Natural Resources Evaluation (NRE) Report
DRAFT

Florida Department of Transportation

District One

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

From West of S.R. 31 to SE Highlands County Line Road

DeSoto County, Florida

Financial Management Number: 451942-1-22-01

ETDM Number: 14569

Date: November 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.

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) Study to evaluate the proposed widening of approximately 16.7 miles of State Road (S.R.) 70 from west of SR 31 to Southeast Highlands County Line Road in unincorporated DeSoto County, Florida.

The proposed action is to increase the address traffic safety conditions of the existing two-lane undivided roadway by widening it to a four-lane divided roadway, with the inclusion of safety and operational improvements as needed to accomplish the project Purpose and Need. The project will include the construction of wildlife crossing features, roadway signing and pavement markings, and stormwater management facilities including treatment ponds and floodplain compensation sites. The Preferred Alternative is anticipated to require an estimated 168.67 acres of right-of-way acquisition and 6.69 acres of drainage/access easements for thirteen (13) stormwater management treatment ponds, as well as an estimated 49.51 acres of right-of-way acquisition and 1.97 acres of drainage/access easements for eleven (11) floodplain compensation sites.

As a component of the PD&E Study, this Natural Resources Evaluation (NRE) has been prepared to review the potential impacts to federal and state protected species and wetland systems. The identification of measures to avoid, minimize and mitigate for any potential impacts is also discussed.

Protected Species

The review identified 13 federally listed, proposed for listing or candidate species, 33 state listed species, and four protected non-listed species that have the potential to occur within the project study area. No designated critical habitat for any listed species occurs within the project study area; therefore, the project will not result in the destruction or adverse modification of critical habitat. Based on the evaluation of collected data and field reviews, the federal and state protected species discussed in **Table ES-1** and **Table ES-2** were observed or were determined to have the potential to occur within or adjacent to the project study area. An effect determination was made for each of these federal and state protected species based on an analysis of the potential impacts of the proposed project on each species.

Table ES- 1. Federally Listed Species Effect Determinations

Project Impact Determination	Federal Listed Species
“No effect”	Pygmy fringe-tree (*Chionanthus pygmaeus*) - E
	Eastern black rail (*Laterallus jamaicensis jamaicensis*) - T
"May affect, but is not likely to adversely affect"	Everglade snail kite (*Rostrhamus sociabilis plumbeus*) - E
	Florida panther (*Puma concolor coryi*) - E
	Florida scrub-jay (*Aphelocoma coerulescens*) - T
	Wood stork (*Mycteria americana*) - T
	Florida grasshopper sparrow (*Ammodramus savannarum floridanus)* - E

Project Impact Determination	Federal Listed Species
"May affect and is likely to adversely affect"	Eastern indigo snake (*Drymarchon couperi)* - T
	Crested caracara (*Caracara plancus*) - T
	Florida bonneted bat (*Eumops floridanus*) - E

E- Endangered, **T**- Threatened

As candidate species, the monarch butterfly and tricolored bat were evaluated but not given effect determinations. The whooping crane, as an experimental, non-essential species, is treated as a proposed species and not given an effect determination. Similarly, the bald eagle was evaluated but not given an effect determination due to no longer being listed by the United States Fish and Wildlife Service (USFWS) or Florida Fish and Wildlife Conservation Commission (FWC) but remaining protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA).

Table ES- 2. State Listed Species Effect Determinations

Project Impact Determination	State Listed Species
"No effect anticipated"	Erect pricklypear (*Opuntia stricta*) - T
	Nodding pinweed (*Lechea cernua*) - T
	Florida royal palm (*Roystonea regia)* - E
	Greater yellowspike orchid (*Polystachya concreta)* - E
"No adverse effect anticipated"	Many-flowered grass-pink (*Calopogon multiflorus*) - T
	Tampa mock vervain (*Glandularia tampensis)* - E
	Catesby's lily (*Lilium catesbaei*) - T
	Jameson's waterlily (*Nymphaea jamesoniana)* - E
	Plume polypody (*Pecluma plumula)* - E
	Yellow butterwort (*Pinguicula lutea)* - T
	Yellow fringed orchid (*Platanthera ciliaris)* - T
	Rose pogonia (*Pogonia ophioglossoides)* - T
	Cutthroatgrass *(Coleataenia abscissa)* - E
	Lacelip ladies'-tresses (*Spiranthes laciniata)* - T
	Needleroot airplant orchid (*Dendrophylax porrectus)* - T
	Toothed lattice-vein fern (*Thelypteris serrata)* - E
	Cardinal airplant (*Tillandsia fasciculata)* - E
	Edison's ascyrum (*Hypericum edisonianum*) - E
	Redmargin zephyrlily (*Zephyranthes simpsonii*) - T
	Florida pine snake (*Pituophis melanoleucus mugitus)* - T
	Short-tailed snake (*Lampropeltis extenuata*) - T
	Florida burrowing owl (*Athene cunicularia floridana*) -T
	Florida sandhill crane (*Antigone canadensis pratensis*) - T
	Least tern (*Sterna antillarum)* - T
	Little blue heron (*Egretta caerulea*) - T
	Roseate spoonbill (*Platalea ajaja*) - T
	Southeastern American kestrel (*Falco sparverius paulus*) - T
	Tricolored heron (*Egretta tricolor*) - T
	Gopher tortoise (*Gopherus polyphemus*) - T
"Potential for adverse effect"	Florida loosestrife (*Lythrum flagellare*) - E
	Giant airplant (*Tillandsia utriculata*) - E
	Leafless beaked ladies'-tresses (*Sacoila lanceolata var. lanceolata)* - T
	Northern needleleaf (*Tillandsia balbisiana)* - T

E- Endangered, **T**- Threatened

The limpkin, snowy egret and Florida black bear were evaluated due to FWC management plans available for these species but not given effect determinations.

Wetland and Other Surface Waters Evaluation

Although unavoidable wetland and other surface water (OSW) impacts will occur as a result of the Preferred Alternative, these sites are located within or adjacent to the existing roadway right of way (ROW) and have generally been previously disturbed by agricultural and residential development, roadway and utility corridor construction, maintenance activities and the invasion of nuisance/exotic species. Wetlands and OSWs within the proposed stormwater management facilities and floodplain compensation sites have generally been previously disturbed by agricultural development. Wetlands to be impacted by the proposed improvements include bay swamps, stream and lake swamps (bottomlands), mixed wetland hardwoods, wetland forested mixed, wetland scrub, freshwater marshes, and wet prairies. Manmade, excavated ditches and channels have been identified as OSWs. **Table ES-3** summarizes the Preferred Alternative's impacts to wetlands and other surface waters. Consistent with 62.345 Florida Administrative Code (F.A.C.), a Uniform Mitigation Assessment Methodology (UMAM) functional loss analysis was performed on representative wetland impact areas.

Table ES- 3 Proposed Wetland and OSW Impacts

Alternative	Impact type	Direct Impact Acres	Secondary Impact Acres*	Total Impact Acres	Direct Functional Loss	Secondary Functional Loss	Total Functional Loss[1]
Preferred Alternative	Wetlands	9.73	5.95	15.69	3.59	2.22	5.81
Preferred Alternative	OSWs	5.67	-	5.67	-	-	-

***Secondary impacts consider a 25-ft buffer from edge of primary wetland impacts**

Wetland impacts will be mitigated pursuant to Section 373.4137, Florida Statute (F.S.), to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 22 United States Code (U.S.C.) § 1344.

Essential Fish Habitat

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Section 7 of the ESA, the proposed project was evaluated for potential Essential Fish Habitat (EFH). No EFH is located within or adjacent to the project area. Therefore, the project will have no involvement with EFH resources.

Table of Contents

List of Tables

List of Figures

List of Appendices

1 INTRODUCTION

1.1 Project Description

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate options for widening S.R. 70 in DeSoto County. The project limits cover approximately 16.7 miles of S.R. 70 from west of S.R. 31 (Mile Post (MP) 14.973) to Southeast Highlands County Line Road (MP 31.763), as needed to accommodate roadway tie-ins. The project is located in Sections 32-36 of Township 37 South, Range 25 East; Sections 31-36 of Township 37 South, Range 26 East; Sections 31-36 of Township 37 South, Range 27 East; Sections 1-5 of Township 38 South, Range 25 East; Sections 1-6 of Township 38 South, Range 26 East; and Sections 1-6 of Township 38 South, Range 27 East. The project limits are shown in **Figure 1-1**.

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

This project has been evaluated for its potential effects on various social, cultural, natural, and physical resources. In addition to resource-specific technical reports produced for this study, the project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #14569.

Upon completion, this study will meet all requirements of the National Environmental Policy Act of 1969 (NEPA) as administered for the FDOT by the FDOT Office of Environmental Management (OEM) and the requirements of other federal and state laws to qualify the proposed project for federal-aid funding.

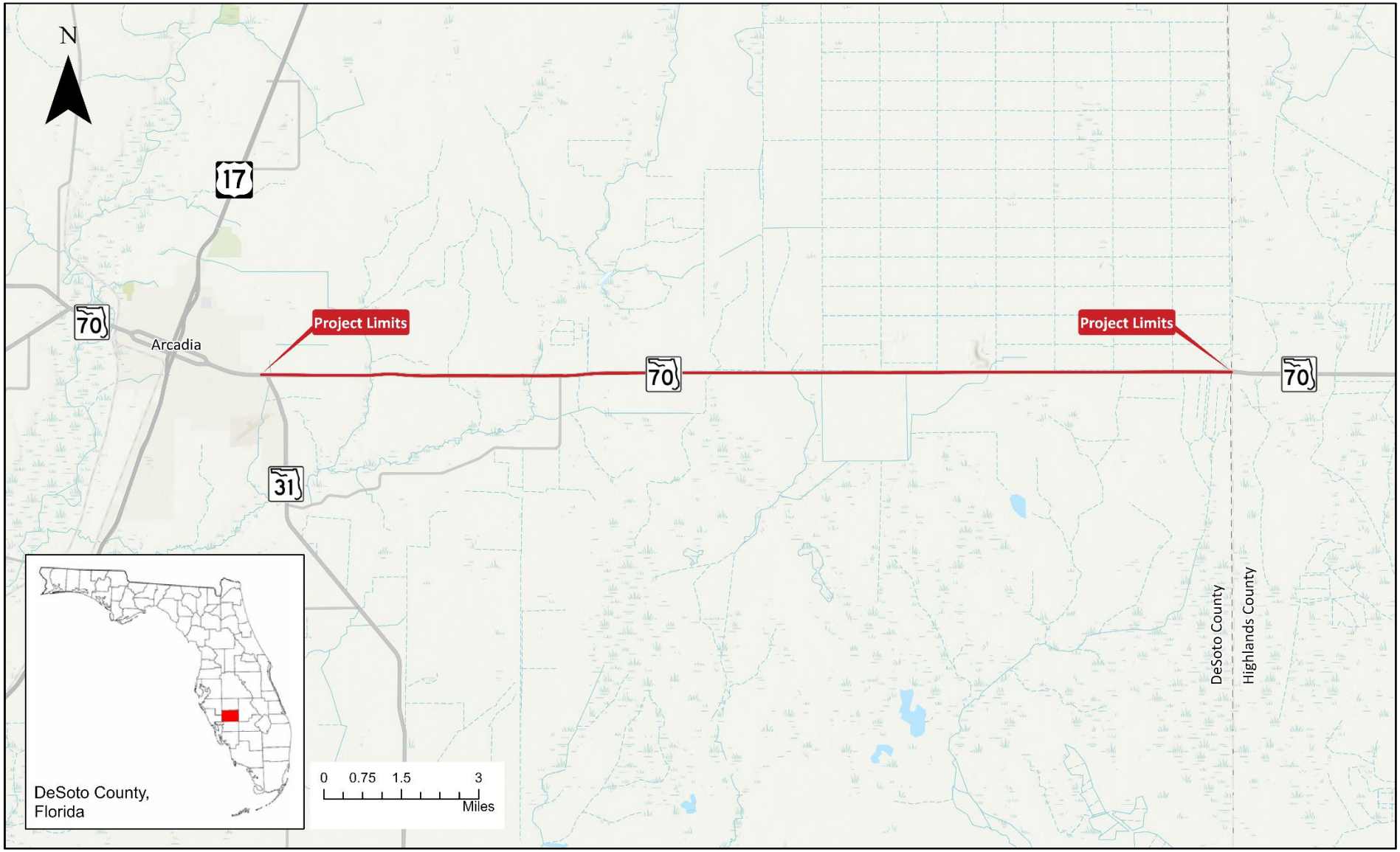
1.2 Purpose and Need

The purpose of this project is to address roadway and traffic safety conditions and improve emergency evacuation and incident response times on S.R. 70 from west of S.R. 31 to SE Highlands County Line Road in unincorporated DeSoto 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.

1.3 Existing Facility

S.R. 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, S.R. 70 is critical in the transportation network as it facilitates local and regional traffic and the movement of goods/freight. S.R. 70 is functionally classified as "Rural Principal Arterial – Other" within the project area, and the

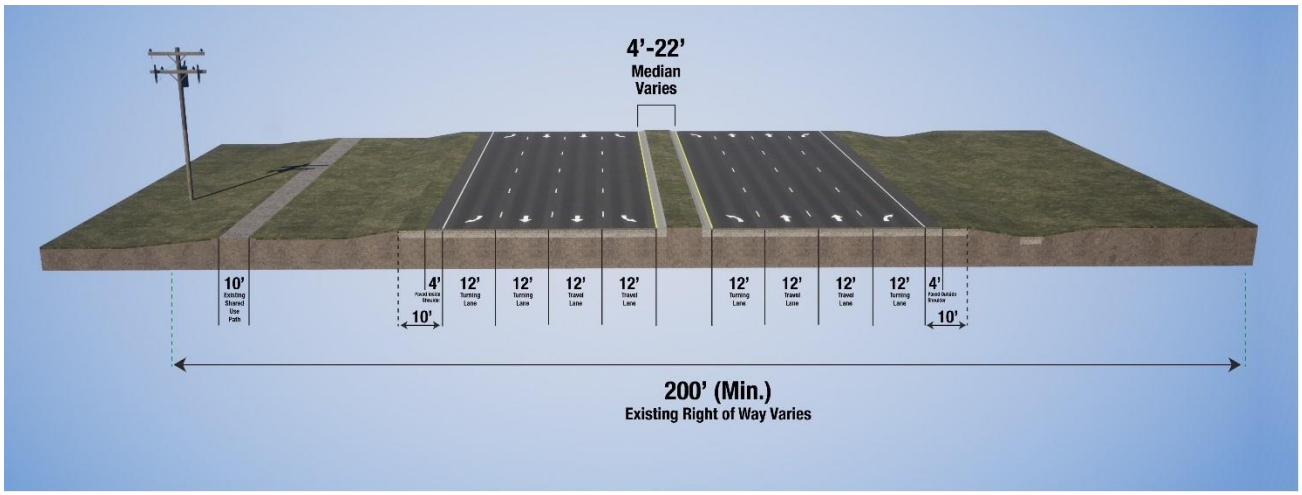
Figure 1-1: Project Location Map



project segment of the roadway has an existing context classification of C2-Rural. The posted speed limit on the corridor is generally 60 miles per hour (mph) with slower speeds ranging from 40 mph to 55 mph west of S.R. 31 to west of Townsend Road.

This segment of S.R. 70 consists of two existing roadway typical sections. From west of S.R. 31 to west of Townsend Road, S.R. 70 is a four-lane divided facility with 12-foot travel lanes and ten-foot outside shoulders (four feet paved). The travel lanes are separated by a raised grass median and intermittent right and left turn lanes. A portion of a ten-foot shared-use path is present on the northern side of the roadway, extending from west of S.R. 31 to west of Townsend Road (**Figure 1-2**). No designated bicycle lanes are present on either side of the facility.

Figure 1-2: Existing S.R. 70 Roadway Typical Section from west of S.R. 31 to west of Townsend Road



From west of Townsend Road to SE Highlands County Line Road, S.R. 70 becomes a two-lane undivided facility with 12-foot travel lanes and twelve-foot outside shoulders (five feet paved) (see **Figure 1-3**). There are no shared use path or designated bicycle facilities along this portion.

The existing typical section for the S.R. 70 bridges over Whidden Creek (aka Mare Branch) and Joshua Creek consists of two 12-foot travel lanes with guardrail and traffic railings (**Figure 1-4**). There are no shared use path or designated bicycle facilities at these locations.

Existing right-of-way (ROW) along the project portion of S.R. 70 is generally 200 feet in width, but ranges from approximately 180 feet to 220 feet in width from west of S.R. 31 to County Road (C.R.) 760, and from 200 feet to 350 feet in width from C.R. 760 to SE Highlands County Line Road; it is generally wider to the north than south along the eastern end.

Figure 1-3: Existing S.R. 70 Roadway Typical Section from west of Townsend Road to SE Highlands County Line Road

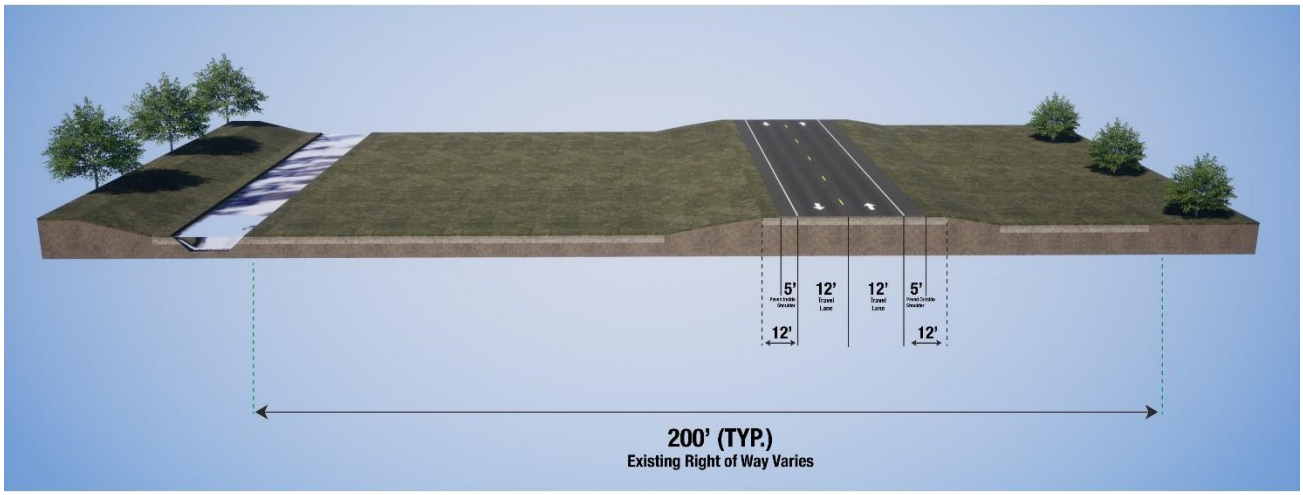
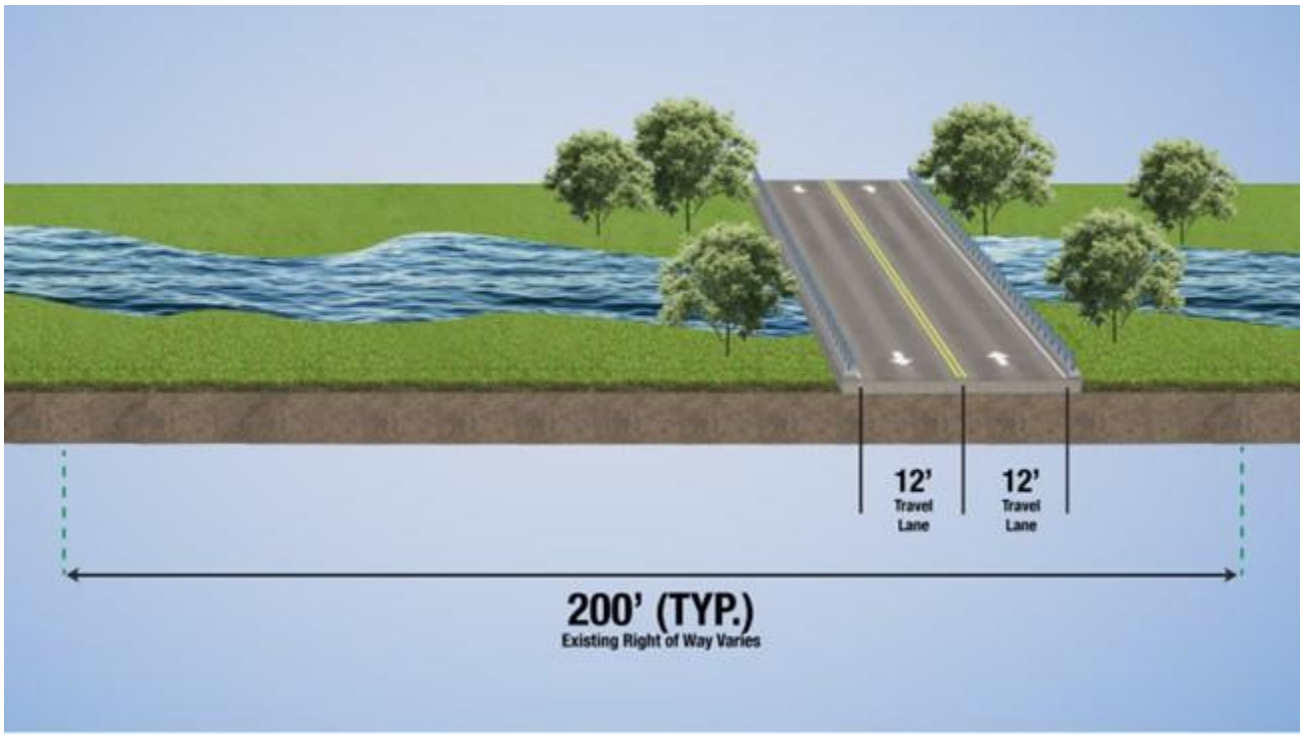


Figure 1-4: S.R. 70 Typical Section for Existing Bridges Over Whidden Creek and Joshua Creek



There are two bridges and five concrete bridge culverts along the corridor where lakes, streams, or wetlands intersect with the roadway. In addition, there are seven smaller concrete box culverts located along the project area. The two bridges and five concrete bridge culverts are as follows:

- S.R. 70 Concrete Bridge:
    - S.R. 70 over Whidden Creek (No. 040024)
    - S.R. 70 over Joshua Creek (No. 040027)

- S.R. 70 Concrete Bridge Culvert:
    - S.R. 70 over Tiger Bay (No. 040031)
    - S.R. 70 over Mossy Gully (No. 040032)
    - S.R. 70 over DCI Canal (No. 040033)
    - S.R. 70 over Long Point Marsh (No. 040037)
    - S.R. 70 over Parker Creek (No. 040940)

A full discussion of the existing roadway conditions can be found in the Preliminary Engineering Report (PER), located in the project file.

1.4 Proposed Improvements

To meet the Purpose and Need, the Preferred Alternative will widen S.R. 70 from two to four lanes throughout the study limits. The Preferred Alternative includes milling and resurfacing of portions of the existing roadway, along with construction of the westbound lanes to the north of the existing travel lanes.

From west of S.R. 31 to west of Townsend Road, the Preferred Alternative will mill and resurface the existing roadway and shared use path, as consistent with **Figure 1-2**.

The Preferred Alternative from west of Townsend Road to west of Joshua Creek (**Figure 1-5**) generally consists of four 12-foot travel lanes, a 40-foot width median that includes eight-foot inside shoulders (4-foot paved), and ten-foot outside shoulders (five-foot paved). Improvements proposed within these limits will primarily consist of intermittent milling/resurfacing and widening/ reconstruction of the existing lanes as the new eastbound lanes and widening/new construction of the new westbound lanes. A new ten-foot shared use path will be constructed adjacent to the northern ROW line from the Toby's RV Resort entrance to the new westbound bridge over Joshua Creek.

The Preferred Alternative for the bridges over Whidden Creek and Joshua Creek (**Figure 1-6**) include four 12-foot travel lanes (two in each direction) with six-foot paved inside shoulders and ten-foot paved outside shoulders. Concrete barriers would be implemented on both shoulders. The westbound bridge will have a 14-foot shared use path with a concrete barrier separating pedestrian and bicycle users from the travel lane and a railing at the outside edge of the bridge. At Joshua Creek, the shared use path will switch from the north to the south side of S.R. 70 via a bicycle and pedestrian underpass under the reconstructed S.R. 70 bridges over Joshua Creek.

Figure 1-5: S.R. 70 Preferred Alternative from west of S.R. 31 to west of Joshua Creek

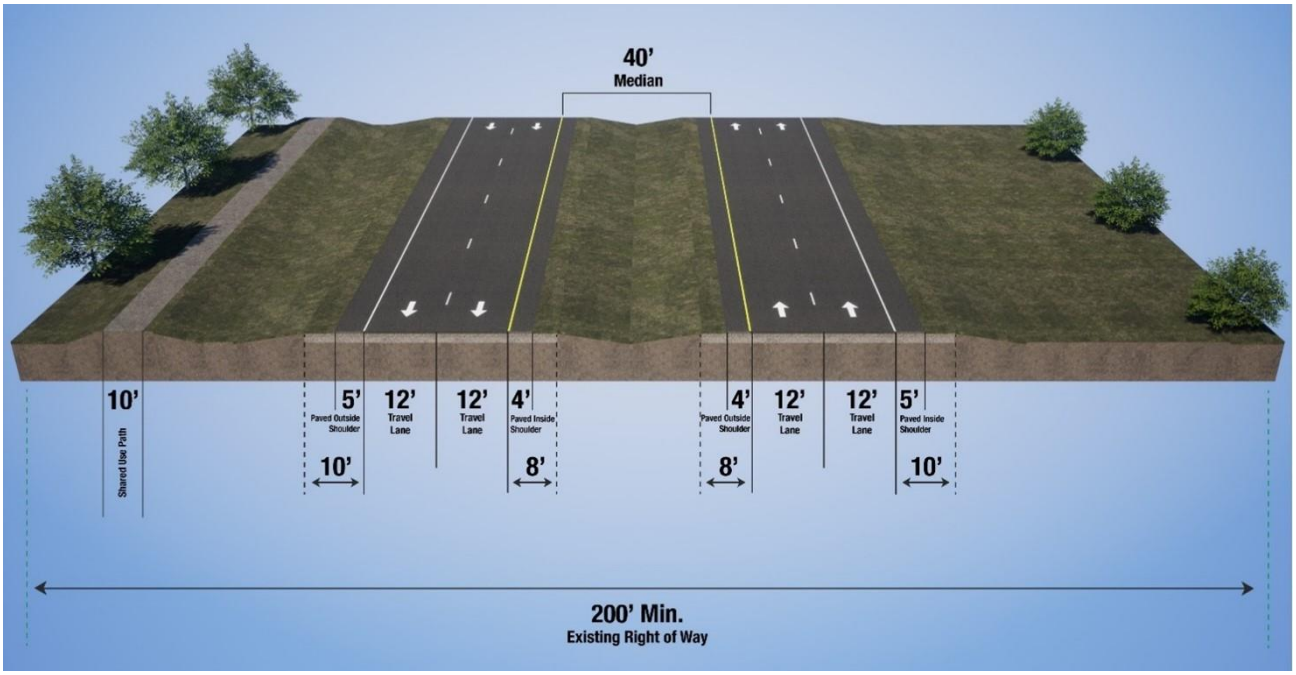
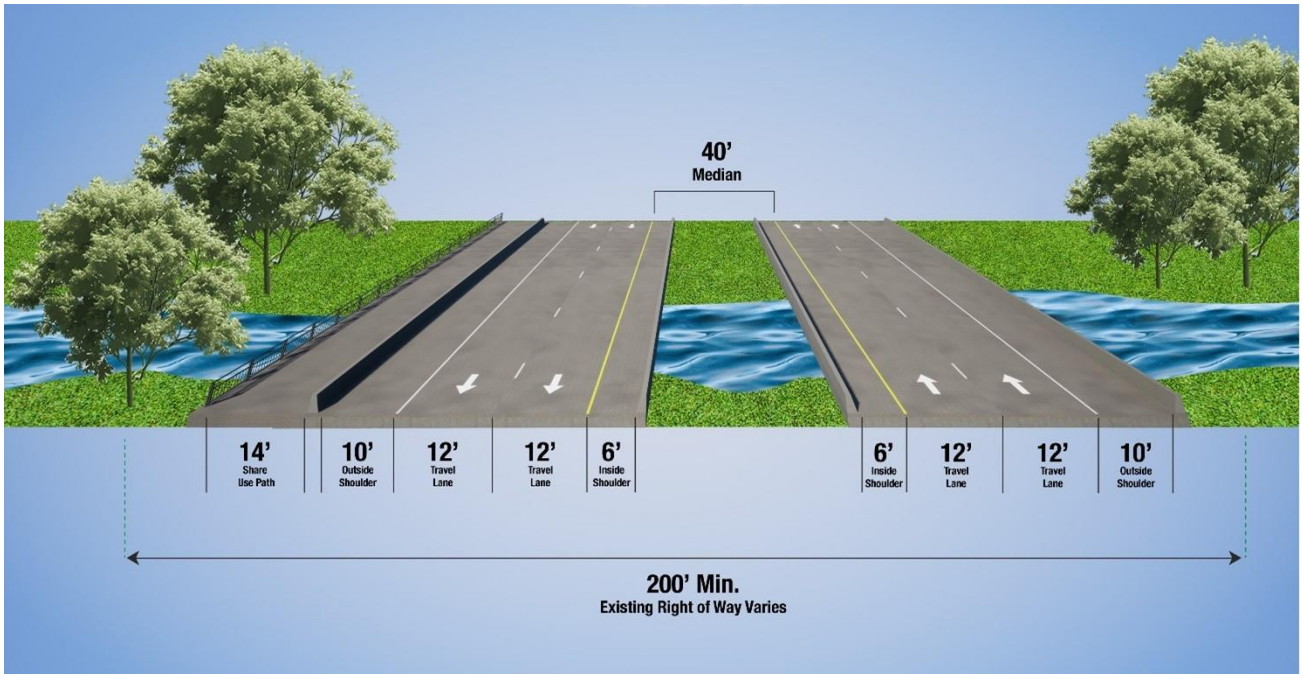
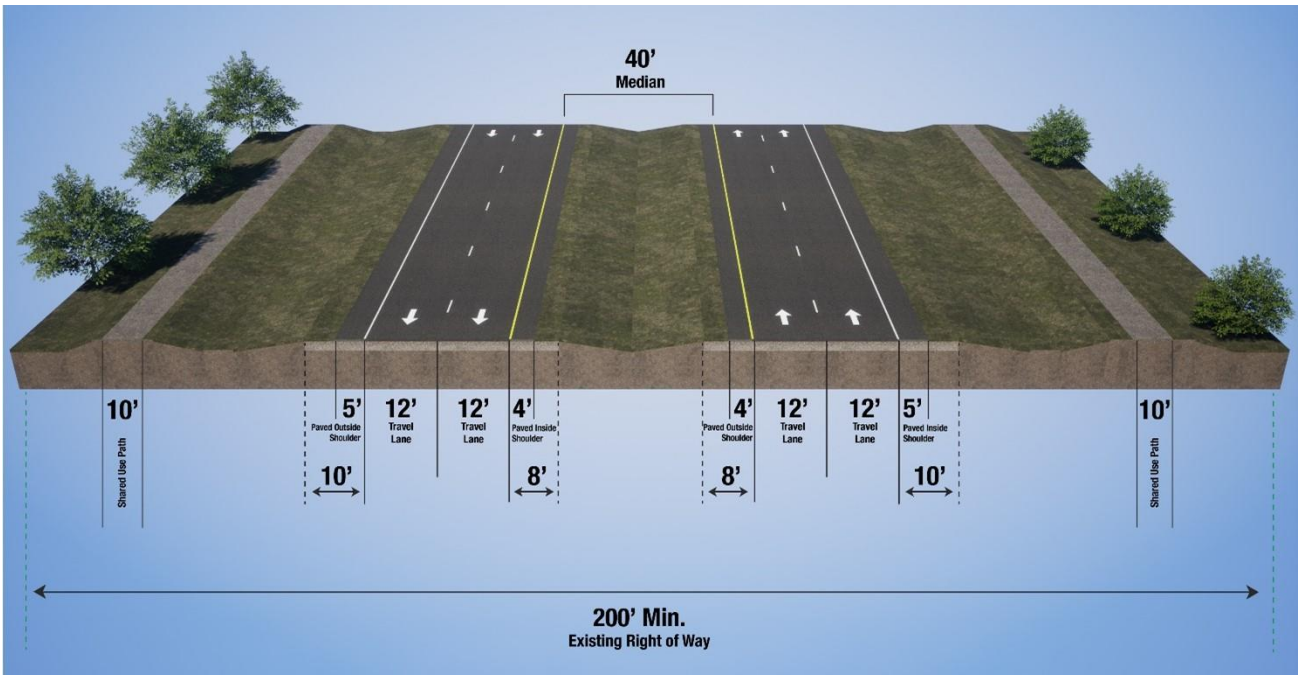


Figure 1-6: Preferred Alternative for S.R. 70 Bridges Over Whidden Creek and Joshua Creek



The Preferred Alternative east of Joshua Creek to C.R. 760 (**Figure 1-7**) features the construction of new westbound lanes to the north of the existing lanes, consisting of four 12-foot travel lanes (two in each direction) with an open median of 40 feet that includes eight-foot inside shoulders (four-foot paved), and ten-foot outside shoulders (five-foot paved). Between Joshua Creek and C.R. 760 two new ten-foot shared use paths will be constructed adjacent to both the northern and southern ROW lines. Along the north side of S.R. 70, the shared use path will end opposite the C.R. 760 intersection, while the shared use path adjacent to the southern ROW line will continue eastward.

Figure 1-7: S.R. 70 Preferred Alternative from east of Joshua Creek to C.R. 760



The Preferred Alternative from C.R. 760 to SE Highlands County Line Road (**Figure 1-8**) features the construction of new westbound lanes to the north of the existing lanes, consisting of four 12-foot travel lanes (two in each direction) with an open median of 40 feet that includes eight-foot inside shoulders (four-foot paved) and ten-foot outside shoulders (five-foot paved). A guardrail will be constructed adjacent to the westbound lanes and existing canal.

Between C.R. 760 and SE Highlands County Line Road, S.R. 70 has five additional bridge culvert crossings at Tiger Bay, Mossy Gully, DCI Canal, Long Point Marsh, and Parker Creek. The Preferred Alternative proposes new bridges (**Figure 1-9**) at each of these locations, including four 12-foot travel lanes (two in each direction) with six-foot paved inside shoulders and ten-foot paved outside shoulders. Concrete barriers would be implemented on both shoulders. The eastbound bridge will have a 14-foot shared use path with a concrete barrier separating pedestrian and bicycle users from the travel lane and a railing at the outside edge of the bridge.

Figure 1-8: S.R. 70 Preferred Alternative from C.R. 760 to SE Highlands County Line Road

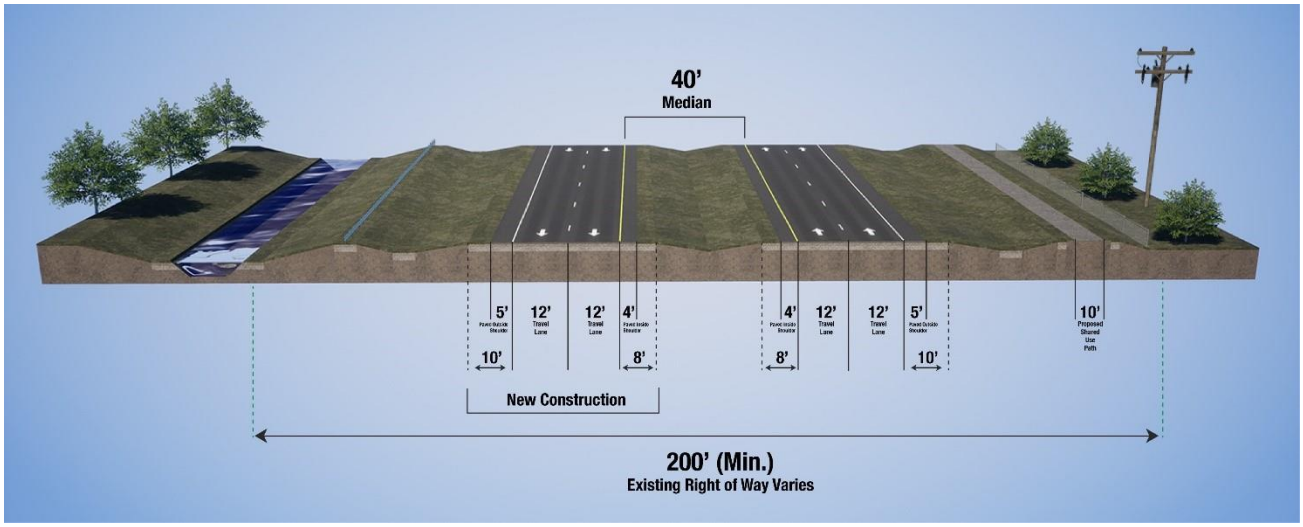
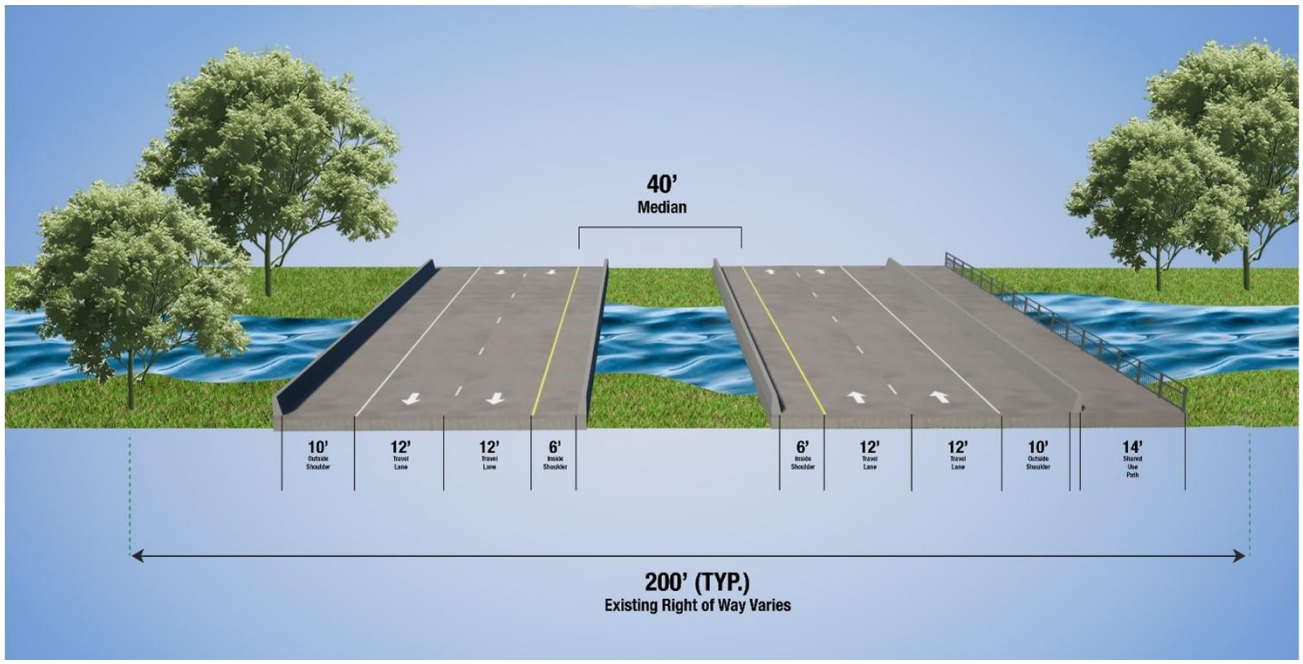


Figure 1-9: Preferred Alternative for S.R. 70 Bridges from C.R. 760 to SE Highlands County Line Road



The project will include the construction of wildlife crossing features at the seven major bridge crossings, roadway signing and pavement markings, and stormwater management facilities including treatment ponds and floodplain compensation sites. The Preferred Alternative is anticipated to require an estimated 49.51 acres of ROW acquisition and 1.97 acres of drainage/access easements for thirteen (13) stormwater management treatment ponds, as well as an estimated 168.67 acres of ROW acquisition and 6.69 acres of drainage/access easements for eleven (11) floodplain compensation sites. The Concept Plans have been provided as **Appendix A**.

2 EXISTING CONDITIONS

2.1 Project Study Area

The project study area is defined as the 500-foot buffer extending north and south of the existing centerline and extending 250 feet beyond the east and west project termini, with additional offsite proposed stormwater pond and floodplain compensation (FPC) sites. This section presents a description of existing conditions within the project study area, including soils and land use/vegetative cover types within both wetlands and uplands.

2.2 Methodology

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

- Aerial photographs (scale, 1 inch = 400 feet) Environmental Systems Research Institute (ESRI) 2023
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Highlands County, Florida 2020 (NRCS 2020)
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th Edition (Hurt 2007)
- FDOT, Florida Land Use, Cover and Forms Classification System (FLUCCS) Handbook, 3rd ed., January 1999
- Southwest Florida Water Management District (SWFWMD), FLUCCS Geographic Information Systems (GIS) Database (2023)
- United States Fish and Wildlife Service (USFWS), Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al. 1979)
- USFWS, National Wetlands Inventory (NWI), Wetlands Online Mapper

Environmental scientists familiar with Florida natural communities conducted field reviews of the project study area and adjacent habitats from January through November 2024 and January through June 2025. Field reviews consisted of pedestrian transects throughout all natural habitat types located within the project study area. The reviews verified and/or refined preliminary habitat boundaries and classification codes established through in-office literature reviews and aerial photo interpretation. All upland, wetland, and other surface water habitat types within the project study area were classified using FLUCCS.

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

2.3 Soils

A review of the USDA NRCS soils survey identified twenty-three (23) different soil map units within the study area. Per the Florida Association of Environmental Soil Scientists 2007 Hydric Soils of Florida Handbook and NRCS soil survey there are twelve (12) soil map units within the study area that are listed as hydric, and eleven (11) soil map units within the study area that are listed as non-hydric. Water is listed as unclassified. **Table 2-1** summarizes acreages of these soil map units within 500-feet of the project centerline and stormwater ponds. Soil maps and descriptions can be found in **Appendix B**.

Table 2-1 Soil Classification Table

Soil Classification	Hydric	Acres	Percentage
Desoto County			
2: Anclote Mucky Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes	Yes	32.08	1.19%
3: Basinger Fine Sand, 0 to 2 Percent Slopes	Yes	219.63	8.12%
4: Basinger Fine Sand, Frequently Flooded	Yes	11.47	0.42%
5: Basinger Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes	Yes	17.85	0.66%
11: Delray Mucky Fine Sand, Depressional	Yes	3.80	0.14%
13: Eaugallie Fine Sand, 0 to 2 Percent Slopes	No	193.01	7.14%
14: Farmton Fine Sand, 0 to 2 Percent Slopes	No	369.62	13.67%
20: Immokalee Fine Sand, 0 to 2 Percent Slopes	No	400.53	14.81%
21: Malabar Fine Sand, 0 to 2 Percent Slopes	No	256.46	9.48%
22: Malabar Fine Sand, High, 0 to 2 Percent Slopes	Yes	24.67	0.91%
23: Malabar Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes	Yes	12.05	0.45%
24: Myakka Fine Sand, 0 to 2 Percent Slopes	No	216.67	8.01%
25: Ona Fine Sand, 0 to 2 Percent Slopes	No	67.25	2.49%
26: Pineda-Pineda, Wet, Fine Sand, 0 to 2 Percent Slopes	No	23.30	0.86%
31: Pompano Fine Sand, 0 to 2 Percent Slopes	Yes	11.39	0.42%
32: Punta Fine Sand, 0 to 2 Percent Slopes	No	8.56	0.32%
34: Samsula Muck, Frequently Ponded, 0 to 1 Percent Slopes	Yes	21.99	0.81%
36: Smyrna Fine Sand, 0 to 2 Percent Slopes	No	455.08	16.83%
40: Valkaria Fine Sand, 0 to 2 Percent Slopes	Yes	285.13	10.54%
41: Wabasso Fine Sand, 0 to 2 Percent Slopes	No	23.96	0.89%
42: Zolfo Fine Sand, 0 to 2 Percent Slopes	No	37.50	1.39%
99: Water	Unclassified	6.44	0.24%
Highlands County			
12: Basinger Fine Sand, 0 to 2 Percent Slopes	Yes	0.88	0.03%
20: Samsula Muck, Frequently Ponded, 0 to 1 Percent Slopes	Yes	5.28	0.20%
Total		**2704.58**	**100.00%**

2.4 Land Use

Existing land uses and natural habitats within the project study area were classified using FLUCCS. Wetlands were also classified using the USFWS' *Classification of Wetlands and Deepwater Habitats of the United States*, as discussed later within the wetlands and other surface waters section. The land use along the study area ranges from residential, commercial/industrial parcels, institutional facilities, agricultural lands, and wetlands/other surface waters, with most of the land use being cropland and pastureland. **Table 2-2** is a summary of acreages of these land uses within the project study area. Existing land use maps and descriptions can be found in **Appendix C**.

Table 2-2 Land Use Table

FLUCCS ID	FLUCCS Description	Acres	Percentage
Agricultural			
210	Cropland and Pastureland	1620.99	59.94%
211	Improved Pastures	0.34	0.01%
220	Tree Crops	287.14	10.62%
240	Nurseries and Vineyards	16.32	0.60%
260	Other Open Lands (Rural)	41.66	1.54%
Barren Land			
740	Disturbed Land	29.66	1.10%
Rangeland			
310	Herbaceous (Dry Prairie)	4.42	0.16%
320	Shrub and Brushland	54.93	2.03%
330	Mixed Rangeland	51.18	1.89%
Transportation, Communication, and Utilities			
810	Transportation	46.91	1.73%
Upland Forests			
411	Pine Flatwoods	15.61	0.58%
434	Hardwood - Coniferous Mixed	23.94	0.89%
Urban and Built-Up			
110	Residential, Low Density	98.94	3.66%
120	Residential, Medium Density	26.85	0.99%
130	Residential, High Density	3.42	0.13%
140	Commercial and Services	44.95	1.66%
150	Industrial	51.20	1.89%
170	Institutional	76.64	2.83%
190	Open Land	10.43	0.39%
Water			
510	Streams and Waterways	2.21	0.08%
530	Reservoirs	25.49	0.94%
Wetlands			
615	Streams and Lake Swamps (Bottomland)	57.52	2.13%
630	Wetland Forested Mixed	0.12	0.00%
640	Vegetated Non-Forested Wetlands	10.92	0.40%
641	Freshwater Marshes	78.98	2.92%
643	Wet Prairies	23.66	0.87%
	Total	**2704.58**	**100.00%**

3 PROTECTED SPECIES

3.1 Introduction

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

Administered by the FWC, the State of Florida affords protection to animal species designated as State-designated Threatened or State-designated Endangered, pursuant to Chapter 68A-27, F.A.C. The State of Florida also protects and regulates plant species designated as endangered, threatened, or commercially exploited as identified on the Regulated Plant Index, which is administered by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry, pursuant to Chapter 5B-40, F.A.C.

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

3.1.1 Agency Coordination

The project was previously coordinated with federal and state resource agencies for their review under ETDM number #14569. The comments provided by these agencies served as partial basis for the evaluations documented within this document.

The corridor occurs in the USFWS Consultation Areas for the Audubon's crested caracara, Florida scrub-jay, Florida bonneted bat, and Florida grasshopper sparrow. Suitable habitat was field verified for the Audubon's crested caracara and Florida scrub-jay. Based on early coordination with USFWS they recommended that surveys be conducted for the Audubon's crested caracara and Florida scrub-jay with USFWS guidance. Survey methodologies were approved by the USFWS on March 20, 2025 for the Eastern black rail, Florida grasshopper sparrow, Florida bonneted bat and tricolored bat, and Everglade snail kite (**Appendix D**). The crested caracara survey methodologies were approved on January 2, 2024, and January 2, 2025. The NRE will be coordinated with various federal and state resource agencies for their review including USFWS, NMFS, US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACE), FWC, Florida FDACS, Florida Department of Environmental Protection (FDEP), and SWFWMD. Formal ESA Section 7 consultation will be requested with the USFWS for the crested caracara and Florida bonneted bat.

3.2 Methodology

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

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

- Florida Natural Areas Inventory (FNAI) GIS data and Biodiversity Matrix Map Server
- Audubon EagleWatch Database
- Wood Stork Colony Location Database (USFWS)
- Information for Planning and Conservation – IPaC (USFWS)
- Strategic Habitat for Threatened and Endangered Species (FWC)
- Critical Habitat for Threatened and Endangered Species (USFWS and NOAA)
- ETDM Summary Report (Project #14569)
- Endangered, Threatened, and Commercially Exploited Species Information (FDACS)

Following the desktop analysis, various field surveys of the study area were conducted, including methodology-based surveys for several species. Survey methodologies were approved by the USFWS on March 20, 2025 for the Eastern black rail, Florida grasshopper sparrow, Florida bonneted bat and tricolored bat, and Everglade snail kite. The crested caracara survey methodologies were approved on January 2, 2024, and January 2, 2025. These surveys were conducted by qualified field biologists and consisted of pedestrian and vehicular surveys of habitats within the study area. During these field surveys, areas of mapped habitat were visually inspected for land use type including vegetative types and coverage, level of disturbance, and overall potential suitability to support protected species and wildlife. The project's FNAI Data Report (**Appendix E**) was reviewed for documentation of occurrences of listed species in the vicinity of the project study area.

Based on the evaluation of collected data, field reviews, FNAI data, and database searches, the federal and state protected species discussed in **Section 3.3** were considered as having the potential to occur within or adjacent to the project study area. For a species to be considered potentially present, the project study area must be within the species' distribution range. An effect determination was then made for each federal and state protected species based on an analysis of the potential impacts of the proposed project alternative to each species.

3.3 Results

Based on the information collected, field reviews, and species-specific surveys, a list of protected species with the potential to occur within the project study area was generated. This list includes a total of 50 federal or state protected species that have the potential for occurrence within the project study area. These protected species include 24 plants, one invertebrate, four reptiles, 17 birds, and four

mammals. **Tables 3-1** through **3-3** present a list of protected species with the potential to occur within the project study area, suitable habitat, and ranking of potential occurrence.

The potential for occurrence for each species was designated as *None*, *Low*, *Moderate*, or *High* based on the type and extent of habitat present within the project study area, its relative condition, if the species has been previous documented within one mile of the project study area, or if the species was observed in the project study area. A *None* rating indicates that the species' range may include the project study area but suitable habitat was not found within or adjacent to the project study area. A *Low* rating indicates that suitable habitat for that species was found within the project study area, but the species has not been documented within one mile of the project study area. A *Moderate* rating indicated that suitable habitat exists and the species has been documented within one mile of the project study area. A *High* rating indicates that suitable habitat exists and the species was either observed during field reviews, species-specific surveys, or has a high probability of occurring based on available habitat and general species life history.

A determination of the anticipated project effect on protected species was made based on their probability of occurrence within the project study area, the proposed changes to their habitat quality, quantity, and availability as a result of project construction and how each species is expected to respond to anticipated habitat changes. Listed below are the identified species and their potential to occur within the project study area.

Table 3-1 Federally Listed Species with Potential for Occurrence

Federally Listed Species				
Common Name	**Scientific Name**	**Federal Status**	**Habitat Preference**	**Potential for Occurrence**
Flora				
Pygmy fringetree	*Chionanthus pygmaeus*	E	Scrub	None
Invertebrates				
Monarch butterfly	*Danaus plexippus*	PT	Blooming nectar resources	Moderate
Reptiles				
Eastern indigo snake	*Drymarchon couperi*	T	Mesic flatwoods, upland pine forests, swamps, wet prairies, xeric pinelands, and scrub habitats	Low
Birds				
Crested caracara	*Caracara plancus*	T	Open country such as dry prairie and pasture lands with scattered cabbage palm, cabbage palm/live oak hammocks, and shallow ponds and sloughs. Cabbage palms or live oaks with low-growing surrounding	High

Federally Listed Species				
Common Name	**Scientific Name**	**Federal Status**	**Habitat Preference**	**Potential for Occurrence**
			vegetation are required for nesting	
Eastern black rail	*Laterallus jamaicensis jamaicensis*	T	Freshwater and saltwater marshes with limited tidal activity	None
Everglade snail kite	*Rostrhamus sociabilis plumbeus*	E	Shallow marshes and vegetated edges of lakes as well as small trees near water such as the coastal plain willow	High
Florida scrub-jay	*Aphelocoma coerulescens*	T	Fire dominated; low growing oak scrub habitat found on well drained sandy soils	Moderate
Whooping crane	*Grus Americana*	EXPN	Coastal marshes and estuaries	None
Wood stork	*Myceteria americana*	T	Inundated forested wetlands, including cypress strands and domes. Mixed hardwood swamps, sloughs, and mangroves	High
Florida grasshopper sparrow	*Ammodramus savannarum floridanus*	E	Dry open prairies with bunch grasses, low shrubs, and saw palmetto	Low
Mammals				
Florida bonneted bat	*Eumops floridanus*	E	Roosts in palms and hollow trees and buildings	High
Florida panther	*Puma concolor coryi*	E	A variety of habitats including upland forests, prairies, wetlands, stands of saw palmetto and swamps	Low
Tricolored bat	*Perimyotis subflavus*	PE	Primarily forested habitats, roosts in palms and hollow trees and buildings	High

E- Endangered, **T**- Threatened, **EXPN** – Experimental Population, Non-Essential, **PE** – Proposed Endangered, **PT** - Proposed Threatened

Table 3-2 State Listed Species with Potential for Occurrence

State Listed Species				
Common Name	**Scientific Name**	**State Status**	**Habitat Preference**	**Potential for Occurrence**
Flora				
Many-flowered grass-pink	*Calopogon multiflorus*	T	Dry to moist flatwoods with longleaf pine, saw palmetto and wiregrass	Low
Needleroot airplant orchid	*Dendrophylax porrectus*	T	Swamps, hammocks	Low
Tampa mock vervain	*Glandularia tampensis*	E	Hammocks	Low
Catesby's lily	*Lilium catesbaei*	T	Mesic pine flatwoods	Low
Florida loosestrife	*Lythrum flagellare*	E	Wet prairies, disturbed wet areas	High
Jameson's waterlily	*Nymphaea jamesoniana*	E	Ponds, canals, and sloughs	Low
Erect pricklypear	*Opuntia stricta*	T	Shell middens, coastal hammocks	None
Plume polypody	*Pecluma plumula*	E	Swamps, hammocks	Low
Yellow butterwort	*Pinguicula lutea*	T	Wet flatwoods, wet prairies	Low
Yellow fringed orchid	*Platanthera ciliaris*	T	Wet prairies, wet flatwoods	Low
Rose pogonia	*Pogonia ophioglossoides*	T	Wet prairies, wet flatwoods	Low
Greater yellowspike orchid	*Polystachya concreta*	E	Swamps, hammocks	None
Florida royal palm	*Roystonea regia*	E	Swamps, hammocks	None
Leafless beaked ladies'-tresses	*Sacoila lanceolata var. lanceolata*	T	Pine flatwoods, hammocks, disturbed areas	High
Lacelip ladies'-tresses	*Spiranthes laciniata*	T	Wet prairies, swamps	Low
Toothed lattice-vein fern	*Thelypteris serrata*	E	Swamps	Low
Northern needleleaf	*Tillandsia balbisiana*	T	Hammocks, scrubs	High
Cardinal airplant	*Tillandsia fasciculata*	E	Swamps, hammocks	High
Giant airplant	*Tillandsia utriculata*	E	Swamps, hammocks	High
Edison's ascryum	*Hypericum edisonianum*	E	Depressions in scrub, cutthroat seeps, flatwoods ponds, lake margins and wet prairies	Moderate
Nodding pinweed	*Lechea cernua*	T	Deep sands, usually ancient dunes, on which the most common forest is a mixture of evergreen scrub oaks	None

State Listed Species				
Common Name	**Scientific Name**	**State Status**	**Habitat Preference**	**Potential for Occurrence**
Cutthroatgrass	*Coleataenia abscissa*	E	Wet flatwoods, prairies, and seepage areas	Low
Redmargin zephyrlily	*Zephyranthes simpsonii*	T	Wet pine flatwoods, meadows, pastures, and roadsides	Low
Reptiles				
Gopher tortoise	*Gopherus polyphemus*	T	Dry upland habitats including sandhills, scrub, xeric oak hammock and dry pine flatwoods; also commonly uses disturbed habitats such as pastures, old fields and road shoulders	High
Florida pine snake	*Pituophis melanoleucus mugitus*	T	Well-drained sandy soils with a moderate to open canopy	Low
Short-tailed snake	*Lampropeltis extenuata*	T	Dry upland habitats with open canopies and dry sandy soils including sandhill, rosemary-sand pine scrub and adjacent xeric oak hammocks	Low
Birds				
Florida burrowing owl	*Athene cunicularia floridana*	T	Areas of short, herbaceous groundcover; including prairies, sandhills and farmland	Low
Florida sandhill crane	*Antigone canadensis pratensis*	T	Wet and dry prairies, marshes, and marshy lake edges	High
Least tern	*Sternula antillarum*	T	Estuaries, bays, and rivers	Low
Little blue heron	*Egretta caerulea*	T	Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies, and bay swamps	High
Roseate spoonbill	*Platalea ajaja*	T	Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps, hardwood swamps, wet prairies, and bay swamps	Low
Southeastern American kestrel	*Falco spaverius paulus*	T	Open pine habitats, woodland edges, prairies, and pastures	High
Tricolored heron	*Egretta tricolor*	T	Freshwater marshes, coastal beaches, mangrove swamps, cypress swamps,	High

State Listed Species				
Common Name	**Scientific Name**	**State Status**	**Habitat Preference**	**Potential for Occurrence**
			hardwood swamps, wet prairies, and bay swamps	

E- Endangered, **T**- Threatened

Table 3-3 Non-Listed Species with Potential for Occurrence

Non- Listed Species				
Common Name	**Scientific Name**	**Status**	**Habitat Preference**	**Potential for Occurrence**
Birds				
Bald eagle	*Haliaeetus leucocephalus*	N	Large open water bodies, saltwater marshes, dry prairies, mixed pine, hardwood forests, wet prairies, marshes, pine flatwoods and sandhills	High
Limpkin	*Aramus guarauna*	ISMP	Freshwater marshes, edges of rivers and ponds, wooded swamps, low-salinity estuarine wetlands, human-created impoundments and canals	High
Snowy egret	*Egretta thula*	ISMP	Freshwater marshes, edges of rivers and ponds, wooded swamps, low-salinity estuarine wetlands, human-created impoundments and canals	High
Mammals				
Florida black bear	*Ursus americanus floridanus*	N	Mixed hardwood pine, cabbage palm hammock, upland oak scrub and forested wetlands, such as cypress and riverine	Low

N- Not listed, **ISMP –** included in FWC Imperiled Species Management Plan

3.3.1 Federal Species

3.3.1.1 Flora

Pgymy fringetree

The study does not contain suitable scrub habitat for pygmy fringetree. The surrounding land use is predominantly agricultural land and vegetated areas that are adjacent to the corridor are mostly mowed and maintained. A survey for listed plant species with the potential to occur within the project study area was conducted in April 2025, with a supplemental survey occurring in September 2025

(**Appendix M**). There were no observations of this species during field surveys and the probability of occurrence is **none**. Based on the lack of observations and lack of suitable habitat, a determination of "***no effect"*** is anticipated for this species.

