Surveys. According to FNAI data, these species have been documented within one mile of the project study area. Additionally, some of these species were observed during species-specific surveys (**Appendix G**). Highlands scrub hypericum and paper nailwort were observed in 2018, 2023, and 2025, scrub blazing star was observed in 2018, and Britton’s beargrass and Florida jointweed were observed in 2018 and 2023.

Based on these surveys, the potential for occurrence for these species within the project study area is considered to be **high**. A survey for listed plant species including scrub pigeon wing, Highlands scrub hypericum, scrub blazing star, Britton's beargrass, paper nailwort, and Florida jointweed will be performed during the design phase and coordination with USFWS will occur if impacts to the species are anticipated. It has been determined that the proposed project "***may affect, likely to adversely affect***" scrub pigeon wing, Highlands scrub hypericum, scrub blazing star, Britton's beargrass, paper nailwort, and Florida jointweed.

3.3.2.2 Invertebrates

Monarch Butterfly

The monarch butterfly was observed within the project area during the 2023 caracara survey. The monarch butterfly was listed as a candidate species for protection under the ESA by the USFWS on May 3, 2022. Within North America, the monarch butterfly is a highly migratory species which typically winters in Mexico. This species requires a diversity of blooming nectar resources, but of particular importance is milkweed (*Asclepias spp.*). Milkweed is a microhabitat requirement for this species to both deposit eggs and as a larval nutrition source. Swamp milkweed (*Asclepias incarnata*) and Curtiss' milkweed (*Asclepias curtissii*) were observed sporadically adjacent to various wet roadside ditches and along pasture fences during project field reviews and is possible that this species may be used by the monarch butterfly. Given the previous documentation, the occurrence of tropical milkweed within the project study area, and the monarch's mobility, the potential for occurrence of this species within the projected study area is considered **high**.

3.3.2.3 Reptiles

Eastern Indigo Snake

According to FNAI data, the federally threatened eastern indigo snake has been documented within one mile of the project study area (**Appendix E**). The 269.48-acre Preferred Alternative contains 113.80 acres of land cover types that provide habitat for the eastern indigo snake, the land cover types are detailed in **Table 3-3**. Lands within the proposed pond sites will not be converted into paved roadway and are expected to maintain vegetation that provides suitable habitat for the eastern indigo snake following completion of the Preferred Alternative.

While there is suitable habitat for this species throughout the natural habitats within the project study area, the eastern indigo snake was not observed during field reviews or species-specific surveys. However, it is reasonable to expect that this species could utilize suitable habitat within the project study area based on the extent of minimally disturbed habitat and 161 gopher tortoise burrows found on site. Considering that gopher tortoise burrows are a known potential indigo snake refugia, the potential for occurrence of the eastern indigo snake with the project study area is considered to be **high**. The path followed through the USFWS South Florida Ecological Service Office's *Eastern Indigo Snake Programmatic Effect Determination Key* (revised August 2017) was A>B>C> "***may affect***" (**Appendix H**). 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. Based on the loss of uplands and wetlands habitat potentially used by the species, the proposed project “*may affect, likely to adversely affect*” the eastern indigo snake. The USFWS recommends that a contribution be made to the Eastern Indigo Snake Conservation fund to assist with offsetting the adverse effects to eastern indigo snakes from increased habitat fragmentation and increased road mortality as a result of the road widening and increased capacity. An analysis consistent with USFWS direction found that there are approximately 13,474 acres of suitable indigo snake habitat within 1.2 miles of the project. Based on home range data provided by USFWS and considering range overlap, it is estimated that approximately 220 indigo snake home ranges would fit within this area. Utilizing a 0.23 probability of indigo snakes crossing tertiary roads, it is estimated that the project will result in the take of 50 eastern indigo snakes, with half being taken from vehicle collisions and the other half from habitat fragmentation.

To offset the Preferred Alternative’s impacts to 113.80 acres of suitable eastern indigo snake habitat, FDOT will provide 113.80 eastern indigo snake acre credits from PBMB, which include land cover types that provide habitat for the eastern indigo snake. PBMB is a USFWS approved conservation bank with available eastern indigo snake credits. If eastern indigo snake credits are not available from PBMB, then utilizing \$13,000 per taken indigo snake and the estimated take of 50 eastern indigo snakes, FDOT will make a contribution \$650,000 to the Eastern Indigo Snake Conservation Fund to offset the project’s impacts.

Table 3-3 Habitat Impacts for the Eastern Indigo Snake

Habitat	Acres Impacted
Improved pastures	0.07
Citrus groves	33.12
Shrub and brushland	45.53
Upland hardwood/coniferous mix	11.13
Streams and waterways	0.43
Reservoirs	0.11
Wetland hardwood forests	5.59
Stream and lake swamps	0.25
Mixed wetland hardwoods	1.86
Wetland forested mixed	2.25
Wetland scrub	8.05
Vegetated non-forested wetlands	2.40
Freshwater marsh	5.01
Total	113.80

Blue-Tailed Mole Skink and Sand Skink

Both the blue-tailed mole skink and the sand skink are federally threatened. The project lies within the USFWS Sand and Blue-Tailed Mole Skink Consultation Areas and includes suitable skink

soils at a suitable elevation. According to FNAI data, the blue-tailed mole skink has been documented within one mile of the project study area, while the sand skink has not (**Appendix E**). However, skink tracks were observed during species-specific surveys conducted in 2018, 2023, 2024, and 2025. Based on the results of the skink survey, the total occupied sand skink habitat within the project study area is estimated to be 73.94 acres (**Appendix I**). It should be noted that the total acreage of impacts, presented in **Appendix I**, were based on the “worst-case” project footprint at the time of the most recent survey. However, at the time of this NRE, many areas in that footprint are no longer a part of the Preferred Alternative. When applying the final Preferred Alternative to the occupied sand skink habitat, the project will impact approximately 50.34 acres. Due to the survey results, the potential for occurrence for the blue-tailed mole skink and sand skink within the project study area is **high**.

To offset impacts to blue-tailed mole skinks and sand skinks resulting from the construction of the proposed project, FDOT anticipates acquisition of skink habitat mitigation credits from a USFWS-approved species conservation bank. Mitigation banks with credits available to offset impacts to skinks include Ancient Islands Conservation Bank, Arbuckle Creek Conservation Bank, Backbone Conservation Bank, Lake Wales Ridge Conservation Bank, Moon Glow Conservation Bank, Rattlesnake Ridge Conservation Bank, Rolling Ridge Conservation Bank, and Lake Livingston Conservation Bank. Replacement of lost habitat will be implemented at a ratio of 2.0 credits for each acre of habitat impacted. Approximately 100.68 credits are anticipated to be required for the Incidental Take of sand skinks and blue-tailed mole skinks resulting from the proposed project activities. All credits needed will be acquired, with documentation provided to the USFWS prior construction commencement. It has been determined that the proposed project “*may affect, likely to adversely affect*” the blue-tailed mole skink and sand skink.

3.3.2.4 Birds

Florida Grasshopper Sparrow

The project study area is located within the USFWS Consultation Area for the federally endangered Florida grasshopper sparrow. Additionally, there are no documented occurrences of the Florida grasshopper sparrow within one mile of the project area and the habitat within the project limits does not satisfy the fire-maintained, treeless, dry prairie which is required by this species. It is a subspecies of grasshopper sparrow that is endemic to the dry prairie region of central and south Florida. The subspecies is extremely habitat-specific and relies on fire every two to three years to maintain its habitat. The USFWS estimates that fewer than 75 wild individuals of this species remain, with the current populations inhabiting conservation lands and still decreasing. Due to this severe population decline the USFWS initiated a captive breeding program in 2016.

Species surveys for the Florida grasshopper sparrow were conducted during May and June 2025 (**Appendix J**). No Florida grasshopper sparrows were observed or heard, and no nests were discovered. Additionally, suitable habitat within and adjacent to the project has mostly been converted into low maintained cropland, which is incompatible with grasshopper sparrows. Due

to the results of the survey and the current state of the Florida grasshopper sparrow populations, the potential for species occurrence within the project study area is considered to be **low** and the Preferred Alternative “*may affect, not likely to adversely affect*” the Florida grasshopper sparrow.

Florida Scrub-jay

The project study area is located within the USFWS Florida Scrub-jay Consultation Area. The federally threatened Florida scrub-jay was observed during seasonally appropriate species-specific surveys conducted by FDOT in 2018 and 2023, and by Archbold Biological Station in 2024-2025. Based on the results of the Florida scrub-jay survey (see **Appendix K**), there is a total of 69.78 acres of occupied Florida scrub-jay habitat within the proposed ROW. Habitat is evaluated according to a three-tier system in which Type I areas consist of upland communities with 15% or greater scrub oak cover, Type II areas include any communities supporting scrub oak but with less than 15% cover, and Type III areas encompass uplands or seasonally dry wetlands located within 400 meters (0.25 miles) of any Type I or Type II habitat. Of the 69.78 acres, there are 33.97 acres of Type I habitat, 1.60 acres of Type II habitat, and 34.21 acres of Type III habitat. Additionally, during a meeting between FDOT and Archbold Biological Station, held on March 9, 2026, Archbold staff presented the results of their most recent scrub-jay surveys. This data showed that as of the 2025 nesting season, three newly documented nests were found to occur within or adjacent to portions of the Lake Placid Scrub Tract where project impacts are proposed. Due to these observations, the potential for occurrence for the Florida scrub-jay within the project study area is **high**.

To offset impacts to the Florida scrub-jay resulting from the construction of the proposed project, FDOT anticipates acquisition of scrub-jay habitat mitigation credits from a USFWS-approved species conservation bank. The S.R. 70 project study area is located within the service area of the Platt Branch Wildlife Mitigation Park which is owned by the FDOT and maintained by the FWC. Tippen Bay Conservation Bank also has credits available to offset impacts to Florida scrub-jays. These credits are available at a ratio of 2.0 credits for each 1.0 acre of affected occupied scrub-jay habitat. It is anticipated that 139.56 credits would need to be purchased to offset impacts to the scrub-jay. All credits needed will be acquired, with documentation provided to the USFWS prior construction commencement. It has been determined that the proposed project “*may affect, likely to adversely affect*” the Florida scrub-jay.

Eastern Black Rail

The eastern black rail is listed as threatened by the USFWS. This species is found sporadically throughout the eastern half of the United States, including both coastal and freshwater marsh habitats throughout Florida. The eastern black rail is a wetland dependent subspecies. While it can be found in salt, brackish, and freshwater marshes that are tidally or non-tidally influenced, it has a very specific niche habitat. It requires dense herbaceous vegetation to provide shelter and cover and areas for protected nest sites; it is not found in areas with woody vegetation. Occupied habitat tends to be primarily composed of fine-stemmed emergent plants (rushes, grasses, and sedges) with high stem densities and dense cover. The bird requires shallow water or moist soil for its

nesting sites and elevated refugia with dense cover to survive high water events, because juvenile and adult black rails prefer to walk and run rather than fly and chicks are unable to fly.

