NATURAL RESOURCES EVALUATION

Florida Department of Transportation

District One

State Road (SR) 70

Limits of Project: from Lonesome Island Road to County Road (CR) 721 South

Highlands County, Florida

Financial Management Number: 449851-1-22-01

ETDM Number: 14490

Date: August 2025

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.

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Executive Summary

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study for proposed improvements to the State Road (SR) 70 corridor in Highlands County. The intent is to enhance safety along the SR 70 corridor, a major east-west roadway spanning the state. The project limits extend approximately 7.6 miles from Lonesome Island Road to the southern leg of County Road (CR) 721.

The study focuses on improving safety of this section of SR 70. Alternatives to be evaluated include adding an additional through lane in each direction, adding a median, and widening travel lanes from 10 feet to 12 feet as part of the project. Multimodal facilities (i.e., a shared use path) will also be considered along the project.

This Natural Resources Evaluation (NRE) reviews the possible impacts to 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.

Based on the evaluation of collected data and field reviews, the federal listed, proposed, and candidate species and state listed, and non-listed protected species with documented observations or species that were determined to have the potential to occur within or adjacent to the project study action were evaluated. An effect determination was made for each of these federal and state listed species, **Table ES-1** and **ES-2**, based on an analysis of the potential impacts of the proposed project on each species. No critical habitat is present within the project action area. Therefore, it was determined that the proposed project "**will not result in destruction or adverse modification"** to designated critical habitat.

Table ES-1 Federal Listed Species Effect Determinations

Project Effect Determinations	Federal Listed Species
"No effect"	Pygmy fringe-tree (*Chionanthus pygmaeus*)
	Pigeon wings (*Clitoria fragrans*)
	Short-leaved rosemary (*Conradina brevifolia*)
	Avon Park harebells (*Crotalaria avonensis*)
	Garrett's mint (*Dicerandra christmanii*)
	Scrub mint (*Dicerandra frutescens*)
	Snakeroot (*Eryngium cuneifolium*)
	Highlands scrub hypericum (*Hypericum cumulicola*)
	Scrub blazingstar (*Liatris ohlingerae*)
	Papery whitlow-wort (*Paronychia chartacea*)
	Lewton's polygala (*Polygala lewtonii*)
	Wireweed (*Polygonella basiramia*)
	Sandlace (*Polygonella myriophylla*)
	Carter's mustard (*Warea carteri*)

Project Effect Determinations	Federal Listed Species
"No effect"	Florida ziziphus (*Ziziphus celata*)
	Florida perforate cladonia (*Cladonia perforata*)
	Blue-tailed mole skink (*Plestiodon egregius lividus*)
	Sand skink (*Plestiodon reynoldsi*)
	Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
	Florida scrub-jay (*Aphelocoma coerulescens*)
"May affect, not likely to adversely affect"	Florida bonneted bat (*Eumops floridanus*)
	Wood stork (*Mycteria americana*)
	Tricolored bat (*Perimyotis subflavus*)
	Everglade snail kite (*Rostrhamus sociabilis plumbeus*)
"May affect, likely to adversely affect"	Audubon's crested caracara (*Caracara plancus audubonii*)
	Eastern indigo snake (*Drymarchon couperi*)
	Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)
	Florida panther (*Puma concolor coryi*)

Table ES-2 State Listed Species Effect Determinations

Project Effect Determinations	State Listed Species
"No adverse effect anticipated"	Florida goldenaster (*Chrysopsis floridana*)
	Piedmont jointgrass (*Coelorachis tuberculosa*)
	Cutthroatgrass (*Coleataenia abscissa*)
	Hammock rein orchid (*Habenaria distans*)
	Florida hartwrightia (*Hartwrightia floridana*)
	Edison's ascyrum (*Hypericum edisonianum*)
	Thick-leaved water-willow (*Justicia crassifolia*)
	Small's flax (*Linum carteri smallii*)
	Lowland loosestrife (*Lythrum flagellare*)
	Toothed maiden fern (*Meniscium serratum*)
	Narrowleaf naiad (*Najas filifolia*)
	Yellow fringeless orchid (*Platanthera integra*)
	Redmargin zephyrlily (*Zephyranthes simpsonii*)
	Gopher tortoise (*Gopherus polyphemus*)
	Florida pine snake (*Pituophis melanoleucus mugitus*)
	Florida sandhill crane (*Antigone canadensis pratensis*)
	Florida burrowing owl (*Athene cunicularia floridana*)
	Little blue heron (*Egretta caerulea*)
	Tricolored heron (*Egretta tricolor*)
	Southeastern American kestrel (*Falco sparverius paulus*)
	Roseate spoonbill (*Platalea ajaja*)

The proposed project will result in a total of 82.41 acres of direct impacts to wetlands and other surface waters (10.21 acres of wetlands and 72.20 acres of other surface waters). Additionally, the proposed project will result in 3.30 acres of secondary impacts to wetlands. Secondary impacts to other surface waters are not required to be assessed. Wetlands expected to be impacted by the proposed project include freshwater marshes and wet prairies that are part of freshwater

herbaceous wetland systems. Other surface waters expected to be impacted include streams and waterways (agricultural and roadside ditches) and channelized waterways (canals). The project action area is located within two Natural Resource Conservation Service (NRCS) Conservation Easements: Solaris Clear Conservation Easement and Buck Island Ranch Agricultural and Conservation Easement. The NRCS Conservation Easements within the project action area will not be impacted. Additionally, there are no Outstanding Florida Waters (OFWs) present within the project action area.

The Uniform Mitigation Assessment Method (UMAM) was used to estimate functional loss of wetlands incurred by impacts as a result of the proposed project. Based on this analysis, a total of 13.51 acres of freshwater herbaceous wetlands (10.21 acres of direct impacts, 3.30 acres of secondary impacts) will be impacted by the proposed project, resulting in the loss of approximately 7.06 functional units (6.73 functional units for direct impacts, 0.33 functional units for secondary impacts).

In accordance with *Presidential Executive Order (EO) 11990*, 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. Through the PD&E study, FDOT has determined that there is no practicable alternative to construction impacts occurring in wetlands due to the need for the roadway improvements. The project's wetland impacts will be mitigated through purchase of wetland mitigation bank credits pursuant to *Section 373.4137, Florida Statue (F.S.)*, to satisfy all mitigation requirements of *Part IV of Chapter 373, F.S.*, and *33 United States Code (U.S.C.) §1344*. Therefore, the proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function.

The project is not located near coastal resources, therefore, the project will have no involvement with EFH, and no mitigation is required.

Section 1.0 Project Overview

The objective of the Project Development and Environment (PD&E) study is to assist the Florida Department of Transportation's (FDOT) District One in reaching a decision on the type, location, and conceptual design of the proposed improvements for the widening of State Road (SR) 70 from Lonesome Island Road to the southern leg of CR 721.

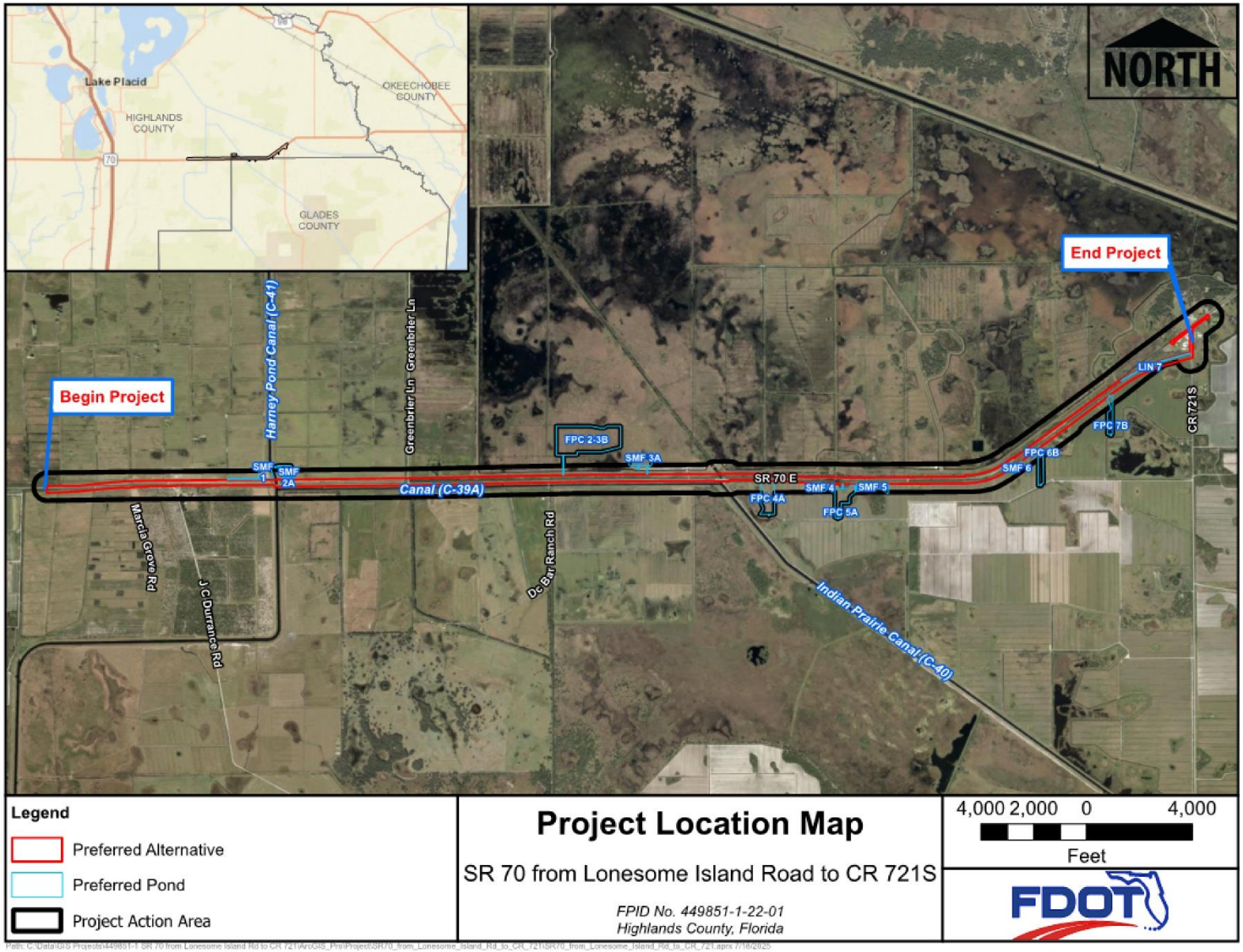
The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent project phases. This project was screened through the FDOT Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14490. The ETDM Programming Screen Summary Report was published on June 1, 2023, and contains details concerning agency comments from the Environmental Technical Advisory Team (ETAT) on the project's potential effects to natural, physical, cultural, and social and community resources.

1.1 Project Description

This roadway project proposes the widening of a two-lane facility to a four-lane, divided facility and the inclusion of operational improvements along 7.6 miles of SR 70 from Lonesome Island Road to the southern leg of County Road (CR) 721 in Highlands County. Travel lane widths may be widened from 10 feet to 12 feet as part of the project. Multimodal facilities will also be considered along the project segment, where appropriate. Each alternative will be evaluated to determine social and environmental impacts, safety enhancements, additional ROW needs, and traffic performance. The existing right-of-way (ROW) width along SR 70 is generally 50 to 70 feet. Additional ROW is expected to accommodate the proposed improvements. A project location map is provided in **Figure 1-1.**

SR 70 is part of Florida's Strategic Intermodal System (SIS) highway network and designated state hurricane evacuation route network. As part of the National Highway System, SR 70 is critical in the transportation network as it facilitates local and regional traffic and the movement of goods/freight. Facilities on the SIS are subject to special standards and criteria for design speed, level of service and other requirements. The existing SR 70 does not meet SIS facility criteria. SR 70 is functionally classified as "Rural Principal Arterial – Other' within the project action area, and the project segment of the roadway has an existing context classification of C2-Rural.

Figure 1-1 Project Location Map



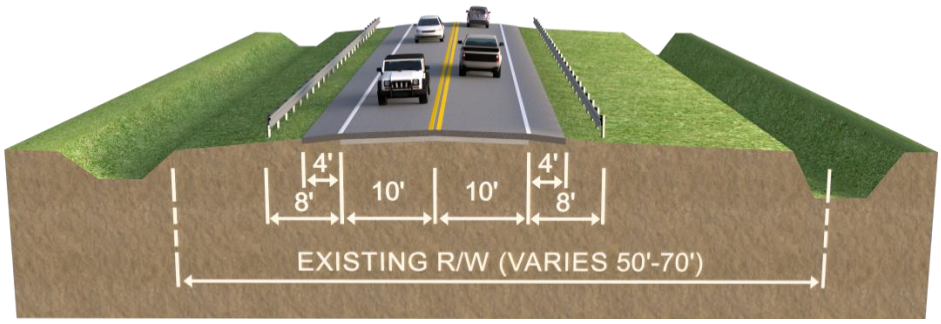
1.2 Purpose and Need

The purpose of this project is to address traffic safety conditions on SR 70 from Lonesome Island Road to the southern leg of CR 721 within Highlands County. Other goals of the project are to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area. The need for the project is based on the following criteria: safety, area wide network/system linkage, and transportation demand.

1.3 Existing Facility

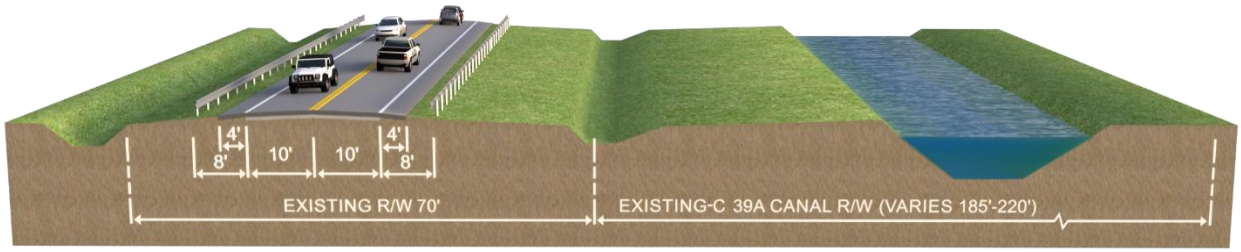
Within the project action area, SR 70 is currently a two-lane undivided roadway functionally classified as a rural principal arterial other roadway with a posted speed limit of 60 miles per hour (mph). The roadway has one 10 foot lane in each direction, with shoulders that are approximately 8 feet wide (4 feet paved) on both the south and north side throughout the corridor with no dedicated bicycle lanes or sidewalk. The existing ROW width varies along the corridor but is a minimum of 50 feet. There are two existing typical sections within the study limits. The limits of existing roadway Typical Section One are from Lonesome Island Road to Harney Pond Canal (C-41) and from Indian Prairie Canal (C-40) to CR 721 (Southern Leg) and is provided as **Figure 1-2**. The limits of existing roadway Typical Section Two are from Harney Pond Canal (C-41) to Indian Prairie Canal (C-40) and is provided as **Figure 1-3**.

Figure 1-2 SR 70 – Existing Roadway Typical Section One



SR 70 from Lonesome Island Road to Harney Pond Canal (C-41) and
From Indian Prairie Canal (C-40) to CR 721 (Southern Leg)

Figure 1-3 SR 70 – Existing Roadway Typical Section Two

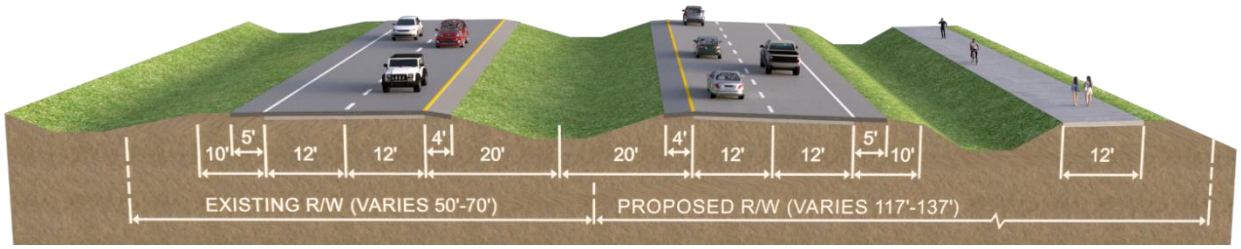


SR 70 from Harney Pond Canal (C-41) to Indian Prairie Canal (C-40)

1.4 Preferred Alternative

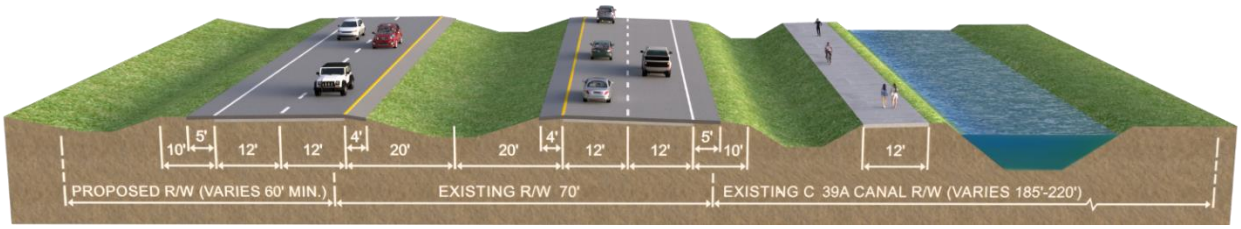
The Preferred Alternative includes widening SR 70 to a four-lane divided rural roadway with a 40 foot median. There will be two 12 foot travel lanes in each direction, with outside shoulders that are approximately 10 feet wide (5 feet paved) and a 12 foot shared use path is proposed along the south side of the road. The required ROW is a minimum of 60 feet. There are two proposed typical sections within the study limits. The limits of proposed Typical Section One are from Lonesome Island Road to Harney Pond Canal (C-41) and from Indian Prairie Canal (C-40) to CR 721 (Southern Leg) and is provided as **Figure 1-4**. The limits of proposed Typical Section Two are from Harney Pond Canal (C-41) to Indian Prairie Canal (C-40) and is provided as **Figure 1-5**.

Figure 1-4 SR 70 – Proposed Roadway Typical Section One



SR 70 from Lonesome Island Road to Harney Pond Canal (C-41) and
From Indian Prairie Canal (C-40) to CR 721 (Southern Leg)

Figure 1-5 SR 70 – Proposed Roadway Typical Section Two



SR 70 from Harney Pond Canal (C-41) to Indian Prairie Canal (C-40)

The project includes the evaluation of SMF and FPC sites. Additional ROW will be required along SR 70 and for SMF and FPC sites.

For the purposes of this report, the project action area is defined as the existing and proposed ROW from west of Lonesome Island Road to east of the southern leg of CR 721 in unincorporated Highlands County and includes a 0.9 mile transition area at the west end, a distance of approximately 8.5 miles, with a buffer that averages 500 feet from the existing ROW that also contains preferred pond sites. The preferred alternative for the PD&E study includes the proposed roadway improvements and preferred pond sites

1.5 Report Purpose

This Natural Resources Evaluation (NRE) summarizes the natural resources data collection and species specific surveys for the SR 70 PD&E Study from Lonesome Island Road to the southern leg of CR 721. The purpose of this NRE is to evaluate possible impacts to 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. One alignment alternative, the preferred alternative, was assessed.

Section 2.0 Existing Conditions

2.1 Methodology

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

- Environmental Systems Resources Institute (ESRI) Aerial photographs, (scale 1" = 800')
- Federal Geographic Data Committee, *Classification of Wetlands and Deepwater Habitats of the United States*
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), *Soil Survey of Highlands County, Florida*
- USDA, NRCS, *Soil Survey of Glades County, Florida*
- USDA, NRCS, Web Soil Survey Database
- FDOT, *Florida Land Use Cover, and Forms Classification System* (FLUCFCS), 3rd ed.
- South Florida Water Management District (SFWMD), Florida Land Use, Cover, and Forms Classification System Geographic Information System (GIS) Database (FLUCFCS)
- United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), Wetlands Online Mapper

In addition to the desktop analysis, biologists familiar with Florida's natural communities conducted field reviews of the project action area in February and May 2024. Field reviews consisted of pedestrian transects throughout all habitat types found within the project action area. The purpose of the reviews was to verify and/or refine preliminary habitat boundaries and classification codes established during the desktop analysis. Attention was given to identifying plant species and composition for each community. Exotic plant infestations and other disturbances such as soil subsidence, clearing, canals, power lines, etc., were noted. Attention was also given to identifying wildlife and signs of wildlife usage in each wetland and other surface water, as well as adjacent uplands within the project action area.

Based on site-specific data searches and field evaluations, a total of 17 soil types, 10 upland types, and four wetland and other surface water types were identified in the project action area.

2.2 Soils

Based on the *Soil Survey of Highlands County, Florida* and the *Soil Survey of Glades County, Florida* the project action area is comprised of 17 soil types. **Appendix A** provides aerial maps depicting the boundaries of each soil type within the project action area. According to the NRCS web soil survey, 15 of the soil types reported within the project action area are classified as hydric, two are listed as non-hydric. Both of the non-hydric soils are reported as having possible hydric inclusions. Mapped hydric soils comprise 1,114.93 acres (89.13%) of the project action area. Non-hydric soils cover 121.82 acres (9.74%) of the project action area. The remaining area is covered

by water (canals), which comprises 14.11 acres (1.13%) of the project action area. **Table 2-1** lists the soil types reported within the project action area.

Table 2-1 NRCS Soil Types within the Project Action Area

County	Soil Type	Hydric (Y/N)	Area within Project Study Area (acres)	Percent of Project Study Area
Highlands	3: Basinger Fine Sand, frequently ponded, 0 to 1 percent slopes	Y	15.78	1.26%
Glades	4: Valkaria Fine Sand, 0 to 2 percent slopes	Y	53.15	4.25%
Highlands	7: Placid Fine Sand, frequently ponded, 0 to 1 percent slopes	Y	3.74	0.30%
Highlands	8: Immokalee Sand, 0 to 2 percent slopes	N*	79.70	6.37%
Glades	10: Felda Fine Sand, 0 to 2 percent slopes	Y	79.74	6.37%
Highlands	12: Basinger Fine Sand, 0 to 2 percent slopes	Y	162.61	13.00%
Highlands	13: Felda Fine Sand, 0 to 2 percent slopes	Y	403.37	32.25%
Glades	14: Basinger Fine Sand, 0 to 2 percent slopes	Y	49.54	3.96%
Highlands	15: Bradenton Fine Sand, 0 to 2 percent slopes[1]	Y	7.51	0.60%
Glades	15: Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes[2]	N*	42.12	3.37%
Highlands	16: Floridana Fine Sand, frequently ponded, 0 to 1 percent slopes[2]	Y	177.36	14.18%
Glades	16: Valkaria Fine Sand, 0 to 2 percent slopes[2]	Y	10.61	0.85%
Highlands	17: Malabar Fine Sand, 0 to 2 percent slopes	Y	16.61	1.33%
Highlands	18: Kaliga Muck, frequently ponded, 0 to 1 percent slopes	Y	48.61	3.88%
Highlands	19: Hicoria Mucky Sand, depressional	Y	34.15	2.73%
Highlands	20: Samsula Muck, frequently ponded, 0 to 1 percent slopes	Y	0.02	<0.01%
Highlands	26: Tequesta Muck, frequently ponded, 0 to 1 percent slopes	Y	52.13	4.17%
Highlands and Glades	99: Water	Unranked	14.11	1.13%
	Total Non-Hydric		**121.82**	**9.74%**
	Total Hydric		**1,114.93**	**89.13%**
	Total Water		**14.11**	**1.13%**
	Total		**1,250.86**	**100.00%**

*Indicates potential hydric inclusions

2.3 Land Use

Each land use type within the project action area was classified using the FLUCFCS and the USFWS *Classification of Wetlands and Deepwater Habitats of the United States*, where applicable. Maps depicting existing land uses and habitats within the project action area are provided in **Appendix B**. **Table 2-2** provides the FLUCFCS classifications, USFWS classifications (where applicable), and total acreage and percent coverage of each land use type within the project action area. A total of 10 upland and four wetland and other surface water land use types were found within the project action area.

Upland communities comprise 990.27 acres (79.17%) of the project action area and include low density residential (FLUCFCS 110), commercial and services (FLUCFCS 140), improved pastures (FLUCFCS 211), unimproved pastures (FLUCFCS 212), sugarcane (FLUCFCS 215), abandoned groves (FLUCFCS 224), herbaceous (dry prairie; FLUCFCS 310), upland shrub and brushland (FLUCFCS 320), cabbage palm (FLUCFCS 428), and roads and highways (FLUCFCS 810). Wetland and other surface water land use types comprise 260.59 acres (20.83%) of the project action area and include streams and waterways (FLUCFCS 510), channelized waterways (canals; FLUCFCS 512), freshwater marshes (FLUCFCS 641), and wet prairie (FLUCFCS 643). Descriptions of land uses within the project action area are included in **Appendix C**.

Table 2-2 Existing Land Use within the Project Action Area

FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Area within Project Action Area (acres)	Percent of Project Action Area
110	Low Density Residential, <2 dwelling units/acre	N/A	0.73	0.06%
140	Commercial and Services	N/A	25.84	2.07%
211	Improved Pastures	N/A	239.75	19.17%
212	Unimproved Pastures	N/A	381.45	30.50%
215	Sugar Cane	N/A	194.72	15.57%
224	Abandoned Groves	N/A	62.31	4.98%
310	Herbaceous (Dry Prairie)	N/A	1.55	0.12%
320	Upland Shrub and Brushland	N/A	2.65	0.21%
428	Cabbage Palm	N/A	14.10	1.13%
810	Roads and Highways	N/A	67.17	5.37%
		Total Uplands	**990.27**	**79.18%**
510	Streams and Waterways	PEM1E / R5UBFx / R2AB4Hx	123.41	9.86%
512	Channelized Waterways, Canals	R2UBHx	60.01	4.79%
641	Freshwater Marshes	PEM1E / PEM1Cd / PEM1Fd	68.85	5.50%

FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Area within Project Action Area (acres)	Percent of Project Action Area
643	Wet Prairie	PEM1E / PEM1Fd	8.32	0.67%
Total Wetlands and Other Surface Waters			**260.59**	**20.82%**
Total			**1,250.86**	**100.00%**

PEM1Cd: Palustrine, Emergent, Persistent, Seasonally Flooded/Partially Drained/Ditched
PEM1E: Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated
PEM1Fd: Palustrine, Emergent, Persistent, Semipermanently Flooded, Partially Drained/Ditched
PUB2Hx: Palustrine, Unconsolidated Bottom, Sand, Permanently Flooded, Excavated
R2AB4Hx: Riverine, Lower Perennial, Aquatic Bed, Floating Vascular, Permanently Flooded, Excavated
R2UBHx: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated
R5UBFx: Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated

2.4 Wetlands and Other Surface Waters

Based on desktop and field reviews, 36 wetlands and 151 other surface waters were identified within the project action area. **Appendix D** provides a table with all the individual wetland and other surface waters located within the project action area. The locations of each individual wetland and other surface water within the project action area are presented in **Appendix D**. The project action area is located within two NRCS Conservation Easements: Solaris Clear Conservation Easement and Buck Island Ranch Agricultural and Conservation Easement (**Appendix D**). There are no Outstanding Florida Waters (OFWs) present within the project action area. Detailed descriptions and representative photographs of wetlands and other surface waters within the project action area are included in **Appendix C**.

Section 3.0 Protected Species and Habitat

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 the National Marine Fisheries Service (NMFS) pursuant to the *Endangered Species Act of 1973*, as amended (ESA). The Florida Fish and Wildlife Conservation Commission (FWC) affords special protection to species designated as endangered and threatened, pursuant to *Chapter 68A-27, F.A.C.* and *Chapter 379 Florida Statutes (F.S.)*. The state of Florida also protects and regulates plant species designated as endangered, threatened or commercially exploited as identified on the *Regulated Plant Index* (*5B-40.0055, F.A.C.*), which is administered by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry, pursuant to *Chapter 5B-40, F.A.C.* Florida statutes afford protection to federally listed species, thus all federally listed species are also state listed species, pursuant to *Rule 68A-27.003(1)(b), F.A.C.*

The project action area was assessed for the presence of suitable habitat for federal and/or state listed and protected species in accordance with *50 CFR Part 402* of the ESA; *Chapter 5B-40: Preservation of Native Flora of Florida, F.A.C.*; *Chapter 68A-27: Rules Relating to Endangered or Threatened Species, F.A.C.*; and the Protected Species and Habitat chapter of the *FDOT PD&E Manual*.

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

3.2 Methodology

In order to determine federal and state listed species that have potential to occur within and adjacent to the project action area, available site-specific data were collected and evaluated. Literature reviewed and databases searched as part of this evaluation included:

- Audubon Center for Birds of Prey, EagleWatch Public View Nest Locations
- FDOT, FLUCFCS, 3rd ed.
- FDACS, *Endangered, Threatened and Commercially Exploited Plants of Florida*
- Federal Geographic Data Committee, *Classification of Wetlands and Deepwater Habitats of the United States*
- USDA, NRCS, *Soil Survey of Glades County, Florida*, 2000
- USDA, NRCS, *Soil Survey of Highlands County, Florida*, 1989
- Florida Natural Areas Inventory (FNAI), Biodiversity Matrix Map Server, 2025
- SFWMD, FLUCFCS GIS Database
- USFWS, Critical Habitat for Threatened and Endangered Species, 2025
- USFWS, NWI, Wetlands online Mapper, September 2025

- USFWS, Endangered and Threatened Wildlife and Plants database, September 2025
- USFWS, Information for Planning and Consultation Mapper (IPaC)

A Species Specific Survey Memorandum, dated April 3, 2024, was prepared for the project to coordinate with USFWS and to obtain approval on species specific surveys required for the project. The April 2024 memo identified the need to conduct species specific surveys for the Audubon's crested caracara and Florida bonneted bat. The April 2024 memo determined no species specific surveys were required for the blue-tailed mole skink and sand skink, Everglade snail kite, Florida grasshopper sparrow, Florida scrub-jay, and Lake Wales Ridge plants. On April 4, 2024, USFWS reviewed the memo and agreed via email that species specific surveys for the Florida grasshopper sparrow, Everglade snail kite and Florida scrub-jay are not needed for the project (**Appendix E**).