3.3.1.2 Invertebrates

Monarch butterfly

The monarch butterfly was proposed for listing as a threatened species by the USFWS on December 12, 2024. Within North America, the monarch butterfly is a highly migratory species which typically winters in Mexico. However, there is a resident population of this species within Florida. This species requires a diversity of blooming nectar resources, but of particular importance is milkweed (*Asclepias spp*.). Potential monarch butterfly habitat and presence was assessed within the existing S.R. 70 ROW, in addition to the potential stormwater management ponds and floodplain compensation sites in the field during the wetland delineation process and other field work. Minor amounts of milkweed such as swamp milkweed (*Asclepias incarnata*) were observed during field reviews. There were no field observations; however, the species is still anticipated to occur intermittently within the project study area. The probability of occurrence for the species is **moderate**. If the monarch butterfly is listed by the USFWS as threatened or endangered prior to completion of construction, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.

3.3.1.3 Reptiles

Eastern indigo snake

The eastern indigo snake is a large, black, non-venomous snake distributed throughout the southeastern United States. The eastern indigo snake is listed as a threatened species by the USFWS. The species is found in a variety of habitats including swamps, wet prairies, xeric pinelands, and scrub areas. There have been no documented occurrences of this species within one mile of the project study area. It may utilize gopher tortoise burrows for shelter during the winter and to escape the heat during the summer. Two potentially occupied gopher tortoise burrows were observed in 2024 while conducting species and wetland surveys. The probability of occurrence is **low**. Formal gopher tortoise surveys will occur prior to construction commencement of the project and the 2024 USFWS *Standard Protection Measures for the Eastern Indigo Snake* **(Appendix F)** will be implemented during construction to avoid potential impacts. Following the Eastern Indigo Snake Programmatic Effect Determination Key, revised August 2017 **(Appendix F)**, couplets A>B>C, it is anticipated that the project "***may affect and is likely to adversely affect***" the eastern indigo snake. An estimated total of 253.85 acres of suitable habitat (according to FLUCCS classification) is anticipated to be impacted. **Table 3-4** provides the estimated impact acreages to suitable eastern indigo snake habitat within the project study area. Lands within the 11 proposed floodplain compensation sites will not be converted into paved roadway and are expected to maintain vegetation that provides suitable habitat for the eastern indigo snake following completion of the Preferred Alternative. To support the survival and

recovery of the eastern indigo snake, the FDOT commits to provide sufficient credits at the Platt Branch Mitigation Bank (PBMB) in Highlands County, Florida, or other conservation lands as may become available, to provide at least 253.85 acres of land cover type that provide habitat for the species. The FDOT has agreed not to commence construction of the project until they provide the USFWS with a letter or email from the PBMB stating that the credit ledger from the bank has been revised to reflect the deduction of the credits and the FDOT receives an email or letter from the USFWS indicating that they have received this document.

Table 3-4 Eastern Indigo Snake Habitat within the Project Study Area

Project Component	FLUCCS Classification	FLUCCS Description	Acreage of Eastern Indigo Snake Habitat
Mainline Corridor	110	Residential, Low Density	9.54
	190	Open Land	1.73
	210	Cropland And Pastureland	170.91
	220	Tree Crops	0.58
	250	Specialty Farms	1.59
	260	Other Open Lands (Rural)	1.59
	320	Shrub And Brushland	1.55
	434	Hardwood - Coniferous Mixed	3.54
	641	Freshwater Marshes	3.54
	643	Wet Prairies	0.57
	740	Disturbed Land	5.87
Eastern Indigo Snake Habitat Subtotal Mainline			**201.01**
SMF 0901A	210	Cropland and Pastureland	8.63
SMF 0902A	110	Residential, Low Density	3.16
SMF 0903B	210	Cropland And Pastureland	2.64
	434	Hardwood - Coniferous Mixed	0.01
SMF 0904A	411	Pine Flatwoods	1.76
SMF 1001A	210	Cropland And Pastureland	5.13
SMF 1002A	210	Cropland And Pastureland	4.11
SMF 1003B	210	Cropland And Pastureland	4.14
SMF 1004A	210	Cropland And Pastureland	1.94
SMF 1006A	210	Cropland And Pastureland	4.95
SMF 1007A	210	Cropland And Pastureland	6.14
SMF 1008A	210	Cropland And Pastureland	6.93
SMF 1009A	260	Other Open Lands (Rural)	3.20
	210	Cropland And Pastureland	0.10
Eastern Indigo Snake Habitat Subtotal SMF			**52.84**
		Total	**253.85**

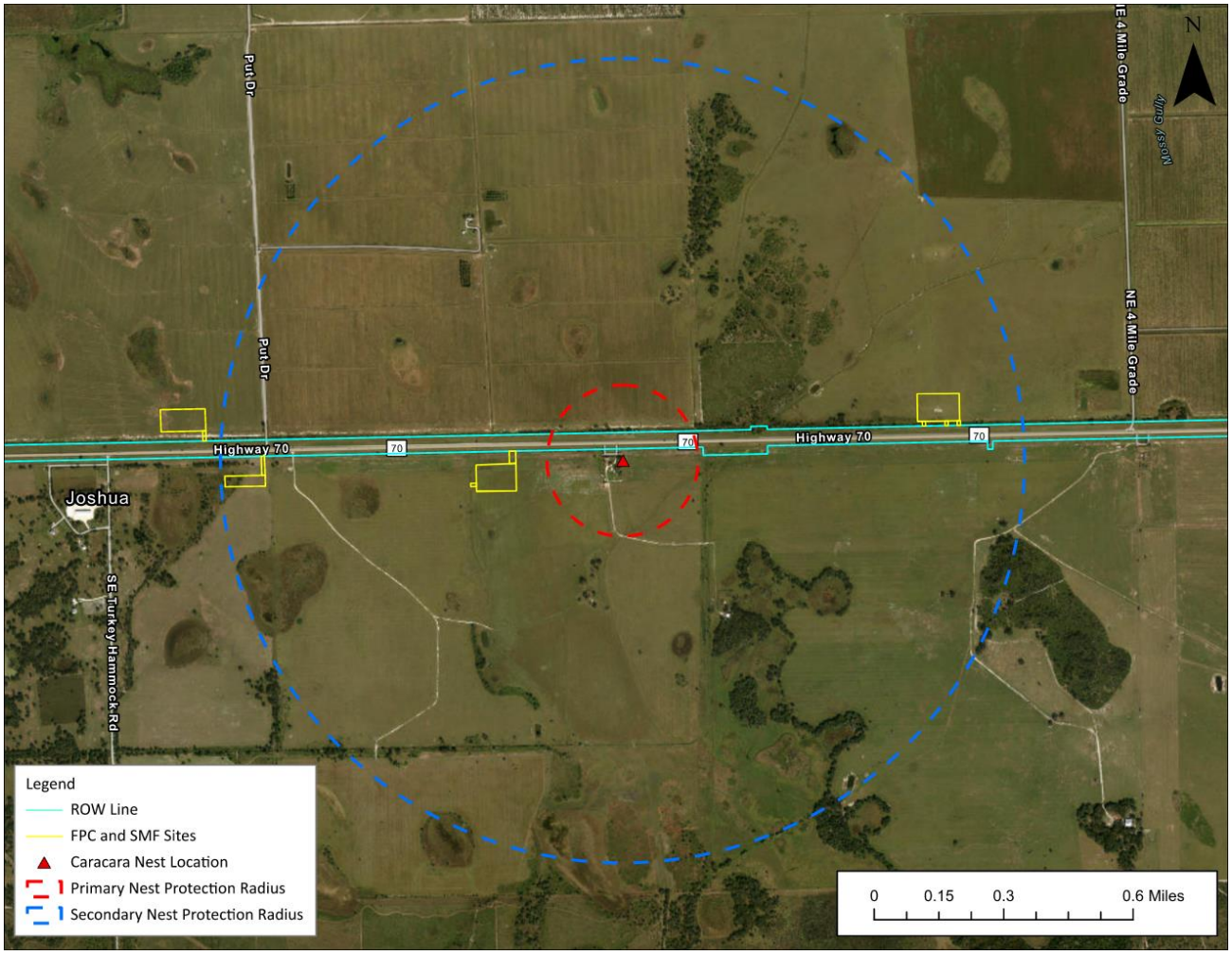
3.3.1.4 Birds

Crested Caracara

The Audubon's crested caracara is a federally threatened species. Nesting and foraging habitat includes grassy prairies and pastures dotted with shallow ponds and sloughs with scattered trees, poles, and fences. They can be found in improved pastures and upland pastures along channels, ditches, and wetlands. The project is located within the USFWS consultation area for the caracara, and foraging and nesting habitat is present adjacent to the proposed improvements.

A survey of the S.R. 70 roadway, pond, and floodplain compensation site ROW was conducted from January to April 2025 by FDOT in accordance with the USFWS's 2004 drafted *Species Conservation Guidelines South Florida*, *Audubon's Crested Caracara*, *Survey Protocol for Finding Caracara Nests*, the USFWS's 2017 drafted *Crested Caracara Draft Survey Protocol – Additional Guidance*, and the FDOT OEM's 2022 Crested Caracara Survey Training video. USFWS approved the proposed caracara nest survey protocols on January 2, 2024, and January 2, 2025. Results from the survey indicated that one active caracara nest is located within the 300-meter buffer zone around the perimeter of the project area and the probability of occurrence is **high**. See **Appendix G** for the Caracara Survey Results Memorandum. The active nest is approximately 109 feet from the construction footprint. See **Figure 3-1** for the caracara nest location map. Approximately 4.72 acres of potential foraging or nesting habitat is estimated to be converted within the 300-m primary nest protection radius and approximately 21.15 acres of potential habitat will be converted in the 1500-m secondary nest protection radius. FDOT anticipates that the proposed improvements may result in the abandonment of the active nest for future seasons. Therefore, it is anticipated that the project "***may affect, likely to adversely affect***" the crested caracara. FDOT will commit to a donation of $100,000 to the Caracara Fund of the Wildlife Foundation of Florida (WFF) and if land clearing is proposed within suitable caracara nesting habitat from December 1 through April 30, suitable nesting habitat sites will be surveyed within the project corridor daily for signs of caracara nesting beginning at least 5 days prior to the commencement of land clearing and continuing until such a time where all native vegetation in the project footprint is cleared. Survey results will be submitted to USFWS on an annual basis during construction.

Figure 3-1: Caracara Nest Location Map



Eastern black rail

The eastern black rail is listed as threatened by the USFWS. This species is found sporadically throughout the eastern half of the United States, including both coastal and freshwater marsh habitats throughout Florida. The eastern black rail is a wetland dependent species. While it can be found in salt, brackish, and freshwater marshes that are tidally or non-tidally influenced, it has a very specific niche habitat. It requires dense herbaceous vegetation to provide shelter and cover and areas for protected nest sites; it is not found in areas with woody vegetation. Occupied habitat tends to be primarily composed of fine-stemmed emergent plants (rushes, grasses, and sedges) with high stem densities and dense cover. No suitable habitat was identified within the project area, as the marshes do not contain enough dense herbaceous vegetation. The bird requires shallow water or moist soil for its nesting sites and elevated refugia with dense cover to survive high water events, because juvenile and adult black rails prefer to walk and run rather than fly and chicks are unable to fly. The species has not been documented within or adjacent to the project area. The probability of occurrence for this species

is **none**. Due to the absence of suitable habitat and incorporation of BMPs, it is anticipated that the project will have "***no effect***" on the species.

Everglade snail kite

The snail kite is listed as a federally endangered species by USFWS. The species is found inland on freshwater marshes and on the edge of shallow lakes containing apple snails (USFWS South FL Ecological Services, 2004b). Typical snail kite habitats are associated with palustrine and lacustrine emergent wetlands on organic substrates containing a low vegetation profile (<10 ft.), often dominated by sawgrass (*Cladium jamaicense*) with open water and sparse white water-lily (*Nymphaea odorata*), spike rush (*Eleocharis cellulosa*), and maidencane (*Hymenachne hemitomon*). They roost in willows (*Salix spp*.), or in areas dominated by cattail (*Typha spp.)* or giant bulrush (*Schoenoplectus californicus*).

Potential suitable nesting and foraging habitat was identified within the project study area. Field surveys for the snail kite were conducted from March to May 2025 (**Appendix H**). Two snail kites were observed during the five survey events; however, no nest activity was found in the project area. The probability of occurrence is **high**. Adult apple snails, a suitable food source, were observed on a limited basis, while diagnostic pink egg masses were absent during field surveys. The FDOT will provide compensatory mitigation for unavoidable impacts to wetlands; therefore, a determination of "***may affect, not likely to adversely affect***" has been concluded for the Everglade snail kite.

Florida scrub-jay

The Florida scrub-jay is the only avian species restricted to Florida and is endemic to Florida's scrub habitats. The Florida scrub-jay is listed as a federally threatened species by the USFWS and receives protection under the Endangered Species Act 16 U.S.C. §1531-1544, Florida's Endangered and Threatened Species Rule 68A-27 F.A.C., and the Migratory Bird Treaty Act 16 U.S.C. §§ 703–712. They have very specific habitat requirements, which limit their range. Suitable habitat consists of scrub oak species rarely exceeding seven feet and maintained by prescribed burns every five to ten years with bare patches of sand used for caching. Typical dominant species include sand live oak (*Quercus geminata*), myrtle oak (*Q. myrtifolia*), Chapman oak (*Q. chapmanii*), Archbold oak (*Q. inopina*), rusty lyonia (*Lyonia ferruginea*), and saw palmetto (*Serenoa repens*). They typically nest in sand live oak but have also nested in myrtle oak and saw palmetto. Florida scrub-jays also establish a helper system, often consisting of offspring from previous year or immigrants from nearby. Suitable habitat also consists of nearby scrub areas that allow dispersal; thus, strengthening the genetic pool and discouraging the formation of a sink.

The project area is within the USFWS consultation area for the scrub-jay and there is a documented occurrence of the species in the project vicinity according to the Environmental Screening Tool (EST). A survey was completed in October of 2024 by FDOT following the USFWS-approved methodology (approved October 8th, 2024) in accordance with the USFWS South Florida Ecological Services' 2004

drafted *Species Conservation Guidelines, South Florida* and the USFWS's 2007 *Scrub-Jay Survey Guidelines*. A survey was also conducted from April 14-18, 2025 for the proposed pond sites using methodologies approved by the USFWS on March 20, 2025. See **Appendix I** for the Florida Scrub-Jay Results Memos. Four areas within the project area were identified as having suitable scrub habitat, all observed to be Type II habitat. Based on the lack of observations and responses to play calls, the results of the surveys indicate that the species does not occur within the project footprint or the 600-foot buffer zone. The probability of occurrence for the species is **moderate**. Based on EST occurrence data, individual scrub-jays could pass through the project area in traveling between areas regionally where species have been previously recorded; therefore, it is anticipated that the project "***may affect, not likely to adversely affect***" the Florida scrub-jay.

Whooping crane

The whooping crane is listed as an experimental population, non-essential species by the USFWS. For the purposes of consultation, non-essential experimental populations are treated as threatened species on National Wildlife Refuge and National Park land (require consultation under 7(a)(2) of the ESA) and as a proposed species on private land (no section 7(a)(2) requirements, but Federal agencies must not jeopardize their existence (section 7(a)(4)). The whooping crane breeds, migrates, winters, and forages in a variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, salt marsh and sand or tidal flats, upland swales, wet meadows and rivers, pastures and agricultural fields. Within Florida, an experimental, non-migratory population was reintroduced from 1993 to 2005 in Central Florida. This species was not observed during the field survey and has not been historically recorded in the study area. The probability of occurrence within the project study area is **none**; therefore, the project is anticipated to have no effect on the whooping crane.

Wood stork

The wood stork is a tall wading bird designated as threatened by the USFWS. Suitable foraging habitat (SFH) includes wetlands that typically have shallow-open water areas that are relatively calm and have a permanent or seasonal water depth from 2 to 15 inches deep. Other shallow non wetland water bodies are also SFH. SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to freshwater marshes, small ponds, shallow, seasonally flooded roadside or agricultural ditches, seasonally flooded pastures, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. The eastern portion of the project is located within the 18.6-mile Core Foraging Area (CFA) radius of three (3) documented wood stork colonies: (Morganton North, Morganton Central, and Morganton South). The Morganton North is the closest (approximately 15 mi (24.1402 km)) colony to the project area (**Figure 3-2**). Wood storks were identified during the field surveys. The probability of occurrence is **high**.

Since the anticipated wetland/suitable foraging habitat impacts exceed 5 acres, a wood stork prey foraging analysis was conducted to determine the amount of biomass lost from estimated wetlands and other surface water impacts. The acreages of the affected suitable foraging habitat were calculated to show the current proposed impacts/loss from the Preferred Alternative. While several of the sites within the project area hold standing water deeper than what us considered suitable, suitable foraging habitat was considered to be fifty percent of wetland and OSW areas to account for shallow edges. Based on the results of the wood stork foraging analysis, combined with the wetland and other surface water direct impact areas, the project will result in the direct loss of 7.88 acres of suitable wood stork foraging areas. A total of 4.72 acres of short hydroperiod wetlands will be impacted and 3.16 acres of long hydroperiod wetlands will be impacted. Analysis results concluded that the Preferred Alternative would result in the net loss of 16.56 kg total (fish and crayfish) biomass (**Table 3-5**).

In accordance with the *May 2010 Effect Determination Key for the Wood Stork in South Florida* couplets A>B>C>E>*NLAA*, it was determined the project "***may affect, not likely to adversely affect***" the wood stork (**Appendix J)**. As part of this project, impacts to wetlands within the CFA of one or more of the affected wood stork colonies will be mitigated for to prevent a net loss of wetland functions and values and conserve wetland habitats at a regional mitigation bank that has been approved by the USFWS or pursuant to Section 373.4137, F.S. The final amount of wetland habitat mitigation will be determined after jurisdictional wetland delineations are completed and reviewed with regulatory agency staff in conjunction with the project's future environmental permitting effort. Additional foraging habitat functional loss will also be offset through the provision of stormwater management features including ditches, ponds and floodplain compensation areas. The amount of additional habitat loss offset (i.e., beyond the provision of compensatory wetland mitigation) will be determined prior to construction commencement. Considering the functional loss to be offset with stormwater management features as well as the project's provision of wetland mitigation (discussed further in **Section 4.3**), FDOT will ensure that foraging habitat compensation provides similar foraging value to that which will be lost from construction of the project.

Figure 3-2: Wood Stork Colony Location Map

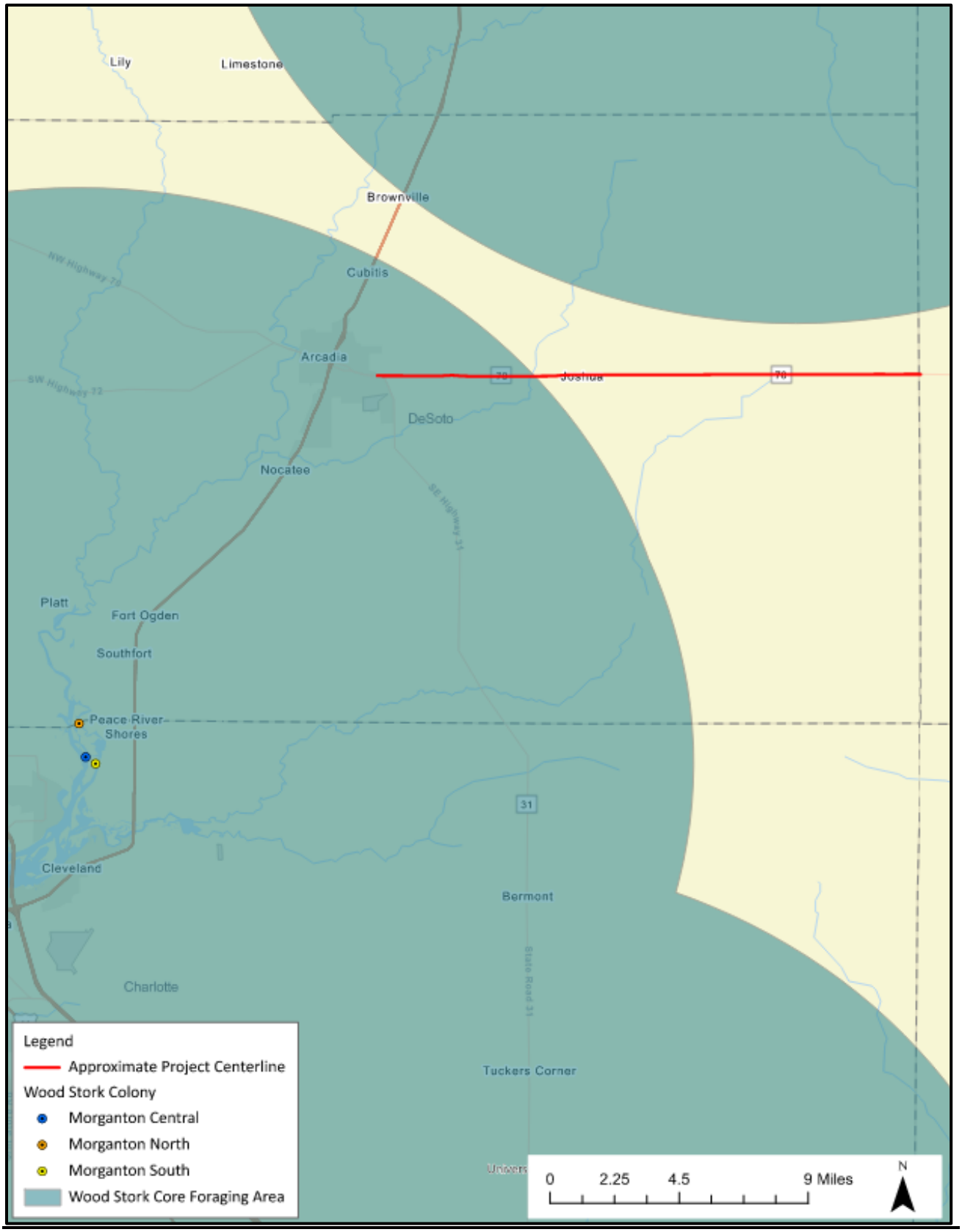


Table 3-5 Wood Stork Foraging Analysis Summary

Hydroperiod Class	Wetland/Other Surface Water ID	Total Direct Impact Area (acres)	% Exotics	Foraging Suitability Variable (FSV)	Total Direct Impact Area (m^2)	Total Suitable Direct Impact Area (m^2)	Crayfish & Fish g/m^2	Available Biomass	32.5% Biomass Consumed	Biomass (kg)
Class 2 (60-120 days)	WL-448-R, WL-480-R	0.15	0-25	1.00	619.17	619.17	0.62	383.88	124.76	0.12
Class 3 (120-180 days)	SW-673-R, SW-770-L, SW-880-R, SW-673-R, WL-316-R, WL-466-R, WL-486-R, WL-492-R, WL-518-R, WL-584-R, WL-585-R, WL-588-R, WL-699-R, WL-700-R, WL-702-R, WL-715-R, WL-729-R, WL-FPC 1002-NA, WL-FPC 1002-SB, SMF 1006A, SW-504-L, SW-484-R, SW-518-R	2.52	0-25	1.00	10,179.87	10,179.87	1.32	13,437.42	4,367.16	4.37
Class 3 (120-180 days)	SW-SMF-1002A, SW-518-R, SW-672-R, SW-762-L, SW-859-RT, SW-884-RT, SW-992-L, SW-501-R, SW-596-R, SW-618-R, WL-992-L, SW-678-R, SW-SMF 0902A, WL-SMF 0902A, FPC 1007C	2.05	25-50	0.64	8,314.27	5,321.13	1.32	7,023.89	2,282.77	2.28
Class 4 (180-240 days)	WL-989-R, WL-993-R, FPC 1006A, SW-824-R	0.61	0-25	1.00	2,458.47	2,458.47	2.34	5,752.81	1,869.66	1.87
Class 4 (180-240 days)	WL-114-L, WL-115-R	0.01	50-75	0.37	54.63	20.21	2.34	47.30	15.37	0.02
Class 5 (240-300 days)	WL-397-R, WL-403-L, WL-678-R, WL-730-R, WL-769-RT	0.15	0-25	1.00	613.10	613.10	2.93	1,796.38	583.82	0.58
Class 5 (240-300 days)	SW-942-R, WL-302-L, WL-302-R, WL-564-L, FPC 1008A, FPC 1010B, SMF 1009A	1.42	25-50	0.64	5,746.54	3,677.78	2.93	10,775.90	3,502.17	3.50
Class 6 (300-330 days)	WL-206-R, WL-354-L, WL-589-R, WL-617-L, FPC 1003A	0.68	0-25	1.00	2,761.98	2,761.98	3.36	9,280.25	3,016.08	3.02
Class 6 (300-330 days)	WL-277-L, WL-277-R	0.28	25-50	0.64	1,143.24	731.67	3.36	2,458.42	798.99	0.80
Total Short Hydroperiod (Classes 1, 2, & 3)		4.72			19,113.30	16,120.17		20,845.20	6,774.69	6.77
Total Long Hydroperiod (Classes 4, 5, & 6)		3.16			12,777.95	10,263.21		30,111.06	9,786.09	9.79
Total		**7.88**			**31,891.25**	**26,383.38**		**50,956.26**	**16,560.79**	**16.56**

Florida grasshopper sparrow

The Florida grasshopper sparrow is federally listed as endangered. It is a subspecies of grasshopper sparrow endemic to the dry prairie region of central and south Florida. The subspecies is extremely habitat-specific and relies on fire every two to three years to maintain its habitat. The USFWS estimates fewer than 75 wild individuals of this species remain, with the current populations inhabiting conservation lands still decreasing. Due to this severe population decline the USFWS initiated a captive breeding program in 2016.

Records document it as historically occurring within Collier, Miami-Dade, DeSoto, Glades, Hendry, Highlands, Polk, Okeechobee, and Osceola counties. Field surveys conducted in March and April 2025 indicated that there are no active nests or foraging territory within the project study area (**Appendix K**) and the probability of occurrence is **low**. Therefore, the proposed project "***may affect, not likely to adversely affect***" the Florida grasshopper sparrow.

3.3.1.5 Mammals

Florida bonneted bat

The Florida bonneted bat is the largest species of bat in Florida. Florida bonneted bats were listed as a federally endangered species by the USFWS in 2013. This species can reach up to 6.5 inches (16.5 centimeters) in length with a wingspan of 20 inches (51 centimeters). Their habitat in Florida consists of semitropical forest with tropical hardwood, pineland, mangroves, man-made areas like golf courses, as well as man-made structures like bridges. The species roosts in mature trees at least 33 feet in height with a diameter at breast height of 8 inches or greater. Potentially suitable foraging and roosting habitat was identified within the project study area. Surveys were conducted for 37 detector locations, staggered across several multi-day survey periods. Due to unfavorable weather conditions, the first deployment totaled eleven (11) nights, the second deployment totaled thirteen (13) nights, and the third deployment totaled fourteen (14) nights. Per the 2024 Florida Bonneted Bat Consultation Guidelines, if detectors are deployed for longer than 14 nights, coordination with the Florida bonneted bat recovery lead would be required. Coordination with USFWS personnel took place on June 5, 2025. During the meeting it was confirmed that it was acceptable to utilize data gathered over nine non-consecutive nights with a duration exceeding 14 nights. Despite multiple nights of survey, only two echolocation play call files were confirmed as Florida bonneted bat calls. Of the two files that were found to contain echolocations from the Florida bonneted bat, these included search phase calls and were not recorded within 1.5 hours after sunset or before 1.5 hours before sunrise. Therefore, the USFWS 2019 Florida Bonneted Bat Consultation Guidelines roosting is not likely. The probability of occurrence is **high**. In order to utilize the key, the potential impact to Florida bonneted bat roosting and foraging habitat needed to be evaluated for the project. Based on the proposed roadway improvements to the S.R. 70 corridor, it is anticipated that greater than 50 acres of roosting and foraging habitat is proposed to be impacted; however, exact impact acreage will be verified upon selection of the Preferred Alternative, which will include stormwater management facilities and

floodplain compensation sites. As a result, the progression through the key was 1a> 2a >3b >6a >7b >10b >12a (**Appendix L)**, resulting in an effect determination of "***may affect, likely to adversely affect***" (LAA^+) for the Florida bonneted bat and further consultation with the USFWS is required. The following BMPs will be implemented: 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; 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; 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 or roost; Avoid and minimize the use of artificial lighting, retain natural light conditions, and install wildlife friendly lighting (i.e., downward facing and lowest lumens possible). Avoid permanent night-time lighting to the greatest extent practicable.

Florida panther

The Florida panther is the last subspecies of puma still surviving in the eastern United States. Florida panthers were listed as federally endangered species by USFWS in 1973. The Florida panther requires large contiguous habitat that consist primarily of dense mature forests; hardwood hammocks, pinelands, and mixed freshwater swamp forests. This species was not observed during the field surveys and has not been historically recorded in the study area. The FDOT Wildlife Hotspot Analysis identified that a 95% confidence level wildlife hotspot exists east of Mossy Gully. A Florida panther Least Cost Path (Bright Hour Watershed) runs through S.R. 70 within the project area. A panther mortality was reported in 2017 two miles north of S.R. 70 along NE Four Mile Grade Road. A deceased male Florida panther was found on SR 70, west of Whidden Creek, on October 29, 2025. A new wildlife crossing is proposed at this location. See details in **Section 3.3.5.** The probability of occurrence is **low**. The shortest distance between the project corridor and the Northern Florida panther focus area is approximately 12.65 miles south of the east end of the project. It is anticipated that the project "***may affect, not likely to adversely affect***" the Florida panther.

Tricolored bat

The tricolored bat was proposed for protections under the ESA by the USFWS on September 13, 2022, and is currently proposed for listing. Typically a cave-dwelling bat, this is one of the smallest bat species in North America. Within the American south, where caves are less common, this species is known to roost in manmade structures such as roadway culverts. Like the Florida bonneted bat, the tricolored bat will also roost within tree cavities. The proposed project will require tree clearing and trimming, and culvert modifications. The probability of occurrence is **high**. Surveys were conducted for the Florida bonneted bat at 37 detector locations, staggered across several multi-day survey periods. Due to unfavorable weather conditions, the first deployment totaled eleven (11) nights, the second deployment totaled thirteen (13) nights, and the third deployment totaled fourteen (14) nights. Per the 2024 Florida Bonneted Bat Consultation Guidelines, if detectors are deployed for longer than

14 nights, coordination with the Florida bonneted bat recovery lead would be required. Coordination with USFWS personnel took place on June 5, 2025. During the meeting it was confirmed that it was acceptable to utilize data gathered over nine non-consecutive nights with a duration exceeding 14 nights. Based on the results of the acoustic survey, 1,768 echolocation play calls were confirmed for the tricolored bat (**Appendix L**). If the tricolored bat is listed by the USFWS as threatened or endangered prior to the completion of construction, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures.

3.3.2 Critical Habitat

The project study area was evaluated for the occurrence of critical habitat as defined by the Endangered Species Act of 1973 as amended, 50 CFR Part 424. The USFWS is the authority, as a federal agency, to protect critical habitat from destruction or adverse modification of the biological or physical constituent elements essential to the conservation of listed species. No designated critical habitat for any federal listed species occurs within the project study area. Based on this information, it has been determined that the proposed project will not result in the destruction or adverse modification of critical habitat.

3.3.3 State Species

3.3.3.1 Flora

Listed species with confirmed occurrences in DeSoto County and other species potentially occurring within the project study area based on potential suitable habitat were surveyed for in April 2025, with supplemental surveys occurring in August and September 2025. The survey results memo is included as **Appendix M**.

Many-flowered grass-pink, Catesby's lily, and redmargin zephyrlily

The many-flowered grass-pink, Catesby's lily, and redmargin zephyrlily are state listed as threatened. The project study area contains available pine flatwoods habitat for these species. According to FNAI data, these species have not been documented within one (1) mile of the project study area. Additionally, these species were not observed during field reviews. Based on the lack of documented observations, it has been determined that the potential for occurrence of these species is **low** and the proposed project will have "***no adverse effect anticipated***" on the many-flowered grass-pink, Catesby's lily, and redmargin zephrylily.

Needleroot airplant orchid

The needleroot airplant orchid is state listed as threatened. The study area contains suitable swamp habitat for this species. According to FNAI data, these species have not been documented within one (1) mile of the project study area. Based on the lack of documented observations, it has been determined that the potential for occurrence of these species is **low** and the proposed project will have "***no adverse effect anticipated***" on the needleroot airplant orchid.

Greater yellowspike orchid and Florida royal palm

The greater yellowspike orchid and Florida royal palm are state listed as endangered. The study area does not contain suitable swamp habitat for these species and they have not been documented within one (1) mile of the project study area according to FNAI data. The probability of occurrence for these species is **none**. The surrounding land use is predominantly agricultural land and vegetated areas that are adjacent to the corridor are mostly mowed and maintained. There were no observations during field reviews. Based on the lack of observations and presence of limited, sub-optimal habitat, the project will have "***no effect anticipated"*** on the greater yellowspike orchid and Florida royal palm.

Erect pricklypear

The erect pricklypear is state listed as threatened. The project study area does not contain available suitable hammock habitat for these species and has not been documented within one (1) mile of the project study area according to FNAI data. The probability of occurrence for this species is **none**. The surrounding land use is predominantly agricultural land and vegetated areas that are adjacent to the corridor are mostly mowed and maintained. There were no observations during field reviews. Based on the lack of observations and presence of limited, sub-optimal habitat, the project will have "***no effect anticipated"*** on the erect pricklypear.

Tampa mock vervain and plume polypody

The Tampa mock vervain and plume polypody are state listed as endangered. The project study area contains available suitable hammock habitat for these species. According to FNAI data, these species have not been documented within one (1) mile of the project study area. Additionally, these species were not observed during field reviews. Based on the lack of documented observations, it has been determined that the potential for occurrence of these species is **low** and the proposed project will have "***no adverse effect anticipated***" on the Tampa mock vervain, plume polypody, and erect pricklypear.

Florida loosestrife

Florida loosestrife is state listed as endangered. The project study area contains available suitable wet prairie habitat and the Florida loosestrife was documented in 24 survey blocks at 29 distinct locations during field surveys in April 2025. The species was observed growing in maintained roadside ditches and low areas along the ROW. The probability of occurrence for this species is **high**. The survey results memo can be found in **Appendix M**. A survey for listed plant species, including Florida loosestrife, will be performed prior to construction commencement. If additional surveys indicate that impacts to the species are likely, coordination with FDACS will occur. Based on this information it is anticipated that the proposed project will have "***potential for adverse effect***" on the Florida loosestrife.

Jameson's waterlily

Jameson's waterlily is state listed as endangered. The project study area contains available suitable canal and pond habitat for Jameson's waterlily. According to FNAI data, the Jameson's waterlily. has not been documented within one (1) mile of the project study area. Additionally, this species was not

observed during field reviews. Based on the lack of documented observations, it has been determined that the potential for occurrence of this species is **low** and the proposed project will have "***no adverse effect anticipated***" on Jameson's waterlily.

Yellow butterwort, yellow fringed orchid, and rose pogonia, and cutthroatgrass

The yellow butterwort, yellow fringed orchid, and rose pogonia are state listed as threatened. Cuttroatgrass is state listed as endangered. The project study area contains available suitable wet flatwoods for these species. According to FNAI data, these species have not been documented within one (1) mile of the project study area. Additionally, these species were not observed during field reviews. Based on the lack of documented observations, it has been determined that the potential for occurrence of these species is **low** and the proposed project will have "***no adverse effect anticipated***" on yellow butterwort, yellow fringed orchid, rose pogonia, and cutthroatgrass.

Leafless beaked ladies'-tresses

The leafless beaked ladies'-tresses is state listed as threatened. The project study area contains available suitable pine flatwoods habitat for the leafless beaked ladies'-tresses and the plant was documented at 30 distinct locations within 8 survey blocks within the project area during field surveys in April 2025. All species were observed within the maintained ROW. The survey results memo can be found in **Appendix M**. The probability of occurrence for this species is **high**. A survey for listed plant species, including Leafless beaked ladies'-tresses, will be performed prior to construction commencement. If additional surveys indicate that impacts to the species are likely, coordination with FDACS will occur. Based on this information it is anticipated that the proposed project will have "***potential for adverse effect***" on the leafless beaked ladies'-tresses.

Lacelip ladies'-tresses

The lacelip ladies'-tresses is state listed as threatened. The project study area contains available suitable wet prairies habitat for the lacelip ladies'-tresses. According to FNAI data, the lacelip ladies'-tresses. has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews. Based on the lack of documented observations, it has been determined that the potential for occurrence of this species is **low** and the proposed project will have "***no adverse effect anticipated***" on the lacelip ladies'-tresses.

Toothed lattice-vein fern

The toothed lattice-vein fern is state listed as endangered. The project study area contains available suitable swamp habitat for the toothed lattice-vein fern. According to FNAI data, the toothed lattice-vein fern has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews. Based on the lack of documented observations, it has been determined that the potential for occurrence of this species is **low** and the proposed project will have "***no adverse effect anticipated***" on the toothed lattice-vein fern.

Northern needleleaf

The northern needleleaf is state listed as threatened. The project study area contains available suitable hammock habitat for the northern needleleaf and the plant was documented at 12 locations, approximately 250 feet from proposed FPC 1004B, during field surveys in April 2025. The survey results memo can be found in **Appendix M**. The probability of occurrence for this species is **high**. A survey for listed plant species, including northern needleleaf, will be performed prior to construction commencement. If additional surveys indicate that impacts to the species are likely, coordination with FDACS will occur. It is anticipated that the proposed project will have "***potential for adverse effect***" on the northern needleleaf.

Cardinal airplant

The cardinal airplant is state listed as endangered. The project study area contains available suitable hammock habitat for the cardinal airplant and the plant was documented at seven locations, the closest approximately 1400 feet from proposed FPC1004B, during field surveys in April 2025. The survey results memo can be found in **Appendix M**. The probability of occurrence for this species is **high**. A survey for listed plant species, including cardinal airplant, will be performed prior to construction commencement. If additional surveys indicate that impacts to the species are likely, coordination with FDACS will occur. Based on this information it is anticipated that the proposed project will have "***no adverse effect anticipated***" on the cardinal airplant.

Giant airplant

The giant airplant is state listed as endangered. The project study area contains available suitable hammock habitat for the giant airplant and was documented at seven locations, two within the proposed stormwater pond SMF 0904A, during field surveys in April 2025. The survey results memo can be found in **Appendix M**. The probability of occurrence for this species is **high**. A survey for listed plant species, including giant airplant, will be performed prior to construction commencement. If additional surveys indicate that impacts to the species are likely, coordination with FDACS will occur. Based on this information it is anticipated that the proposed project will have **"*potential for adverse effect***" on the giant airplant.

Edison's ascryum

Edison's ascryum is state listed as endangered. The project study area contains available suitable scrub depressions and flatwoods ponds habitat for Edison's ascryum. According to FNAI data, Edison's ascryum was documented 2 miles away from the project study area in 1995. The species has not been documented within one (1) mile of the project study area and was not observed during field reviews. It has been determined that the potential for occurrence of this species is **moderate** and the proposed project will have "***no adverse effect anticipated***" on Edison's ascryum.

Nodding pinweed

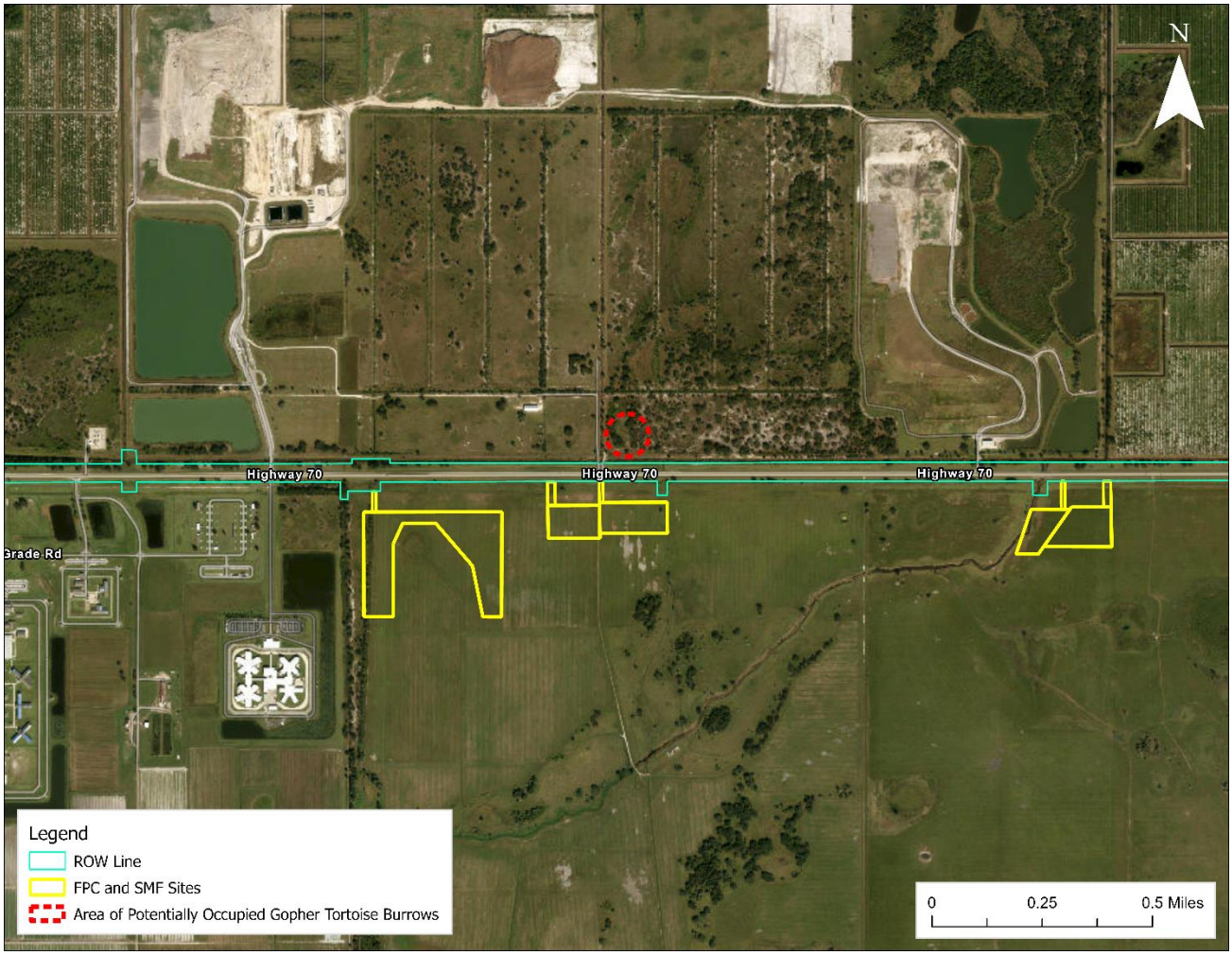
The nodding pinweed is state listed as threatened. The study area does not contain suitable deep sands habitat for nodding pinweed and the plant has not been documented within one (1) mile of the project study area according to FNAI data. The probability of occurrence for this species is **none**. The surrounding land use is predominantly agricultural land and vegetated areas that are adjacent to the corridor are mostly mowed and maintained. There were no observations during field reviews. Based on the lack of observations and presence of limited, sub-optimal habitat, the project will have "***no effect anticipated"*** on the nodding pinweed.

3.3.3.2 Reptiles

Gopher tortoise

The gopher tortoise is listed as threatened by the FWC. Desired habitat for this species includes xeric scrub and pine flatwoods with sandy soil profiles. Suitable habitat occurs within the project corridor. Two potentially occupied gopher tortoise burrows were observed in 2024 while conducting other species and wetland surveys (**Figure 3-3**). Due to the presence of potential gopher tortoise habitat, a 100% survey will be conducted no more than 90 days prior to construction as defined in the FWC guidelines. A relocation permit will be obtained if tortoises are present within any permanent or temporary construction areas. Based on these factors, it is anticipated that the proposed project will have "***no adverse effect anticipated"*** on the gopher tortoise.

Figure 3-3: Gopher Tortoise Burrow Locations Map



Florida pine snake

The project study area contains available suitable habitat for the Florida pine snake within the project study area in areas with minimally disturbed habitats and identified gopher tortoise burrows (**Figure 3-3**). According to FNAI data, the Florida pine snake has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews and the potential for occurrence of this species within the project study area is **low**. The following pine snake conservation measures will be implemented due to gopher tortoise involvement: demarcation of a 25-foot protection buffer around any non-impacted gopher tortoise burrows adjacent to the project and allowing commensals (such as the pine snake) to move safely away from the construction area before resuming activities if the individuals are observed. Pine snake identification information will also be provided to project personnel. For gopher tortoises or burrows found within 25 feet of the limits of construction, the FDOT will coordinate with the FWC to secure all permits needed to relocate the tortoises and associated commensal species. The proposed project is anticipated to have "**no adverse effect anticipated**" on the Florida pine snake.

Short-tailed snake

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

The project study area contains available suitable habitat for the short-tailed snake. According to FNAI data, the short-tailed snake has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Due to the potential habitat available, it has been determined that the potential for occurrence of this species within the project study area is **low**. Therefore, the proposed project is anticipated to have "***no adverse effect anticipated***" on the short-tailed snake. If the species becomes federally listed or is documented during future project phases, the FDOT will coordinate further with the USFWS and FWC as applicable.

3.3.3.3 Birds

Florida burrowing owl

The Florida burrowing owl is state listed as threatened. The project study area contains available suitable habitat for the Florida burrowing owl within its prairie and farmland habitats. According to FNAI data, the Florida burrowing owl has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews of the project study area. Based on the lack of documented occurrences, it has been determined that the potential for occurrence of this species within the project study area is **low** and the project will have "***no adverse effect anticipated***" on the Florida burrowing owl. Surveys for the Florida burrowing owl will be conducted prior to construction. If it is determined individuals or nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.

Florida sandhill crane

The Florida sandhill crane is state listed as threatened. The project study area contains available suitable foraging and nesting habitat for the Florida sandhill crane. According to FNAI data, the Florida sandhill crane has not been documented within one (1) mile of the project study area. However, this species was observed during field reviews of the project study area in 2025. Due to this observation the potential for occurrence of this species within the project study area is considered to be **high**. No nests were observed during field reviews. In accordance with the FWC's Species Conservation Measures and Permitting Guidelines for the species, the FDOT will survey areas of suitable nesting habitat prior to construction and will coordinate with the FWC if nesting pairs are identified within 400 feet of the project's construction limits. The FDOT will provide compensatory mitigation for all

project wetland impacts, and with the implementation of these measures, it has been determined that the proposed project will have "***no adverse effect anticipated***" on the Florida sandhill crane.

Least tern

The least tern is state listed as threatened. The project study area contains available suitable habitat for the least tern. According to FNAI data, the least tern has not been documented within one (1) mile of the project study area. Additionally, this species was not observed during field reviews. Based on the lack of documented occurrences, it has been determined that the potential for occurrence for this species within the project study area is **low** and the proposed project will have "**no adverse effect anticipated**" on the least tern.

Little blue heron and Tricolored heron

The little blue heron and tricolored heron are state listed as threatened. The project study area contains suitable habitat for the little blue heron and tricolored heron within much of the wetlands and other surface waters. According to FNAI data and the FWC Wading Bird Rookery Database, there are no active wading bird rookeries documented within one (1) mile of the project study area. However, the little blue heron and the tricolored heron were observed during field reviews of the project study area (**Appendix G**). Due to these observations, the potential for occurrence of these species within the project study area is considered to be **high**.

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

Roseate spoonbill

The roseate spoonbill is state listed as threatened. The project study area contains suitable habitat for the roseate spoonbill. According to FNAI data and the FWC Wading Bird Rookery Database, there are no active wading bird rookeries documented within one (1) mile of the project study area and no species were observed during field reviews. Due to the lack of observations, the potential for occurrence of these species within the project study area is considered to be **low**.

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

Southeastern American kestrel

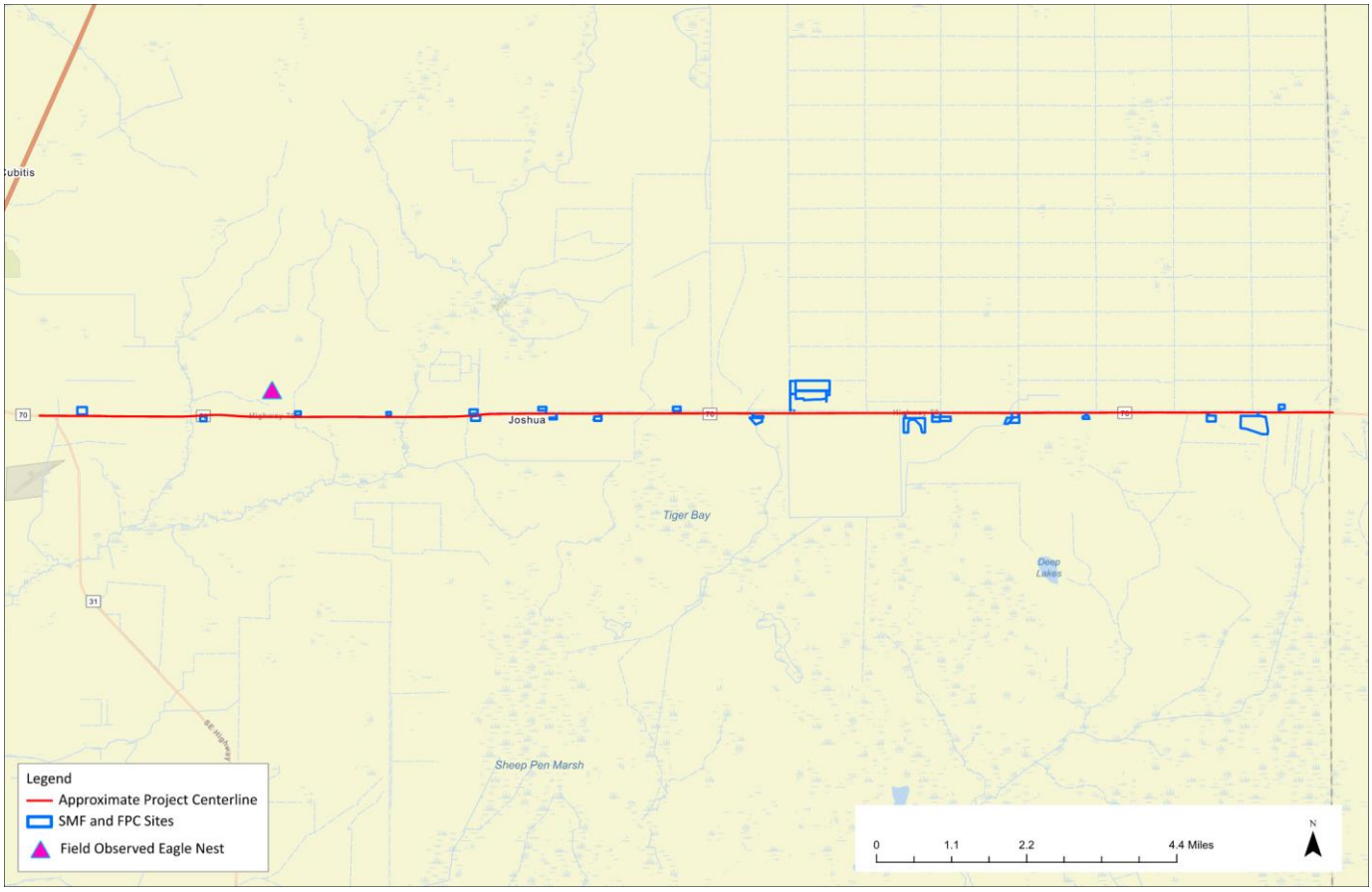
The Southeastern American kestrel is currently listed as threatened by the FWC. The project study area contains available suitable nesting habitat for the southeastern American kestrel. According to FNAI data, there have been no documented occurrences within one (1) mile of the project study area. However, the species was observed during field reviews from January to March of 2025. Because of these observations, the potential for occurrence of this species within the project study area is considered to be **high**. Due to the southeastern American kestrel's ability to reuse previous nest sites or nests near a previous nest site and vast availability of suitable nesting/foraging habitat surrounding the project study area, impacts associated with the proposed project are not likely to be harmful to the southeastern American kestrel. Surveys for the Southeastern American Kestrel will be conducted during the nesting season (May through August) prior to construction. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction. Based on this information, it has been determined that the proposed project will have "***no adverse effect anticipated***" on the southeastern American kestrel.

3.3.4 Other Protected Species

Bald eagle

The bald eagle is protected federally under the Bald and Golden Eagle Protection Act (16 U.S.C 668-668c) and the Migratory Bird Treaty Act and under state rule 68A-16.002, F.A.C. The USFWS National Bald Eagle Management Guidelines recommend specific buffer distances from bald eagle nests, community roosting sites, and foraging areas. In general, USFWS recommends 1) keeping distance between the activity and the nest; 2) maintaining vegetated (preferably forested) buffers; and 3) avoiding certain activities during the breeding season. The recommended buffers range from 0-330 feet and 330-660 feet. The Audubon EagleWatch database and ETDM Summary Report indicate one eagle nest within 0.5 miles of the project. This nest, approximately 1900 feet from the project area, was field verified during surveys for other species. See **Figure 3-2** for the eagle nest location map. The FDOT will resurvey for eagle nests if more than 2 years have passed and the project is funded for construction. If a bald eagle nest is observed within 660-feet of the project study area, the FDOT will coordinate with the USFWS to discuss avoidance and minimization options and secure any necessary approvals prior to constructing the project; therefore, no impacts to the bald eagle are anticipated as a result of the Preferred Alternative.

Figure 3-4: Bald Eagle Nest Location Map



Limpkin

The limpkin is no longer listed in Florida as of January 2017 but is part of the Imperiled Species Management Plan. The limpkin is a waterbird with dark brown feathers and streak of white on the head and neck. According to FNAI data, there have been no documented occurrences within one (1) mile of the project study area; however, suitable habitat does exist within the project study area and the species was observed during field reviews**.**

The primary concern for impacts to these species is the loss of foraging, roosting and nesting habitat (wetlands). As part of implementing the proposed project, all unavoidable wetland impacts will be mitigated to prevent a net loss of wetland functions and values; therefore, no impacts to the limpkin are anticipated as a result of the Preferred Alternative.

Snowy egret

The snowy egret is no longer listed in Florida as of January 2017 but is part of the Imperiled Species Management Plan. The snowy egret is a small white wading bird that is found throughout Florida. According to FNAI data, there have been no documented occurrences within one (1) mile of the project

study area; however, suitable habitat does exist within the project study area and the species was observed during field reviews.

The primary concern for impacts to these species is the loss of foraging, roosting and nesting habitat (wetlands). As part of implementing the proposed project, all unavoidable wetland impacts will be mitigated to prevent a net loss of wetland functions and values; therefore, no impacts to the snowy egret are anticipated as a result of the Preferred Alternative.

Florida black bear

The Florida black bear is managed under FWC's adopted Florida Black Bear Management Plan. The study area is located within the Occasional black bear range. Within the study area, there have been zero (0) documented black bear related calls and zero (0) documented vehicular strikes. Wildlife crossings, discussed in **Section 3.3.5**, are anticipated to help assist black bears and other species to safely cross S.R. 70 within the project limits; therefore, no impacts to the Florida black bear are anticipated as a result of the Preferred Alternative.

3.3.5 Wildlife Crossings

The project will include the construction of wildlife crossings to enhance wildlife connectivity and minimize wildlife strikes on the roadway. Wildlife crossing siting opportunities were evaluated along the S.R. 70 corridor in accordance with the FDOT Wildlife Crossing Guidelines. Consideration of appropriate locations were analyzed through GIS data, which included current aerials, FLUCCS, NWI, USFWS and FWC species data and coordination with District staff. The FDOT Wildlife Hotspot Analysis identified that a 95% confidence level wildlife hotspot exists east of Mossy Gully. These data sources were overlayed on current aerials and follow up field inspections were conducted to validate potential crossing locations identified during the desktop review. Undeveloped areas with natural systems on both sides of S.R. 70 such as wetlands and creek systems were considered an important factor in the analysis. A Florida panther Least Cost Path (Bright Hour Watershed) runs through S.R. 70 within the project area.

Seven bridge crossings are proposed along the project corridor (**Table 3-6**). Twin bridge structures are proposed to provide the crossings with natural light and specialized grading and/or materials will be used to provide traversable pathways. The new wildlife crossings' bottom elevations will be set above the estimated seasonal high groundwater table (SHGWT) to ensure the crossings will be mostly dry and accessible during normal conditions; however, during large storm events, the crossings do convey flows between the adjacent north and south areas of S.R. 70. The wildlife crossings are shown in the concept plans provided in **Appendix A**. Fencing will be constructed near the proposed crossings to facilitate wildlife usage. No plantings are proposed at this time.

Table 3-6 Wildlife Crossing Summary

Number	Begin MP	Station	Description	Bridge No.	Length (ft) [1]
WC-1	16.896	4106+10	Whidden Creek Florida I-Beam Bridge	040024	140
WC-2	19.705	4254+50	Joshua Creek Florida I-Beam Bridge	040027	170
WC-3	22.828	4419+00	Tiger Bay Florida I-Beam Bridge	040031	76
WC-4	24.16	4489+30	Mossy Gully Florida I-Beam Bridge	040032	96
WC-5	24.691	4517+60	DCI Canal Florida I-Beam Bridge	040033	76
WC-6	27.573	4669+90	Long Point Marsh Florida I-Beam Bridge	040037	96
WC-7	30.916	4846+40	Parker Creek Florida I-Beam Bridge	040940	96

Note: [1] Lengths may be subject to change.

4 WETLANDS AND OTHER SURFACE WATERS

The locations, limits, types, nature, and functions of all surface waters, including wetlands within the project limits were assessed as part of compliance with Presidential Executive Order (EO) 11990, "Protection of Wetlands" and United States Department of Transportation (USDOT) Order 5660.1A, *Preservation of the Nation's Wetlands*. These federal policies require avoidance of long and short-term impacts and avoidance of direct and indirect support of new construction in wetlands to the fullest extent practicable. This effort is also consistent with the *Wetlands and Other Surface Waters* chapter of the *PD&E Manual*.

4.1 Methodology

Wetland and other surface water boundaries were approximated in both a desktop and field evaluation in conformance with the federal and state criteria promulgated in the *Corps of Engineers Wetlands Delineation Manual*, the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region: Version 2*, and the *Florida Wetlands Delineation Manual*. Background research conducted to identify existing wetland and other surface water communities occurring within the study area included review of the USFWS National Wetland Inventory (NWI) online database, Land Use and Cover data from the SWFWMD, Soil Survey Geographic (SSURGO) Database for Florida, State Hydric Soils List for Florida and interpretation of aerial photography. Data verification was conducted during field reconnaissance surveys.

The approximate boundaries of all wetland and other surface water features occurring within the project study area were mapped, assigned an identification number, and categorized in accordance with the USFWS NWI GIS data and the 2023 Land Use/Land Cover data obtained from the SWFWMD. Dominant vegetative strata, plant species, hydrologic indicators, and soil characteristics were assessed and documented.

Wetlands and other surface water features were designated based upon their status, hydrology, and soils. Vegetated wetland systems were designated as wetlands (WL) and occur sporadically throughout the entirety of the study area. Ditches which are relatively permanent waters, excavated in hydric soils, and/or contain hydrophytic vegetation were designated as other surface waters (SW) and were evaluated within the wetland impacts. Maps depicting wetlands and other surface water features occurring within the study area are provided in **Appendix N** and representative site photos are available in **Appendix O**.