A call-response survey was conducted during April and May 2025 and the survey memorandum can be found in **Appendix L**. No eastern black rails were heard or observed during the survey; however, the project is impacting 5.01 acres of freshwater marsh habitat that is potentially suitable for this species. Due to the absence of eastern black rails utilizing suitable habitat within the project limits, the potential for occurrence for the Eastern black rail is **low**, and no conservation or mitigation measures are being proposed. As a result, it is anticipated that the proposed project “*may affect, not likely to adversely affect*” the species.

Red-cockaded Woodpecker

The red-cockaded woodpecker is listed as endangered by the USFWS and the FWC. This species is endemic to the southeastern United States. The species uses mature living pines in which it constructs roosting and nesting holes, often preferring longleaf pines (*Pinus palustris*). Additionally, pine flatwoods and pine forests must be fire-maintained to provide suitable nesting and foraging habitat for the red-cockaded woodpecker. While the project study area is located within the USFWS Red-cockaded Woodpecker Consultation Area, none of the pineland habitats within the study area are of suitable age or size or are fire-maintained; therefore, habitat impacts for this species are not anticipated from the proposed improvements. According to FNAI data, there have been no documented occurrences within one mile of the project study area. Additionally, no observations were made during field reviews or species-specific surveys. Based on the lack of suitable foraging and nesting habitat, there is considered to be **no** potential for occurrence of this species within the project study area. The Preferred Alternative will have “*no effect*” on the red-cockaded woodpecker.

Everglade Snail Kite

The project is within the consultation area for the Everglade snail kite. The federally endangered snail kite utilizes wetland and freshwater habitats that are relatively clear of vegetation to successfully forage for apple snails. Snail kites typically utilize shallow marshes and the shallow vegetated edges of lakes for foraging and typically nest over water in small trees such as Carolina willows and saltbush. The project will impact 5.8 acres of wetland habitat suitable for the everglade snail kite. Species surveys for the Everglades snail kite were conducted from March to May of 2025 (**Appendix M**). During the surveys, no individuals were observed. Additionally, the proposed improvements will not impact any active snail kite nests that may be within or adjacent to the project limits. Based on these results, the occurrence for this species within the project study area is **moderate**. The project will mitigate impacts to wetlands and other surface waters therefore, the Preferred Alternative “*may affect, not likely to adversely affect*” the Everglade snail kite.

Crested Caracara

The crested caracara is listed as threatened by the USFWS. The project is located within the USFWS’ Crested Caracara Consultation Area. Surveys were conducted in 2018, 2023, and 2025.

Two nests were documented in the 2018 survey, and one nest was documented in the 2023 survey. During the 2025 survey (**Appendix N**), many caracara were observed flying around the project area; however, no Audubon's crested caracara nests were found within the survey study area during the 2025 survey. A survey will be conducted for the crested caracara per USFWS' protocol during the design phase. FDOT will avoid and minimize impacts to caracara nesting/foraging habitat to greatest extent practicable. The FDOT will also offset all unavoidable project impacts to caracara habitat by contributing funds to the Wildlife Foundation of Florida to Support future monitoring. However, because active caracara nests are located within the limits of the two adjacent S.R. 70 projects (FPIDs 451649-1 & 414506-5), all impacts to caracara habitat, including impacts incurred under this project, will be mitigated under the adjacent S.R. 70 projects. Should caracara nests be documented within this project's limits during future survey efforts, USFWS will be notified and additional mitigation will be provided as appropriate. Based on this information, it has been determined that the potential for occurrence for the crested caracara within the project study area is **high** and the proposed project "*may affect, likely to adversely affect*" the crested caracara.

3.3.2.5 Mammals

Florida Bonneted Bat

The Florida bonneted bat is listed as endangered by the USFWS. The project location is within the USFWS' Florida Bonneted Bat Consultation Area, but outside of designated critical habitat for the species. The project area was reviewed (using the 2024 survey guidelines) for tree cavities and man-made structures during species-specific surveys in 2019 and 2023. One potential roosting site located in a snag was observed; however, upon further inspection it was deemed not suitable for Florida bonneted bats. Additionally, an acoustic survey was conducted in April and May of 2025. 14 Florida bonneted bats calls were confirmed, two occurring within 1.5 hours of sunrise and sunset. However, based on the overall low instances of both overall calls and those occurring in the roosting window, it is unlikely that Florida bonneted bats are roosting in the areas. The results of Florida bonneted bat surveys conducted in 2025 are provided in **Appendix O**. The path followed through the USFWS' *Florida Bonneted Bat Consultation Guidelines* (June 2024) was 1a>2a>3c>4b>9a>11b>12b>LAA (**Appendix H**) and will require further consultation with the Service. Based on the size of the Florida bonneted bat habitat within the project study area and based on confirmed bonneted bat calls recorded during the project acoustic survey, it has been determined that the potential for occurrence for the Florida bonneted bat is **high** and the proposed project "*may affect, likely to adversely affect*" the Florida bonneted bat. To minimize potential adverse impacts to the Florida bonneted bat, FDOT commits to the following conservation measures:

- In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D2: Buffer all bodies of water and water features by a minimum of 50 feet (15.2 m) within which there are no impacts to substrate or vegetation.

In cases where artificial water bodies (i.e., stormwater ponds) are created, edges should be enhanced with native plantings (typically herbaceous wetland vegetation).

- In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D3: Maintain natural light conditions. Avoid and minimize the use of artificial lighting and avoid permanent night-time lighting. Where lighting is necessary to meet minimum life safety requirements it must be designed to meet each of these recommendations:
 - Utilize fully-shielded fixtures to restrict the amount of upward-directed light. Light sources must be downward directed and shielded so that the luminaire emits no more than 10% of its vertical output above 80 degrees from nadir. Examples of appropriate fixtures can be found in FWC Sea Turtle Lighting Guidelines.
 - Use the “Backlight, Uplight, Glare” (BUG) system developed by the Illuminating Engineering Society to avoid glare, excessive lighting and light trespass. The “uplight” rating should be zero, and “backlight” and “glare” ratings should be as close to zero as possible. Fixtures on edges of developed areas should have zero backlight ratings.
 - Avoid broad spectrum and excessive short wavelength artificial light below 560 nanometers. Lights with less than 3000 Kelvin (K) color temperature must be used, while color temperatures of 2700 K or less are ideal. Lights with the lowest lumens possible should be used.
 - Utilize shielding, louvers and baffles, dimming and other appropriate lighting controls to direct and minimize lighting when not in use.
 - Implement partial-night lighting schemes to reduce the amount of artificial light used throughout the night. Motion-sensor lighting is also highly encouraged.
 - Lighting must not illuminate any retained or restored vegetated areas.
 - Prevent indoor artificial lighting reaching the outdoor environment. Use fixed window screens, blinds or tinting on fixed windows and skylights to contain artificial light inside buildings.
- In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D5: Avoid widespread use/application of pesticides and insecticides (e.g., mosquito control, agricultural pest control). Chemicals should not be used or applied within and adjacent to areas where Florida bonneted bats are known or expected to forage or roost.
- In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D8: Conduct roost surveys of potential roost trees prior to removal; necessary removals should occur November 15 to April 15. If potential roost trees or structures need to be removed, trees, snags, and structures need to be visually

surveyed within 30 days prior to removal. Any cavities must be peeped with a “treetop” camera, and any cavities that cannot be reached or fully viewed by camera should be surveyed at emergence. If evidence of use by any bat species is observed, discontinue tree removal efforts in that area and coordinate with the Service on how to proceed. Tree, snag, or structure removals should not occur from April 15 to August 15; ideally removal should occur November 15 to April 15.

Tricolored Bat

The tricolored bat was proposed for listing as endangered under the ESA by the USFWS on September 13, 2022. Typically, a cave-dwelling bat, this is one of the smallest bat species in North America. Within the American south, where caves are less common, this species is known to roost in manmade structures such as roadway culverts. Like the Florida bonneted bat, the tricolored bat will also roost within tree cavities. This species was included in the acoustic survey (**Appendix O**). Based on the results of the acoustic survey conducted, there are no signs of any bat roosting in existing man-made structures. Additionally, no evidence of tree snags, or trees with cavities, hollows, deformities, decay, crevices suitable for the tricolored bat were observed within the project’s proposed study area. However, 490 files from the acoustic survey contained echolocations from the tricolored bat. Considering the results of the acoustic survey, the potential for tricolored bat occurrence within the project footprint is considered **high**.

If the listing status of the tricolored bat is elevated by USFWS to Threatened or Endangered and the Preferred Alternative is located within the consultation area, FDOT commits to re-initiating consultation with the USFWS during the design and permitting phase of the project to determine the appropriate survey methodology and to address USFWS regulations regarding the protection of the tricolored bat.

Florida Panther

The Florida panther is listed as endangered by the USFWS. The project study area does not fall within the USFWS’ Consultation Area or the Primary, Secondary, or Dispersal zones for this species. The Florida Panther Least Cost Corridor (LCC) is an analysis for the Florida panther within South-Central Florida to identify potential pathways and corridors that panthers are likely to use. This project falls within the Primary, Secondary, and Tertiary Corridors with a Conservation Area Target (Archbold Biological Station) located adjacent to S.R. 70 in the LCC. Although suitable habitat for the Florida panther exists within the project study area, FNAI data has not documented the Florida panther within one mile of the project study area and the species was not observed during field reviews. However, a Florida panther paw print was documented by the Archbold Research Station in February 2026 and the Florida panther was documented just outside the one-mile buffer (**Appendix E**). According to ETDM, the nearest documented panther roadkill is along U.S. 27 approximately 4.6 miles south of the project in 2016. Another roadkill was documented along S.R. 70 approximately 7.6 miles west of the project terminus in 2024. The Preferred Alternative includes three proposed wildlife crossings (one at the LWRWEA, one at Archbold Biological Station and one at the east end of the project), as well as directional fencing

that is intended to minimize potential Florida panther strikes on S.R. 70. For more information on the location of the wildlife crossing, please refer to **Section 3.3.6**. Due to the documented observation, the potential for occurrence for the Florida panther within the project study area is **high**. Because the project is not located in the Primary, Secondary, or Dispersal zones, and the inclusion of wildlife crossing features, it has been determined that the proposed project “*may affect, not likely to adversely affect*” the Florida panther.

3.3.3 State Species

3.3.3.1 Flora

Protected plant surveys have been conducted in 2018 and 2023 by FDOT as a part of the ongoing PD&E study. Recent surveys were conducted on May 19, 20, 28, and 29th of 2025. The timing of the surveys did not overlap optimal survey seasons for several summer and fall flowering rare plant species. As a result, some previously documented occurrences of summer and fall flowering species were not observed. In these instances, the locations of these species documented in the most recent available surveys were assumed to be extant. A survey for listed plant species including Curtiss' milkweed, Ashe's savory, cutthroat grass, scrub spurge, garberia, Edison's ascyrum, nodding pinweed, scrub stylisma, northern needleleaf, cardinal airplant, and giant airplant will be performed during the design phase and coordination with FDACS will occur if impacts to the species are anticipated.