Biologists familiar with Florida natural communities conducted on-site field reviews of the project action area and adjacent habitats in February and May 2024. General wildlife surveys included both vehicular and pedestrian surveys during daylight hours throughout the project action area. Pedestrian transect surveys were conducted in habitat appropriate for gopher tortoises and Florida burrowing owls. Additionally, Audubon crested caracara species-specific surveys were conducted from January through April 2023 and a full acoustic survey for the Florida bonneted bat was conducted in May 2024. Direct observations of protected species or signs of their presence (trails, tracks, scat, nests, burrows, or calls) were noted. All observations and other evidence of threatened and endangered species were documented and entered into a GIS database. An informal IPaC report was initially generated in January 2024 to develop a federal species list for the project, and an official report was generated on July 15, 2025, and assigned IPaC project code: 2025-0121637 (**Appendix F**). The information collected during literature reviews, database searches, field reviews, the ETDM Programming Screen, and agency coordination was used to create a list of federal and state listed and other protected species with the potential to occur within the project action area.

The purpose of the reviews and surveys was to verify and/or refine preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo-interpretation. During field investigations, each upland, wetland, and other surface water community within the project action area was visually inspected. Attention was given to identifying dominant plant species composition for each community. Additional attention was given to identifying wildlife and signs of wildlife usage in each upland, wetland, and other surface water community within the project action area. Available GIS data layers were used to identify documented occurrences of listed and protected species within one mile of the project action area.

Based on the evaluation of collected data, field reviews, and database searches, federal listed, proposed, and candidate species, and state listed, and non-listed protected species were assessed for their potential to occur within or adjacent to the project action area. For a species to be considered potentially present, the project action area must be within the species' distribution range. An effect determination was then made for each federal and state listed and protected species based on an analysis of the potential impacts of the preferred alternative on each species.

3.3 Results

A total of 52 federal listed, proposed, and state listed and protected species were evaluated for their potential for occurrence within the project action area (**Table 3-1**). These species include 28 flora, one lichen, one invertebrate, five reptiles, 12 birds, and four mammals. The locations of all protected species documented within one mile of the project action area as well as USFWS consultation areas and the locations of all protected species observed during field reviews are provided in **Appendix G**.

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. **Table 3-1** provides a list of protected species with the potential to occur within the project action area, their federal or state protection status, preferred habitat, and a ranking of potential occurrence.

A determination of the proposed project's anticipated effect on each federal and state listed species was made based on the potential for occurrence within the project action area; the proposed changes to their habitat quality, quantity, and availability as a result of the proposed project; and how each species is expected to respond to anticipated habitat changes.

Table 3-1 Protected Species Potential for Occurrence

Species	Designated Status			Habitat Preference	Potential for Occurrence
	USFWS	FWC	FDACS		
Flora (Plants)					
Pygmy fringe-tree (*Chionanthus pygmaeus*)	E	-	FE	Scrub, sandhill and xeric hammocks, primarily on the Lake Wales Ridge	No
Florida goldenaster (*Chrysopsis floridana*)	-	-	E	Disturbed areas of loose sand	Low
Pigeon wings (*Clitoria fragrans*)	T	-	FT	Turkey oak barrens with wiregrass, bluejack and turkey oak; scrub and scrubby high pine	No
Piedmont jointgrass (*Coelorachis tuberculosa*)	-	-	T	Pond and marsh margins	Low
Cutthroatgrass (*Coleataenia abscissa*)	-	-	E	Wet prairies and seepage areas	Low

Species	Designated Status			Habitat Preference	Potential for Occurrence
	USFWS	FWC	FDACS		
Short-leaved rosemary (*Conradina brevifolia*)	E	-	FE	White sands of sand pine-oak scrub of the Lake Wales Ridge and the scattered overstory of sand pine and scrub oak	No
Avon Park harebells (*Crotalaria avonensis*)	E	-	FE	Bare patches of sand in scrub communities on the Lake Wales Ridge	No
Garrett's mint (*Dicerandra christmanii*)	E	-	FE	Open areas of sand pine and oak scrub particularly on yellow sands, on the Lake Wales Ridge	No
Scrub mint (*Dicerandra frutescens*)	E	-	FE	Open areas of sand pine-oak scrub and sandhills, on the Lake Wales Ridge	No
Snakeroot (*Eryngium cuneifolium)*	E	-	FE	Sunny sites of bare white sands in scrub, usually with rosemary	No
Hammock rein orchid (*Habenaria distans*)	-	-	E	Floodplain marshes, strand swamps, and hardwood forests	Low
Florida hartwrightia (*Hartwrightia floridana*)	-	-	T	Wet prairies, marshes, and flatwoods with wet, peaty soils	Low
Highlands scrub hypericum (*Hypericum cumulicola*)	E	-	FE	Upland areas with well-drained, sterile, white sands; including scrub, rosemary balds, and scrubby flatwoods	No
Edison's ascyrum (*Hypericum edisonianum*)	-	-	E	Lake and stream margins, wet prairies	Low
Thick-leaved water-willow (*Justicia crassifolia*)	-	-	E	Wet prairies, wet flatwoods, and shallow ditches along roadsides	Low
Scrub blazingstar (*Liatris ohlingerae*)	E	-	FE	Rosemary balds, oak scrub, scrubby flatwoods and disturbed scrub	No
Small's flax (*Linum carteri smallii*)	-	-	E	Wet prairies and disturbed areas adjacent to these ecosystems; disturbed roadsides	Low
Lowland loosestrife (*Lythrum flagellare*)	-	-	E	Floodplain marshes and wet prairies	Low
Toothed maiden fern (*Meniscium serratum*)	-	-	E	Sloughs and floodplain swamps; occasionally epiphytic	Low
Narrowleaf naiad (*Najas filifolia*)	-	-	T	Dark water less than 2 meters deep; mostly occurs in lakes and ponds	Low
Papery whitlow-wort (*Paronychia chartacea*)	T	-	FT	White sand clearings in scrub	No
Yellow fringeless orchid (*Platanthera integra*)	-	-	E	Wet pine flatwoods, wet prairies, seepage slopes and depressions within pinelands, marshes and swamps	Low
Lewton's polygala (*Polygala lewtonii*)	E	-	FE	Oak scrub, sandhill and transition zones between high pine and turkey oak barrens	No

Species	Designated Status			Habitat Preference	Potential for Occurrence
	USFWS	FWC	FDACS		
Wireweed (*Polygonella basiramia*)	E	-	FE	Rosemary phase of sand pine scrub on white sands, on Lake Wales Ridge	No
Sandlace (*Polygonella myriophylla*)	E	-	FE	Open, sandy areas within scrub habitat	No
Carter's mustard (*Warea carteri*)	E	-	FE	Sandhill, scrubby flatwoods and inland scrub habitat	No
Redmargin zephyrlily (*Zephyranthes simpsonii*)	-	-	T	Wet pine flatwoods, meadows, pastures and roadsides	Low
Florida ziziphus (*Ziziphus celata*)	E	-	FE	Oak-hickory scrub, scrubby flatwoods or sandhills on yellow sands	No
Lichen					
Florida perforate cladonia (*Cladonia perforata*)	E	-	FE	High, well-drained sands of rosemary scrub	No
Invertebrates					
Monarch butterfly (*Danaus plexippus*)	P[1]	-	-	Variety of terrestrial habitats that feature flowering plants, especially milkweed plants (*Asclepias* spp.)	Low
Reptiles					
Eastern indigo snake (*Drymarchon couperi*)	T	FT	-	Upland pine forests, swamps, wet and dry prairies, agricultural lands; occasionally inhabits gopher tortoise burrows	Moderate
Gopher tortoise (*Gopherus polyphemus*)	-	T	-	Disturbed habitats such as pastures, old fields and road shoulders	Low
Florida pine snake (*Pituophis melanoleucus mugitus*)	-	T	-	Often inhabits gopher tortoise burrows; dry sandy soils with open canopies; sandhill, sand pine scrub and scrubby flatwoods	Low
Blue-tailed mole skink (*Plestiodon egregius lividus*)	T	FT	-	Central Florida in habitat with loose sandy areas, such as rosemary scrub, sand pine scrub, oak scrub, scrubby flatwoods and turkey oak barrens	No
Sand skink (*Plestiodon reynoldsi*)	T	FT	-	Central Florida in habitat with loose sandy areas, such as rosemary scrub, sand pine scrub, oak scrub, scrubby flatwoods and turkey oak barrens	No
Birds					
Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)	E	FE	-	Large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging	No
Florida sandhill crane (*Antigone canadensis pratensis*)	-	T	-	Wet and dry prairies, marshes and marshy lake edges	Moderate

Species	Designated Status			Habitat Preference	Potential for Occurrence
	USFWS	FWC	FDACS		
Florida scrub-jay (*Aphelocoma coerulescens*)	T	FT	-	Early successional stages of fire-dominated xeric oak communities located on well-drained, sandy soils; preferred habitat consists of scrub oaks between 3 and 10 feet tall, with open sand and scattered clumps of herbaceous vegetation	No
Florida burrowing owl (*Athene cunicularia floridana*)	-	T	-	Areas of short, herbaceous groundcover; including prairies, sandhills and farmland	Low
Audubon's crested caracara (*Caracara plancus audubonii*)	T	FT	-	Open county such as dry prairie and pasture lands with scattered cabbage palm, cabbage palm/live oak hammocks, and shallow ponds and sloughs. Cabbage palms or live oaks with low-growing surrounding vegetation are required for nesting.	High (Observed 2020, 2023 & 2024)
Little blue heron (*Egretta caerulea*)	-	T	-	Freshwater marshes, hardwood swamps, and wet prairies	Moderate
Tricolored heron (*Egretta tricolor*)	-	T	-	Freshwater marshes, hardwood swamps, and wet prairies	Moderate
Southeastern American kestrel (*Falco sparverius paulus*)	-	T	-	Dry prairies, and mixed pine hardwood forests	High (Observed 2024)
Bald eagle (*Haliaeetus leucocephalus*)	NL[2]	NL[2]	-	Large open water bodies, marshes, dry prairies, mixed pine, hardwood forests, wet prairie and pine flatwoods	High (Observed 2024)
Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	T	FT	-	Freshwater marsh habitats with dense vegetative cover	Low
Wood stork (*Mycteria americana*)	T	FT	-	Freshwater habitats such as marshes, wet prairies, swamps and agricultural environments	High (Observed 2024)
Roseate spoonbill (*Platalea ajaja*)	-	T	-	Primarily saline wetlands; occasionally in freshwater marshes, hardwood swamps, and wet prairies	Moderate
Everglade snail kite (*Rostrhamus sociabilis plumbeus*)	E	FE	-	Large open freshwater marshes and lakes with shallow water and a low density of emergent vegetation	High (Observed 2024)

Species	Designated Status			Habitat Preference	Potential for Occurrence
	USFWS	FWC	FDACS		
Mammals					
Florida bonneted bat (*Eumops floridanus*)	E	FE	-	Roosts in live trees 34 feet tall or greater and snags 28 feet tall or greater both with a dbh of at least 7.4 inches, and crevices in artificial structures 15 feet tall or greater; Forages over open freshwater, freshwater wetlands, wetland and upland forests, and agricultural lands	High (Observed 2024)
Tricolored bat (*Perimyotis subflavus*)	P[1]	-	-	Roosts in live and dead leaf clusters of live or recently dead deciduous hardwood trees; hibernates in caves, mines and culverts	High (Observed 2024)
Florida panther (*Puma concolor coryi*)	E	FE	-	A variety of habitats including upland forests, prairies, wetlands, strands of saw palmetto and swamps	High (Mortality 2024)
Florida black bear (*Ursus americanus floridanus*)	-	NL[3]	-	Mixed hardwood pine, cabbage palm hammock, forested wetlands, agricultural lands	High (Mortality 2020)

E = Endangered, T = Threatened, NL = Not Listed, FE = Federally Endangered, FT = Federally Threatened, P = Proposed for Listing

[1]The monarch butterfly and the tricolored bat are proposed species for listing under the ESA.

[2]While not listed under the ESA, the bald eagle is federally protected under the *Bald and Golden Eagle Protection Act* and *Migratory Bird Treaty Act of 1918*. The bald eagle is also state protected under *68A-16.002, F.A.C.*

[3]While no longer listed, the Florida black bear remains protected and managed by the FWC pursuant to the *Florida Black Bear Conservation Rule 68A-4.009, F.A.C.*

3.3.1 Federal Species

3.3.1.1 Plants

Several federally listed plant species were identified as potentially occurring within the project action area. These species are primarily found in loose sands of Florida scrub habitat, such as the Lake Wales Ridge. Of the 15 federally listed plant species identified as having the potential to occur within the project action area 12 are included in the USFWS Lake Wales Ridge Plants Consultation Area, which covers a portion of the west side of the project action area (**Appendix G**). These species include: short-leaved rosemary (*Conradina brevifolia*), Avon Park harebells (*Crotalaria avonensis*), Garrett's mint (*Dicerandra christmanii*), scrub mint (*Dicerandra frutescens*), snakeroot (*Eryngium cuneifolium*), scrub blazingstar (*Liatris ohlingerae*), Highlands scrub hypericum (*Hypericum cumulicola*), Lewton's polygala (*Polygala lewtonii*), wireweed (*Polygonella basiramia*), sandlace (*Polygonella myriophylla*), Florida ziziphus (*Ziziphus celata*), and Carter's mustard (*Warea carteri*); all of which are listed as endangered by the USFWS. The remaining federally listed plant species identified as having the potential to occur within the project action area include: pigeon wings (*Clitoria fragrans*) and papery whitlow-wort (*Paronychia chartacea*), listed as threatened by the USFWS, and pygmy fringe-tree (*Chionanthus pygmaeus*) listed as endangered by the USFWS.

Though nearby to the west, the project action area falls outside of the Lake Wales Ridge and is at lower elevations, less than 50 feet, than elevations located on the Lake Wales Ridge. Additionally, xeric, well-drained, sandy soils that these federally listed plant species require are not present within the project action area (**Table 2-1**). These species are most commonly associated with fire-maintained ecosystems including scrub, sandhill, or flatwoods habitats, which are also absent from the project action area. As a result, there is no potential for occurrence for these species within the project action area.

The project action area was assessed during field reviews for the presence of federally protected plant species; however, no federally listed plants were observed. It is not likely that federally listed plant species will be present within the project action area due to the lack of scrub, sandhill and xeric oak habitats and well-drained sandy soils that are necessary for these species' survival. Based on this information, it has been determined that the project will have "**no effect**" on the short-leaved rosemary, Avon Park harebells, Garrett's mint, scrub mint, snakeroot, scrub blazingstar, highlands scrub hypericum, Lewton's polygala, wireweed, sandlace, Florida ziziphus, Carter's mustard, pigeon wings, papery whitlow-wort, and pygmy fringe-tree.

3.3.1.2 Lichen

Florida Perforate Cladonia (*Cladonia perforata*)

The Florida perforate cladonia is listed as endangered by the USFWS. It is found in high sand dune ridges of Florida. According to IPaC, the Florida perforate cladonia has the potential to occur in the project action area; however, no suitable habitat for this species is present within the project action area. Additionally, it has not been documented within one mile of the project action area and was not observed during field reviews. As a result, there is no potential for occurrence for the Florida perforate cladonia within the project action area. Based on this information, it was determined that the project will have "**no effect**" on the Florida perforate cladonia.

3.3.1.3 Invertebrates

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is proposed to be listed as threatened by the USFWS. Adults forage on nectar producing flowers and lay eggs on obligate milkweed host plants (*Asclepias* spp.), which can be found in fields, along roadsides, and in open and urban areas. According to IPaC, the monarch butterfly has the potential to occur in the project action area and suitable habitat is present within the project action area; however, it has not been documented within one mile of the project action area and was not observed during field reviews. As a result, the potential for occurrence for the monarch butterfly within the project action area is low. If the monarch butterfly 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.

3.3.1.4 Reptiles

Eastern Indigo Snake (*Drymarchon couperi*)

The eastern indigo snake is listed as threatened by the USFWS. This species can be found in a variety of habitat types including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, as well as human-altered habitats. It may also utilize gopher tortoise burrows for shelter to escape hot or cold ambient temperatures. According to IPaC, the eastern indigo snake has the potential to occur in the project action area and suitable habitat is present in improved and unimproved pasturelands, sugarcane fields, abandoned groves, dry prairie, upland shrub and brushland, and cabbage palm habitats within the project action area. Additionally, the eastern indigo snake has a documented historical observation, approximately 0.6 miles west of the project action area (**Appendix G**); however, this species was not observed during field reviews. As a result, the potential for occurrence for the eastern indigo snake is moderate.

The project will result in more than 25 acres of impact to suitable eastern indigo snake habitat, but the project action area does not contain suitable xeric habitat. To minimize potential adverse impacts to the eastern indigo snake, the most recent USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be implemented during construction of the project. The path followed through the *Consultation Key for the Eastern Indigo Snake for Central and South Florida* (revised August 2017) was A > B > C > may affect (MA) (**Appendix H**). Therefore, the project has an effect determination of "**may affect, likely to adversely affect"** on the eastern indigo snake.

Sand Skink (*Plestiodon reynoldsi*) and Blue-tailed Mole Skink (*Plestiodon egregius lividus*)

The sand skink and blue-tailed mole skink are listed as threatened by the USFWS. These species are found in central Florida in habitats such as rosemary scrub, sand pine scrub, oak scrub, scrubby flatwoods, and turkey oak barrens. They are also known to utilize disturbed habitats with suitable soils, such as pine plantations, citrus groves, open fields, and pastures. Additionally, they are only found in areas containing specific xeric soils at elevations of 82 feet or higher, and occasionally at 70 feet where suitable soil conditions continue down slope. Soils in the project action area are at elevations below 50 feet. Blue-tailed mole skinks are expected to occur with sand skinks where the species overlap in distribution. According to IPaC, these species have the potential to occur in the project action area and the west end of the project action area is partially located within the USFWS Consultation Area for both species (**Appendix G**); however, the project action area does not contain suitable skink soils at a suitable elevation (**Table 2-1**). Therefore, species specific surveys were not required for the proposed project. Additionally, these species have not been documented within one mile of the project action area and evidence of these species was not observed during field reviews. As a result, there is no potential for occurrence for these species within the project action area. Based on this information it was determined that the project will have "**no effect**" on the sand skink and blue-tailed mole skink.

3.3.1.5 Birds

Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus)*

The Florida grasshopper sparrow is listed as endangered by the USFWS. This species requires large areas of frequently burned dry prairie habitat with patchy open areas sufficient for foraging. However, it may persist in pasturelands that have not been intensively managed. According to IPaC, the Florida grasshopper sparrow has the potential to occur in the area and the project is fully within the USFWS Florida Grasshopper Sparrow Consultation Area. While the project action area includes potential Florida grasshopper sparrow nesting habitat as defined by the *USFWS Florida Grasshopper Sparrow Survey Protocol*, true unaltered prairie is not present within the project action area and there are no documented occurrences within one mile of the project action area. There are currently only five known distinct management units for the Florida grasshopper sparrow: Avon Park Air Force Range, Kissimmee Prairie Preserve State Park, Three Lakes Wildlife Management Area, and two private ranches. The project action area is 23.5, 22.5, and 40 miles from Avon Park Air Force Range, Kissimmee Prairie Preserve State Park and Three Lakes Wildlife Management Area, respectively.

During the February 2024 field reviews, no observations of the species were made and all potential habitat within the project action area was determined to be unsuitable nesting habitat. Improved and unimproved pastures to the south of the project action area are heavily grazed resulting in minimal suitable vegetation and cover necessary for nesting. Additionally, these pastures contain several ditches throughout the pasturelands altering natural drainage patterns, flooding adjacent pasturelands during periods of heavy rainfall, and resulting in unsuitable nesting habitat. Pastures to the north are primarily unimproved and overgrown with domestic pasture grasses and no natural vegetation growing to heights suitable for nesting. Preferred unaltered prairie habitat is not present within or adjacent to the project action area. USFWS concurred due to the lack of suitable habitat, the frequent flooding of agricultural lands, and lack of documented occurrences, no species specific surveys for the Florida grasshopper sparrow were required. As a result, there is no potential for occurrence for the Florida grasshopper sparrow within the project action area. Based on this information, it was determined that the project will have "**no effect**" on the Florida grasshopper sparrow.

Florida Scrub-Jay (*Aphelocoma coerulescens*)

The Florida scrub-jay is listed as threatened by the USFWS. Optimal Florida scrub-jay habitat consists of low growing, scattered scrub species with patches of bare sandy soil such as those found in sand pine scrub and scrubby flatwoods habitats that are occasionally burned. In areas where these types of habitats are unavailable, Florida scrub-jays may be found in less optimal habitats such as pine flatwoods with scattered oaks. Although IPaC did not identify the Florida scrub-jay as having the potential to occur in the area, the project is fully within the USFWS Florida Scrub-jay Consultation Area. While the project action area includes potential Florida scrub-jay habitat per *USFWS Florida Scrub Jay Survey Protocol* in the form of improved and unimproved pastures, suitable scrub habitat is not present within or adjacent to the project action area and there are no documented occurrences within one mile of the project action area.

During the February 2024 field reviews, no observations of the species were made and potentially suitable habitat was determined to be unsuitable. Habitat to the north and south of the project action area consisted primarily of improved and unimproved pastures with heavily grazed vegetation and no scrub or scrubby flatwood habitats were observed. Suitable habitat, including scrub and oak shrubs around 3.28 to 6.56 feet tall, needed for nesting was not present within or adjacent to the project action area. USFWS concurred that due to the lack of suitable habitat and lack of documented occurrences, no species specific surveys for the Florida scrub-jay were required. As a result, there is no potential for occurrence for the Florida scrub-jay within the project action area. Based on this information, it was determined that the project will have "**no effect**" on the Florida scrub-jay.

Audubon's Crested Caracara (*Caracara plancus audubonii*)

The Audubon's crested caracara is listed as threatened by the USFWS. This species often inhabits open country, such as dry prairie and pasture lands with scattered cabbage palms and cabbage palm/live oak hammocks. It also requires cabbage palms or live oaks with low-growing surrounding vegetation for nesting. The project action area is fully within the USFWS Audubon's Crested Caracara Consultation Area and is partially within an Audubon's Crested Caracara Gathering Area (**Appendix G**). Suitable habitat is present in improved and unimproved pasturelands, sugarcane fields, abandoned groves, dry prairie, and cabbage palm habitats and there are several documented occurrences of this species within one mile of the project action area (**Figure 3-1**). As a result, the potential for occurrence is high and a species-specific survey for the Audubon's crested caracara was conducted in 2023 (**Appendix I**).

During the 2023 species-specific surveys, several Audubon's crested caracara were observed, and five nests were identified (**Figure 3-1**). **Appendix I** provides the methodology and results of the Audubon's crested caracara survey. In accordance with the *USFWS Species Conservation Guidelines for the Audubon' Crested Caracara*, a 300 meter primary zone and a 1,500 meter secondary zone was placed around each documented nest to determine the occupied Audubon's crested caracara habitat within the area (**Figure 3-1**). Impacts to occupied Audubon's crested caracara habitat was then determined using the project action area (**Table 3-2**).

A total of 324.24 acres of occupied Audubon's crested caracara nesting habitat (22.19 acres of primary zone and 302.04 acres of secondary zone) will be impacted by the action area (**Figure 3-1**). Impacts include freshwater marshes, wet prairies, unimproved and improved pastures, and other agricultural lands within the primary and secondary zone habitats. To reduce adverse effects resulting from impacts to Audubon's crested caracara occupied nesting habitat, the USFWS recommends a contribution to the Crested Caracara Conservation Fund.

The proposed project will result in primary zone impacts (total of 22.19 acres) to three nests and secondary zone impacts (total of 302.04 acres) to all five nests due to the roadway and pond site locations. Due to the Audubon's crested caracara's ability to reuse previous nest sites or sites in close proximity to a previous nest site and the vast availability of suitable nesting/foraging habitat surrounding the project action area, future surveys are recommended. Therefore, FDOT commits that a survey will be conducted for Audubon's crested caracara per USFWS protocol during the

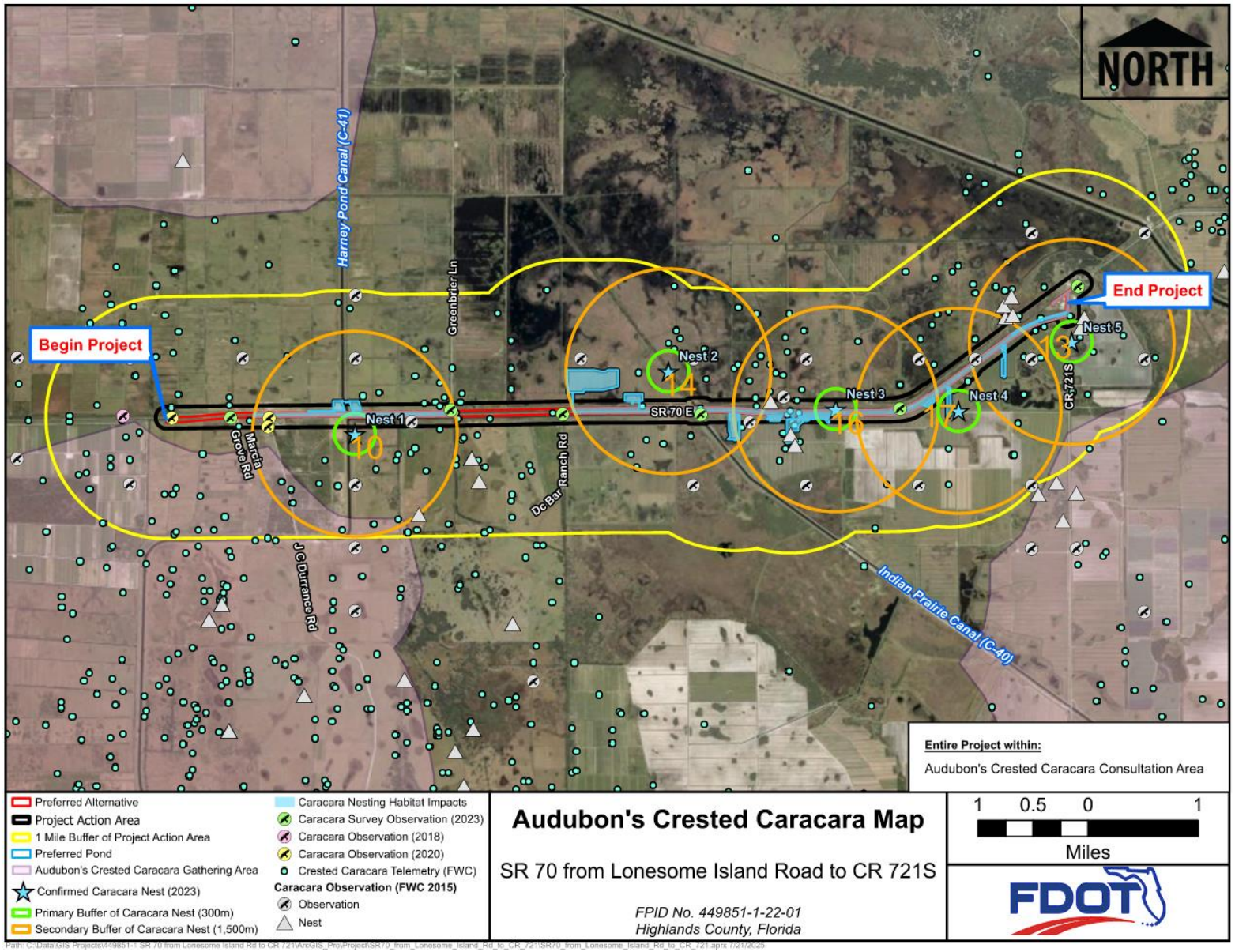
design phase. Resurveying the project action area during the design phase will identify any active nest location(s) to ensure accurate impact estimates. Additionally, FDOT will provide a financial contribution to the Crested Caracara Conservation Fund for impacts to the primary and secondary zones for the nests adjacent to the project action area. The project will have an effect determination of "**may affect, likely to adversely affect**" for the Audubon's crested caracara.

Table 3-2 Impacts to Audubon's Crested Caracara Nesting Habitat

Nest ID (2023 Breeding Season Survey)	Primary Zone Impacts (acres)	Secondary Zone Impacts (acres)	Total
1	3.58	60.24	63.83
2	0.00	128.81	128.81
3	13.79	74.16	87.95
4	4.82	62.87	67.69
5	0.00	38.20	38.20
Overlap*	0.00	-62.24	-62.24
Total Impacts	**22.19**	**302.04**	**324.24**

*Note that there is approximately 62.24 acres of overlap between the secondary zones of the confirmed caracara nest locations.

Figure 3-1 Audubon's Crested Caracara Map



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

The eastern black rail is listed as threatened by the USFWS. It is found in habitats with dense vegetative cover in tidal high marshes, everglades, marl prairies, and inland wet prairies. According to IPaC, the eastern black rail has the potential to occur in the project action area and suitable habitat is present in wet prairies within the project action area; however, the eastern black rail has not been documented within one mile of the project action area and was not observed during field reviews. As a result, the potential for occurrence for the eastern black rail is low.

Although the proposed project will result in 3.06 acres of direct impacts to suitable habitat (wet prairies), impacts to wetlands will be mitigated to prevent a net loss of wetland functions and values and conserve wetland habitats at an approved regional mitigation bank. The project assumes the presence of the species within suitable habitat. Based on the assumed presence of the species, the project will have an effect determination of "**may affect, likely to adversely affect**" for the eastern black rail.