4.2 Wetlands and Other Surface Waters Impacts

Impacts to project wetlands and other surface waters were assessed using the Uniform Mitigation Assessment Method (UMAM). The UMAM (Chapter 62-345 F.A.C.) was developed to assess the ecological functions provided by wetlands and the amount of mitigation necessary to offset the loss of

functions by a proposed project. The UMAM analysis is based on assessing an area on three criteria: location and landscape support, water environment, and community structure. These criteria are scored with whole increment values between "10" indicating the highest quality system and "0" indicating no value present. The three criteria are summed and divided by 30 to yield a score for the assessment area between "0" and "1". The difference between the "with project" and "current" condition is calculated to result in the Delta. UMAM Delta is multiplied by the area of wetland impact to quantify the loss of wetland functions (functional loss).

UMAM data sheets were compiled for each wetland type and are provided in **Appendix P**. The functional loss for the wetlands within the project footprint was calculated, and a summary table of the functional loss by habitat is included in **Table 4-1** for the project mainline and **Table 4-2** for the proposed pond sites. The OSW impacts are provided in **Table 4-3**. For the proposed project, a total of 15.69 acres of wetland impacts and 5.67 acres of OSW impacts are anticipated from the proposed improvements, resulting in an estimated total functional loss of 5.81 units.

Table 4-1 Mainline Wetland Impact Table

Impacted Wetlands	FLUCCS Classification	USFWS Classification	Direct Impact Delta	Secondary Impact Delta	Direct Impact Acres	Secondary Impact Acres	Direct Functional Loss	Secondary Functional Loss
WL-114-LT; WL- 115-R	640	R5UBFx	0.3	0.3	0.027	0.032	0.008	0.010
WL-171-LT	640	PEM1Fx	-	0.267	-	0.066	-	0.018
WL 206-R	630	PFO1Fd	0.5	0.5	0.159	0.034	0.080	0.017
WL-277-LT; WL-277-R	640	R2SBC	0.333	0.333	0.066	0.036	0.022	0.012
WL-302-LT; WL-302-R	640	PEM1Fx	0.433	0.433	0.074	0.110	0.032	0.048
WL-316-R	641	PEM1C	0.367	0.367	0.012	0.083	0.004	0.030
WL-354-L	641	R5UBH	0.433	0.433	0.328	0.095	0.142	0.041
WL-397-RT; WL-403-L	641, 644	R4SBC	0.3	0.3	0.058	0.025	0.017	0.008
WL-448-R	641	PEM1Fd	0.267	0.267	0.143	0.175	0.038	0.047
WL-466-R	641	PEM1Cd	0.267	-	0.408	-	0.109	-
WL-480-R	640	PEM1C	0.3	0.3	0.163	0.225	0.049	0.068
WL-486-R	640	PEM1Cd	0.233	-	0.011	-	0.003	-
WL-492-R	640	R5UBFx	0.3	0.3	0.415	0.319	0.125	0.096
WL-564-L; WL-518-R	640	R5UBFx, PAB3Hx	0.4	0.4	1.396	1.016	0.558	0.406
WL-584-R	640	PEM1Fx	0.267	0.267	0.036	0.090	0.010	0.024
WL-585-R	643	PEM1Fx	0.233	-	0.072	-	0.017	-
WL-588-R	640	PEM1Fx	0.233	0.233	0.003	0.036	0.001	0.008

Impacted Wetlands	FLUCCS Classification	USFWS Classification	Direct Impact Delta	Secondary Impact Delta	Direct Impact Acres	Secondary Impact Acres	Direct Functional Loss	Secondary Functional Loss
WL-617-L; WL-589-R	640	PEM1Fx	0.333	0.333	0.379	0.122	0.126	0.028
WL-678-R; WL-729-R; WL-730-RT; WL-769-RT	640	PEM1Fx, R2UBHx	0.3	0.3	0.245	0.085	0.074	0.026
WL-699-R	640	PEM1Fx	0.3	0.3	0.001	0.007	0.0003	0.002
WL-700-R; WL-702-RT	640	R5UBFx	0.3	0.3	0.263	0.154	0.079	0.046
WL-715-R	640	PEM1Fx	0.3	0.3	0.187	0.069	0.056	0.021
WL-942-R	641	PEM1Fd	0.4	0.4	0.870	0.060	0.348	0.024
WL-989-R	641	PEM1Cd	0.433	0.433	0.518	0.686	0.224	0.297
WL-992-L	640, 641	PEM1Fd	0.4	0.4	1.024	0.464	0.410	0.186
WL-993-R	641	PEM1Cd	0.4	0.4	0.009	0.043	0.004	0.017
				TOTAL	**6.867**	**4.032**	**2.536**	**1.480**

Table 4-2 Pond Siting Wetland Impact Table

Pond Site	FLUCCS Classification	USFWS Classification	Direct Impact Delta	Secondary Impact Delta	Direct Impact Acres	Secondary Impact Acres	Direct Functional Loss	Secondary Functional Loss
WL-SMF 0902A	615	PFO1Fd, R5UBH	0.5	0.5	0.688	0.316	0.344	0.172
WL-FPC 1002-NA	641	R5UBH	0.3	0.3	0.179	0.020	0.054	0.006
WL-FPC 1002-SB	641	PEM1Fd	0.267	0.267	0.416	0.179	0.111	0.048
WL-FPC 1003A	641	PEM1Cd	0.333	0.333	0.499	0.409	0.166	0.136
WL-FPC 1006A	641	PEM1Cd	0.3	0.3	0.204	0.019	0.061	0.006
WL-SMF 1006A	640	PEM1Fx	0.3	-	0.019	-	0.016	-
WL-FPC 1007C	640	R5UBFx	0.3	0.3	0.095	0.013	0.029	0.004
WL-FPC 1008A	640	R5UBFx	0.3	0.3	0.340	0.179	0.102	0.054
WL-FPC 1010B	640	R2UBHx	0.4	0.4	0.302	0.735	0.121	0.294
WL-SMF 1009A	640	R2UBHx	0.4	0.4	0.124	0.051	0.050	0.020
				TOTAL	**2.866**	**1.921**	**1.054**	**0.740**

Table 4-3 OSW Impact Table

Impacted Surface Waters	Impact Acres
SW-102-R	0.019
SW-104-R	0.012
SW-108-R	0.003
SW-111-R	0.052
SW-121-LT	0.090
SW-123-LT	0.071
SW-127-LT	0.069
SW-SMF 0902A	0.229
SW-SMF 0904A	0.173
SW-458-L	0.020
SW-504-L	0.062
SW-484-R	0.016
SW-SMF-1002A	0.025
SW-501-R	0.039
SW-518-R	1.146
SW-596-R	0.076
SW-617-L	0.401
SW-618-R	0.007
SW-636-R	0.020
SW-647-R	0.050
SW-671-R	0.001
SW-672-R	0.030
SW-673-R	0.185
SW-678-R	0.269
SW-705-L	0.124
SW-762-L	0.032
SW-770-L	0.135
SW-824-R	0.484
SW-FPC 1009C	0.092
SW-859-RT	0.066
SW-880-R	0.060
SW-884-RT	0.053
SW-940-RT	0.144
SW-942-R	0.992
SW-SMF-1009A	0.098
SW-992-L	0.325
TOTAL	**5.670**

4.3 Mitigation

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

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

The FDOT is required to follow statute 373.4137 in regards to wetland mitigation options. Mitigation banks within the Peace River Basin watershed include Peace River Mitigation Bank, Tippen Bay Mitigation Bank, Horse Creek Mitigation Bank, Boran Ranch Mitigation Bank, and Long Island Marsh Mitigation Bank, Pioneer Mitigation Bank, and Zona Rose Heritage Bank. At the time of this report, Peace River has 2.07 forested credits available, Horse Creek has 6.53 forested and 32.3 emergent credits available, and Boran Ranch has 20.152 emergent credits available. Tippen Bay, Long Island Marsh, Pioneer, and Zona Rose Heritage are currently pending release of credits. Pioneer Mitigation Bank will have 179.3 forested and 18.36 emergent potential credits. The project is estimated to require the purchase of 0.20 forested and 5.61 emergent credits.

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

5 ANTICIPATED PERMITS

Environmental permits, coordination, and authorizations from the following agencies will likely be required for construction of this project:

Permitting Agencies

- USACE – Section 404 Permit
- SWFWMD – Individual Environmental Resource Permit (ERP)
- FDEP - National Pollutant Discharge Elimination System (NPDES) Permit (to be obtained by the contractor)
- FDEP – Sovereign Submerged Land Easement
- FWC – Listed Species Incidental Take Permit (as necessary)
- FWC – Gopher Tortoise Conservation Permit (as necessary)

5.1 Federal Permits

Section 404 Dredge and Fill Permit

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

5.2 State Permits

Environmental Resource Permit

SWFWMD requires an Environmental Resource Permit (ERP) when construction on any project results in the creation of a new or modification of an existing surface water management system or results in impacts to waters of the state. It is anticipated that the project will require one or more individual ERPs (depending on future segmentation). As with Section 404 permits, the complexity associated with the ERP permitting process will depend on the size of the project and/or the extent of wetland impacts.

National Pollutant Discharge Elimination System

40 CFR Part 122 prohibits point source discharges of stormwater to waters of the U.S. without a NPDES permit. Under the State of Florida's delegated authority to administer the NPDES program,

construction sites that will result in greater than one (1) acre of disturbance must file for and obtain either coverage under an appropriate generic permit contained in Chapter 62-621, F.A.C., or an individual permit issued pursuant to Chapter 62-620, F.A.C. A major component of the NPDES permit is the development of a Stormwater Runoff Control Concept (SRCC). The SRCC identifies potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site and discusses good engineering practices (i.e., best management practices) that will be used to reduce the pollutants. The FDEP will issue a NPDES permit to the contractor prior to construction commencement.

Sovereign Submerged Land Easement

A sovereign submerged lands title search was completed and FDEP determined lands below the ordinary high-water line will require proprietary authorization. An existing Board of Trustees of the Internal Improvement Trust Fund (TIITF) easement could not be identified for the Whidden Creek bridge location. It is anticipated a TIITF easement will need to be developed by FDOT for approval and recording by FDEP during the permitting phase of this project at the Whidden Creek location (No. 040024). There is an existing TIITF easement in place at the Joshua Creek bridge (No. 042741); however, a modification to the easement will be required due to the additional ROW.

Listed Species Incidental Take Permit (as necessary)

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

Gopher Tortoise Conservation Permit

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. This permit allows for the relocation either to an on-site preserve or off-site to a FWC-certified Recipient Site. Based on gopher tortoise observations during the PD&E phase, it is anticipated that a Conservation Permit will be required from the FWC.

6 CONCLUSIONS

6.1 Protected Species and Habitat

The study area was evaluated for the presence of federal and/or state protected species and their suitable habitat in accordance with Section 7 of the ESA and the *Protected Species and Habitat* chapter of the *PD&E Manual*. The tables below provide a summation of protected species, with their protection status and proposed effect determination.

Table 6-1 Effect Determinations for Federally Listed Species

Project Impact Determination	Federal Listed Species
"No effect"	Pygmy fringe-tree (*Chionanthus pygmaeus*) - E
	Eastern black rail (*Laterallus jamaicensis jamaicensis*) - T
"May affect, but is not likely to adversely affect"	Everglade snail kite (*Rostrhamus sociabilis plumbeus*) - E
	Florida panther (*Puma concolor coryi*) - E
	Florida scrub-jay (*Aphelocoma coerulescens*) - T
	Wood stork (*Mycteria americana*) - T
	Florida grasshopper sparrow (*Ammodramus savannarum floridanus)* - E
"May affect and is likely to adversely affect"	Eastern indigo snake (*Drymarchon couperi)* - T
	Crested caracara (*Caracara plancus*) - T
	Florida bonneted bat (*Eumops floridanus*) - E

E- Endangered, **T**- Threatened

The proposed improvements will not result in the destruction or adverse modification of critical habitat for any federally listed species, as none occurs within the project limits.

As candidate species, the monarch butterfly and tricolored bat were evaluated but not given effect determinations. The whooping crane, as an experimental, non-essential species, is treated as a proposed species and not given an effect determination.

Table 6-2 Effect Determinations for State Listed Species

Project Impact Determination	State Listed Species
"No effect anticipated"	Erect pricklypear (*Opuntia stricta*) - T
	Nodding pinweed (*Lechea cernua*) - T
	Florida royal palm (*Roystonea regia)* - E
	Greater yellowspike orchid (*Polystachya concreta)* - E
"No adverse effect anticipated"	Many-flowered grass-pink (*Calopogon multiflorus*) - T
	Tampa mock vervain (*Glandularia tampensis)* - E
	Catesby's lily (*Lilium catesbaei*) - T
	Jameson's waterlily (*Nymphaea jamesoniana)* - E
	Plume polypody (*Pecluma plumula)* - E
	Yellow butterwort (*Pinguicula lutea)* - T
	Yellow fringed orchid (*Platanthera ciliaris)* - T
	Rose pogonia (*Pogonia ophioglossoides)* - T

Project Impact Determination	State Listed Species
"No adverse effect anticipated"	Cutthroatgrass *(Coleataenia abscissa)* - E
	Lacelip ladies'-tresses (*Spiranthes laciniata)* - T
	Needleroot airplant orchid (*Dendrophylax porrectus)* - T
	Toothed lattice-vein fern (*Thelypteris serrata)* - E
	Cardinal airplant (*Tillandsia fasciculata)* - E
	Edison's ascyrum (*Hypericum edisonianum*) - E
	Redmargin zephyrlily (*Zephyranthes simpsonii*) - T
	Florida pine snake (*Pituophis melanoleucus mugitus)* - T
	Short-tailed snake (*Lampropeltis extenuata*) - T
	Florida burrowing owl (*Athene cunicularia floridana*) -T
	Florida sandhill crane (*Antigone canadensis pratensis*) - T
	Least tern (*Sterna antillarum)* - T
	Little blue heron (*Egretta caerulea*) - T
	Roseate spoonbill (*Platalea ajaja*) - T
	Southeastern American kestrel (*Falco sparverius paulus*) - T
	Tricolored heron (*Egretta tricolor*) - T
	Gopher tortoise (*Gopherus polyphemus*) - T
"Potential for adverse effect"	Florida loosestrife (*Lythrum flagellare*) - E
	Giant airplant (*Tillandsia utriculata*) - E
	Leafless beaked ladies'-tresses (*Sacoila lanceolata var. lanceolata)* - T
	Northern needleleaf (*Tillandsia balbisiana)* - T

E- Endangered, **T**- Threatened, **N**- Not listed

Table 6-3 Non-Listed Protected Species

Project Impact Determination	Non-Listed Species
N/A	Bald eagle (*Haliaeetus leucocephalus*) - BGEPA/MBTA
	Limpkin (*Aramus guarauna)* - ISMP
	Snowy egret (*Egretta thula)* - ISMP
	Florida black bear (*Ursus americanus floridanus*) - FBBMP

ISMP – included in FWC Imperiled Species Management Plan

The limpkin, snowy egret and Florida black bear were evaluated due to FWC management plans available for these species but not given effect determinations. Similarly, the bald eagle was evaluated but not given an effect determination due to no longer being listed by the USFWS or FWC but remaining protected under the BGEPA and the MBTA.

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 SWFWMD 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.

6.2 Wetlands Evaluation

Proposed project alternatives were evaluated for impacts to wetlands in accordance with EO 11990 and the *Wetlands and Other Surface Waters* chapter of the *PD&E Manual*. Based on the type and

location of project impacts the FDOT has determined that there is no practicable alternative to the proposed construction in wetlands. In accordance with EO 11990, the FDOT has undertaken all actions to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. The proposed project will not adversely impact wetlands as unavoidable impacts will be mitigated to achieve no net loss of wetland function.

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements. Direct impacts associated with the Preferred Alternative total 9.73 acres. Secondary impacts include a total of 5.95 acres.

A UMAM analysis (**Appendix P**) was performed to estimate the functional loss due to wetland impacts from the proposed alternative. Construction of the Preferred Alternative results in an estimated loss of 5.81 functional units (3.59 direct and 2.22 secondary).

Agency coordination will continue throughout the design phase of the project and during 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.

6.3 Commitments

Based on the natural resource evaluations completed to date, the FDOT is considering the following environmental commitments. (*Note: these will be finalized following additional agency coordination and the project's public hearing.*)

1. If the monarch butterfly is listed by the USFWS as threatened or endangered prior to completion of construction, FDOT commits to re-initiating consultation with USFWS to determine appropriate avoidance and minimization measures for protection of the newly listed species.
2. The most recent version of the USFWS' *Standard Protection Measures for the Eastern Indigo Snake* will be utilized during construction to assure that the eastern indigo snake will not be adversely impacted by the project.
3. FDOT commits to provide sufficient credits at the PBMB in Highlands County, Florida, or other conservation lands as may become available, to provide at least 253.85 acres of land cover type that provide habitat for the species. The FDOT has agreed not to commence construction of the project until they provide the USFWS with a letter or email from the PBMB stating that the credit ledger from the bank has been revised to reflect the deduction of the credits and the FDOT receives an email or letter from the USFWS indicating that they have received this document.
4. Impacts to suitable foraging habitat for the federally-protected wood stork will be mitigated through the purchase of credits from a USFWS-approved mitigation bank pursuant to Section

373.4137, F.S. Mitigation for the loss of foraging habitat will provide in-kind replacement based on hydroperiod.

5. The FDOT commits to provide a $100,000 donation to the Caracara Fund of the Wildlife Foundation of Florida (WFF). Construction shall not commence until the US Fish and Wildlife Service receives confirmation form the WFF indicating that the funds have been provided and the USFWS in turn informs the FDOT of their receipt of the confirmation.
6. Updated surveys will be completed for the caracara in accordance with the USFWS' methodology prior to construction commencement.
7. Survey results of suitable caracara nesting habitat and monitoring reports should be submitted to the USFWS on an annual basis during construction, following the caracara nesting season. The report should include whether any nests were detected and whether the proximity of the nest to construction required FDOT to establish buffers.
8. If the listing status of the tricolored bat is elevated by USFWS to Threatened or Endangered and the Preferred Alternative is located within the consultation area, during the design and permitting phase of the proposed project FDOT commits to re-initiating consultation with the USFWS to determine the appropriate survey methodology and to address USFWS regulations regarding the protection of the tricolored bat.
9. A survey for Florida loosestrife, giant airplant, leafless beaked ladies'-tresses, and northern needleleaf will be performed prior to construction commencement. Coordination with FDACS will occur if impacts to the species are anticipated.
10. FDOT will install wildlife crossings and associated directional fencing at the Whidden Creek, Joshua Creek, Tiger Bay, Mossy Gully, DCI Canal, Long Point Marsh, and Parker Creek bridges.

6.4 Implementation Measures

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

- If Florida burrowing owls' nests are observed within the project study area, the FDOT maintain a 10-foot buffer during the non-breeding season and a 33-foot buffer during the breeding season around the entrance of potentially occupied owl burrows. If these requirements cannot be met the FDOT will coordinate with FWC and obtain an Incidental Take Permit for the species.
- If a bald eagle nest is observed within 660 feet of the project study area, the FDOT will coordinate with the USFWS to secure necessary approvals prior to constructing the project.
- Surveys for Florida sandhill crane nest sites will be conducted during the design phase. If it is determined nest areas are found and could be impacted by the project, FDOT will coordinate with FWC to determine appropriate avoidance and minimization measures to apply during construction.

- Due to the presence of gopher tortoise burrows within or adjacent to the existing right-of-way, a gopher tortoise survey within construction limits will be performed prior to construction. If tortoise burrows are identified within the proposed project limits, the FDOT will coordinate with a commercially available long-term recipient site for relocated impacted tortoises. The FDOT will secure the appropriate permits needed for this species as necessary prior to commencement of relocation activities.

7 REFERENCES

Audubon Center for Birds of Prey. 2025. EagleWatch Program Mapper. https://cbop.audubon.org/conservation/about-eaglewatch-program.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services. Technical Publication FWS/OBS-79/31. 131 pp.

Florida Department of Agriculture and Consumer Services (FDACS). 2010. Florida Forest Service, Florida's Federally Listed Plant Species Website. https://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/Our-Forests/Forest-Health/Florida-Statewide-Endangered-and-Threatened-Plant-Conservation-Program/Florida-s-Federally-Listed-Plant-Species.

Florida Department of Environmental Protection (FDEP). 2011. Guidance Memo on Interpreting and Applying the Uniform Mitigation Assessment Method [UMAM]. June 15, 2011.

Florida Department of Environmental Protection (FDEP). 1995. The Florida Wetlands Delineation Manual. https://floridadep.gov/sites/default/files/delineationmanual.pdf.

Florida Department of Environmental Protection (FDEP). 2007. *Uniform Mitigation Assessment Method*. Chapter 62-345, Florida Administrative Code, (F.A.C.).

Florida Department of Transportation (FDOT). 1999. Florida Land Use, Cover and Forms Classification System. Florida Department of Transportation. Tallahassee, Florida.

Florida Department of Transportation (FDOT). 2021. FDOT Native Florida Plant Coordination Guidance. https://fdotwww.blob.core.windows.net/sitefinity/docs/defaultsource/environment/pubs/protected-species/internal-plantguidance_alleditsmade.pdf?sfvrsn=6d060f13_2.

Florida Department of Transportation (FDOT). 2023. *Project Development and Environment [PD&E] Manual*. Chapters 9 Wetlands and Other Surface Waters, 16 Protected Species and Habitat and17 Essential Fish Habitat. Environmental Management Office. July 2023. http://www.fdot.gov/environment/pubs/pdeman/pdeman1.shtm.

Florida Fish and Wildlife Conservation Commission (FWC). 1999. Wading Bird Rookeries website. http://geodata.myfwc.com/datasets/wading-bird-rookeries-1999.

Florida Fish and Wildlife Conservation Commission (FWC). 2017. Bald Eagle Management Plan. Florida Fish and Wildlife Conservation Commission, Tallahassee, FL.

Florida Fish and Wildlife Conservation Commission (FWC). 2019. Florida Black Bear Management Plan. Florida Fish and Wildlife Conservation Commission, Tallahassee, FL. 215 pp.

Florida Fish and Wildlife Conservation Commission (FWC).. 2019. Florida's Imperiled Species Management Plan. Tallahassee, Florida https://myfwc.com/media/2030/imperiled-species-management-plan.pdf.

Florida Fish and Wildlife Conservation Commission (FWC). 2020. Southeastern American Kestrel Species Conservation Measures and Permitting Guidelines. https://myfwc.com/media/24482/seamkestrelgl.pdf.

Florida Fish and Wildlife Conservation Commission (FWC). 2022. FWC Species Profiles website. https://myfwc.com/wildlifehabitats/profiles/. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL. Accessed 2024.

Florida Fish and Wildlife Conservation Commission (FWC). 2023. Gopher Tortoise Permitting Guidelines. https://myfwc.com/media/11854/gtpermitting-guidelines.pdf.

Florida Fish and Wildlife Conservation Commission (FWC). 2023a. Bald Eagle Nest Locator website. https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx. Florida Fish and Wildlife Conservation Commission.

Florida Natural Areas Inventory (FNAI). 2025a. Biodiversity Matrix Map Server. https://www.fnai.org/BiodiversityMatrix/index.html.

FNAI. 2025b. Florida Geographic Data Library Documentation. Florida Conservation Lands metadata – Florida Managed Areas. https://www.fnai.org/conslands/conservation-lands.

National Oceanic and Atmospheric Administration (NOAA). 2007. Magnuson-Stevens Fishery Conservation and Management Act. https://www.fisheries.noaa.gov/resource/document/magnuson-stevens-fishery-conservation-and-management-act.

NOAA. 2025a. Inland EFH Mapper. https://efhtools.github.io/InlandEFH/Mapper.html.

NOAA. 2025b. Essential Fish Habitat Mapper. https://www.habitat.noaa.gov/

NRCS. 2020. Soil Survey Geographic (SSURGO) Database for Florida. June 2020. US Department of Agriculture, Natural Resources Conservation Service. Gainesville, Florida. NRCS. 2022.

Southwest Florida Water Management District (SWFWMD). 2023. Florida Land Use, Cover and Forms Classification System (FLUCFCS) GIS Database. Southwest Florida Water Management District.

United States Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS. Technical Report Y-87-1. 169 pp.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20).

U.S. Fish and Wildlife Service (USFWS). 2018. Bald and Golden Eagle Protection Act. https://www.ecfr.gov/cgi-bin/textidx?c=ecfr&sid=9a2c074a271d17db16c4a0fa4ca3d2ba&tpl=/ecfrbrowse/Title50/50cfr22_main_02.tpl.

U.S. Fish and Wildlife Service (USFWS). 2018a. National Wetlands Inventory, Wetlands Online Mapper. https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper

U.S. Fish and Wildlife Service (USFWS). 2019. Wood Stork Nesting Colonies. https://www.arcgis.com/home/item.html?id=b11f2d77938a4cf688e0e706016fd968.

United States Fish and Wildlife Service (USFWS). 2004a. South Florida Ecological Services Office. Snail Kite Survey Protocol. https://ipac.ecosphere.fws.gov/guideline/survey/population/1221/office/41420.pdf.

United States Fish and Wildlife Service (USFWS). 2004b. South Florida Ecological Services Office. Species Conservation Guidelines South Florida: Audubon's Crested Caracara. https://fdotwww.blob.core.windows.netsitefinity/docs/defaultsource/environment/pubs/protectedspecies/2004speciesconservationguidelinescaracaraallinclusive.pdf? sfvrsn=3e1f7d47_2.

U.S. Fish and Wildlife Service (USFWS). 2007. Scrub-jay survey Guidelines. South Florida Ecological Services Office, Vero Beach, Florida.

USFWS. 2008b. USFWS Survey Protocol: Florida Grasshopper Sparrow https://efotg.sc.egov.usda.gov/references/Public/FL/Grasshopper_sparrow_survey.pdf.

USFWS. 2010. South Florida Ecological Services Office. Wood Stork Effect Determination Key For South Florida https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered_species/wood_stork/20100518_letter_ServicetoCorps_FLProgrammaticStorkrevised.pdf.

USFWS. 2012. Wood Stork Habitat Assessment Methodology. https://esadocs.defenderscci.org/ESAdocs/misc/20120712_WOST_Forage_Assessment_Methodology_Appendix.pdf

USFWS. 2016. USFWS Crested Caracara Draft Survey Protocol – Additional Guidance (2016- 2017 Breeding Season). 9 pp.

USFWS. 2017. Consultation Key for the Eastern Indigo Snake. https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered_species/Indigo/20170801_letter_Service%20to%20Corps_Revised%20EIS%20Key.pdf?ver=2017-08-03-145030-510.

U.S. Fish and Wildlife Service (USFWS). 2022a. Endangered Species website. https://www.fws.gov/endangered/. US Fish and Wildlife Service.

U.S. Fish and Wildlife Service (USFWS). 2022b. Information for Planning and Consultation (IPaC), Online Mapper. https://ipac.ecosphere.fws.gov/

USFWS. 2024a. Florida Ecological Services Field Office. Florida Bonneted Bat Consultation Guidelines. https://www.fws.gov/sites/default/files/documents/2024-07/20240605_final_fbb-consultation-guidance_0.pdf).

USFWS. 2024b. Range-wide Indiana Bat & Northern Long-eared Bat Survey Guidelines. https://www.fws.gov/sites/default/files/documents/2024-10/2024_usfws_rangewide_ibatnleb_survey_guidelines.pdf.

USFWS. 2024c. Standard Protection Measures for the Eastern Indigo Snake.https://www.fws.gov/sites/default/files/documents/2024-05/standard-protectionmeasures-eastern-indigo-snake-may-2024-508-compliant_0.pdf.

U.S. Fish and Wildlife Service (USFWS). 2024d. Threatened and Endangered Species' Critical Habitat Online Mapping Application. http://crithab.fws.gov/

USFWS. 2025. Endangered and Threatened Wildlife and Plants Database. https://ecos.fws.gov/ecp/.

APPENDIX A

PD&E Concept Plans

BEGIN PROJECT
STA. 4006+64.47

POLK AVE

CANAL AVE

N

00 4001 4002 4003 4004 4005 4006 4007 4008 4009 4010 4011 4012 4013 4014 40

PI STA. 4014+59.96

℄ CONST. SR 70

SR 31

KFC

TACO BELL

CULVER'S

WALGREENS

PUBLIX

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

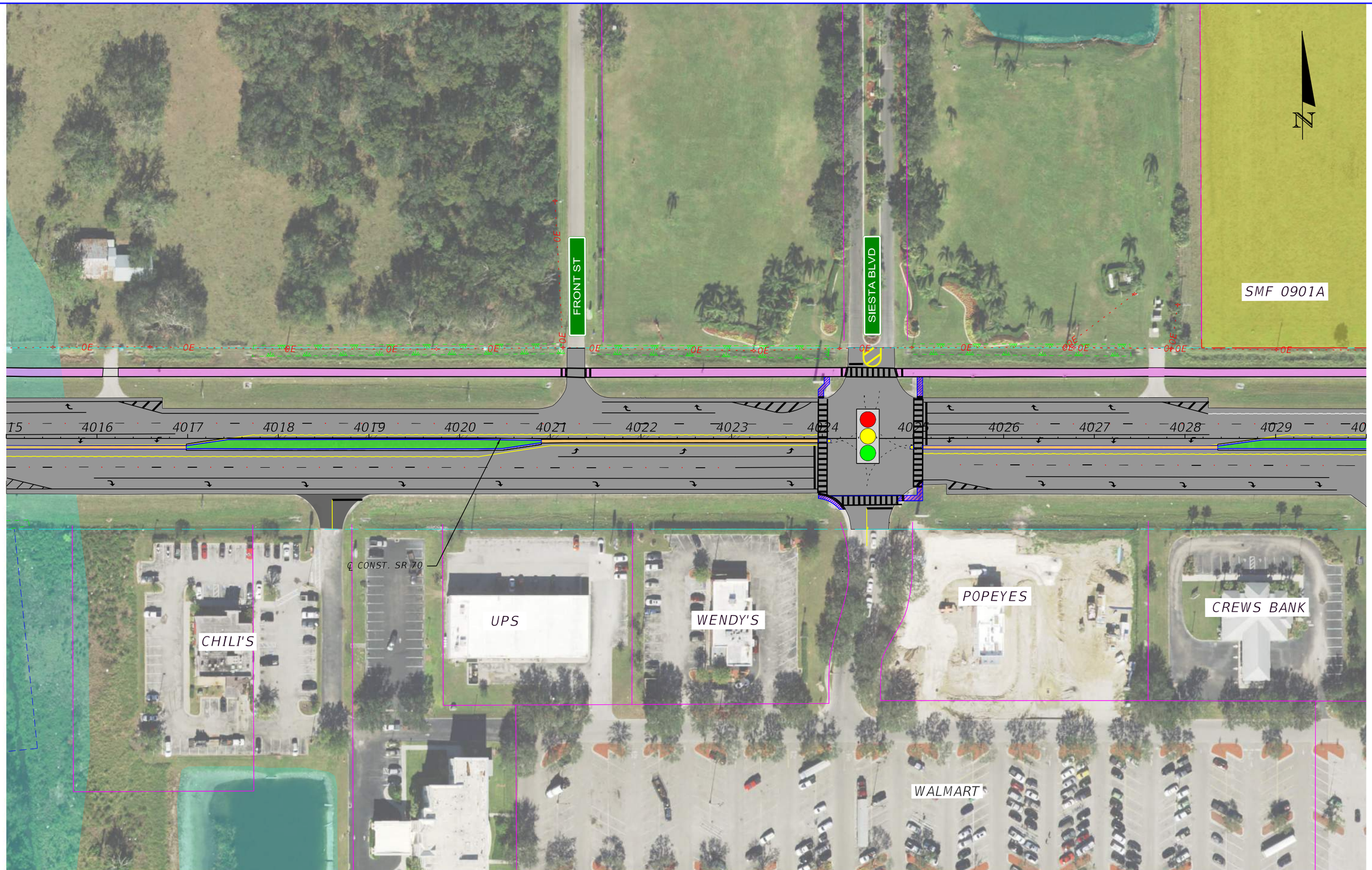
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 461942-1-22-01

SHEET NO. 1

dpituch 10/30/2025 4:38:11 PM c:\caddlib\pw\hntb_dpituch\sealv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X17 [SHEET]



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 2

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X18 [SHEET]
dpituch 10/30/2025 4:38:18 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 461942-1-22-01

SHEET NO. 3

c:\caddlib\pw\hntb_dpituch\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X19 [SHEET]
dpituch 10/30/2025 4:38:23 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

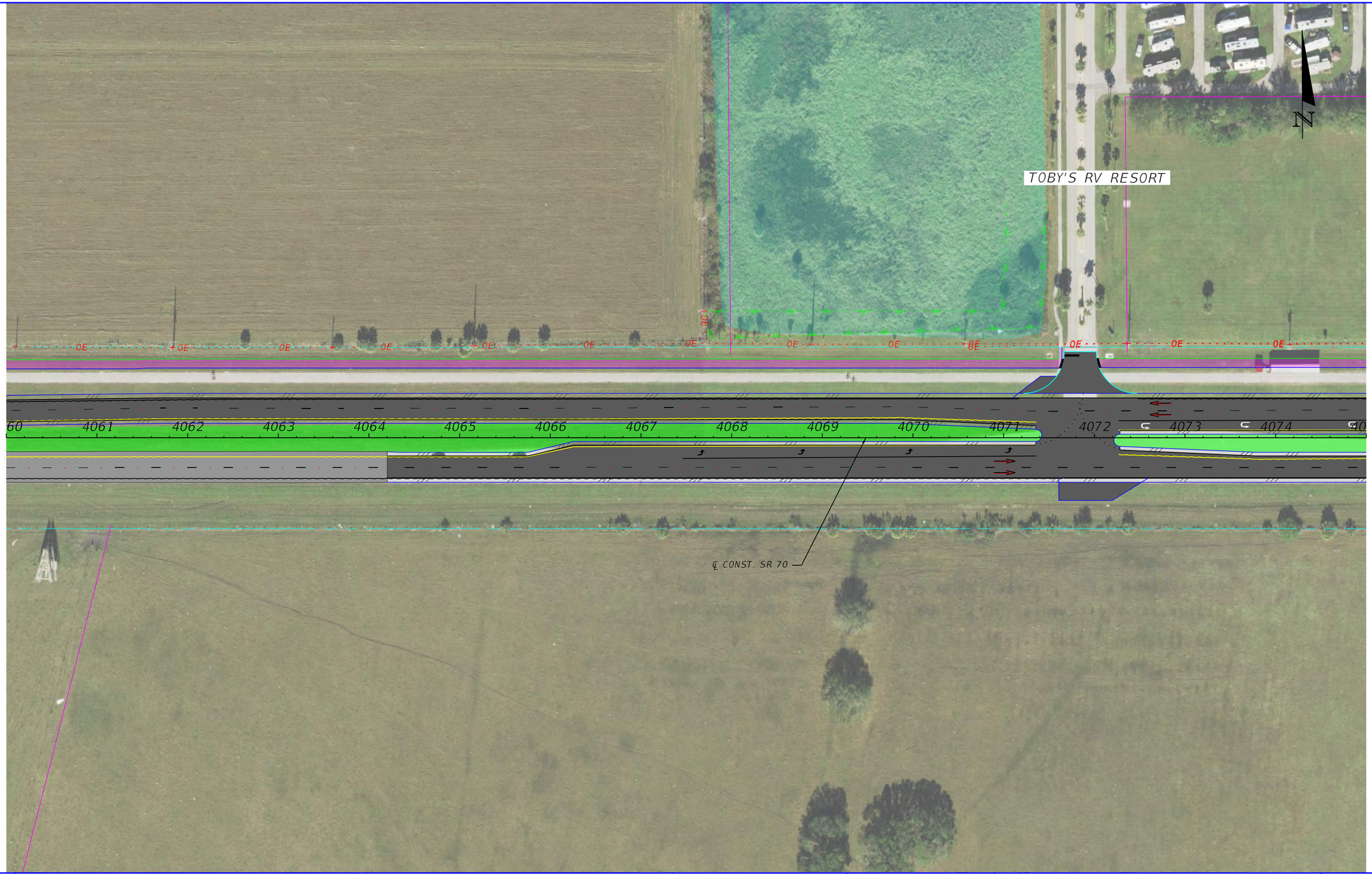
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 461942-1-22-01

SHEET NO. 4

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X20 [SHEET]
dpituch 10/30/2025 4:38:27 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 5

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X21 [SHEET]
dpituch 10/30/2025 4:38:31 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 6

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X22 [SHEET]
dpituch 10/30/2025 4:38:36 PM

END WILDLIFE FENCING

PROPOSED RETAINING WALL

PC STA. 4098+13.27

PT STA. 4101+56.65

PI STA. 4094+07.41

℄ CONST. SR 70

SE TOWNSEND RD

FGT

END WILDLIFE FENCING

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 7

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X23 [SHEET]
dpituch 10/30/2025 4:38:40 PM

WHIDDEN CREEK/MARE BRANCH

PROPOSED RETAINING WALL

END WILDLIFE FENCING

PT STA. 4112+40.21

PC STA. +38.68

PT STA. +38.68

PT STA. 4109+88.47

PC STA. 4117+23.00

4106 4107 4108 4109 4110 4111 4112 4113 4114 4115 4116 4117 4118 4119

OE

G(B)

℄ CONST. SR 70

END WILDLIFE FENCING

SMF 0902A

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 8

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X24 [SHEET]
dpituch 10/30/2025 4:38:44 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

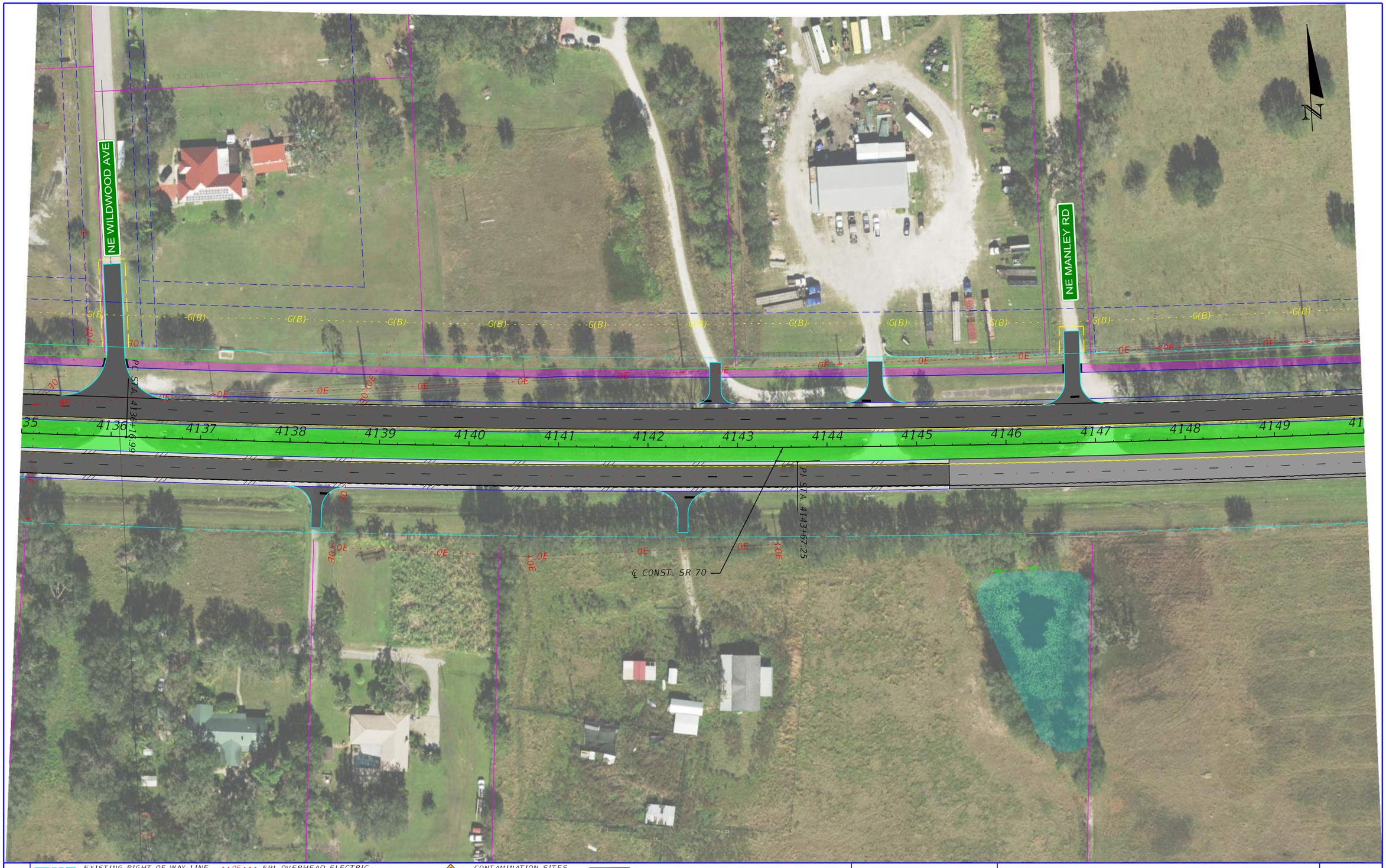
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 461942-1-22-01

SHEET NO. 9

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X25 [SHEET]
dpituch 10/30/2025 4:38:49 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 10

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X26 [SHEET]
dpituch 10/30/2025 4:38:53 PM

PROPOSED RETAINING WALL

℄ CONST. SR 70

PT STA 415+16.56

4150 4151 4152 4153 4154 4155 4156 4157 4158 4159 4160 4161 4162 4163 4164 41

BARKMAN HONEY

N

G(B) OE

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

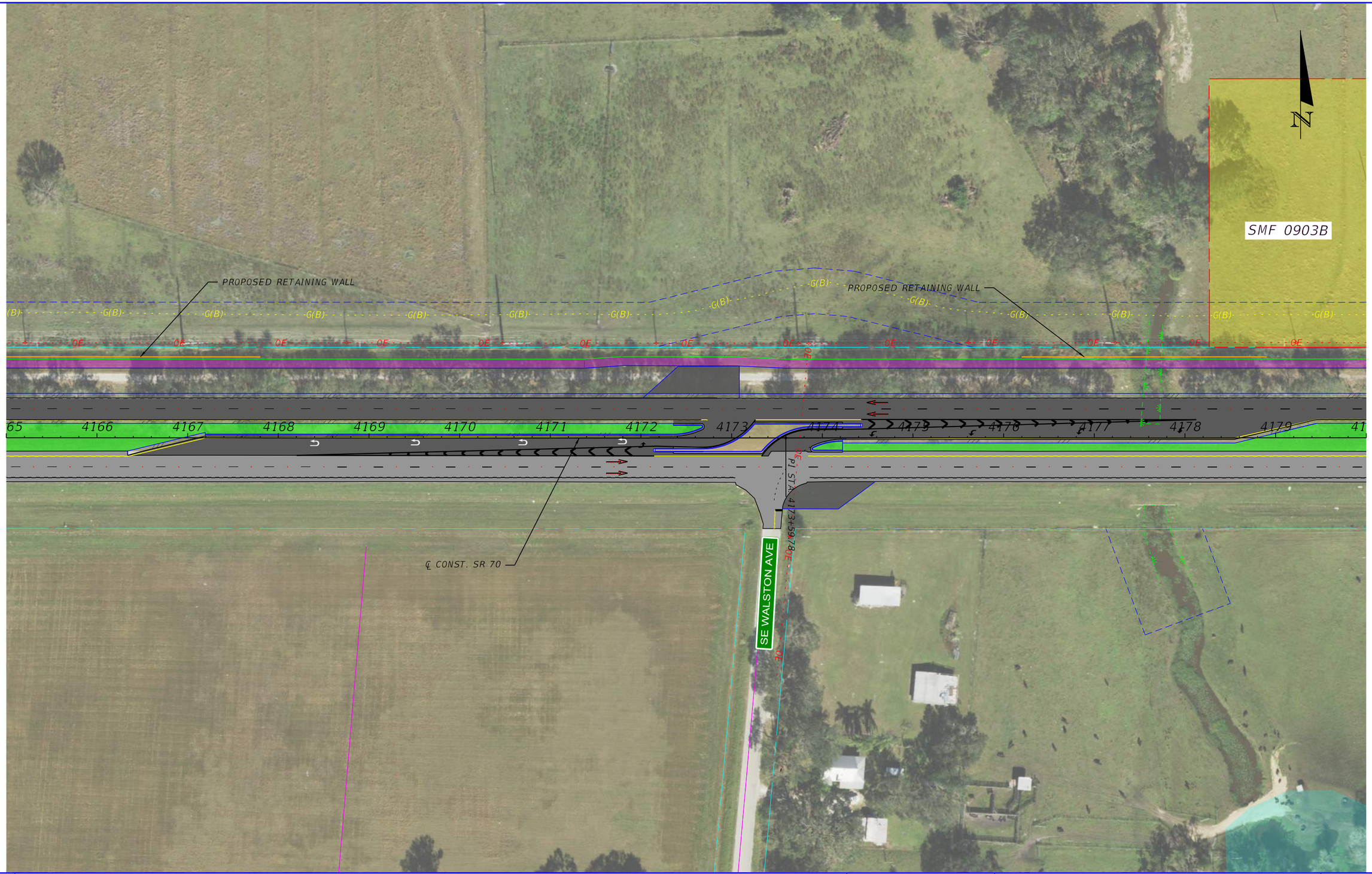
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 11

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X27 [SHEET]
dpituch 10/30/2025 4:38:57 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

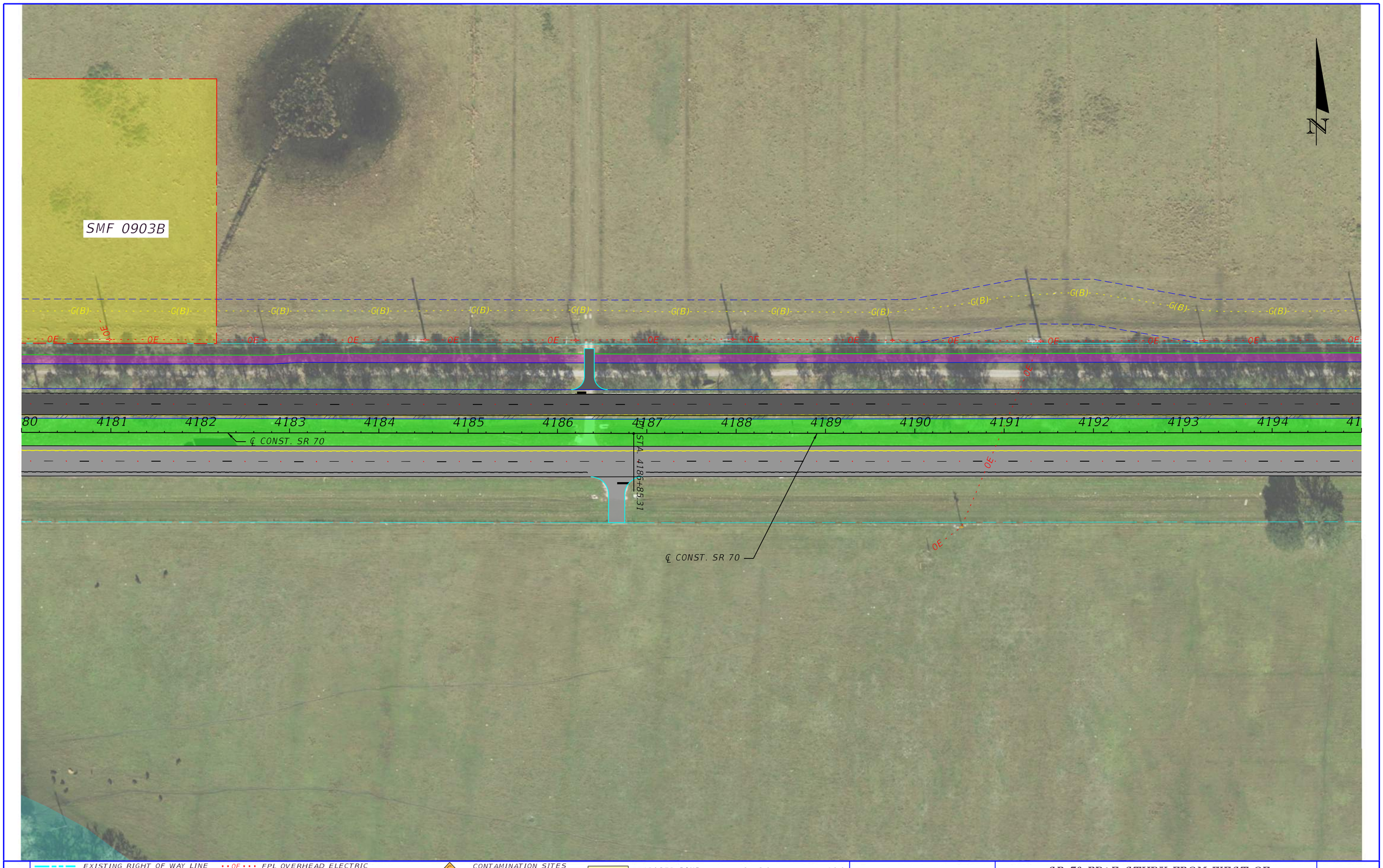
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 12

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X28 [SHEET]
dpituch 10/30/2025 4:39:01 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

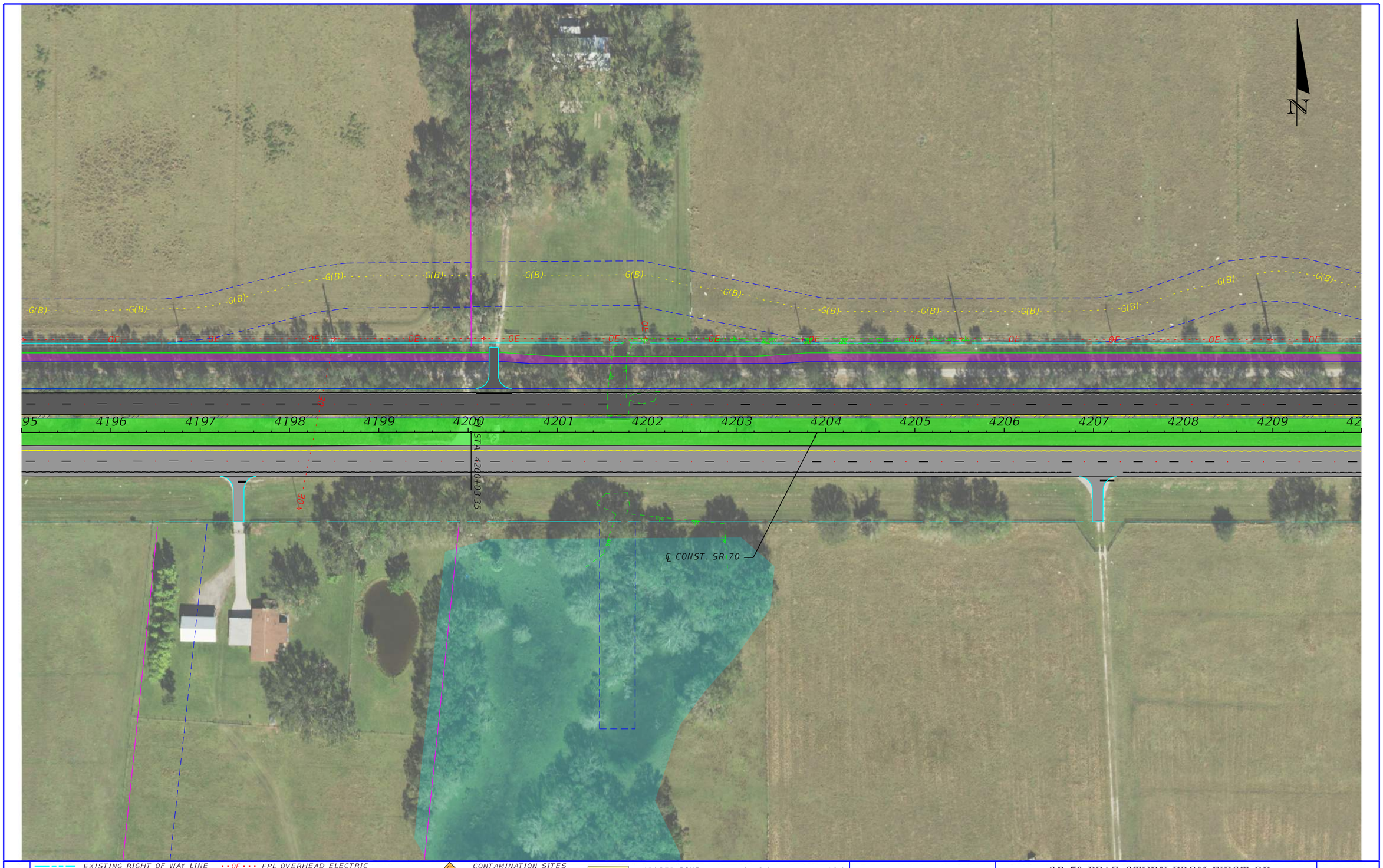
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 13

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X29 [SHEET]
dpituch 10/30/2025 4:39:05 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 14

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X30 [SHEET]
dpituch 10/30/2025 4:39:09 PM

NE FORREST AVE

CHILDRESS AVE

N

10 4211 4212 4213 4214 4215 4216 4217 4218 4219 4220 4221 4222 4223 4224 42

℄ CONST SR 70

G(B) OE

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 461942-1-22-01

SHEET NO. 15

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X31 [SHEET]
dpituch 10/30/2025 4:39:14 PM

HARVEY'S

NE CROSS AVE

SE CROSS AVE

℄ CONST. SR 70

4225 4226 4227 4228 4229 4230 4231 4232 4233 4234 4235 4236 4237 4238 4239 42

N

0 20 100
Feet

DATE OF AERIAL: 2023

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 16

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X32 [SHEET]
dpituch 10/30/2025 4:39:18 PM

SMF 0904A

MAHON AVE

JOSHUA CREEK

END WILDLIFE FENCING

PROPOSED RETAINING WALL

℄ CONST. SR 70

STA. 4252+93.30

40 4241 4242 4243 4244 4245 4246 4247 4248 4249 4250 4251 4252 4253 4254

OE G(B)

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 17

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X33 [SHEET]
dpituch 10/30/2025 4:39:22 PM

PROPOSED RETAINING WALL
END WILDLIFE FENCING
PROPOSED RETAINING WALL
PROPOSED GRAVITY WALL
END WILDLIFE FENCING
℄ CONST. SR 70
PI STA. 4266+14.30
4255 4256 4257 4258 4259 4260 4261 4262 4263 4264 4265 4266 4267 4268 4269 42
OE
G(B)
N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

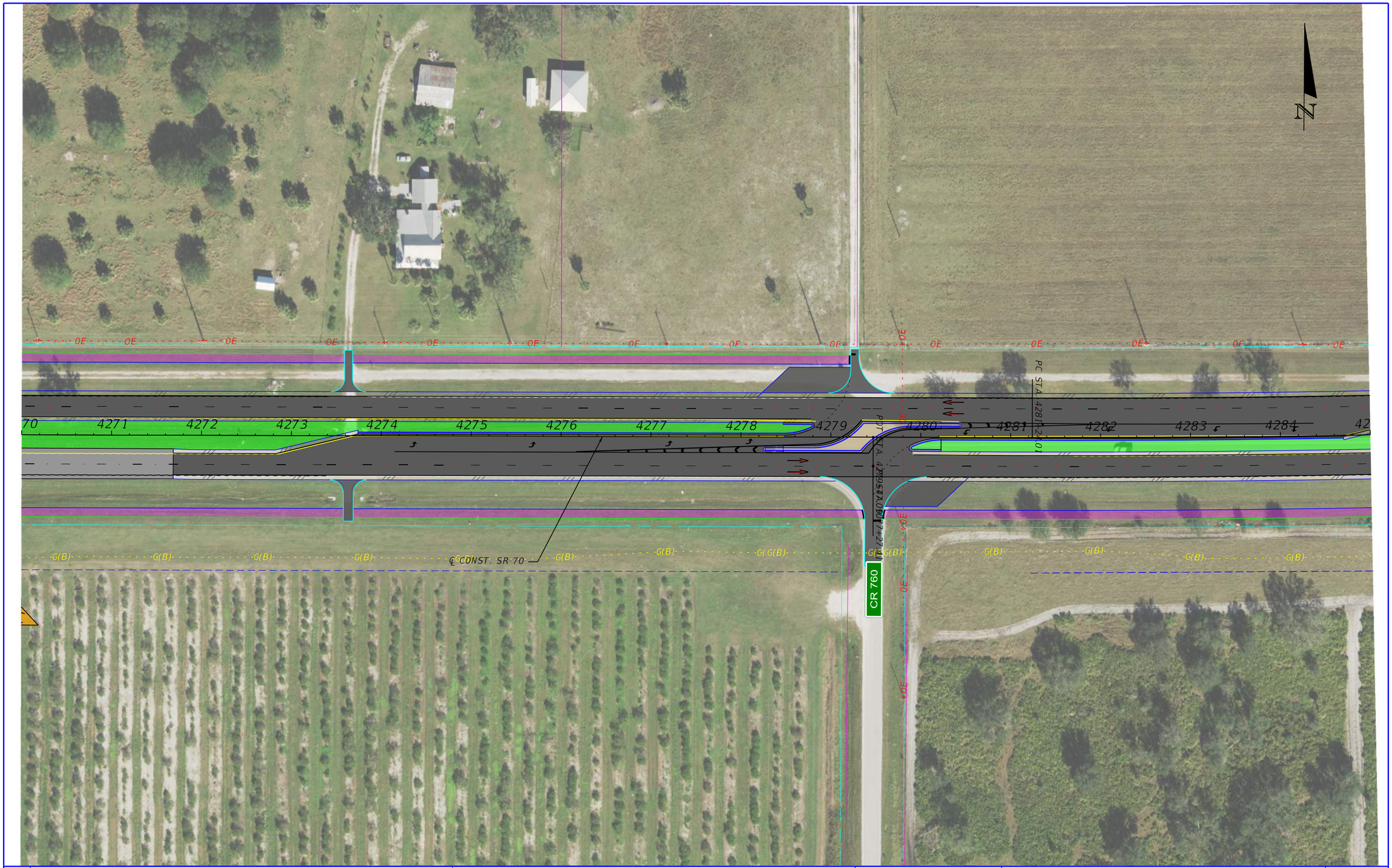
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 18

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X34 [SHEET]
dpituch 10/30/2025 4:39:27 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