State-listed plants with no potential to occur

The State threatened Chapman's sedge, Piedmont jointgrass, and the narrowleaf naiad were included in previous plant memos prepared for this project. However, the project study area does not contain suitable habitat for any of these species. Chapman's sedge prefers calcareous hydric hammocks and bottomland forests; usually on wooded stream banks and in river floodplains, Piedmont jointgrass prefers ephemeral ponds and margins of sandhill upland lakes or depression marshes where soils are sandy peat or sandy peat-muck, and the narrowleaf naiad prefers dark water less than 2 meters deep. According to FNAI data, these species have not been documented within one mile of the project study area. Additionally, these species were not observed during species-specific surveys. Based on the lack of suitable habitat and observations, it has been determined that there is **no** potential for occurrence for these species and the proposed project will have “*no effect anticipated*” on Chapman's sedge, Piedmont jointgrass, and the narrowleaf naiad.

State-listed plants with a low potential to occur

The project study area contains available suitable habitat for the state threatened many-flowered grass-pink and the state endangered spurred neottia within its mesic flatwoods and dry prairie habitats. According to FNAI data, these species have not been documented within one mile of the project study area. Additionally, these species were not observed during species-specific surveys. Based on the lack of documented observations, it has been determined that the potential for

occurrence of this species is **low** and the proposed project will have “*no adverse effect anticipated*” on the many-flowered grass-pink and the spurred neottia.

The project study area contains suitable habitat for the state endangered sand butterfly pea, Florida goldenaster, Highlands goldenaster, pine pinweed, Florida spiny-pod, scrub bluestem and the state threatened giant orchid. The sand butterfly pea prefers sandhill, scrubby flatwoods, and dry upland woods. Florida goldenaster prefers sunny, bare patches of sand in sand pine scrub and ecotones between this community and scrubby flatwoods; disturbed areas of loose sand; rarely oak hammocks. Highlands goldenaster prefers scrub and scrubby flatwoods, pine pinweed prefers dry sandy soils in openings, mainly in scrubby flatwoods. Florida spiny-pod prefers sandhill, upland pine, and dry hammocks, giant orchid prefers scrub, sandhill, scrubby flatwoods, and dry prairie. Scrub bluestem prefers scrub and mesic flatwoods. According to FNAI data, these species have not been documented within one mile of the project study area. Additionally, these species were not observed during species-specific surveys. Based on the lack of documented observations, it has been determined that the potential for occurrence of these species is **low** and the proposed project will have “*no adverse effect anticipated*” on the sand butterfly pea, Florida goldenaster, Highlands goldenaster, pine pinweed Florida spiny-pod, giant orchid, and scrub bluestem.

The project study area contains suitable habitat for the state threatened pinewoods bluestem, hartwrightia, and redmargin zephyrlily, and the state endangered yellow fringeless orchid, celestial lily, Florida willow, and toothed maidenfern. Pinewoods bluestem prefers mesic and wet flatwoods, wet prairie, seepage slopes, upland pine, and minorly disturbed, moist flatwoods. Hartwrightia prefers wet prairies, hydric pine flatwoods and seepage slopes, yellow fringeless orchid prefers wetlands and wet prairies. Toothed maidenfern prefers wet hammocks and strand swamps. Celestial lily prefers wet flatwoods, prairies, and marshes, as well as the edges of cabbage palm hammocks. Redmargin zephyrlily prefers wet flatwoods and meadows, as well as ditches and wet pastures; often in burned over areas. Florida willow prefers the wet, mucky soils of bottomland forests, hydric hammocks, swamps, and stream edges. According to FNAI data, these species have not been documented within one mile of the project study area. Additionally, this species was not observed during species-specific surveys of the project study area. Based on the lack of documented observations, it has been determined that the potential for occurrence of this species within the project study area is **low** and the proposed project will have “*no adverse effect anticipated*” on pinewoods bluestem, hartwrightia, yellow fringeless orchid, toothed maidenfern, celestial lily, Florida willow, and redmargin zephyrlily.

State-listed plants with a high potential to occur

The project study area contains suitable habitat for the state endangered Curtiss’ milkweed, scrub spurge, scrub stylisma, and state threatened Ashe’s savory, garberia, and nodding pinweed. Curtiss’ milkweed prefers openings within white sand scrubs. Ashe’s savory prefers sandhills and scrubs, scrub spurge prefers openings in sand pine and oak scrub communities. Garberia prefers sand pine and oak scrubs. Nodding pinweed prefers openings in white sand scrub. Scrub stylisma prefers openings in scrub and sandhill. According to FNAI data, all these species, except for

Curtiss' milkweed and garberia, have been documented within one mile of the project study area. Additionally, these species were observed during species-specific surveys (**Appendix G**). Ashe's savory, garberia, and nodding pinweed were observed in 2018, 2023, and 2025, Curtiss' milkweed, scrub spurge, and scrub stylisma were observed in 2018 and 2023. The potential for occurrence of these species within the project study area is considered to be **high** because of these observations. It has been determined that the proposed project will have "***potential for adverse effect***" on Curtiss' milkweed, Ashe's savory, scrub spurge, garberia, nodding pinweed, and scrub stylisma.

The project study area contains suitable habitat for the state endangered cutthroat grass and Edison's ascyrum. Cutthroat grass prefers wet pine flatwoods with seepage hydrology and occasionally mesic and scrubby flatwoods and Edison's ascyrum prefers depression marshes within scrub and scrubby flatwoods, wet flatwoods with cutthroat grass, and pond margins and wet prairies. According to FNAI data, these species have been documented within one mile of the project study area. Additionally, both these species were observed during species-specific surveys conducted in 2018, 2023, and 2025 (**Appendix G**), making the potential for occurrence of these species within the project study area **high**. It has been determined that the proposed project will have "***potential for adverse effect***" on cutthroat grass and Edison's ascyrum.

The project study area contains available suitable habitat for the state threatened northern needleleaf, and the state endangered giant airplant and cardinal airplant within its hammocks and cypress swamps. According to FNAI data, these species have not been documented within one mile of the project study area. However, all three of these species were observed during species-specific surveys conducted in 2018, 2023, and 2025 (**Appendix G**), making the potential for occurrence of this species within the project study area **high**. It has been determined that the proposed project will have "***potential for adverse effect***" on the northern needleleaf, giant airplant and spreading airplant.

3.3.3.2 Non-listed Rare Plants

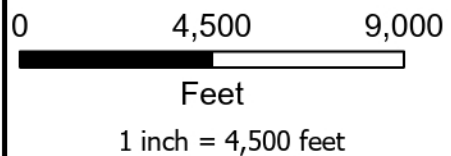
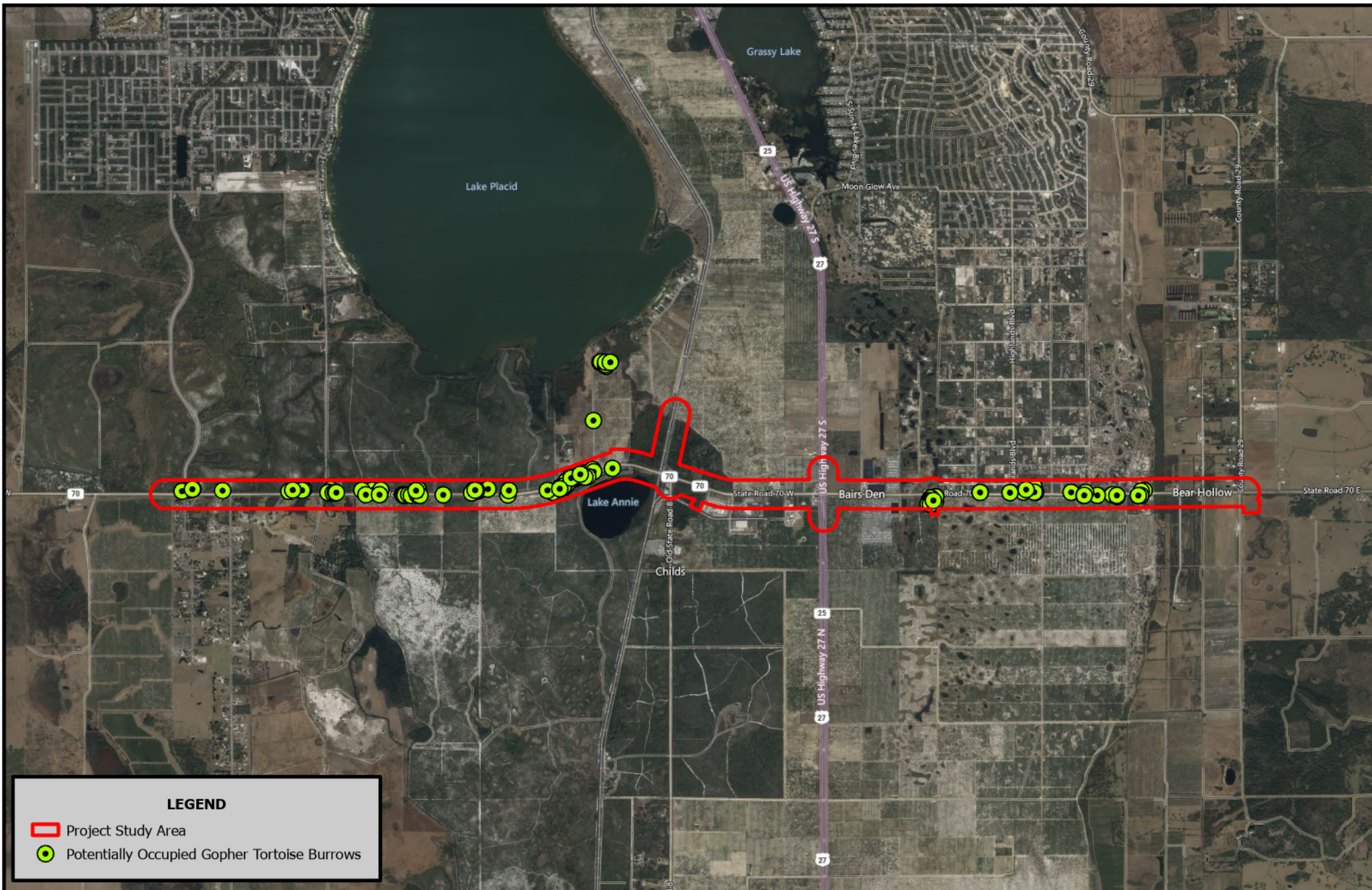
No non-listed rare plants were identified during the ETDM Programming Screen as occurring within the project study area. Additionally, such species were not identified in the FNAI Data Report nor by stakeholders throughout the PD&E study. Considering these factors, there is no potential for the project to impact non-listed rare plants.

3.3.3.3 Reptiles

Gopher Tortoise

The project study area contains available suitable habitat for the state threatened gopher tortoise within its undeveloped upland communities. Additionally, potentially occupied gopher tortoise burrows were observed during field reviews in 2018 and 2023 (**Figure 3-1**). A total of 161 potentially occupied gopher tortoise burrows were found in the 2023 survey. Due to these observations, the potential for occurrence of this species within the project study area is **high**.

Based on current FWC regulations, any gopher tortoise burrow located within 25 feet of the project construction footprint must be relocated to an FWC-approved recipient site or temporarily relocated onsite. 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. Due to the high number of observations and suitable habitat, the project has “*potential for adverse effect*” on the gopher tortoise.