Wood Stork (*Mycteria americana*)

The wood stork is listed as threatened by the USFWS. The wood stork is an opportunistic feeder and utilizes various habitat types including estuarine and freshwater systems such as marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures, and ditches. Water that is relatively calm, uncluttered by dense aquatic vegetation, and with a permanent or seasonal water depth between two and 15 inches is considered optimal foraging habitat for this species. According to IPaC, the wood stork has the potential to occur in the project action area and the project action area is located within the Core Foraging Area (CFA) of two active wood stork nesting colonies: Gator Farm and Lemkin Creek (**Appendix G**). Suitable foraging and nesting habitat for the wood stork is present within freshwater marshes, wet prairies, and streams and waterways within the project action area and this species was observed foraging during field reviews (**Appendix G**). As a result, the potential for occurrence for the wood stork is high.

The primary concern for this species is loss of suitable foraging habitat within the CFA of a wood stork colony. A wood stork foraging analysis was conducted to determine the amount of biomass lost from wetlands and other surface water impacts within the project action area (**Appendix J**). Based on the results of the wood stork foraging analysis the proposed project will result in the direct loss of 80.98 acres of suitable wood stork foraging area. There is no loss of short hydroperiod wetlands, and all 80.98 acres will be lost from long hydroperiod wetlands. Analysis results concluded that the proposed project will result in the net loss of 141.93 kg total biomass (fish and crayfish). The path followed through the *Wood Stork Effect Determination Key for South Florida* was A > B > C > E > not likely to adversely affect (NLAA) (**Appendix H**). As part of this project, impacts to wetlands within the CFA of one or more of the affected wood stork colonies will be mitigated to prevent a net loss of wetland functions and values and conserve wetland habitats at Lake Istokpoga Mitigation Bank or another approved regional mitigation bank. Additionally, the project proposes construction of ditches and FPC sites that may be used as foraging habitat. Based on the determination of effect key and proposed mitigation, the project will have an effect determination of "**may affect, not likely to adversely affect**" for the wood stork.

Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)

The Everglade snail kite is listed as endangered by the USFWS. The preferred habitat of the Everglade snail kite includes shallow freshwater marshes and the shallow grassy shorelines of lakes where apple snails are present. This species builds its nests in these grassy shorelines for quick access to food sources. Suitable habitat for the Everglade snail kite consists of the following characteristics: foraging habitat containing paspalidium (*Paspalidium geminatum*), spikerushes (*Eleocharis* spp.), panicum (*Panicum* spp.), or beakrushes; nesting or perching substrate present, including Carolina willows, melaleuca (*Melaleuca quinquenervia*), or pond cypress (*Taxodium ascendens*); and is typically greater than 10 meters in height with water depths between 0.2 meters and 1.3 meters under nesting substrate that is greater than 150 meters from uplands. According to IPaC, the Everglade snail kite has the potential to occur in the project action area and the project is fully within the USFWS Everglade Snail Kite Consultation Area. During the 2024 field reviews foraging Everglade snail kite observations were documented (**Appendix G**). The project action area includes potential Everglade snail kite nesting habitat as defined by the *USFWS Everglade Snail Kite Survey Protocol*. As a result, the potential for occurrence for the Everglade snail kite is high.

However, open marshes with the potential to support nesting were determined to be unsuitable due to the proximity of nesting and perching substrate to the roadway and due to overgrown vegetation that would inhibit preferred nesting habitat for this species. Canals present within the project action area were also determined to be unsuitable foraging habitat due to steep side slopes exceeding water depth requirements and the vegetation on the edge of the canal was overgrown. While foraging habitat for the Everglade snail kite is present, preferred nesting habitat is not present within or adjacent to the project action area. USFWS concurred that due to the lack of suitable nesting habitat, no species specific surveys for the Everglade snail kite were required. Based on this information, it has been determined project will have an effect determination of "**may affect, not likely to adversely affect**" for the Everglade snail kite.

3.3.1.6 Mammals

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat (FBB) is listed as endangered by the USFWS. This species roosts in mature trees at least 33 feet in height with a diameter at breast height (DBH) of 8 inches or greater. The FBB has also been documented roosting in tree cavities and building crevices. Additionally, the species forages in open areas near water sources and is closely associated with forested communities due to their known roosting habits. According to IPaC, the FBB has the potential to occur in the area and the project is fully within the USFWS Florida Bonneted Bat Consultation Area. Suitable roosting and foraging habitat are present within the project action area. As a result, a species-specific survey for the FBB was conducted in May 2024 in accordance with the *Florida Bonneted Bat Consultation Guidelines*. The results of the survey are provided in **Appendix K**.

During manual vetting of the acoustic survey recordings, one FBB was detected at 12:20 am on May 4, 2024; therefore, the FBB is assumed to be utilizing the project action area. As a result, the potential for occurrence for the FBB within the project action area is high. However, based on the

date, time, and only one positively identified FBB call, the results do not show FBB roosting is likely, nor do they show high FBB activity or use. Additionally, visual surveys of potential roost structures within the project action area did not show any signs or evidence of bat utilization or roosting in any natural or artificial structures that will be impacted. The Florida Bonneted Bat Roosting & Acoustic Survey Technical Memorandum is provided in **Appendix K**.

The path followed through the 2019 Consultation Key for the Florida Bonneted Bat was 1a > 2a > 3b Conduct Full Acoustic/Roost Surveys > 6a > 7b > 10b > 12b > MANLAA-P (**Appendix H**). Based on the results of the species-specific acoustic survey and the determination of effect key, the project "may affect, not likely to adversely affect" the FBB. The effect determination of the key requires that best management practices (BMPs) should be used and implemented as conservation measures to minimize potential adverse effects on the FBB. Therefore, to minimize potential adverse impacts to the FBB, FDOT commits to the following conservation measures:

- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #1: If potential roost trees or structures need to be removed, check cavities for bats within 30 days prior to removal of trees, snags, or structures. When possible, remove structure outside of breeding season (e.g., January 1 – April 15). If evidence of use by any bat species is observed, discontinue removal efforts in that area and coordinate with the USFWS on how to proceed.

- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #5: Conserve open freshwater and wetland habitats to promote foraging opportunities and avoid impacting water quality. Created/restored habitat should be designed to replace the function of native habitat.

- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #7: Avoid or limit widespread application of insecticides (e.g., mosquito control, agricultural pest control) in areas where Florida bonneted bats are known or expected to forage and roost.

- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #11: Avoid and minimize the use of artificial lighting, retain natural light conditions, and install wildlife friendly (i.e., downward facing, and lowest lumens possible). Avoid permanent night-time lighting to the greatest extent practicable..

Tricolored Bat (*Perimyotis subflavus*)

The tricolored bat was proposed for listing as endangered by the USFWS on September 14, 2023. This species is known to roost in live or dead leaf clusters of live or recently dead deciduous hardwood trees, culverts greater than 3 feet in diameter and 25 feet in length, and artificial structures, such as bridges. In the southern portions of its range, it will also roost in Spanish moss (*Tillandsia usneoides*). According to IPaC, the tricolored bat has the potential to occur in the project action area; however, it has not been documented within one mile of the project action area. The results of the acoustic survey for the FBB auto identified several calls for the tricolored bat (**Appendix K**). As a result, the potential for occurrence for the tricolored bat within the project

action area is high. These calls were not manually verified, and further analysis will need to be completed to confirm the recordings were tricolored bat calls.

Because potential tricolored bat roosting habitat will be impacted by the project, to minimize potential adverse impacts to the tricolored bat, FDOT commits to the following conservation measures:

- Upon listing of the tricolored bat, if the project contains suitable habitat and requires tree trimming and/or clearing, FDOT will not conduct tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) and when bats may be in torpor (when temperatures are below 45 degrees Fahrenheit).
- Upon listing of the tricolored bat, if the project contains suitable habitat and FDOT needs to trim or clear trees or perform work on bridges/culverts during the maternity season and/or when the temperature is below 45 degrees Fahrenheit, then FDOT will survey the project area for evidence of the tricolored bat. The *Indiana Bat and Northern Long-eared Bat Survey Guidelines, Appendix J Acoustic Survey Protocol* in the year-round range (mist netting is not being conducted in Florida at this time), will be used for areas with tree trimming/clearing. For bridges and culverts, the *Indiana Bat and Northern Long-eared Bat Survey Guidelines*, *Appendix K, Assessing Bridges and Culverts for Bats*, will be used.
    - If the surveys result in no tricolored bats detected, then FDOT can proceed with the project activities. Negative results from bridge/culvert surveys are valid for 2 years. Negative results for acoustic surveys are valid for 5 years. However, negative results for either survey may be invalidated if additional tricolored bat survey data is submitted to USFWS showing presence of the species within the vicinity of the project area. Additional survey work by FDOT, or application of the avoidance and minimization measures noted previously, may be required if updated detections are reported, and may result in reinitiation of consultation with USFWS.
    - If the surveys result in positive detections of the tricolored bat, FDOT will implement conservation measures such as: not conducting tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) when pups are not volant and not able to escape disturbance; similarly avoid tree trimming/clearing activities when the temperatures are below 45 degrees Fahrenheit when bats may be in torpor and unresponsive to disturbance.

Based on the implementation of the conservation measures and guidance from the *Indiana Bat and Northern Long-eared Bat Survey Guidelines*, the project is anticipated to have an effect determination of "**may affect, not likely to adversely affect**" for the tricolored bat.

Florida Panther (*Puma concolor coryi*)

The Florida panther is listed as endangered by the USFWS. This species requires extensive areas of a wide range and variety of habitat types including upland forests, prairies, wetlands, strands of saw palmetto, and swamps that offer natural communities that are generally inaccessible to humans for diurnal refuge. According to IPaC, the Florida panther has the potential to occur in the project action area and suitable habitat is present in improved and unimproved pasturelands, sugarcane fields, abandoned groves, dry prairie, upland shrub and brushland, and cabbage palm habitats

within the project action area. Although there were no observations of the Florida panther during field reviews, a road mortality for a Florida panther (UCFP456) was documented in 2024 within the project action area (**Figure 3-2**). As a result, the potential for occurrence for the Florida panther is high. While the project action area is not in the USFWS Florida Panther Focus Area or the Florida Panther Dispersal Zone, the project is within a Thatcher Dispersal Pathway, a designated area that provides suitable habitat for the Florida panther and is one of the most likely dispersal routes based on modeling (**Figure 3-2**). Based on this information, a Florida panther habitat impact assessment has been completed for this project.

The value of impacted Florida panther habitat was calculated using the *USFWS Panther Habitat Assessment Methodology* to determine the amount of Panther Habitat Units (PHUs) required to offset the proposed project's impacts. The FLUCFCS land uses within the Thatcher Dispersal Pathway, listed in **Table 3-3**, were converted to FNAI natural community types for use in the panther tool worksheet (**Appendix L**). Streams and waterways (roadside and agricultural ditches) were not classified as wetlands as these are manmade systems to facilitate treatment and roadway runoff and do not provide true natural habitat functional values. The Preferred Alternative results in 107.12 hectares of dispersal zone lands to be developed which equates to a total of 951 PHUs (**Appendix L**). As a result, Florida panther habitat impacts will be mitigated by providing 951 PHUs from Platt Branch Conservation Mitigation Bank. Additionally, to facilitate Florida panthers traversing north of SR 70, the addition of wildlife shelves at the bridge crossings over the SFWMD canals (Canal C-40 and C-41) are being included with the project. As result, FDOT commits to design and constructing wildlife shelves at the bridge crossings over the SFWMD canals (Canal C-40 and C-41), per current wildlife crossing guidelines.

The path followed through the *Florida Panther Effect Determination Key* is A > B> May affect (**Appendix H**). FDOT commits to providing 951 PHUs from Platt Branch Conservation Mitigation Bank prior to construction and the inclusion of wildlife shelves with the project. Based on this information, it was determined that the project "**may affect, likely to adversely affect**" the Florida panther.

Figure 3-2 Florida Panther Dispersal Pathway Map

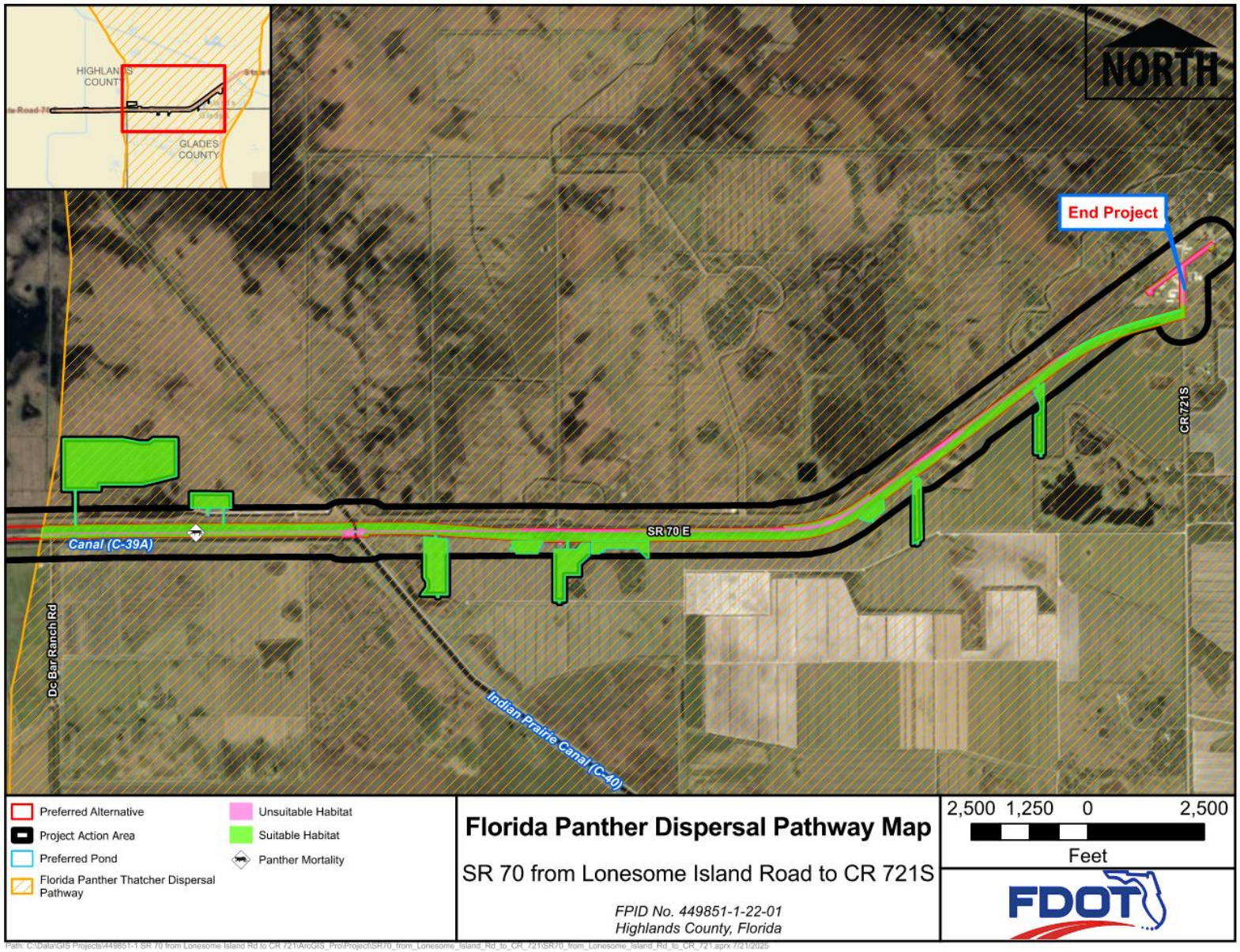


Table 3-3 Project Action Area within Thatcher Dispersal Pathway

FLCUFCS Code	Habitat Type	FNAI Natural Community	Total Acreage within Thatcher Dispersal Zone	Total Hectares within Thatcher Dispersal Zone
110	Low Density Residential	Urban	0.20	0.08
140	Commercial and Services	Urban	0.14	0.06
211	Improved Pastures	Improved Pasture	6.14	2.48
212	Unimproved Pastures	Unimproved Pasture	79.16	32.03
215	Sugar Cane	Cropland	87.01	35.21
427	Oak - Cabbage Palm Forest	Hardwood Forest	0.14	0.06
428	Cabbage Palm	Hardwood Forest	1.76	0.71
510	Streams and Waterways (within ROW)	Urban	0.01	< 0.01
510	Streams and Waterways (within pastures)	Unimproved Pasture	35.26	14.27
510	Streams and Waterways (within sugar cane)	Cropland	4.12	1.67
512	Channelized Waterways, Canals	Water	0.09	0.04
641	Freshwater Marshes	Marsh/Wet Prairie	7.15	2.89
643	Wet Prairie	Marsh/Wet Prairie	3.06	1.24
810	Roads and Highways	Urban	40.47	16.38
		Urban Total	**40.82**	**16.52**
		Improved Pastures Total	**6.14**	**2.48**
		Unimproved Pastures Total	**114.42**	**46.30**
		Cropland Total	**91.13**	**36.88**
		Hardwood Forest Total	**1.90**	**0.77**
		Water Total	**0.09**	**0.04**
		Marsh/Wet Prairie Total	**10.21**	**4.13**
		Total	**264.71**	**107.12**

3.3.2 Critical Habitat

The project action area was evaluated for the occurrence of critical habitat as defined by the ESA and *50 CFR Part 424*. The USFWS and NMFS are authorized as federal agencies to protect critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of listed species. Critical habitat is defined as the specific areas within the geographical area occupied by a species on which are found those physical or biological features essential to the conservation of the species and which defined may require special management considerations or protection.

The project is not located within designated critical habitat. Based on the nature of the project, and no anticipated critical habitat impacts, it was determined that construction of the project "**will not result in destruction or adverse modification of critical habitat"**.

3.3.3 State Species

3.3.3.1 Plants

A total of 13 state listed plants were identified as potentially occurring within the project action area. These species are primarily found in wetland habitats including wet prairies and freshwater marshes, except for the Florida goldenaster (*Chrysopsis floridana*) which is found in areas of disturbed, loose sands (**Table 3-1**). Of the 13 state listed plant species, nine are listed as endangered by the FDACS: Florida goldenaster , cutthroatgrass (*Coleataenia abscissa*), hammock rein orchid (*Habenaria distans*), Edison's ascyrum (*Hypericum edisonianum*), thick-leaved water-willow (*Justicia crassifolia*), small's flax (*Linum carteri smallii*), lowland loosestrife (*Lythrum flagellare*), toothed maiden fern (*Meniscium serratum*), and yellow fringeless orchid (*Platanthera integra*). The remaining four are listed as threatened by the FDACS: piedmont jointgrass (*Coelorachis tuberculosa*), Florida hartwrightia (*Hartwrightia floridana*), narrowleaf naiad (*Najas filifolia*), and redmargin zephyrlily (*Zephyranthes simpsonii*). While all of these species have some suitable habitat within the project action area, most habitats have been degraded for agricultural and transportation use and do not provide optimal conditions for these species. Furthermore, none of these species have been documented within one mile of the project action area and these species were not observed during field reviews. As a result, the potential for occurrence for these species within the project action area is low. It is not likely that any state protected plant species will be present within the project action area due to the agricultural and/or transportation surrounding land uses. Based on this information, it has been determined that the project will have **"no adverse effect anticipated"** on the Florida goldenaster, cutthroatgrass, hammock rein orchid, Florida hartwrightia, Edison's ascyrum, thick-leaved water-willow, small's flax, lowland loosestrife, toothed maiden fern, pediment jointgrass, narrowleaf naiad, yellow fringeless orchid, and redmargin zephyrlily.

3.3.3.2 Reptiles

Gopher Tortoise (*Gopherus polyphemus*)

The gopher tortoise is listed as threatened by the FWC. It is found in habitats with well-drained sandy soil such as longleaf pine sandhills, xeric oak hammocks, pine flatwoods, and coastal dunes. The gopher tortoise can also be found burrowing along roadsides, in old crop fields, and in pastures with suitable xeric soils. The gopher tortoise is known to occur in Highlands County and suitable habitat for the gopher tortoise is present in agricultural fields within the project action area; however, it has not been documented within one mile of the project action area and was not observed during the 15% species-specific surveys completed in 2024. As a result, the potential for occurrence for the gopher tortoise within the project action area is low. Furthermore, there are no xeric soils documented within the project action area; although, they are known to occur in less suitable soils when preferred habitat is unavailable. In accordance with the FWC-approved *Gopher Tortoise Permitting Guidelines*, 100% gopher tortoise surveys will be performed prior to

construction to confirm the presence or absence of gopher tortoises within the project action area. Based on this information, it was determined that the project will have "**no adverse effect anticipated**" on the gopher tortoise.

Florida Pine Snake (*Pituophis melanoleucus mugitus*)

The Florida pine snake is listed as threatened by the FWC. It is found in habitats with open canopies and dry sandy soils, especially former sandhill, old fields, pastures, sand pine scrub, and scrubby flatwoods. It is also known to coexist with pocket gophers and gopher tortoises and is considered a commensal species to the gopher tortoise. The Florida pine snake is known to occur in Highlands County and suitable habitat for the Florida pine snake is present in areas where gopher tortoise burrows may occur; however, it has not been documented within one mile of the project action area and was not observed during field reviews. As a result, the potential for occurrence for the Florida pine snake within the project action area is low. Based on this information, it was determined that that the project will have **"no adverse effect anticipated"** on the Florida pine snake.

3.3.3.3 Birds

Florida Sandhill Crane (*Antigone canadensis pratensis*)

The Florida sandhill crane is listed as threatened by the FWC. It is found in shallow freshwater areas, pasture, and open woodland habitats. Nests can be found on dry land or on floating mats of vegetation. The Florida sandhill crane is known to occur in Highlands County and suitable foraging and nesting habitat for the Florida sandhill crane is present within the project action area in areas of freshwater marshes and wet prairies; however, it has not been documented within one mile of the project action area and was not observed during field reviews; however this species is otherwise expected to occasionally occur in the project action area. No nests were observed during field reviews. As a result, the potential for occurrence for the Florida sandhill crane within the project action area is moderate. Although impacts to suitable habitat for the Florida sandhill crane are proposed, all wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Additionally, an implementation measure has been made; survey for Florida sandhill crane nests will be conducted during the design phase. If Florida sandhill crane nests are found and could be impacted by the project, FDOT will coordinate with FWC during to determine appropriate avoidance and mitigation measures to apply during construction. Based on this information, it was determined that the project will have "**no adverse effect anticipated**" on the Florida sandhill crane.

Florida Burrowing Owl (*Athene cunicularia floridana*)

The Florida burrowing owl is listed as threatened by the FWC. It is found in open areas with very little understory vegetation, including prairies, golf courses, airports, pastures, agriculture fields, and vacant lots. The Florida burrowing owl is known to occur in Highlands County and suitable habitat for the Florida burrowing owl exists within the dry prairies and pastures within the project action area; however, it has not been documented within one mile of the project action area and no owls or burrows were observed. As a result, the potential for occurrence for the Florida burrowing

owl within the project action area is low. Based on this information, it was determined that the project will have **"no adverse effect anticipated"** on the Florida burrowing owl.

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

The little blue heron, tricolored heron, and roseate spoonbill are listed as threatened by the FWC. While each species is distinct, wading birds are discussed collectively since they occupy similar habitats and have similar feeding patterns. These birds nest and forage among both fresh and saltwater habitats such as freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies, and bay swamps. The populations of these species have been primarily impacted by the destruction of wetlands for development and by the drainage of wetlands for flood control and agriculture. These birds are known to occur in Highlands County and suitable habitat for these birds is present in the project action area in freshwater marshes and wet prairies. There have been no documented occurrences within one mile of the project action area, and none were observed during field reviews; however, these species are otherwise expected to occasionally occur within the project action area. As a result, the potential for occurrence for the little blue heron, tricolored heron, and roseate spoonbill is moderate. The primary concern for impacts to these species is the loss of wetland foraging habitat. As part of implementing the proposed project, all wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Based on this information, it was determined that the project will have "**no adverse effect anticipated**" on the little blue heron, tricolored heron, and roseate spoonbill.

Southeastern American Kestrel (*Falco sparverius paulus*)

The southeastern American kestrel is listed as threatened by the FWC. It is found in open pine savannahs, sandhills, prairies, and pastures. The southeastern American kestrel is known to occur in Highlands County and suitable habitat for the southeastern American kestrel is present in the dry prairies and pastures within the project action area. An observation during the southeastern American kestrel non-nesting season (February 2024) was documented (**Appendix G**). As a result, the potential for occurrence for the southeastern American kestrel within the project action area is high. Although impacts to suitable habitat for the southeastern American kestrel may occur within the project area, significant modification of suitable foraging habitat, as defined by the *Southeastern American Kestrel Species Conservation Measures and Permitting Guidelines*, is not anticipated. Based on this information, it has been determined that the project will have "**no adverse effect anticipated**" on the southeastern American kestrel.

3.3.4 Other Species of Concern

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle was removed from the ESA by USFWS in 2007. However, it remains federally protected under the *Bald and Golden Eagle Protection Act* (BGEPA) in accordance with *16 U.S.C. 668* and the *Migratory Bird Treaty Act of 1918*. The bald eagle tends to utilize riparian habitats associated with coastal areas, lake shorelines, and riverbanks. Nests are generally located near water bodies that provide a dependable food source. Nests within Florida are closely monitored by

FWC, and the Audubon EagleWatch program maintains a website of known bald eagle nest locations and statuses. The bald eagle is known to occur in Highlands County; however, according to the Audubon EagleWatch database, no bald eagle nests are present within one mile of the project action area. However, two bald eagles were observed flying over the project action area (**Appendix G**). As a result, the potential for occurrence for the bald eagle within the project action area is high. During the project design and permitting phase, FDOT will review the project action area for active bald eagle nests. If an eagle nest is identified within 660 feet of the project action area, FDOT will coordinate with the USFWS to secure all necessary approvals prior to the start of construction.

Florida Black Bear (*Ursus americanus floridanus*)

The Florida black bear was removed from the *Florida Endangered and Threatened Species* list in 2012 by FWC. However, it remains managed under the FWC's *Florida Black Bear Management Plan.* The Florida black bear can be found statewide in a number of 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 saw palmetto (*Serenoa repens*) thickets, gallberry (*Ilex glabra*), fetterbush (*Lyonia* spp.), and sweet pepperbush (*Clethra alnifolia*). The project action area spans all four of the FWC-designated ranges for the Florida black bear: Frequent, Common, Occasional, and Rare Ranges (**Appendix G**). Additionally, the project action area contains available suitable habitat for the Florida black bear within the marshes and pastures, and several Florida black bear nuisance calls and road mortalities have been documented within one mile of the project action area (**Appendix G**). However, no Florida black bears or signs of utilization were observed during field reviews. As a result, the potential for occurrence for the Florida black bear within the project action area is high. Due to the project's location within the Frequent and Common Range for the Florida black bear, and the number of documented occurrences within the project action area, FDOT will remove garbage and food debris from the construction site daily to eliminate possible sources of food that could encourage and attract bears. Alternatively, garbage and food debris will be stored overnight in a sealed, manufacturer-labeled bear-resistant container or in a locked metal container. Human bear conflicts will be reported to the FWC Hotline at 1-888-404-3922. Additionally, FDOT commits to design and constructing wildlife shelves at the bridge crossings over the SFWMD canals (Canal C-40 and C-41), per current wildlife crossing guidelines.

3.4 Wildlife Crossings

Due to the recent Florida panther road mortality and multiple Florida black bear road mortalities that are documented in the project action area, wildlife crossings are being assessed for potential inclusion in the project design. There are two existing bridges within the project limits that are being evaluated for potential wildlife crossings: Bridge Number 090920 (Harney Pond Canal C-41 Bridge) and Bridge Number 090009 (Indian Prairie Canal C-40 Bridge). These bridges do not currently include wildlife shelves or significant crossings for wildlife. Multiple options for wildlife crossings were considered including bridges with wildlife shelves (**Figure 3-3**) and box culverts separate from hydraulic culverts (**Figure 3-4**). Wildlife shelves were chosen as the wildlife crossing to be placed at the bridge crossings over the SFWMD canals (Canal C-40 and C-41). As

a result, FDOT commits to design and constructing wildlife shelves at the bridge crossings over the SFWMD canals (Canal C-40 and C-41), per current wildlife crossing guidelines.