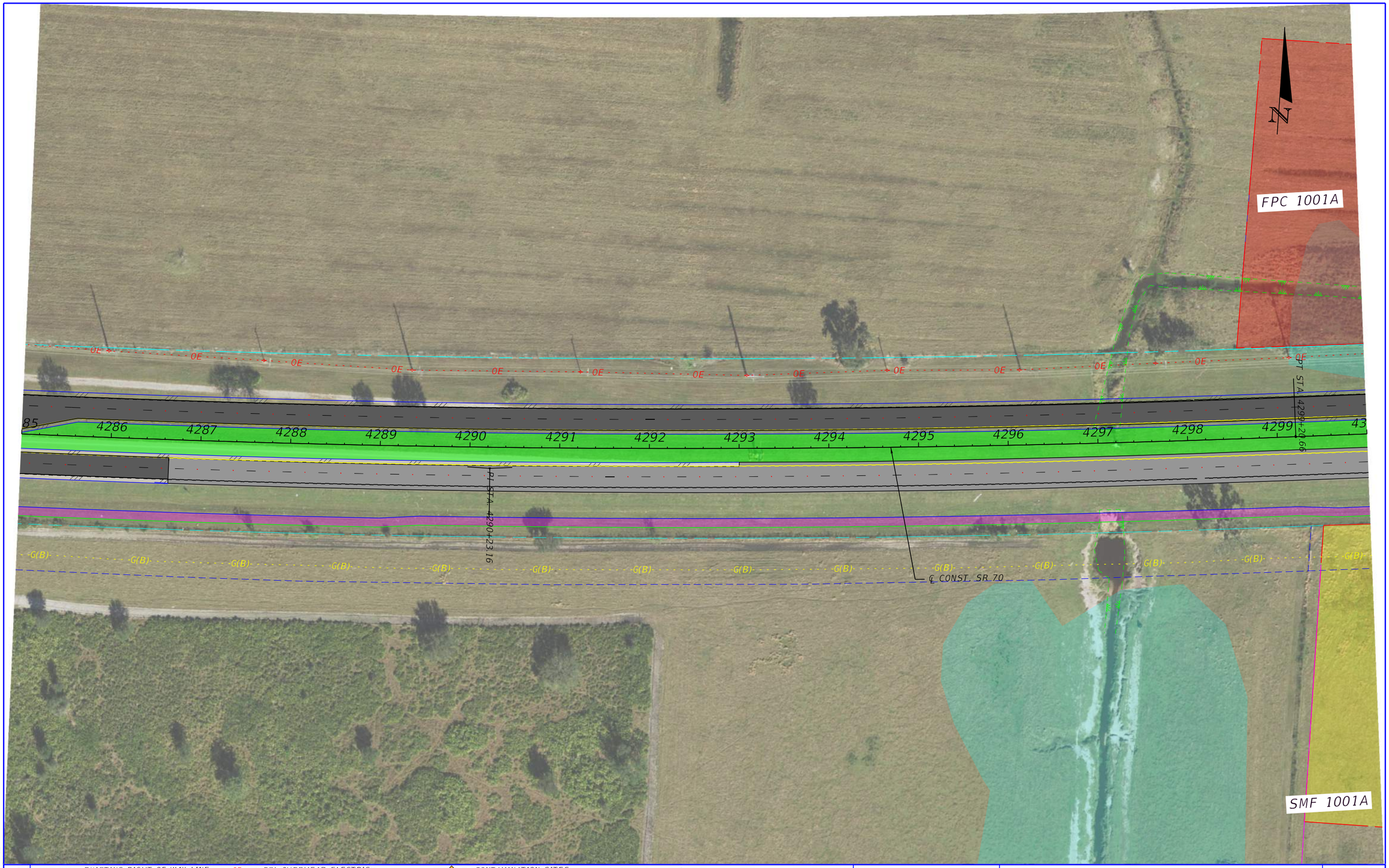
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 19

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:39:32 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

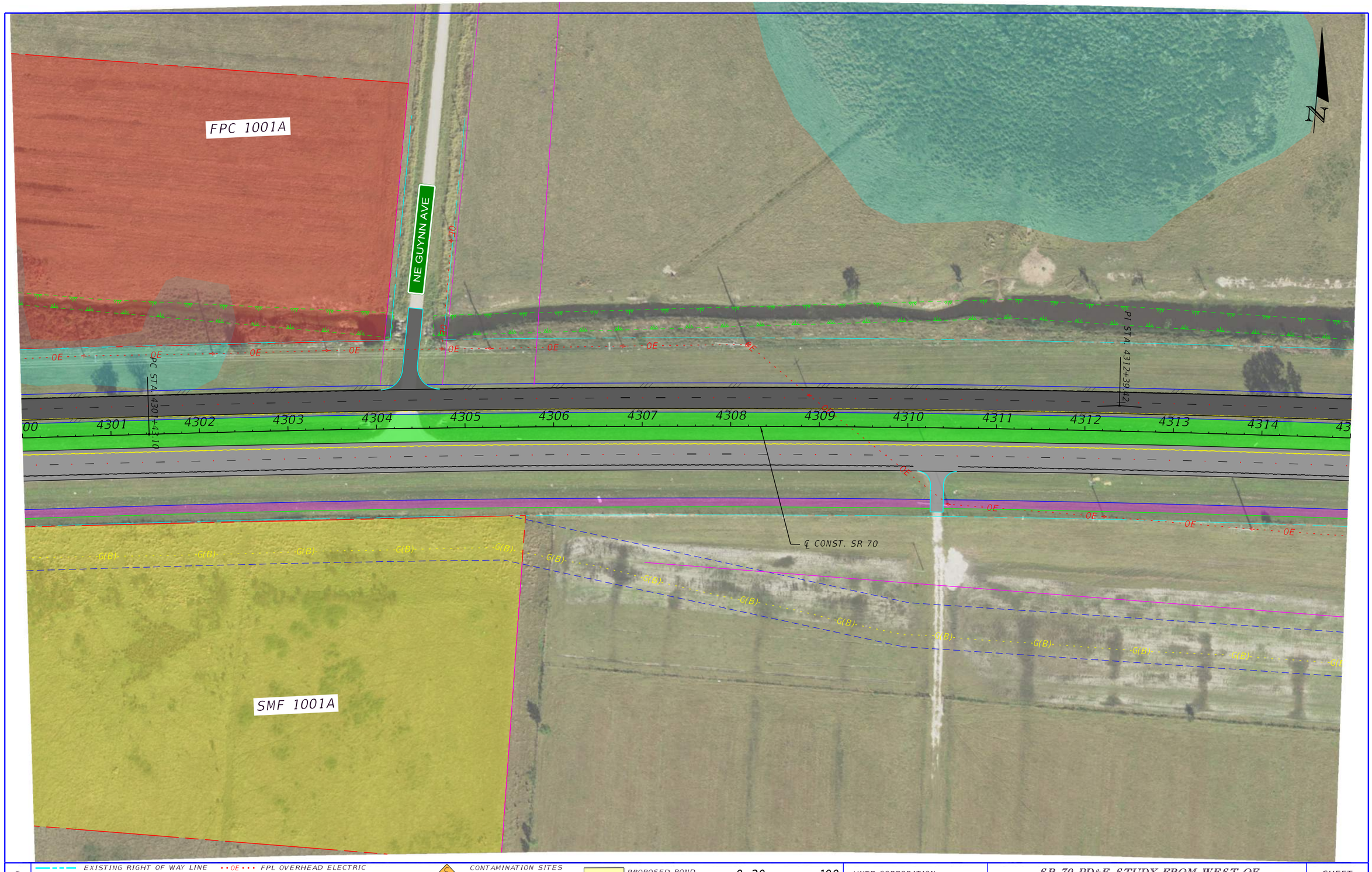
0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF
SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
20



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 21

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:39:40 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 22

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:39:45 PM

PROPOSED GUARDRAIL

PI STA. 4332+17.71

4330 4331 4332 4333 4334 4335 4336 4337 4338 4339 4340 4341 4342 4343 4344

℄ CONST. SR 70

SE TURKEY HAMMOCK RD

OE

N

LEGEND

EXISTING RIGHT OF WAY LINE	FPL OVERHEAD ELECTRIC	CONTAMINATION SITES	PROPOSED POND
PROPOSED RIGHT OF WAY LINE	EXISTING 100-YR FLOODPLAIN	PROPOSED SHOULDER	PROPOSED BRIDGES
EXISTING PROPERTY LINE	PROPOSED MILLING & RESURFACING	PROPOSED GRASS MEDIAN	PROPOSED FLOODPLAIN COMPENSATION SITES
EXISTING EASEMENT	PROPOSED RECONSTRUCTION/WIDENING	PROPOSED RIPRAP	
PROPOSED EASEMENT	PROPOSED SHARED USE PATH	PROPOSED WILDLIFE CROSSING	
WETLANDS	FGT GAS LINES	PROPOSED FENCING	

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 23

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:39:49 PM

FPC 1002-NA

PROPOSED GUARDRAIL

PI STA 4359+19.46

45 4346 4347 4348 4349 4350 4351 4352 4353 4354 4355 4356 4357 4358 4359 43

℄ CONST. SR 70

OE

FPC 1002-SB

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

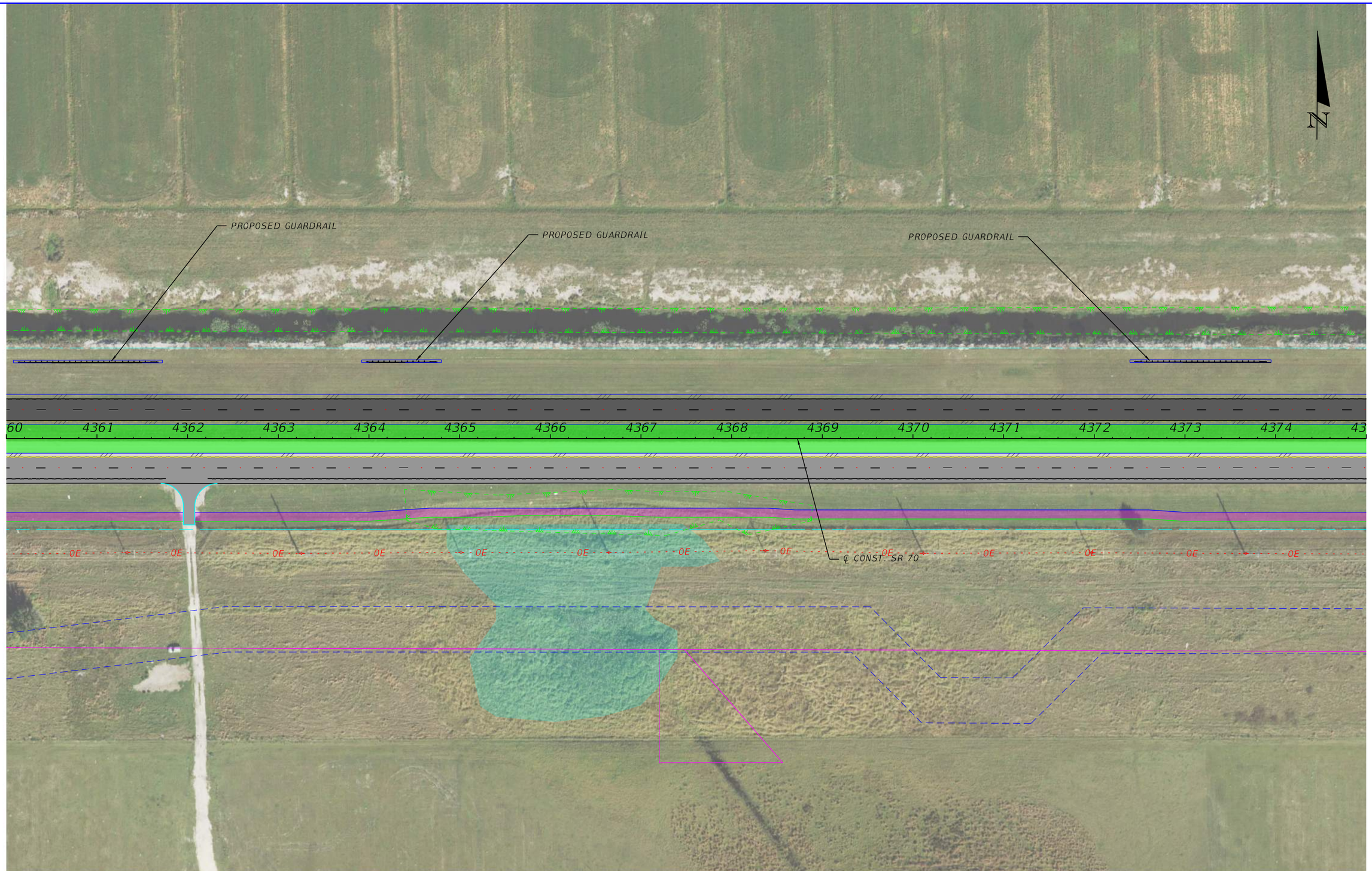
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 24

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:39:54 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- GT(B)X FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

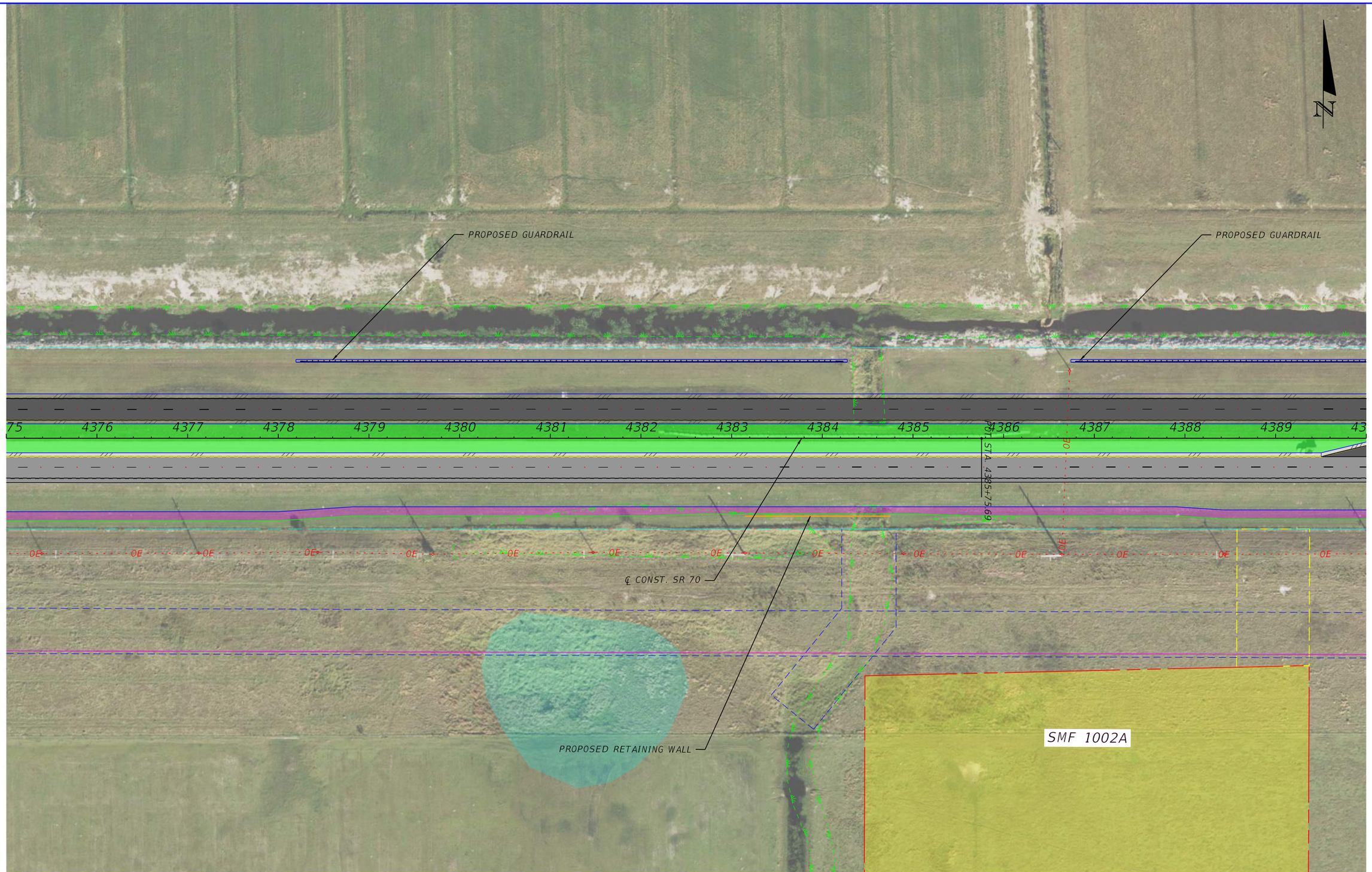
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
25

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:39:58 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

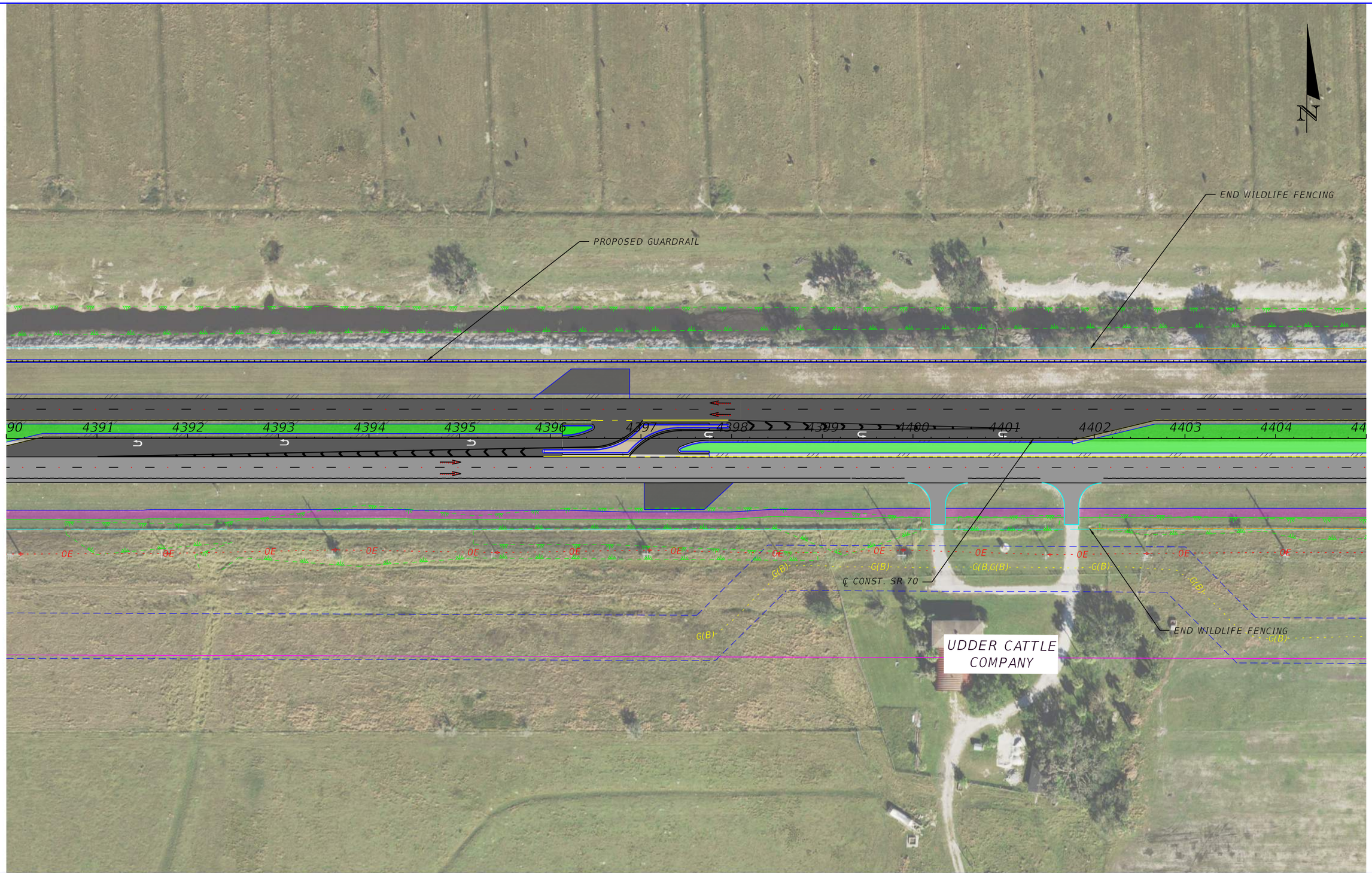
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 26

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:03 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 27

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:07 PM

PROPOSED GUARDRAIL

TIGER BAY

PI STA. 4412+37.88

℄ CONST. SR 70

4405 4406 4407 4408 4409 4410 4411 4412 4413 4414 4415 4416 4417 4418 4419

OE

G(B)

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

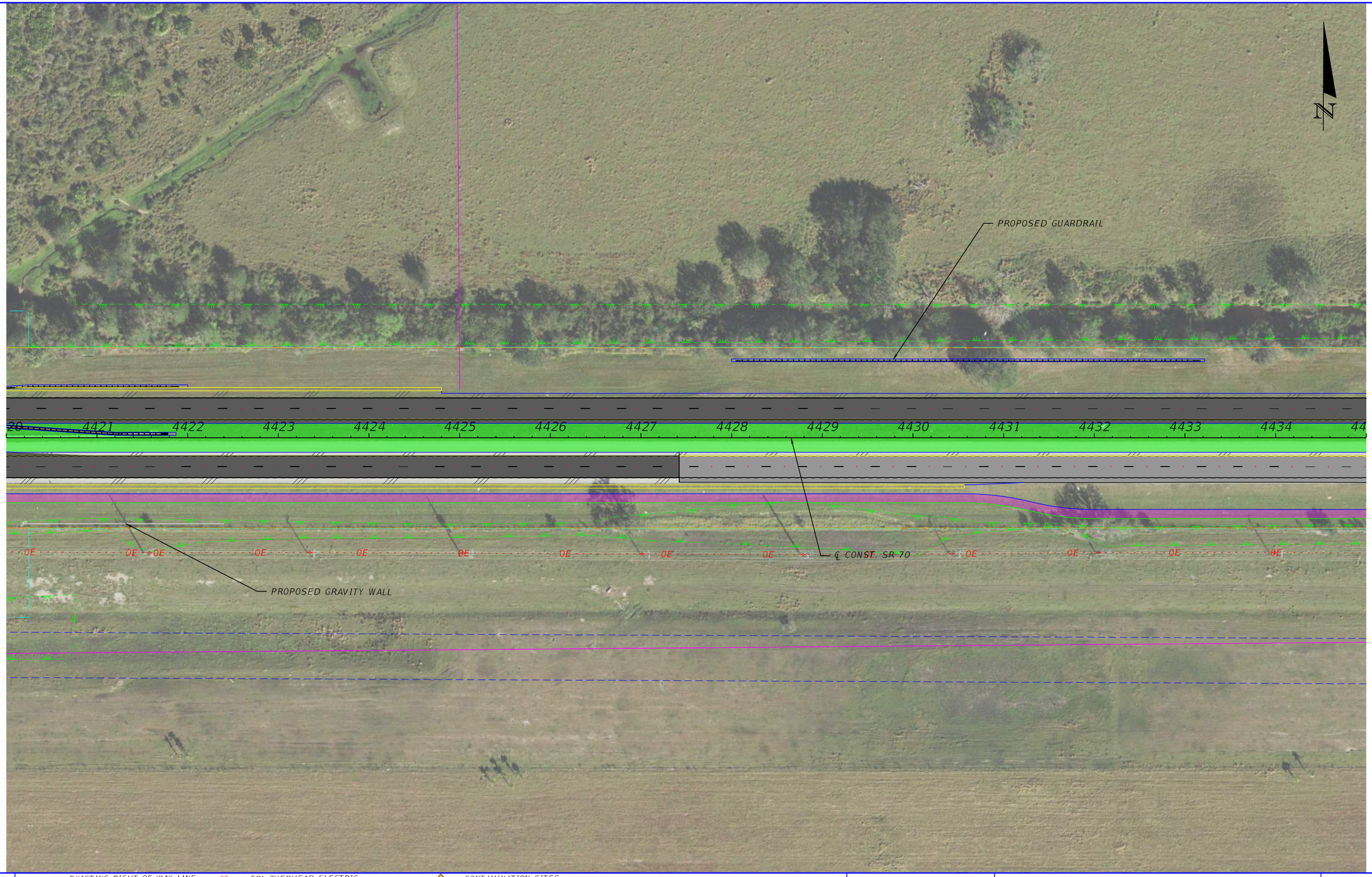
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 28

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:12 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(D) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 29

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:16 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 30

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:21 PM

PROPOSED GUARDRAIL

℄ CONST. SR 70

N

50 4451 4452 4453 4454 4455 4456 4457 4458 4459 4460 4461 4462 4463 4464 44

OE OE OE OE OE OE OE OE OE OE OE OE OE

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.

31

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:25 PM

NE FOUR MILE GRADE

PROPOSED GUARDRAIL

END WILDLIFE FENCING

PI STA. 4465+49.11

4465 4466 4467 4468 4469 4470 4471 4472 4473 4474 4475 4476 4477 4478 4479 44

℄ CONST. SR 70

END WILDLIFE FENCING

UDDER CATTLE COMPANY

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

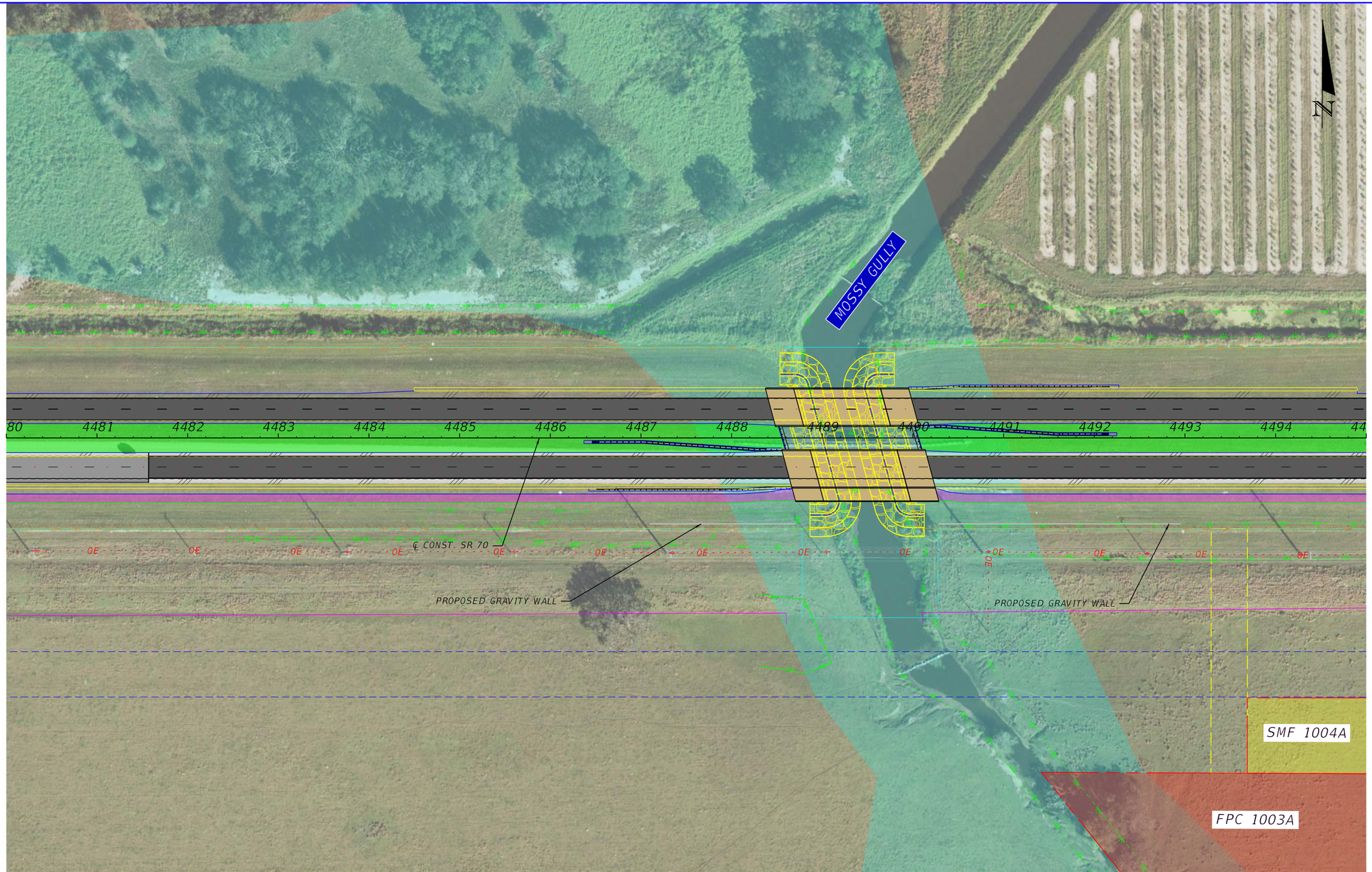
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 32

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X48 [SHEET]
dpituch 10/30/2025 4:40:29 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(F)(J) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

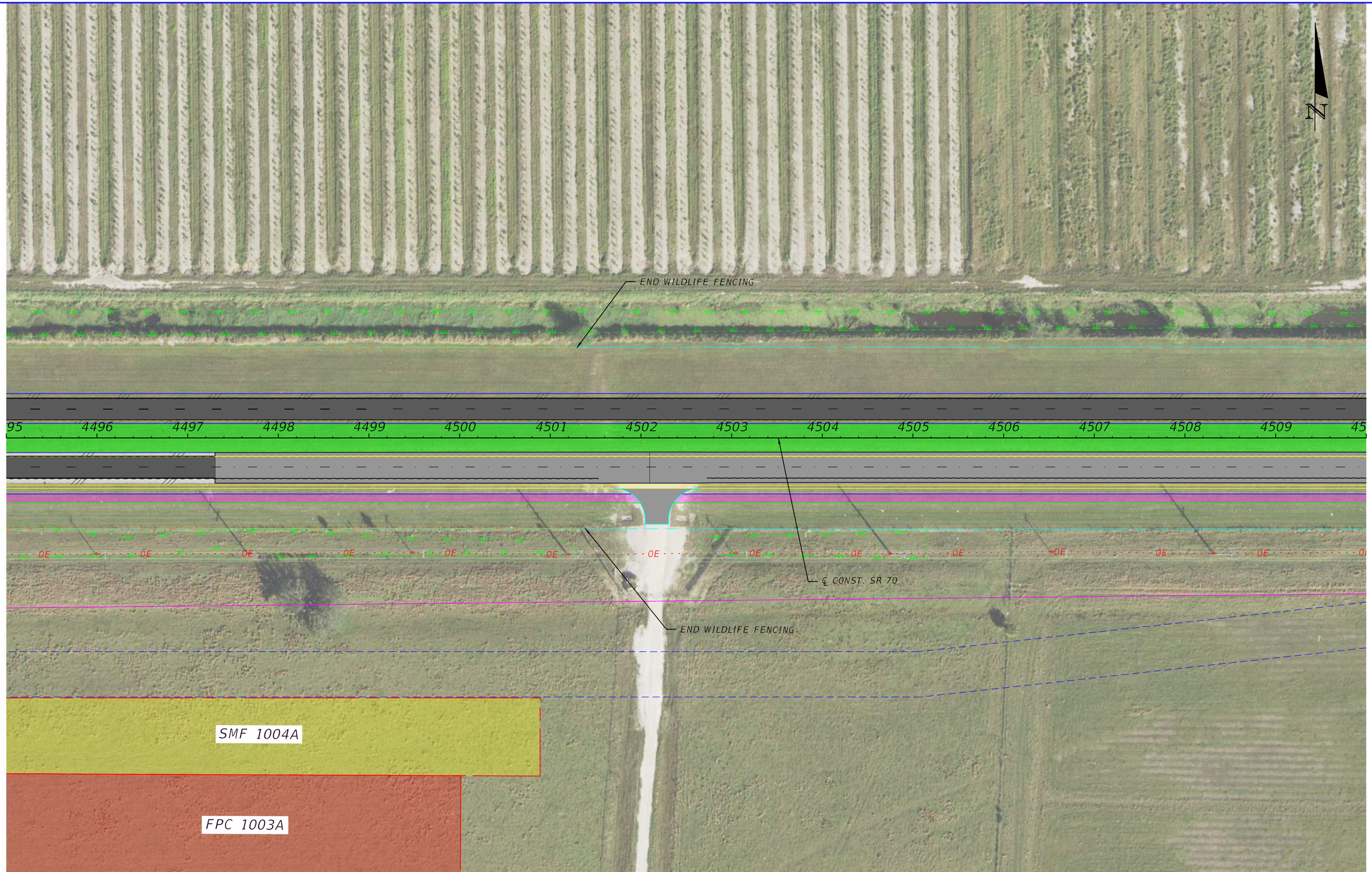
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
33

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cel\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:34 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(FB) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 34

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X50 [SHEET]
dpituch 10/30/2025 4:40:38 PM

END WILDLIFE FENCING

END WILDLIFE FENCING

FOUR MILE GRADE RD

D.C.I. CANAL

ALICO CITRUS

SMF 1005C-1L

10 4511 4512 4513 4514 4515 4516 4517 4518 4519 4520 4521 4522 4523 4524 45

OE

END WILDLIFE FENCING

℄ CONST. SR 70

END WILDLIFE FENCING

G(B)

DESOTO CORRECTIONAL INSTITUTION

C

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY

FPID 451942-1-22-01

SHEET NO. 35

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X51 [SHEET]
dpituch 10/30/2025 4:40:42 PM

ALICO CITRUS

SMF 1005C-1L

PROPOSED GUARDRAIL

N

25 4526 4527 4528 4529 4530 4531 4532 4533 4534 4535 4536 4537 4538 4539 45

OE

G(B)

℄ CONST. SR 70

DESOTO CORRECTIONAL INSTITUTION

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

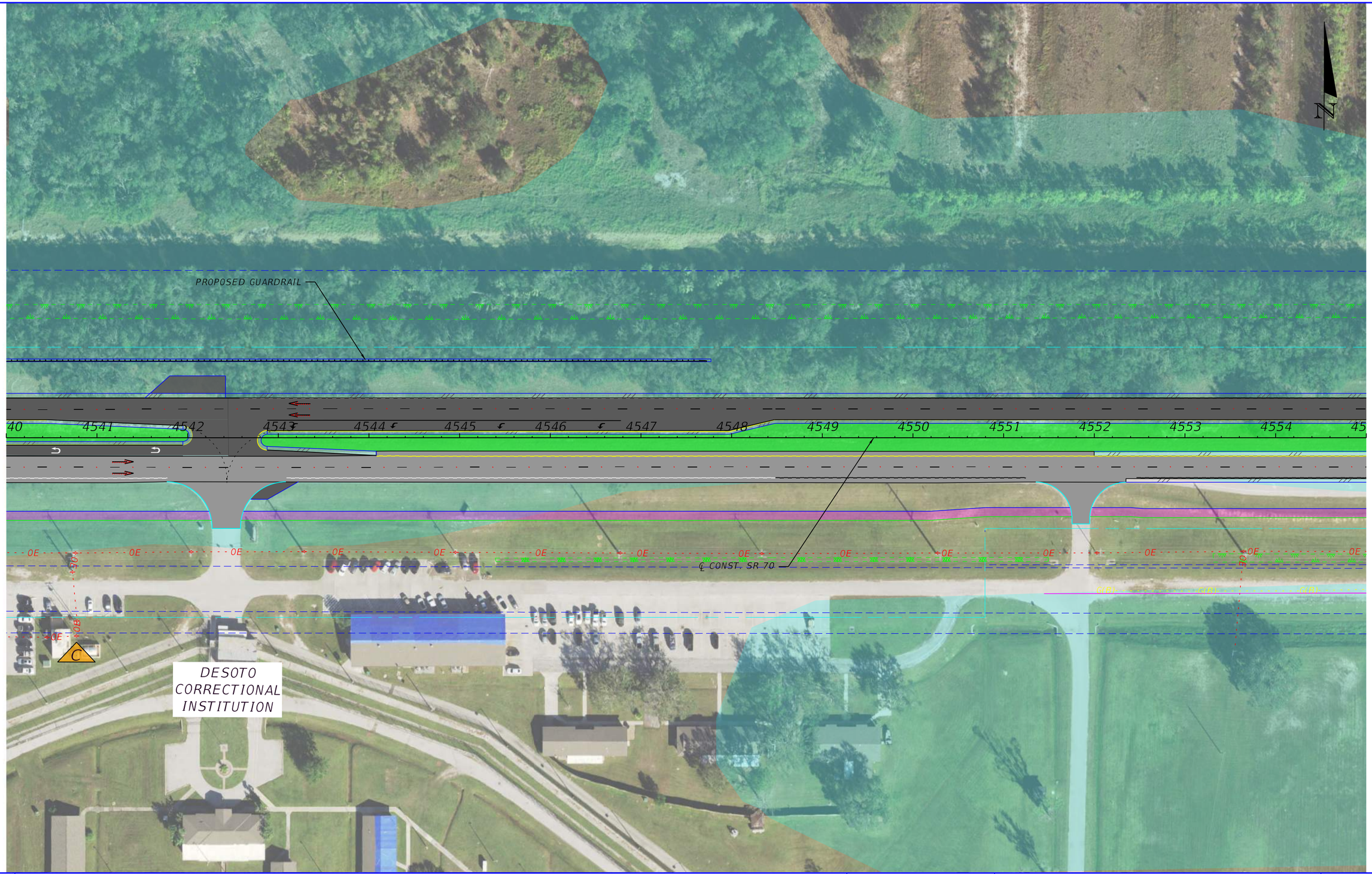
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 36

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X52 [SHEET]
dpituch 10/30/2025 4:40:46 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

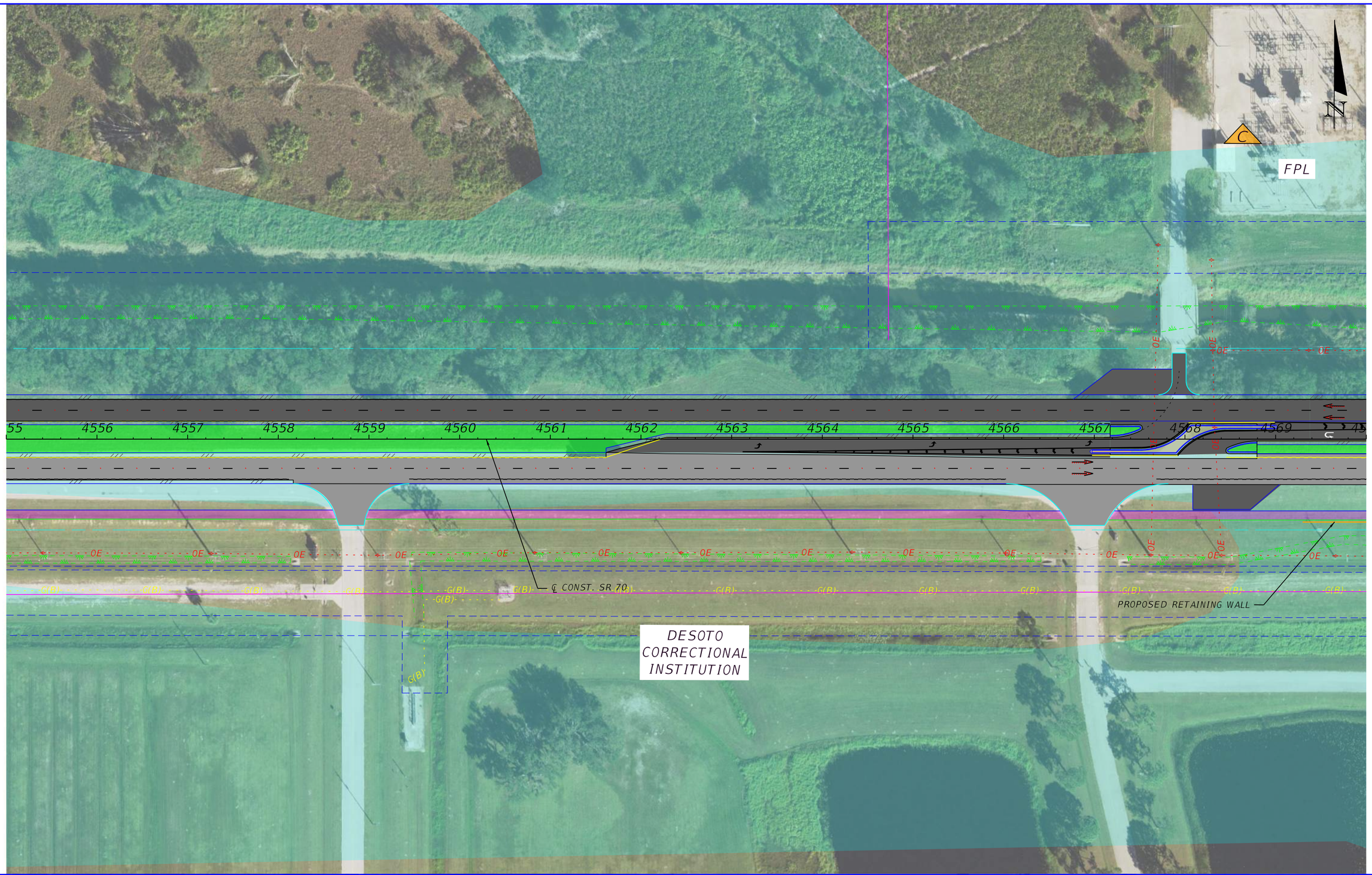
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 37

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:50 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

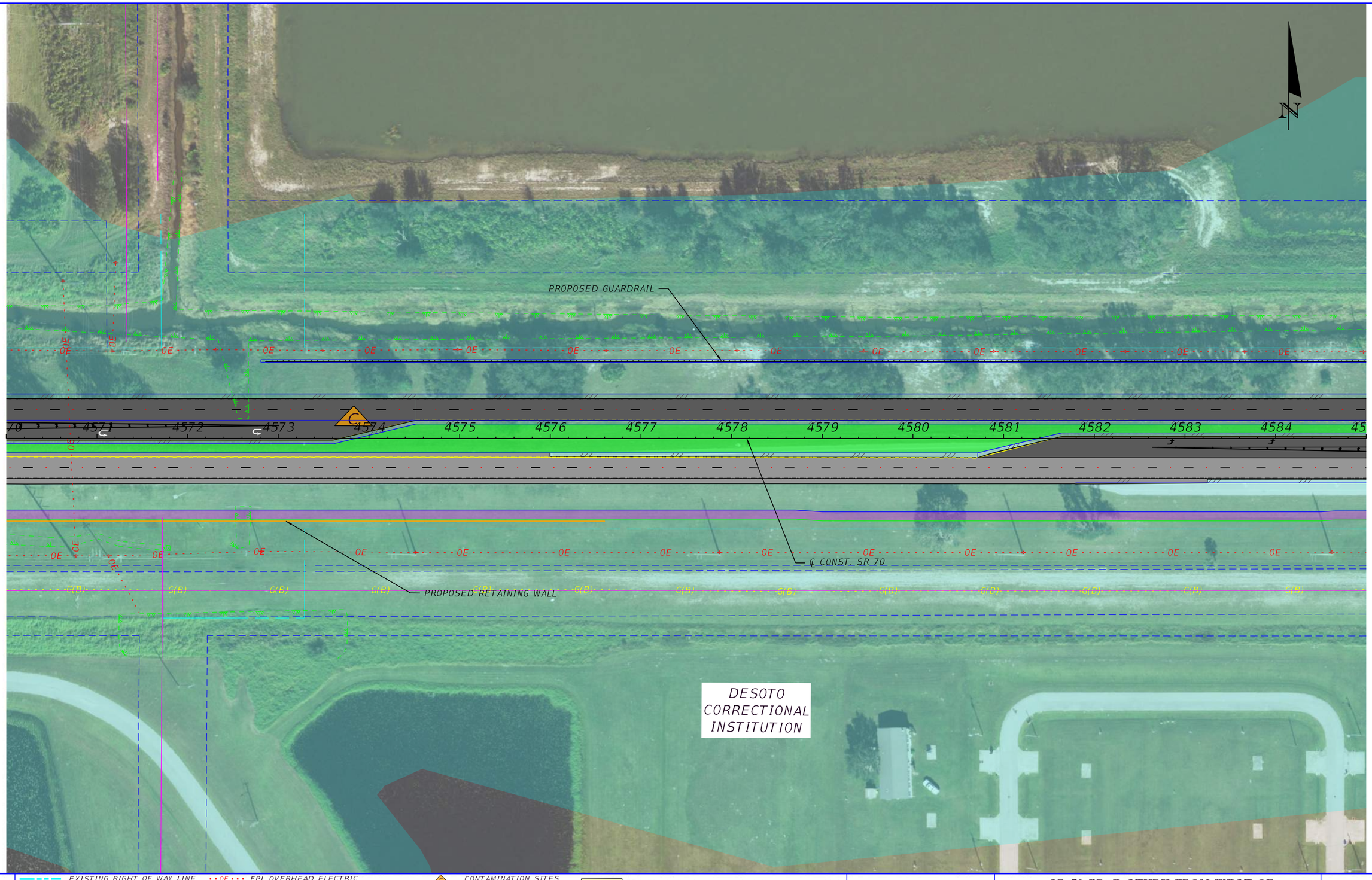
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 38

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:40:55 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 39

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X55 [SHEET]
dpituch 10/30/2025 4:40:59 PM

DESOTO RECYCLING

PROPOSED GUARDRAIL

PROPOSED GUARDRAIL

PROPOSED GUARDRAIL

OE

4585 4586 4587 4588 4589 4590 4591 4592 4593 4594 4595 4596 4597 4598 4599 46

℄ CONST. SR 70

G(B)

DESOTO CORRECTIONAL INSTITUTION

FPC 1006A

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 40

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:03 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 41

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:08 PM

PROPOSED GUARDRAIL

PROPOSED GUARDRAIL

PROPOSED GUARDRAIL

OE

P.I. STA. 4622+56.92

4615 4616 4617 4618 4619 4620 4621 4622 4623 4624 4625 4626 4627 4628 4629 46

℄ CONST. SR 70

G(B)

SMF 1006A

FPC 1007C

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

DATE OF AERIAL: 2023

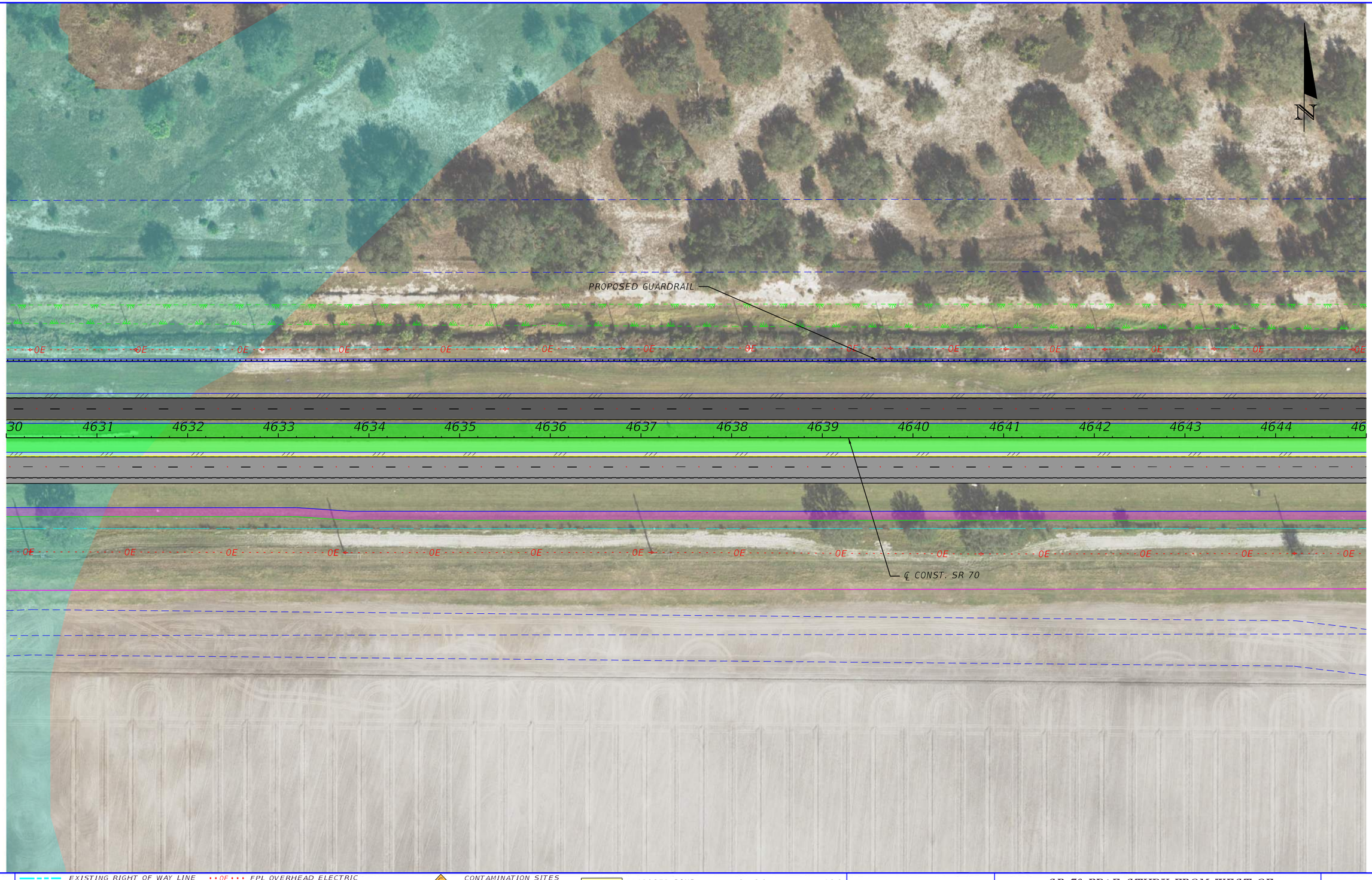
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO.

42

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:12 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(D) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

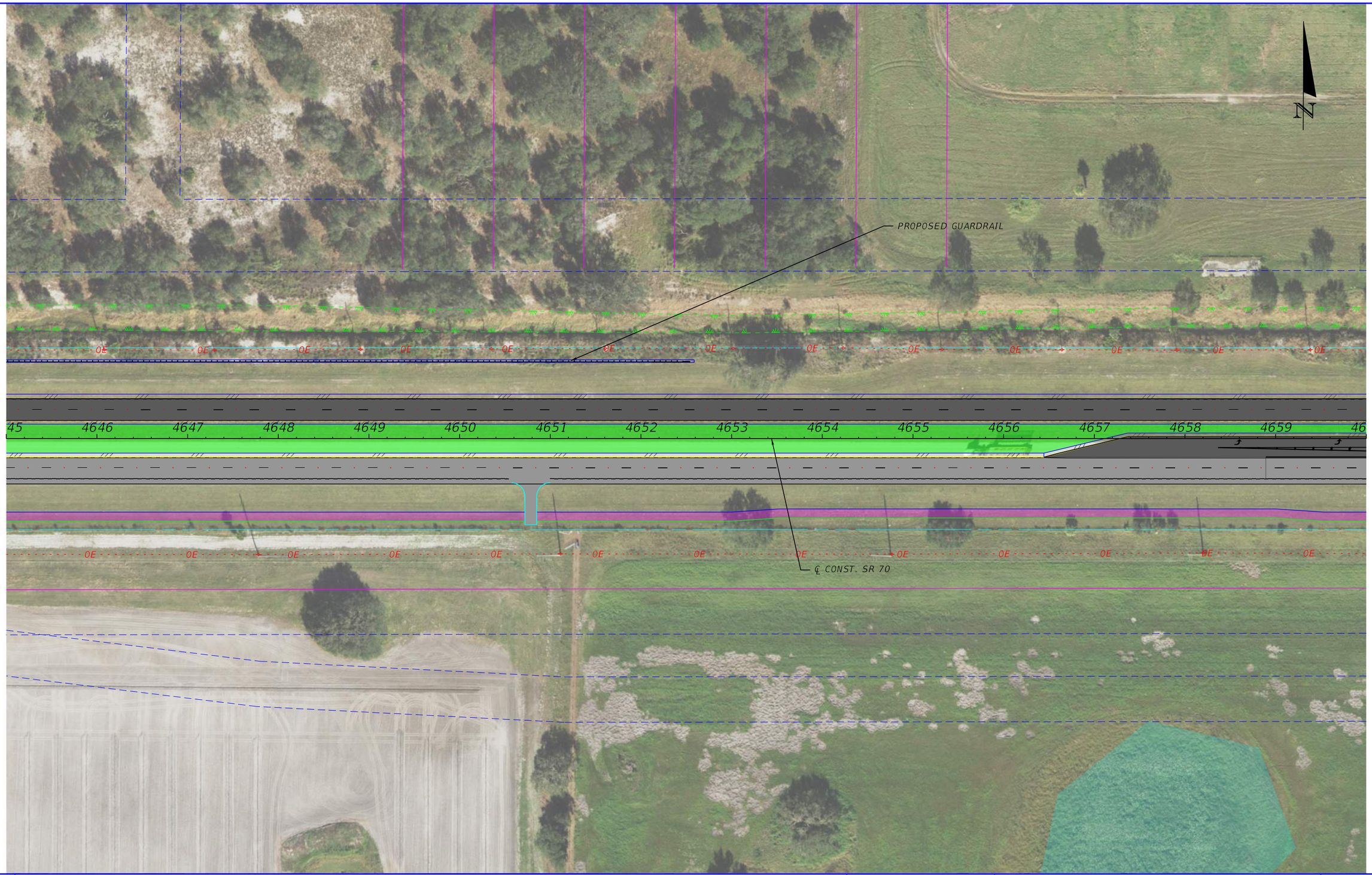
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY

FPID 451942-1-22-01

SHEET NO. 43

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:17 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- GT(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 44

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X60 [SHEET]
dpituch 10/30/2025 4:41:21 PM

DESOTO LANDFILL

END WILDLIFE FENCING

PROPOSED GUARDRAIL

4660 4661 4662 4663 4664 4665 4666 4667 4668 4669 4670 4671 4672 4673 4674 46

℄ CONST. SR 70

END WILDLIFE FENCING

PROPOSED GRAVITY WALL

LONG POINT MARSH

PROPOSED GRAVITY WALL

FPC 1008A

SMF 1007A

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 45

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:26 PM

PROPOSED GUARDRAIL

END WILDLIFE FENCING

PI STA. 4676+29.36

75 4676 4677 4678 4679 4680 4681 4682 4683 4684 4685 4686 4687 4688 4689 46

END WILDLIFE FENCING

℄ CONST. SR 70

SMF 1007A

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

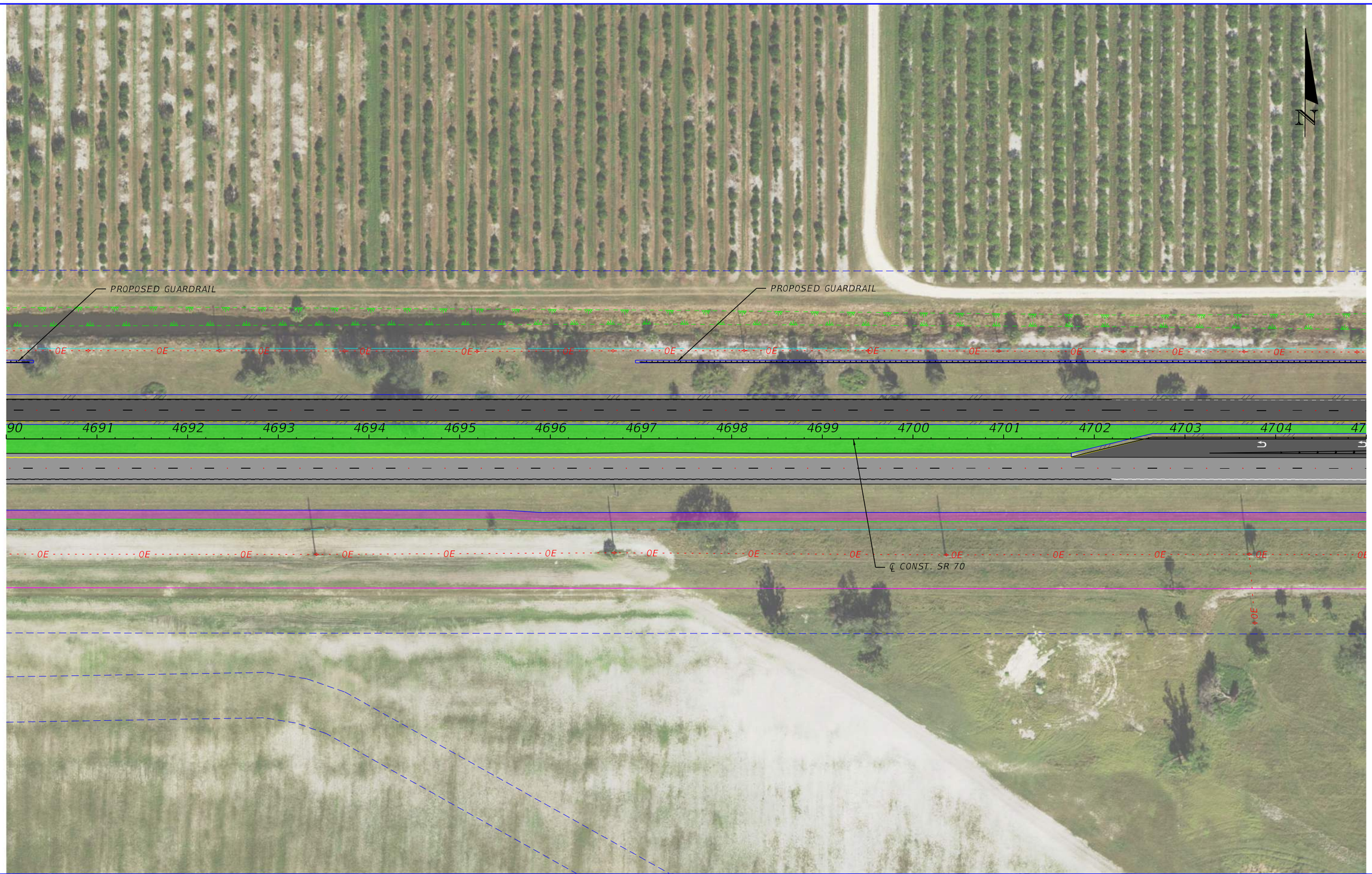
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 46

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:31 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO.