**Figure 3-1:
Gopher Tortoise Burrow
Location Map**

Sources: ESA 2023 Survey Data

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Short-tailed Snake

The short-tailed snake is currently state listed as threatened. As of October 2023, the species has been proposed for listing by the USFWS as a federally threatened species but is not officially listed at this time. This species is endemic to Florida but is only found from the Suwannee River south to Highlands County. The short-tailed snake is a small, slender fossorial (adapted to digging and living underground) snake that can primarily be found burrowed in sandy soils, particularly longleaf pine and xeric oak sandhills. They may also be found in scrub and xeric hammock habitats.

The project study area contains available suitable habitat for the short-tailed snake within its scrub habitats. According to FNAI data, the short-tailed snake has not been documented within one mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. However, given the species' cryptic nature (i.e., difficult to detect) and sandy soils within the project footprint, impacts cannot be wholly discounted. Due to the potential habitat available, it has been determined that the potential for occurrence of this species within the project study area is **low**. The minimization measure options mentioned in the FWC's Short-tailed Snake Species Conservation and Permitting Guidelines are not generally feasible for a project of this type/size. However, utilizing the Standard Protection Measures for the Eastern Indigo Snake and the FWC Gopher Tortoise Permitting Guidelines may provide some conservation benefits to the short-tailed snake as it is a commensal species. It is anticipated that the replacement of lands and associated habitat functions to the LWRWEA may be sufficient in offsetting impacts to potential short-tailed snake habitat that may occur from the proposed construction of the Preferred Alternative. Therefore, the proposed project is anticipated to have "***no adverse effect anticipated***" on the short-tailed snake.

Florida Pine Snake

The project study area contains available suitable habitat for the state threatened Florida pine snake within the project study area in areas with minimally disturbed habitats and identified gopher tortoise burrows (**Figure 3-1**). According to FNAI data, the Florida pine snake has not been documented within one mile of the project study area. Additionally, this species was not observed during field reviews and the potential for occurrence of this species within the project study area is **low**.

The following pine snake conservation measures will be implemented due to gopher tortoise involvement: demarcation of a 25-foot protection buffer around any non-impacted gopher tortoise burrows adjacent to the project and allowing commensals (such as the pine snake) to move safely away from the construction area before resuming activities if the individuals are observed. Pine snake identification information will also be provided to project personnel. For gopher tortoises or burrows found within 25 feet of the limits of construction, the FDOT will coordinate with the FWC to secure all permits needed to relocate the tortoises and associated commensal species. It is anticipated that the replacement of lands and associated habitat functions to the LWRWEA, may be sufficient in offsetting impacts to potential Florida pine snake habitat that may occur from the

proposed construction of the Preferred Alternative. Therefore, there is “*no adverse effect anticipated*” by the project on the Florida pine snake.

3.3.3.4 Birds

Florida Burrowing Owl

The project study area contains available suitable habitat for the state threatened Florida burrowing owl within its open prairie habitats and pastures. According to FNAI data, the Florida burrowing owl has not been documented within one mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Based on the lack of documented occurrences, it has been determined that the potential for occurrence of this species within the project study area is **low** and the project will have “*no adverse effect anticipated*” on the Florida burrowing owl. Surveys for the Florida burrowing owl will be conducted prior to the construction phase. If it is determined individuals or nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.

Little Blue Heron

The project study area contains suitable habitat for the state threatened little blue heron within much of the wetlands and other surface waters. According to FNAI data and the FWC Wading Bird Rookery Database, there are no active wading bird rookeries documented within one mile of the project study area. However, the little blue heron was observed during field reviews of the project study area in 2018, 2023, and 2025 (**Appendices F & M**). Due to these observations, the potential for occurrence of these species within the project study area is considered to be **high**.

The primary concern for impacts to this species is the loss of foraging, roosting and nesting habitat (wetlands). As part of implementing the proposed project, all unavoidable wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Due to this it has been determined that the proposed project will have “*no adverse effect anticipated*” on the little blue heron.

Tricolored Heron

The project study area contains suitable habitat for the state threatened tricolored heron within much of the wetlands and other surface waters. According to FNAI data and the FWC Wading Bird Rookery Database, there are no active wading bird rookeries documented within one mile of the project study area. However, the tricolored heron was observed during field reviews of the project study area in 2018 and 2025 (**Appendices F & M**). Due to these observations, the potential for occurrence of these species within the project study area is considered to be **high**.

The primary concern for impacts to this species is the loss of foraging, roosting and nesting habitat (wetlands). As part of implementing the proposed project, all unavoidable wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Due to this, it has been determined that the proposed project will have “*no adverse effect anticipated*” on the tricolored heron.

Southeastern American Kestrel

The project study area contains available suitable nesting habitat for the state threatened southeastern American kestrel within its open habitats like prairies and pastures. According to FNAI data, there have been no documented occurrences within one mile of the project study area. However, the species was observed between April and August, outside of the migratory season, during field reviews of the project study area in 2018 and 2023. Additionally, one potential nesting cavity was observed within the project study area, as seen in **Appendix F**. However, it will not be impacted by the Preferred Alternative. Because of these observations, the potential for occurrence of this species within the project study area is considered to be **high**. Based on this information, it has been determined that the proposed project will have “*no adverse effect anticipated*” on the southeastern American kestrel. Surveys for the Southeastern American Kestrel will be conducted during the nesting season (May through August) in the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.

Florida Sandhill Crane

The project study area contains available suitable foraging and nesting habitat for the state threatened Florida sandhill crane within its open prairies, pastures, wetlands, and roadside habitats. According to FNAI data, the Florida sandhill crane has not been documented within one mile of the project study area. However, this species was observed foraging during field reviews of the project study area in 2018, 2023, and 2025 (**Appendix N**) and a nest was also observed adjacent to the project area in 2025 (**Appendix F**). Due to this observation the potential for occurrence of this species within the project study area is considered to be **high**. Surveys for Florida sandhill crane nest sites will be conducted prior to the construction phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. Due to this, it has been determined that the proposed project will have “*no adverse effect anticipated*” on the Florida sandhill crane.

Roseate Spoonbill

The project study area contains suitable habitat for the state threatened roseate spoonbill within much of the wetlands and other surface waters. According to FNAI data and the FWC Wading Bird Rookery Database, there are no active wading bird rookeries documented within one mile of the project study area. However, the roseate spoonbill was observed during field reviews of the project study area in 2018 and 2023 (**Appendices M & N**). Due to these observations, the potential for occurrence of this species within the project study area is considered to be **high**.

The primary concern for impacts to this species is the loss of foraging, roosting and nesting habitat (wetlands). As part of implementing the proposed project, all unavoidable wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Due to this, it has been determined that the proposed project will have “*no adverse effect anticipated*” on the roseate spoonbill.

Least Tern

The project study area contains available suitable habitat for the state threatened least tern along its lake edges. According to FNAI data, the least tern has not been documented within one mile of the project study area. Additionally, this species was not observed during field reviews. Based on the lack of documented occurrences, it has been determined that the potential for occurrence for this species within the project study area is **low** and the proposed project will have “*no adverse effect anticipated*” on the least tern.

3.3.4 Other Protected Species

3.3.4.1 Birds

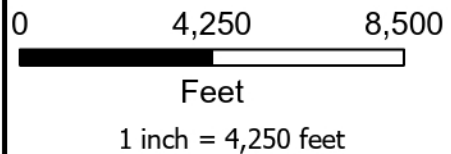
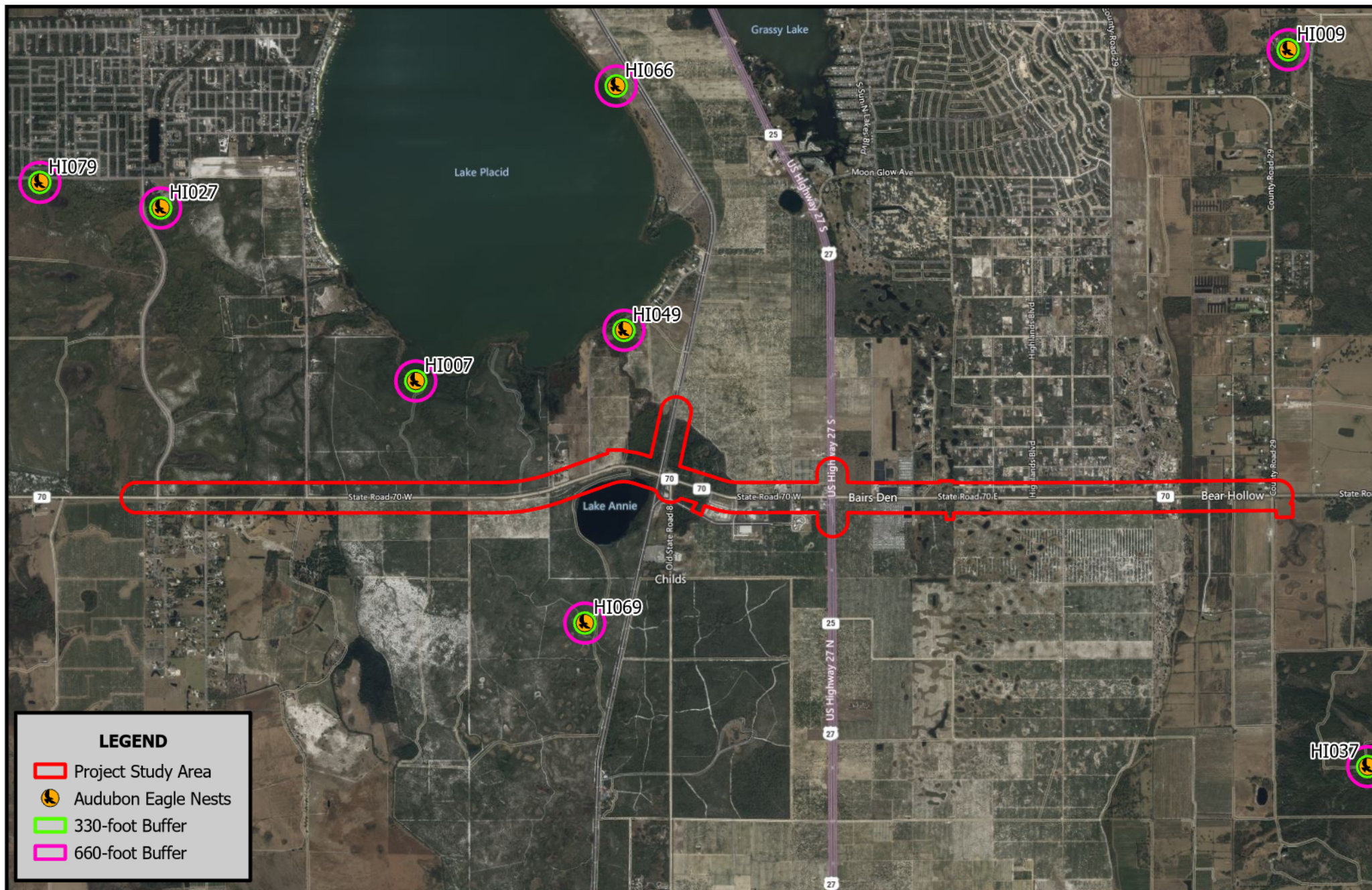
Bald Eagle

The bald eagle is no longer listed under the ESA; however, it remains protected under the federal Bald and Golden Eagle Protection Act (16 U.S.C. § 668 et seq.) and the Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.). A review of the FWC’s Bald Eagle database and Audubon’s EagleWatch Public Nest Map showed the nearest historical occurrence of a bald eagle nest to be nest HI049 located approximately 0.80 miles (4,224 feet) north of S.R. 70 at the edge of Lake Placid (**Figure 3-2**).