Figure 3-3 Bridge with Wildlife Shelves

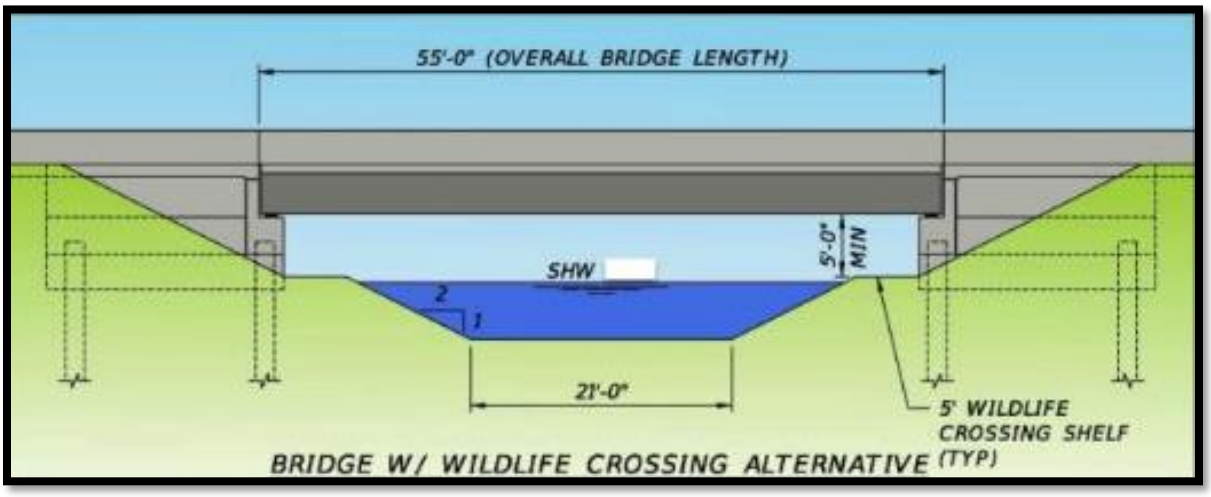
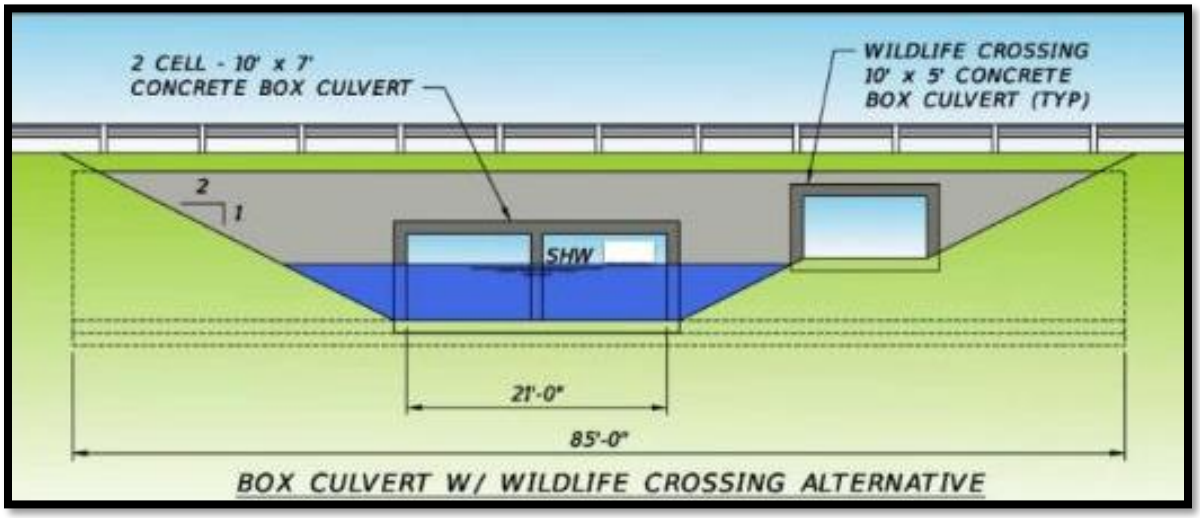


Figure 3-4 Wildlife Box Culvert Separate from Hydraulic Culverts



Section 4.0 Wetlands Evaluation

In accordance with *Executive Order (EO) 11990*, FDOT has undertaken 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. FDOT has determined that there will be construction impacts occurring in wetlands for the project. Unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function. Additionally, impacted other surface waters, including roadside ditches and canals, will be replaced in-kind or expanded and improved. Therefore, it is determined that the project will have no significant short- or long-term adverse impacts to wetlands and other surface waters.

4.1 Methodology

Biologists familiar with Florida natural communities conducted on-site field reviews of the project action area and adjacent habitats in February and May of 2024. During field reviews, biologists delineated the approximate boundaries of existing wetlands and other surface waters within the project action area. Approximate wetland boundaries were identified in accordance with the *Florida Wetlands Delineation Manual*, the *1987 U.S. Army Corps of Engineers (USACE) Corps of Engineers Wetland Delineation Manual*, the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region*, and Wetlands and Other Surface Waters chapter of the *FDOT PD&E Manual*.

Anticipated impacts to wetlands and other surface waters due to the preferred alternative and preferred pond sites within the project action area were assessed by comparing the extent of wetlands and other surface waters within the project action area. **Appendix M** provides an aerial map of wetland and other surface water locations and proposed impacts.

4.2 Impacts

4.2.1 Direct Impacts

Construction of the proposed project will result in a total of 82.41 acres of direct impacts to wetlands and other surface waters (10.21 acres of wetlands and 72.20 acres of other surface waters). **Appendix M** provides a table with the proposed impacts for each individual wetland and other surface water and **Table 4-1** shows the proposed impacts by FLUCFCS type.

Table 4-1 Estimated Wetland and Other Surface Water Impacts

FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage within Project Action Area	Direct Impacts (acres)	Secondary Impacts (acres)
510	Streams and Waterways	PEM1E / R5UBFx	123.41	70.77	N/A
512	Channelized Waterways, Canals	R2UBHx	60.01	1.42	N/A
Total Other Surface Waters			**183.42**	**72.20**	**N/A**

FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage within Project Action Area	Direct Impacts (acres)	Secondary Impacts (acres)
641	Freshwater Marshes	PEM1E / PEM1Cd / PEM1Fd	68.85	7.15	2.50
643	Wet Prairie	PEM1E / PEM1Fd	8.32	3.06	0.80
Total Wetlands			**77.17**	**10.21**	**3.30**
Total Wetlands and Other Surface Waters			**260.59**	**82.41**	**3.30**

PEM1Cd: Palustrine, Emergent, Persistent, Seasonally Flooded/Partially Drained/Ditched
PEM1E: Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated
PEM1Fd: Palustrine, Emergent, Persistent, Semi-permanently Flooded, Partially Drained/Ditched
R2UBHx: Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated
R5UBFx: Riverine, Unknown Perennial, Unconsolidated Bottom, Semi-permanently Flooded, Excavated

All wetlands within the project action area are freshwater herbaceous wetland systems. Other surface waters within the project action area include streams and waterways (roadside ditches) and canals. The NRCS Conservation Easements within the project action area will not be impacted. This is due to the preferred alternative not requiring ROW or direct impacts within the boundaries of any NRCS Conservation Easements (**Appendix M**).

4.2.2 Secondary Impacts

When a portion of wetland is directly impacted by construction, the SFWMD requires an analysis of secondary impacts to the remaining portion of the wetland to assess reduced functions. Specifically, if a 25-foot upland buffer between wetland impacts and additional wetland areas is not feasible, SFWMD guidance requires a secondary impact assessment of remaining wetland areas beyond the permanent impact.

Wetlands within the project action area fall entirely or partially within the project action area. Since wetlands extend outside the proposed limits of construction, secondary wetland impacts (e.g., edge effects, fragmentation of wetlands) are anticipated to occur. Construction of the proposed project will result in 3.30 acres of secondary impacts to wetlands (**Appendix M** and **Table 4-2**). Secondary impacts to adjacent wetlands will be avoided through the use of BMPs including turbidity barriers, silt fence, and other techniques identified during design and permitting by regulatory agencies and implemented during construction.

4.3 Mitigation

The Uniform Mitigation Assessment Method (UMAM) was used to estimate functional loss of wetlands incurred by impacts as a result of the project. Functional loss is defined as the removal of ecosystem services such as wildlife habitat and flood attenuation that the impacted areas currently provide. To calculate functional loss, the difference between the existing condition function scores and the proposed condition function scores for each wetland was multiplied by the proposed project's impact acreage. **Table 4-2** shows the functional loss for each individual wetland

and the associated direct and secondary impacts. **Table 4-3** shows the functional loss value by FLUCFCS habitat type.

A total of 13.51 acres of freshwater herbaceous wetlands (10.21 acres of direct impacts, 3.30 acres of secondary impacts) are anticipated to be impacted by the proposed project, resulting in the loss of approximately 7.06 functional units (6.73 functional units for direct impacts, 0.33 functional units for secondary impacts). The completed UMAM data sheets for each wetland habitat type within the project action area are provided in **Appendix N**.

In 2008, the USACE and the U.S. Environmental Protection Agency (EPA) issued regulations governing compensatory mitigation for activities authorized by the Department of the Army (*Federal Register 2008*). These regulations, as promulgated in *33 CFR Part 332*, establish a hierarchy for determining the type and location of compensatory mitigation. Wetland impacts which will result from the construction of this project will be mitigated pursuant to *Section 373.4137, F.S.*, to satisfy all mitigation requirements of Part IV of *Chapter 373, F.S.*, and *33 U.S.C 1344*.

Compensatory mitigation for impacts to wetlands will be completed during the design and permitting phase. There is one wetland mitigation bank with a service area covering the project: Lake Istokpoga Mitigation Bank. The project will require 7.06 freshwater herbaceous credits for mitigation. According to the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS), there are currently no available wetland mitigation credits at Lake Istokpoga Mitigation Bank.

Although Lake Istokpoga Mitigation Bank does not currently have sufficient freshwater herbaceous credits available for sale, the Lake Istokpoga Mitigation Bank has been permitted by the SFWMD (SFWMD Permit #28-107464-P) and USACE (USACE Permit #SAJ-2019-04543) to provide state and federal wetland forested and herbaceous UMAM credits. The mitigation bank is permitted for a total of 14.90 state and 16.55 federal potential herbaceous credits. Therefore, the Lake Istokpoga Mitigation Bank is anticipated to have sufficient state and federal credits to provide compensatory mitigation for the 7.06 freshwater herbaceous UMAM credits required for the project during the permitting phase.

Table 4-2 Individual Wetland UMAM Functional Loss

WL ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Direct Impacts (acres)	Direct Impact UMAM Delta	Direct Impact Functional Loss	Secondary Impacts (acres)	Secondary Impact UMAM Delta	Secondary Impact Functional Loss
WL 1	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 3	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 4	641	Freshwater Marshes	PEM1E	0.02	0.67	0.02	0.10	0.10	0.01
WL 5	641	Freshwater Marshes	PEM1E	0.46	0.67	0.31	0.00	0.10	0.00
WL 5a	641	Freshwater Marshes	PEM1E	0.48	0.67	0.32	0.00	0.10	0.00
WL 6	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 7	641	Freshwater Marshes	PEM1E	0.01	0.67	0.00	0.05	0.10	0.00
WL 8	641	Freshwater Marshes	PEM1E	0.58	0.67	0.39	0.27	0.10	0.03
WL 10	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.02	0.10	0.00
WL 11	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 12	643	Wet Prairie	PEM1E	0.84	0.63	0.53	0.24	0.10	0.02
WL 13	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 14	641	Freshwater Marshes	PEM1E	1.97	0.67	1.32	0.50	0.10	0.05
WL 15	641	Freshwater Marshes	PEM1E	0.90	0.67	0.61	0.24	0.10	0.02
WL 16	641	Freshwater Marshes	PEM1E	1.10	0.67	0.73	0.30	0.10	0.03
WL 17	641	Freshwater Marshes	PEM1E	0.46	0.67	0.31	0.17	0.10	0.02
WL 18	643	Wet Prairie	PEM1E	0.00	0.63	0.00	0.03	0.10	0.00
WL 19	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 20	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 21	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 22	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.27	0.10	0.03
WL 22a	643	Wet Prairie	PEM1E	0.00	0.63	0.00	0.00	0.10	0.00
WL 23	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 23a	643	Wet Prairie	PEM1E	0.00	0.63	0.00	0.00	0.10	0.00
WL 24	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.15	0.10	0.01
WL 27	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 29	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 30	641	Freshwater Marshes	PEM1Cd	0.20	0.67	0.14	0.19	0.10	0.02
WL 31	641	Freshwater Marshes	PEM1Fd	0.00	0.67	0.00	0.00	0.10	0.00
WL 32a	643	Wet Prairie	PEM1Fd	1.61	0.63	1.01	0.39	0.10	0.04
WL 32b	641	Freshwater Marshes	PEM1Fd	0.97	0.67	0.65	0.25	0.10	0.02
WL 32c	643	Wet Prairie	PEM1Fd	0.62	0.63	0.39	0.15	0.10	0.01
WL 33	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 34	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
WL 35	643	Wet Prairie	PEM1E	0.00	0.63	0.00	0.00	0.10	0.00
WL 36	641	Freshwater Marshes	PEM1E	0.00	0.67	0.00	0.00	0.10	0.00
Total Wetlands and Other Surface Waters				**10.21**	**N/A**	**6.73**	**3.30**	**N/A**	**0.33**

PEM1Cd: Palustrine, Emergent, Persistent, Seasonally Flooded/Partially Drained/Ditched
PEM1E: Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated
PEM1Fd: Palustrine, Emergent, Persistent, Semi-permanently Flooded, Partially Drained/Ditched

Table 4-3 UMAM Functional Loss by FLUCFCS Habitat Type

FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Direct Impacts (acres)	Direct Impact UMAM Delta	Direct Impact Functional Loss*	Secondary Impacts (acres)	Secondary Impact UMAM Delta*	Secondary Impact Functional Loss
641	Freshwater Marshes	PEM1E / PEM1Cd / PEM1Fd	7.15	0.67	4.80	2.50	0.10	0.25
643	Wet Prairie	PEM1E / PEM1Fd	3.06	0.63	1.93	0.80	0.10	0.08
		Total	**10.21**	**N/A**	**6.73**	**3.30**	**N/A**	**0.33**

*Note: Combined wetland impacts by habitat type were rounded up to determine overall functional loss

PEM1Cd: Palustrine, Emergent, Persistent, Seasonally Flooded/Partially Drained/Ditched

PEM1E: Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated

PEM1Fd: Palustrine, Emergent, Persistent, Semi-permanently Flooded, Partially Drained/Ditched

Section 5.0 Essential Fish Habitat

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

The project was assessed for EFH within the project action area in accordance with Essential Fish Habitat chapter of the *FDOT PD&E Manual*. The National Oceanic and Atmospheric Administration (NOAA) *EFH Mapper* and *Inland EFH Mapper* were used to identify protected fisheries and species within the Gulf of Mexico Fishery Management Council (GMFMC) area of jurisdiction. There are no estuarine or marine waters in the project action area that provide EFH. No fisheries or designated EFH for federally managed species has potential for occurrence within the project action area during any stage of their life cycle.

The project will have no involvement with EFH.

Section 6.0 Anticipated Permits

Both the USACE and the SFWMD regulate impacts to wetlands within the project action area. Other agencies, including the USFWS, NMFS, EPA, and FWC, review and comment on wetland permit applications. The FWC also issues a permit for Florida gopher tortoise relocation permits when applicable. In addition, the Florida Department of Environmental Protection (FDEP) governs stormwater pollutant discharge into waters of the U.S. The complexity of the permitting process will depend on the degree of impact to jurisdictional areas. **Table 6-1** lists the anticipated required permits and issuing agencies.

Table 6-1 Anticipated Required Permits

Anticipated Permits	Issuing Agency
Section 404 (Dredge and Fill) Permit	USACE
Section 408 Authorization	USACE
Individual Environmental Resource Permit	SFWMD
Right-of-Way Occupancy Permit	SFWMD
Gopher Tortoise Relocation Permit (as necessary)	FWC
National Pollutant Discharge Elimination System (NPDES) Stormwater Program	FDEP

Federal Permits

Section 404 (Dredge and Fill) Permit & Section 408 Authorization

It is anticipated that a Standard Permit will be required from the USACE. A Standard 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 creations, restoration, and/or enhancement. The USACE will also review the proposed project pursuant to the *Section 408* assessment process to determine the potential impacts to a USACE Civil Works project associated with the Central and Southern Florida Flood Control Project and the project's anticipated SFWMD right-of-way occupancy permit. In addition, coordination with the USFWS will be necessary for potential effects to federal listed protected species.

State Permits

Environmental Resource Permit

The SFWMD requires an Environmental Resource Permit (ERP) when construction of any project results in the creation of a new or modification an existing surface water management system, or results in impacts to waters of the state. As with USACE permits, the complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts. Under current state rules, the SFWMD will require an Individual ERP for the proposed project.

Right-of-Way Occupancy Permit

SFWMD canals within the project action area are on SFWMD right-of-way and used to control, manage, and maintain flood control for public purposes. Any work associated with the proposed project that will be performed within the limits of the SFWMD right-of-way will require a Right-of-Way Occupancy Permit from SFWMD during the design phase. The SFWMD Right-of-Way Occupancy Permit will also require review of the proposed project pursuant to the *Section 408* assessment process to determine the potential impacts to a USACE Civil Works project.

Gopher Tortoise Relocation Permit

According to the *FWC Gopher Tortoise Permitting Guidelines*, there are four available options to address the presence of gopher tortoises on lands slated for development: (1) avoid development; (2) avoid destruction of tortoise burrows; (3) relocate tortoises on-site (permit required); and (4) relocate tortoises off-site (permit required).

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

National Pollutant Discharge Elimination System (NPDES) Stormwater Program Permit

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

Section 7.0 Conclusions

7.1 Protected Species and Habitat

The project action area was evaluated for the presence of federal and state protected species and their habitat. **Tables 7-1** and **7-2** summarize the impact determinations that have been made for each federal and state protected species based upon their probability ranking and the implementation measures and/or commitments made to offset any potential impacts to each species.

Table 7-1 Federal Listed Species Effect Determinations

Project Effect Determinations	Federal Listed Species
"No effect"	Pygmy fringe-tree (*Chionanthus pygmaeus*)
	Pigeon wings (*Clitoria fragrans*)
	Short-leaved rosemary (*Conradina brevifolia*)
	Avon Park harebells (*Crotalaria avonensis*)
	Garrett's mint (*Dicerandra christmanii*)
	Scrub mint (*Dicerandra frutescens*)
	Snakeroot (*Eryngium cuneifolium*)
	Highlands scrub hypericum (*Hypericum cumulicola*)
	Scrub blazingstar (*Liatris ohlingerae*)
	Papery whitlow-wort (*Paronychia chartacea*)
	Lewton's polygala (*Polygala lewtonii*)
	Wireweed (*Polygonella basiramia*)
	Sandlace (*Polygonella myriophylla*)
	Carter's mustard (*Warea carteri*)
	Florida ziziphus (*Ziziphus celata*)
	Florida perforate cladonia (*Cladonia perforata*)
	Blue-tailed mole skink (*Plestiodon egregius lividus*)
	Sand skink (*Plestiodon reynoldsi*)
	Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
	Florida scrub-jay (*Aphelocoma coerulescens*)
"May affect, not likely to adversely affect"	Florida bonneted bat (*Eumops floridanus*)
	Wood stork (*Mycteria americana*)
	Tricolored bat (*Perimyotis subflavus*)
	Everglade snail kite (*Rostrhamus sociabilis plumbeus*)
"May affect, likely to adversely affect"	Audubon's crested caracara (*Caracara plancus audubonii*)
	Eastern indigo snake (*Drymarchon couperi*)
	Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)
	Florida panther (*Puma concolor coryi*)

Table 7-2 State Listed Species Effect Determinations

Project Effect Determinations	State Listed Species
"No adverse effect anticipated"	Florida goldenaster (*Chrysopsis floridana*)
	Piedmont jointgrass (*Coelorachis tuberculosa*)
	Cutthroatgrass (*Coleataenia abscissa*)
	Hammock rein orchid (*Habenaria distans*)
	Florida hartwrightia (*Hartwrightia floridana*)
	Edison's ascyrum (*Hypericum edisonianum*)
	Thick-leaved water-willow (*Justicia crassifolia*)
	Small's flax (*Linum carteri smallii*)
	Lowland loosestrife (*Lythrum flagellare*)
	Toothed maiden fern (*Meniscium serratum*)
	Narrowleaf naiad (*Najas filifolia*)
	Yellow fringeless orchid (*Platanthera integra*)
	Redmargin zephyrlily (*Zephyranthes simpsonii*)
	Gopher tortoise (*Gopherus polyphemus*)
	Florida pine snake (*Pituophis melanoleucus mugitus*)
	Florida sandhill crane (*Antigone canadensis pratensis*)
	Florida burrowing owl (*Athene cunicularia floridana*)
	Little blue heron (*Egretta caerulea*)
	Tricolored heron (*Egretta tricolor*)
	Southeastern American kestrel (*Falco sparverius paulus*)
	Roseate spoonbill (*Platalea ajaja*)

The project action area is not located within designated critical habitat. Based on the nature of the project, and no anticipated critical habitat impacts, it was determined that construction of the project "**will not result in destruction or adverse modification of critical habitat"**.

7.2 Wetlands, Surface Waters, and Other Surface Waters

The project was evaluated for impacts to wetlands. It has been determined that there is no practicable alternative to construction impacts occurring in wetlands. Any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetland function. Based on the type and location of proposed impacts and mitigation measures, the proposed project will have no significant short-term or long-term adverse impacts to wetlands.

A total of 13.51 acres of herbaceous wetland impacts (10.21 acres direct impact and 3.30 acres secondary impact) and 72.20 acres of other surface water impacts are anticipated as a result of the project, with an anticipated loss of 7.06 functional units (6.73 functional units for direct impacts, 0.33 functional units for secondary impacts) to wetlands. A final determination of impact acreages will occur during the design and permitting phases. All wetland impacts 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 is anticipated to be completed through the purchase of 7.06 freshwater herbaceous wetland credits from the Lake Istokpoga Mitigation Bank pending available credits.

7.3 Implementation Measures

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

- Water quality impacts to wetlands from construction will be avoided and minimized through the use of BMPs including, but not limited to, construction phasing, sediment and turbidity barriers, silt fences, and other techniques identified during design and permitting by the regulatory agencies and implemented during construction by the selected contractor.
- 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 FWC.
- Survey for Florida sandhill crane nests will be conducted during the design phase. If Florida sandhill crane nests are found and could be impacted by the project, FDOT will coordinate with FWC during to determine appropriate avoidance and mitigation measures to apply during construction.
- During the project design and permitting phase, FDOT will review the project action area for active bald eagle nests. If an active nest is identified within 660 feet of the proposed area, FDOT will coordinate with the USFWS to secure all necessary approvals prior to the start of construction.

7.4 Commitments

To minimize project impacts on wetlands, other surface waters, and protected species and their habitats to the greatest extent practicable, the following commitments will be adhered to:

- 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 (*Ursus americanus floridanus*). Any interaction with nuisance bears will be reported to the FWC Wildlife Alert hotline 888-404-FWCC (3922).
- If the monarch butterfly is listed by USFWS as Threatened or Endangered, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.
- The most recent version of the USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be implemented during construction.
- FDOT will provide a financial contribution to the Crested Caracara Conservation Fund for impacts to the primary and secondary zones for the nests adjacent to the project action area.
- A survey will be conducted for Audubon's crested caracara per USFWS protocol during the design phase.

- FDOT will provide mitigation for impacts to wood stork Suitable Foraging Habitat within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank.
- FDOT will mitigate habitat impacts to the Florida panther by providing 951 PHUs from the Platt Branch Conservation Mitigation Bank.
- FDOT commits to design and constructing wildlife shelves at the bridge crossings over the SFWMD canals (Canal C-40 and C-41), per current wildlife crossing guidelines.
- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #1: If potential roost trees or structures need to be removed, check cavities for bats within 30 days prior to removal of trees, snags, or structures. When possible, remove structure outside of breeding season (e.g., January 1 – April 15). If evidence of use by any bat species is observed, discontinue removal efforts in that area and coordinate with the USFWS on how to proceed.
- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #5: Conserve open freshwater and wetland habitats to promote foraging opportunities and avoid impacting water quality. Created/restored habitat should be designed to replace the function of native habitat.
- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #7: Avoid or limit widespread application of insecticides (e.g., mosquito control, agricultural pest control) in areas where Florida bonneted bats are known or expected to forage and roost.
- In accordance with the Florida Bonneted Bat Consultation Key, FDOT will implement Best Management Practice #11: Avoid and minimize the use of artificial lighting, retain natural light conditions, and install wildlife friendly (i.e., downward facing, and lowest lumens possible). Avoid permanent night-time lighting to the greatest extent practicable.
- Upon listing of the tricolored bat, if the project contains suitable habitat and requires tree trimming and/or clearing, FDOT will not conduct tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) and when bats may be in torpor (when temperatures are below 45 degrees Fahrenheit).
- Upon listing of the tricolored bat, if the project contains suitable habitat and FDOT needs to trim or clear trees or perform work on bridges/culverts during the maternity season and/or when the temperature is below 45 degrees Fahrenheit, then FDOT will survey the project area for evidence of the tricolored bat. The *Indiana Bat and Northern Long-eared Bat Survey Guidance, Appendix J Acoustic Survey Protocol* in the year-round range (mist netting is not being conducted in Florida at this time), will be used for areas with tree trimming/clearing. For bridges and culverts, the *Indiana Bat and Northern Long-eared Bat Survey Guidance*, *Appendix K, Assessing Bridges and Culverts for Bats*, will be used.
    - If the surveys result in no tricolored bats detected, then FDOT can proceed with the project activities. Negative results from bridge/culvert surveys are valid for 2 years. Negative results for acoustic surveys are valid for 5 years. However, negative results for either survey may be invalidated if additional tricolored bat survey data is submitted to USFWS showing presence of the species within the vicinity of the

project area. Additional survey work by FDOT, or application of the avoidance and minimization measures noted previously, may be required if updated detections are reported, and may result in reinitiation of consultation with USFWS.

- If the surveys result in positive detections of the tricolored bat, FDOT will implement conservation measures such as: not conducting tree trimming/clearing activities during the tricolored bat pup season (May 1st to July 15th) when pups are not volant and not able to escape disturbance; similarly avoid tree trimming/clearing activities when the temperatures are below 45 degrees Fahrenheit when bats may be in torpor and unresponsive to disturbance.

7.5 Agency Coordination/Consultation

The NRE report will be provided to USFWS, NMFS, and FWC for review and concurrence with the proposed effect determinations for listed species and potential impacts to wetland resources. The NRE report will also be sent to other ETAT agencies such as EPA, USACE, FDEP, FDACS, and SFWMD for review and comment. As a result of the project's effect determinations for federal listed species, FDOT will complete formal Section 7 consultation with USFWS.

Agency coordination will continue throughout the design phase of the project during and environmental permitting. State and federal permit applications will be reviewed by the regulatory agencies for potential impacts to environmental resources and to finalize mitigation to meet environmental permit requirements.

Section 8.0 References

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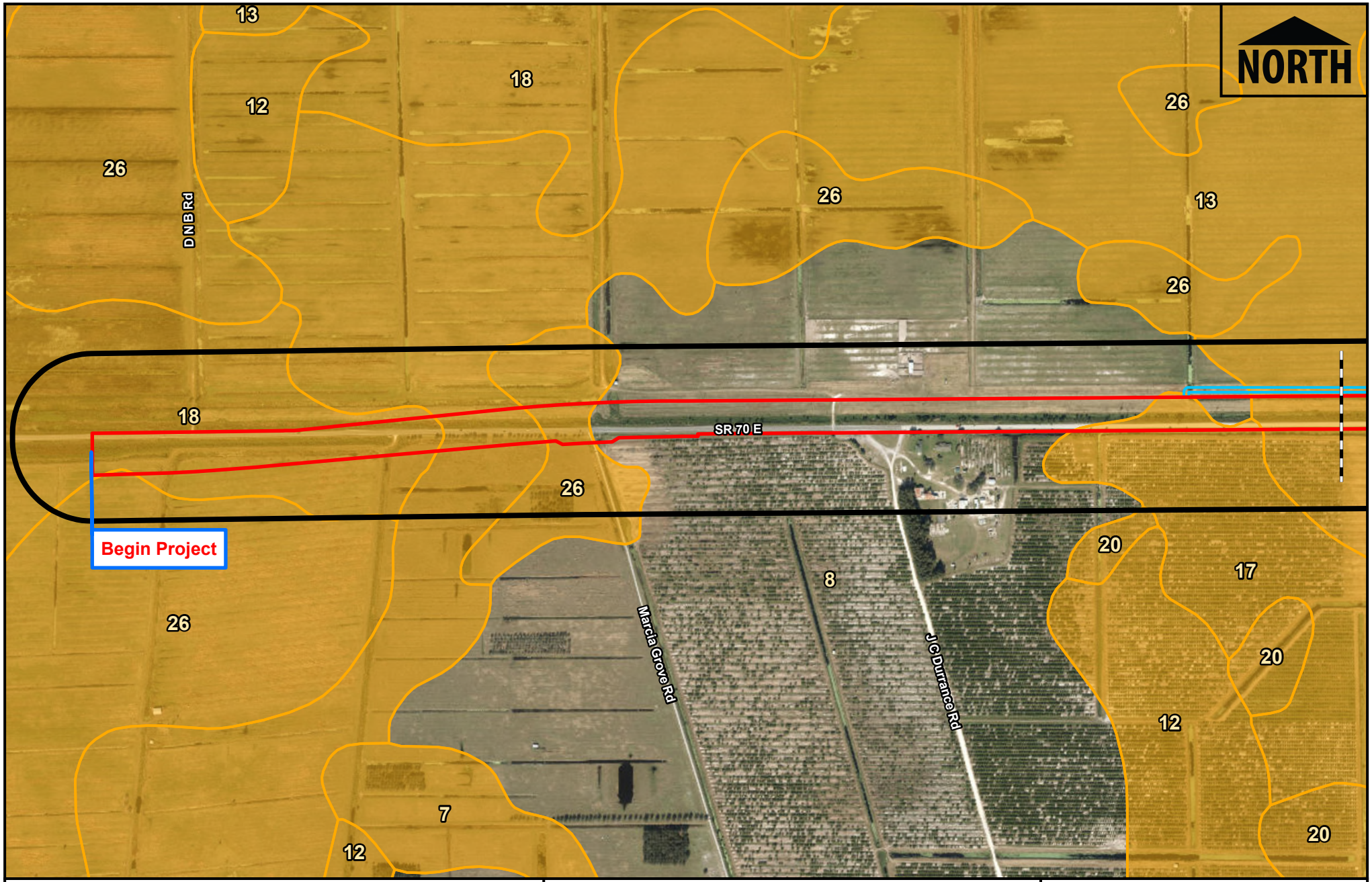
APPENDIX A