47

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 48

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:39 PM

PROPOSED GUARDRAIL

PROPOSED RETAINING WALL

℄ CONST. SR 70

PI STA 4729+19.14

OE

G(B)

FPC 1009C

4720 4721 4722 4723 4724 4725 4726 4727 4728 4729 4730 4731 4732 4733 4734 47

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

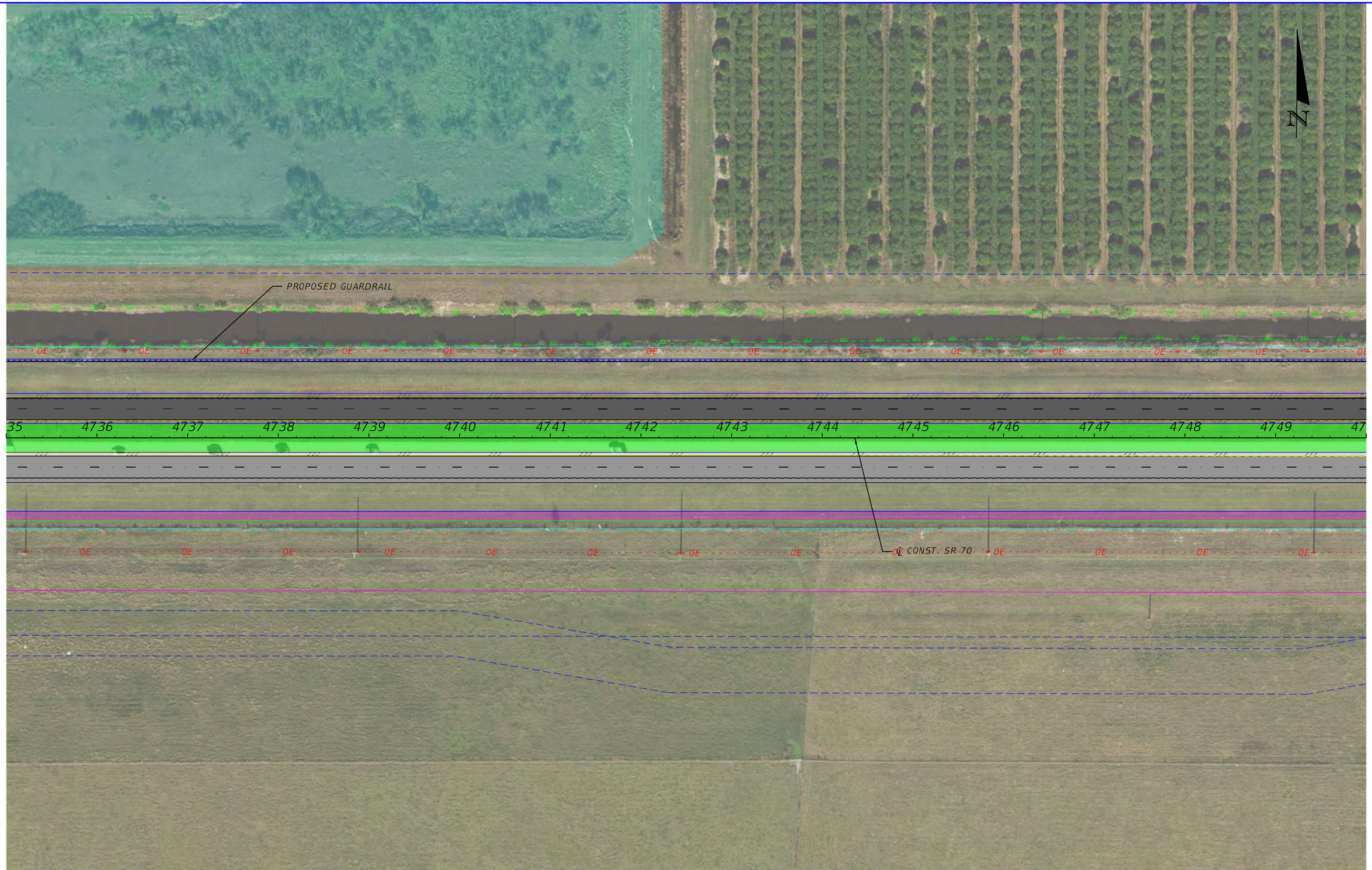
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 49

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:44 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

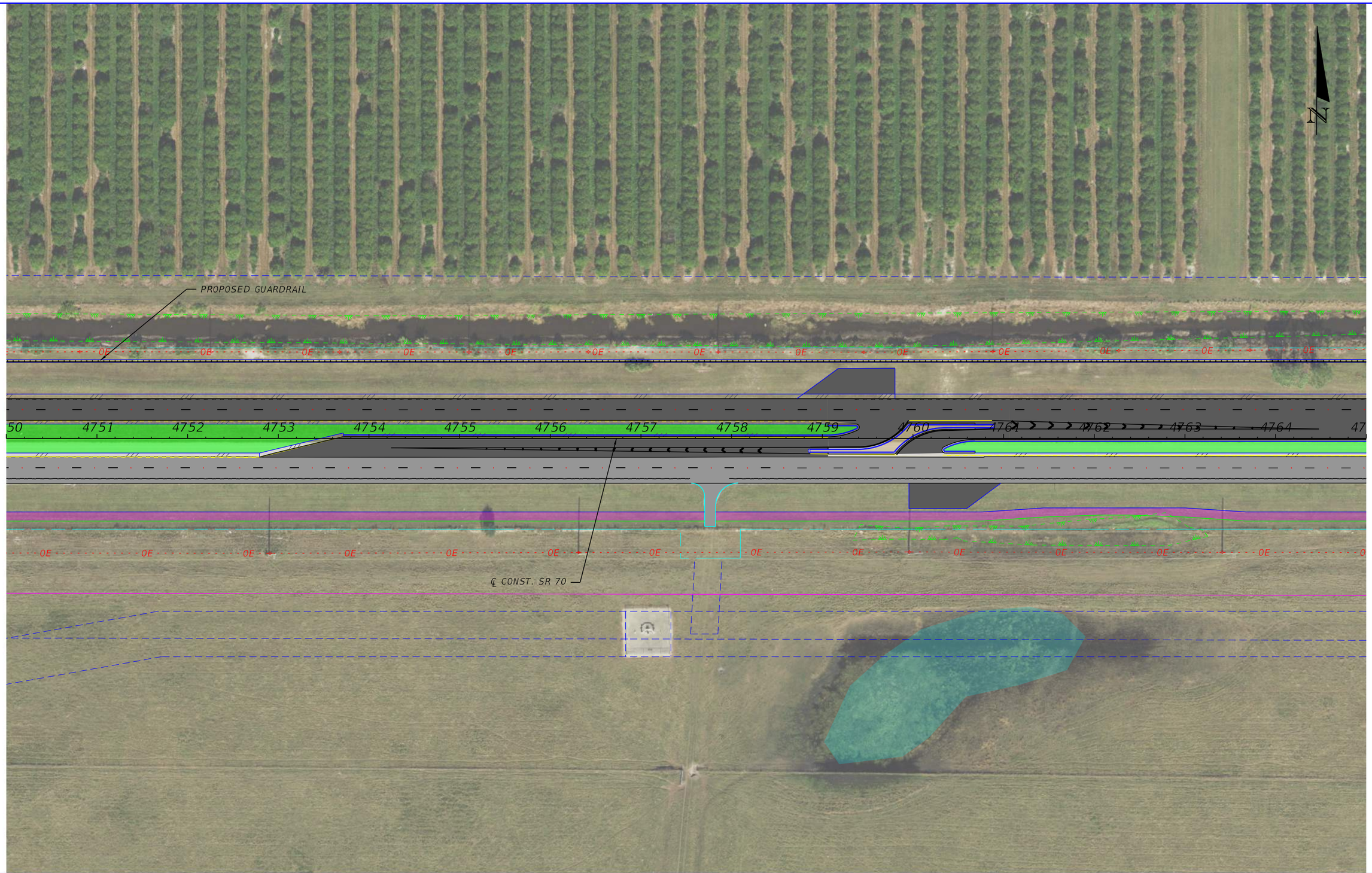
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 50

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:48 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 51

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:53 PM

N

PROPOSED GUARDRAIL

OE

4765 4766 4767 4768 4769 4770 4771 4772 4773 4774 4775 4776 4777 4778 4779

℄ CONST. SR 70

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

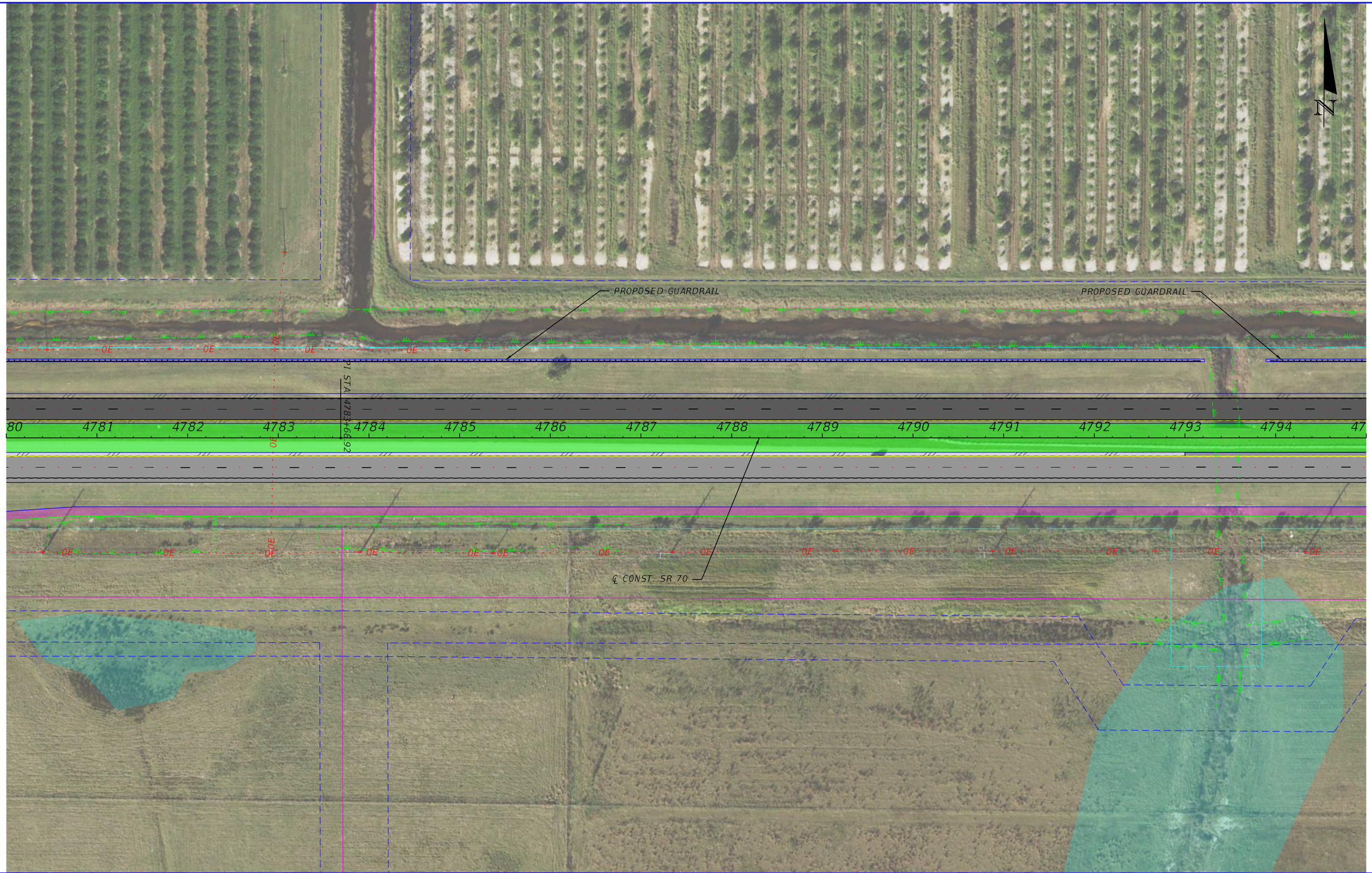
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO.
52

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:41:57 PM



LEGEND

EXISTING RIGHT OF WAY LINE
PROPOSED RIGHT OF WAY LINE
EXISTING PROPERTY LINE
EXISTING EASEMENT
PROPOSED EASEMENT
WETLANDS

OE FPL OVERHEAD ELECTRIC
EXISTING 100-YR FLOODPLAIN
PROPOSED MILLING & RESURFACING
PROPOSED RECONSTRUCTION/WIDENING
PROPOSED SHARED USE PATH
G(B) FGT GAS LINES

C CONTAMINATION SITES
PROPOSED SHOULDER
PROPOSED GRASS MEDIAN
PROPOSED RIPRAP
PROPOSED WILDLIFE CROSSING
PROPOSED FENCING

PROPOSED POND
PROPOSED BRIDGES
PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

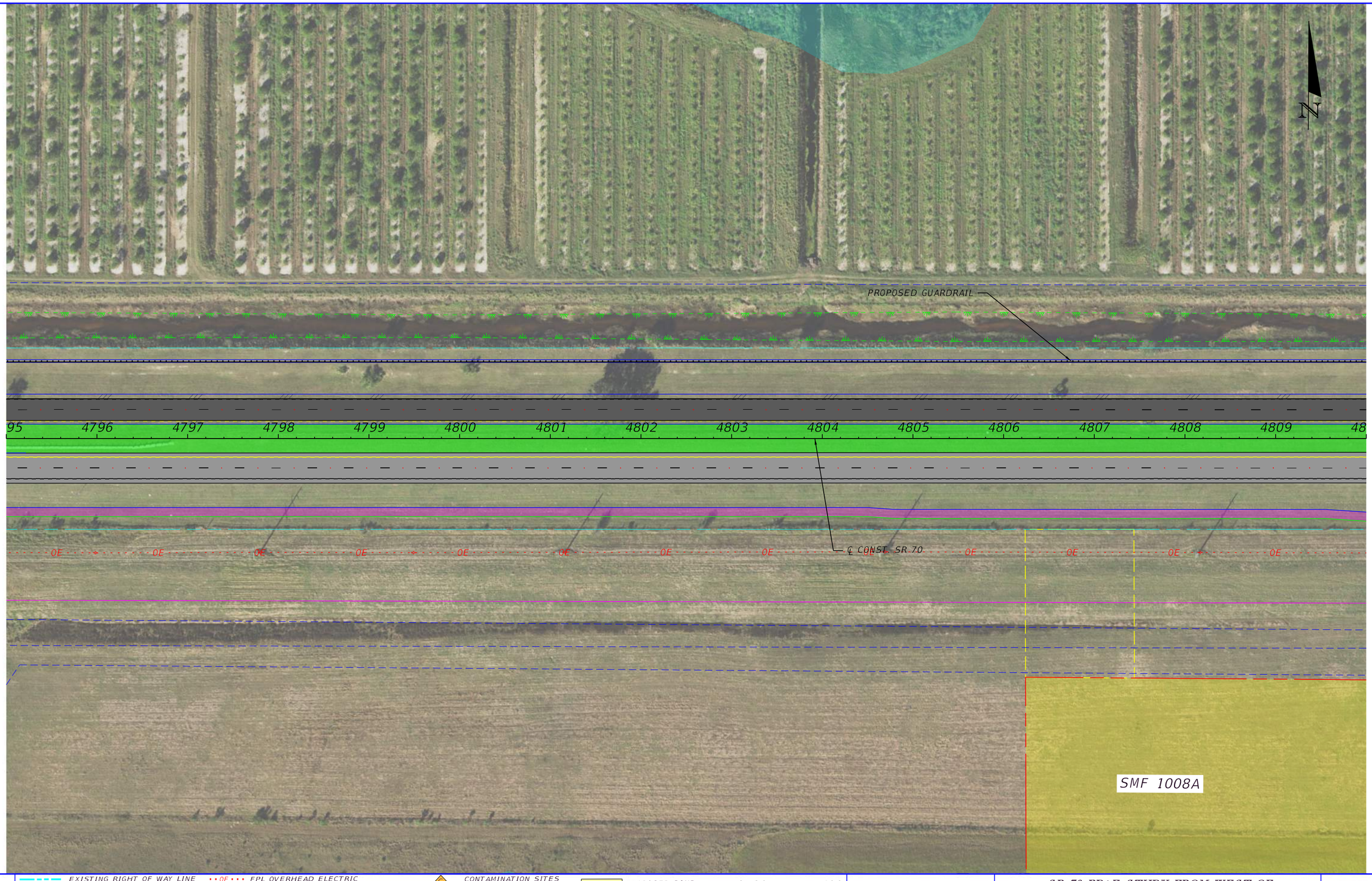
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF
SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
53

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:42:01 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(D) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

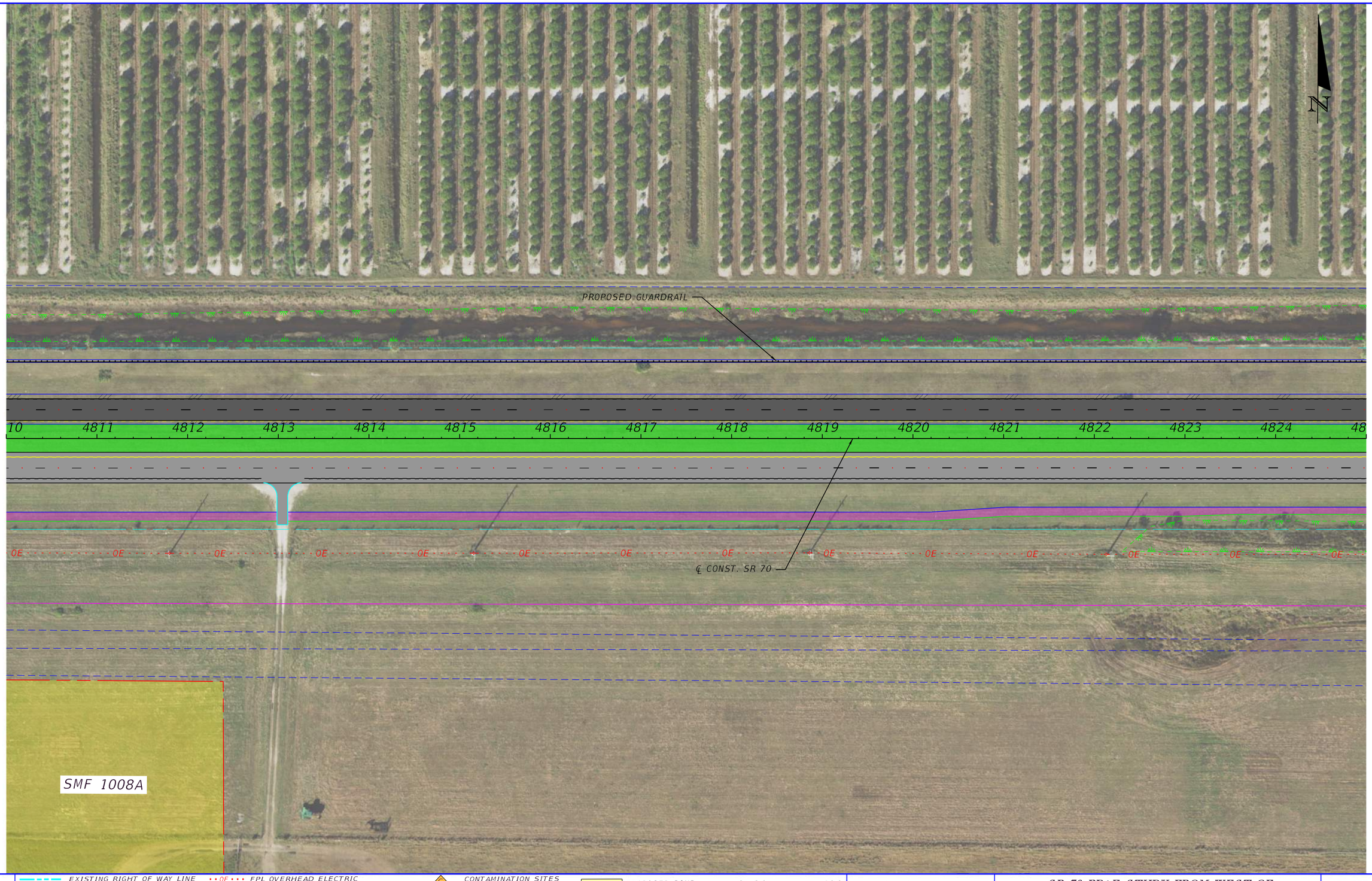
0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 54



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(D) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

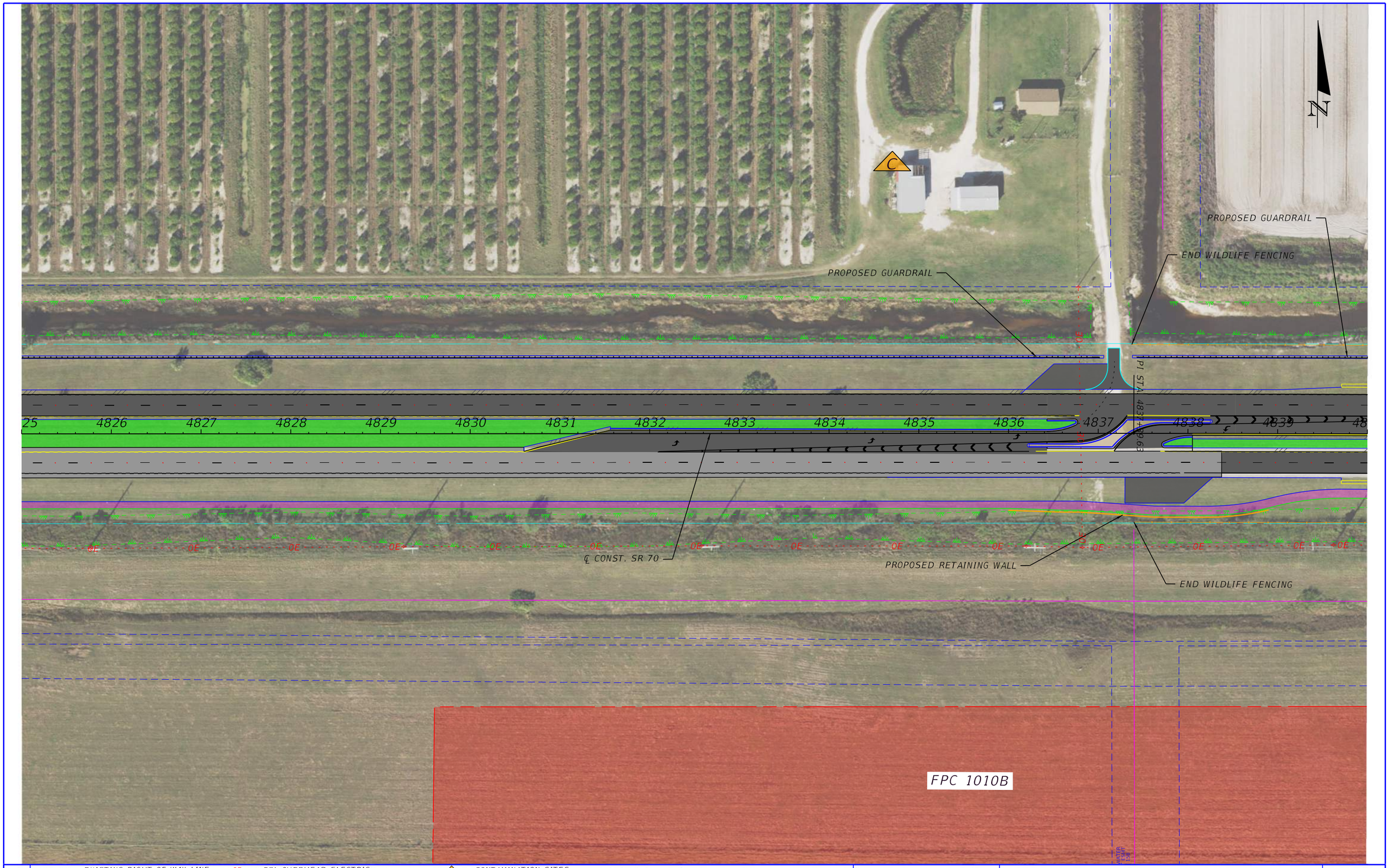
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 55

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:42:11 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

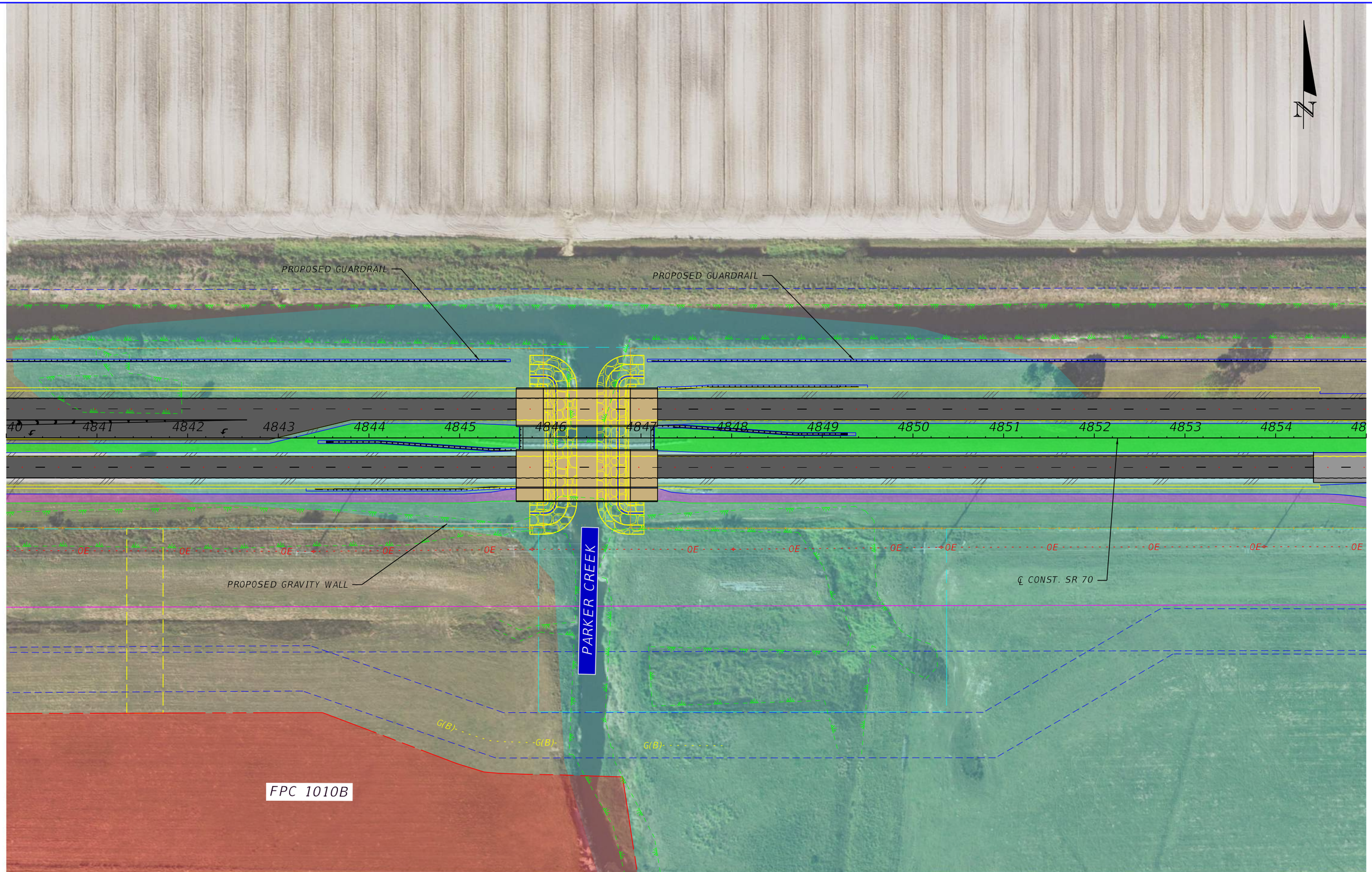
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
56

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:42:15 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY

FPID 451942-1-22-01

SHEET NO. 57

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:42:20 PM

SMF 1009A

ARCADIA FRUIT

PROPOSED GUARDRAIL

END WILDLIFE FENCING

55 4856 4857 4858 4859 4860 4861 4862 4863 4864 4865 4866 4867 4868 4869 48

℄ CONST. SR 70

END WILDLIFE FENCING

OE

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100

Feet

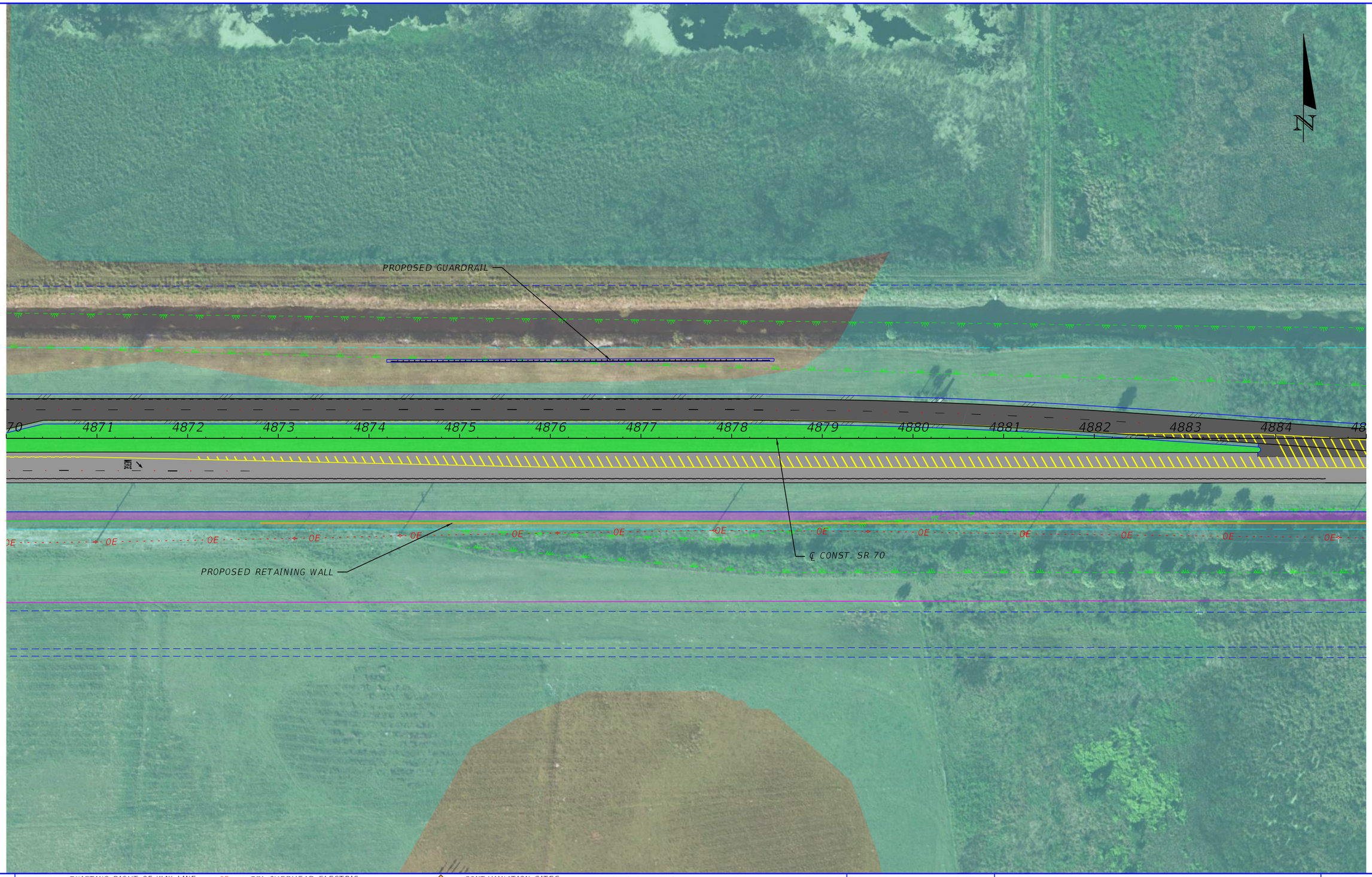
DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 58

C:\FDOTConnect10.12\Organization-Civil\FDOT\Cell\Sheets.cel : ROADWAY SHEET NUMBER TITLE
dpituch 10/30/2025 4:42:25 PM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
59

END PROJECT
STA. 4890+15.00

℄ CONST. SR 70

4885 4886 4887 4888 4889 4890 4891

PROPOSED RETAINING WALL

SE HIGHLANDS COUNTY LINE RD

OE

G(B)

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 60

c:\caddlib\pw\hntb_amarty\sediv\d0245178\PLANRD01_ConceptPlans_11x17.dgn : CL_SR70 - CONCEPTPLANS_11X76 [SHEET]
dpituch 10/30/2025 4:42:34 PM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

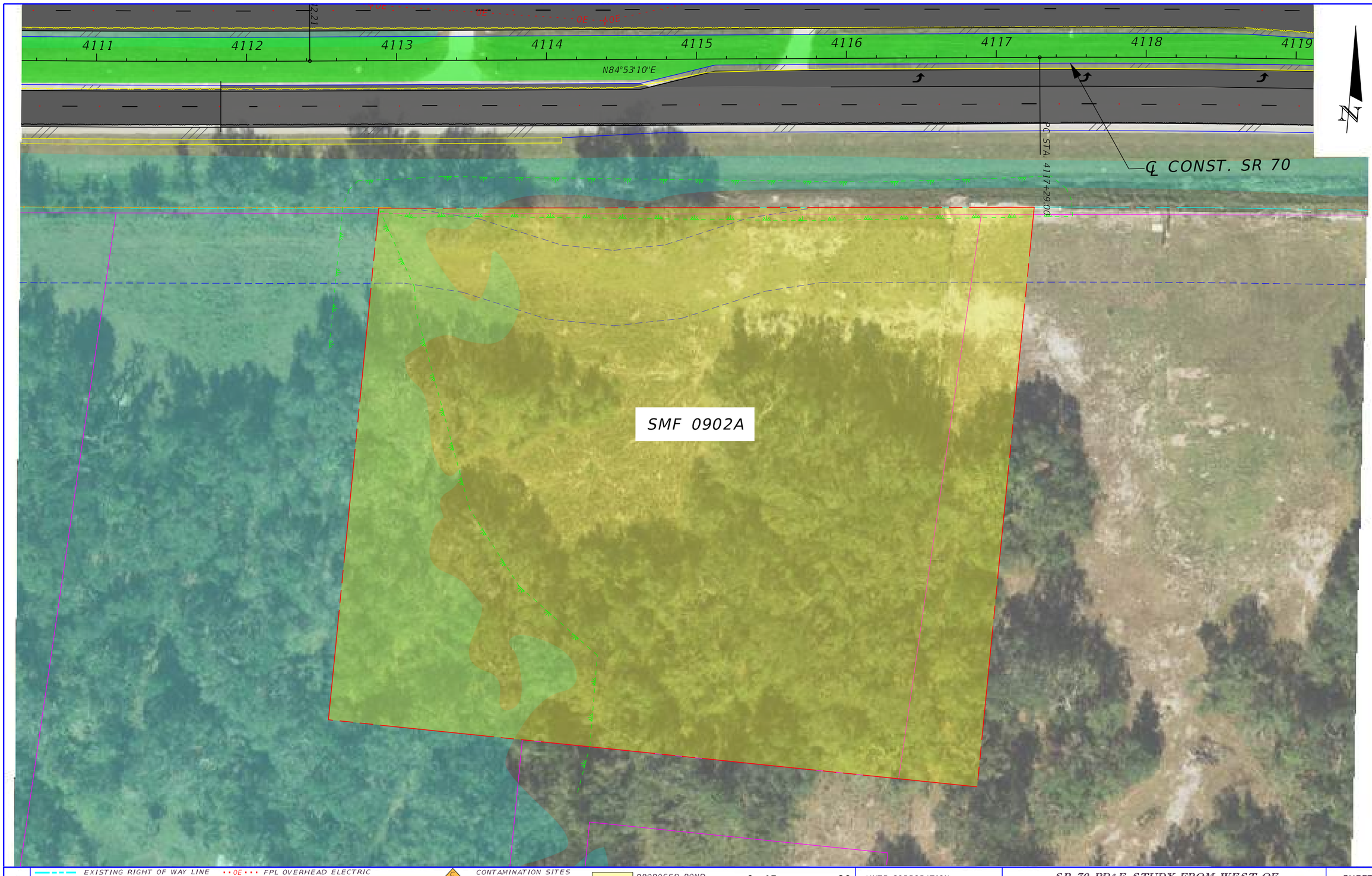
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 61

FAC NOTE

c:\caddlib\pw\hntb_awaller\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_0901A [SHEET]
awaller 10/30/2025 11:30:04 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 62

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_0902A [SHEET]
awaller 10/30/2025 11:30:27 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 10 50
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 63

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_0903B [SHEET]
awaller 10/30/2025 11:30:37 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 10 50
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 64

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_0904A [SHEET]
awaller 10/30/2025 11:30:48 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO.
65

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_1001A [SHEET]
awaller 10/30/2025 11:30:59 AM

4381 4382 4383 4384 4385 4386 4387 4388 4389 4390 4391 4392

N89°44'56"E N89°44'56"E

POT STA. 438+75.69

OE

℄ CONST. SR 70

PROP. EASEMENT

SMF 1002A

PROP. EASEMENT

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 80

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 66

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_1002A [SHEET]
awaller 10/30/2025 11:31:10 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF
SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.
67

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_1003B [SHEET]
awaller 10/30/2025 11:31:22 AM

CITRUS

N

SMF 1005C-1L

4522 4523 4524 4525 4526 4527 4528

℄ CONST. SR 70

OE

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 10 50

Feet

DATE OF AERIAL: 2023

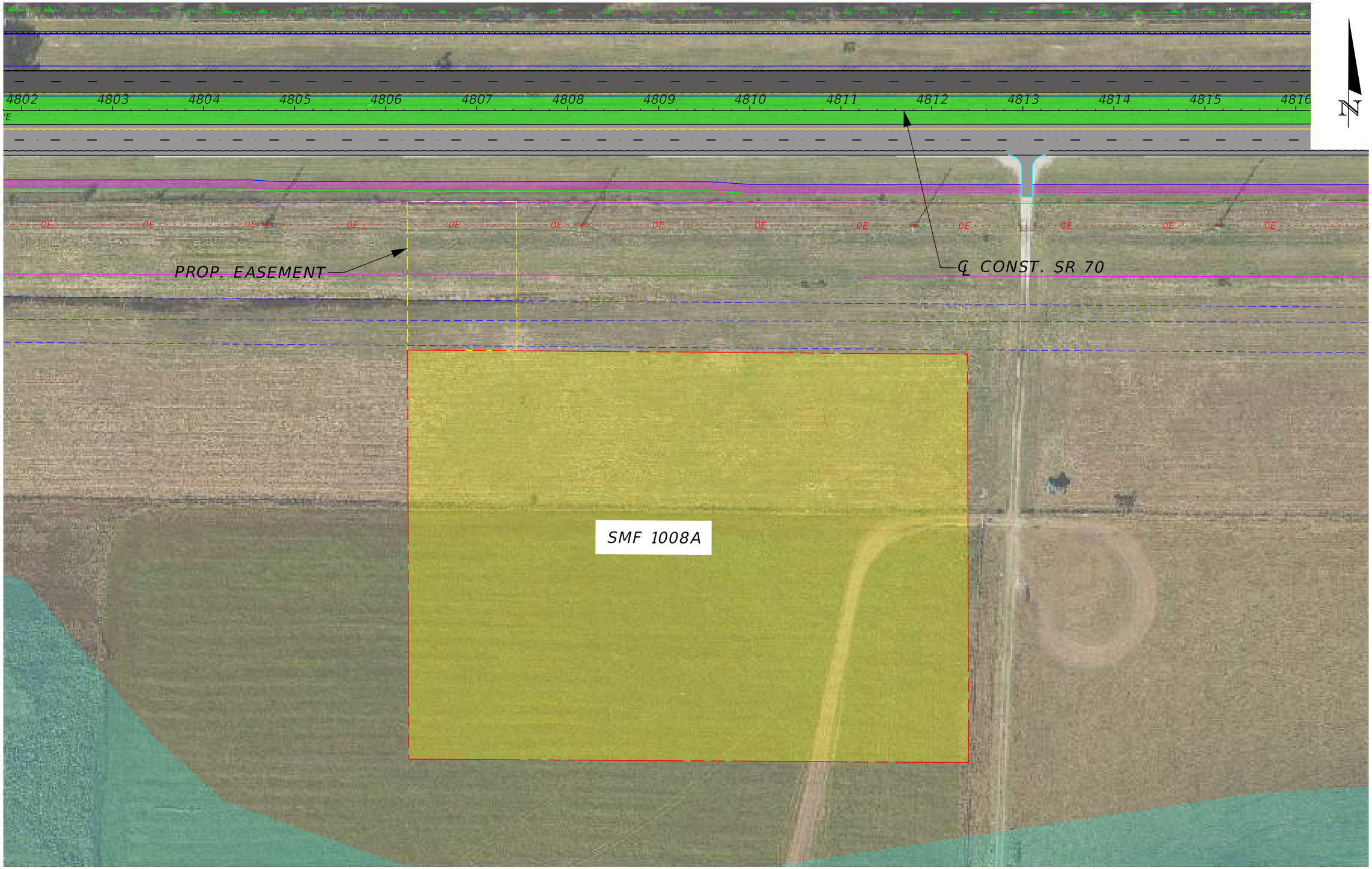
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 68

FAC NOTE

c:\caddlib\pw\hntb_fescobar\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_1005C-1L [SHEET]
awaller 10/30/2025 11:31:30 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO.
69

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_1008A [SHEET]
awaller 10/30/2025 11:31:42 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60
Feet

DATE OF AERIAL: 2023

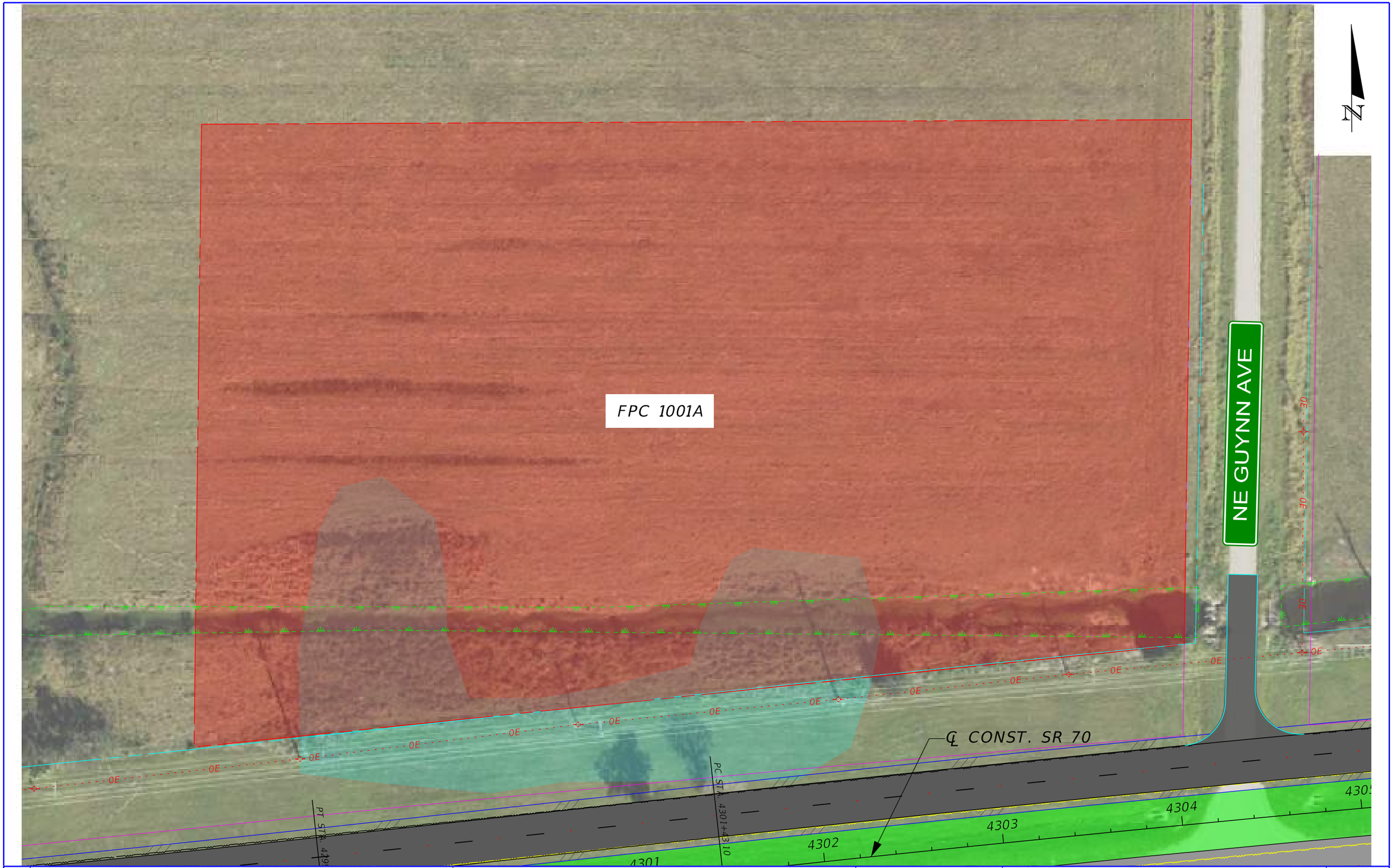
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 70

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_SMF_Preferred.dgn : SMF_1009A [SHEET]
awaller 10/30/2025 11:32:06 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(FB) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 10 50
Feet

DATE OF AERIAL: 2023

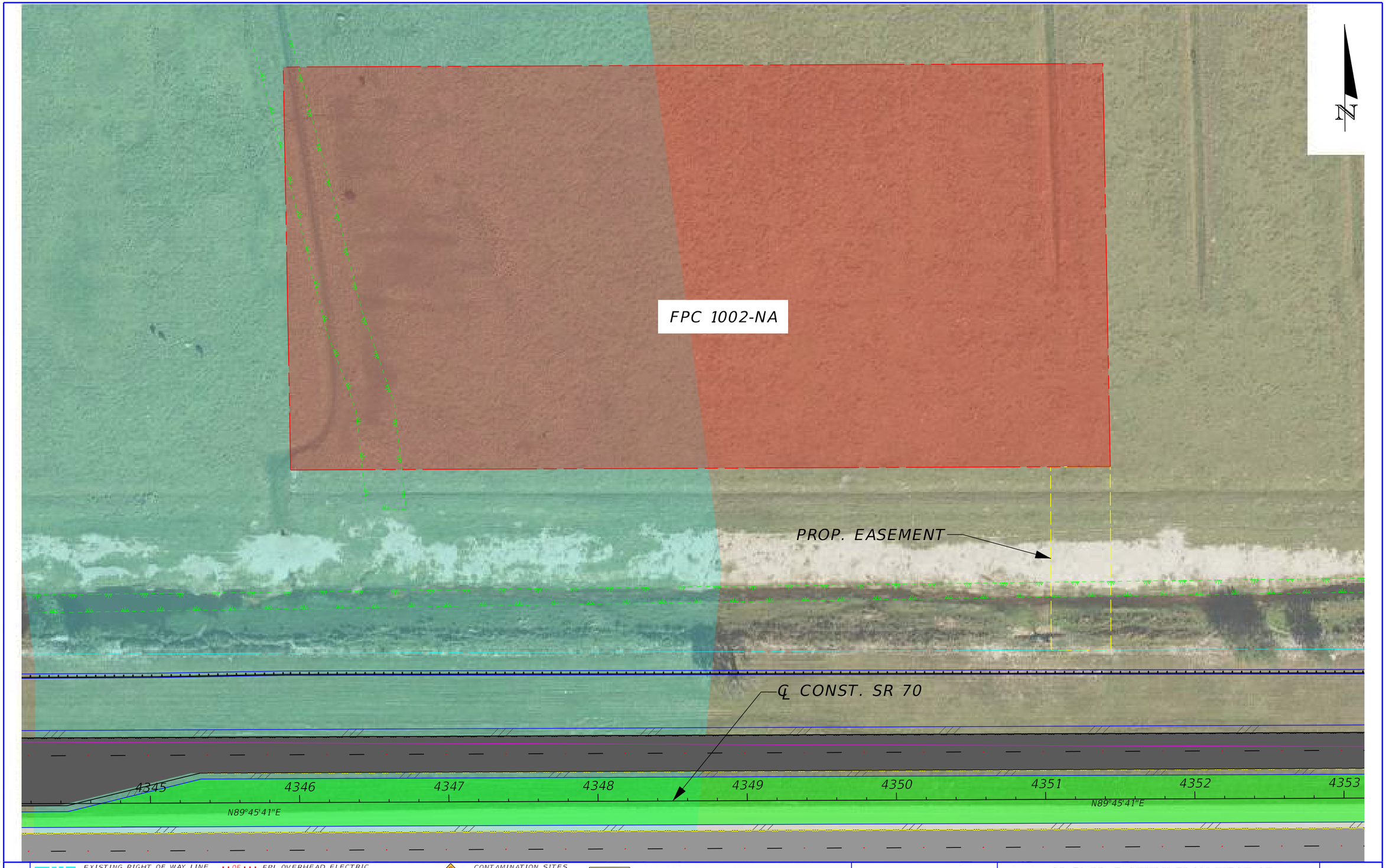
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 71

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1001A [SHEET]
awaller 10/30/2025 11:50:22 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- C CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 461942-1-22-01

SHEET NO. 72

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1002-NA [SHEET]
awaller 10/30/2025 11:50:34 AM

PROP. EASEMENT

℄ CONST. SR 70

FPC 1002-SB

N89°45'41"E

4358

4357

4356

4355

4354

OE

N

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60

Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO.

73

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1002-SB [SHEET]
awaller 10/30/2025 11:50:45 AM

MATCHLINE A-A

PROP. EASEMENT

ALICO CITRUS

ALICO CITRUS

FOUR MILE GRADE RD

D.C.I. CANAL

℄ CONST. SR 70

OE OE OE

4518 4519 4520 4521 4522 4523 4524 4525 4526 4527 4528 4529 4530 4531 4532

LEGEND

EXISTING RIGHT OF WAY LINE	OE FPL OVERHEAD ELECTRIC	CONTAMINATION SITES	PROPOSED POND
PROPOSED RIGHT OF WAY LINE	EXISTING 100-YR FLOODPLAIN	PROPOSED SHOULDER	PROPOSED BRIDGES
EXISTING PROPERTY LINE	PROPOSED MILLING & RESURFACING	PROPOSED GRASS MEDIAN	PROPOSED FLOODPLAIN COMPENSATION SITES
EXISTING EASEMENT	PROPOSED RECONSTRUCTION/WIDENING	PROPOSED RIPRAP	
PROPOSED EASEMENT	PROPOSED SHARED USE PATH	PROPOSED WILDLIFE CROSSING	
WETLANDS	G(FB) FGT GAS LINES	PROPOSED FENCING	

0 20 100
Feet

DATE OF AERIAL: 2023

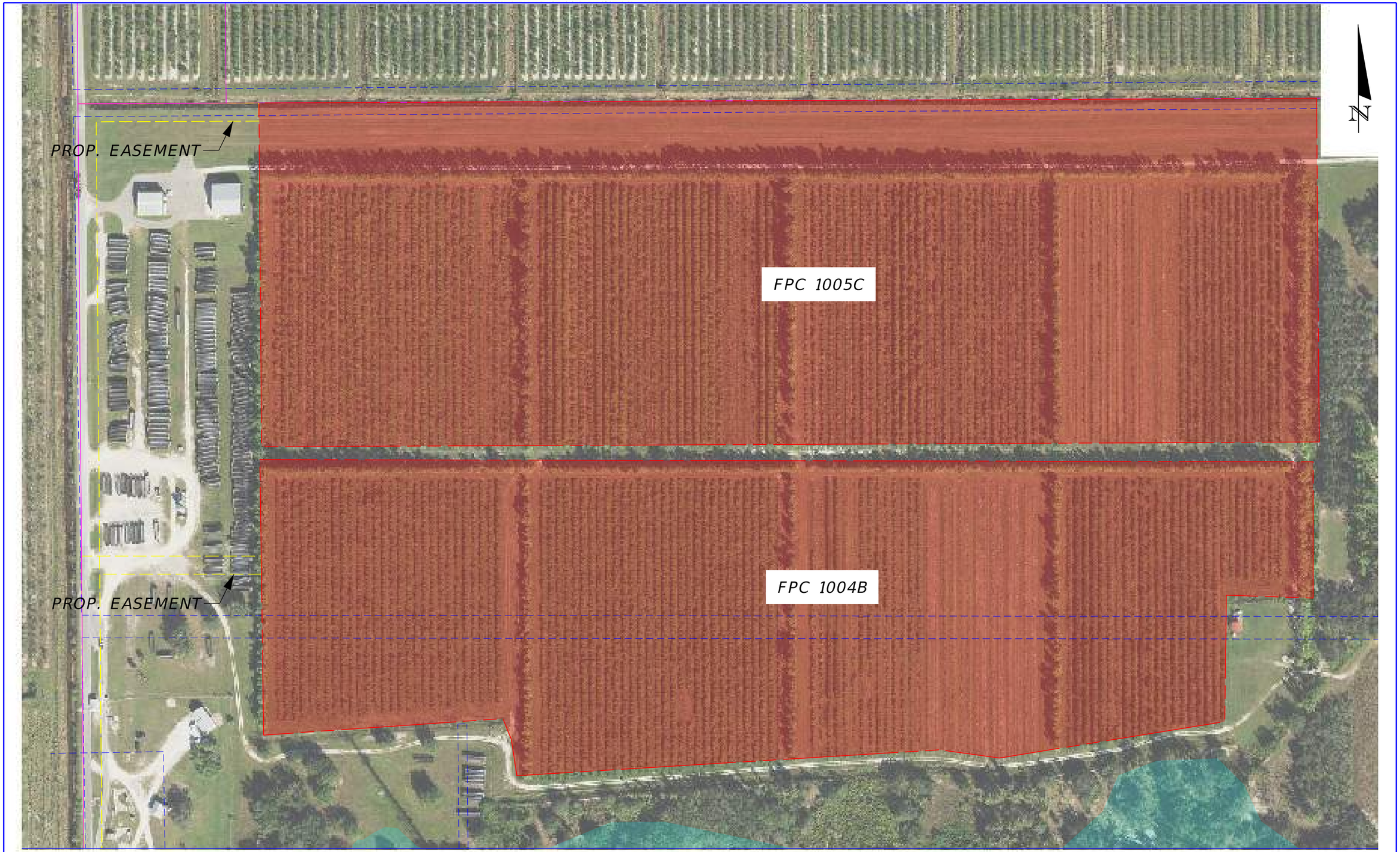
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY
LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 451942-1-22-01

SHEET NO. 74

FAC NOTE

c:\caddlib\pw\hntb_awaller\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : EASEMENT1004B1005C [SHEET]
awaller 10/30/2025 11:50:59 AM



MATCHLINE A-A

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 75

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1004B FPC 1005C [SHEET]
awaller 10/30/2025 11:51:11 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(D) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 50 200
Feet

DATE OF AERIAL: 2023

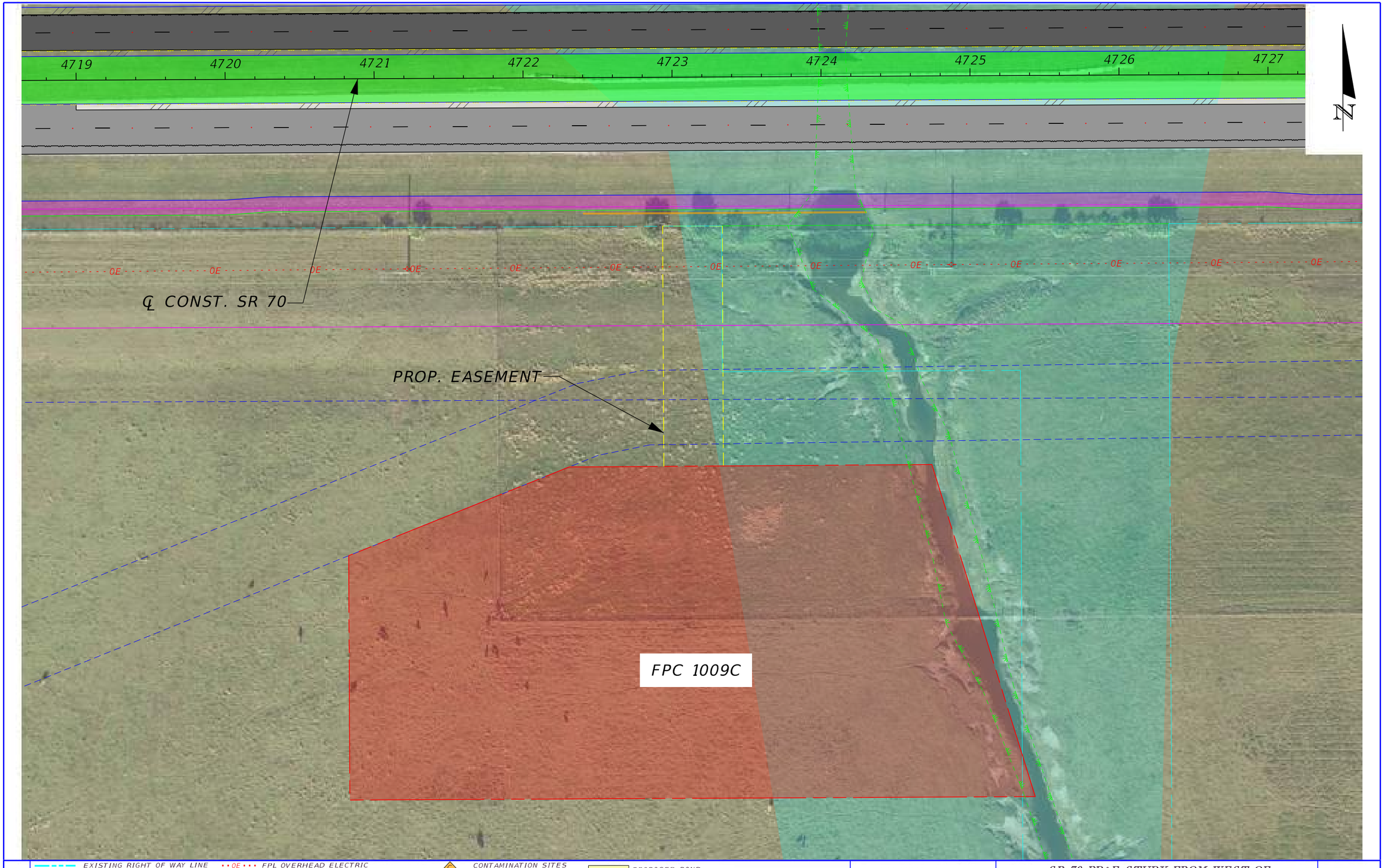
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 76

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1006A [SHEET]
awaller 10/30/2025 11:51:22 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 15 60
Feet

DATE OF AERIAL: 2023

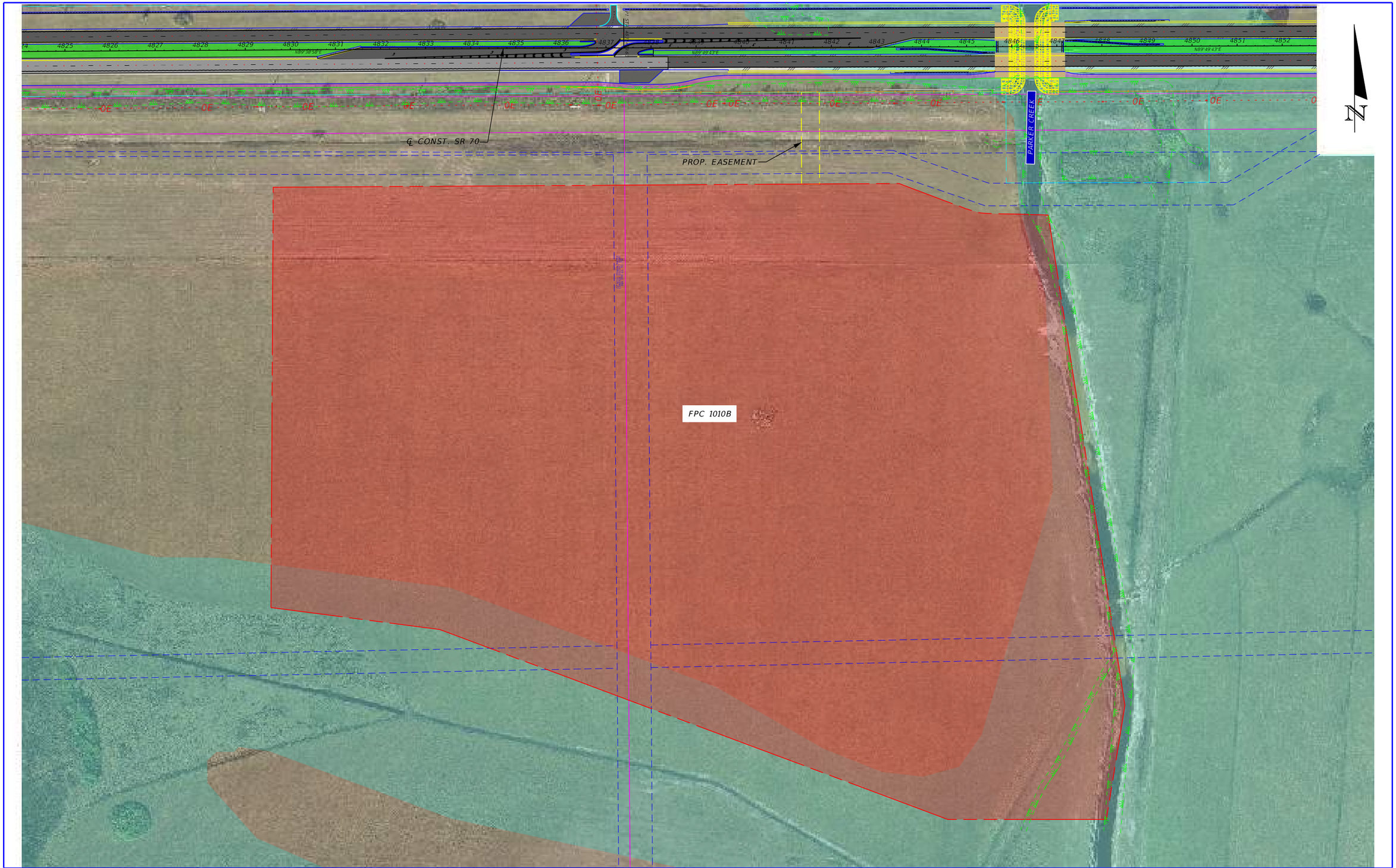
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS
DESOTO COUNTY
FPID 461942-1-22-01