The project is located outside the primary (330 feet) and secondary (660 feet) buffer zones of any documented bald eagle nests; however, bald eagles were observed flying overhead during field reviews of the project study area in 2018, 2023, 2025 (**Appendix N**). The Preferred Alternative is not anticipated to impact any nests. If bald eagle nests are identified within 660 feet of the proposed improvements prior to, or during construction, FDOT will coordinate with USFWS as necessary.

Osprey

The osprey is federally protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712) and state protected under Chapter 68A of the F.A.C. The osprey utilizes riparian habitat associated with coastal areas, lake shorelines, and riverbanks. Nests are generally located near water bodies that provide a dependable food source and often occur on man-made features. According to FNAI data, the osprey has not been documented within one mile of the project study area. However, osprey were observed flying overhead and nesting near the project study area during field reviews in 2023 and 2025 (**Appendix N**). The Preferred Alternative is not anticipated to impact any nests. Surveys to update locations of active osprey nest sites will be conducted prior to construction, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place as necessary.



**Figure 3-2:
Bald Eagle Nest
Location Map**

Source: Audubon Florida EagleWatch 2026

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3.3.4.2 Mammals

Florida Black Bear

The Florida black bear has been de-listed by the FWC; however, it is managed under the FWC's *Florida Black Bear Management Plan*. The Florida black bear can be found statewide in several habitats including mixed hardwood pine communities, cabbage palm hammocks and forested wetland systems. This species tends to den alone in tree cavities, riverbanks, logs or caves. They will also den on the ground in palmetto thickets, gallberry, fetterbush and sweet pepperbush. Suitable habitat is available for the Florida black bear throughout the project study area in upland and wetland forested systems. The project study area is located within the FWC-designated Occasional Range of the South Central Bear Management Unit. According to FNAI and FWC data, Florida black bears have been extensively documented within one mile of the project study area (**Appendix F**). Additionally, black bear tracks were observed on five different occasions during field reviews of the project study area in 2018 and a bear was observed within the LWRWEA property during Spring 2023 field surveys (**Appendix F**). Approximately nine bear roadkills have been documented along S.R. 70 within the project study area. Due to these documentations, the presence of the Florida black bear is anticipated to be high near the project area. The Preferred Alternative includes three proposed wildlife crossings (one at the LWRWEA, one at Archbold Biological Station and one at the east end of the project), as well as directional fencing that is intended to minimize potential Florida black bear strikes on S.R. 70. For more information on the location of the wildlife crossing, please refer to **Section 3.3.6**. To avoid potential conflict with bears during construction, the FDOT 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).

3.3.5 Critical Habitat

The project study area is being evaluated for the occurrence of critical habitat as defined by the Endangered Species Act of 1973 as amended, 50 CFR Part 424. The USFWS is the authority, as a federal agency, to protect critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of listed species. No designated critical habitat for any federal listed species occurs within the project study area. Based on this information, no destruction or adverse modification of critical habitat will occur.

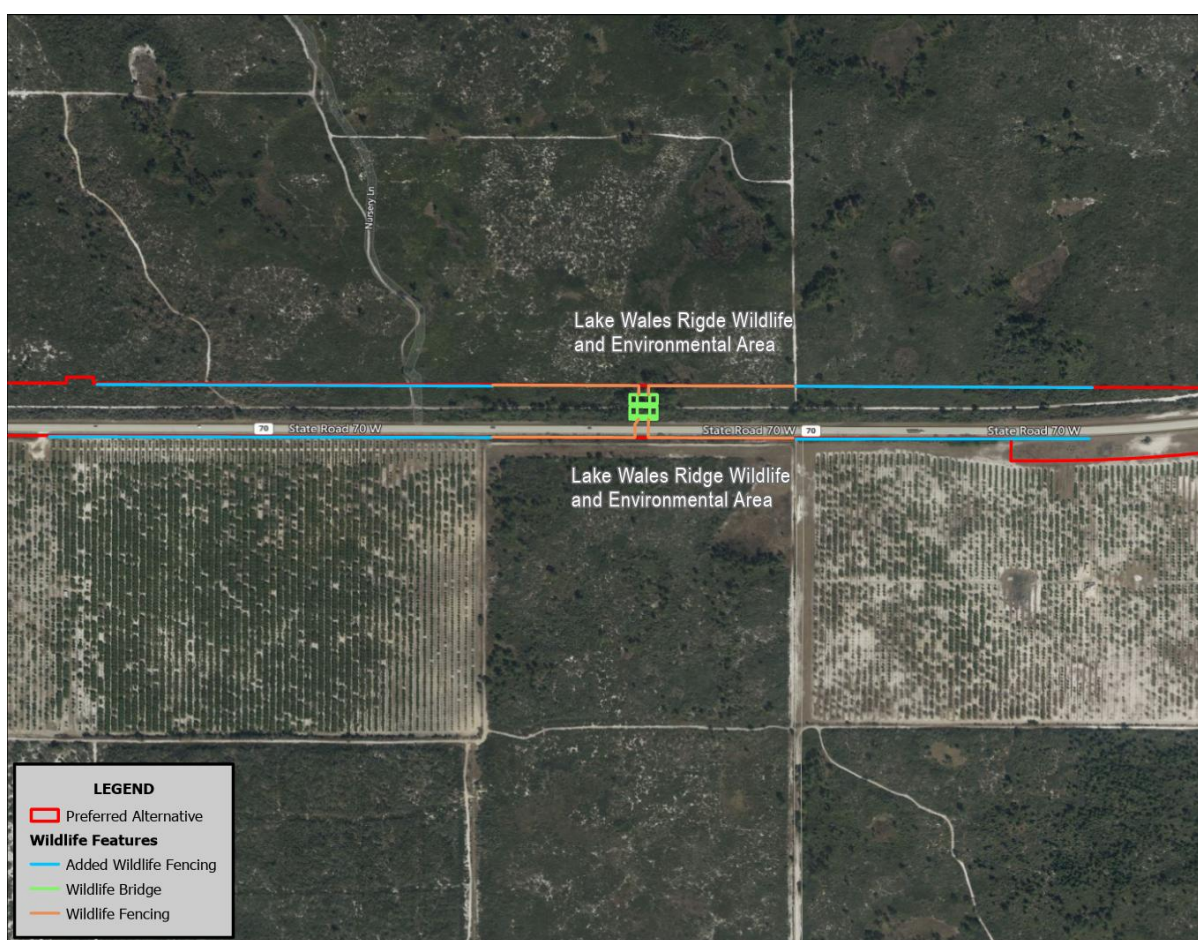
3.3.6 Wildlife Crossings

The proposed roadway improvements will require ROW acquisition from the FWC-managed LWRWEA along the north side of S.R. 70. The FDOT's proposed mitigation for LWRWEA impacts will include construction of wildlife crossings and wildlife directional fencing to minimize wildlife strikes on the roadway. These grade-separated crossings are intended to increase roadway

safety and mitigate for impacts to the natural environment. The concept plans presented in **Appendix A** include the proposed wildlife crossing locations. The limits of the wildlife crossings may change as design advances.

Figure 3-3 shows the location of the proposed crossing and fencing in the vicinity of the LWRWEA. This crossing location is between Station 194 and 199 and includes twin 100-foot long roadway bridges with 8-foot vertical clearance for larger animals (black bear, deer, panther) flanked by 36-inch pipes that can be used by smaller animals. This crossing location will connect the Lake Placid Scrub and McJunkin tracts of the LWRWEA on either side of S.R. 70 and will include approximately 5,800 feet of fencing on both sides of the ROW to guide wildlife to the crossing.

Figure 3-3: Large Animal Wildlife Crossing at LWRWEA



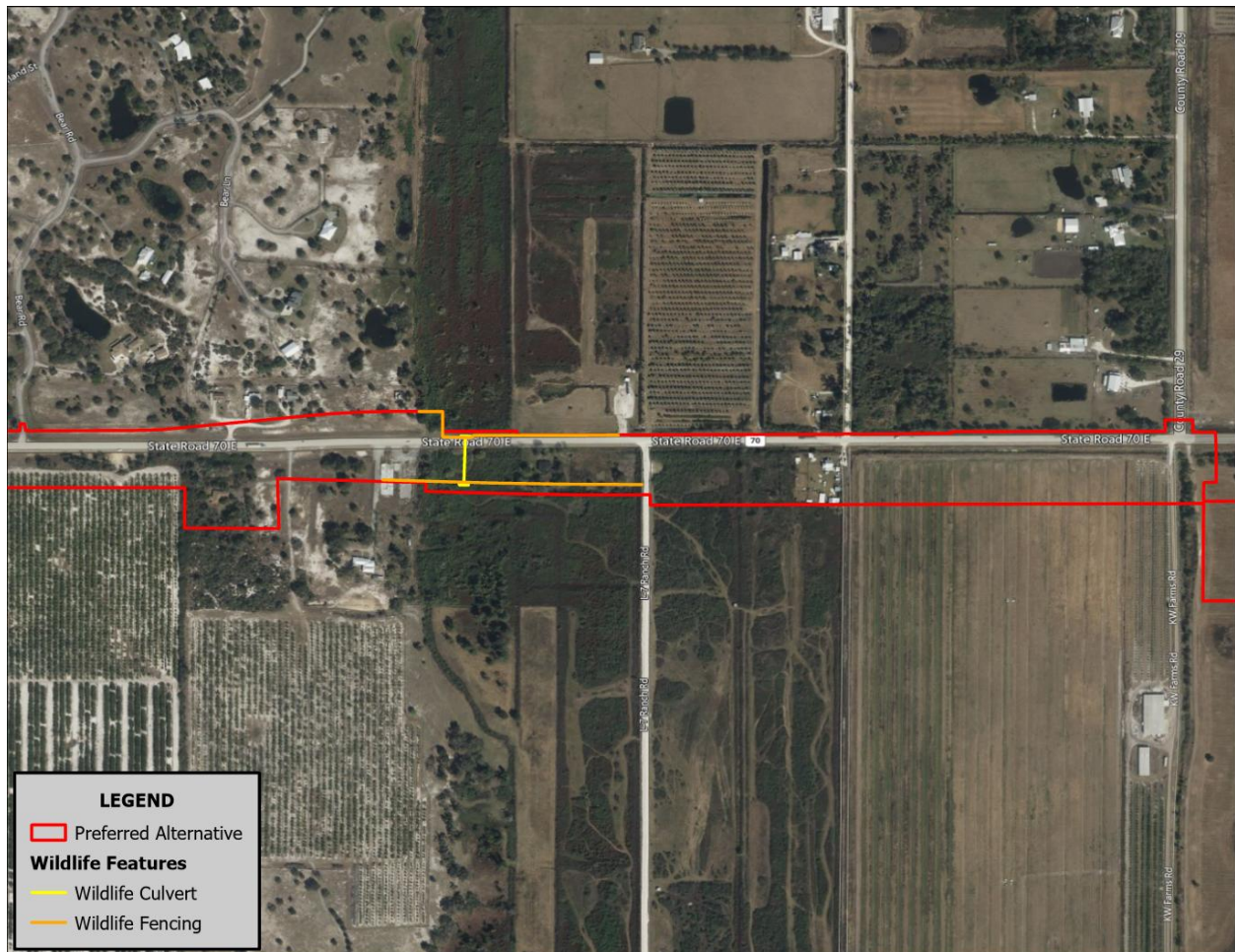
The second crossing location (**Figure 3-4**) is at Station 261 and is a smaller crossing for aquatic species to access Lake Annie and the Archbold Biological Station property. This crossing is proposed to be a 20-foot wide by 8-foot high culvert with approximately 4,750 feet of fencing on both sides of the ROW to guide wildlife to the crossing. A third wildlife crossing (**Figure 3-5**) is

included at Station 443 and is for large animals such as the black bear. This location was selected due to five documented bear-vehicle collisions in close proximity to this location. This crossing is proposed to be a 16-foot wide by 7-foot high culvert with approximately 1,950 feet of fencing on both sides of the ROW to guide wildlife to the crossing.