NRCS Soils Map



Preferred Alternative
Project Action Area
Preferred Pond
Hydric Soils

7: PLACID FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

8: IMMOKALEE SAND, 0 TO 2 PERCENT SLOPES

12: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES

13: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES

17: MALABAR FINE SAND, 0 TO 2 PERCENT SLOPES

18: KALIGA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

19: HICORIA MUCKY SAND, DEPRESSIONAL

20: SAMSULA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

26: TEQUESTA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

* = Soil Map Unit for Glades County

NRCS Soils Map

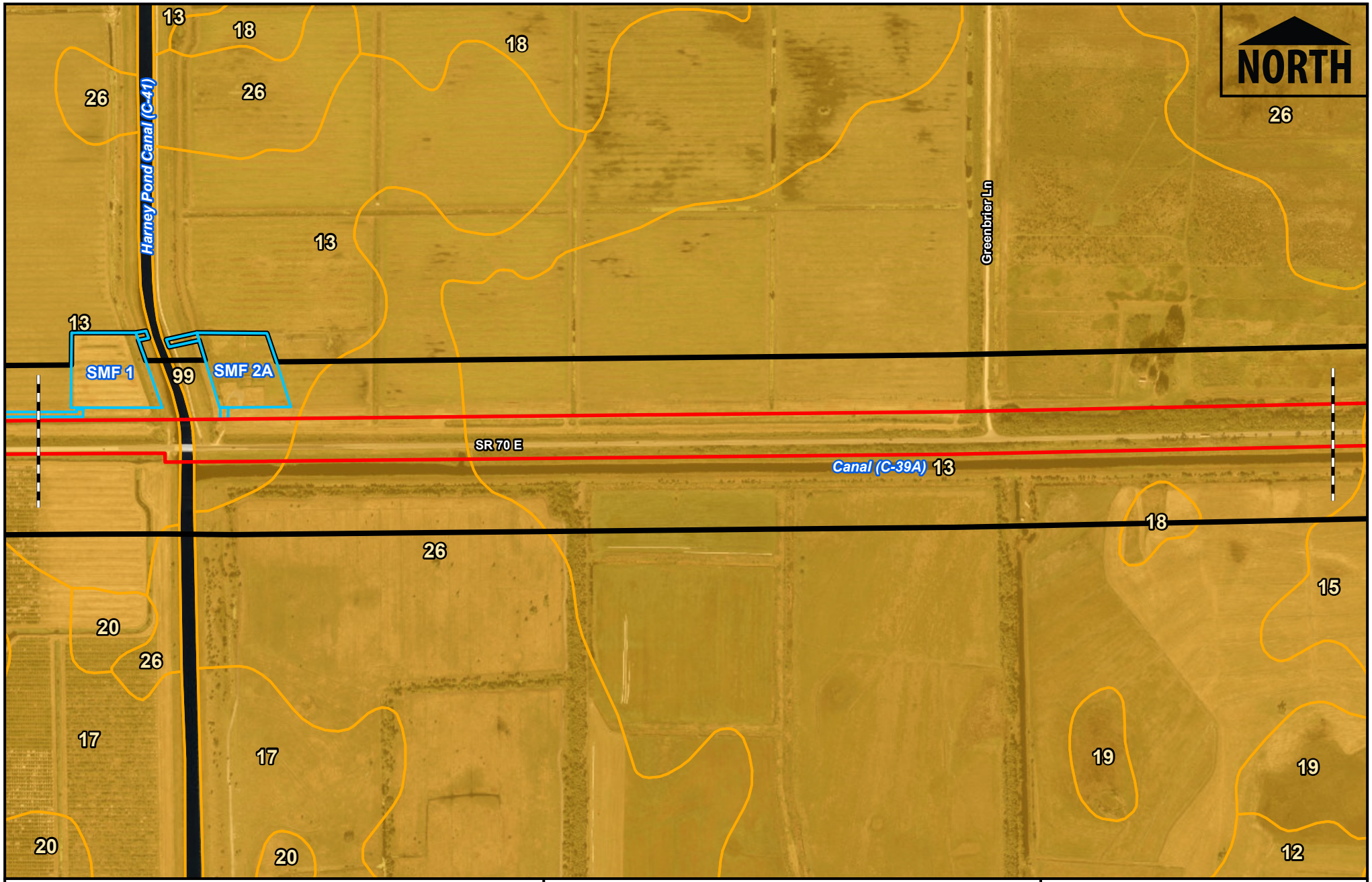
SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800

Feet

FDOT



- Preferred Alternative
- Project Action Area
- Preferred Pond
- Hydric Soils

12: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES

13: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES

15: BRADENTON FINE SAND, 0 TO 2 PERCENT SLOPES

17: MALABAR FINE SAND, 0 TO 2 PERCENT SLOPES

18: KALIGA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

19: HICORIA MUCKY SAND, DEPRESSIONAL

20: SAMSULA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

26: TEQUESTA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

99: WATER

* = Soil Map Unit for Glades County

NRCS Soils Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800

Feet

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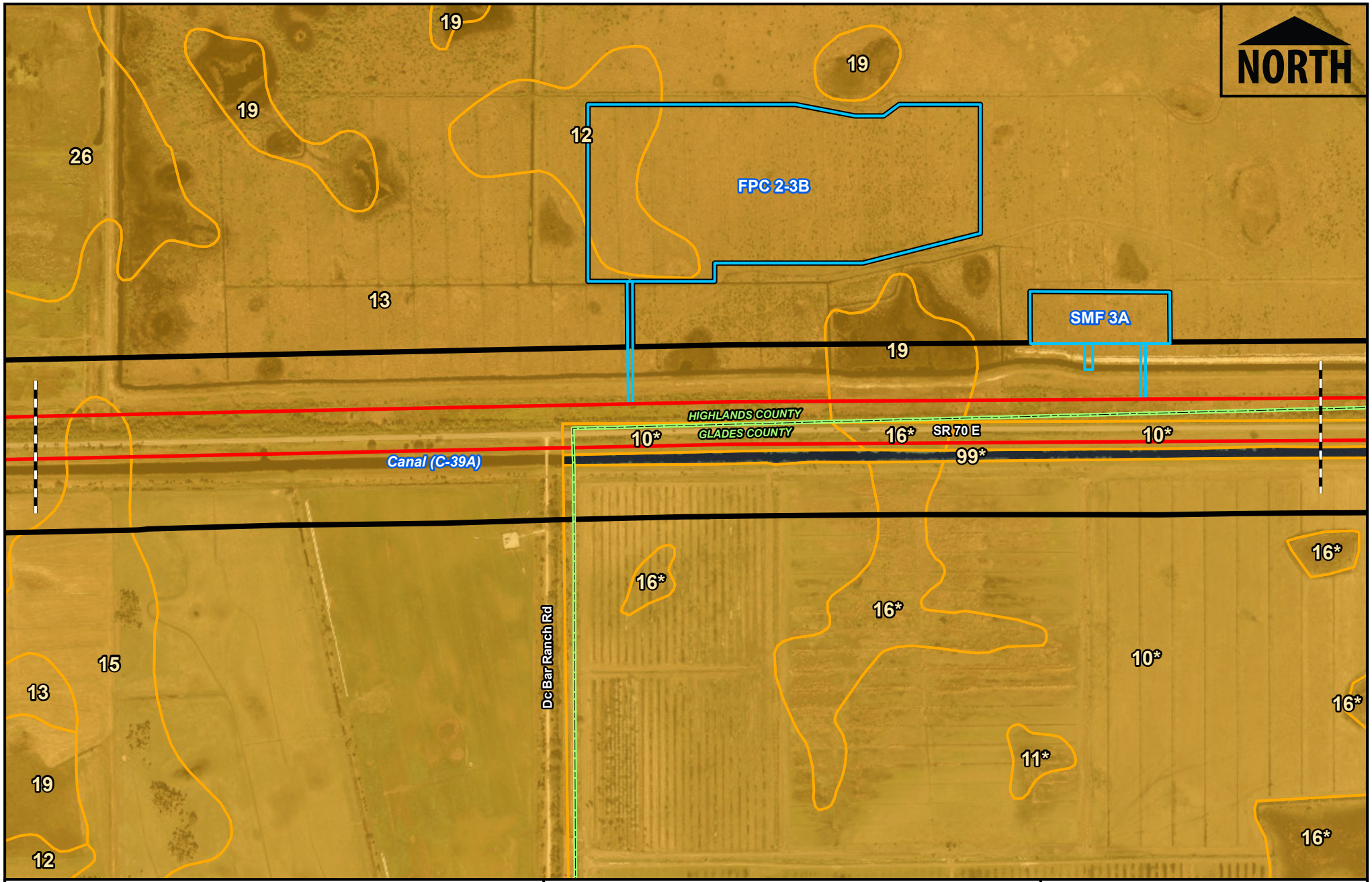

Preferred Alternative
Project Action Area
Preferred Pond
Hydric Soils

10*: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES
11*: TEQUESTA MUCK, DRAINED
12: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES
13: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES
15: BRADENTON FINE SAND, 0 TO 2 PERCENT SLOPES
16*: FLORIDANA FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
19: HICORIA MUCKY SAND, DEPRESSIONAL
26: TEQUESTA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
99*: WATER

* = Soil Map Unit for Glades County

NRCS Soils Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

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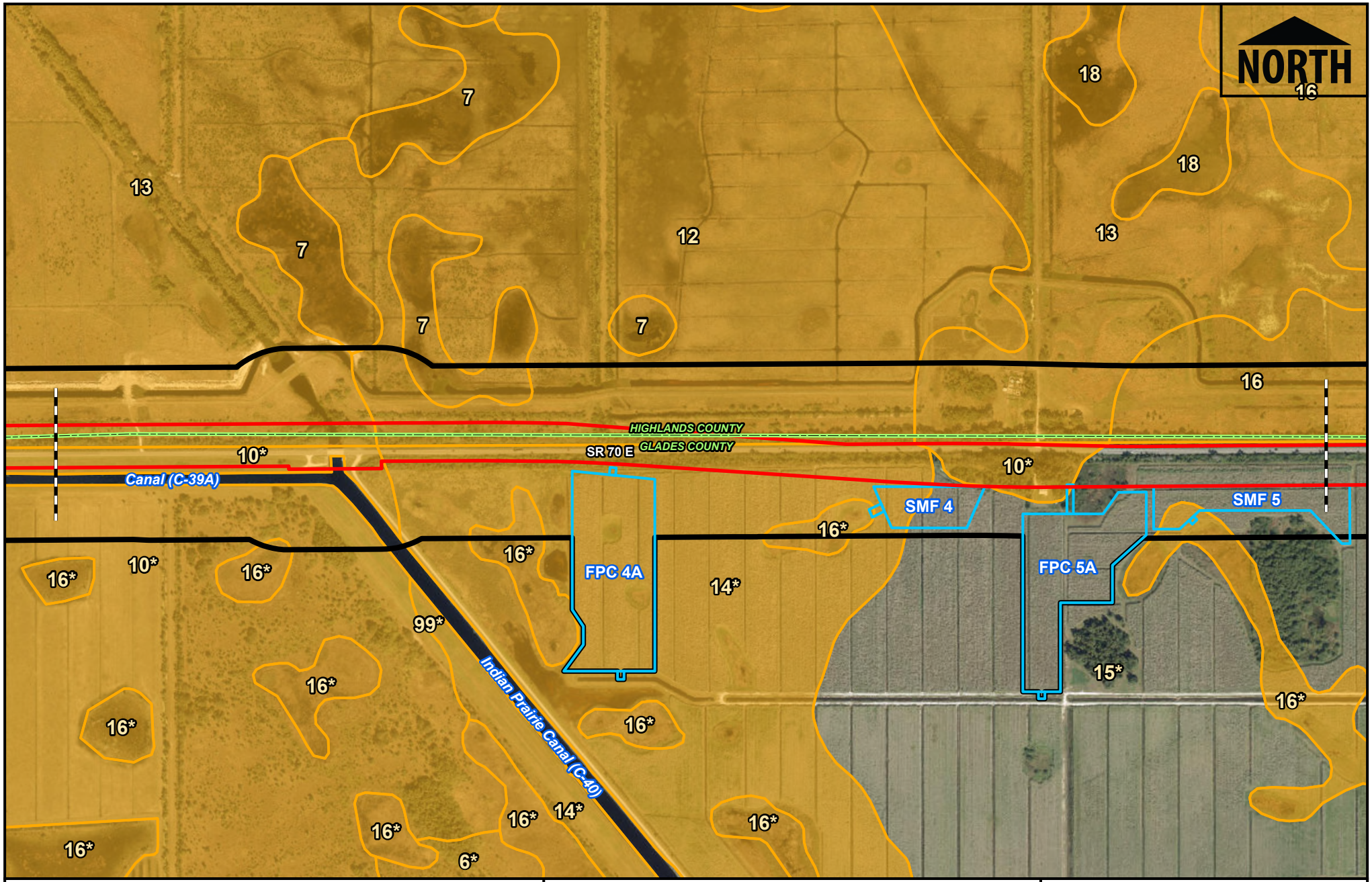


- Preferred Alternative
- Project Action Area
- Preferred Pond
- Hydric Soils

6*: MALABAR FINE SAND, 0 TO 2 PERCENT SLOPES

7: PLACID FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

10*: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES

12: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES

13: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES

14*: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES

15*: PINEDA-PINEDA, WET, FINE SAND, 0 TO 2 PERCENT SLOPES

16: VALKARIA FINE SAND, 0 TO 2 PERCENT SLOPES

16*: FLORIDANA FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

18: KALIGA MUCK, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

99*: WATER

* = Soil Map Unit for Glades County

NRCS Soils Map

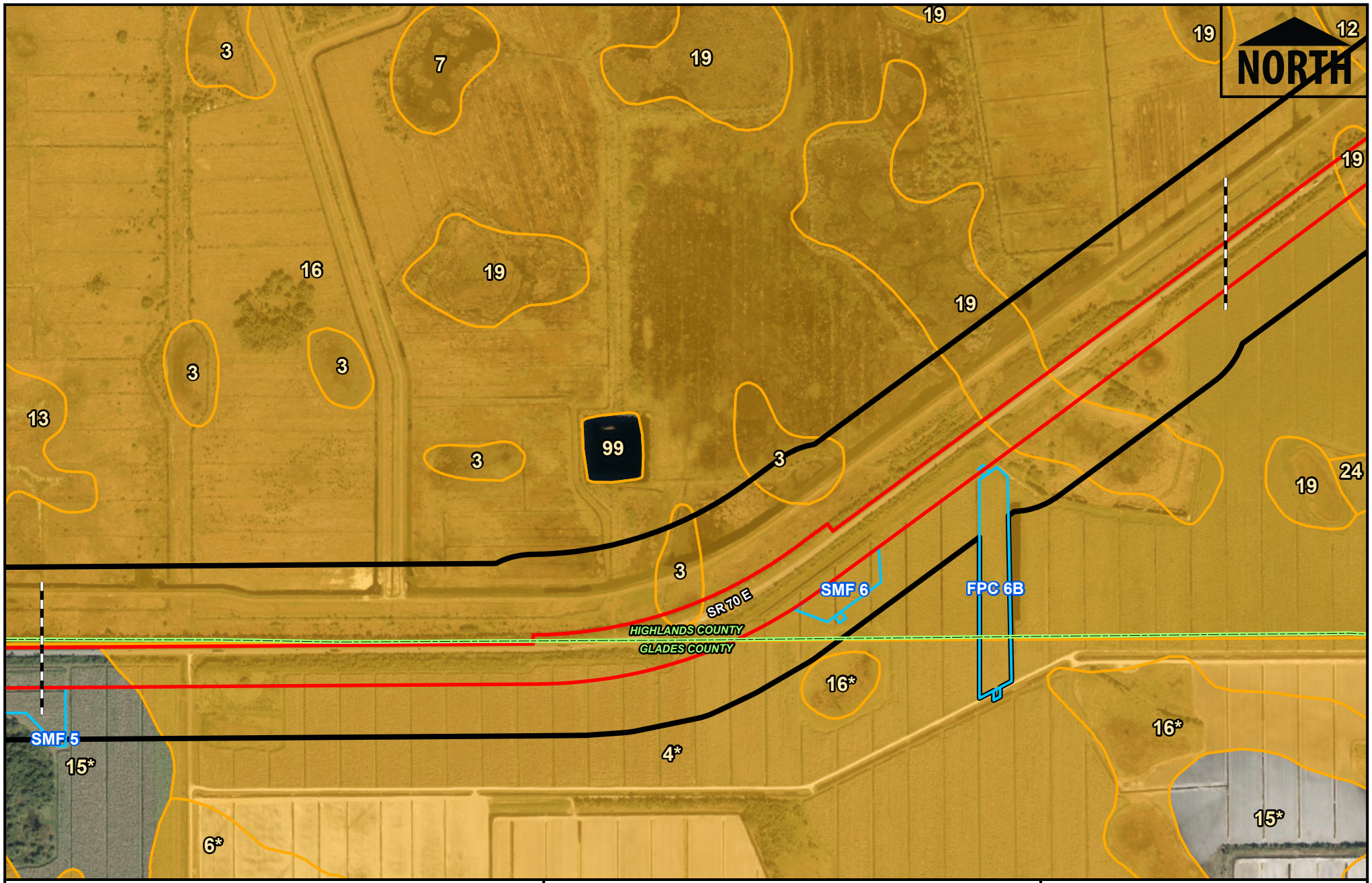
SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800

Feet

FDOT



Preferred Alternative
Project Action Area
Preferred Pond
Hydric Soils

3: BASINGER FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
4*: VALKARIA FINE SAND, 0 TO 2 PERCENT SLOPES
6*: MALABAR FINE SAND, 0 TO 2 PERCENT SLOPES
7: PLACID FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
12: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES
13: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES
15*: PINEDA-PINEDA, WET, FINE SAND, 0 TO 2 PERCENT SLOPES
16: VALKARIA FINE SAND, 0 TO 2 PERCENT SLOPES
16*: FLORIDANA FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
19: HICORIA MUCKY SAND, DEPRESSIONAL
24: PINEDA SAND, 0 TO 2 PERCENT SLOPES
36*: MALABAR FINE SAND, HIGH, 0 TO 2 PERCENT SLOPES
99: WATER

* = Soil Map Unit for Glades County

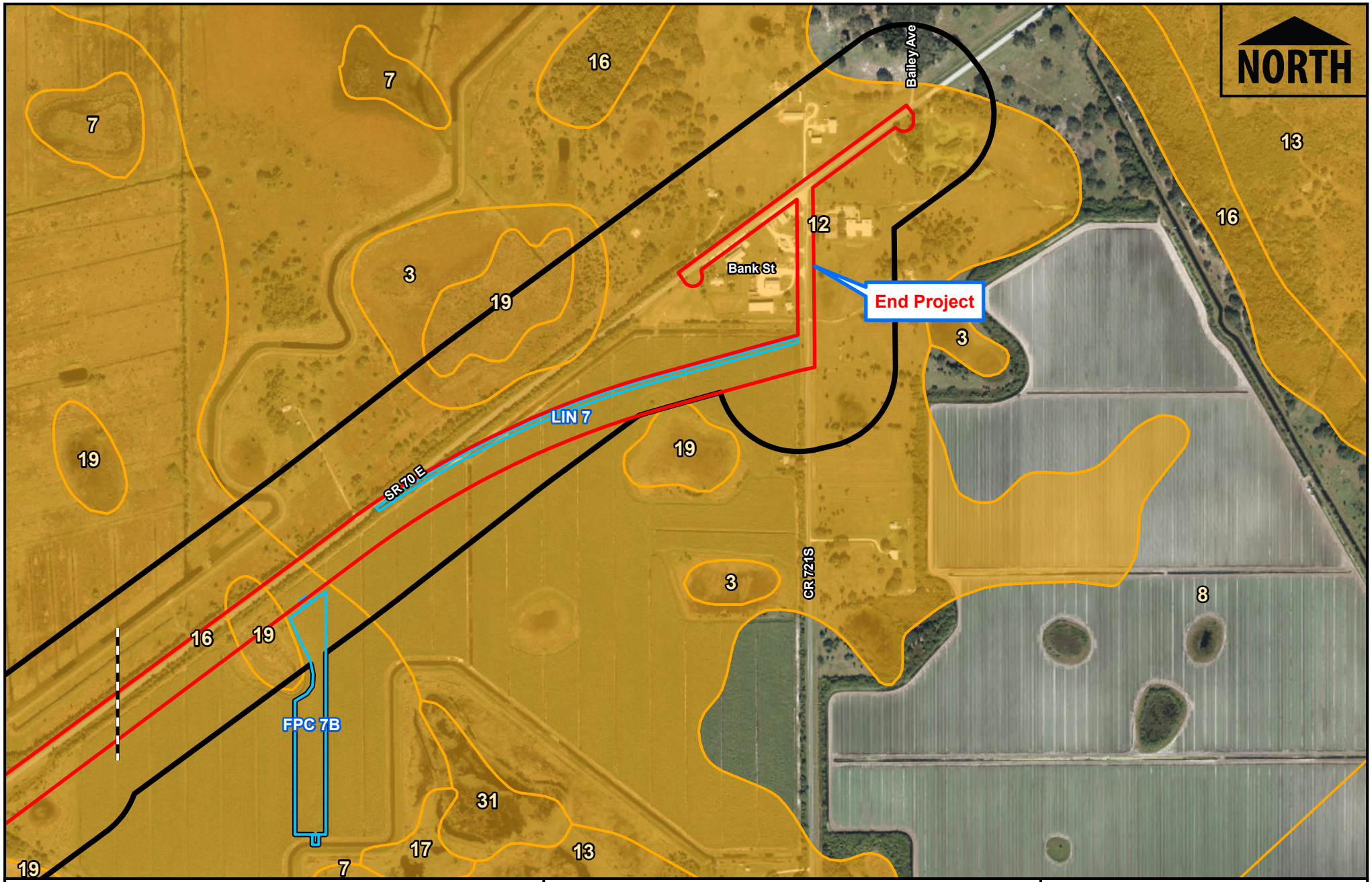
NRCS Soils Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800
Feet

FDOT



Preferred Alternative
Project Action Area
Preferred Pond
Hydric Soils

3: BASINGER FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
7: PLACID FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES
8: IMMOKALEE SAND, 0 TO 2 PERCENT SLOPES
12: BASINGER FINE SAND, 0 TO 2 PERCENT SLOPES
13: FELDA FINE SAND, 0 TO 2 PERCENT SLOPES
16: VALKARIA FINE SAND, 0 TO 2 PERCENT SLOPES
17: MALABAR FINE SAND, 0 TO 2 PERCENT SLOPES
19: HICORIA MUCKY SAND, DEPRESSIONAL
31: FELDA FINE SAND, FREQUENTLY PONDED, 0 TO 1 PERCENT SLOPES

* = Soil Map Unit for Glades County

NRCS Soils Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800
Feet

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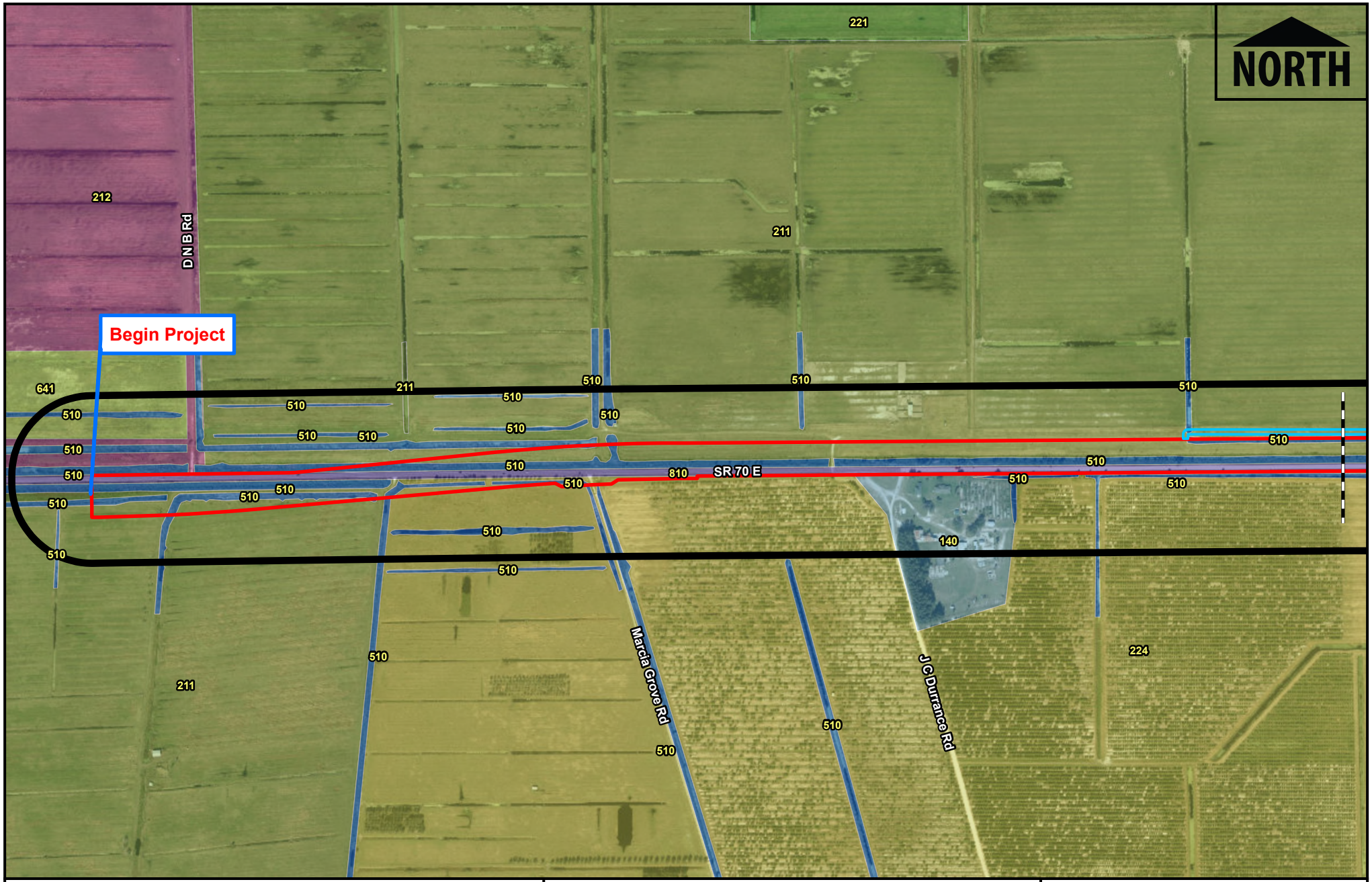
APPENDIX B

FLUCFCS Land Use Map



Preferred Alternative
Project Action Area
Preferred Pond
140: Commercial and Services
211: Improved Pastures
212: Unimproved Pastures
221: Citrus Groves
224: Abandoned Groves
510: Streams and Waterways
641: Freshwater Marshes / Graminoid Prairie - Marsh
810: Roads and Highways

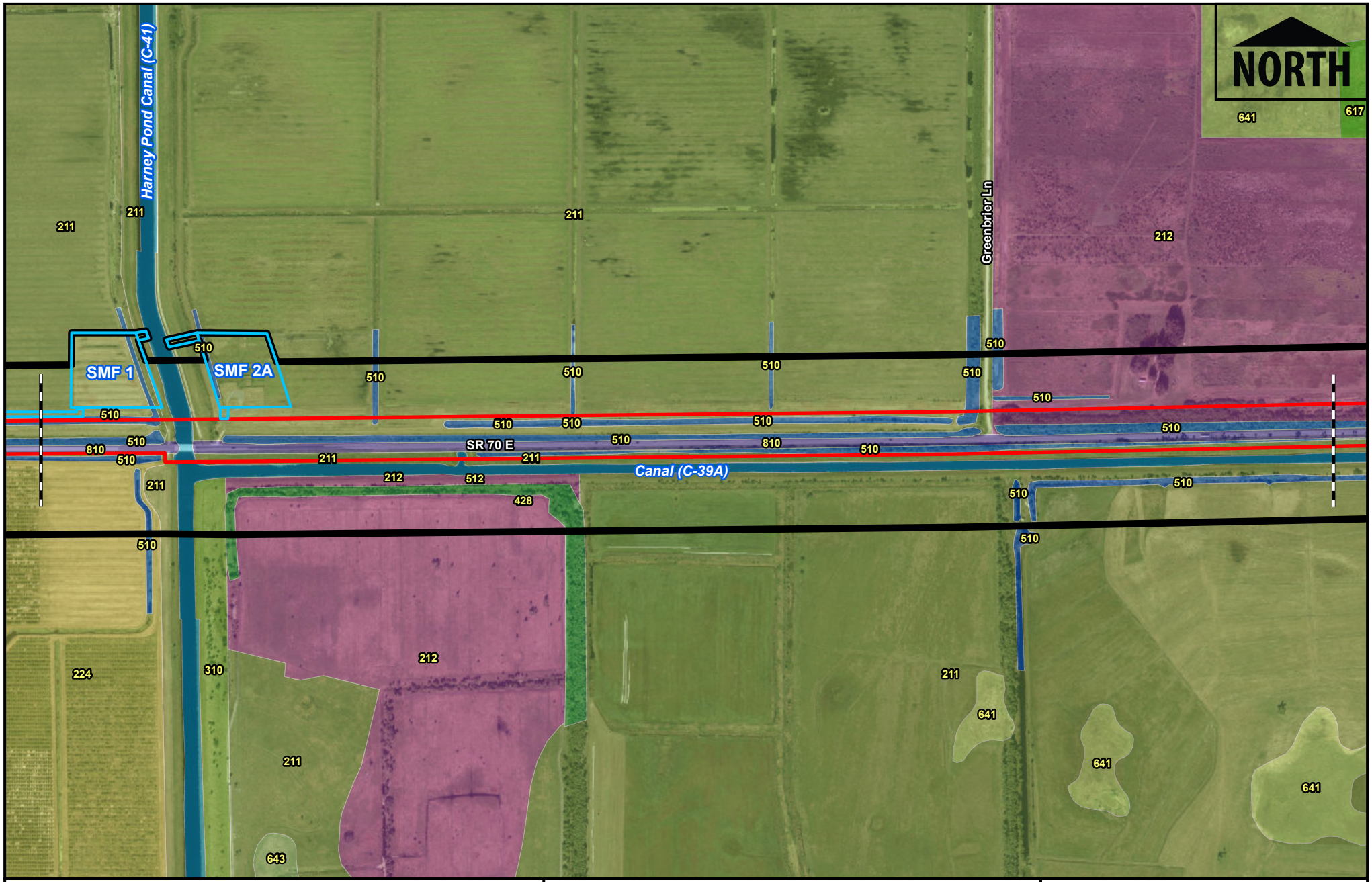
FLUCFCS Land Use Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800
Feet

FDOT



Preferred Alternative
Project Action Area
Preferred Pond
211: Improved Pastures
212: Unimproved Pastures
224: Abandoned Groves
310: Herbaceous (Dry Prairie)
428: Cabbage Palm
510: Streams and Waterways
512: Channelized Waterways, Canals
617: Mixed Shrubs
641: Freshwater Marshes / Graminoid Prairie - Marsh
643: Wet Prairie
810: Roads and Highways