SHEET NO.
77

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1009C [SHEET]
awaller 10/30/2025 11:51:49 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 50 200
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 78

FAC NOTE

c:\caddlib\pw\hntb_brajohnson\sediv\d0245995\DRMPRD_FPC_Preferred.dgn : FPC 1010B [SHEET]
awaller 10/30/2025 11:51:54 AM

LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

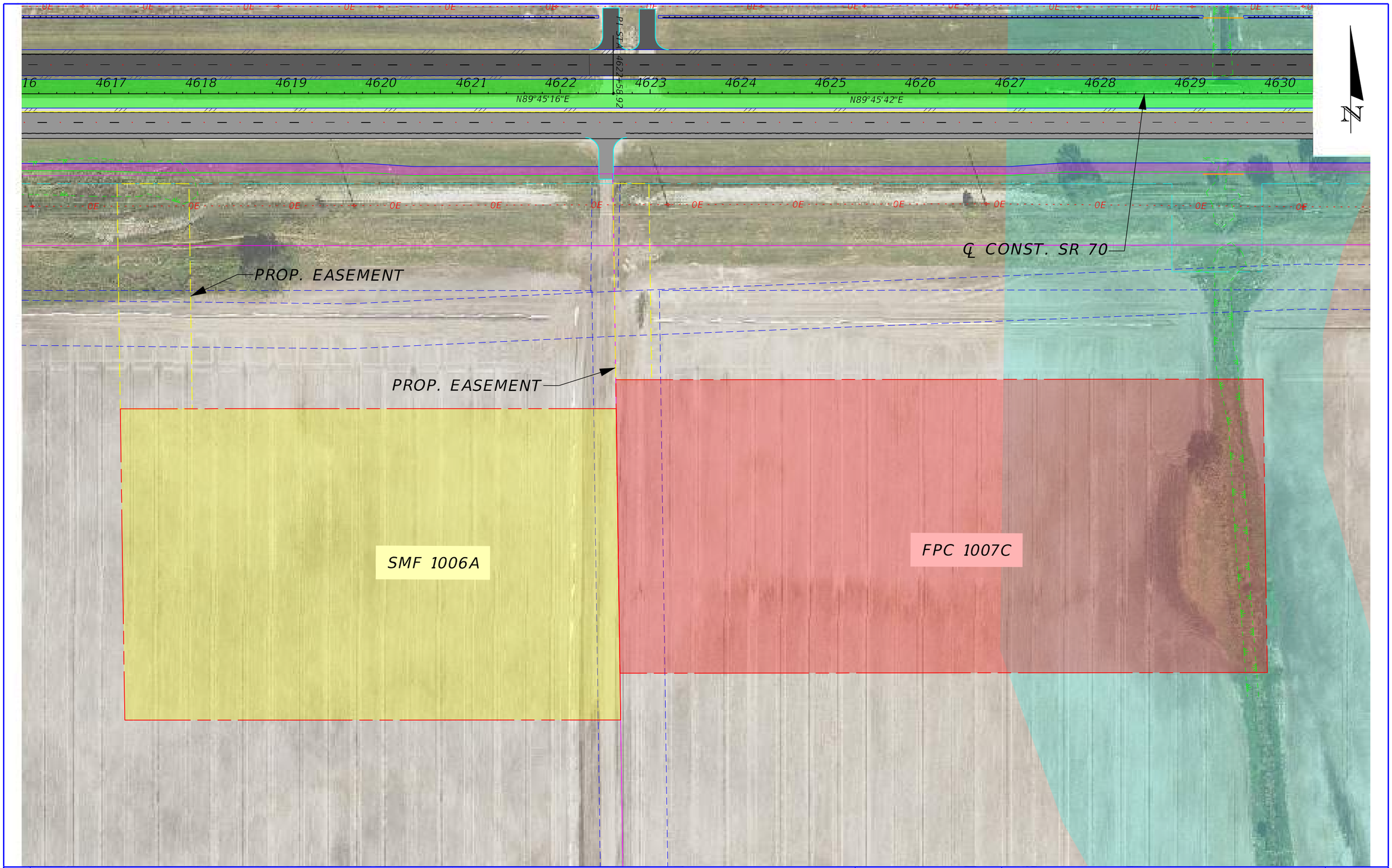
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 79

FAC NOTE

c:\caddlib\pw\hntb_awaller\sediv\d0245995\DRMPRD_COMB_Preferred.dgn : CL_SR79 - CONCEPT COMBO 1 [SHEET]
awaller 10/30/2025 10:49:32 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

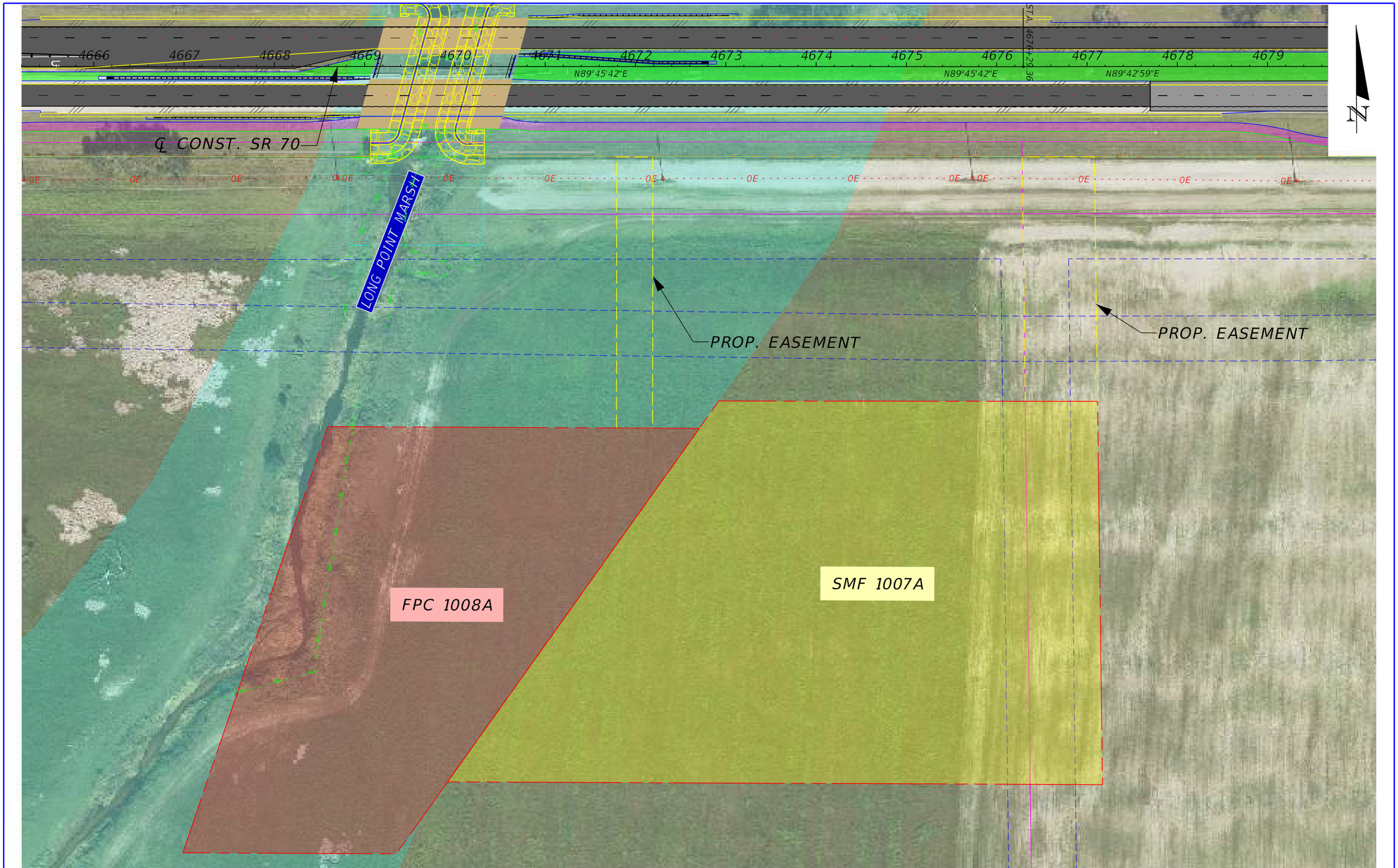
HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY FPID 451942-1-22-01

SHEET NO. 80

FAC NOTE

c:\caddlib\pw\hntb_awaller\sediv\d0245995\DRMPRD_COMB_Preferred.dgn : CL_SR70 - CONCEPT COMBO 2 [SHEET]
awaller 10/30/2025 10:49:37 AM



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WETLANDS
- OE FPL OVERHEAD ELECTRIC
- EXISTING 100-YR FLOODPLAIN
- PROPOSED MILLING & RESURFACING
- PROPOSED RECONSTRUCTION/WIDENING
- PROPOSED SHARED USE PATH
- G(B) FGT GAS LINES
- CONTAMINATION SITES
- PROPOSED SHOULDER
- PROPOSED GRASS MEDIAN
- PROPOSED RIPRAP
- PROPOSED WILDLIFE CROSSING
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED BRIDGES
- PROPOSED FLOODPLAIN COMPENSATION SITES

0 20 100
Feet

DATE OF AERIAL: 2023

HNTB CORPORATION
555 NORTH BROADWAY AVE
BARTOW, FL 33830
PHONE: (863) 804-3088
FLORIDA CERTIFICATE OF
AUTHORIZATION NO. XXXXX
NICOLAS LEON, P.E. NO. 78538

SR 70 PD&E STUDY FROM WEST OF SR 31 TO SE HIGHLANDS COUNTY LINE ROAD CONCEPT PLANS DESOTO COUNTY

FPID 451942-1-22-01

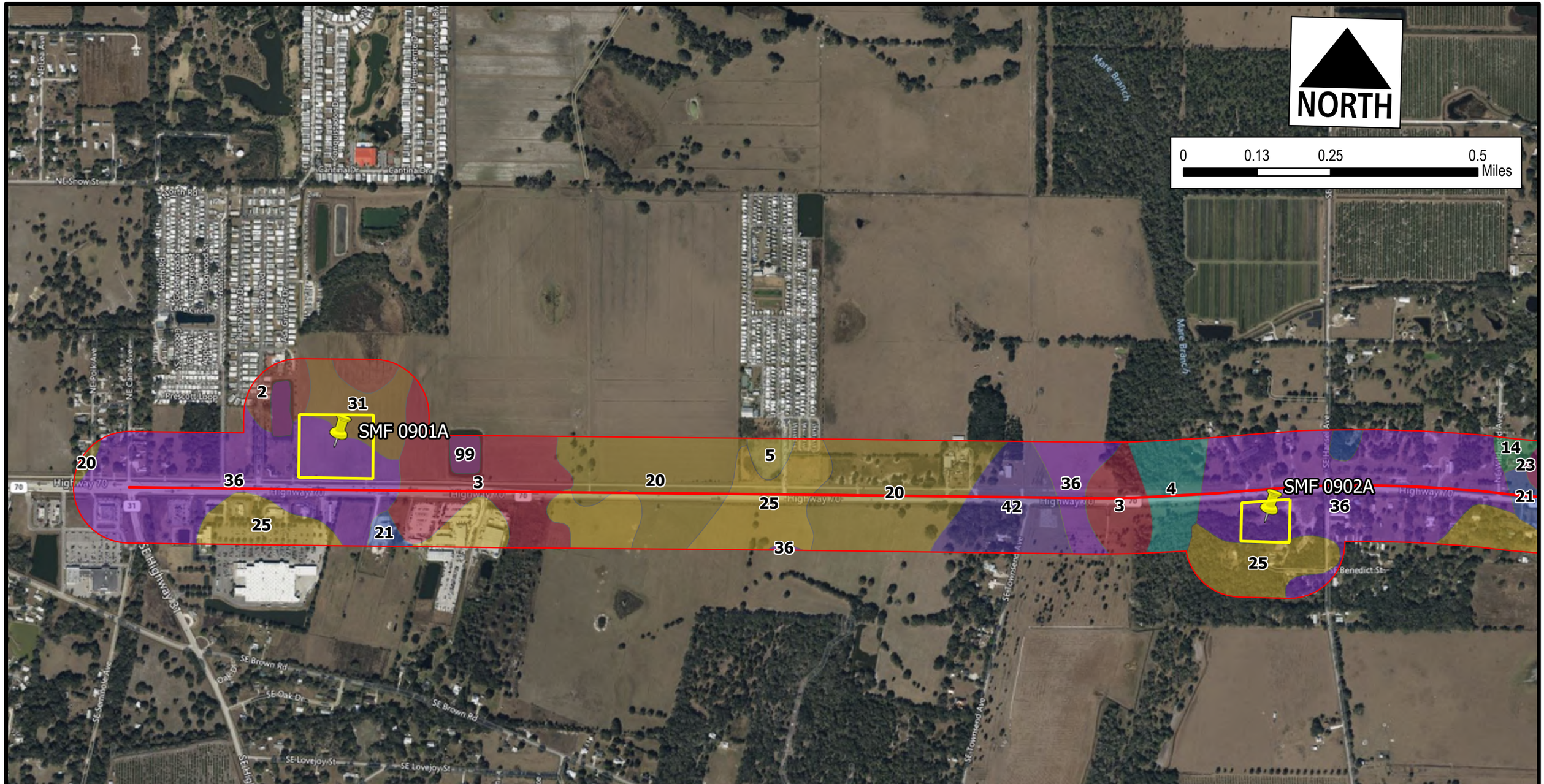
SHEET NO. 81

FAC NOTE

c:\caddlib\pw\hntb_awaller\sediv\d0245995\DRMPRD_COMB_Preferred.dgn : CL_SR71 - CONCEPT COMBO 1 [SHEET]
awaller 10/30/2025 10:49:40 AM

APPENDIX B

NRCS Soils Map and Descriptions



Legend

- Approximate Project Location Centerline
- 500-Foot Buffer

Highlands County - NRCS Soil Type

- 12,Basinger Fine Sand, 0 To 2 Percent Slopes
- 20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes

DeSoto County - NRCS Soil Type

- 11,Delray Mucky Fine Sand, Depressional
- 13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
- 14,Farmton Fine Sand, 0 To 2 Percent Slopes
- 2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 20,Immokalee Fine Sand, 0 To 2 Percent Slopes
- 21,Malabar Fine Sand, 0 To 2 Percent Slopes
- 22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
- 23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 24,Myakka Fine Sand, 0 To 2 Percent Slopes
- 25,Ona Fine Sand, 0 To 2 Percent Slopes
- 26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
- 3,Basinger Fine Sand, 0 To 2 Percent Slopes
- 31,Pompano Fine Sand, 0 To 2 Percent Slopes
- 32,Punta Fine Sand, 0 To 2 Percent Slopes
- 34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
- 36,Smyrna Fine Sand, 0 To 2 Percent Slopes
- 4,Basinger Fine Sand, Frequently Flooded
- 40,Valkaria Fine Sand, 0 To 2 Percent Slopes
- 41,Wabasso Fine Sand, 0 To 2 Percent Slopes
- 42,Zolfo Fine Sand, 0 To 2 Percent Slopes
- 5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 99,Water

NORTH

0 0.13 0.25 0.5 Miles

SMF 0903B

SMF 0904A

Legend

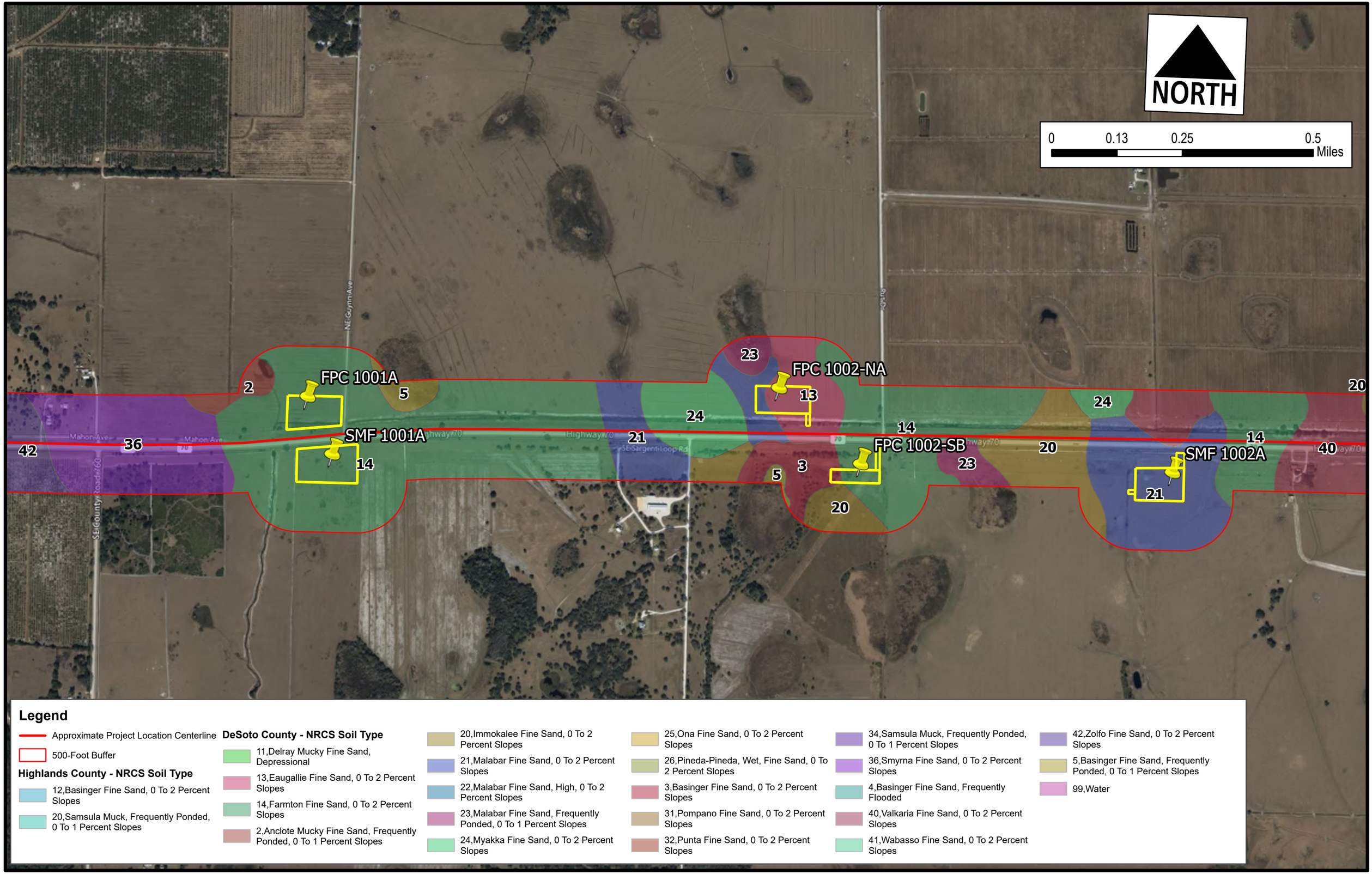
- Approximate Project Location Centerline
- 500-Foot Buffer

Highlands County - NRCS Soil Type

- 12,Basinger Fine Sand, 0 To 2 Percent Slopes
- 20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes

DeSoto County - NRCS Soil Type

- 11,Delray Mucky Fine Sand, Depressional
- 13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
- 14,Farmton Fine Sand, 0 To 2 Percent Slopes
- 2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 20,Immokalee Fine Sand, 0 To 2 Percent Slopes
- 21,Malabar Fine Sand, 0 To 2 Percent Slopes
- 22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
- 23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 24,Myakka Fine Sand, 0 To 2 Percent Slopes
- 25,Ona Fine Sand, 0 To 2 Percent Slopes
- 26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
- 3,Basinger Fine Sand, 0 To 2 Percent Slopes
- 31,Pompano Fine Sand, 0 To 2 Percent Slopes
- 32,Punta Fine Sand, 0 To 2 Percent Slopes
- 34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
- 36,Smyrna Fine Sand, 0 To 2 Percent Slopes
- 4,Basinger Fine Sand, Frequently Flooded
- 40,Valkaria Fine Sand, 0 To 2 Percent Slopes
- 41,Wabasso Fine Sand, 0 To 2 Percent Slopes
- 42,Zolfo Fine Sand, 0 To 2 Percent Slopes
- 5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 99,Water


NORTH
0
0.13
0.25
0.5
Miles
NE Gaynn Ave
SE County Road 760
Mahon Ave
Highway 70
SE Sargent Loop Rd
FPC 1001A
FPC 1002-NA
SMF 1001A
FPC 1002-SB
SMF 1002A
2
5
23
13
24
20
24
14
42
36
21
14
3
5
20
23
20
14
40
21
Legend
Approximate Project Location Centerline
500-Foot Buffer
Highlands County - NRCS Soil Type
12,Basinger Fine Sand, 0 To 2 Percent Slopes
20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
DeSoto County - NRCS Soil Type
11,Delray Mucky Fine Sand, Depressional
13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
14,Farmton Fine Sand, 0 To 2 Percent Slopes
2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
20,Immokalee Fine Sand, 0 To 2 Percent Slopes
21,Malabar Fine Sand, 0 To 2 Percent Slopes
22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
24,Myakka Fine Sand, 0 To 2 Percent Slopes
25,Ona Fine Sand, 0 To 2 Percent Slopes
26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
3,Basinger Fine Sand, 0 To 2 Percent Slopes
31,Pompano Fine Sand, 0 To 2 Percent Slopes
32,Punta Fine Sand, 0 To 2 Percent Slopes
34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
36,Smyrna Fine Sand, 0 To 2 Percent Slopes
4,Basinger Fine Sand, Frequently Flooded
40,Valkaria Fine Sand, 0 To 2 Percent Slopes
41,Wabasso Fine Sand, 0 To 2 Percent Slopes
42,Zolfo Fine Sand, 0 To 2 Percent Slopes
5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
99,Water

NORTH

0 0.13 0.25 0.5 Miles

NE 4 Mile Grade

Highway 70

Mosey Gully

SMF 1003B

FPC 1005C

FPC 1004B

SMF 1005C-1L

SMF 1004A

FPC 1003A

Legend

Approximate Project Location Centerline

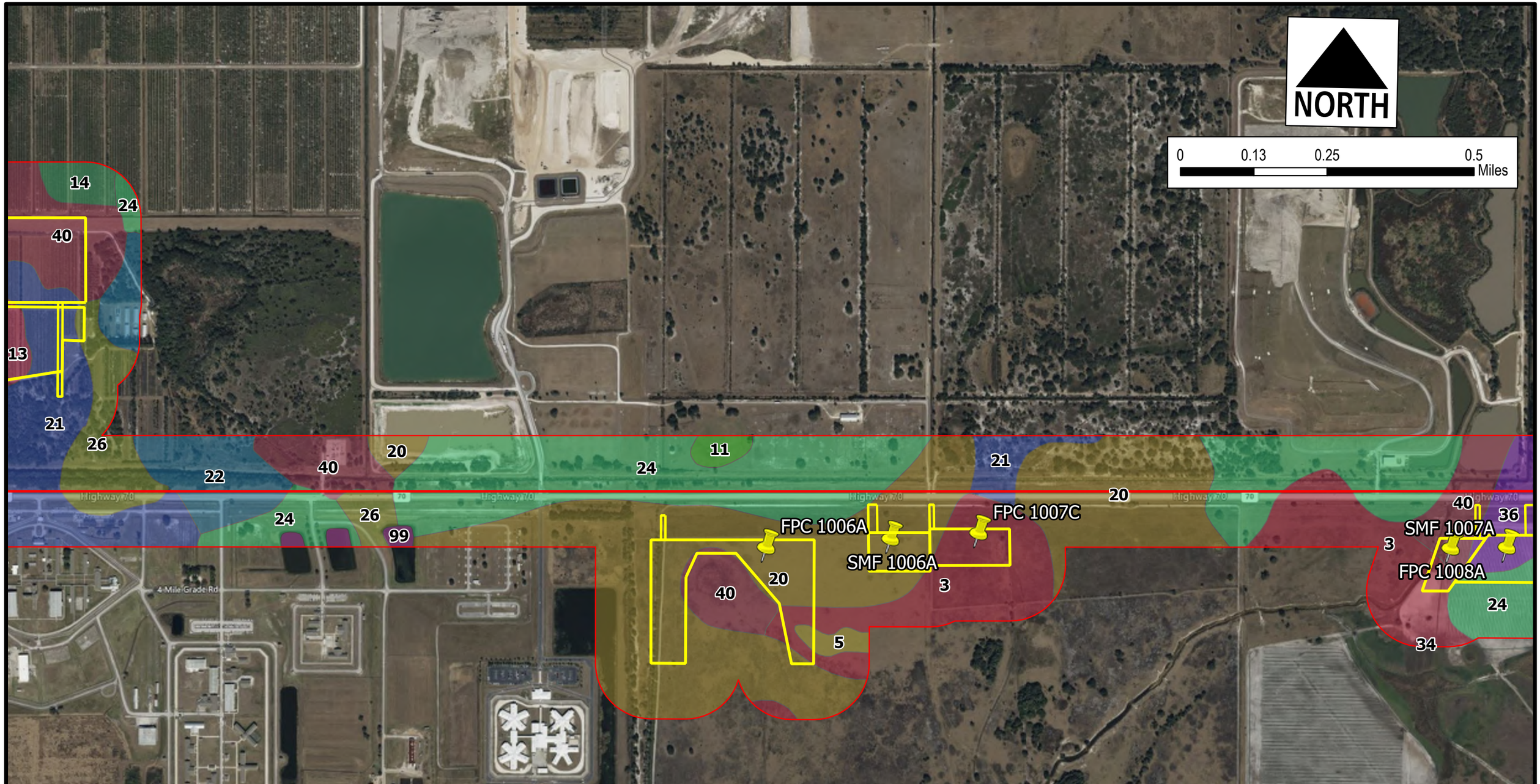
500-Foot Buffer

Highlands County - NRCS Soil Type

- 12,Basinger Fine Sand, 0 To 2 Percent Slopes
- 20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes

DeSoto County - NRCS Soil Type

- 11,Delray Mucky Fine Sand, Depressional
- 13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
- 14,Farmton Fine Sand, 0 To 2 Percent Slopes
- 2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 20,Immokalee Fine Sand, 0 To 2 Percent Slopes
- 21,Malabar Fine Sand, 0 To 2 Percent Slopes
- 22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
- 23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 24,Myakka Fine Sand, 0 To 2 Percent Slopes
- 25,Ona Fine Sand, 0 To 2 Percent Slopes
- 26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
- 3,Basinger Fine Sand, 0 To 2 Percent Slopes
- 31,Pompano Fine Sand, 0 To 2 Percent Slopes
- 32,Punta Fine Sand, 0 To 2 Percent Slopes
- 34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
- 36,Smyrna Fine Sand, 0 To 2 Percent Slopes
- 4,Basinger Fine Sand, Frequently Flooded
- 40,Valkaria Fine Sand, 0 To 2 Percent Slopes
- 41,Wabasso Fine Sand, 0 To 2 Percent Slopes
- 42,Zolfo Fine Sand, 0 To 2 Percent Slopes
- 5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 99,Water



Legend

Approximate Project Location Centerline

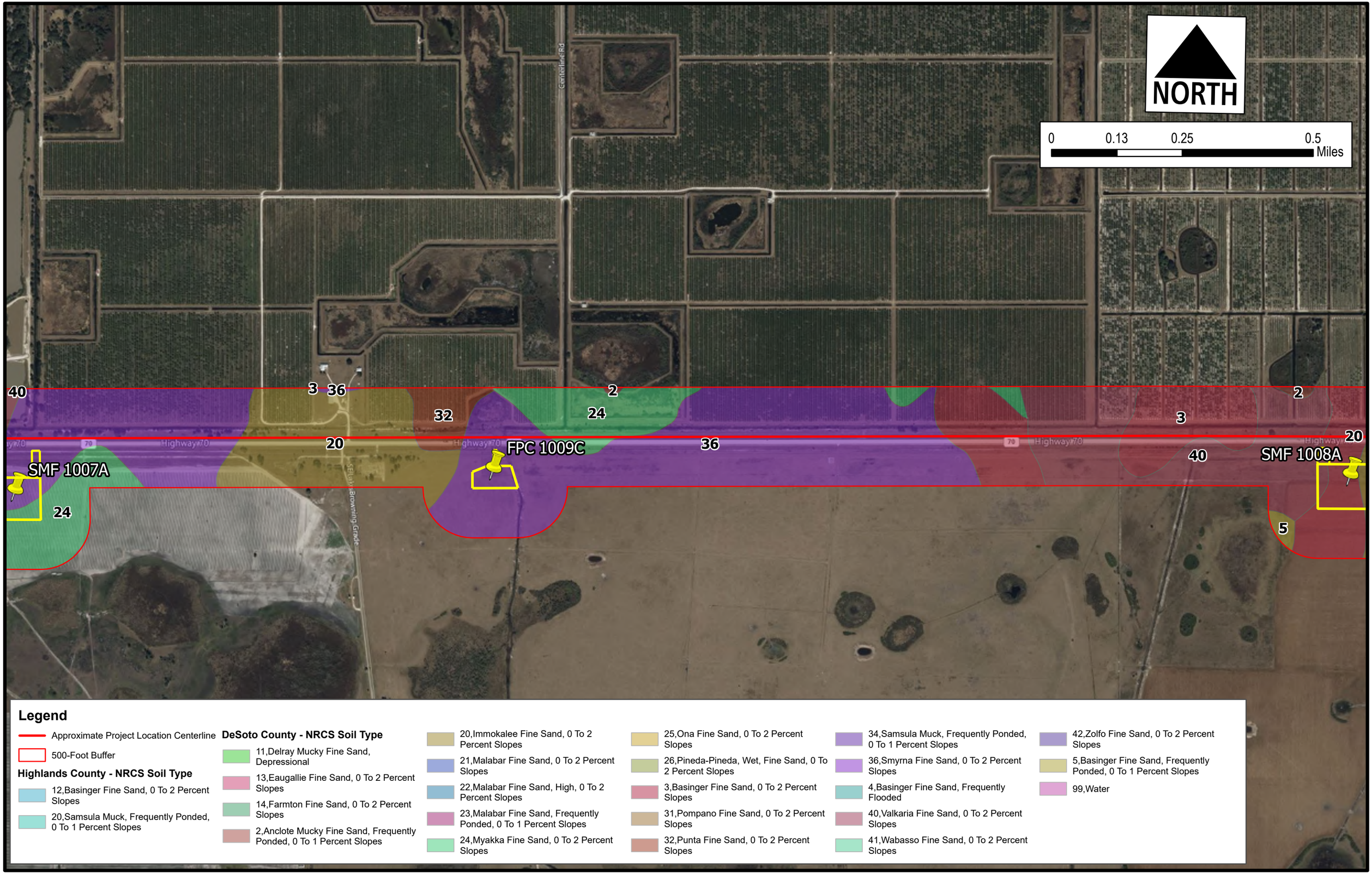
500-Foot Buffer

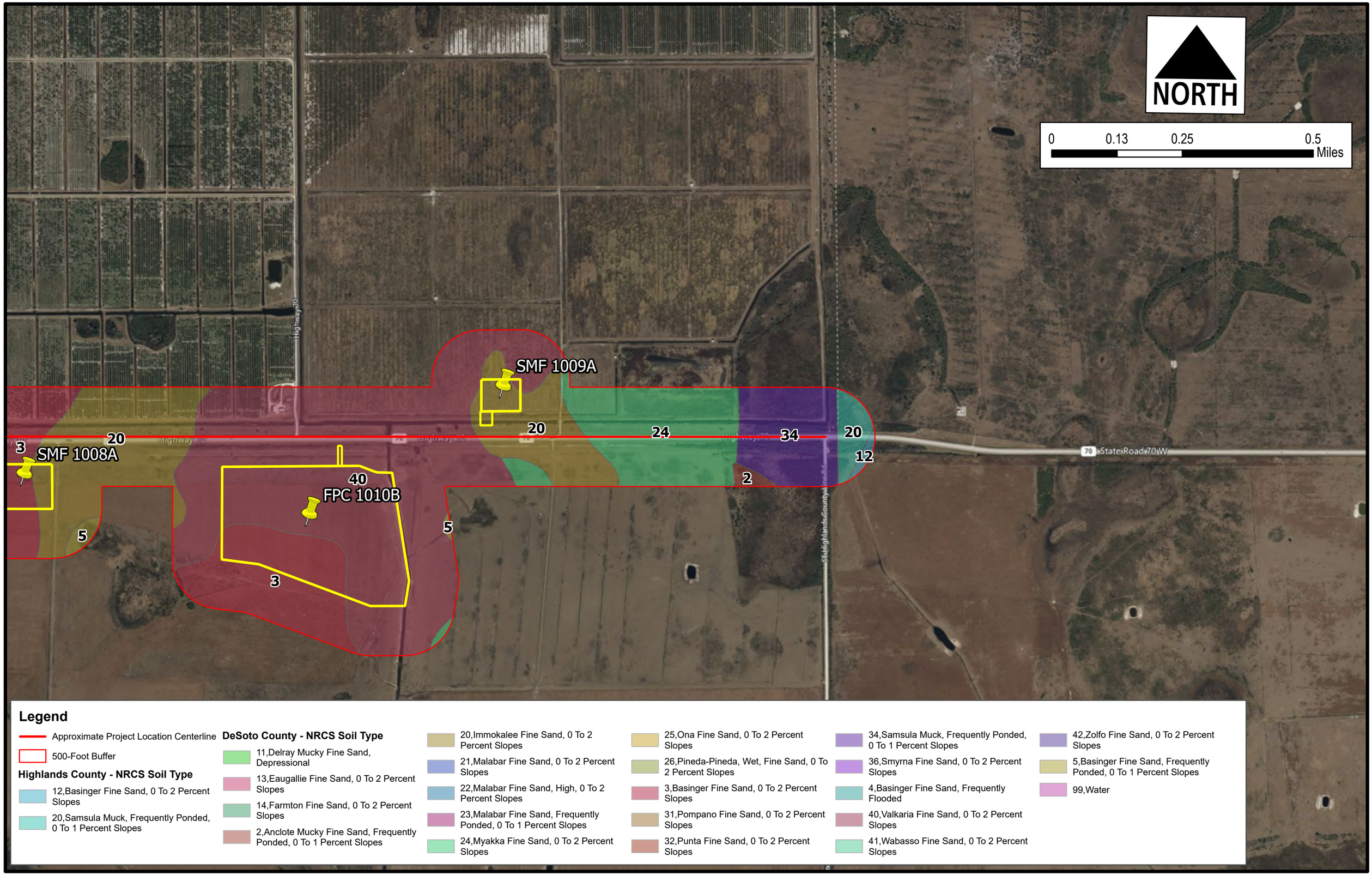
Highlands County - NRCS Soil Type

- 12,Basinger Fine Sand, 0 To 2 Percent Slopes
- 20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes

DeSoto County - NRCS Soil Type

- 11,Delray Mucky Fine Sand, Depressional
- 13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
- 14,Farmton Fine Sand, 0 To 2 Percent Slopes
- 2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 20,Immokalee Fine Sand, 0 To 2 Percent Slopes
- 21,Malabar Fine Sand, 0 To 2 Percent Slopes
- 22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
- 23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 24,Myakka Fine Sand, 0 To 2 Percent Slopes
- 25,Ona Fine Sand, 0 To 2 Percent Slopes
- 26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
- 3,Basinger Fine Sand, 0 To 2 Percent Slopes
- 31,Pompano Fine Sand, 0 To 2 Percent Slopes
- 32,Punta Fine Sand, 0 To 2 Percent Slopes
- 34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
- 36,Smyrna Fine Sand, 0 To 2 Percent Slopes
- 4,Basinger Fine Sand, Frequently Flooded
- 40,Valkaria Fine Sand, 0 To 2 Percent Slopes
- 41,Wabasso Fine Sand, 0 To 2 Percent Slopes
- 42,Zolfo Fine Sand, 0 To 2 Percent Slopes
- 5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
- 99,Water


NORTH
0
0.13
0.25
0.5
Miles
Gentlin Rd
Highway 70
SE Hillsborough Grade
40
3
36
2
32
24
3
2
20
20
36
40
20
24
5
SMF 1007A
FPC 1009C
SMF 1008A
Legend
Approximate Project Location Centerline
500-Foot Buffer
Highlands County - NRCS Soil Type
12,Basinger Fine Sand, 0 To 2 Percent Slopes
20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
DeSoto County - NRCS Soil Type
11,Delray Mucky Fine Sand, Depressional
13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
14,Farmton Fine Sand, 0 To 2 Percent Slopes
2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
20,Immokalee Fine Sand, 0 To 2 Percent Slopes
21,Malabar Fine Sand, 0 To 2 Percent Slopes
22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
24,Myakka Fine Sand, 0 To 2 Percent Slopes
25,Ona Fine Sand, 0 To 2 Percent Slopes
26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
3,Basinger Fine Sand, 0 To 2 Percent Slopes
31,Pompano Fine Sand, 0 To 2 Percent Slopes
32,Punta Fine Sand, 0 To 2 Percent Slopes
34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
36,Smyrna Fine Sand, 0 To 2 Percent Slopes
4,Basinger Fine Sand, Frequently Flooded
40,Valkaria Fine Sand, 0 To 2 Percent Slopes
41,Wabasso Fine Sand, 0 To 2 Percent Slopes
42,Zolfo Fine Sand, 0 To 2 Percent Slopes
5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
99,Water


NORTH
0
0.13
0.25
0.5
Miles
SMF 1009A
SMF 1008A
FPC 1010B
20
24
34
20
12
3
40
5
5
3
2
70 State Road 70 W
Highway 70
Legend
Approximate Project Location Centerline
500-Foot Buffer
Highlands County - NRCS Soil Type
12,Basinger Fine Sand, 0 To 2 Percent Slopes
20,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
DeSoto County - NRCS Soil Type
11,Delray Mucky Fine Sand, Depressional
13,Eaugallie Fine Sand, 0 To 2 Percent Slopes
14,Farmton Fine Sand, 0 To 2 Percent Slopes
2,Anclote Mucky Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
20,Immokalee Fine Sand, 0 To 2 Percent Slopes
21,Malabar Fine Sand, 0 To 2 Percent Slopes
22,Malabar Fine Sand, High, 0 To 2 Percent Slopes
23,Malabar Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
24,Myakka Fine Sand, 0 To 2 Percent Slopes
25,Ona Fine Sand, 0 To 2 Percent Slopes
26,Pineda-Pineda, Wet, Fine Sand, 0 To 2 Percent Slopes
3,Basinger Fine Sand, 0 To 2 Percent Slopes
31,Pompano Fine Sand, 0 To 2 Percent Slopes
32,Punta Fine Sand, 0 To 2 Percent Slopes
34,Samsula Muck, Frequently Ponded, 0 To 1 Percent Slopes
36,Smyrna Fine Sand, 0 To 2 Percent Slopes
4,Basinger Fine Sand, Frequently Flooded
40,Valkaria Fine Sand, 0 To 2 Percent Slopes
41,Wabasso Fine Sand, 0 To 2 Percent Slopes
42,Zolfo Fine Sand, 0 To 2 Percent Slopes
5,Basinger Fine Sand, Frequently Ponded, 0 To 1 Percent Slopes
99,Water

Anclote Mucky Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes

The Anclote series consists of very deep, very poorly drained, rapidly permeable soils in depressions, poorly defined drainage ways, and flood plains. They formed in thick beds of sandy marine sediments. Slopes range from 0 to 2 percent.

Basinger Fine Sand, 0 to 2 Percent Slopes; Basinger Fine Sand, Frequently Flooded; Basinger Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes

The Basinger series consists of very deep, very poorly drained, rapidly permeable fine sand. Most areas of Basinger soils have been cleared and are used for improved pasture and rangeland. Dominant vegetation includes slash pine, long leaf pine, southern slash pine, and scattered cypress.

Delray Mucky Fine Sand, Depressional

The Delray series consists of very deep, very poorly drained, moderately permeable soils on broad flats, flood plains, and depressions in the Lower Coastal Plain. They formed in sandy and loamy marine sediments influenced by limey materials. Where drained, the soil is used for improved pasture and truck crops. Natural vegetation includes southern bayberry, pickerelweed, sedges, reeds, water tolerant grasses, and cypress, bay, tupelo and other water tolerant trees.

Eaugallie Fine Sand, 0 to 2 Percent Slopes

The EauGallie series consists of very deep, very poorly or poorly drained, slowly permeable soils in flats, sloughs and depressional areas. They formed in sandy and loamy marine sediments in Peninsula Florida. Many areas of EauGallie soils are used for citrus, truck crops, and pastureland. The natural vegetation consists of longleaf pine, South Florida slash pine, slash pine, fetterbush. The understory vegetation includes running oak, saw palmetto, inkberry, gallberry, wax myrtle, southern bayberry and pineland threeawn.

Farmton Fine Sand, 0 to 2 Percent Slopes

The Farmton series consists of very deep, poorly drained soils that formed in sandy and loamy marine sediments. Farmton soils are on flatwoods and low broad flats on marine terraces. Under natural conditions Farmton soils are used for water quality and wildlife habitat. Potential native vegetation consists of longleaf pine and slash pine. This soil type is one of the most common within the project study area.

Immokalee Fine Sand, 0 to 2 Percent Slopes

The Immokalee series consists of very deep, very poorly and poorly drained soils that formed in sandy marine sediments. Immokalee soils are on flatwoods and low broad flats on marine terraces. Under natural conditions Immokalee soils are used for water quality, forestry, and wildlife habitat. Large areas with adequate water management are used for

citrus, truck crops, pastureland, and range. Potential native vegetation consists of longleaf and slash pine. This soil type is one of the most common within the project study area.

Malabar Fine Sand, 0 to 2 Percent Slopes; Malabar Fine Sand, Frequently Ponded, 0 to 1 Percent Slopes; Malabar Fine Sand, High, 0 to 2 Percent Slopes

The Malabar series consists of very deep, very poorly and poorly drained, slowly permeable soils in sloughs, shallow depressions and along flood plains. They formed in sandy and loamy marine sediments. Large areas of the Malabar soils are used extensively for range. Native vegetation consists of scattered slash pine, cypress wax myrtle, cabbage palm, pineland threeawn, and maidencane.

Myakka Fine Sand, 0 to 2 Percent Slopes

The Myakka series consists of very deep, very poorly or poorly drained, moderately rapid or moderately permeable soils that occur primarily in mesic flatwoods of peninsular Florida. They formed in sandy marine deposits. Most areas of Myakka soils are used for commercial forest production or native range. Large areas with adequate water control measures are used for citrus, improved pasture, and truck crops. Native vegetation includes longleaf and slash pine with an undergrowth of saw palmetto, running oak, inkberry, wax myrtle, huckleberry, chalky bluestem, pineland threeawn, and scattered fetterbush.

Ona Fine Sand, 0 to 2 Percent Slopes

The Ona series consists of poorly drained, moderately permeable soils in flatwood areas that formed in thick sandy marine sediments. Much of the soil is used for growing truck crops, citrus, and improved pasture. Natural vegetation is slash pine and longleaf pine, gallberry, widely spaced sawpalmettos, huckleberry, and pineland threeawn.

Pineda-Pineda, Wet, Fine Sand, 0 to 2 Percent Slopes

This very deep, nearly level, poorly drained soil is on broad low flats, hammocks, sloughs, depressions, poorly defined drainageways and flood plains. They formed in thick beds of sandy and loamy marine sediments. Many areas of Pineda soils have been drained and are used for citrus, truck crops and tame pasture (pangolagrass and bahiagrass). In their undrained state, these soils are used for rangeland. Natural vegetation consists of south Florida slash pine, cypress, myrtle, cabbage palm, blue maidencane, chalky bluestem, bluepoint panicum, sawpalmetto sedges, pineland threeawn, and sand cordgrass.

Pompano Fine Sand, 0 to 2 Percent Slopes

The Pompano series consists of very deep, very poorly and poorly drained soils that formed in thick beds of sandy marine sediments. Pompano soils are on flatwoods, in low broad flats, and to a lesser extent, depressions, drainageways, and flood plains, on marine terraces. Under natural conditions Pompano soils are used for water quality, rangeland,

and wildlife habitat. Where drained, it is used for truck crops, citrus fruits, and improved pasture. Native vegetation of flatwoods consists of slash pine, south Florida slash pine, saw palmetto, gallberry, waxmyrtle, chalky bluestem, and pineland threeawn. Forested depressions are dominated by bald and pond cypress, black gum, and red maple.

Punta Fine Sand, 0 to 2 Percent Slopes

The Punta series consists of very deep, poorly drained soils that formed in sandy marine sediments on slightly elevated flatwoods areas of peninsular Florida. Most areas of this soil are in natural vegetation consisting of sawpalmetto, South Florida slash pine, pineland threeawn, waxmyrtle and a few shrub live oak.

Samsula Muck, Frequently Ponded, 0 to 1 Percent Slopes

The Samsula series consists of very deep, very poorly drained, rapidly permeable soils that formed in moderately thick beds of hydrophytic plant remains and are underlain by sandy marine sediments. Most areas are in native vegetation and used for water storage and as wildlife habitat. Natural vegetation is loblolly bay with scattered cypress, maple, gum, and pine trees with a ground cover of greenbriers, ferns, and other aquatic plants

Smyrna Fine Sand, 0 to 2 Percent Slopes

Vegetated non-forested wetlands include marshes and seasonably flooded basins and meadows. These communities are usually confined to relatively level, low-lying areas. Sawgrass and cattail are predominant species in freshwater marshes, while spartina and needlerush are predominant species in the saltwater marsh communities. This soil type is one of the most common within the project study area.

Valkaria Fine Sand, 0 to 2 Percent Slopes

The Valkaria series consists of deep, rapidly permeable soils that formed in thick beds of marine sands. These soils occur in broad, poorly defined, low gradient drainageways, depressions and low nearly level areas. Where water control is adequate, these soils are used for truck crops, citrus, and improved pasture. Natural vegetation is palms, cabbage palmettos, St. Johnswort, waxmyrtle, blue maidencane, chalky bluestem, pineland threeawn, and widely spaced pine and cypress

Wabasso Fine Sand, 0 to 2 Percent Slopes

The Wabasso series consists of very deep, very poorly and poorly drained, that formed in sandy and loamy marine sediments. Wabasso soils are on flatwoods, low broad flats, sloughs, depressions, and flood plains. Most areas of Wabasso soils are in natural vegetation and used for native range. Areas with adequate water control measures are used for citrus, truck crops, and tame pasture. The natural vegetation consists of longleaf pine, slash pine, cabbage palm, live oak, with an understory of sawpalmetto, laurel oak,

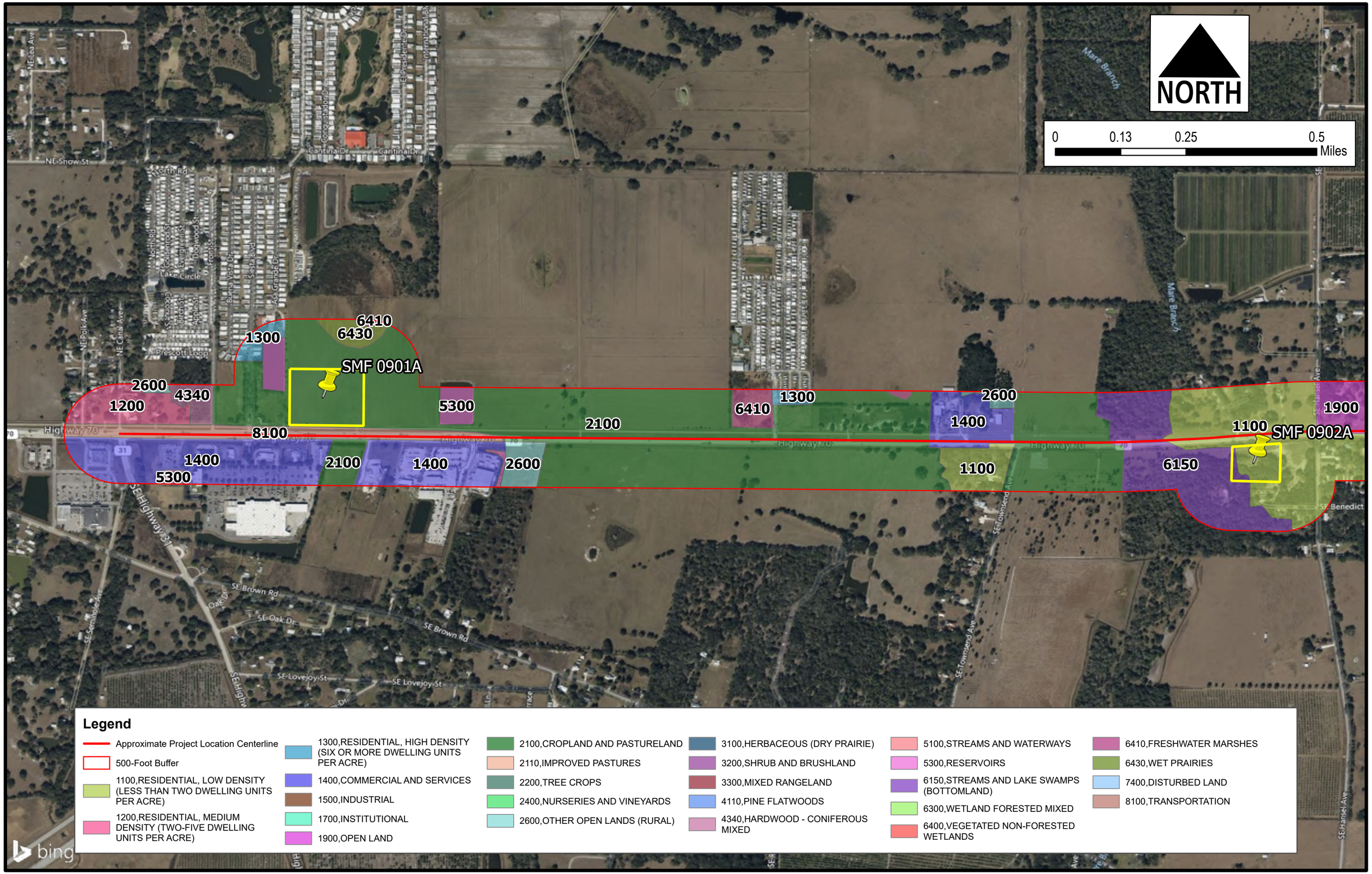
waxmyrtle, chalky bluestem, creeping bluestem, indiangrass, little bluestem, Florida paspalum, running oak, south Florida slash pine and pineland threeawn.

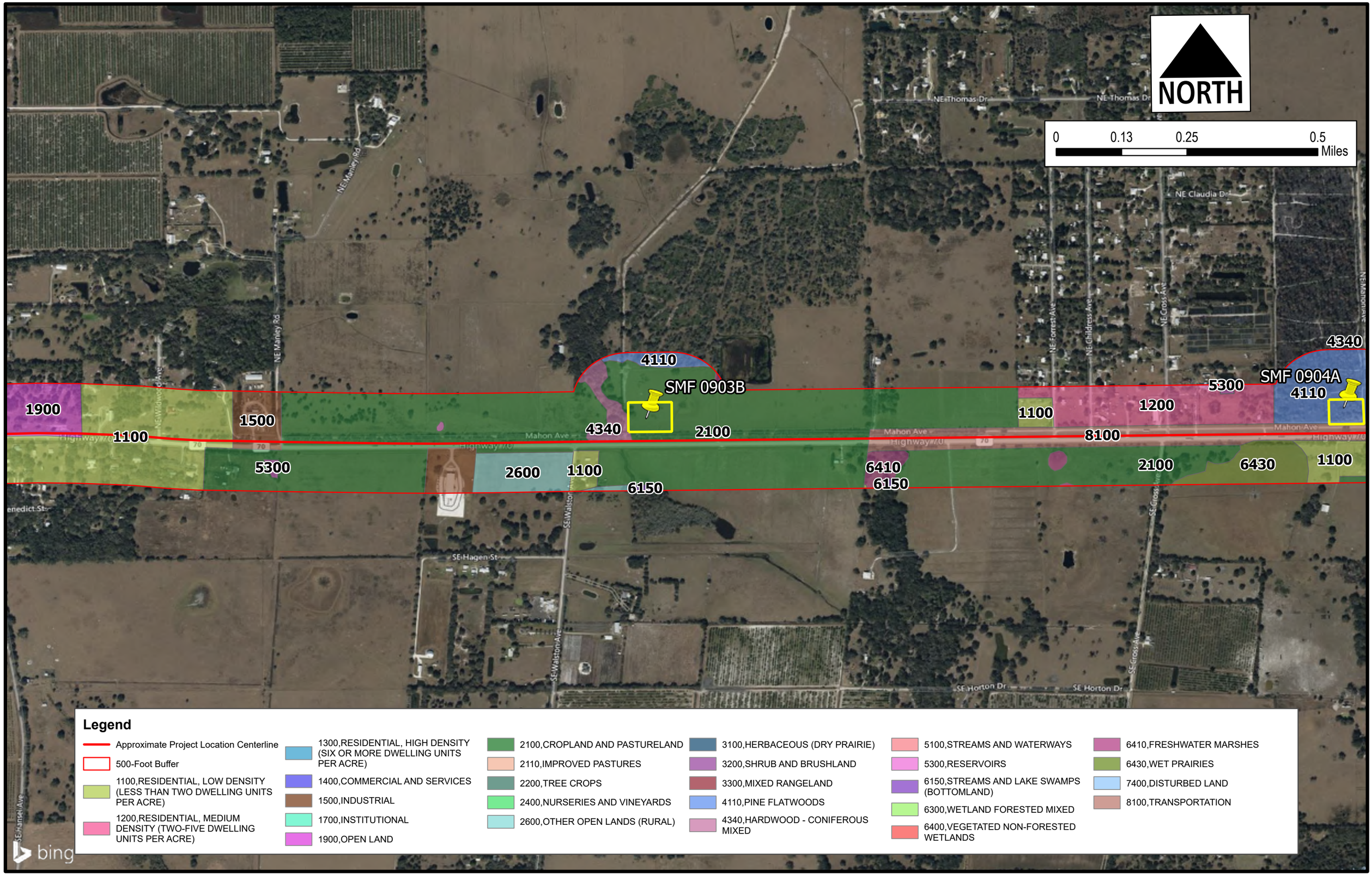
Zolfo Fine Sand, 0 to 2 Percent Slopes

The Zolfo series consists of very deep, somewhat poorly drained soils that formed in sandy marine sediments. Zolfo soils are on ridges, rises, and knolls on adjacent flatwoods on marine terraces. Under natural conditions Zolfo soils are used for water quality and wildlife habitat, many areas are used for citrus crops. Potential native vegetation consists of scattered turkey, laurel, or water oaks; long leaf or slash pine with an undercover of pineland threeawn, bluestem, lopsided indiangrass, gallberry, native weeds and sawpalmetto.