Figure 3-4: Small Mammal Wildlife Crossing at Lake Annie



Figure 3-5: Large Animal Wildlife Crossing West Adjacent to L7 Ranch Road



4 WETLANDS AND OTHER SURFACE WATERS

The locations, limits, types, nature, and functions of all wetlands and other surface waters within the project limits were assessed as part of compliance with Presidential Executive Order (EO) 11990, “Protection of Wetlands” and United States Department of Transportation (USDOT) Order 5660.1A, Preservation of the Nation’s Wetlands. These federal policies require avoidance of long and short-term impacts and avoidance of direct and indirect support of new construction in wetlands to the fullest extent practicable. The analysis of protected wetlands and other surface waters occurring within the project area is consistent with the Wetlands and Other Surface Waters Chapter of the FDOT’s PD&E Manual.

4.1 Methodology

Wetland and other surface water boundaries were approximated in both desktop and field evaluations in conformance with the federal and state criteria promulgated in the Corps of Engineers Wetlands Delineation Manual (United States Army Corp of Engineers (USACE) 1987), the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region: Version 2 (USACE 2010), the Florida Wetlands Delineation Manual (Gilbert et. al 1995) and Rule 62-340, F.A.C., Delineation of the Landward Extent of Wetlands and Surface Waters. Background research conducted to identify the wetland communities occurring within the study area included review of the USFWS NWI (2026), Land Use and Cover data from the SFWMD (2019), Soil Survey Geographic (SSURGO) Database for Florida (NRCS 2025), and aerial photography interpretation (ESRI 2026 and Google Earth 2026). Data verification was conducted during field reconnaissance surveys.

The approximate boundaries of all wetland and other surface water features occurring within the study area were mapped, assigned an identification number, and classified in accordance with the USFWS NWI GIS data and the FLUCFCS designation. Dominant vegetative strata, plant species, hydrologic indicators, and soil characteristics were assessed and documented.

Wetlands and other surface water features were designated based upon their status, hydrology, and soils. Vegetated wetland systems were designated as wetlands (WL) and occur sporadically throughout the entirety of the study area. While other surface waters are located within the project study area, the preferred alternative is not anticipated to impact these features. Maps depicting wetland features occurring within the study area are provided in **Appendix P** and site photos are available in **Appendix Q**.

4.2 Wetlands and Other Surface Waters

Based on field and in-house reviews, 42 wetlands occur within the project study area. Wetland and other surface water habitat types include streams and waterways, reservoirs, bay swamps, wetland

scrub, wet prairies, wetland hardwood forests, stream and lake swamps, mixed wetland hardwoods, wetland forested mixed, vegetated non-forested wetlands, and freshwater marshes. The delineated and surrounding NWI wetlands are shown in **Appendix P**.

4.3 Wetlands and Other Surface Water Impacts

Potential direct and secondary impacts to wetlands and other surface waters were assessed for the Preferred Alternative. Figures showing the locations of the wetland and other surface water impacts associated with the Preferred Alternative are provided in **Appendix P**. **Table 4-1** provides a summary of the proposed wetland impacts resulting from the construction of the proposed project for the Preferred Alternative. FLUCFCS and USFWS classifications are also shown and were field verified.

Direct impacts associated with the Preferred Alternative total 10.54 acres of wetlands. Secondary impacts associated with the Preferred Alternative total 3.12 acres of wetlands.

Table 4-1: Proposed Wetland Impacts

ID	FLUCFCS Classification ¹	FLUCFCS Description	USFWS Classification ²	Total Wetland Acres	Preferred Alternative Direct Impact Acres	Preferred Alternative Secondary Impact Acres
WL-2	640	Vegetated Non-Forested Wetlands	PEM1F	0.44	0.44	0
WL-3	640	Vegetated Non-Forested Wetlands	PEM1A	0.93	0.85	0.08
WL-4	640	Vegetated Non-Forested Wetlands	PEM1A	0.01	0.01	0
WL-5	640	Vegetated Non-Forested Wetlands	PEM1C	0.04	0.01	0.02
WL-6	630	Wetland Forested Mixed	R5UBHx	0.04	0.03	0.01
WL-7	615	Stream and Lake Swamps	PFO1C	0.33	0.08	0.02
WL-8	610	Wetland Hardwood Forests	PFO1C	0.84	0.01	0.04
WL-9	610	Wetland Hardwood Forests	PFO1/3C	0.16	0	0
WL-10	640	Vegetated Non-Forested Wetlands	PEM1A	0.52	0.36	0.02
WL-11	641	Freshwater Marshes	PEM1C	0.81	0.1	0.19
WL-12	640	Vegetated Non-Forested Wetlands	PEM1A	0.35	0.35	0
WL-14	641	Freshwater Marshes	PEM1Ad	0.06	0.01	0.03
WL-15	641	Freshwater Marshes	PEM1A	0.2	0.02	0.08
WL-17	641	Freshwater Marshes	PEM1A	0.93	0.93	0
WL-18	630	Wetland Forested Mixed	R5UBFx	0.11	0.03	0.03
WL-19	640	Vegetated Non-Forested Wetlands	R5UBFx	0.02	0.02	0
WL-20	640	Vegetated Non-Forested Wetlands	R5UBFx	0.03	0	0

ID	FLUCFCS Classification ¹	FLUCFCS Description	USFWS Classification ²	Total Wetland Acres	Preferred Alternative Direct Impact Acres	Preferred Alternative Secondary Impact Acres
WL-21	640	Vegetated Non-Forested Wetlands	R5UBFx	0.33	0.19	0.02
WL-22	640	Vegetated Non-Forested Wetlands	R5UBFx	0.21	0	0
WL-23	640	Vegetated Non-Forested Wetlands	R5UBFx	0.21	0.21	0
WL-24	641	Freshwater Marshes	R5UBFx	0.54	0.54	0
WL-25	641	Freshwater Marshes	R5UBFx	0.07	0.07	0
WL-26	630	Wetland Forested Mixed	R5UBFx/PFO2/1Cd	0.3	0.05	0.02
WL-27	640	Vegetated Non-Forested Wetlands	R5UBFx	0.33	0.01	0.04
WL-SR8-0	610	Wetland Hardwood Forests	PFO1C	1.32	0.15	0.87
WL-SR8-1	610	Wetland Hardwood Forests	PSS1/3C & PFO1/3C	1.88	0.46	0.22
WL-SR8-3	610	Wetland Hardwood Forests	PFO1C	12.79	4.98	0.83
WL-SR8-5	617	Mixed Wetland Hardwoods	PFO1C	2.91	0.6	0.37
WL-SR8-6	617	Mixed Wetland Hardwoods	PFO1C	1.11	0.02	0.15
WL-SR8-7	617	Mixed Wetland Hardwoods	PFO1C	0.32	0.01	0.08
Total Wetlands				28.14	10.54	3.12

¹ FDOT 1999

² Cowardin, et al. 1979

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

PEM1A: Palustrine, Emergent, Persistent, Temporary Flooded

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

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded

PSS1/3C: Palustrine, Scrub-shrub, Broad-Leaved Deciduous, Broad-Leaved Evergreen, Seasonally Flooded

PEM1F: Palustrine, Emergent, Persistent, Semipermanently Flooded

R5UBFx: Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated

PFO7C: Palustrine, Forested, Evergreen, Seasonally Flooded

PFO2/1Cd: Palustrine, Forested, Needle-Leaved Deciduous, Broad-Leaved Deciduous, Seasonally Flooded, Partially Drained/Ditched

4.4 Uniform Mitigation Assessment Methodology Results

The completed UAM data sheets for each habitat type are provided in **Appendix R**. Functional loss was calculated by habitat type for the Preferred Alternative. For purposes of estimation for the PD&E study, the wetlands were grouped by their FLUCFCS Classification. Construction of the Preferred Alternative results in an estimated loss of 4.35 functional units. The UAM scores and values are presented in **Table 4-2** and are subject to agency review and are anticipated to change during the state and federal permitting process.

Table 4-2: Estimated UMAM Functional Loss from Wetlands and Other Surface Waters Impacts of the Preferred Alternative

FLUCFCS Classification ¹	FLUCFCS Description	USFWS Classification ²	Representative Wetlands	UMAM Direct Delta	UMAM Secondary Delta	Total Direct Impact Acres	Total Direct Functional Loss ³	Total Secondary Impact Acres	Total Secondary Functional Loss	Total Impact Acres	Total Functional Loss
610	Wetland Hardwood Forests	PFO1C/PFO1/3C/PSS1/3C	WL-8, WL-SR8-0, WL-SR8-1, WL-SR8-3	-0.4	-0.16	5.6	-2.24	1.96	-0.32	7.56	-2.56
615	Stream and Lake Swamps	PFO1C	WL-7	-0.5	-0.1	0.08	-0.04	0.02	-0.01	0.1	-0.05
617	Mixed Wetland Hardwoods	PFO1C	WL-SR8-5, WL-SR8-6, WL-SR8-7	-0.5	-0.10	0.63	-0.32	0.60	-0.06	1.23	-0.38
630	Wetland Forested Mixed	R5UBFx/PFO2/1Cd	WL-6, WL-18, WL-26	-0.4	-0.10	0.11	-0.05	0.06	-0.01	0.17	-0.06
640	Vegetated Non-Forested Wetlands	PEM1A/C/F & R5UBFx	WL-2, WL-3, WL-4, WL-5, WL-10, WL-12, WL-19, WL-21, WL-23, WL-27	-0.24	-0.10	2.45	-0.59	0.18	-0.02	2.63	-0.61
641	Freshwater Marshes	PEM1C/PEM1Ad/PEM1A/R5UBFx	WL-11, WL-14, WL-15, WL-17, WL-24, WL-25	-0.39	-0.10	1.67	-0.66	0.3	-0.03	1.97	-0.69
Total						10.54	-3.90	3.12	-0.45	13.66	-4.35

¹ FDOT 1999
² Cowardin, et al. 1979
³ UMAM scores have not been approved by permitting agencies and are subject to change during the permitting process.