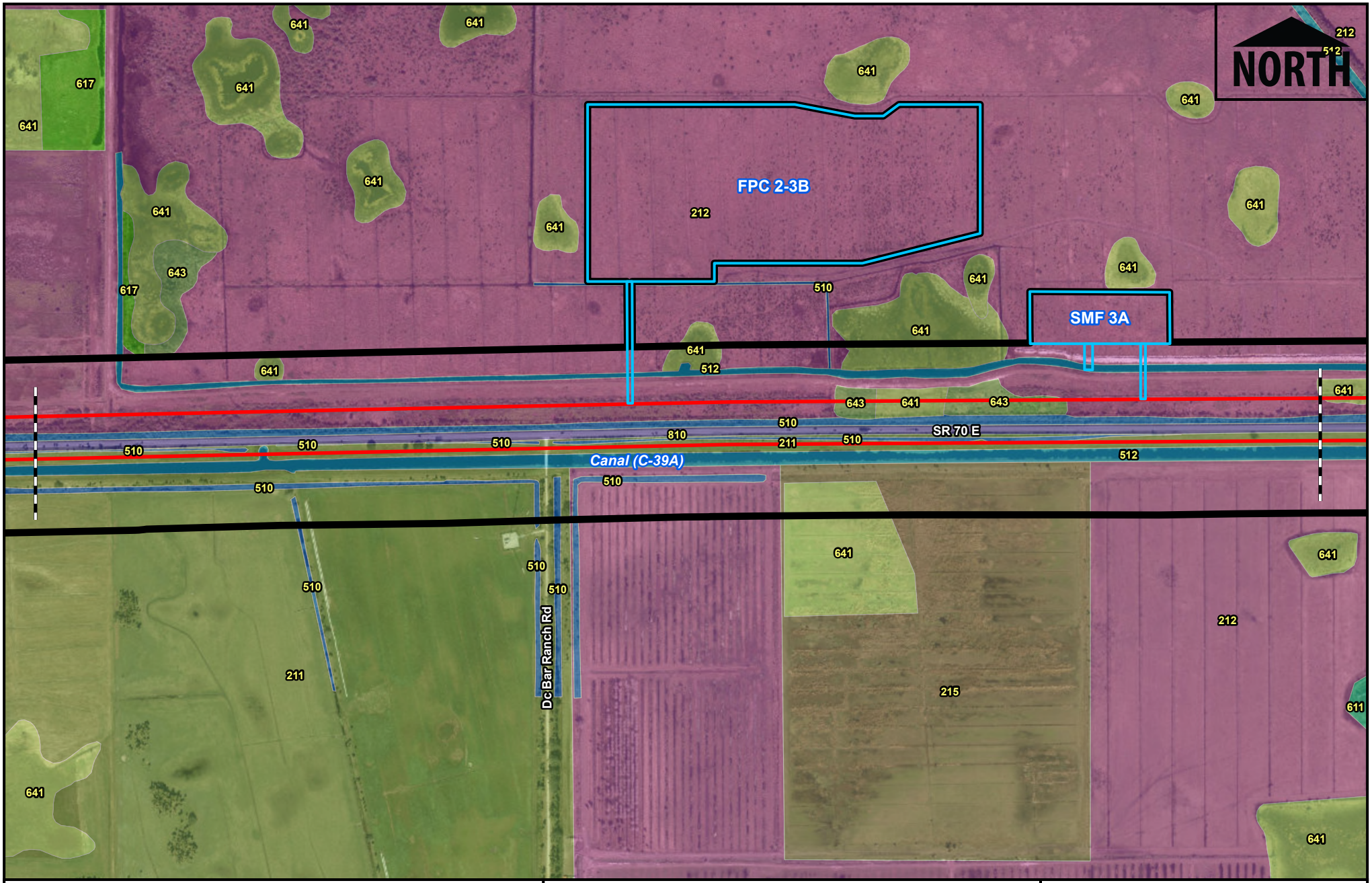
FLUCFCS Land Use Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800
Feet

FDOT



Preferred Alternative
Project Action Area
Preferred Pond
211: Improved Pastures
212: Unimproved Pastures
215: Sugar Cane
510: Streams and Waterways
512: Channelized Waterways, Canals
611: Bay Swamps
617: Mixed Shrubs
641: Freshwater Marshes / Graminoid Prairie - Marsh
643: Wet Prairie
810: Roads and Highways

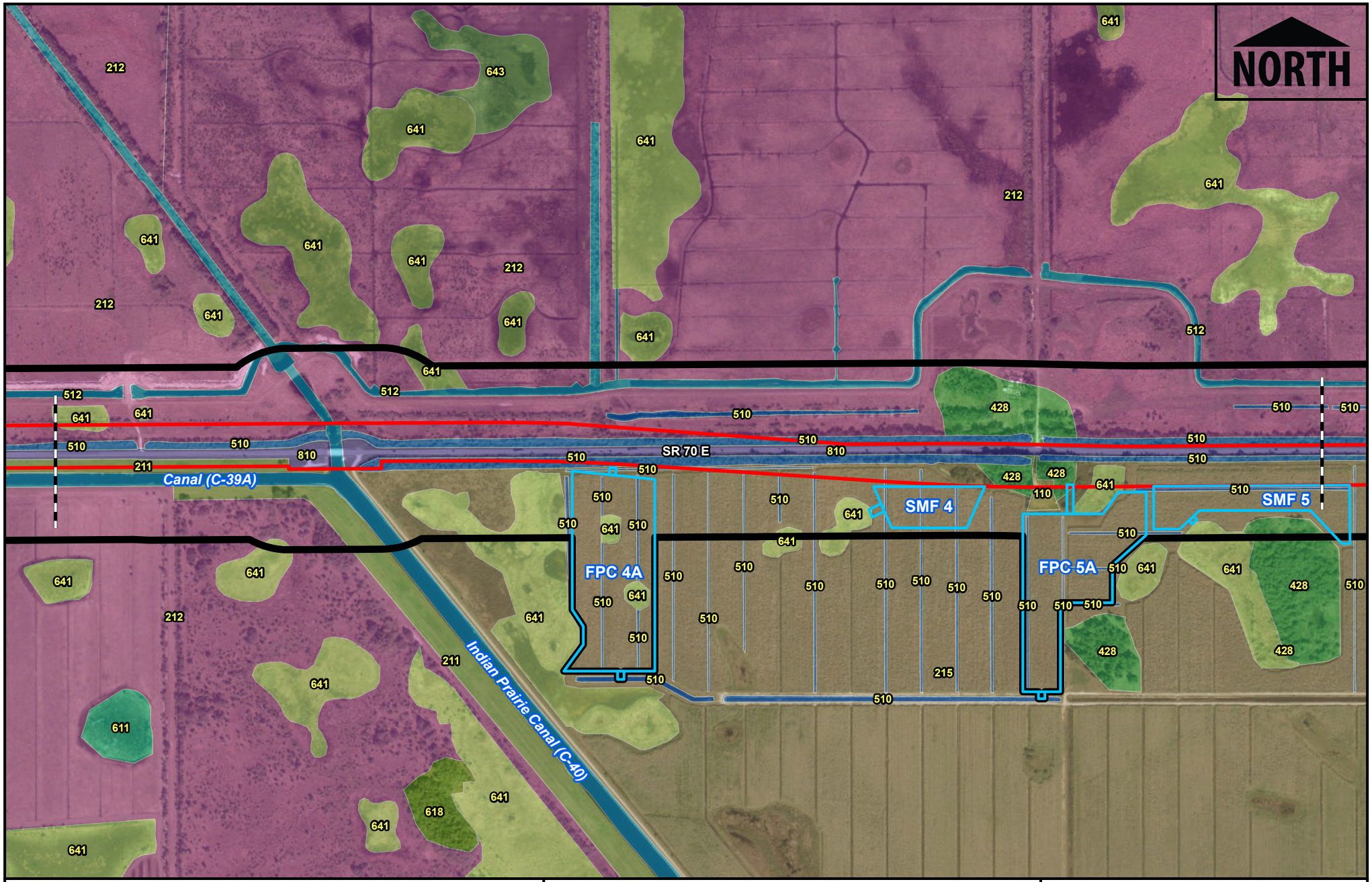
FLUCFCS Land Use Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800
Feet

FDOT



- Preferred Alternative
- Project Action Area
- Preferred Pond
- 110: Low Density, <2 dwelling units/acre
- 211: Improved Pastures
- 212: Unimproved Pastures
- 215: Sugar Cane
- 428: Cabbage Palm
- 510: Streams and Waterways
- 512: Channelized Waterways, Canals
- 611: Bay Swamps
- 618: Cabbage Palm Wetland
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 643: Wet Prairie
- 810: Roads and Highways

FLUCFCS Land Use Map

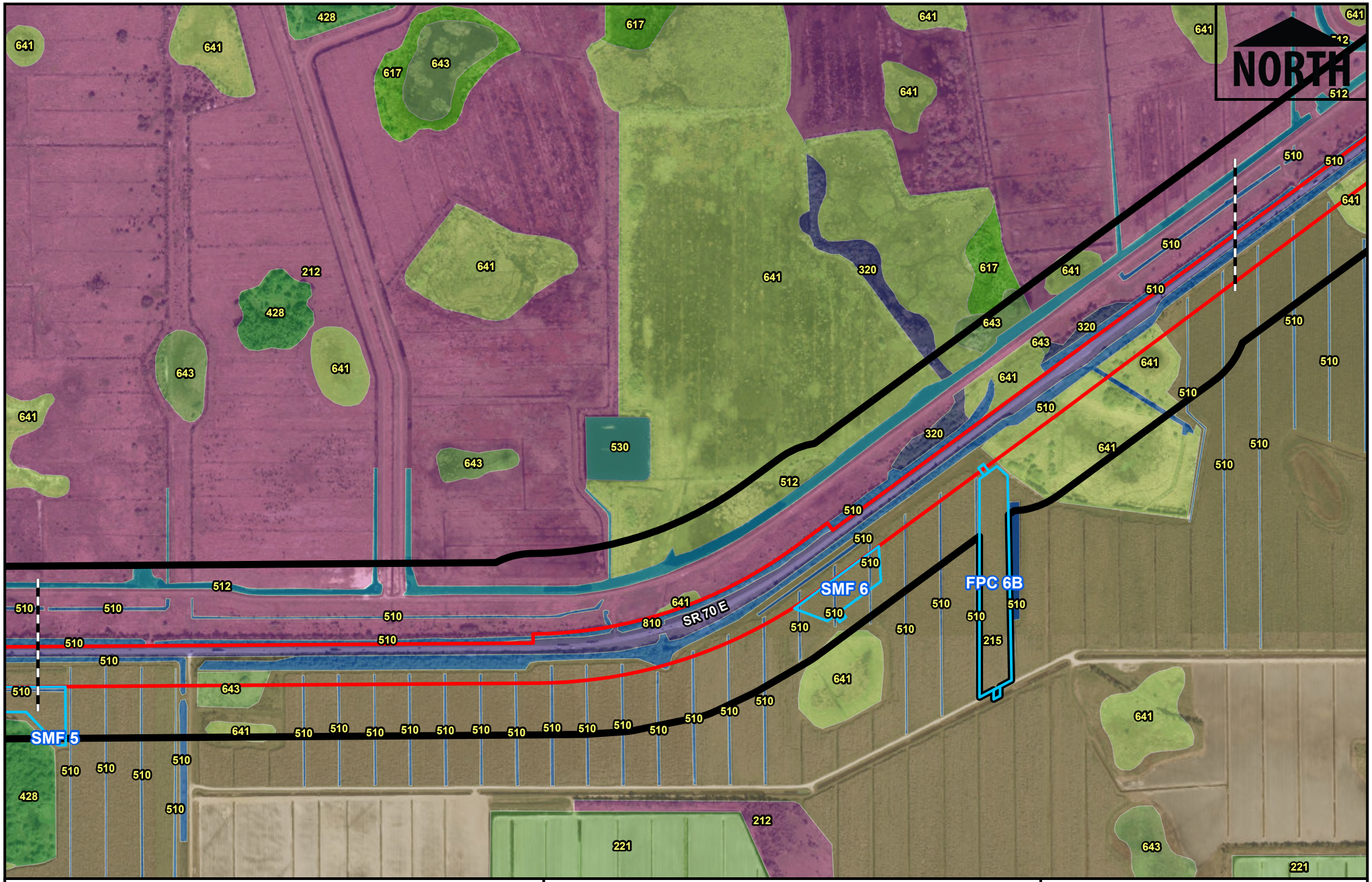
SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800

Feet

FDOT



- Preferred Alternative
- Project Action Area
- Preferred Pond
- 212: Unimproved Pastures
- 215: Sugar Cane
- 221: Citrus Groves
- 320: Upland Shrub and Brushland
- 428: Cabbage Palm
- 510: Streams and Waterways
- 512: Channelized Waterways, Canals
- 530: Reservoirs
- 617: Mixed Shrubs
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 643: Wet Prairie
- 810: Roads and Highways

FLUCFCS Land Use Map

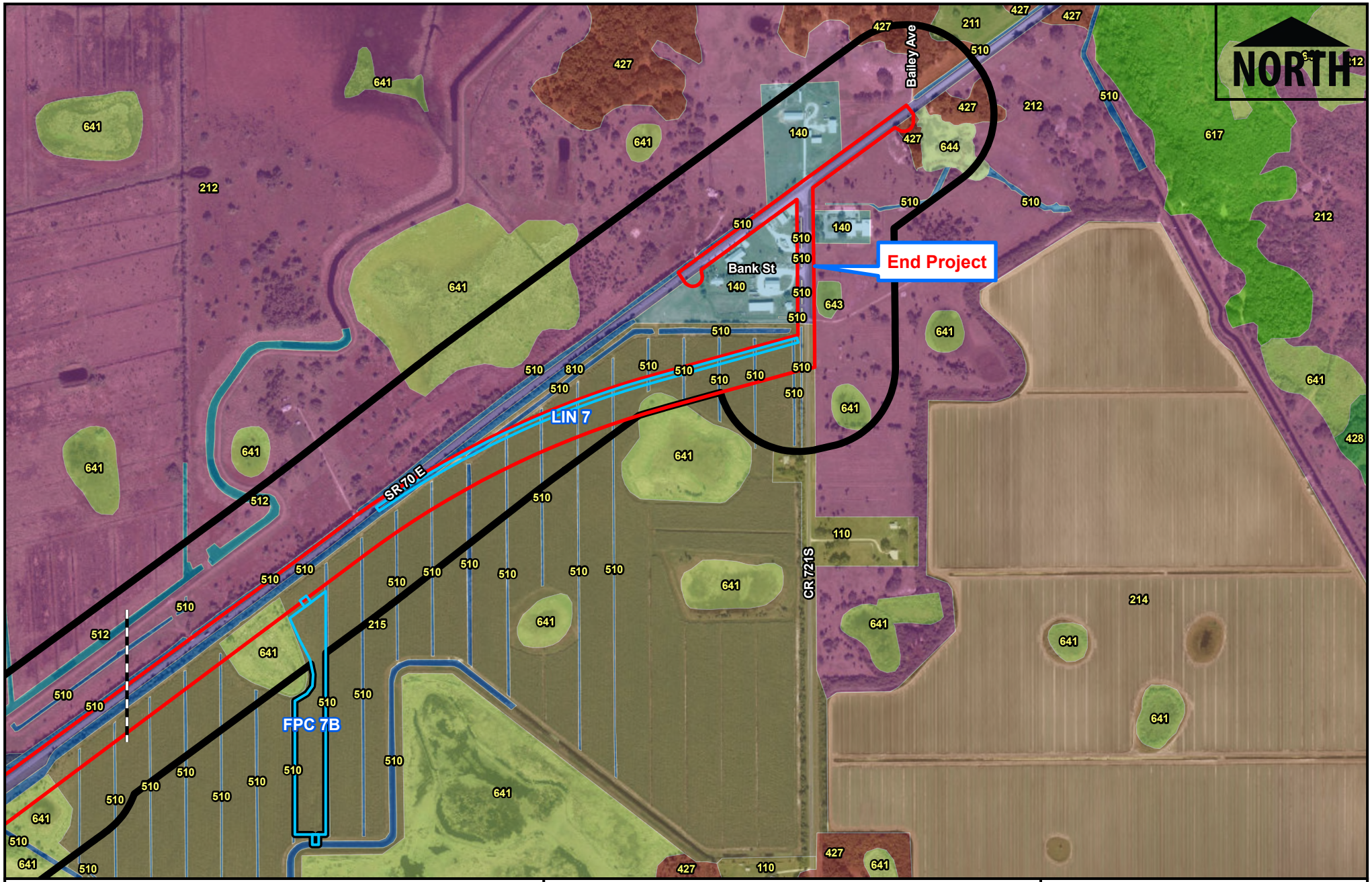
SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800

Feet

FDOT



- Preferred Alternative
- Project Action Area
- Preferred Pond
- 110: Low Density, <2 dwelling units/acre
- 140: Commercial and Services
- 211: Improved Pastures
- 212: Unimproved Pastures
- 214: Row Crops
- 215: Sugar Cane
- 320: Upland Shrub and Brushland
- 427: Oak - Cabbage Palm Forest
- 428: Cabbage Palm
- 510: Streams and Waterways
- 512: Channelized Waterways, Canals
- 617: Mixed Shrubs
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 643: Wet Prairie
- 644: Emergent Aquatic Vegetation
- 810: Roads and Highways

FLUCFCS Land Use Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

800 400 0 800

Feet

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APPENDIX C

Land Use Descriptions

Upland Habitats and Land Uses

Low Density Residential [< 2 dwelling units per acre] (FLUCFCS 110)

The low density residential land use comprises residential areas characterized by a relatively small number of homes per acre. Out of all the included land use types, this land use type takes up the smallest portion of the project action area.

Commercial and Services (FLUCFCS 140)

The commercial and services land use is comprised of commercial areas predominantly associated with the distribution of products and services. This land use type includes all secondary structures associated with an enterprise in addition to the main building, such as sheds, warehouses, office buildings, driveways, parking lots, and landscaped areas. This land use type is primarily located at the easternmost end of the project action area, at the intersection of SR 70 and CR 721.

Improved Pastures (FLUCFCS 211)

Improved pastures are comprised of land that has been cleared, tilled, reseeded with specific grass types, and periodically improved with brush control and fertilizer application. Cattle, cattle trails, and horses are generally observed within improved pastures. Within the project action area, this land use consists of bahiagrass (*Paspalum notatum*), cogongrass (*Imperata cylindrica*), Mexican clover (*Richardia* sp.), and bluestem (*Andropogon* sp.), with scattered Brazilian pepper (*Schinus terebinthifolia*) and cabbage palm (*Sabal palmetto*).

Unimproved Pastures (FLUCFCS 212)

The unimproved pasture land use is comprised of land that has been cleared of major stands of trees and brush where native grasses have been allowed to develop. This land is not typically managed with brush control and/or fertilizer applications. Within the project action area, this land use consists of bahiagrass, cogongrass, Mexican clover, and bluestem, with scattered Brazilian pepper and cabbage palm.

Sugar Cane [Field Crops] (FLUCFCS 215)

The field crops land use is comprised of agricultural fields where crops are grown. The most common examples of field crops include wheat, oats, hay, and grasses. Within the project action area, sugar cane is the crop that makes up the entirety of the FLUCFCS 215 land use.

Abandoned Groves (FLUCFCS 224)

The abandoned groves land use is comprised of orchards and groves that are unmanaged and have been left to deteriorate or die off. This land use type can be observed in a multitude of different states of decay and will typically be overrun by weedy plant species. Within the project action area, this land use is comprised of unmanaged citrus groves.

Herbaceous [Dry Prairie] (FLUCFCS 310)

The herbaceous (dry prairie) land use is comprised of upland prairie grasses which occur on non-hydric soils but may be occasionally inundated by water. These grasslands are generally treeless with a variety of vegetation types dominated by grasses, sedges, rushes and other herbs. Within the project action area, this land use consists of bahiagrass, cogongrass, Mexican clover, bluestem, and Nuttall's thistle (*Cirsium nuttallii*), with scattered Brazilian pepper and cabbage palm.

Upland Shrub and Brushland (FLUCFCS 320)

The upland shrub and brushland land use is typically comprised of shrubs and brush species such as saw palmettos, gallberry, and wax myrtle, with a wide variety of other woody scrub plant species as well as various short herbs and grasses. Within the project action area, this land use consists of primarily Brazillian pepper, cabbage palm, saw palmetto, and wax myrtle, with groundcover consisting of bahiagrass, cogongrass, Mexican clover, bluestem, and Nuttall's thistle.

Cabbage Palm (FLUCFCS 428)

The cabbage palm land use is a forested community that is either pure or predominantly comprised of cabbage palm and is typically found on sandy soil types. This land use can also include a variety of large and small hardwoods, however, cabbage palm should still be clearly considered the dominant species.

Roads and Highways (FLUCFCS 810)

The roads and highways classification includes transportation facilities used for the movement of people and goods and encompass all areas used for intersections and right-of-way, including pavement, medians, and buffers. Located throughout the project action area, this land use type includes the existing SR 70 and CR 721 right-of-way and associated roadways.

Wetland and Other Surface Water Land Uses

Streams and Waterways (FLUCFCS 510)

Streams and waterways are mostly channelized and found throughout the project action area and are concentrated adjacent to the existing roadway and within adjacent agricultural lands. A total of 145 streams and waterways are present within the project action area (OSW 1 – OSW 7, OSW 9 – OSW 12, OSW 14 – OSW 19, OSW 21 – OSW 41, OSW 43 – OSW 45, OSW 47 – OSW 49, OSW 51 – OSW 57, and OSW 58a – OSW 83), and comprise a total area of 123.41 acres (9.87%) of the project action area. These other surface waters consist of agricultural and roadside drainage ditches with bottoms containing turf grasses and muck. Dominant vegetation within the maintained and mowed drainage ditches within the project action area consist primarily of ruderal roadside species such as pennyworts (*Hydrocotyle* spp.), torpedo grass (*Panicum repens*), nutsedges (*Cyperus* spp.), and cattails (*Typha* spp.). Dominant vegetation in the more overgrown and non-maintained drainage ditches consist primarily of Brazilian pepper (*Schinus terebinthifolia*), Peruvian primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*), swamp fern (*Telmatoblechnum serrulatum*), and herbaceous hydrophytic ruderal species. Exotic vegetation within streams and waterways ranges from low to dense (approximately 90%) throughout the project action area. The streams and waterways within the project action area have a USFWS classification of PEM1E (Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated), R2AB4Hx (Riverine, Lower Perennial, Aquatic Bed, Floating Vascular Permanently Flooded, Excavated), and R5UBFx (Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated). Representative photographs of streams and waterways (drainage ditches) within the project action area are presented in **Figure 1**.

Figure 1 Representative Photographs of Streams and Waterways (Drainage Ditches; FLUCFCS 510)

Channelized Waterways, Canals (FLUCFCS 512)

Channelized waterways and canals (Indian Prairie Canal [C-40], Harney Pond Canal [C-41], and Canal C-39A), are found within the project action area. The Indian Prairie Canal [C-40] and Harney Pond Canal [C-41] flow south under existing SR 70 bridges. A total of five channelized

waterways, canals, are present within the project action area (OSW 13, OSW 42, OSW 46, OSW 50, and OSW 58), and comprise a total of 60.01 acres (4.80%) of the project action area. All canals within the project action area were constructed as part of the Central and Southern Florida (C&SF) Flood Control Project and are part of the SFWMD canal systems to control stormwater flowing to south Florida and Lake Okeechobee. These canals are characterized with steep banks with little to no vegetation. Floating, emergent vegetation is present sporadically and is dominated by duckweed (*Lemna minor*), water hyacinth (*Eichhornia crassipes*), and alligator weed (*Alternanthera philoxeroides*). All channelized waterways and canals, within the project action area have a USFWS classification of R2UBHx (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated). A representative photograph of channelized waterways, canals, within the project action area is presented in **Figure 2**.

Figure 2 Representative Photograph of Channelized Waterways, Canals (FLUCFCS 512)

Freshwater Marsh (FLUCFCS 641)

Freshwater marshes are found throughout agricultural lands within the project action area. A total of 29 freshwater marshes are present within the project action area (WL 1, WL 3 – WL 8, WL 10 – WL 11, WL 13 – WL 17, WL 19 – WL 22, WL 23, WL 24, WL 27, WL 29 – WL 31, WL 32b, WL 33 – WL 34, and WL 36), and comprise a total of 68.85 acres (5.50%) of the project action area. Dominant vegetation within freshwater marshes in the project action area consists primarily of nutsedges, soft rushes (*Juncus* spp.), beak rushes (*Rhynchospora* spp.), smartweed (*Persicaria* spp.), broadleaf arrowhead (*Sagittaria latifolia*), maidencane (*Panicum hemitomon*), pickerelweed (*Pontederia cordata*), cattails, and sporadic Peruvian primrose willow and Carolina willow. Freshwater marshes located within improved and unimproved pastures have cattle grazing within them and marshes located within sugarcane fields may receive runoff from irrigation activities. The freshwater marshes within the project action area have a USFWS classification of PEM1E, PEM1Cd (Palustrine, Emergent, Persistent, Seasonally Flooded/Partially Drained/Ditched), and PEM1Fd (Palustrine, Emergent, Persistent, Semipermanently Flooded/Partially Drained/Ditched). A representative photograph of freshwater marshes within the project action area is presented in **Figure 3**.

Figure 3 Representative Photograph of Freshwater Marsh (FLUCFCS 641)

Wet Prairie (FLUCFCS 643)

Wet prairies are found throughout agricultural lands within the project action area. A total of seven wet prairies are present within the project action area (WL 12, WL 18, WL 22a, WL 23a, WL 32a, WL 32c, and WL 35), and comprise a total of 8.32 acres (0.67%) of the project action area. Dominant vegetation within wet prairies in the project action area consist primarily of soft rushes, beak rushes, torpedo grass, maidencane, and Carolina willow. Wet prairies located within improved and unimproved pastures have cattle grazing within them and wet prairies located within sugarcane fields may receive runoff from irrigation activities. The wet prairies within the project action area have a USFWS classification of PEM1E and PEM1Fd. A representative photograph of wet prairies within the project action area is presented in **Figure 4**.