APPENDIX C

Existing Land Use Map and Descriptions


NORTH
0
0.13
0.25
0.5
Miles
SMF 0901A
SMF 0902A
6410
6430
1300
2600
4340
1200
5300
8100
2100
1400
6410
1300
2600
1400
1100
1900
6150
Legend
Approximate Project Location Centerline
500-Foot Buffer
1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
1400,COMMERCIAL AND SERVICES
1500,INDUSTRIAL
1700,INSTITUTIONAL
1900,OPEN LAND
2100,CROPLAND AND PASTURELAND
2110,IMPROVED PASTURES
2200,TREE CROPS
2400,NURSERIES AND VINEYARDS
2600,OTHER OPEN LANDS (RURAL)
3100,HERBACEOUS (DRY PRAIRIE)
3200,SHRUB AND BRUSHLAND
3300,MIXED RANGELAND
4110,PINE FLATWOODS
4340,HARDWOOD - CONIFEROUS MIXED
5100,STREAMS AND WATERWAYS
5300,RESERVOIRS
6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
6300,WETLAND FORESTED MIXED
6400,VEGETATED NON-FORESTED WETLANDS
6410,FRESHWATER MARSHES
6430,WET PRAIRIES
7400,DISTURBED LAND
8100,TRANSPORTATION
bing


NORTH
0
0.13
0.25
0.5
Miles
NE Thomas Dr
NE Manley Rd
NE Claudia Dr
NE Forrest Ave
NE Childress Ave
NE Cross Ave
NE Mahon Ave
NE Widwood Ave
Mahon Ave
Highway 70
SE Walston Ave
SE Hagen St
SE Horton Dr
SE Hansen Ave
SE Gross Ave
4110
SMF 0903B
1900
1500
1100
4340
2100
1100
5300
2600
1100
6150
6410
6150
1100
5300
1200
SMF 0904A
4110
4340
8100
2100
6430
1100
Legend
Approximate Project Location Centerline
500-Foot Buffer
1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
1400,COMMERCIAL AND SERVICES
1500,INDUSTRIAL
1700,INSTITUTIONAL
1900,OPEN LAND
2100,CROPLAND AND PASTURELAND
2110,IMPROVED PASTURES
2200,TREE CROPS
2400,NURSERIES AND VINEYARDS
2600,OTHER OPEN LANDS (RURAL)
3100,HERBACEOUS (DRY PRAIRIE)
3200,SHRUB AND BRUSHLAND
3300,MIXED RANGELAND
4110,PINE FLATWOODS
4340,HARDWOOD - CONIFEROUS MIXED
5100,STREAMS AND WATERWAYS
5300,RESERVOIRS
6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
6300,WETLAND FORESTED MIXED
6400,VEGETATED NON-FORESTED WETLANDS
6410,FRESHWATER MARSHES
6430,WET PRAIRIES
7400,DISTURBED LAND
8100,TRANSPORTATION
bing

NORTH

0 0.13 0.25 0.5 Miles

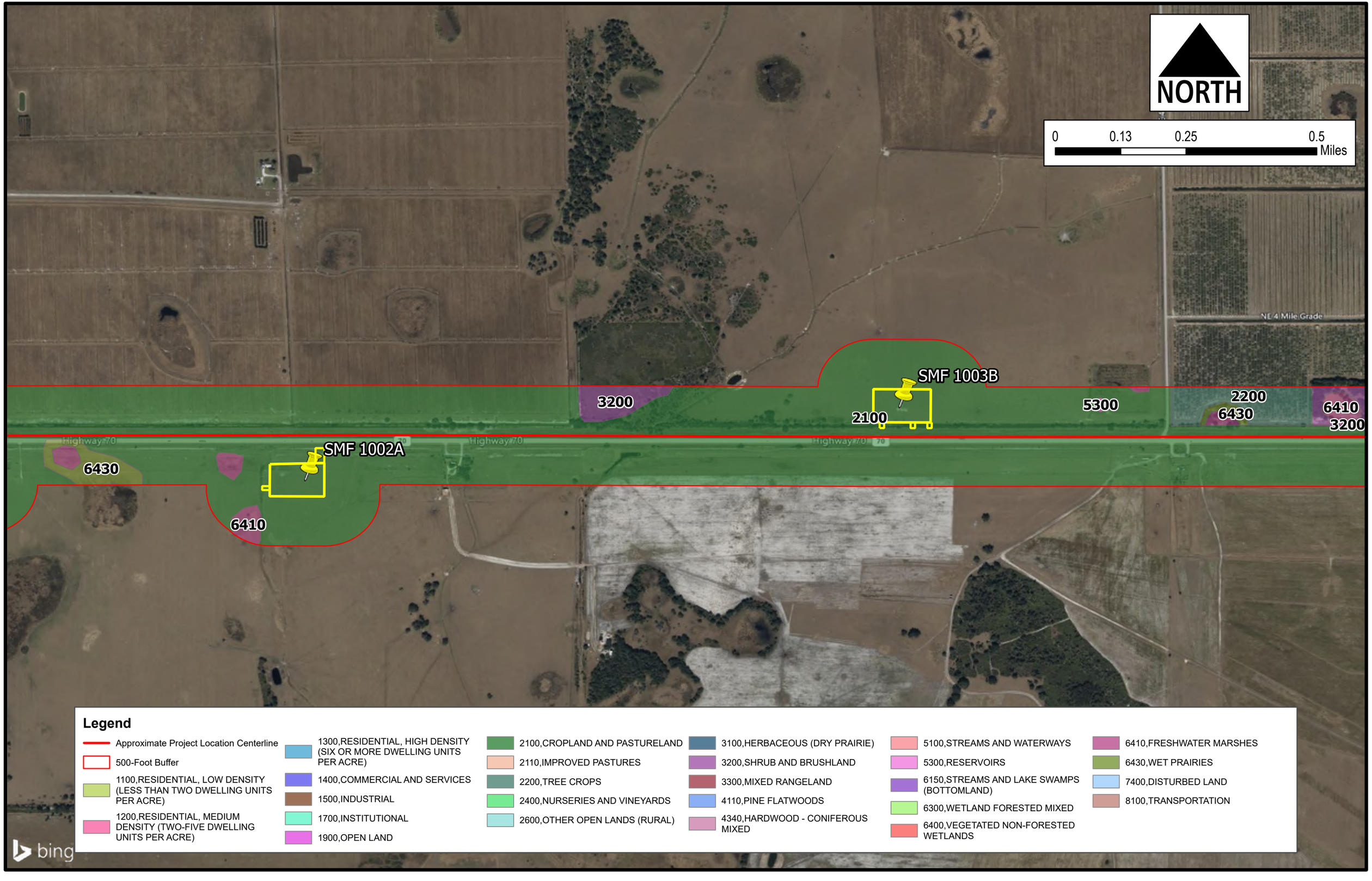
4110
3300
SMF 0904A
6150
2100
2600
4340
8100
6410
1100
2200
3200
FPC 1001A
6410
8100
SMF 1001A
2100
6430
FPC 1002-NA
FPC 1002-SB
2600
6410
3100
1100

NE Mahon Ave
Joshua Creek
NE Guynn Ave
Highway #0
Mahon Ave
SE Sargent Loop Rd
SE County Road 760
SE Mahon Ave

Legend

- Approximate Project Location Centerline
- 500-Foot Buffer
- 1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
- 1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
- 1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
- 1400,COMMERCIAL AND SERVICES
- 1500,INDUSTRIAL
- 1700,INSTITUTIONAL
- 1900,OPEN LAND
- 2100,CROPLAND AND PASTURELAND
- 2110,IMPROVED PASTURES
- 2200,TREE CROPS
- 2400,NURSERIES AND VINEYARDS
- 2600,OTHER OPEN LANDS (RURAL)
- 3100,HERBACEOUS (DRY PRAIRIE)
- 3200,SHRUB AND BRUSHLAND
- 3300,MIXED RANGELAND
- 4110,PINE FLATWOODS
- 4340,HARDWOOD - CONIFEROUS MIXED
- 5100,STREAMS AND WATERWAYS
- 5300,RESERVOIRS
- 6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
- 6300,WETLAND FORESTED MIXED
- 6400,VEGETATED NON-FORESTED WETLANDS
- 6410,FRESHWATER MARSHES
- 6430,WET PRAIRIES
- 7400,DISTURBED LAND
- 8100,TRANSPORTATION

bing


NORTH
0
0.13
0.25
0.5
Miles
NE 4 Mile Grade
SMF 1003B
3200
2100
5300
2200
6430
6410
3200
Highway 70
SMF 1002A
6430
6410
Legend
Approximate Project Location Centerline
500-Foot Buffer
1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
1400,COMMERCIAL AND SERVICES
1500,INDUSTRIAL
1700,INSTITUTIONAL
1900,OPEN LAND
2100,CROPLAND AND PASTURELAND
2110,IMPROVED PASTURES
2200,TREE CROPS
2400,NURSERIES AND VINEYARDS
2600,OTHER OPEN LANDS (RURAL)
3100,HERBACEOUS (DRY PRAIRIE)
3200,SHRUB AND BRUSHLAND
3300,MIXED RANGELAND
4110,PINE FLATWOODS
4340,HARDWOOD - CONIFEROUS MIXED
5100,STREAMS AND WATERWAYS
5300,RESERVOIRS
6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
6300,WETLAND FORESTED MIXED
6400,VEGETATED NON-FORESTED WETLANDS
6410,FRESHWATER MARSHES
6430,WET PRAIRIES
7400,DISTURBED LAND
8100,TRANSPORTATION
bing

NORTH

0 0.13 0.25 0.5 Miles

FPC 1005C

FPC 1004B

SMF 1005C-1L

SMF 1004A

FPC 1003A

2100

6300

2200

2400

1500

6410

3300

6430

5300

3200

6150

1700

2600

Legend

- Approximate Project Location Centerline
- 500-Foot Buffer
- 1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
- 1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
- 1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
- 1400,COMMERCIAL AND SERVICES
- 1500,INDUSTRIAL
- 1700,INSTITUTIONAL
- 1900,OPEN LAND
- 2100,CROPLAND AND PASTURELAND
- 2110,IMPROVED PASTURES
- 2200,TREE CROPS
- 2400,NURSERIES AND VINEYARDS
- 2600,OTHER OPEN LANDS (RURAL)
- 3100,HERBACEOUS (DRY PRAIRIE)
- 3200,SHRUB AND BRUSHLAND
- 3300,MIXED RANGELAND
- 4110,PINE FLATWOODS
- 4340,HARDWOOD - CONIFEROUS MIXED
- 5100,STREAMS AND WATERWAYS
- 5300,RESERVOIRS
- 6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
- 6300,WETLAND FORESTED MIXED
- 6400,VEGETATED NON-FORESTED WETLANDS
- 6410,FRESHWATER MARSHES
- 6430,WET PRAIRIES
- 7400,DISTURBED LAND
- 8100,TRANSPORTATION

NORTH

0 0.13 0.25 0.5 Miles

6430 3200 7400 5300 5100 2200 1100 2200 6410 2600 6430

FPC 1006A SMF 1006A FPC 1007C FPC 1008A SMF 1007A FPC 1009C

2100 6410 6410 6410

Highway 70

Legend

- Approximate Project Location Centerline
- 500-Foot Buffer
- 1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
- 1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
- 1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
- 1400,COMMERCIAL AND SERVICES
- 1500,INDUSTRIAL
- 1700,INSTITUTIONAL
- 1900,OPEN LAND
- 2100,CROPLAND AND PASTURELAND
- 2110,IMPROVED PASTURES
- 2200,TREE CROPS
- 2400,NURSERIES AND VINEYARDS
- 2600,OTHER OPEN LANDS (RURAL)
- 3100,HERBACEOUS (DRY PRAIRIE)
- 3200,SHRUB AND BRUSHLAND
- 3300,MIXED RANGELAND
- 4110,PINE FLATWOODS
- 4340,HARDWOOD - CONIFEROUS MIXED
- 5100,STREAMS AND WATERWAYS
- 5300,RESERVOIRS
- 6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
- 6300,WETLAND FORESTED MIXED
- 6400,VEGETATED NON-FORESTED WETLANDS
- 6410,FRESHWATER MARSHES
- 6430,WET PRAIRIES
- 7400,DISTURBED LAND
- 8100,TRANSPORTATION

bing

NORTH

0 0.13 0.25 0.5 Miles

6410 2200 6430 6400 2200 1500 2600

FPC 1009C

6430 6410 6410

SMF 1008A

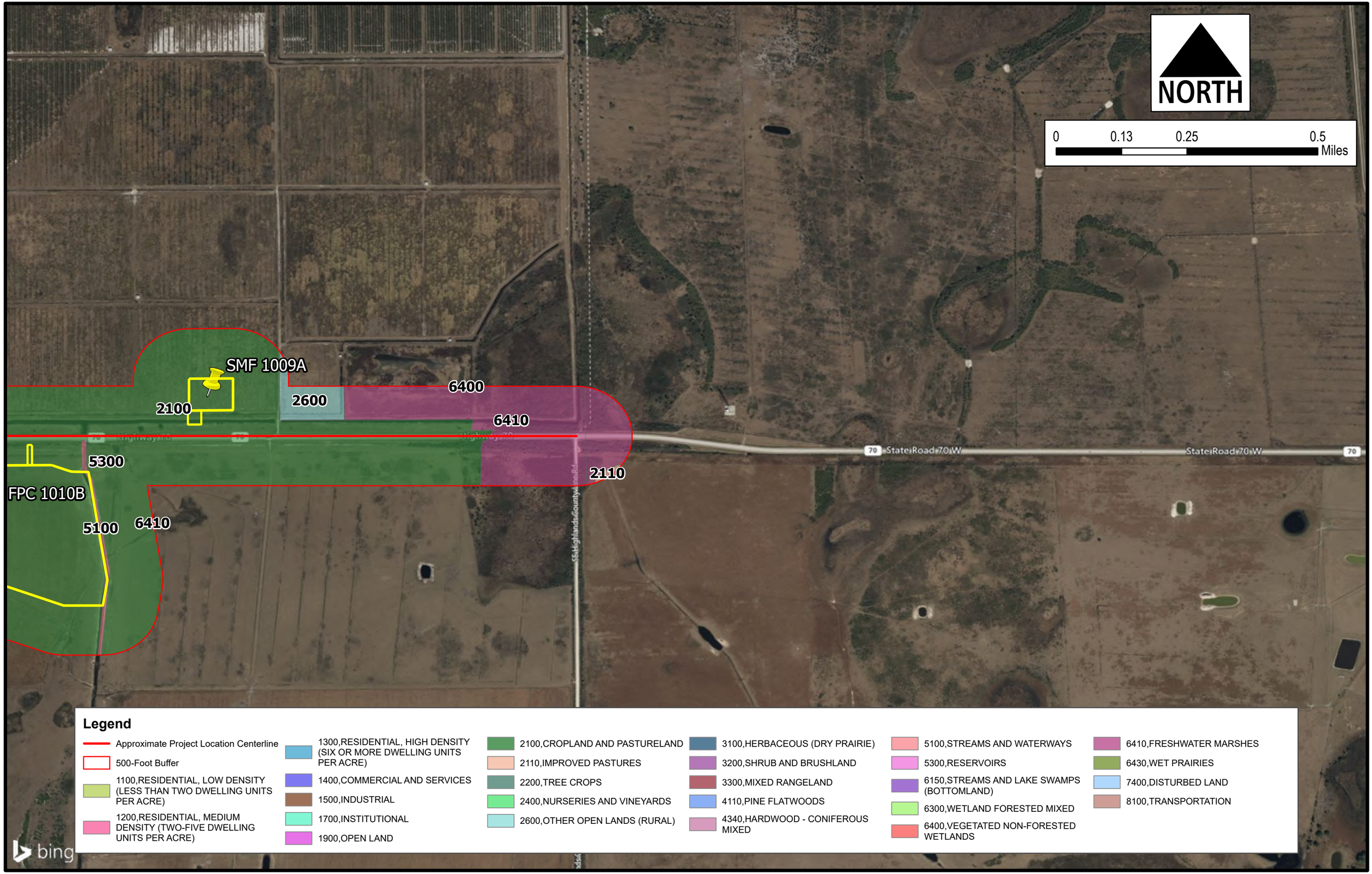
FPC 1010B

2100

Legend

- Approximate Project Location Centerline
- 500-Foot Buffer
- 1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
- 1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
- 1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
- 1400,COMMERCIAL AND SERVICES
- 1500,INDUSTRIAL
- 1700,INSTITUTIONAL
- 1900,OPEN LAND
- 2100,CROPLAND AND PASTURELAND
- 2110,IMPROVED PASTURES
- 2200,TREE CROPS
- 2400,NURSERIES AND VINEYARDS
- 2600,OTHER OPEN LANDS (RURAL)
- 3100,HERBACEOUS (DRY PRAIRIE)
- 3200,SHRUB AND BRUSHLAND
- 3300,MIXED RANGELAND
- 4110,PINE FLATWOODS
- 4340,HARDWOOD - CONIFEROUS MIXED
- 5100,STREAMS AND WATERWAYS
- 5300,RESERVOIRS
- 6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
- 6300,WETLAND FORESTED MIXED
- 6400,VEGETATED NON-FORESTED WETLANDS
- 6410,FRESHWATER MARSHES
- 6430,WET PRAIRIES
- 7400,DISTURBED LAND
- 8100,TRANSPORTATION

bing


NORTH
0
0.13
0.25
0.5
Miles
SMF 1009A
2100
2600
6400
6410
2110
5300
FPC 1010B
5100
6410
70
State Road 70 W
State Road 70 W
70
Legend
Approximate Project Location Centerline
500-Foot Buffer
1100,RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)
1200,RESIDENTIAL, MEDIUM DENSITY (TWO-FIVE DWELLING UNITS PER ACRE)
1300,RESIDENTIAL, HIGH DENSITY (SIX OR MORE DWELLING UNITS PER ACRE)
1400,COMMERCIAL AND SERVICES
1500,INDUSTRIAL
1700,INSTITUTIONAL
1900,OPEN LAND
2100,CROPLAND AND PASTURELAND
2110,IMPROVED PASTURES
2200,TREE CROPS
2400,NURSERIES AND VINEYARDS
2600,OTHER OPEN LANDS (RURAL)
3100,HERBACEOUS (DRY PRAIRIE)
3200,SHRUB AND BRUSHLAND
3300,MIXED RANGELAND
4110,PINE FLATWOODS
4340,HARDWOOD - CONIFEROUS MIXED
5100,STREAMS AND WATERWAYS
5300,RESERVOIRS
6150,STREAMS AND LAKE SWAMPS (BOTTOMLAND)
6300,WETLAND FORESTED MIXED
6400,VEGETATED NON-FORESTED WETLANDS
6410,FRESHWATER MARSHES
6430,WET PRAIRIES
7400,DISTURBED LAND
8100,TRANSPORTATION
bing

Residential – Low, Medium, and High Density (FLUCCS 110,120, 130)
Residential land uses including low, medium, and high density scattered throughout the project area. These areas include single family units, mobile homes, and multiple dwelling units, such as apartments.

Commercial and Services (FLUCCS 140)
This land use type is primarily associated with the distribution of products and services. This land use type also includes sheds, warehouses, office buildings, driveway, parking lots, landscaped area, shopping center, and commercial strip developments.

Industrial (FLUCCS 150)
This land use type is primarily associated with manufacturing, assembly, or processing of materials and products are produced. This land use type is associated with stockpiles of raw materials, large power sources, and solid waste product disposal areas. Examples of industrial types found in Florida are pulp and lumber mills, oil refineries, chemical plants, and brick making plants.

Institutional (FLUCCS 170)
This category includes educational, religious, health, and military facilities.

Open Land (FLUCCS 190)
This land use type includes undeveloped within urban areas and inactive land with street patterns but usually without structures. There is no indication of intended use even if the inactive land may be in a transitional state that will eventually be developed.

Cropland and Pastureland (FLUCCS 210)

This land use type includes agricultural land which is managed for the production of row or field crops and improved, unimproved, and woodland pastures.

Improved Pastures (FLUCCS 211)

This land use type is associated with land that has been cleared, tilled, reseeded with specific grass types, and periodically improved with brush control and fertilizer applications. Water ponds, troughs, and feed bunkers are evident.

Tree Crops (FLUCCS 220)

This land use type is associated with orchards and groves generally occur in areas possessing a specific combination of soils and climatology factors.

Nurseries and Vineyards (FLUCCS 240)

This land use type is associated with nurseries, floricultural areas, and seed-and-sod areas use perennially and generally not rotated with other uses.

Other Open Lands (rural) (FLUCCS 260)

This category includes those agricultural lands whose intended usage cannot be determined.

Herbaceous (Dry Prairie) (FLUCCS 310)
This category includes upland prairie grasses, which occur on non-hydric soils but may be occasionally inundated by water. These grasslands are usually treeless with a variety of vegetation types dominated by grasses, sedges, rushes, and other herbs including wire grasses with some saw palmetto present.

Shrub and Brushland (FLUCCS 320)
This category includes saw palmettos, gallberry, was myrtle, coastal scrub, and other shrubs and brush. Generally, saw palmetto is the most prevalent plant cover intermixed with a wide variety of other wood scrub plant species, as well as various types of short herbs and grasses.

Mixed Rangeland (FLUCCS 330)
When more than one-third intermixture of either grassland or shrub-brushland range species occurs, the specific classification is changed to Mixed Rangeland. Where the intermixture is less than one-third,it is classified as the dominant type of rangeland.

Pine Flatwoods (FLUCCS 411)
This land use type is dominated by slash pine, longleaf pine, or both and less frequently pond pine. The common flatwoods understory species includes saw palmetto, wax myrtle, gallberry, and a wide variety of herbs and brush.

Hardwood - Coniferous Mixed (FLUCCS 434)
This class is reserved for forested areas in which neither upland conifers nor hardwoods achieve a 66% crown canopy dominance.

Streams and Waterways (FLUCCS 510)
This category includes rivers, creeks, canals, and other linear water bodies. If water course is interrupted by control structure, the impounded water area will be placed in the Reservoirs category (530).

Reservoirs (FLUCCS 530)
Reservoirs are artificial impoundments of water. They are used for irrigation, flood control, municipal and rural water supplies, and recreation and hydro-electric power generation. Dams, levees, other water control structures or the excavation itself usually will be evident to avoid in the identification.

Streams and Lake Swamps (Bottomland) (FLUCCS 615)
This land use type is usually found on but not restricted to river, creek, lake flood plains, or overflow areas. Predominant hardwood species include red maple, river birch, water oak, sweetgum, willows, tupelos, water hickory, bays, water ash, and button bush. Associated species include cypress, slash pine, loblolly pine, and spruce pine.

Wetland Forested Mix (FLUCCS 630)

This category includes mixed wetlands forest communities in which neither hardwood nor conifers achieve 66% dominance of the crown canopy composition.

Vegetated Non-forested Wetlands (FLUCCS 640)

Vegetated non-forested wetlands include marshes and seasonably flooded basins and meadows. These communities are usually confined to relatively level, low-lying areas. Sawgrass and cattail are predominant species in freshwater marshes, while spartina and needlerush are predominant species in the saltwater marsh communities.

Freshwater Marshes (FLUCCS 641)

Freshwater communities are included in this category are characterized by having one or more of the following species predominate; sawgrass, cattail, arrowhead, maidencane, buttonbush, cordgrass, giant cutgrass, switchgrass, bulrush, needlerush, common reed, and arrow root.

Wet Prairies (FLUCCS 643)

This classification is composed predominantly of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities will be predominated by one or more of the following species: sawgrass, maidencane, cordgrasses, spike rushes, beach rushes, St. John's Wort, spiderlily, swamplily, yellow-eyed grass, and whitetop sedge.

Disturbed Land (FLUCCS 740)
Disturbed lands are those areas which have been changed due primarily to human activities other than mining.

Transportation (FLUCCS 810)

Transportation pertains to facilities that are used for the movement of people and goods; therefore, they are major influence on land and many land use boundaries are outlined by them. This includes, but is not limited to roads and highways, railroads, airports, ports, and canal.

APPENDIX D

Specific Species Survey Memorandum and USFWS Concurrence

To:	**John Wrublik, USFWS**
From:	**Melody Joyner (FDOT)**
CC:	**Jeffrey James, FDOT; Kathern Cothern, FDOT; Joe Lauk, PGA (on behalf of FDOT); Brooke Feagle, AtkinsRéalis (on behalf of FDOT); James Fine, HNTB**
Date:	**March 19, 2025**
RE:	**(451942-1-22-01) SR 70 from West of SR 31 to SE Highlands County Line Road ETDM # 14569, Desoto County**
	(414506-1-22-01) SR 70 from Jefferson Avenue to CR 29, ETDM # 3054, Highlands County
	(414506-5-32-01) SR 70 from CR 29 to Lonesome Island Road, ETDM # 14364, Highlands County
	USFWS Coordination for Multi-Species Survey Spring 2025

Introduction

The Florida Department of Transportation (FDOT), District One, has several ongoing projects on State Road (SR) 70 in DeSoto and Highlands County. These projects will evaluate the widening of SR 70 from a two-lane undivided facility to a four-lane divided facility, including operational improvements. This memorandum focuses on three (3) projects; (451942-1-22-01) SR 70 from West of SR 31 to SE Highlands County Line Road extending 16.7 miles in length, (414506-1-22-01) SR 70 from Jefferson Avenue to CR 29 extending 7.0 miles in length, and (414506-5-32-01) SR 70 from CR 29 to Lonesome Island Road extending 4.3 miles in length as shown in **Figure 1**. The projects document the need for capacity improvements within the SR 70 corridor and determine the least environmentally impactful practicable alternative to address the existing roadway deficiencies. FDOT is preparing to conduct surveys for the Eastern black rail (*Laterallus jamaicensis jamaicensis*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), Florida bonneted bat (*Eumops floridanus)* & tricolored bat (*Perimyotis subflavus)*, sand skink (*Neoseps reynoldsi*), blue-tailed mole skink (*Eumeces egregius lividus*), Florida grasshopper sparrow (*Ammodramus savannarum floridus*), and the Florida scrub-jay (*Aphelocoma coerulescens*) in the spring of 2025 and is requesting the USFWS's approval of the proposed survey plan.

The project falls within the USFWS current range for the Eastern black rail (EBR). Potentially suitable habitat was identified within and adjacent to the project boundary. Potentially suitable habitat includes dense vegetative cover that allows for movement underneath the canopy. Selected stations will be surveyed during the 2025 EBR survey, which will occur during the Florida EBR breeding season between April 16 – July 15 (Florida north and central interior, gulf coast saltmarsh) (USFWS, 2023). Please see **Attachment A** for EBR survey details and **Attachment G** for EBR survey station maps.

This project is within the USFWS Consultation Area for the federally endangered Everglade snail kite (SNKI) (*Rostrhamus sociabilis plumbeus*). Foraging and nesting suitable habitat for this species is defined as those areas in wetlands that contain emergent vegetation, and this was documented within the project area. SNKI surveys should be conducted from January – May, based

on nesting seasonal data. Please see **Attachment E** for SNKI survey details and **Attachment K** for SNKI observation station maps.

The project is located within the USFWS Consultation Area for the Florida bonneted bat (FBB) (*Eumops floridanus*) and within the range for the Tricolored bat (TCB) (*Perimyotis subflavus*). The project area was assessed and determined that there is an availability of potential roosting and foraging habitat. Survey for the tricolored bat should be conducted between March 1 and October 15. Please see **Attachment D** for FBB and TCB survey details and **Attachment J** for FBB and TCB survey maps.

The project falls within the USFWS Consultation Area (CA) for the sand skink (Neoseps reynoldsi) and blue-tailed mole skink (Eumeces egregius lividus). The geography and elevations throughout portions of the project area are above 80 feet and suitable skink soils (excessively drained, well-drained, and moderately well-drained sandy soils) are present. Coverboard surveys for the project will be conducted during the spring survey season from March 1 through May 15, 2025. The last day to deploy coverboards will be April 17, 2025. Coverboards will be placed within suitable soil types along the project mainline and pond sites, based on the desktop analysis of soil types and habitats within the project areas. Please see **Attachment F** for the sand skink and blue-tailed mole skink survey details and **Attachment L** for the sand skink and blue-tailed mole skink survey maps.

The project falls within the USFWS Consultation Area for the Florida grasshopper sparrow (FGSP) (*Ammodramus savannarum floridus*). FGSP preferred habitat is classified as prairie-like habitats with some grass cover and no trees, and preferred FGSP habitat was identified within the project area. FGSP surveys will be conducted in accordance with the 2004 USFWS South Florida Ecological Service Office Draft Florida Grasshopper Sparrow Survey Protocol. A total of three biweekly (every two weeks) surveys will be conducted between April 1 and June 15 at each sample point that is located within potentially suitable habitat. Surveys will be conducted by experienced personnel with familiarity with FGSP habitat needs and requirements. Please see **Attachment B** for the FGSP survey details and **Attachment H** for FGSP survey station maps.

The project falls within the USFWS Consultation Area for the Florida scrub-jay (FSJ) (*Aphelocoma coerulescens*). Suitable habitat is defined as those areas that contain scrub oaks since the presence of scrub oaks is a key indicator for suitable scrub habitat. Surveys for the FSJ may be conducted anytime from March 1 through October 31. Please see **Attachment C** for FSJ survey details and **Attachment I** for survey station maps.

Figure 1. Projects Limits for 451942-1-22-01, 414506-1-22-01, 414506-5-32-01

Attachment A

Eastern Black Rail Survey Details for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29 and SR 70 from CR 29 to Lonesome Island Rd

451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.

This technical memorandum provides a summary of the data investigations performed to determine the potential for presence of the federally listed eastern black rail (*Laterallus jamaicensis jamaicensis*) within the limits of the proposed State Road (SR) 70 project corridor (SR 70 West of SR 31 to SE Highlands County Line Road). The eastern black rail was federally designated as a threatened species by the United States Fish and Wildlife Service (USFWS) in 2020 (85 Federal Register 63764 63803) and is protected by the Endangered Species Act, as amended (16 U.S. Code [U.S.C] 1531-1544, 87 Stat. 884). Due to lack of suitable habitat, a species-specific eastern black rail call-response survey was determined to be unnecessary for this project.

Data Collection

Prior to conducting species surveys of the project corridor, literature, and Geographic Information Systems (GIS) data layer searches were performed to identify potential eastern black rail habitat and historical occurrences of the species within the project corridor. Referenced materials include the following: 2017 Southwest Florida Water Management District Land Use Land Cover spatial data, 2023 USFWS National Wetlands Inventory spatial data, the USFWS *Species Status Assessment Report for the Eastern Black Rail (Laterallus jamaicensis jamaicensis),* dated 2019, Cornell Lab eBird bird occurrence data, and current aerial imagery. The preliminary desktop reviews yielded the following findings:

- The project falls within the USFWS current range for the eastern black rail.
- The closest documented publicly available occurrence of the eastern black rail is approximately 44.1 miles southeast of the project river in Glades County; and
- No suitable habitat was identified within or adjacent to the project boundary.

Based on this information, the SR 70 project corridor does not require additional surveying for eastern black rails.

Summary

A desktop survey was conducted to determine eastern black rail habitat within the project corridor. Although the project falls within the USFWS range for the species, the closest documented occurrence was approximately 44.1 miles away. Additionally, no suitable habitat was identified within the project corridor. Due to the absence of eastern black rail suitable habitat, no field surveys are anticipated. We respectfully request your concurrence with this assessment.

References

United States Fish and Wildlife Service. 2019. Species Status Assessment Report for the Eastern Black Rail (*Laterallus jamiacensis jamiacensis*). Version 1.3. August 2019.

United States Fish and Wildlife Service. 2023. Eastern Black Rail Call-Response Survey Protocol for Range-Wide Monitoring. Version 1.1. January 2023.

Attachment B

Florida Grasshopper Sparrow Survey Details for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29
and SR 70 from CR 29 to Lonesome Island Rd

451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.

The Florida grasshopper sparrow (FGSP) (*Ammodramus savannarum floridus*) is listed as Federally Endangered by the U.S. Fish and Wildlife Service (FWS) and is a subspecies of the grasshopper sparrow. The FGSP is endemic to the dry prairies of central Florida and the subspecies is considered critically endangered. Adult FGSP are approximately 11 centimeters in length, with a small flat head, deep bill, un-streaked cream-buff breast, whitish lower breast, dark crown divided by a buffy-white crown stripe, orange-yellow lores sometimes extending thinly over and behind eye, grayish nape with fine chestnut or reddish brown streaks, dark back streaked with chestnut-rust, edge of wing yellow, and short tail. Juveniles have a band of streaks across their breast. Males have two singing calls and will crouch with their head between their shoulders and rapidly flutter one or both wings after singing[27]. Females are shy and are never conspicuous[4,27]. Adults live up to six years, with annual survival rates of approximately 60 percent[6,18].

FGSP populations are strongly influenced by habitat characteristics. They are influenced by fire ecology and the time since fire[1], proportion of bare ground[4,8,10,23], and vegetative height of grasses and shrubs[10,12,9,23]. FGSP prefer treeless habitats that typically have less than one tree per hectare[19,22] and further, prefer areas within that habitat that are greater than 100 meters from the forest edge[10,12]. FGSPs prefer land cover with a moderate amount (25%) of low growing vegetation that is less than 30 centimeters in height. They prefer communities of native bunch grasses such as bluestem (*Andropogon* spp.) and wiregrass (*Aristida stricta* var. *beyrichiana*)[5,10,12].

Male territories almost never contain trees[7]. They forage exclusively on the ground feeding on a diet consisting of invertebrates and seeds[5]. FGSPs nest in the sand at the base of grass clumps or shrubs with the nests well concealed[11,20]. The greatest cause of nest failure is depredation by snakes, skunks, hogs, armadillos, and fire ants[27]. The primary cause of adult mortality is from predation by avian predators[3, 20, 27].

Methodology

FGSP surveys will be conducted in accordance with the 2004 USFWS South Florida Ecological Service Office Draft Florida Grasshopper Sparrow Survey Protocol. A total of three biweekly (every two weeks) surveys will be conducted between April 1 and June 15 at each sample point that is located within potentially suitable habitat. Surveys will be conducted by experienced personnel with familiarity with FGSP habitat needs and requirements. Survey personnel will be limited to experienced biologists that possess the ability to identify and locate sparrows based on song or sight.

FGSP preferred habitat is classified as prairie-like habitats with some grass cover and no trees. Potential habitat will be identified within each survey area, and potentially suitable habitats will be identified regardless of the perceived habitat quality within the project area and a 100m (328ft) buffer zone surrounding the project. Areas identified as potential habitat will consist of both potential foraging and nesting locations. This habitat will be considered as potentially occupied habitat due to the specific requirements of the FGSP life history.

Sample stations will be established within habitats identified as potentially suitable habitat. Sample stations will be established in 200m (656ft) intervals. A 200m x 200m grid will be

overlayed over the potential habitat and sample stations will be placed at the approximate centroid of each cell within the grid. The distance will be far enough that a high-quality playback speaker played on full volume will be heard from a distance of 100m (328ft) but not interfere with the potential occupants of adjacent stations.

Surveys will be conducted from April 1st to June 15th as required by USFWS. Surveys will begin no later than 30 minutes prior to sunrise and end no later than three hours after sunrise. Surveys will only be conducted on calm days and individual station surveys will only occur when wind speeds do not exceed 15 miles per hour (mph). If wind speeds exceed the 15mph threshold, surveys will be halted and not re-start until windspeeds return to acceptable levels.

Habitat Suitability Analysis

Suitable habitat for FGSP was classified for each survey station based on historic and/or current habitat conditions. Survey stations were removed from the project in areas confirmed to not be suitable habitat. Unsuitable habitats include areas such as wetlands, active row crops, citrus groves, forested and pineland areas, and dense shrub and brushland which include dense patches of tall saw palmetto (*Serenoa repens*) and other shrubs with little to no open ground, consistent with habitats considered not suitable above. This methodology was previously approved by the USFWS.

The selection criteria were refined based on a combination of the evaluation of current conditions during the initial field efforts, based on revisions to the existing land use data, site-specific habitat data, and professional knowledge of the surrounding area. A summary of the evaluation criteria of habitat structure and suitability is provided below in **Table 1**.

Table 1 – Literature Review of Structural Components Unsuitable for FGSP

Habitat Structure	Not Suitable Documented by Protocol	Not Suitable Documented by Literature	Not Suitable Suggested by Literature
Wetlands	USFWS 2004		
Row Crops	USFWS 2004		
Cleared Areas (completely devoid of vegetation)	USFWS 2004		
Forested	USFWS 2004, Delany 1996, Delany 1996a, Perkins et al. 2003, Delany et al. 2007		
Pineland (or any forested cover) >10% canopy cover		Delany et al. 2007	
≤ 100m to forest edge		Delany et al. 1995, Perkins et al. 2003	
Improved pasture (only if demonstrated to be routinely maintained, devoid of shrubs, devoid of palmetto, devoid of bunch grasses)		Delany et al. 1985, Delany and Linda 1994	
≥ 5 trees per hectare*		Delany et al. 1995, Shriver and Vickery 1999, Perkins et al. 2003, Delany et al. 2007	
≤ 100m to fence post (provides avian predator perch)			Pranty 2000, Dean 2001, Perkins and Vickery 2001

*The literature does not specifically document ≥ 5 trees per hectare as unsuitable, but the literature does document areas that are treeless or have < 1 tree per hectare as preferred[9,19,22] < 1 tree per acre as the historical condition of dry prairies (FNAI 1990). Delany and colleagues (1995) documented that male territories do not include trees and sparrows even avoid areas of widely spaced pines (< 1 tree per acre). ≥ 5 trees per hectare is reasonably expected to be "too forested" for FGSP.

Project Area

The project is along SR 70 from West of SR 31 to SE Highlands County Line Rd in Desoto County, Florida. The preliminary habitat suitability analysis was used as a screening tool to identify potential habitat within the project area and establish sample stations. The preliminary analysis identified a total of approximately 826.5 acres of potentially suitable habitat within the project area. Using the station selection criteria a total of 102 sample stations were identified. Selected stations will be surveyed during the 2025 FGSP survey (Survey Station Map). Prior to the first survey, a site visit will be conducted to confirm suitable habitat and the location of stations. Based on this site assessment (e.g., current habitat suitability), survey stations may need to be revised. Any adjustments to the survey design will be documented via revised maps in the report.

Survey Methodology

Presence-Absence Surveys

Presence-absence surveys will be conducted at all sample stations. Data to be collected at each station will include:

Physical Data

A. Station location (latitude and longitude) will be collected using a sub-meter GPS unit.
B. Survey time and date will be collected for each survey event
C. Weather conditions will be recorded including temperature, wind speed & direction, visibility, and precipitation present.

Biological Data

A. FGSP Survey
    a. Passive sampling
        i. Upon arrival at each station, observe the station and surrounding areas for a period of one minute, listening for any GRSP activity prior to Play back sampling.
    b. Play back sampling
        i. Play pre-recorded GRSP calls for a period of 30 seconds, followed by a 1-minute period of silence to listen for GRSP call back.
        ii. Repeat play back sampling method in each of the cardinal directions (North, East, South, West).
        iii. Record all findings including negative playback results for each station.
    c. Move to next station.

Population Analysis

If grasshopper sparrows are detected during survey periods, a more intensive survey is necessary to estimate the area of habitat utilization as well as the size of the population present. All stations at which sparrows were observed as well as an 800m (2,624ft) radius will be re-surveyed three times following the above protocol. Additionally, personnel conducting the surveys will record the number of singing (male) sparrows at each station as well as the flight directions for each bird observed. This will include the location of the sparrow (direction & distance) in relation to the survey location. Re-surveys may be conducted on consecutive days if conditions permit. The estimated total population size shall be determined by multiplying the number of observed male sparrows by two, then adding the number of observed juveniles or non-singing sparrows to that total. This estimate uses the assumption that each singing male has a partner. Territorial boundaries

will be determined via standard methods as described in *Bird Census Techniques*[2]. The total population estimate will include a minimum convex polygon that encompasses all territories and a 100m (328ft) buffer.

Report

A report will be prepared following the completions of the field surveys that will detail the results of the findings. The report will provide a comprehensive summary of the findings of the surveys. The report will include a brief description of the entire project area including the total area of potentially suitable habitat within the project area, the results of the presence-absence survey, and the if FGSP are present, details regarding the range and populations of FGSP detected. The report will include the following items:

1) Project area description

2) GIS maps:
    a. Aerial Map (including project area and necessary buffers)
    b. Land Use Map (defining potentially habitat)
    c. Ecological Survey Map (sample stations, detections, singing male locations, territories, and flight paths)

3) Field data sheets (completed during field surveys):
    a. Date, time, and station at which each survey station sample event is conducted.
    b. The weather conditions for each survey station sample event including the temperature, wind speed & direction, visibility, and precipitation present.

REFERENCES

[1]Aldredge, J.N. 2009. Factors affecting breeding territory size and placement of the Florida grasshopper sparrow (*Ammodramus savannarum floridanus*). Unpublished Master's Thesis. University of Central Florida, Orlando, Florida.

[2]Bibby, C.J., N.D. Burgess, D.A. Hill, and S.H. Mustoe. 2000. Bird Census Techniques. 2nd Edition. Academic Press, London, UK.

[3]Dean, T.F. 2001. Non-breeding season ecology of Florida grasshopper sparrows and Bachman's sparrows in central Florida dry prairies. Unpublished Master's Thesis. University of Massachusetts, Amherst, Massachusetts.

[4]Delany, M.F. 1996. Florida grasshopper sparrow. Pp. 128-136 *In* R.E. Ashton, Jr., Ed. Rare and Endangered Biota of Florida, Volume V. Birds. University Press of Florida, Gainesville.

[5]Delany, M. F. 1996a. Letter. April 16, 1996. On file at U.S. Fish and Wildlife Service, South Florida Ecosystem Office; Vero Beach, Florida.

[6]Delany, M.F., C.T. Moore, and D.R. Progulske, Jr. 1993. Survival and longevity of adult male Florida grasshopper sparrows. Proceedings of the Annual Conference of the Southeast Association of Fish and Wildlife Agencies 47:336-369.

[7]Delany, M.F., C.T. Moore, and D.R. Progulske, Jr. 1995. Territory size and movements of Florida grasshopper sparrows. Journal of Field Ornithology, 66(2):305-309.

[8]Delany, M.F., H.M. Stevenson, and R. McCracken. 1985. Distribution, abundance, and the habitat of the Florida grasshopper sparrow. Journal of Wildlife Management 49(3):626-631.

[9]Delany, M.F., M.B. Shumar, M.E. McDermott, P.S. Kubilis, J.L. Hatchitt, and R.G. Rivero. 2007. Florida grasshopper sparrow distribution, abundance, and habitat availability. Southeastern Naturalist 6(1):15-26.

[10]Delany, M.F., and S.B. Linda. 1994. Characteristics of occupied and abandoned Florida grasshopper sparrow territories. Florida Field Naturalist 22(4):106-109.

[11]Delany, M.F., and S.B. Linda. 1998. Nesting habitat of Florida grasshopper sparrows at Avon Park Air Force Range. Florida Field Naturalist 26(2):33-76.

[12]Delany, M.F., S.B. Linda, B. Pranty, and D.W. Perkins. 2002. Density and reproductive success of Florida grasshopper sparrows following fire. Journal of Range Management 55(4):336-340.

[13]Florida Department of Transportation (FDOT) Florida Land Use, Cover, and Forms Classification System (FLUCFCS), January 1999.

[14]Florida Fish and Wildlife Conservation Commission. 2003, January 6. Florida's breeding bird atlas: A collaborative study of Florida's birdlife. Online resources available from: http://www.myfwc.com/bba.

[15]Florida Fish and Wildlife Conservation Commission, U.S. Fish and Wildlife Service, Florida Natural Areas Inventory. Florida Wildlife Conservation Guide. Tallahassee; Version August 2010.

[16]Hill, J.M., Renfrew, R.B. Migratory patterns and connectivity of two North American grassland bird species. Ecol Evol. 2019; 9:680–692. https://doi. org/10.1002/ece3.4795.

[17]Kale, H. W., II, B. Pranty, B. M. Stith, and C. W. Biggs. 1992. The atlas of the breeding birds of Florida. Final Report. Florida Game and Fresh Water Fish Commission, Tallahassee, Florida.

[18]Perkins, D.W., and P.D. Vickery. 2001. Annual survival of an endangered passerine, the Florida grasshopper sparrow. The Wilson Bulletin 113(2):211-216.

[19]Perkins, D.W., P.D. Vickery, and W.G. Shriver. 2003. Spatial dynamics of source-sink habitats: effects on rare grassland birds. Journal of Wildlife Management 67(3):588-599.

[20]Pranty, B. and J.W. Tucker, Jr. 2006. Ecology and management of the Florida grasshopper sparrow. Pp. 188-200 *In* R.F. Noss, Ed. Land of Fire and Water: The Florida Dry Prairie Ecosystem. Proceedings of the Florida Dry Prairie Conference, Sebring, Florida, 2004. E.O. Painter Printing Co., DeLeon, Florida.

[21]Rodgers, J.A., H.W. Kale II and H.T. Smith, editors. 1992. “Rare and Endangered Biota of Florida Volume V. Birds”. University Press of Florida.

[22]Shriver, W.G., and P.D. Vickery. 1999. Aerial assessment of potential Florida grasshopper sparrow habitat: conservation in a fragmented landscape. Florida Field Naturalist 27(1):1-36.

[23]Tucker, J.W., Jr., and R. Bowman. 2006. Characteristics of Florida grasshopper sparrow habitat across a gradient of population abundance and persistence at Avon Park Air Force Range. Pp. 203-210 *In* R.F. Noss, Ed. Land of Fire and Water: The Florida Dry Prairie Ecosystem. Proceedings of the Florida Dry Prairie Conference, Sebring, Florida, 2004. E.O. Painter Printing Co., DeLeon, Florida.

[24]U.S. Geological Survey (USGS) Topographic Quadrangle Maps. Online resources available from http://topomaps.usgs.gov/.

[25]U.S. Fish and Wildlife Service. 1999. South Florida Multi-Species Recovery Plan. Southeast Region; Atlanta, Georgia.

[26]U.S Fish and Wildlife Service. 2004. Draft Species Conservation Guidelines, South Florida, Florida Grasshopper Sparrow. South Florida Ecological Services Office, Vero Beach, Florida.

[27]Vickery, P.D. 1996. Grasshopper Sparrow (*Ammodramus savannarum*). Pp. 1-24 *In* A. Poole and F. Gill, Eds. The Birds of North America, No. 239. The Academy of Natural Sciences, Philadelphia, PA, and the American Ornithologists' Union, Washington, D.C.

[28]Vickery, P.D., and W.G. Shriver. 1996. Habitat selection of the Florida grasshopper sparrow. Final report to the U.S. Fish and Wildlife Service;

Attachment C

Florida Scrub-Jay Survey Details for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-5-32-01: SR 70 from CR 29 to Lonesome Island Rd

451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.

The Florida Department of Transportation (FDOT), District One is conducting a Project Development and Environment (PD&E) study for the proposed improvements to State Road (SR) 70 in DeSoto County. The proposed improvements include the widening of SR 70 from a two-lane undivided facility to a four-lane divided facility and operational improvements from west of SR 31 (mile post [MP] 14.973) to SE Highlands County Line Road (MP 31.763). The total project extends 16.7 miles in length.

The proposed project is located within the United States Fish and Wildlife Service (USFWS) consultation area for the Florida scrub-jay (*Aphelocoma coerulescens*). Florida scrub-jays were listed as a threatened species by the USFWS in 1987 and receive protection under the Endangered Species Act 16 U.S.C. § 1531-1544, Florida's Endangered and Threatened Species Rule 68A-27 F.A.C., and the Migratory Bird Treaty Act 16 U.S.C. §§ 703-712.

Methodology

A desktop review was conducted to assess the suitable Florida scrub-jay habitat within the stormwater management ponds and floodplain compensation sites. Additionally, a pedestrian survey was conducted by qualified biologists on February 18, 2025. The USFWS Species Conservation Guidelines for the Florida Scrub-jay dated May 28, 2004, was consulted during the desktop review, which includes the Florida Scrub-jay Survey Protocol dated June 28, 2004 (Appendix A). In addition to these guidelines, the USFWS Scrub-jay Survey Guidelines dated August 24, 2007, was consulted. The following Florida Land Use and Cover Classification System (FLUCCS) habitat types are considered to be potentially suitable for the species: 2100 (Cropland and Pastureland), 2200 (Tree Crops), 3100 (Herbaceous (Dry Prairie)) 3200 (Shrub and Brushland), 3300 (Mixed Rangeland), 4100 (Upland Coniferous Forests), 4200 (Upland Hardwood Forests), 4400 (Tree Plantations), and 7400 (Disturbed Land). Refer to **Table 1** and **Appendix A** for the mapped habitat types that are present within the pond sites that could support the species.

Table 1: Potential Suitable Habitat Areas for the Florida Scrub-Jay within the Pond Sites

Pond Site	FLUCCS Habitat Type & Code	Acres	Coordinates
SMF 0904A	4110: Pine Flatwoods	11.35	27.2099446, -81.7628952
LP-4236L	4110: Pine Flatwoods	1.75	27.2092167, -81.7630228
FPC 1002B	3100: Herbaceous (Dry Prairie)	7.00	27.2083913, -81.7284517
LP-4311-R	3100: Herbaceous (Dry Prairie)	0.05	27.2090967, -81.7284592
FPC 1004C	3300: Mixed Rangeland	0.29	27.2124486, -81.6754170
SMF 1005B	3300: Mixed Rangeland	4.12	27.2105022, -81.6729782
FPC 1005A	3300: Mixed Rangeland	20.95	27.2126128, -81.6719933
LP-4516L	3300: Mixed Rangeland	1.02	27.2100332, -81.6698828

Pond Site	FLUCCS Habitat Type & Code	Acres	Coordinates
SMF 1005A	3300: Mixed Rangeland	1.61	27.2107367, -81.6674909
FPC 1005B	3300: Mixed Rangeland	29.25	27.2121907, -81.6667874
FPC 1005C	3300: Mixed Rangeland	22.22	27.2152626, -81.6640086
	Total:	99.60	

Suitable habitat, proposed transect lines, and playback stations were identified by qualified field biologists during initial surveys on August 23, 2024, August 28, 2024, and September 10, 2024. Suitable habitat was defined as those areas that contain scrub oaks since the presence of scrub oaks is a key indicator for suitable scrub habitat (USFWS, 2004). Scrub oaks consist of myrtle oak (*Quercus myrtifolia*), sand live oak (*Q. geminate*), Chapman's oak (*Q. chapmanii*), and Florida scrub oak (*Q. inopina*) (FNAI, 2010). All identified areas were observed to be Type II Florida scrub-jay habitat, defined as "any plant community, not meeting the definition of Type I habitat, in which one or more scrub oak species is represented" (USFWS, 2004).

The desktop review identified 11 pond sites with potentially suitable habitat. These areas were investigated during the initial surveys where 7 areas were identified as having suitable habitat as seen in Table 2.

Table 2: Evaluation of Potential Florida Scrub-Jay Suitable Habitat Areas within the Pond Sites and Decision to Survey

Pond Site	FLUCCS Habitat Type & Code	Notes	Acres	Coordinates	Survey Recommended (Y/N)
SMF 0904A	4110: Pine Flatwoods	**Identified as Type II habitat:** Pine flatwoods dominated by saw palmetto (*Serenoa repens*) with open areas and little scrub vegetation.	11.35	27.2100299, -81. 7630789	Y Playback Station 1
LP-4236L	4110: Pine Flatwoods	**Identified as Type II habitat:** Pine flatwoods dominated by saw palmetto (*Serenoa repens*) with open areas and little scrub vegetation.	1.75	27.2092376, -81.7631882	Y
FPC 1002B	3100: Herbaceous (Dry Prairie)	**Not suitable habitat:** No scrub vegetation, groundcover made up of non-scrub grass sp.	N/A	27.2079316, -81.7282925	N

Pond Site	FLUCCS Habitat Type & Code	Notes	Acres	Coordinates	Survey Recommended (Y/N)
LP-4311-R	3100: Herbaceous (Dry Prairie)	**Not suitable habitat:** No scrub vegetation, dominated by large oaks, groundcover made up of non-scrub grass sp.	N/A	27.2089490, -81.7286136	N
FPC 1004C	3300: Mixed Rangeland	**Identified as Type II habitat:** Dominated by saw palmetto (*Serenoa repens*) with open areas and little scrub vegetation.	0.29	27.2117402, -81.6745688	Y
SMF 1005B	3300: Mixed Rangeland	**Identified as Type II habitat:** Dominated by saw palmetto (*Serenoa repens*) with open areas and little scrub vegetation.	4.12	27.2105326, -81.6727437	Y
FPC 1005A	3300: Mixed Rangeland	**Identified as Type II habitat:** Sandy soils and scrub vegetation present.	20.95	27.2114123, -81.6714268	Y Playback Stations 2, 3, 4
LP-4516L	3300: Mixed Rangeland	**Not suitable habitat:** No scrub vegetation, groundcover made up of non-scrub grass sp.	N/A	27.2101064, -81.6629517	N
SMF 1005A	3300: Mixed Rangeland	**Not suitable habitat:** No scrub vegetation, dominated by large oaks, groundcover made up of non-scrub grass sp.	N/A	27.2111173, -81.6681974	N
FPC 1005B	3300: Mixed Rangeland	**Identified as Type II habitat:** Dominated by saw palmetto (*Serenoa repens*) with open areas and little scrub vegetation	29.25	27.2119369, -81.6651101	Y Playback Stations 5, 6
FPC 1005C	3300: Mixed Rangeland	**Identified as Type II habitat:** Pine flatwoods dominated by saw palmetto (*Serenoa repens*) with open areas and little scrub vegetation.	22.22	27.2151718, -81.6627222	Y Playback Stations 7, 8, 9, 10

Based on the desktop review, a total of seven (7) pond sites (SMF 0904A, LP-4236L, FPC 1004C, SMF 1005B, FPC 1005A, FPC 1005B, FPC 1005C) would require a Florida scrub-jay survey to determine the presence or absence of the species. Eleven (11) playback stations were placed along nine (9) transects across the seven (7) pond sites where suitable habitat is located. The ten (10) playback stations and eleven (11) transects were placed no more than 200 meters apart within suitable habitat to ensure that all suitable habitat would be sampled. See **Attachment I** for the Project Location and Survey maps.

Qualified biologists will conduct the survey, beginning one hour after sunrise and terminating before mid-day heat or wind. Florida scrub-jay surveys will be conducted during the spring (March and April) of 2025 based on the proposed project activities, the desktop review, and initial surveys. This survey date falls within the USFWS designated survey period (USFWS, 2004). The surveys will be conducted for five (5) consecutive days, with each of the eleven (11) playback stations being surveyed during each of the five (5) days. At each station, a qualified biologist will broadcast Florida scrub-jay calls obtained from the Cornell Lab of Ornithology for at least one minute in each cardinal direction (Cornell Lab of Ornithology, 2022). The following information will be recorded: the start and end times of each survey; weather conditions, including average temperature, wind speed and direction, visibility, and precipitation; Florida scrub-jay observations, including number observed, age (adult or juvenile), direction of movement, behaviors, presence of Florida scrub-jay predators (e.g., Swallow-tailed kite (*Elanoides forficatus*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), and copper's hawk (*Accipiter cooperii*) (Korosy, 2020), etc.); and other important observations (i.e., other endangered species, avian predators, etc.).

SMF 0904A, Playback Station 1
Playback Station 1 was placed at 27.2100262, -81.7630763, approximately 395 feet northwest of NE Mahon Avenue near the intersection of NE Mahon Avenue and Mahon Avenue within SMF 0904A. Survey data for LP-4236L is included within this Playback Station as the suitable habitat within the site is within 200 meters of this Playback Station. The surrounding habitat includes upland coniferous forests (FLUCCS 4110).

FPC 1005A, Playback Station 2
Playback Station 2 was placed at 27.2109726, -81.6731798, approximately 523 feet north of SR 70 near the intersection of NE 4 Mile Grade within FPC 1005A. Survey data for FPC 1004C is included within this Playback Station as the suitable habitat within the site is within 200 meters of this Playback Station. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005A, Playback Station 3
Playback Station 3 was placed at 27.2109902, -81.6716265, approximately 664 feet northwest of the intersection of SR 70 and the Florida Corrections Academy within FPC 1005A. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005A, Playback Station 4
Playback Station 4 was placed at 27.2111413, -81.6696457, approximately 615 feet northeast of the intersection of SR 70 and the Florida Corrections Academy within FPC 1005A. Survey data for SMF 1005A is included within this Playback Station as the suitable habitat within the site is

within 200 meters of this Playback Station. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005B, Playback Station 5
Playback Station 5 was placed at 27.2103660, -81.6647248, approximately 308 feet northeast of the intersection of SR 70 and a road leading to the Desoto Annex Correctional Institution within FPC 1005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005B, Playback Station 6
Playback Station 6 was placed at 27.2119514, -81.6651212, approximately 842 feet north of the intersection of SR 70 and a road leading to the Desoto Annex Correctional Institution within FPC 1005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005C, Playback Station 7
Playback Station 7 was placed at 27.2128146, -81.6620738, approximately 1,154 feet northeast of the intersection of SR 70 and a road leading to the Desoto Annex Correctional Institution within FPC 1005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005C, Playback Station 8
Playback Station 8 was placed at 27.2145470, -81.66213370, approximately 1,779 feet northeast of the intersection of SR 70 and a road leading to the Desoto Annex Correctional Institution within FPC 1005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005C, Playback Station 9
Playback Station 9 was placed at 27.2139183, -81.6636788, approximately 1,519 feet northwest of the intersection of SR 70 and a road leading to the DeSoto Annex Correctional Institution within FPC 10005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005C, Playback Station 10
Playback Station 10 was placed at 27.2154755, -81.6636406, approximately 2,171 feet northwest of the intersection of SR 70 and a road leading to the Desoto Annex Correctional Institution within FPC 1005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

FPC 1005C, Playback Station 11
Playback Station 11 was placed at 27.2156944, -81.6654062, approximately 2,194 feet north of the intersection of SR 70 and a road leading to the Desoto Annex Correctional Institution within FPC 1005B. The surrounding habitat includes mixed rangeland (FLUCCS 3300).

Appendix A
Photo Documentation

Figure 1. Area 1, no suitable habitat; pasture grasses with live oaks

Figure 2. Area 1, west orientation, pasture with stand of laurel oaks in background

Figure 3. Area 2, pasture grasses with live oaks in background

Figure 4. Area 2, northwest orientation, mesic pasture with rushes and broomsedge, cabbage palm and laurel oaks in background

Figure 5. Area 3, northwest orientation, ruderal shrubs with ornamental trees in background

Figure 6. Area 3, northwest orientation, ruderal shrubs including Peruvian primrosewillow

Figure 7. Area 4, southwest orientation, predominantly sweetgum canopy

Figure 8. Area 4, west orientation, shrub wetland with sweetgum canopy in background

Figure 9. Area 5, southeast orientation, ruderal pasture with tree crops (possibly citrus) in background

Figure 10. Area 5, northwest orientation, excavated pond with laurel oak along embankment and road

Figure 11. Area 6, southeast orientation, pasture with live oaks

Figure 12. Area 6, east orientation, live oaks

Figure 13. Area 7, southwest orientation, ruderal pasture with laurel oaks and other canopy in background

Figure 14. Area 7, southeast orientation, pasture with red maple in background

Figure 15. Area 8, south orientation, mapped citrus groves is now a pasture, tree line on east side along dirt road

Attachment D

Florida Bonneted Bat & Tricolored Bat Survey Details for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29
and SR 70 from CR 29 to Lonesome Island Rd

451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.

This technical memorandum provides a summary of the proposed survey methodology to determine the potential for the presence of the federally endangered Florida bonneted bat (*Eumops floridanus*) and the federally proposed endangered tricolored bat (*Perimyotis subflavus*) within the proposed project limits of the SR 70 from W of SR 31 to SE Highlands County Line Rd. (**Figure 1**). The project is located within the U.S. Fish and Wildlife Service (USFWS) Consultation Area for the Florida bonneted bat and within the range for the tricolored bat. The Florida bonneted bat was federally designated as an endangered species by the USFWS in 2013 (78 Federal Register 61003 61043) and is protected by the Endangered Species Act, as amended (16 U.S. Code (U.S.C.) 1531-1544, 87 Stat. 884). Based on the availability of potential roosting and foraging habitat and the project's size being greater than five acres, a species-specific Florida bonneted bat acoustic survey was determined to be necessary for this project. The tricolored bat was proposed for listing as an endangered species in 2022 (87 Federal Register 56381 56393). Although not yet listed, due to the project's location in the tricolored bat range, results of the acoustic survey will be analyzed for the presence of tricolored bats in addition to Florida bonneted bats.

Preliminary Data Collection

A comprehensive literature and Geographic Information System (GIS) database search was conducted for the project area to determine if the Florida bonneted bat and/or tricolored bat was previously documented within the project limits and if suitable roosting or foraging habitat was available. The literature and database search included the following: 2020 Southwest Florida Water Management District (SWFWMD) Land Use Land Cover spatial data, 2023 USFWS National Wetlands Inventory spatial data, 2024 USFWS Florida Bonneted Bat Consultation Guidelines, 2024 USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines, species-specific spatial data (i.e., range, critical habitat, etc.), and current aerial imagery. Based on this preliminary protected species data collection effort, Florida bonneted bat and tricolored bat findings include the following:

- The project falls within the USFWS Florida bonneted bat Consultation Area (CA);
- The project does not fall within a USFWS Florida bonneted bat assumed presence polygon;
- The project does not fall within a USFWS Florida bonneted bat Critical Habitat (CH) polygon,
- The project falls within the USFWS range for the tricolored bat; and
- Potentially suitable foraging and roosting habitat was identified within the project boundary for both species.

Proposed Field Survey Methodology

The acoustic survey methodology outlined in the 2024 USFWS Florida Bonneted Bat Consultation Guidelines (USFWS 2024) for linear projects that contain potential roosting and foraging habitat will be followed for the Florida bonneted bat. While the 2024 USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines Appendix J Guidance for Surveying Year-Round Active Northern Long-eared Bats (USFWS 2024) is currently approved for use for the tricolored bat for FDOT by the USFWS, the survey requirements are generally less stringent than those required for the Florida bonneted bat. As a result, minimum requirements of the 2024 USFWS Florida Bonneted Bat Consultation Guidelines for linear projects will be adhered to. Survey results for the tricolored bat are valid only if conducted between March 1 and October 15. Based on the guidelines, the SR 70 project mainline, and ponds will require surveys for a minimum of 9 detector nights per 0.6 miles. A total of 37 acoustic

monitoring stations were developed based on the guidelines, project length (approximately 16.7 miles), and evaluation of habitat within the project area. The proposed 37 acoustic monitoring station locations are depicted in the attached figure (**Figure 2**).

To maximize the detection of Florida bonneted and tricolored bats, each monitoring station will be placed in an area that could be used as a potential flight path for the bat species. This includes targeting areas which may provide potential roosting or foraging habitat such as a cluster of pine trees, a section of cypress swamp/dome, an area with snags, or a water feature. At each monitoring station, a Wildlife Acoustics Song Meter SM4BAT Full Spectrum (FS) acoustic detector will be deployed by qualified biologists who are trained and experienced in setting up, operating, and maintaining bat acoustic detection equipment. The detectors will be set to record 15-second file lengths and have a two-second trigger window based on training received from industry experts and the current 2024 USFWS Florida Bonneted Bat Consultation Guidelines. Each detector will be set to automatically begin collecting data continuously from 30 minutes before sunset to 30 minutes after sunrise for 9 consecutive nights at each station. If any of the following weather conditions exist during acoustic sampling, the time and duration will be noted and the acoustic sampling effort for that night repeated:

- Temperatures fall below 60°F during the first five (5) hours of the survey period;
- Precipitation, including rain and/or fog, that exceeds 30 minutes or continues intermittently during the first five (5) hours of the survey period; or
- Sustained wind speeds greater than nine (9) miles per hour for 30 minutes or more during the first five (5) hours of the survey period.