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

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

PSS1/3C: Palustrine, Scrub-shrub, Broad-Leaved Deciduous, Broad-Leaved Evergreen, Seasonally Flooded

R5UBFx: Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated

PFO2/1Cd: Palustrine, Forested, Needle-Leaved Deciduous, Broad-Leaved Deciduous, Seasonally Flooded, Partially Drained/Ditched
- PEM1A: Palustrine, Emergent, Persistent, Temporary Flooded

PEM1C: Palustrine, Emergent, Persistent, Seasonally Flooded

PEM1F: Palustrine, Emergent, Persistent, Semipermanently Flooded

PFO7C: Palustrine, Forested, Evergreen, Seasonally Flooded

4.5 Mitigation

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 22 U.S.C. §1344. In accordance with EO 11990 and the Wetlands and Other Surface Waters chapter of the FDOT PD&E Manual, the FDOT has undertaken all reasonable 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. Unavoidable wetland impacts are necessary to meet transportation safety standards for side slopes and additional lanes. However, wetland impacts have been minimized where possible by siting facilities outside of wetlands and by incorporating a stormwater management system, which will be constructed to meet state water quality criteria, thereby minimizing water quality impacts from stormwater discharges from roadway surfaces. Unavoidable wetland impacts will be mitigated to achieve no net loss of wetland function.

The project study area occurs within the jurisdiction of two water management districts, SWFWMD and SFWMD. Per the March 2018 Interagency Agreement, it was decided that ERP permitting and mitigation for this project will be completed by the SWFWMD. The agreement and a graphic showing the boundaries of SWFWMD and SFWMD within the project study area are provided in **Appendix S**.

To the extent possible, the SWFWMD's FDOT Mitigation Plan (i.e. Senate Bill 1986) (373.4137, F.S.) will be considered as an option for mitigation. The FDOT will evaluate the project to use credits from the FDOT Mitigation Plan based on the availability of suitable and sufficient credits within the proposed project's watershed basin, the ability to satisfy commitments to regulatory and resource agencies, the availability of mitigation sites with suitable and sufficient credits initiated with FDOT funds under the program and the ability to satisfy state and federal requirements, including long-term maintenance and liability.

In addition, the proposed project is located within the service area of the Lake Istokpoga Mitigation Bank, which currently has 1.56 emergent credits and 7.98 forested (federal) credits available. Kissimmee Ridge Mitigation Bank covers portions of the project between Placid Lakes Boulevard to just west of the S.R. 70 and U.S. 27 intersection. At the time of this report, Kissimmee Ridge has 3.89 forested and 0.04 emergent/herbaceous (federal) credits available. The FDOT is evaluating additional options such as regional offsite mitigation areas and permittee-responsible options. The status of available mitigation banks and credits will also be assessed as this project moves forward into design and permitting. At the time of permitting, if the use of the Senate Bill program, a mitigation bank, or in-lieu fee project is not available, a conceptual permittee-responsible mitigation plan may be created to offset the unavoidable impacts to wetlands that would result from construction of the proposed project. This conceptual mitigation plan may include restoring, enhancing, or creating wetland/other surface water habitats of similar type and quality (on-site or off-site) within the same drainage basin as the project study area.

All preliminary UMAM scores, UMAM calculations, wetland lines and determinations discussed are subject to revision and approval by regulatory agencies during the permitting process. The exact amount and type of mitigation used to offset wetland impacts from the proposed S.R. 70 roadway improvements will be coordinated with the USACE and SWFWMD during the permitting phase(s) of this project.

5 ANTICIPATED PERMITS

The USACE, SWFWMD and SFWMD regulate impacts to wetlands within the project study area. Other agencies, including the USFWS, NMFS, and the FWC, review and comment on wetland permit applications. The FWC also issues permits for gopher tortoise relocation/conservation activities and incidental take of state-protected species. In addition, the Florida Department of Environmental Protection (FDEP) regulates stormwater discharges from construction sites. The complexity of the permitting process will depend on the degree of impact to jurisdictional areas. It is anticipated that the following permits will be required for this project:

<u>Permit</u>	<u>Issuing Agency</u>
Section 404 Dredge and Fill Individual Permit	USACE
Environmental Resource Individual Permit	SWFWMD/SFWMD
National Pollutant Discharge Elimination System (NPDES)	FDEP
Gopher Tortoise Conservation Permit (as necessary)	FWC
Listed Species Incidental Take Permit (as necessary)	FWC

5.1 Federal Permits

Section 404 Dredge and Fill Permit

As of the date of this report, authority for the Clean Water Act Section 404 permitting process authority has been transferred from the FDEP back to the USACE. Therefore, it is anticipated that an individual permit will be required from the USACE. An individual permit will require compliance with the 404(b)(1) guidelines, including verification that all wetland impacts have first been avoided to the greatest extent possible, that unavoidable impacts have been minimized to the greatest extent possible and lastly, that unavoidable impacts have been mitigated in the form of wetlands creation, restoration and/or enhancement.

5.2 State Permits

Environmental Resource Permit

SFWMD and SWFWMD require an ERP when construction on 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. It is anticipated that the project will require one or more individual ERPs (depending on future segmentation). Per the Interagency Agreement provided in **Appendix S**, it was decided that ERP permitting for this project will fall under SWFWMD's jurisdiction. As with Section 404 permits, the complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts.

National Pollutant Discharge Elimination System

40 CFR Part 122 prohibits point source discharges of stormwater to waters of the U.S. without a NPDES permit. Under the State of Florida's delegated authority to administer the NPDES program, construction sites that will result in greater than one 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 Runoff Control Concept (SRCC). The SRCC 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 FDEP will issue a NPDES permit to the contractor prior to construction commencement.

Gopher Tortoise Conservation Permit

In accordance with the requirements of Chapters 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. A Conservation Permit is available for development projects that require the relocation of gopher tortoises when more than 10 burrows occur in the development site. This permit allows for the relocation either to an on-site preserve or off-site to a FWC-certified Recipient Site. Based on prior coordination with the FWC, impacted tortoises will likely be completed at the LWRWEA and/or Archbold Biological Station. Based on gopher tortoise observations during the PD&E phase, it is anticipated that a Conservation Permit will be required from the FWC.

Listed Species Incidental Take Permit (as necessary)

Based on field reviews, suitable foraging and nesting habitat exists within the project study area for the Florida burrowing owl, Florida sandhill crane, little blue heron, tricolored heron, roseate spoonbill, bald eagle, and osprey. The project study area also contains available suitable habitat for the Florida pine snake. In accordance with chapters 68A-27.001(4), 68A-27.003(a), 68A-25.002(10), 68A-27.003(2)(a), 68A-27.001(4), 68A-1.004, and 68A-27.005 F.A.C., a permit for removal of these species must be secured from the FWC or USFWS before initiating incidental take. A Listed Species Incidental Take Permit is available for development projects that require the removal of these species.

6 CONCLUSIONS

6.1 Protected Species and Habitat

The project study area is being 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 Protected Species and Habitat section of the PD&E Manual. **Table 6-1** & **Table 6-2** summarize the effect determinations that have been made for each federal and state protected species based upon their probability of occurrence ranking, habitat impacted and the implementation measures and/or commitments made to offset any potential impacts to each species. While the proposed project has taken all practicable measures to avoid and minimize impacts to potentially occurring protected species and their habitats, unavoidable impacts may occur as a result of roadway and pond site construction. There is no critical habitat present within the project area. Multiple protection measures are to be employed to negate and minimize any potential effects to these species. Some of the measures employed are anticipated to include more detailed field surveys and agency coordination during the project's Design phase, relocation of any potentially affected gopher tortoises prior to construction, the use of Best Management Practices (BMPs) and species-specific standard protection measures (e.g., eastern indigo snake) during construction, and the construction of wildlife crossings.

Table 6-1: Potential for Occurrence and Proposed Effect Determination for Federal Protected Species for the Project Study Area

Federal Listed Species	Listing Status	Effect Determination
Red-cockaded woodpecker <i>Picoides borealis</i>	Endangered	NE
Florida bonamia <i>Bonamia grandiflora</i>	Federal Threatened/ State Endangered	MANLAA
Pygmy fringe tree <i>Chionanthus pygmaeus</i>	Endangered	
Perforate reindeer lichen <i>Cladonia perforata</i>	Endangered	
Short-leaved rosemary <i>Conradina brevifolia</i>	Endangered	
Avon Park rabbit-bells <i>Crotalaria avonensis</i>	Endangered	
Garrett's scrub balm <i>Dicerandra christmanii</i>	Endangered	
Scrub mint <i>Dicerandra frutescens</i>	Endangered	
Scrub buckwheat <i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	Federal Threatened/ State Endangered	
Wedge-leaved button-snakeroot <i>Eryngium cuneifolium</i>	Endangered	
Lewton's polygala <i>Polygala lewtonii</i>	Endangered	
Small's jointweed	Endangered	

Federal Listed Species	Listing Status	Effect Determination
<i>Polygonella myriophylla</i>		
Scrub plum <i>Prunus geniculata</i>	Endangered	
Scrub ziziphus <i>Pseudoziziphus celata</i>	Endangered	
Carter's warea <i>Warea carteri</i>	Endangered	
Florida grasshopper sparrow <i>Ammodramus savannarum floridanus</i>	Endangered	
Eastern black rail <i>Laterallus jamaicensis jamaicensis</i>	Threatened	
Everglade snail kite <i>Rostrhamus sociabilis plumbeus</i>	Endangered	
Florida panther <i>Puma concolor coryi</i>	Endangered	
Scrub pigeon wing <i>Clitoria fragrans</i>	Threatened	MALAA
Highlands scrub hypericum <i>Hypericum cumulicola</i>	Endangered	
Scrub blazing star <i>Liatris ohlingerae</i>	Endangered	
Britton's beargrass <i>Nolina brittoniana</i>	Endangered	
Paper nailwort <i>Paronychia chartacea</i>	Federal Threatened/ State Endangered	
Florida jointweed <i>Polygonum basiramia</i>	Endangered	
Eastern indigo snake <i>Drymarchon couperi</i>	Threatened	
Blue-tailed mole skink <i>Plestiodon egregius lividus</i>	Threatened	
Sand skink <i>Plestiodon reynoldsi</i>	Threatened	
Florida scrub-jay <i>Aphelocoma coerulescens</i>	Threatened	
Crested caracara <i>Polyborus plancus audubonii</i>	Threatened	
Florida bonneted bat <i>Eumops floridanus</i>	Endangered	
Monarch Butterfly <i>Danaus plexippus</i>	Proposed Threatened	N/A
Bald Eagle <i>Haliaeetus leucocephalus</i>	BGEPA	
Osprey <i>Pandion haliaetus</i>	MBTA	
Tricolored Bat <i>Pipistrellus subflavus</i>	Proposed Endangered	