Figure 4-4 Representative Photograph of Wet Prairie (FLUCFCS 643)

APPENDIX D

Wetlands and Other Surface Waters Map & Table

Individual Wetlands and Other Surface Waters within the Project Action Area

WL ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage within Project Action Area
OSW 1	510	Streams and Waterways	PEM1E	2.90
OSW 2	510	Streams and Waterways	PEM1E	0.80
OSW 3	510	Streams and Waterways	PEM1E	0.12
OSW 4	510	Streams and Waterways	R5UBFx	1.65
OSW 5	510	Streams and Waterways	R5UBFx	0.79
OSW 6	510	Streams and Waterways	R5UBFx	0.63
OSW 7	510	Streams and Waterways	PEM1E	1.04
OSW 9	510	Streams and Waterways	PEM1E	0.37
OSW 10	510	Streams and Waterways	PEM1E	0.48
OSW 11	510	Streams and Waterways	PEM1E	1.70
OSW 12	510	Streams and Waterways	PEM1E	0.37
OSW 13	512	Channelized Waterways, Canals	R2UBHx	31.89
OSW 14	510	Streams and Waterways	PEM1E	3.40
OSW 15	510	Streams and Waterways	PEM1E	0.26
OSW 16	510	Streams and Waterways	PEM1E	4.35
OSW 17	510	Streams and Waterways	PEM1E	0.12
OSW 18	510	Streams and Waterways	PEM1E	0.07
OSW 19	510	Streams and Waterways	PEM1E	0.17
OSW 21	510	Streams and Waterways	PEM1E	0.27
OSW 22	510	Streams and Waterways	PEM1E	1.27
OSW 23	510	Streams and Waterways	PEM1E	1.59
OSW 24	510	Streams and Waterways	PEM1E	5.90
OSW 24a	510	Streams and Waterways	PEM1E	0.18
OSW 24b	510	Streams and Waterways	PEM1E	0.06
OSW 24c	510	Streams and Waterways	PEM1E	0.24
OSW 24d	510	Streams and Waterways	PEM1E	0.22
OSW 24e	510	Streams and Waterways	PEM1E	0.12
OSW 24f	510	Streams and Waterways	PEM1E	0.02
OSW 24g	510	Streams and Waterways	PEM1E	0.38
OSW 24h	510	Streams and Waterways	PEM1E	0.11
OSW 24i	510	Streams and Waterways	PEM1E	0.07
OSW 24j	510	Streams and Waterways	PEM1E	0.09
OSW 24k	510	Streams and Waterways	PEM1E	0.11
OSW 24l	510	Streams and Waterways	PEM1E	0.12
OSW 24m	510	Streams and Waterways	PEM1E	0.13
OSW 24n	510	Streams and Waterways	PEM1E	0.12
OSW 24o	510	Streams and Waterways	PEM1E	0.11
OSW 24q	510	Streams and Waterways	PEM1E	0.09
OSW 24r	510	Streams and Waterways	PEM1E	0.41
OSW 24s	510	Streams and Waterways	PEM1E	0.01
OSW 25	510	Streams and Waterways	PEM1E	2.22
OSW 25a	510	Streams and Waterways	PEM1E	0.14
OSW 25b	510	Streams and Waterways	PEM1E	0.22
OSW 25c	510	Streams and Waterways	PEM1E	0.10
OSW 25d	510	Streams and Waterways	PEM1E	<0.01
OSW 25e	510	Streams and Waterways	PEM1E	0.53
OSW 25f	510	Streams and Waterways	PEM1E	0.11
OSW 25g	510	Streams and Waterways	PEM1E	0.13
OSW 25h	510	Streams and Waterways	PEM1E	0.14
OSW 25i	510	Streams and Waterways	PEM1E	0.07
OSW 26	510	Streams and Waterways	PEM1E	0.25
OSW 27	510	Streams and Waterways	PEM1E	14.72
OSW 27a	510	Streams and Waterways	PEM1E	0.13

Individual Wetlands and Other Surface Waters within the Project Action Area

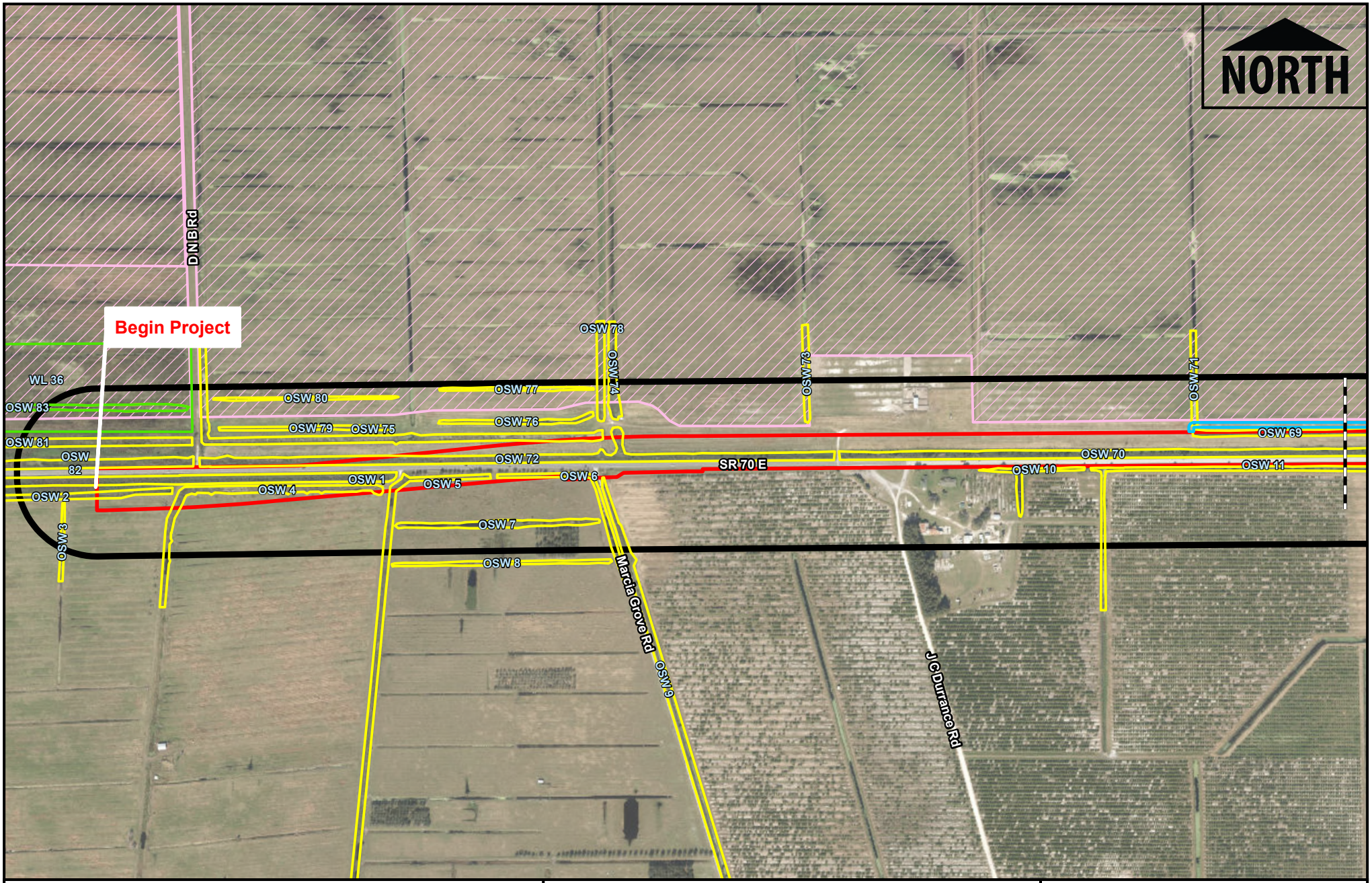
WL ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage within Project Action Area
OSW 27b	510	Streams and Waterways	PEM1E	0.13
OSW 27c	510	Streams and Waterways	PEM1E	0.11
OSW 27d	510	Streams and Waterways	PEM1E	0.14
OSW 27e	510	Streams and Waterways	PEM1E	0.16
OSW 27f	510	Streams and Waterways	PEM1E	0.14
OSW 27g	510	Streams and Waterways	PEM1E	0.14
OSW 27h	510	Streams and Waterways	PEM1E	0.2
OSW 27i	510	Streams and Waterways	PEM1E	0.14
OSW 27j	510	Streams and Waterways	PEM1E	0.16
OSW 27k	510	Streams and Waterways	PEM1E	0.12
OSW 27l	510	Streams and Waterways	PEM1E	0.18
OSW 27m	510	Streams and Waterways	PEM1E	0.14
OSW 28	510	Streams and Waterways	PEM1E	0.42
OSW 28a	510	Streams and Waterways	PEM1E	0.16
OSW 28b	510	Streams and Waterways	PEM1E	0.15
OSW 28c	510	Streams and Waterways	PEM1E	0.14
OSW 28d	510	Streams and Waterways	PEM1E	0.16
OSW 28e	510	Streams and Waterways	PEM1E	0.14
OSW 28f	510	Streams and Waterways	PEM1E	0.15
OSW 28g	510	Streams and Waterways	PEM1E	0.11
OSW 29	510	Streams and Waterways	PEM1E	0.09
OSW 29a	510	Streams and Waterways	PEM1E	0.18
OSW 29b	510	Streams and Waterways	PEM1E	0.2
OSW 29c	510	Streams and Waterways	PEM1E	0.14
OSW 29d	510	Streams and Waterways	PEM1E	0.21
OSW 29e	510	Streams and Waterways	PEM1E	0.16
OSW 29f	510	Streams and Waterways	PEM1E	0.04
OSW 29h	510	Streams and Waterways	PEM1E	0.24
OSW 29i	510	Streams and Waterways	PEM1E	0.23
OSW 29j	510	Streams and Waterways	PEM1E	0.19
OSW 29k	510	Streams and Waterways	PEM1E	0.18
OSW 30	510	Streams and Waterways	PEM1E	0.34
OSW 30a	510	Streams and Waterways	PEM1E	0.02
OSW 31	510	Streams and Waterways	PEM1E	0.96
OSW 31a	510	Streams and Waterways	PEM1E	0.16
OSW 31b	510	Streams and Waterways	PEM1E	0.17
OSW 31c	510	Streams and Waterways	PEM1E	0.12
OSW 31d	510	Streams and Waterways	PEM1E	0.14
OSW 31e	510	Streams and Waterways	PEM1E	0.13
OSW 31f	510	Streams and Waterways	PEM1E	0.14
OSW 31g	510	Streams and Waterways	PEM1E	0.14
OSW 31h	510	Streams and Waterways	PEM1E	0.2
OSW 31i	510	Streams and Waterways	PEM1E	0.24
OSW 32	510	Streams and Waterways	PEM1E	0.66
OSW 33	510	Streams and Waterways	PEM1E	0.01
OSW 34	510	Streams and Waterways	PEM1E	0.01
OSW 35	510	Streams and Waterways	PEM1E	0.02
OSW 36	510	Streams and Waterways	PEM1E	0.03
OSW 37	510	Streams and Waterways	PEM1E	0.18
OSW 38	510	Streams and Waterways	PEM1E	0.12
OSW 39	510	Streams and Waterways	PEM1E	0.32
OSW 40	510	Streams and Waterways	PEM1E	1.81
OSW 41	510	Streams and Waterways	PEM1E	0.77

Individual Wetlands and Other Surface Waters within the Project Action Area

WL ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage within Project Action Area
OSW 42	512	Channelized Waterways, Canals	R2UBHx	1.02
OSW 43	510	Streams and Waterways	PEM1E	0.05
OSW 44	510	Streams and Waterways	PEM1E	0.69
OSW 45	510	Streams and Waterways	PEM1E	1.82
OSW 46	512	Channelized Waterways, Canals	R2UBHx	9.4
OSW 47	510	Streams and Waterways	PEM1E	3.39
OSW 48	510	Streams and Waterways	PEM1E	2.12
OSW 49	510	Streams and Waterways	PEM1E	0.82
OSW 50	512	Channelized Waterways, Canals	R2UBHx	3.19
OSW 51	510	Streams and Waterways	PEM1E	0.4
OSW 52	510	Streams and Waterways	PEM1E	0.29
OSW 53	510	Streams and Waterways	PEM1E	2.77
OSW 54	510	Streams and Waterways	PEM1E	5.14
OSW 55	510	Streams and Waterways	PEM1E	1.27
OSW 56	510	Streams and Waterways	PEM1E	1.27
OSW 56a	512	Channelized Waterways, Canals	R2UBHx	7.16
OSW 57	510	Streams and Waterways	PEM1E	11.53
OSW 58	512	Channelized Waterways, Canals	R2UBHx	7.35
OSW 58a	510	Streams and Waterways	PEM1E	0.06
OSW 59	510	Streams and Waterways	PEM1E	0.35
OSW 60	510	Streams and Waterways	PEM1E	0.35
OSW 61	510	Streams and Waterways	PEM1E	4.3
OSW 62	510	Streams and Waterways	PEM1E	0.89
OSW 63	510	Streams and Waterways	PEM1E	2.07
OSW 64	510	Streams and Waterways	PEM1E	0.2
OSW 65	510	Streams and Waterways	PEM1E	0.04
OSW 66	510	Streams and Waterways	PEM1E	0.21
OSW 67	510	Streams and Waterways	PEM1E	0.76
OSW 68	510	Streams and Waterways	PEM1E	0.35
OSW 68a	510	Streams and Waterways	PEM1E	0.28
OSW 69	510	Streams and Waterways	PEM1E	2.04
OSW 70	510	Streams and Waterways	R2AB4Hx	4.51
OSW 71	510	Streams and Waterways	PEM1E	0.24
OSW 72	510	Streams and Waterways	R2AB4Hx	4.87
OSW 73	510	Streams and Waterways	PEM1E	0.2
OSW 74	510	Streams and Waterways	PEM1E	0.34
OSW 75	510	Streams and Waterways	PEM1E	2.93
OSW 76	510	Streams and Waterways	PEM1E	0.54
OSW 77	510	Streams and Waterways	PEM1E	0.4
OSW 78	510	Streams and Waterways	PEM1E	0.25
OSW 79	510	Streams and Waterways	PEM1E	0.57
OSW 80	510	Streams and Waterways	PEM1E	0.42
OSW 81	510	Streams and Waterways	PEM1E	1.2
OSW 82	510	Streams and Waterways	PEM1E	1.4
OSW 83	510	Streams and Waterways	PEM1E	0.74
Total Other Surface Waters				**183.42**
WL 1	641	Freshwater Marshes	PEM1E	2.89
WL 3	641	Freshwater Marshes	PEM1E	0.17
WL 4	641	Freshwater Marshes	PEM1E	5.35
WL 5	641	Freshwater Marshes	PEM1E	0.46
WL 5a	641	Freshwater Marshes	PEM1E	0.48
WL 6	641	Freshwater Marshes	PEM1E	0.17
WL 7	641	Freshwater Marshes	PEM1E	1.03

Individual Wetlands and Other Surface Waters within the Project Action Area

WL ID	FLUCFCS Classification	FLUCFCS Description	USFWS Classification	Acreage within Project Action Area
WL 8	641	Freshwater Marshes	PEM1E	1.3
WL 10	641	Freshwater Marshes	PEM1E	0.56
WL 11	641	Freshwater Marshes	PEM1E	0.82
WL 12	643	Wet Prairie	PEM1E	2.03
WL 13	641	Freshwater Marshes	PEM1E	0.17
WL 14	641	Freshwater Marshes	PEM1E	10.16
WL 15	641	Freshwater Marshes	PEM1E	3.39
WL 16	641	Freshwater Marshes	PEM1E	4.05
WL 17	641	Freshwater Marshes	PEM1E	0.46
WL 18	643	Wet Prairie	PEM1E	0.68
WL 19	641	Freshwater Marshes	PEM1E	1.22
WL 20	641	Freshwater Marshes	PEM1E	7.76
WL 21	641	Freshwater Marshes	PEM1E	1.25
WL 22	641	Freshwater Marshes	PEM1E	2.54
WL 22a	643	Wet Prairie	PEM1E	0.22
WL 23	641	Freshwater Marshes	PEM1E	10.22
WL 23a	643	Wet Prairie	PEM1E	1.62
WL 24	641	Freshwater Marshes	PEM1E	0.34
WL 27	641	Freshwater Marshes	PEM1E	1.04
WL 29	641	Freshwater Marshes	PEM1E	0.14
WL 30	641	Freshwater Marshes	PEM1Cd	1.11
WL 31	641	Freshwater Marshes	PEM1Fd	3.42
WL 32a	643	Wet Prairie	PEM1Fd	2.65
WL 32b	641	Freshwater Marshes	PEM1Fd	1.75
WL 32c	643	Wet Prairie	PEM1Fd	1.11
WL 33	641	Freshwater Marshes	PEM1E	1.08
WL 34	641	Freshwater Marshes	PEM1E	0.55
WL 35	643	Wet Prairie	PEM1E	0.01
WL 36	641	Freshwater Marshes	PEM1E	4.97
			Total Wetlands	**77.17**
			Total Wetlands and Other Surface Waters	**260.59**



Preferred Alternative
Project Action Area
Preferred Pond
Other Surface Water
Wetland
BUCK ISLAND RANCH AGRICULTURAL AND CONSERVATION EASEMENT #2
SOLARIS CLEAR Conservation Easement

Wetlands and Other Surface Waters Location Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

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Feet

FDOT

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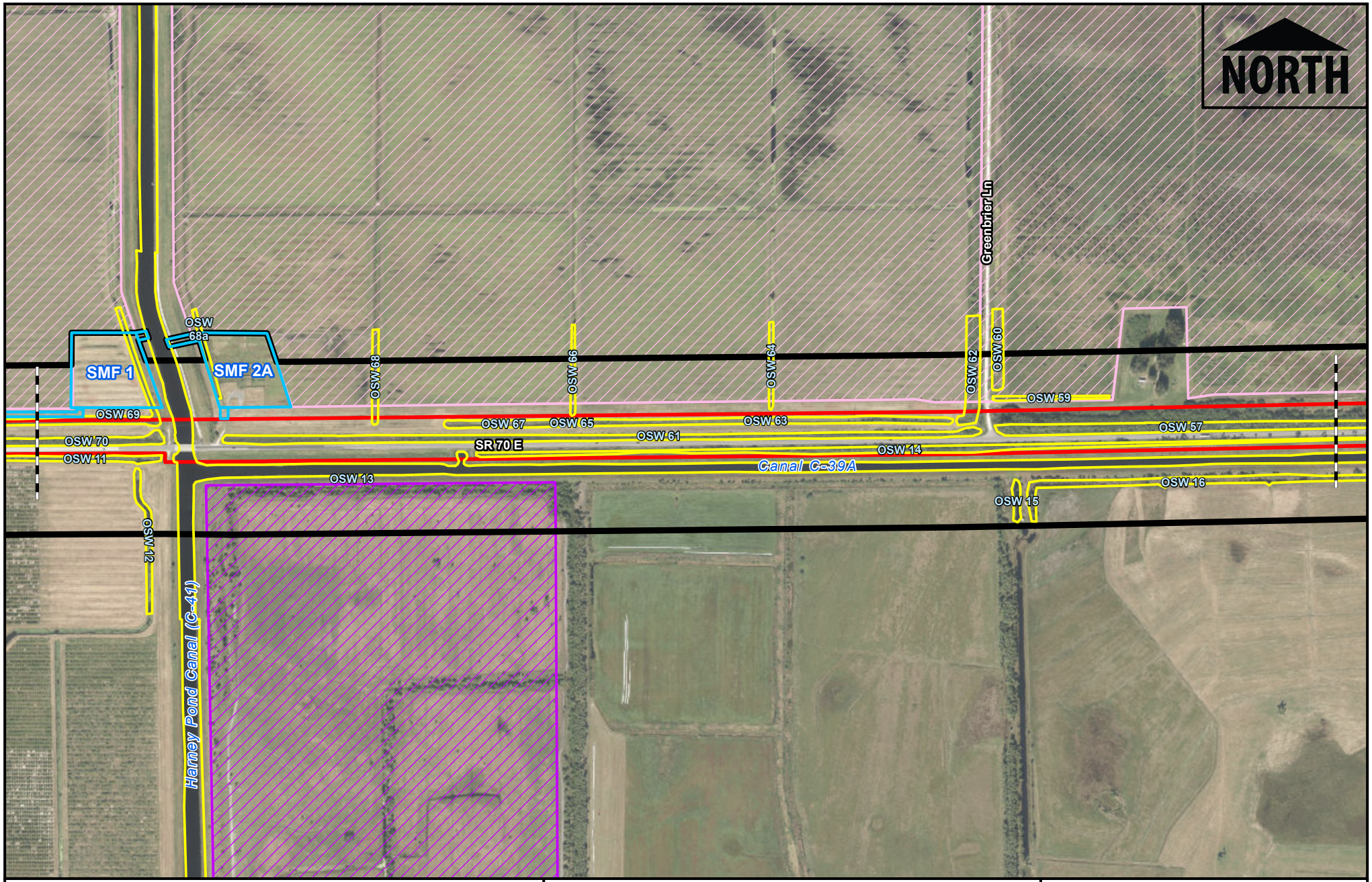

- Preferred Alternative
- Project Action Area
- Preferred Pond
- Other Surface Water
- Wetland
- BUCK ISLAND RANCH AGRICULTURAL AND CONSERVATION EASEMENT #2
- SOLARIS CLEAR Conservation Easement

Wetlands and Other Surface Waters Location Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

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Feet

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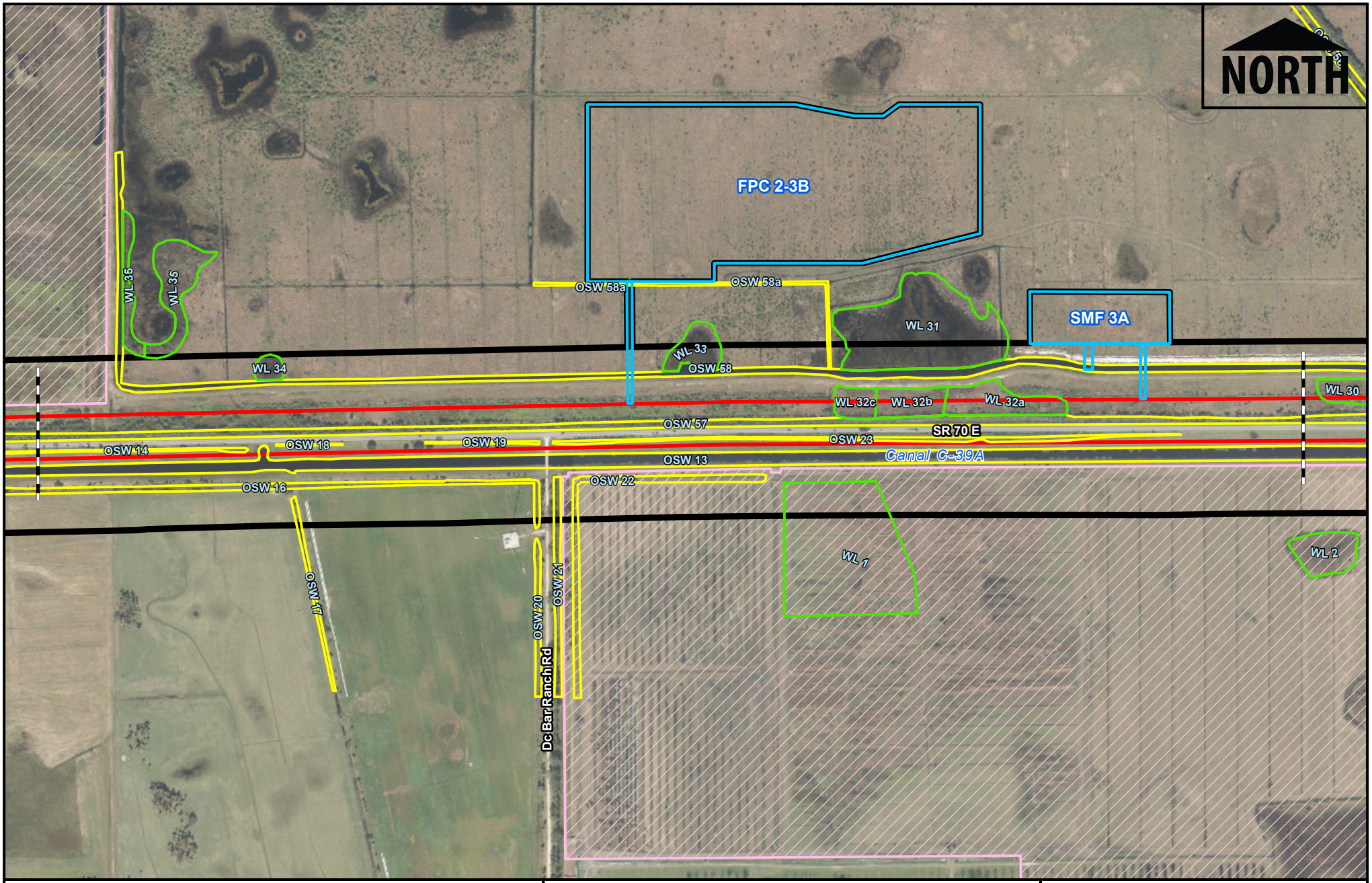

- Preferred Alternative
- Project Action Area
- Preferred Pond
- Other Surface Water
- Wetland
- BUCK ISLAND RANCH AGRICULTURAL AND CONSERVATION EASEMENT #2
- SOLARIS CLEAR Conservation Easement

Wetlands and Other Surface Waters Location Map

SR 70 from Lonesome Island Road to CR 721S

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Highlands County, Florida

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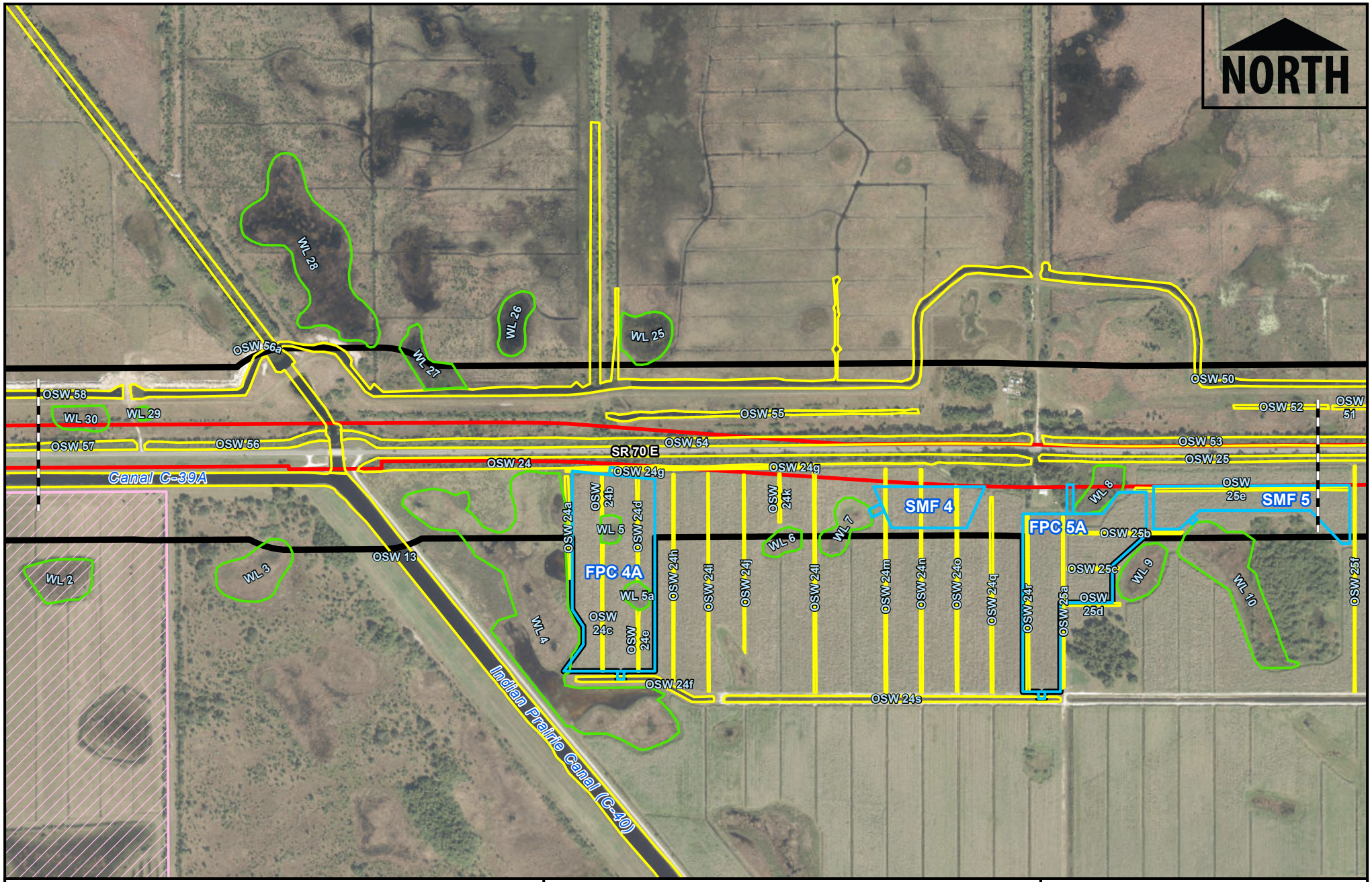

Preferred Alternative
Project Action Area
Preferred Pond
Other Surface Water
Wetland
BUCK ISLAND RANCH AGRICULTURAL AND CONSERVATION EASEMENT #2
SOLARIS CLEAR Conservation Easement

Wetlands and Other Surface Waters Location Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

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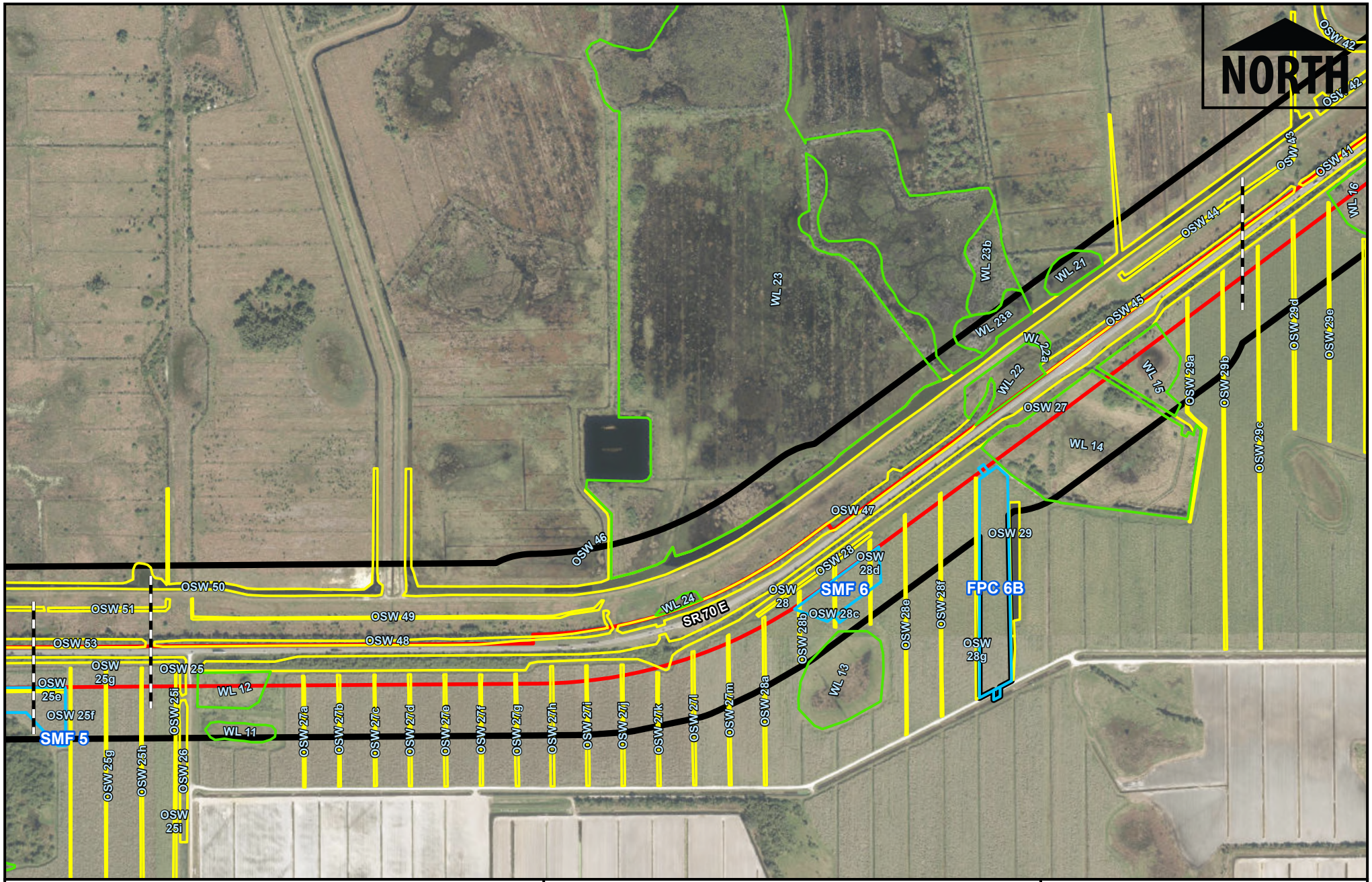

Preferred Alternative
Project Action Area
Preferred Pond
Other Surface Water
Wetland
BUCK ISLAND RANCH AGRICULTURAL AND CONSERVATION EASEMENT #2
SOLARIS CLEAR Conservation Easement

Wetlands and Other Surface Waters Location Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