Table 6-2: Potential for Occurrence and Proposed Effect Determination for State Protected Species for the Project Study Area

State Listed Species	Listing Status	Effect Determination
Chapman's sedge <i>Carex chapmanii</i>	Threatened	No effect anticipated
Piedmont jointgrass <i>Mnesithea tuberculosa</i>	Threatened	
Narrowleaf naiad <i>Najas filifolia</i>	Threatened	
Pinewoods bluestem <i>Andropogon arctatus</i>	Threatened	No adverse effect anticipated
Many-flowered grass-pink <i>Calopogon multiflorus</i>	Threatened	
Sand butterfly pea <i>Centrosema arenicola</i>	Endangered	
Florida goldenaster <i>Chrysopsis floridana</i>	Endangered	
Highlands goldenaster <i>Chrysopsis highlandsensis</i>	Endangered	
Spurred neottia <i>Eltroplectris calcarata</i>	Endangered	
Hartwrightia <i>Hartwrightia floridana</i>	Threatened	
Pine pinweed <i>Lechea divaricata</i>	Endangered	
Florida spiny-pod <i>Matelea floridana</i>	Endangered	
Toothed maidenfern <i>Meniscium serratum</i>	Endangered	
Celestial lily <i>Nemastylis floridana</i>	Endangered	
Florida beargrass <i>Nolina atopocarpa</i>	Threatened	
Yellow fringeless orchid <i>Platanthera integra</i>)	Endangered	
Giant orchid <i>Pteroglossaspis ecristata</i>	Threatened	
Florida willow <i>Salix floridana</i>	Endangered	
Scrub bluestem <i>Schizachyrium niveum</i>	Endangered	
Redmargin zephyrlily <i>Zephyranthes simpsonii</i>	Threatened	
Short-tailed snake <i>Lampropeltis extenuata</i>	Threatened	
Florida pine snake <i>Pituophis melanoleucus</i>	Threatened	
Little blue heron <i>Egretta caerulea</i>	Threatened	
Tricolored heron <i>Egretta tricolor</i>	Threatened	

State Listed Species	Listing Status	Effect Determination
Southeastern American kestrel <i>Falco sparverius paulus</i>	Threatened	
Florida sandhill crane <i>Grus canadensis pratensis</i>	Threatened	
Roseate spoonbill <i>Platalea ajaja</i>)	Threatened	
Florida burrowing owl <i>Athene cunicularia floridana</i>	Threatened	
Least tern <i>Sternula antillarum</i>	Threatened	
Curtiss' milkweed <i>Asclepias curtissii</i>)	Endangered	Potential for adverse effect
Ashe's savory <i>Calamintha ashei</i>	Threatened	
Cutthroat grass <i>Coleataenia abscissa</i>	Endangered	
Scrub spurge <i>Euphorbia rosescens</i>	Endangered	
Garberia <i>Garberia heterophylla</i>	Threatened	
Edison's ascyrum <i>Hypericum edisonianum</i>	Endangered	
Nodding pinweed <i>Lechea cernua</i>	Threatened	
Scrub stylisma <i>Stylisma abdita</i>		
Northern needleleaf <i>Tillandsia balbisiana</i>	Threatened	
Cardinal airplant <i>Tillandsia fasciculata</i>	Endangered	
Giant airplant <i>Tillandsia utriculata</i>	Endangered	
Gopher tortoise <i>Gopherus polyphemus</i>	Threatened	
Florida Black Bear <i>Ursus americanus floridanus</i>	FBBC	N/A

6.2 Wetlands Evaluation

Proposed project alternatives were evaluated for impacts to wetlands in accordance with EO 11990 and the Wetlands and Other Surface Waters Chapter of the PD&E Manual. Based on the type and location of project impacts the FDOT has determined that there is no practicable alternative to the proposed construction in wetlands. In accordance with EO 11990, the FDOT 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. The

proposed project will not adversely impact wetlands as unavoidable impacts will be mitigated to achieve no net loss of wetland function.

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Compensatory mitigation for this project will be completed through the use of SWFWMD's FDOT Mitigation Plan (i.e. Senate Bill 1986) (373.4137, F.S.) and any other mitigation options that satisfy state and federal requirements. Direct impacts associated with the Preferred Alternative total 10.54 acres of wetlands. Secondary impacts include a total of 3.12 acres of wetlands. However, proposed impacts may change during design and/or permitting.

A UMAM analysis (**Appendix R**) was performed to estimate the functional loss due to wetland impacts from the proposed alternatives. Construction of the Preferred Alternative results in a loss of 4.35 functional units (3.90 direct and 0.45 secondary).

6.3 Commitments

Based on the evaluations documented within this NRE, the FDOT will implement the following environmental commitments.

1. A survey for federally listed plant species including scrub pigeon wing, highlands scrub hypericum, scrub blazing star, Britton's beargrass, paper nailwort, and Florida jointweed will be performed during the design phase and coordination with USFWS will occur if impacts to the species are anticipated.
2. To minimize potential adverse impacts to the FBB, FDOT commits to the following conservation measures:
 - In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D2: Buffer all bodies of water and water features by a minimum of 50 feet (15.2 m) within which there are no impacts to substrate or vegetation. In cases where artificial water bodies (i.e., stormwater ponds) are created, edges should be enhanced with native plantings (typically herbaceous wetland vegetation).
 - In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D3: Maintain natural light conditions. Avoid and minimize the use of artificial lighting and avoid permanent night-time lighting. Where lighting is necessary to meet minimum life safety requirements it must be designed to meet each of these recommendations:
 - Utilize fully-shielded fixtures to restrict the amount of upward-directed light. Light sources must be downward directed and shielded so that the luminaire emits no more than 10% of its vertical output above 80 degrees from nadir. Examples of appropriate fixtures can be found in FWC Sea Turtle Lighting Guidelines.

- Use the “Backlight, Uplight, Glare” (BUG) system developed by the Illuminating Engineering Society to avoid glare, excessive lighting and light trespass. The “uplight” rating should be zero, and “backlight” and “glare” ratings should be as close to zero as possible. Fixtures on edges of developed areas should have zero backlight ratings.
 - Avoid broad spectrum and excessive short wavelength artificial light below 560 nanometers. Lights with less than 3000 Kelvin (K) color temperature must be used, while color temperatures of 2700 K or less are ideal. Lights with the lowest lumens possible should be used.
 - Utilize shielding, louvers and baffles, dimming and other appropriate lighting controls to direct and minimize lighting when not in use.
 - Implement partial-night lighting schemes to reduce the amount of artificial light used throughout the night. Motion-sensor lighting is also highly encouraged.
 - Lighting must not illuminate any retained or restored vegetated areas.
 - Prevent indoor artificial lighting reaching the outdoor environment. Use fixed window screens, blinds or tinting on fixed windows and skylights to contain artificial light inside buildings.
- In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D5: Avoid widespread use/application of pesticides and insecticides (e.g., mosquito control, agricultural pest control). Chemicals should not be used or applied within and adjacent to areas where Florida bonneted bats are known or expected to forage or roost.
 - In accordance with the Florida Bonneted Bat Consultation Guidelines, FDOT will implement Best Management Practice D8: Conduct roost surveys of potential roost trees prior to removal; necessary removals should occur November 15 to April 15. If potential roost trees or structures need to be removed, trees, snags, and structures need to be visually surveyed within 30 days prior to removal. Any cavities must be peeped with a “treetop” camera, and any cavities that cannot be reached or fully viewed by camera should be surveyed at emergence. If evidence of use by any bat species is observed, discontinue tree removal efforts in that area and coordinate with the Service on how to proceed. Tree, snag, or structure removals should not occur from April 15 to August 15; ideally removal should occur November 15 to April 15.
3. If the tricolored bat is listed by USFWS as Threatened or Endangered and the project may affect the species, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.

4. FDOT will coordinate with FWC on the location, design and fencing requirements of wildlife crossings as part of offsetting impacts to the LWRWEA.
5. The most recent version of the USFWS Standard Protection Measures for the Eastern Indigo Snake will be utilized during construction.
6. FDOT commits to purchase 113.80 eastern indigo snake acres mitigation credits from Platt Branch Mitigation Bank (PBMB) or to making a contribution to the Eastern Indigo Snake Conservation Fund of \$650,000 for the take of 50 eastern indigo snakes should credits not be available.
7. To offset impacts to the sand skink and blue-tailed mole skink resulting from construction of the proposed project, FDOT will purchase sand skink credits from a USFWS-approved conservation bank. Replacement of lost habitat at a ratio of 2.0 credits for each 1.0 acre of habitat impacted will be provided. The Preferred Alternative is anticipated to impact 50.34 acres of occupied skink habitat; therefore, 100.68 credits will be needed. All credits needed will be acquired, with documentation provided to the USFWS, prior construction commencement.
8. In accordance with USFWS guidelines, the FDOT will provide mitigation to offset project impacts to the Florida scrub-jay at a ratio of 2.0 acres of replacement habitat for 1.0 acre of affect occupied scrub-jay habitat using scrub-jay credits from a USFWS-approved mitigation bank. The Preferred Alternative is anticipated to impact 69.78 acres of occupied Florida scrub-jay habitat therefore 139.56 credits will be needed. All credits needed will be acquired, with documentation provided to the USFWS, prior construction commencement.
9. Vegetation removal and land clearing will not occur within occupied Florida scrub-jay habitat during the Florida scrub-jay nesting season (March 1 to June 30).
10. To avoid potential conflict with bears during construction, the FDOT 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).
11. The FDOT commits to mitigating habitat impacted from the LWRWEA, subject to further consultation with the FWC, FDEP and State Trustees of the Internal Improvements Trust Fund.
12. New surveys will be conducted for the sand and bluetail mole skink, Florida scrub-jay, eastern black rail, crested caracara, Everglade snail kite, and Florida bonneted bat per USFWS protocol prior to the construction phase.

6.4 Implementation Measures

Implementation measures are actions the FDOT is required to take under procedures, standard specifications, or other agency requirements. These are standard measures which will be implemented at a later project phase. For this project, implementation measures that address protected species and wetlands-related items include:

- A survey for state listed plant species including Curtiss' milkweed, Ashe's savory, cutthroat grass, scrub spurge, garberia, Edison's ascyrum, nodding pinweed, scrub stylisma, northern needleleaf, cardinal airplant, and giant airplant will be performed during the design phase and coordination with FDACS will occur if impacts to the species are anticipated.
- Surveys for the Southeastern American Kestrel will be conducted during the nesting season (May through August) prior to construction. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- Surveys for gopher tortoise burrows, as well as commensal species, will be conducted prior to construction and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.
- Surveys for the Florida burrowing owl will be conducted prior to construction. If it is determined individuals or nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- Surveys for Florida sandhill crane nest sites will be conducted prior to construction. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.
- Surveys to update locations of active bald eagle and osprey nest sites will be conducted prior to construction, and permits will be acquired if there will be unavoidable impacts during construction. Coordination with USFWS and FWC will take place as necessary.

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