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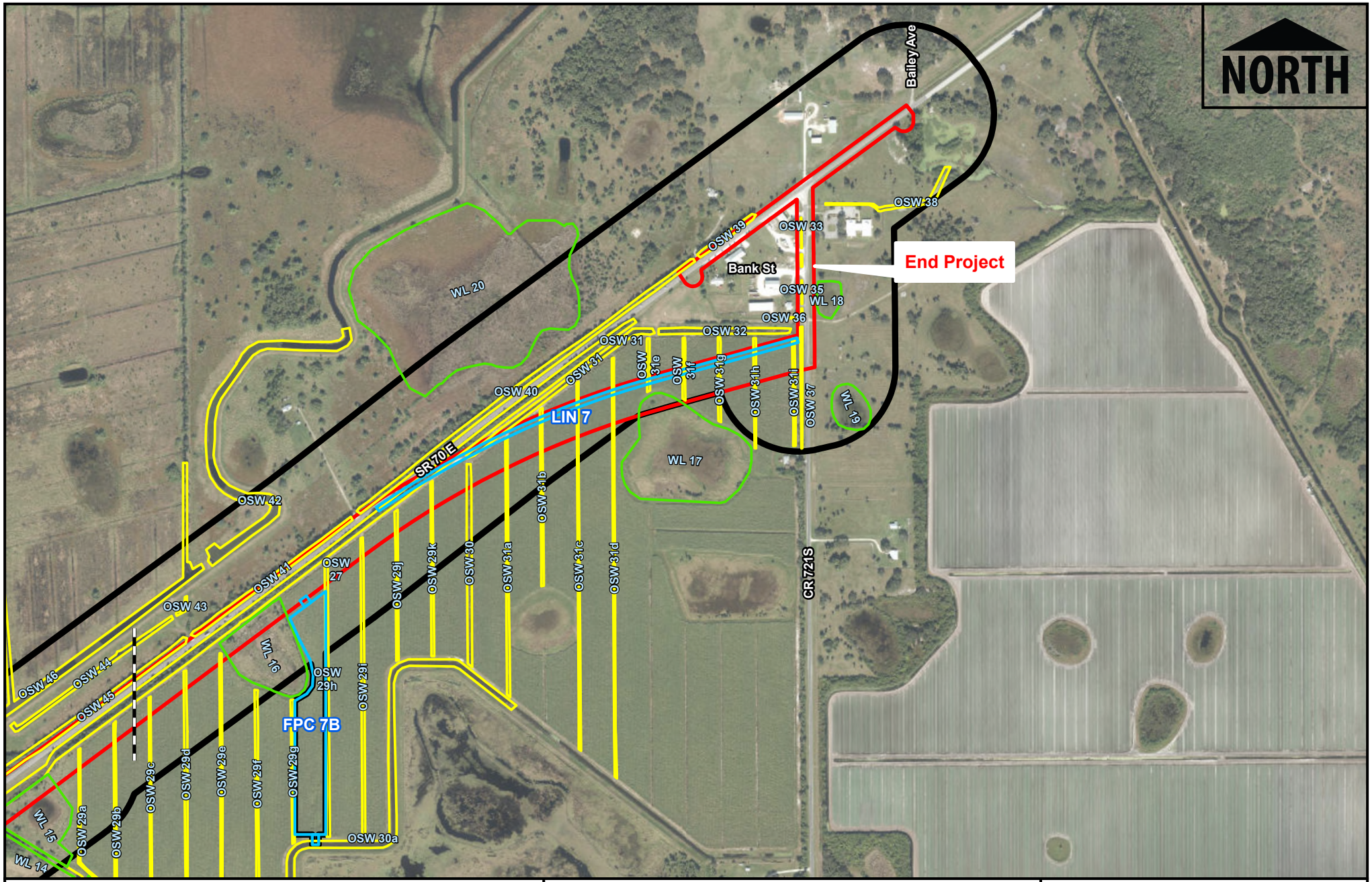

Preferred Alternative
Project Action Area
Preferred Pond
Other Surface Water
Wetland
BUCK ISLAND RANCH AGRICULTURAL AND CONSERVATION EASEMENT #2
SOLARIS CLEAR Conservation Easement

Wetlands and Other Surface Waters Location Map

SR 70 from Lonesome Island Road to CR 721S

FPID No. 449851-1-22-01
Highlands County, Florida

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Feet

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APPENDIX E

Species Specific Survey Memorandum and USFWS Concurrence

From: Wrublik, John <john_wrublik@fws.gov>
Sent: Thursday, April 4, 2024 7:45 AM
To: Ellis, Ryan <Ryan.Ellis@dot.state.fl.us>
Cc: Feagle, Autumn "Brooke" <Brooke.Feagle@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Catie Neal <cneal@kcaeng.com>
Subject: Re: [EXTERNAL] FPID 449851-1 SR 70 from Lonesome Island Road to CR 721 South

Ryan, I have reviewed the Species Survey Memorandum for the project provided, and I agree that surveys for the grasshopper sparrow, Everglade snail kike, and Florida scrub-jay are not needed in association with the project.

Sincerely,

John M. Wrublik
U.S. Fish and Wildlife Service
777 37th Street, Suite D-101
Vero Beach, Florida 32960
Office: (772) 226-8130
email: John_Wrublik@fws.gov

From: Wrublik, John <john_wrublik@fws.gov>
Sent: Wednesday, April 3, 2024 2:33 PM
To: Ellis, Ryan <Ryan.Ellis@dot.state.fl.us>
Cc: Feagle, Autumn "Brooke" <Brooke.Feagle@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Catie Neal <cneal@kcaeng.com>
Subject: Re: [EXTERNAL] FPID 449851-1 SR 70 from Lonesome Island Road to CR 721 South

Ryan, I'm not sure why but I am not able to access the document that you provided. I get the following error message:

ick an account

Selected user account does not exist in tenant 'Florida Department of Transportation' and cannot access the application '00000003-0000-0ff1-ce00-000000000000' in that tenant. The account needs to be added as an external user in the tenant first. Please use a different account.

Wrublik, John
john_wrublik@fws.gov

Signed in

Use another account

Please resend the document.

Thanks John

John M. Wrublik
U.S. Fish and Wildlife Service
777 37th Street, Suite D-101
Vero Beach, Florida 32960
Office: (772) 226-8130
email: John_Wrublik@fws.gov

From: Ellis, Ryan <Ryan.Ellis@dot.state.fl.us>
Sent: Wednesday, April 3, 2024 1:51 PM
To: Wrublik, John <john_wrublik@fws.gov>
Cc: Feagle, Autumn "Brooke" <Brooke.Feagle@dot.state.fl.us>; James, Jeffrey W <Jeffrey.James@dot.state.fl.us>; Catie Neal <cneal@kcaeng.com>
Subject: [EXTERNAL] FPID 449851-1 SR 70 from Lonesome Island Road to CR 721 South

Good Afternoon Mr. Wrublik,

The FDOT requests your review of the attachments provided. If you agree with the conclusion that species specific surveys are not required for the Everglade snail kite, Florida scrub-jay, and Florida grasshopper sparrow, please provide concurrence via email. If you have any questions please feel fee to reach out.

FPID 449851-1_Species Methodology Memo.pdf

Thanks

Ryan Ellis
Environmental Project Manager

To: **John Wrublik, USFWS**

From: **David Turley, PE, FDOT**

CC: **Jeffrey James, FDOT**
Brooke Feagle, Atkins-FDOT Consultant
Martin Horwitz, KCA
Catie Neal, KCA

Date: **April 3, 2024**

RE: **SR 70 from Lonesome Island Road to CR 721 South**
Financial Project No.: 449851-1-22-01
ETDM Project No.: 14490
Species Specific Survey Memorandum

1.0 Introduction

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study for proposed improvements to the State Road (SR) 70 corridor in Highlands County. The intent is to provide additional roadway capacity and enhance safety along the SR 70 corridor, a major east-west roadway spanning the state. The project limits extend approximately 7.6 miles from Lonesome Island Road to the southern leg of County Road (CR) 721 in Highlands County. SR 70 is a designated hurricane evacuation route and part of Florida's Strategic Intermodal System (SIS). Facilities on the SIS are subject to special standards and criteria for design speed, level of service and other requirements. The existing SR 70 does not meet SIS facility criteria.

The study focuses on improving capacity and safety of this section of SR 70 to a four-lane divided roadway. Alternatives to be evaluated shall include adding an additional through lane in each direction, adding a median, and widening travel lanes from 10 feet to 12 feet as part of the project. Multimodal facilities (i.e., a shared use path) will also be considered along the project segment. Each alternative will be evaluated to determine social and environmental impacts, safety enhancements, additional right-of-way needs, and traffic performance.

The project falls within the U.S. Fish and Wildlife Service (USFWS) consultation areas for the:

- Florida grasshopper sparrow (*Ammodramus savannarum floridanus*)
- Florida scrub-jay (*Aphelocoma coerulescens*)

- Audubon's crested caracara (*Caracara plancus*)
- Blue-tailed mole skink (*Eumeces egregius lividus*)
- Florida bonneted bat (*Eumops floridanus*)
- Sand skink (*Neoseps reynoldsi*)
- Florida panther (North) (*Puma concolor couguar*)
- Everglade snail kite (*Rostrhamus sociabilis plumbeus*)
- Lake Wales Ridge Plants

A Protected Species Map showing the consultation areas, documented occurrences, and relevant documented species information within the proposed project study area is provided in **Attachment A**. Suitable nesting and foraging habitat is present for the Audubon's crested caracara. A species specific survey was conducted for the project study area in the 2023 nesting season for this species. Additionally, suitable habitat is present for the Florida bonneted bat (FBB). A FBB acoustic survey will be conducted in 2024 for the project study area. FBB survey methodologies will be provided separately, and FBB survey results and 2023 Audubon's crested caracara survey results will be submitted under a separate cover with the project's Natural Resources Evaluation (NRE).

While the project study area is in the consultation area for the blue-tailed mole skink and sand skink, suitable soils and elevations are not found within the project study area; the closest suitable soils to the project study area are over 4 miles away. Therefore, species specific coverboard surveys are not proposed for the blue-tailed mole skink and sand skink. While the project study area is also within the consultation area for Lake Wales Ridge plants, the project is not located on the ridge and suitable habitat types are not present. Therefore, species specific surveys for federal Lake Wales Ridge plant species are not proposed. Additionally, no species specific surveys are proposed for the Florida panther. The Florida panther will be discussed under a separate cover with the project's NRE.

The purpose of this memorandum is to address the Florida grasshopper sparrow, Florida scrub-jay, and Everglade snail kite. Based on the results of GIS data and desktop analysis, there are no documented observations of the Florida grasshopper sparrow or Florida scrub-jay within 1 mile of the project study area. An Efficient Transportation Decision Making (ETDM) Summary Report (No. 14490) was completed in the Environmental Screening Tool and published in June 2023 for this project. In the ETDM summary report, the Florida grasshopper sparrow, Florida scrub jay, and Everglade snail kite are stated to have the potential to occur in the project study area based on range and preferred habitat type. Agency comments indicated that assessments of potential habitat for the Audubon's crested caracara, eastern indigo snake, FBB, Florida scrub-jay, and wood stork are required to assess presence and quality of potential habitat. Additionally, according to agency comments, federal listed plants have the potential to occur within the project study area. Surveys for listed plants will be conducted concurrently during field work in 2024. The project contains suitable habitat for the eastern indigo snake and the wood stork. No species specific survey is

proposed or required for the eastern indigo snake and wood stork. Potential impacts to each species will be documented in the project's NRE. Additionally, a Biological Opinion (BO) was completed for the adjacent project segment from CR 29 to Lonesome Island Road by the USFWS in 2021 for the documented occurrences of the eastern indigo snake along SR 70 near Lonesome Island Road. The adjacent segment closely mirrors the habitat within and adjacent to the proposed project study area. The BO concurred that Everglade snail kite nests were not present within the adjacent project segment, and that minimal suitable foraging habitat would be impacted by project activities in the adjacent segment. Additionally, the BO stated that suitable habitat was not present for the Florida scrub-jay within or adjacent to the adjacent segment's project study area. The October 2020 NRE for the adjacent segment also states that minimal habitat for the Florida grasshopper sparrow exists within the adjacent project segment. The BO was signed by USFWS on June 1, 2021, for the adjacent project and included effect determinations for the Everglade snail kite, FBB, Audubon's crested caracara, and wood stork. Species effect determinations for the SR 70 from Lonesome Island Road to CR 721 will be discussed and provided under a separate cover with the project's NRE.

A field review and initial gopher tortoise survey were conducted in February 2024 to evaluate the project study area and determine if suitable habitat is present for the Florida grasshopper sparrow, Florida scrub-jay, and Everglade snail kite. This information was used to make recommendations regarding conducting species specific surveys for the project. Species specific information is provided below for the Florida grasshopper sparrow, Florida scrub-jay, and Everglade snail kite.

1.1 Florida Grasshopper Sparrow

The Florida grasshopper sparrow is small bird species that is listed as endangered by the USFWS. This species has intricately patterned, brown, black and white wings with a tan to white breast and brown to black lines on its crest. Florida grasshopper sparrows can be found in almost any unforested habitat, including pastures, although row crops and unvegetated areas are not suitable. Preferred habitat consists of remote grasslands and dry open prairies with bunch grasses, low shrub species, and saw palmetto (*Serenoa repens*). Nests are typically constructed on the ground in these habitats and can be found under saw palmetto or in grass clumps. The Florida grasshopper sparrow is endemic to Florida and most individuals live their entire lives within a few miles of their birthplace.

1.2 Florida Scrub-jay

The Florida scrub-jay is a blue and gray bird that is listed as threatened by the USFWS. This species is most recognizable by the blue coloration on its wings, head, and tail. The Florida scrub-jay is endemic to Florida and inhabits sand pine and xeric oak scrub, and scrubby flatwood habitats. These habitat types tend to occur in the highest and driest areas of Florida that are well drained and characterized by old sandy ridges, coastal sand dunes and sandy deposits along rivers. This

species prefers large areas of unfragmented suitable habitat that contain large quantities of oak shrubs around 3.28 to 6.56 feet tall in which they construct their nests. The Florida scrub-jay does not migrate, or move over habitat that is not preferred, and lives no more than a few miles away from where it hatched.

1.3 Everglade Snail Kite

The Everglade snail kite is mid-sized raptor that is listed as endangered by the USFWS. Adult male Everglade snail kites are entirely slate gray with a white patch at the base of a square tail while females are brown with a similar white tail patch. The preferred habitat of the Everglade snail kite includes shallow freshwater marshes and the shallow grassy shorelines of lakes where apple snails are present. This species builds its nests in these grassy shorelines for quick access to food sources. According to the *USFWS Snail Kite Survey Protocol,* suitable habitat for the Everglade snail kite consists of the following chatacteristics:

- Foraging habitat containing paspalidium (*Paspalidium geminatum*), spikerushes (*Eleocharis spp.*), panicum (*Panicum spp*.), or beakrushes (*Rhynchospora spp*.).
- Nesting or perching substrate present, including willows (*Salix caroliniana*), melaleuca (*Melaleuca quinquenervia*), or pond cypress (*Taxodium ascendens*). Typically <10 m in height.
- Water depth of 0.2-1.3 meters (m) deep under nesting substrate.
- Nesting substrate >150 m from upland.

2.0 Methodology

In order to determine the presence or absence of suitable habitat and potential utilization of the project study area by the Florida grasshopper sparrow, Florida scrub-jay, and Everglade snail kite, available site-specific data was collected and reviewed. The information reviewed included:

- Audubon Center for Birds of Prey: Species Profiles, (National Audubon Society) accessed March 2024;
- Florida Department of Transportation (FDOT), Florida Land Use Cover, and Forms Classification System (FLUCFCS), 3rd ed., January 1999 (FDOT 1999);
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Florida Grasshopper Sparrow Consultation Area, July 2003;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Lake Wales Ridge Plants Consultation Area, September 2003;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Florida Scrub Jay Consultation Area, September 2003;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Snail Kite Consultation Area, September 2003;

- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Panther Consultation Area, July 2007;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Caracara Non Breeders Communal Roosts and Gathering Areas, 2017;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) Highest Priority eBird Occurrence Data in Florida 2000-2018, 2018;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Florida Bonneted Bat Consultation Area, October 2019;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Caracara Consultation Area, March 2020;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Bluetail Mole Skink Consultation Area in Florida, May 2020;
- Florida Geographic Data Library (FGDL), Florida Geographic Data Library (fgdl.org) USFWS Sand Skink Consultation Area (Neoseps Reynolds) in Florida, May 2020;
- Florida Fish and Wildlife Conservation Commission (FWC), Florida's Endangered Species and Threatened Species, Imperiled Species Management Plan, November 2016;
- ETDM, Environmental Screening Tool (EST), (ETDM Environmental Screening Tool (fla-etat.org)) accessed February 2024;
- Florida Natural Areas Inventory (FNAI), Biodiversity Matrix Map Server, (Florida Biodiversity Matrix (fnai.org)) accessed February 2024;
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey Website, (Web Soil Survey - Home (usda.gov)), accessed February 2024;
- USFWS, Critical Habitat Portal Website, (Critical Habitat | U.S. Fish & Wildlife Service (fws.gov)), accessed March 2024;
- USFWS, Information for Planning and Consultation (IPaC), (IPaC: Home (fws.gov)) accessed February 2024; and,
- USFWS, National Wetlands Inventory (NWI), Wetlands Online Mapper, (Wetlands Mapper | U.S. Fish & Wildlife Service (fws.gov)), accessed February 2024.

Environmental scientists familiar with Florida natural communities conducted a field review of the proposed project study area on February 8, 2024. The purpose of this field review was to confirm land use and determine if suitable habitat is present in order to evaluate the need to conduct species specific surveys along with determining potential survey stations. Observations were recorded to characterize vegetative communities present, verify habitat boundaries, determine if the site contained federal or state jurisdictional wetlands, and evaluate the potential of the site to support protected species.

3.0 Results

Existing land use and habitat types within the proposed project study area were classified using the FLUCFCS manual. This area consists of primarily improved and unimproved pastures (FLUCFCS 211 and 212, respectively), sugar cane (FLUCFCS 215), streams and waterways (FLUCFCS 510), and roads and highways (FLUCFCS 810). Land use photos from the February 2024 field review show potential Everglade snail kite habitat through overgrown vegetation over canals as well as unimproved and improved pastures with active cattle unfit to sustain Florida grasshopper sparrows and Florida scrub-jays (**Attachment D**). A map of existing land use is provided in **Attachment B** with representative photos in **Attachment C**. FLUCFCS codes, descriptions, acreage within the project study area, and potential habitat acreages for the Florida grasshopper sparrow, Florida scrub-jay, and Everglade snail kite within the project study area are provided in **Table 3-1**.

Table 3-1 Land Use within the Proposed Project Study Area

FLUCFCS Code	FLUCFCS Description	Acreage within Project Study Area	Potential FL Grasshopper Sparrow Habitat Acreage	Potential FL Scrub-Jay Habitat Acreage	Potential Everglade Snail Kite Habitat Acreage
110	Low Density, <2 dwelling units/acre	0.15	0.00	0.00	0.00
140	Commercial and Services	10.91	0.00	0.00	0.00
211	Improved Pastures	25.68	25.68	0.00	0.00
212	Unimproved Pastures	65.81	65.80	0.00	0.00
215	Sugar Cane	47.02	0.00	0.00	0.00
224	Abandoned Groves	1.98	0.00	0.00	0.00
320	Upland Shrub and Brushland	0.23	0.00	0.00	0.00
427	Oak - Cabbage Palm Forest	4.11	0.00	0.00	0.00
428	Cabbage Palm	1.60	0.00	0.00	0.00
810	Roads and Highways	71.43	0.00	0.00	0.00
Total Uplands		**228.92**	**91.48**	**0.00**	**0.00**
510	Streams and Waterways	63.96	0.00	0.00	0.00
512	Channelized Waterways, Canals	1.00	0.00	0.00	0.00
617	Mixed Shrubs	4.88	0.00	0.00	0.00
641	Freshwater Marshes / Graminoid Prairie - Marsh	4.31	0.00	0.00	4.31
643	Wet Prairie	2.08	0.00	0.00	0.00
644	Emergent Aquatic Vegetation	2.69	0.00	0.00	0.00
Total Wetlands, Surface Waters, and Other Surface Waters		**78.92**	**0.00**	**0.00**	**4.31**
Total		**307.84**	**91.48**	**0.00**	**4.31**

3.1 Florida Grasshopper Sparrow

The project study area includes 91.48 acres of potential Florida grasshopper sparrow nesting habitat (**Table 3-1**) as defined by the *USFWS Florida Grasshopper Sparrow Survey Protocol.* However, true unaltered prairie is not present within the project study area and there are no documented occurrences within one mile of the project study area. There are currently only 3 known populations for the Florida grasshopper sparrow: Avon Park Air Force Range, Kissimmee Prairie Preserve State Park, and Three Lakes Wildlife Management Area. The project study area is 23.5, 22.5, and 40 miles from those areas, respectively. During the February 2024 field review, no observations of the species were made and all potential habitat within the project study area was determined to be unsuitable nesting habitat. Improved and unimproved pastures to the south of the project study area were heavily grazed resulting in minimal suitable vegetation and cover necessary for nesting (**Photograph 1, Attachment D**). Additionally, these pastures contain several ditches throughout the pasturelands from farming practices that have altered natural drainage patterns (**Photograph 1, Attachment D**). These ditches will flood during periods of high rainfall, flooding adjacent pasturelands and resulting in unsuitable nesting habitat for the Florida grasshopper sparrow. Pastures to the north were primarily unimproved and overgrown with domestic pasture grasses and no natural vegetation growing to heights suitable for the Florida grasshopper sparrow (**Photograph 2, Attachment D**). Preferred unaltered prairie habitat was also not present within or adjacent to the project study area, and vegetation preferred for nesting (saw palmettos) was not observed (**Photograph 2, Attachment D**). Based on existing land use within and adjacent to the project study area along with the frequent flooding of agricultural lands, no species specific survey is recommended to be conducted or required for the Florida grasshopper sparrow. Therefore, survey stations were not established for the Florida grasshopper sparrow.

3.2 Florida Scrub-jay

The project study area includes potential Florida scrub-jay habitat (**Table 3-1**) per *USFWS Florida Scrub Jay Survey Protocol* in the form of improved and unimproved pastures. However, there is no suitable scrub habitat within or adjacent to the project study area. Additionally, there are no documented occurrences of the Florida scrub-jay within one mile of the project study area. During the February 2024 field review, no observations of the species were made and all potential habitat within the project study area was determined to be unsuitable. Habitat to the north and south of the project study area consisted primarily of improved and unimproved pastures with heavily grazed vegetation and no scrub or scrubby flatwood habitats were observed (**Attachment C**). Suitable habitat, including scrub and oak shrubs around 3.28 to 6.56 feet tall needed for nesting were not present within or adjacent to the project study area. Based on existing land use within and adjacent to the project study area, no species specific survey is recommended to be conducted or required for the Florida scrub-jay. Therefore, survey stations were not established for the Florida scrub-jay.

3.3 Everglade Snail Kite

The project study area includes 4.31 acres of potential Everglade snail kite habitat (**Table 3-1**) as defined by the *USFWS Everglade Snail Kite Survey Protocol.* Additionally, Everglade snail kites have been observed within one mile of the project study area. During the February 2024 field review, no observations of the species were made and all potential habitat within the project study area were determined to be unsuitable due to overgrown vegetation that would inhibit sight-based foraging and preferred nesting habitat for this species (**Photograph 3, Attachment D**). Open marshes with potential nesting and foraging habitat were determined to be unsuitable due to the proximity of nesting and perching substrate to the roadway (**Photograph 4, Attachment D**). Additionally, presence of apple snails (shells, eggs) was not observed during the field review (**Photograph 4, Attachment D)**. Therefore, potential suitable foraging habitat does not contain the Everglade snail kite's primary food source. Canals present within the project study area were also determined to be unsuitable foraging habitat due to steep side slopes and exceeding water depth requirements (**Photograph 5, Attachment D**). While some canals did have substrate present, the vegetation was on the edge of the canal and was overgrown (**Photograph 6, Attachment D**). Based on existing land use within and adjacent to the project study area, no species specific survey is recommended to be conducted or required for the Everglade snail kite. Therefore, survey stations were not established for the Everglade snail kite.

4.0 Conclusions

According to the ETDM Summary Report (No. 14490), assessments were required to determine the presence and quality of potential habitat, particularly for the Audubon's crested caracara, eastern indigo snake, FBB, Florida scrub-jay, and wood stork. Based on the existing land use and habitat observed during assessments, suitable nesting habitat for the Florida grasshopper sparrow, Florida scrub-jay, and Everglade snail kite is not present within or adjacent to the project study area. Land use photos from the February 2024 field review show potential Everglade snail kite habitat through overgrown vegetation over canals and marshes as well as unsuitable pastures unfit to sustain Florida grasshopper sparrows and Florida scrub-jays (**Attachment D**). Per *USFWS Everglade Snail Kite Survey Protocol*, if suitable habitat is not present then surveys are not necessary. Based on the habitat and other information outlined in this memorandum, surveys for the Everglade snail kite, Florida scrub-jay, and Florida grasshopper sparrow are not proposed for the SR 70 from Lonesome Island Road to CR 721 South project. Species specific survey for the Audubon's crested caracara was conducted during the 2023 nesting season and the FBB acoustic survey will be conducted in 2024.

The FDOT requests your review of the information contained within and attachments provided. If you agree with the conclusion that species specific surveys are not required for the Everglade snail kite, Florida scrub-jay, and Florida grasshopper sparrow, please provide concurrence via email.

If you have any questions or would like to discuss this project, please contact me at 863-519-2255 or david.turley@dot.state.fl.us.

5.0 References

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Environmental Systems Research Institute (ESRI). 2020. Field Maps for ArcGIS: Release 10.8.0 ESRI Ltd., Redlands, CA USA.

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USFWS. 2024b. Information for Planning and Consultation (IPaC), Online Mapper. (https://ipac.ecosphere.fws.gov/)

USFWS. 2024c. National Wetlands Inventory / Wetlands Online Mapper. U.S. Fish and Wildlife Service.

Attachment A

Protected Species Map

SR 70 from Lonesome Island to CR 721
Protected Species Map

Highlands County, Florida

4,000 2,000 0 4,000

Feet

N

End Project

Begin Project

SR 70 E

SW CR 721

Entire buffer falls within:

Audubon's Crested Caracara Consultation Area

Everglades Snail Kite Consultation Area

Florida Bonneted Bat Consultation Area

Florida Grasshopper Sparrow Consultation Area

Florida Scrub Jay Consultation Area

Protected Species

- Project Area
- 1 Mile Buffer of Project Area
- Everglade Snail Kite Observation
- Audubon's Crested Caracara Gathering Area
- Blue-tailed Mole Skink Consultation Area
- Florida Panther Consultation Area - North
- Lake Wales Ridge Plants Consultation Area
- Sand Skink Consultation Area

Attachment B

Existing Land Use Map

SR 70 from Lonesome Island to CR 721
Land Use Map

Highlands County, Florida

500 250 0 500

Feet

N

Begin Project

SR 70 E

Land Use

- Project Area
- Florida Grasshopper Sparrow Potential Habitat
- Everglade Snail Kite Potential Habitat
- 140: Commercial and Services
- 211: Improved Pastures
- 212: Unimproved Pastures
- 224: Abandoned Groves
- 510: Streams and Waterways
- 810: Roads and Highways

Source:

SR 70 from Lonesome Island to CR 721
Land Use Map

Highlands County, Florida

500 250 0 500

Feet

N

SR 70 E

Land Use

- Project Area
- Florida Grasshopper Sparrow Potential Habitat
- Everglade Snail Kite Potential Habitat

211: Improved Pastures

212: Unimproved Pastures

224: Abandoned Groves

310: Herbaceous (Dry Prairie)

428: Cabbage Palm

510: Streams and Waterways

512: Channelized Waterways, Canals

617: Mixed Shrubs

641: Freshwater Marshes / Graminoid Prairie - Marsh

643: Wet Prairie

810: Roads and Highways

Source

SR 70 from Lonesome Island to CR 721
Land Use Map

Highlands County, Florida

500 250 0 500
Feet

N

SR 70 E

Land Use

- Project Area
- Florida Grasshopper Sparrow Potential Habitat
- Everglade Snail Kite Potential Habitat

211: Improved Pastures
212: Unimproved Pastures
215: Sugar Cane
510: Streams and Waterways
512: Channelized Waterways, Canals
611: Bay Swamps
617: Mixed Shrubs
641: Freshwater Marshes / Graminoid Prairie - Marsh
643: Wet Prairie
810: Roads and Highways

Source

500 250 0 500

Feet

SR 70 from Lonesome Island to CR 721
Land Use Map

Highlands County, Florida

N

SR 70 E

215

Land Use

- Project Area
- Florida Grasshopper Sparrow Potential Habitat
- Everglade Snail Kite Potential Habitat

110: Low Density, <2 dwelling units/acre

211: Improved Pastures

212: Unimproved Pastures

215: Sugar Cane

428: Cabbage Palm

510: Streams and Waterways

512: Channelized Waterways, Canals

611: Bay Swamps

618: Cabbage Palm Wetland

641: Freshwater Marshes / Graminoid Prairie - Marsh

643: Wet Prairie

810: Roads and Highways

Source

SR 70 from Lonesome Island to CR 721
Land Use Map

Highlands County, Florida

500 250 0 500
Feet

N

SR70E

Land Use

- Project Area
- Florida Grasshopper Sparrow Potential Habitat
- Everglade Snail Kite Potential Habitat
- 212: Unimproved Pastures
- 215: Sugar Cane
- 221: Citrus Groves
- 320: Upland Shrub and Brushland
- 428: Cabbage Palm
- 510: Streams and Waterways
- 512: Channelized Waterways, Canals
- 530: Reservoirs
- 617: Mixed Shrubs
- 641: Freshwater Marshes / Graminoid Prairie - Marsh
- 643: Wet Prairie
- 810: Roads and Highways

Source