Per the 2024 guidelines, should it take longer than 14 days to attain the 9 valid nights, the Florida bonneted bat recovery lead will be contacted.

At each monitoring station, an omnidirectional Wildlife Acoustic SMM-U2 External Ultrasonic Microphone, placed on an extendable pole approximately 10 feet in height, will be deployed. A minimum distance of 300 meters will be maintained between deployed detectors. The microphone will be situated in an area clear of vegetation two (2) meters in all directions and be fully free of vegetative or other clutter from ground to sky. Microphones will be directed away surrounding vegetation, from electrical wires and transmission lines, echo-producing surfaces including open water, and away from potential external noise sources. Metadata for each detector, consistent with the Acoustic Detector Deployment Example Data Sheet included in the 2024 USFWS Florida Bonneted Bat Consultation Guidelines, will be documented.

The Waveform Audio (WAV) files recorded at each monitoring station will be analyzed using Wildlife Acoustics Kaleidoscope Pro's latest version. The auto-identification parameters utilized via Kaleidoscope Pro include Bats of North America, region Florida, and the sensitivity setting utilized will be zero balanced (neutral). The species to be selected in the auto identification classifier include: big brown bat (*Eptesicus fuscus*), Florida bonneted bat, eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), northern yellow bat (*Lasiurus intermedius*), Seminole bat (*Lasiurus seminolus*), southeastern myotis (*Myotis austroriparius*), northern myotis (*Myotis septentrionalis*), evening bat (*Nycticeius humeralis*), tricolored bat, silverhaired bat (*Lasionycteris noctivagans*), velvety free-tailed bat (*Molossus molossus*), gray myotis (*Myotis grisescens*), and Brazilian free-tailed bat (*Tadarida brasiliensis*).

The bat acoustic data will be retrieved, saved, analyzed, and interpreted by experienced qualified biologists who have taken one or more bat acoustic courses/workshops and who have also previously

reviewed Florida bonneted bat and tricolored bat echolocations using Kaleidoscope Pro. All echolocations auto identified by Kaleidoscope Pro as being created by a Florida bonneted bat or tricolored bat will be visually reviewed and manually verified by experienced biologists. The parameters used to manually verify a sequence of echolocations as coming from a Florida bonneted bat include the following:

- Whether the characteristic frequency of echolocations fall within the documented range (10-25 kilohertz [kHz]) for the Florida bonneted bat,
- Whether there are three (3) or more echolocations where the time between echolocations remains consistent across the sequence of echolocations,
- Whether the minimum frequency remains consistent across the sequence of echolocations,
- Whether the slope and bandwidth remains consistent from echolocation to echolocation, and
- Whether there is good signal to noise ratio as evidenced by a crisp, clean oscillogram.

If a series of echolocations only meet some of these requirements, and they are within the characteristic frequency of the Florida bonneted bat, these echolocations will be classified as potentially coming from a Florida bonneted bat. The WAV files not assigned an auto identification and classified by Kaleidoscope Pro as "No ID" with signatures at or below 30 kHz will also manually reviewed to determine if they were misclassified and could contain Florida bonneted bat echolocations.

The parameters used to manually verify a sequence of echolocations as coming from a tricolored bat include the following:

- Whether the characteristic frequency of echolocations fall within the documented range (40-60 kHz with the call bottom frequency between 40-45 kHz) for the tricolored bat,
- Whether there are three or more echolocations where the time between echolocations remains consistent across the sequence of echolocations,
- Whether the minimum frequency remains consistent across the sequence of echolocations,
- Whether the slope and bandwidth remains consistent from echolocation to echolocation, and
- Whether there is good signal to noise ratio as evidenced by a crisp, clean oscillogram.

If a series of echolocations only meet some of these requirements, and they are within the characteristic frequency of the tricolored bat, these echolocations will be classified as potentially coming from a tricolored bat. The WAV files not assigned an auto identification and classified by Kaleidoscope Pro as "No ID" with signatures 40-60 kHz will also manually reviewed to determine if they were misclassified and could contain tricolored bat echolocations. Per the 2024 USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines Appendix C Phase 2 Acoustic Surveys, qualitative analysis is necessary for the tricolored bat for linear projects when using an approved version of Kaleidoscope Pro if the maximum likelihood estimate (MLE) is > 0.05 for all site-nights and 10 or more passes are auto-classified as potentially belonging to tricolored bats at any site-night to reduce risk of false negatives.

The results of the Florida bonneted bat and tricolored bat call analysis will be assembled as required and uploaded into the NABat database. A report documenting the summary of the project, survey methods used, and survey results will be prepared following the survey. This will include an effect determination, explanation, and best management practices (BMPs) to be incorporated.

Attachment E

Everglade Snail Kite Survey Details for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29 and SR 70 from CR 29 to Lonesome Island Rd

451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.

The Florida Department of Transportation (FDOT), District One is conducting a Project Development and Environment (PD&E) study for proposed improvements to State Road (70) from West of SR 31 to SE Highlands County Line Road **(Figure 1)**. This study will evaluate the widening of SR 70 from a two-lane undivided facility to a four-lane divided facility, including operational improvements between west of SR 31 to SE Highlands County Line Road, extending 16.7 miles in length.

The Everglade snail kite (*Rostrhamus sociabilis plumbeus*) (SNKI) is listed as a federally endangered species by the US Fish and Wildlife Service (USFWS) on March 11, 1967, and receives protection under the Federal Endangered Species Act 16 U.S.C. §1531-1544, Florida's Endangered and Threatened Species Rule 68A-27 F.A.C., and the Migratory Bird Treaty Act 16 U.S.C. §§ 703–712. This project is within the U.S. Fish and Wildlife Service's consultation area for the SNKI. The SNKI ranges in size from approximately 14.2 to 15.4 inches and has a curved bill used to pluck snails out of their shells. Males are slate gray with red eyes and orange legs, with white streaking on the face, neck, and chest. Juvenile SNKI are similar in appearance to females but have more cinnamon or buff-colored streaks instead of white. Suitable habitat for SNKI can be characterized by the presence of shallow freshwater marshes and shallow grassy shorelines of lakes. FDOT is preparing to conduct an SNKI survey in the spring of 2025 and is requesting USFWS's approval of the proposed survey plan and observation stations.

Methodology

Potential suitable habitat for the SNKI was identified during a desktop review of the project limits and an additional 500-ft buffer from Right-Of-Way (ROW) lines was placed to account for off-site territories that may overlap the project area. For the desktop review, SNKI foraging and nesting suitable habitat is defined as those areas in wetlands that contain emergent vegetation. Dominant foraging emergent vegetation usually consists of spike rushes (*Eleocharis*), maidencane (*Panicum hemitomon*), and bulrushes (*Juncus*). Dominant nest or perching substrate and habitat include willows (*Salix caroliniana*), melaleuca (*Melaleuca quinquenervia*), or cypress (*Taxodium distichum*) (USFWS, 2004). Based on the proposed project activities, a desktop review, and initial surveys, it is recommended that a field survey should be conducted in the time frame between March to May, during the breeding season, to maximize the chances of identifying potential SNKI.

After conducting desktop reviews for the project limits, and performing on-site evaluations, 11 observation stations have been identified along the projects limits **(Table 1)**. These stations were evaluated based on National Wetlands Inventory (NWI) data for wetlands, visual inspections for emergent vegetation suitable for SNKI activity, and Cornell University's eBird observations. Although eBird observations are not scientifically collected due to them not being verified occurrence data, we understand that the USFWS has utilized this data in survey methodologies in

the past. Please see **Appendix A** for aerial maps of project and proposed observation stations. Please see **Appendix B** for on-site photographs that were taken by project scientists during field reviews of the respective observation stations **(Figures 1-15)**.

Surveys

Qualified biologists experienced in avian surveys will conduct the survey. SNKI surveying will take place weekly for approximately 4 hours per monitoring iteration, per observation station. The start date for the survey will be in March 2025, and the end date of the survey will be in May 2025. Surveying will begin at dawn and qualified biologists will survey proposed observation stations. To the extent possible, monitoring will take place from a motor vehicle utilizing both binoculars and a spotting scope, as needed.

Scientists will record any SNKI observations and their behaviors, particularly behaviors associated with breeding (e.g. defending territory, calling to mate, copulation, carrying nest materials, etc.). Biologists will also record roosting activity and roosting substrate. A visual survey of suitable habitat will be made for birds and nests. This will include checking trees along the water's edge for nests or perching birds and observing vegetation along levees and roads for nests in herbaceous vegetation. If present, apple snail egg masses will be recorded. If nest or roost sites are within the 500-ft buffer, PVC poles will be placed to mark the area indicating protected areas. Positions of the nests will be recorded and plotted on a map of the site as well as their distance from upland (USFWS, 2004). These observations will be made via an electronic field data sheet (Survey 123 app), along with an electronic flight path tracker and nest and/or roosting locations (ArcGIS Field Maps).

Table 1. Observation stations for the SNKI from West of SR 31 to SE Highlands County Line Road (FPID# 451942-1-22-01) on SR-70 with 500-foot buffer, determined using USFWS's NWI and vegetation identification.

Observation Station	Location	NWI	Emergent Vegetation and Trees
1	27.209062°N 81.824260°W	Freshwater Emergent Wetland (PEM1C)	Broomsedge (*Andropogon spp.*)
2	27.208963°N 81.804066°W	Lake (L1UBH)	Maidencane (*Panicum hemitomon*) Peruvian primrose-willow (*Ludwigia peruviana*) Cattail (*Typha spp.*) Fern (*Tracheophyta spp.*)
3	27.208821°N 81.782229°W	Freshwater Pond (PUBHx)	Peruvian primrose-willow (*Ludwigia peruviana*) Cattail (*Typha spp.*) Alligatorweed (*Alternanthera philoxeroides*) Florida willow (*Salix spp.*)
4	27.208598°N 81.759168°W	Freshwater Emergent Wetland (PEM1F)/ Lake (L1UBH)	Alligatorweed (*Alternanthera philoxeroides*) Live oak (*Quercus virginiana*)
5	27.209530°N 81.707970°W	Freshwater Emergent Wetland (PEM1A)	Maidencane (*Panicum hemitomon*) Peruvian primrose-willow (*Ludwigia peruviana*)
6	27.210744°N 81.662445°W	Riverine (R5UBFx)/ Freshwater Forested/Shrub Wetland (PFO1Cd)	Maidencane (*Panicum hemitomon*) Florida willow (*Salix spp.*)
7	27.209770°N 81.645500°W	Riverine (R2UBHx)	Cabbage palm (*Sabal palmetto*) Peruvian primrose-willow (*Ludwigia peruviana*) Jointweed (*Polygonum spp.*) Maidencane (*Panicum hemitomon*) Rush (*Juncus spp.*)
8	27.209707°N 81.631410°W	Riverine (R2UBHx)	Maidencane (*Panicum hemitomon*) Alligatorweed (*Alternanthera philoxeroides*)
9	27.209762°N 81.613807°W	Riverine (R2AB4Hx)	Maidencane (*Panicum hemitomon*) Broomsedge (*Andropogon spp.*) Alligatorweed (*Alternanthera philoxeroides*)
10	27.209633°N 81.592438°W	Riverine (R5UBFx)	Maidencane (*Panicum hemitomon*) Broomsedge (*Andropogon spp.*) Alligatorweed (*Alternanthera philoxeroides*)
11	27.209680°N 81.563009°W	Freshwater Emergent Wetland (PEM1Cd)	Florida willow (*Salix spp.*) Peruvian primrose-willow (*Ludwigia peruviana*)

References

Cornell Lab eBird. (2025) Species Maps. Retrieved from https://ebird.org/map

United States Fish and Wildlife Service (USFWS) South Florida Ecological Services. Everglade Snail Kite QUICK FACTS.

United States Fish and Wildlife Service (USFWS) South Florida Ecological Services. (May 18, 2004). Snail Kite Monitoring Protocol. Retrieved from https://ipac.ecosphere.fws.gov/guideline/survey/population/1221/office/41420.pdf

United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI). Wetlands Mapper. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper

Appendix B

- On-Site Field Review Photos conducted January-February 2025.

Figure 1. Observation Station #1

Figure 2. Observation Station #2

Figure 3. Observation Station #2

Figure 4. Observation Station #3

Figure 5. Observation Station #4

Figure 6. Observation Station #5

Figure 7. Observation Station #6

Figure 8. Observation Station #6

Figure 9. Observation Station #7

Figure 10. Observation Station #7

Figure 11. Observation Station #8

Figure 12. Observation Station #9

Figure 13. Observation Station #10

Figure 14. Observation Station #10

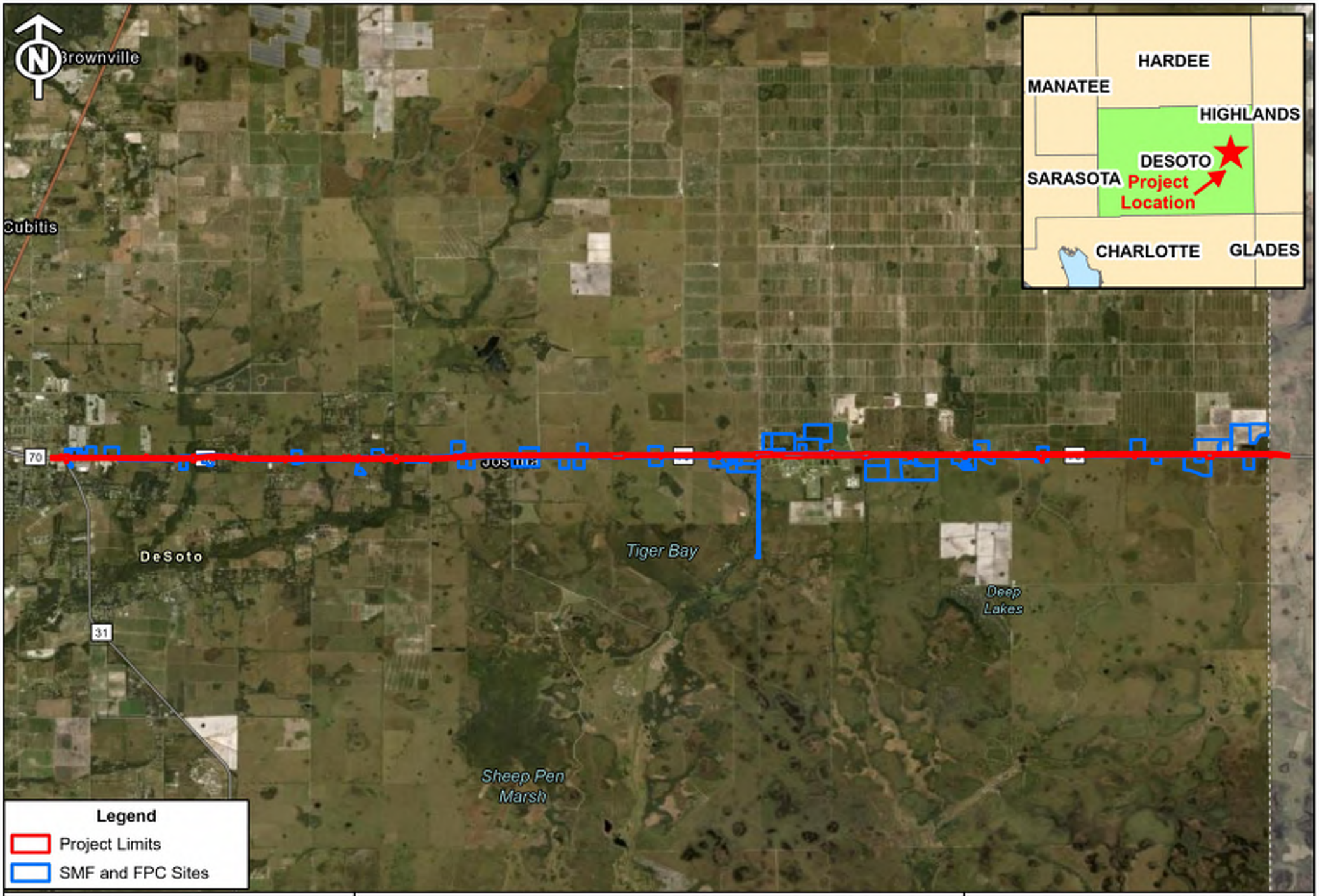
Figure 15. Observation Station #11

Attachment G

Eastern Black Rail Survey Maps
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29 and SR 70 from CR 29 to Lonesome Island Rd

Figure

Figure 1. Project Location Map

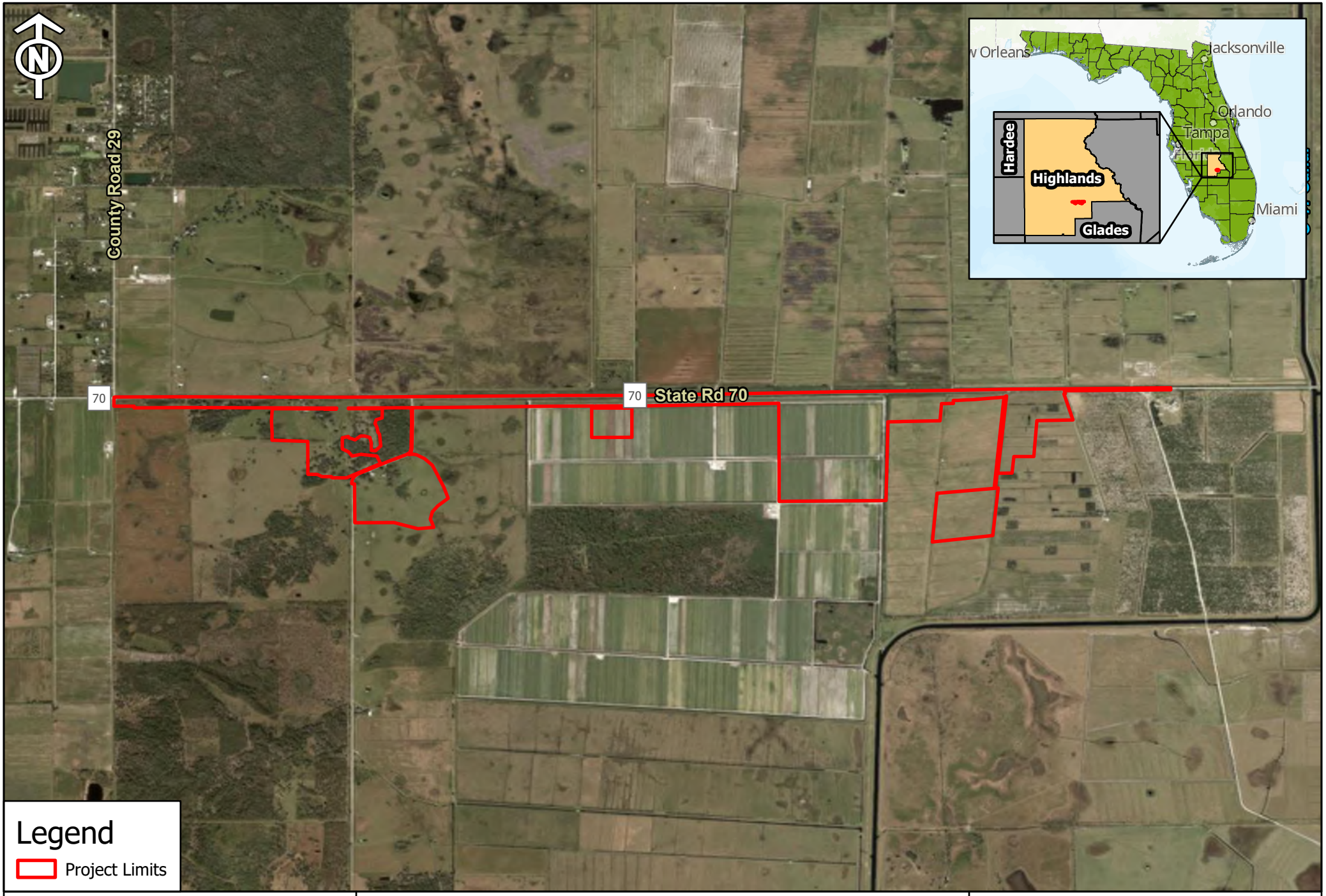


FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
Project Location Map

0 0.5 1 2 Miles

Figures



FDOT

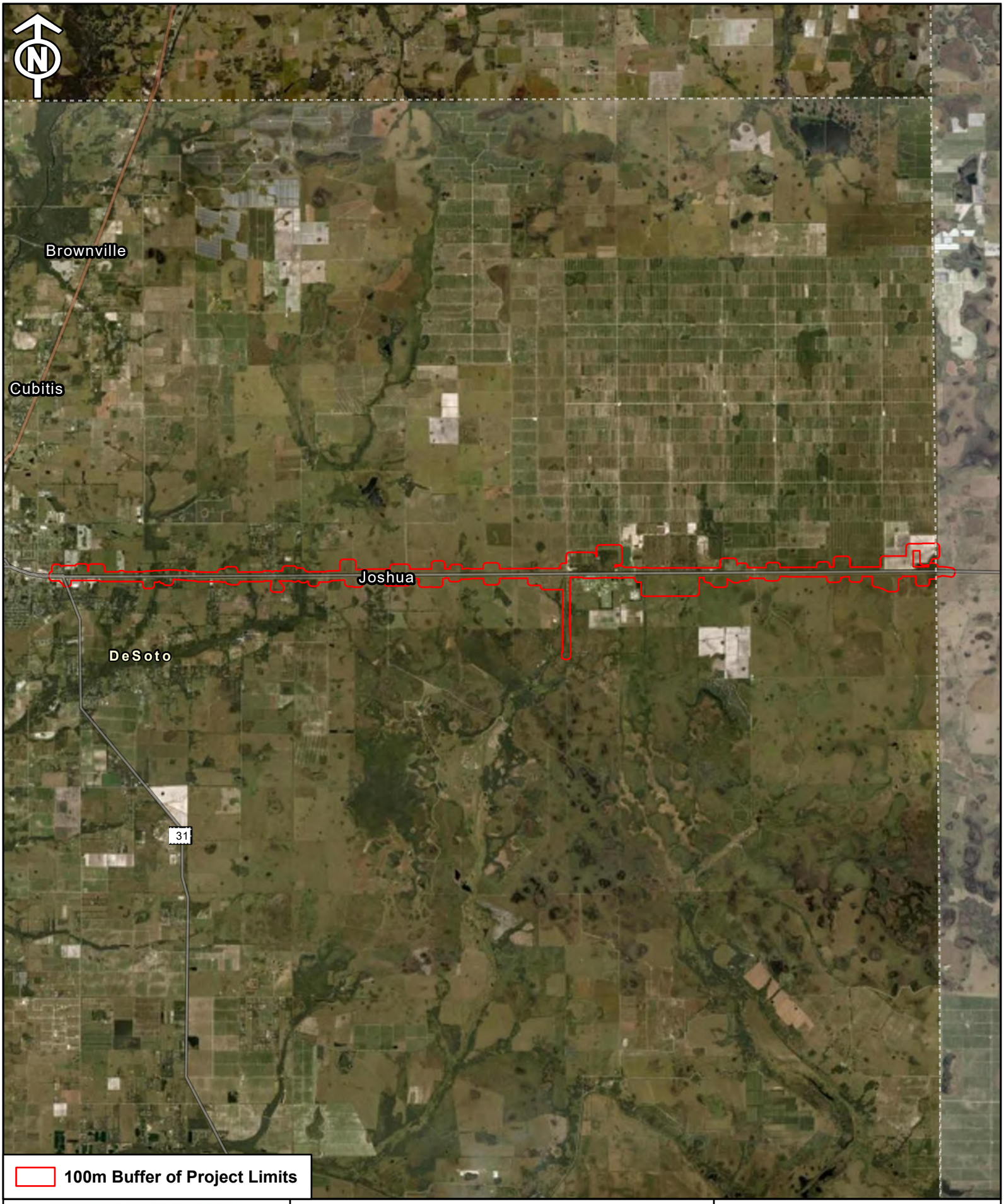
SR 70 from CR 29 to Lonesome Island Road
FPID 414506-5-32-01
Figure 1 - Project Location

0 1 Miles

Attachment H

Florida Grasshopper Sparrow Survey Maps for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29
and SR 70 from CR 29 to Lonesome Island Rd

Figure



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
LOCATION MAP

0 20,000 Feet

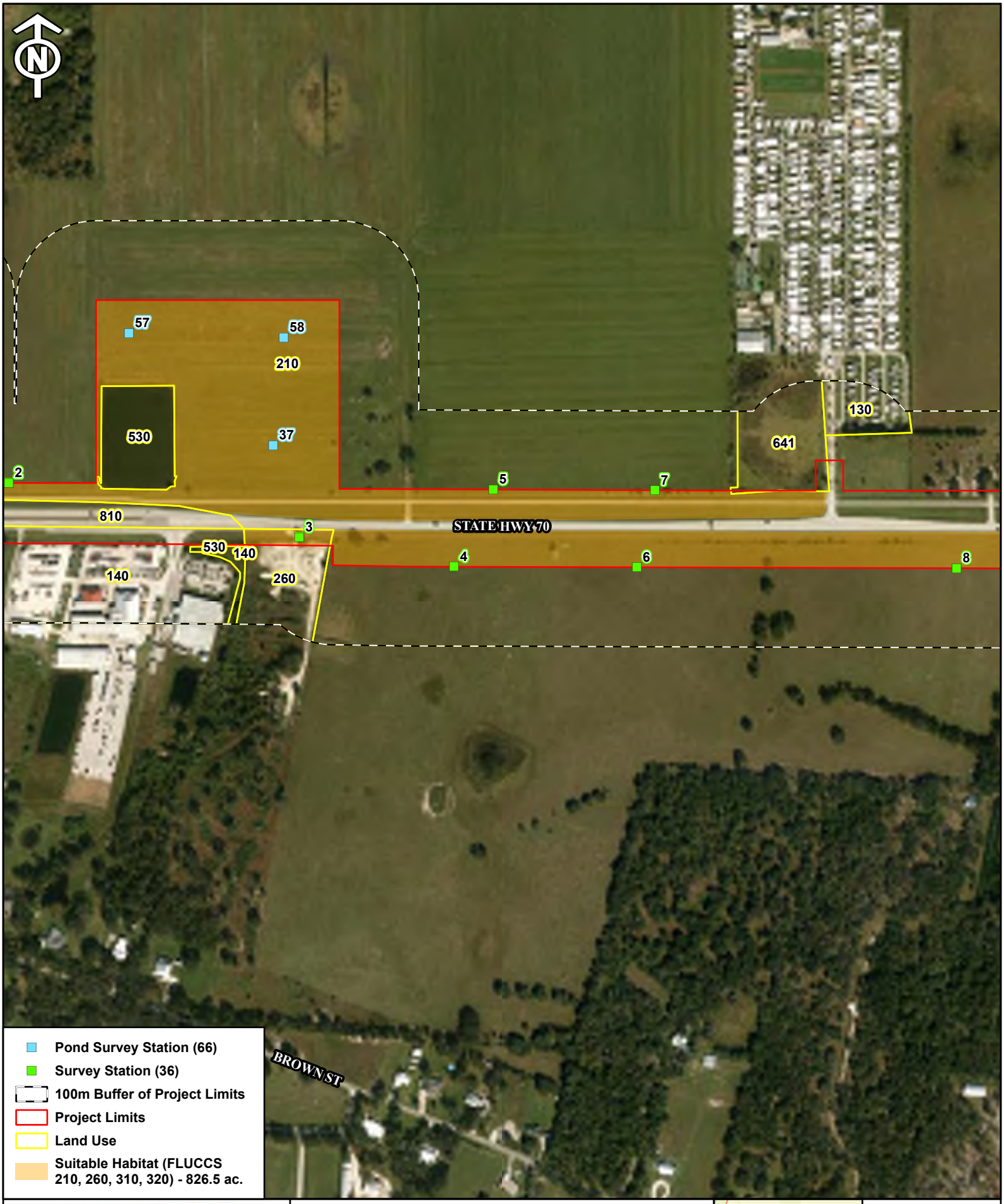
0 3,000 6,000Meters

FLUCCS CODE	FLUCCS DESCRIPTION
110	RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS PER ACRE
120	RESIDENTIAL MED DENSITY 2 TO 5 DWELLING UNITS PER ACRE
130	RESIDENTIAL HIGH DENSITY
140	COMMERCIAL AND SERVICES
150	INDUSTRIAL
170	INSTITUTIONAL
190	OPEN LAND
210	CROPLAND AND PASTURELAND
220	TREE CROPS
240	NURSERIES AND VINEYARDS
260	OTHER OPEN LANDS
310	HERBACEOUS
320	SHRUB AND BRUSHLAND
330	MIXED RANGELAND
411	PINE FLATWOODS
434	UPLAND HARDWOOD - CONIFEROUS MIX
510	STREAMS AND WATERWAYS
530	RESERVOIRS
615	STREAM AND LAKE SWAMPS (BOTTOMLAND)
630	WETLAND FORESTED MIXED
640	VEGETATED NON-FORESTED WETLANDS
641	FRESHWATER MARSHES
643	WET PRAIRIES
644	EMERGENT AQUATIC VEGETATION
740	DISTURBED
810	TRANSPORTATION

FDOT

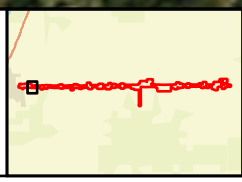
SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 1 of 26

Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 2 of 26



Feet
0 500
0 150
Meters

FDOT

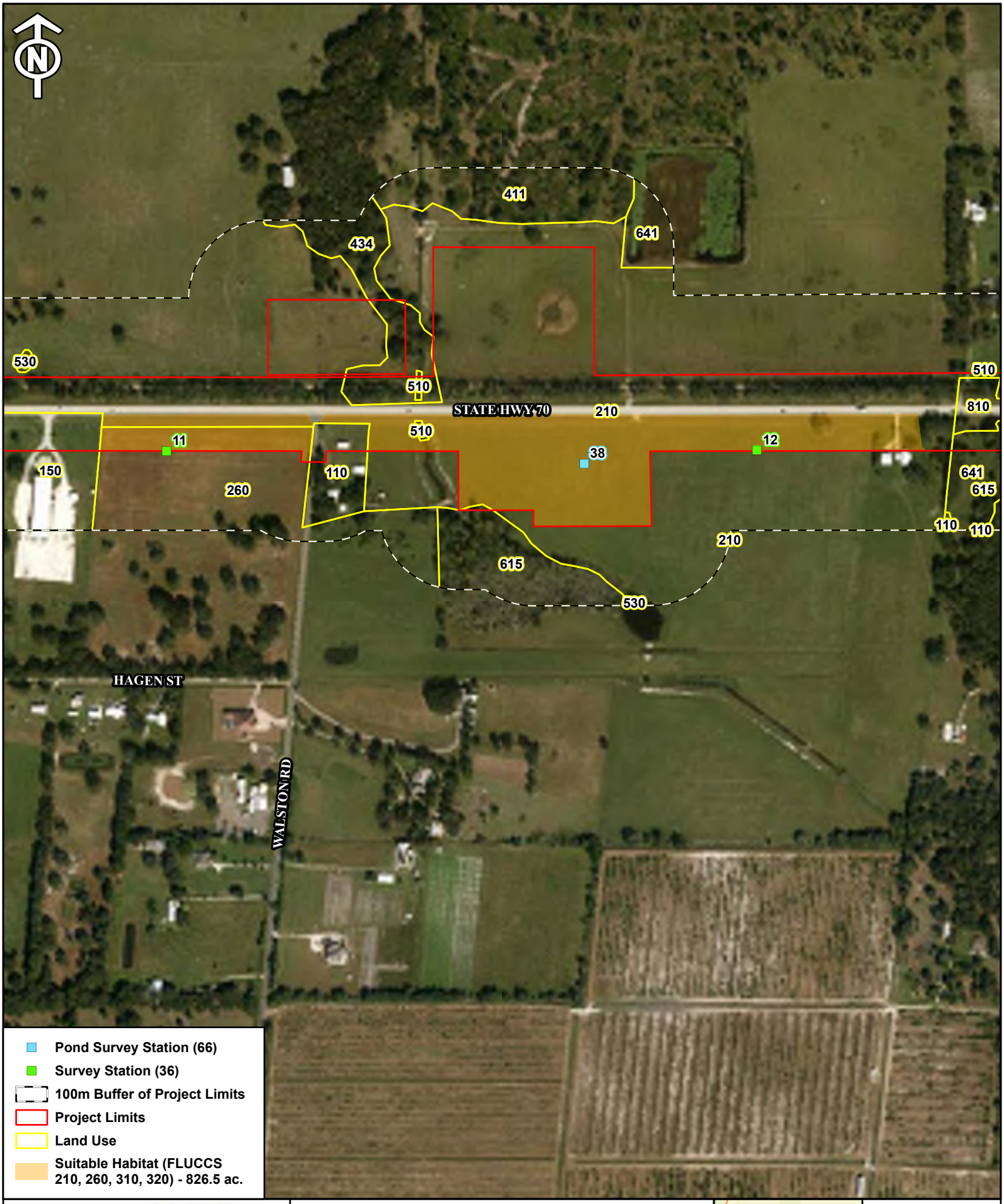
SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 3 of 26

Feet
0 500
0 150
Meters

FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 4 of 26

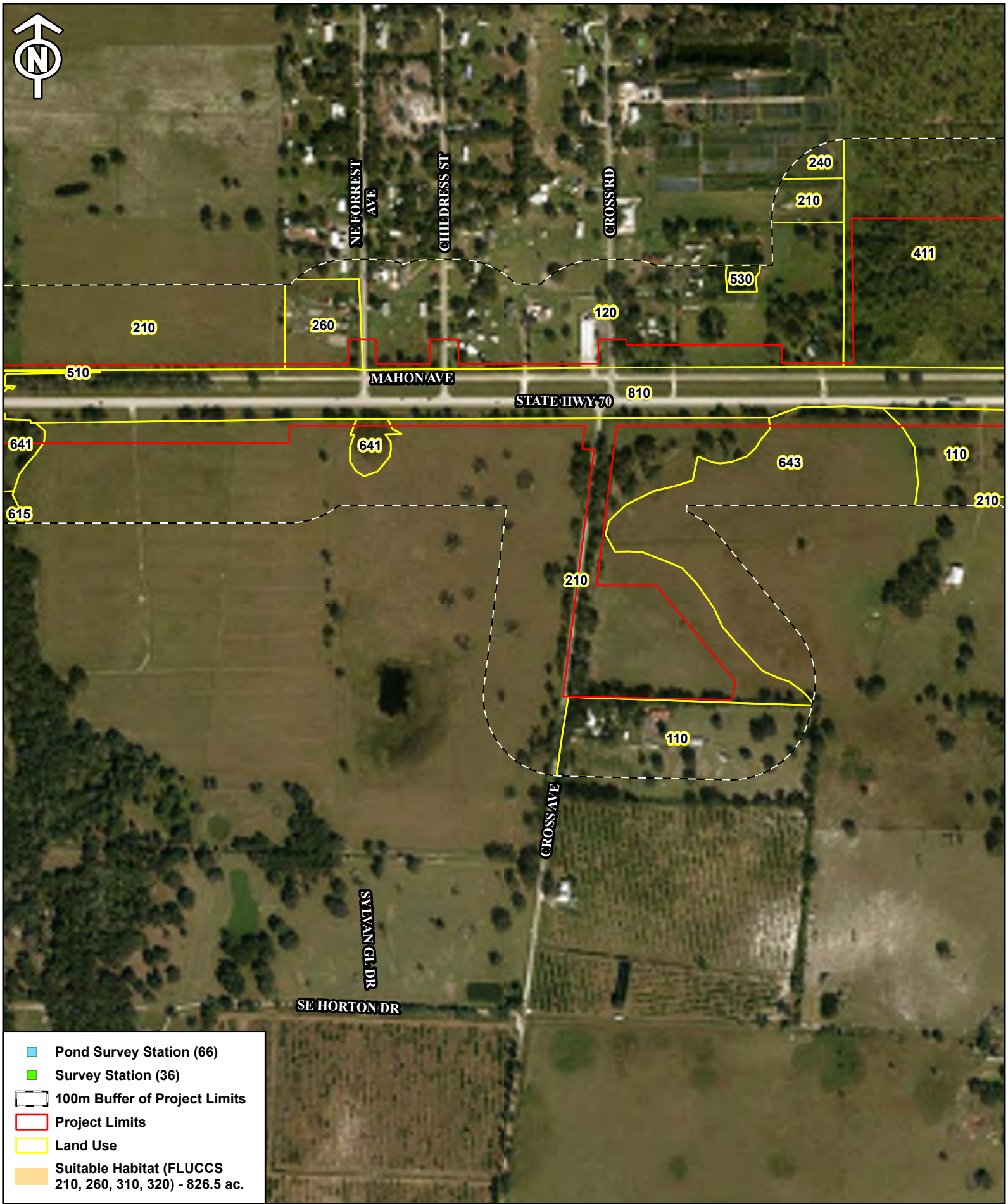
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 5 of 26

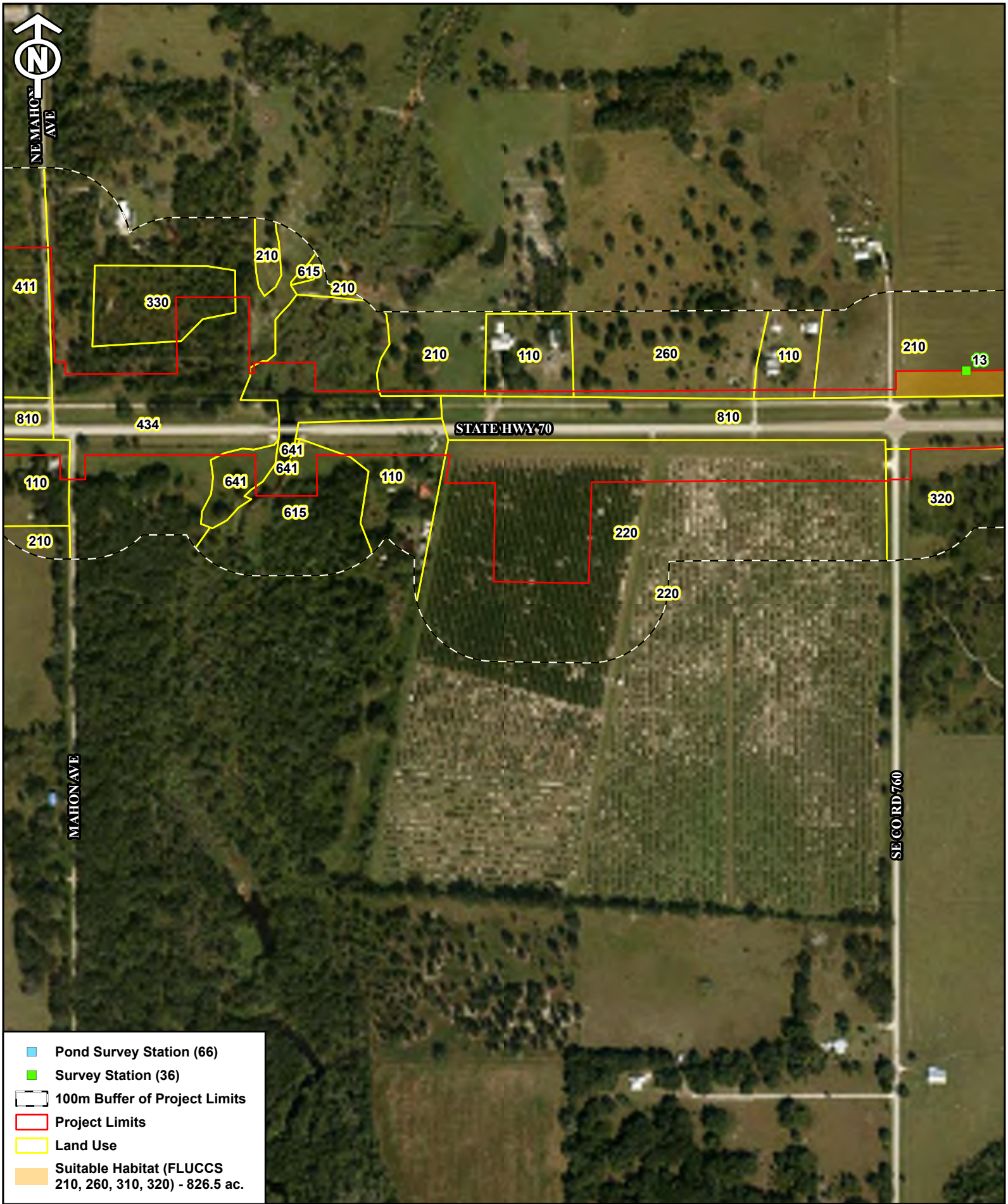
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 6 of 26

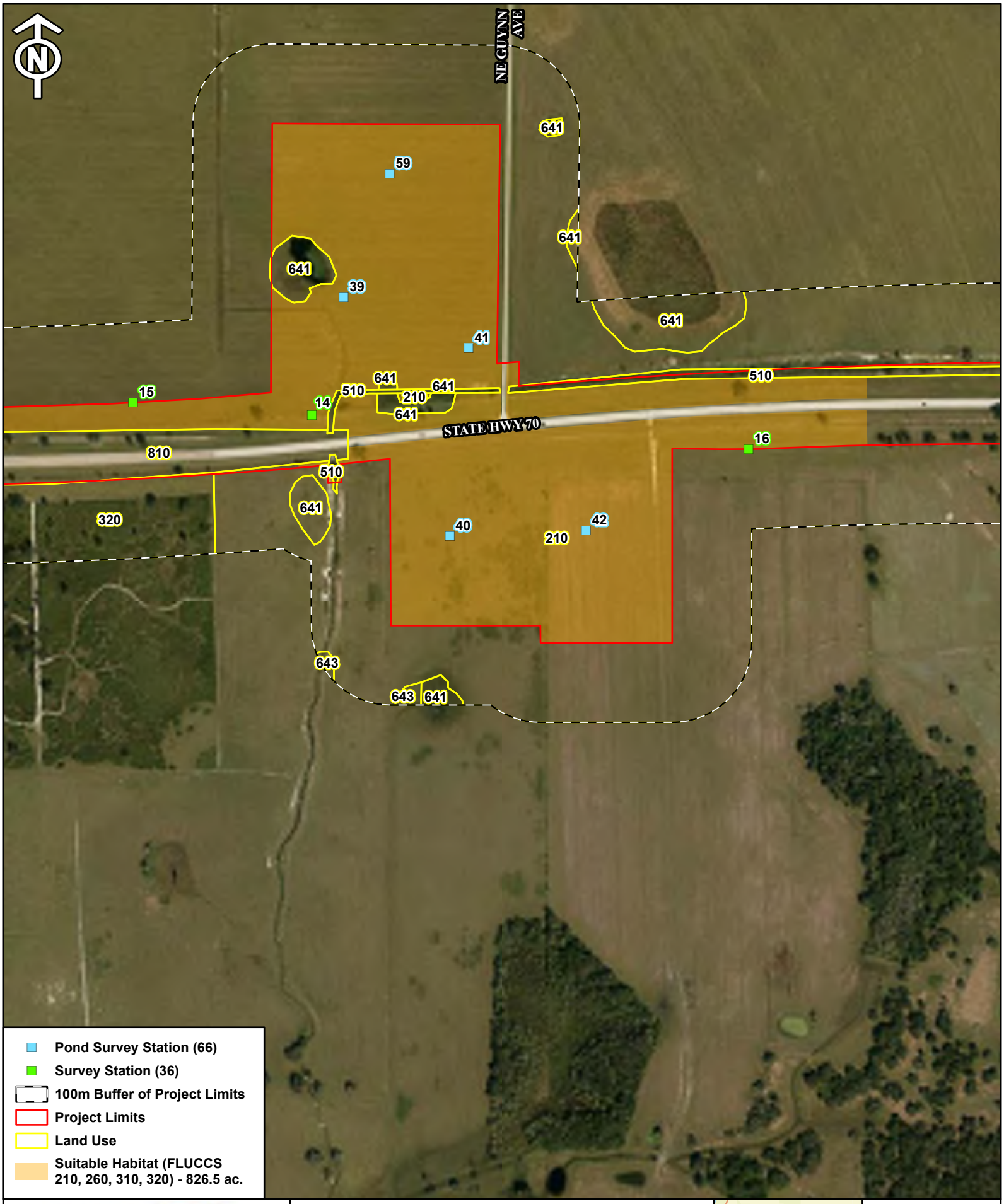
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 7 of 26

Feet
0 500
0 150
Meters



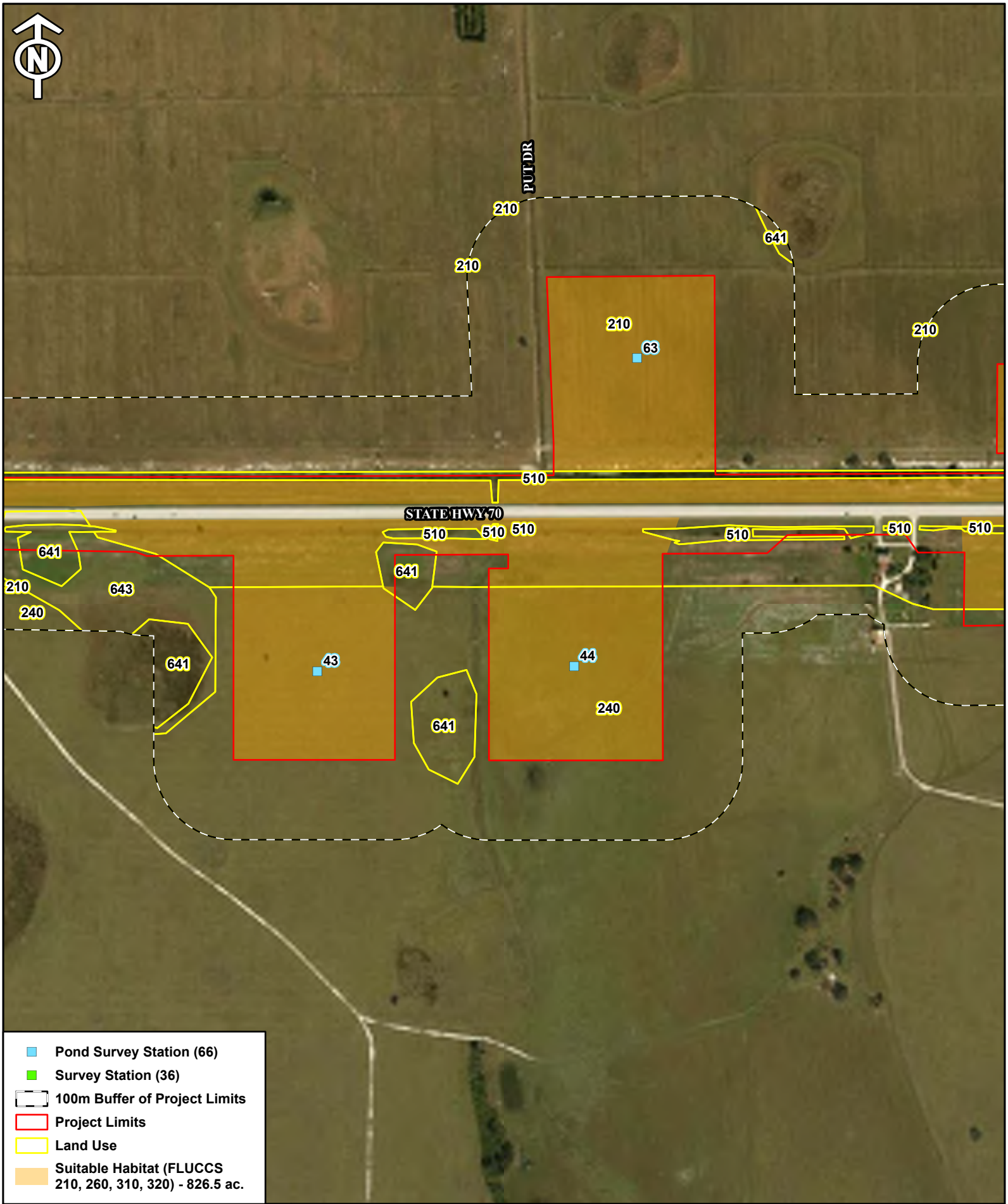
FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 8 of 26

Feet
0 500
0 150
Meters

FDOT

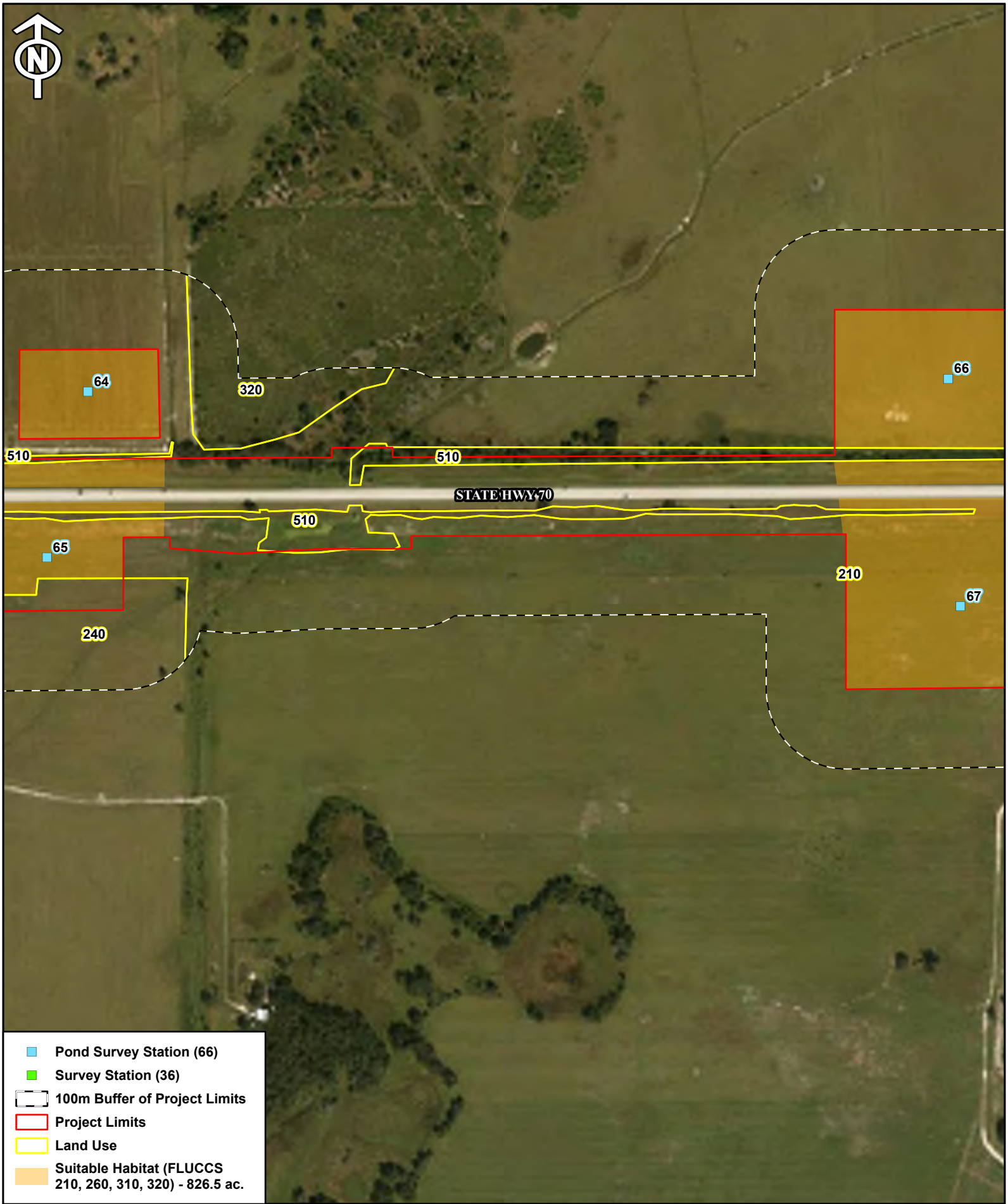
SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 9 of 26



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 10 of 26

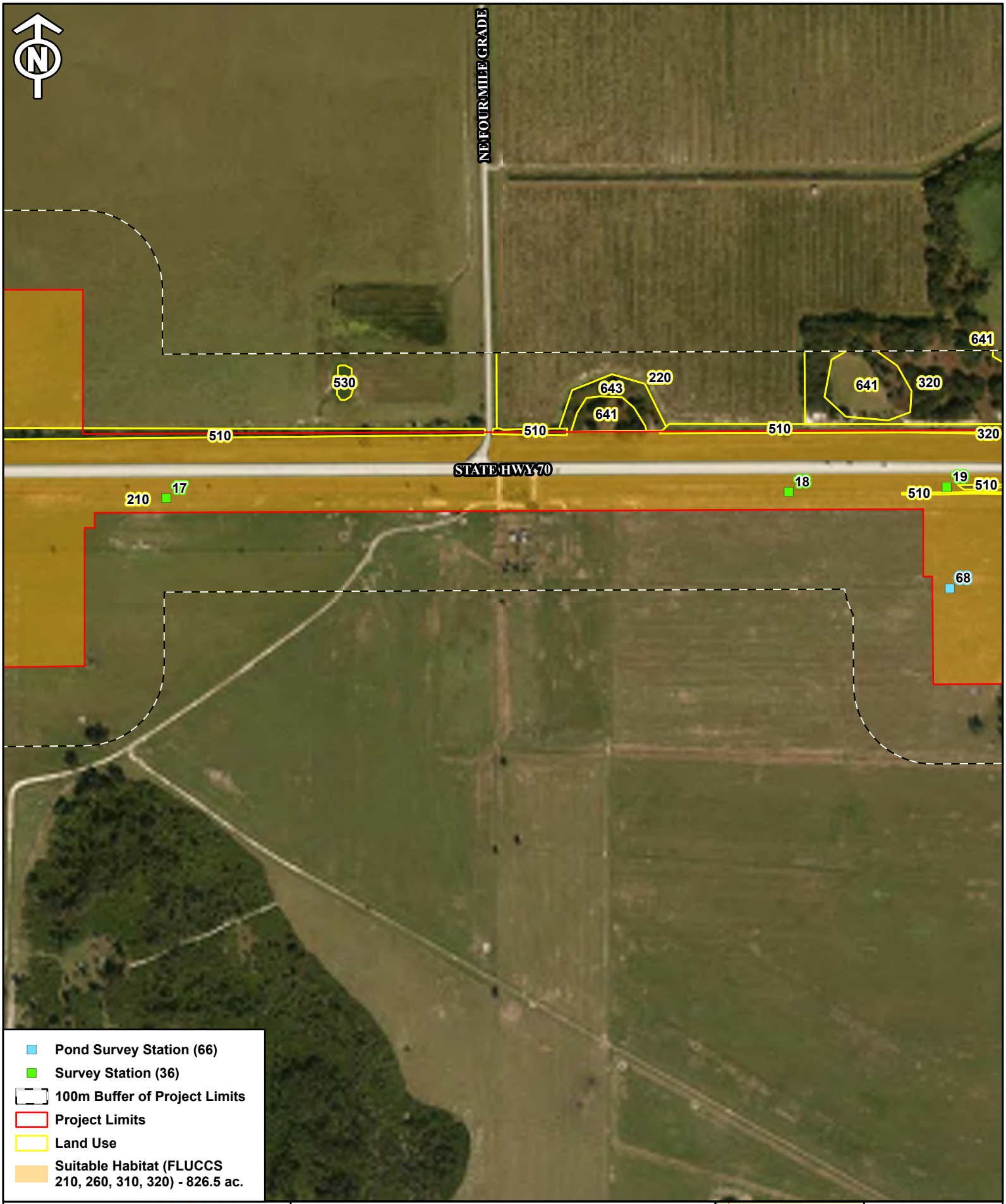
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 11 of 26

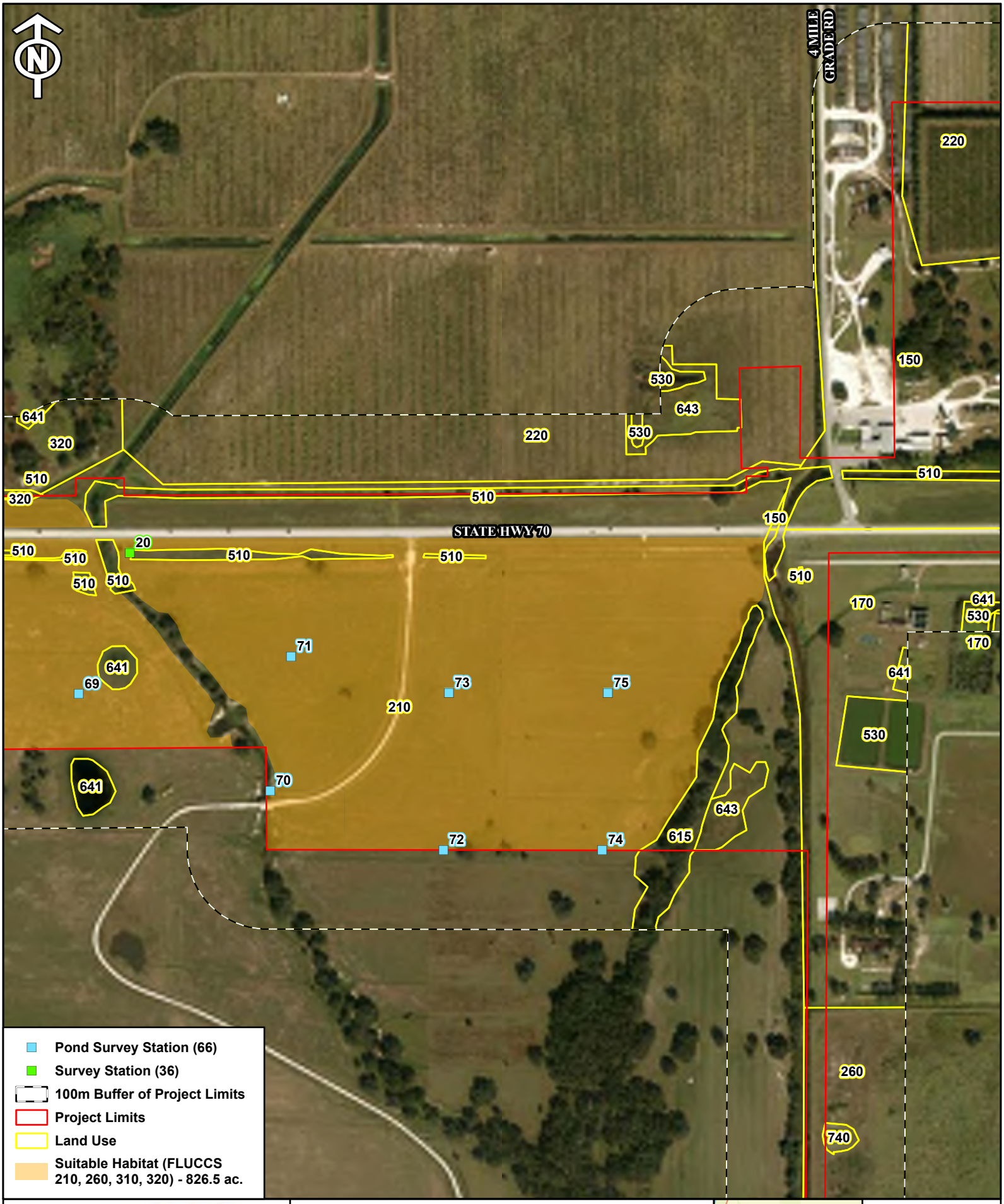
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 12 of 26

Feet
0 500
0 150
Meters



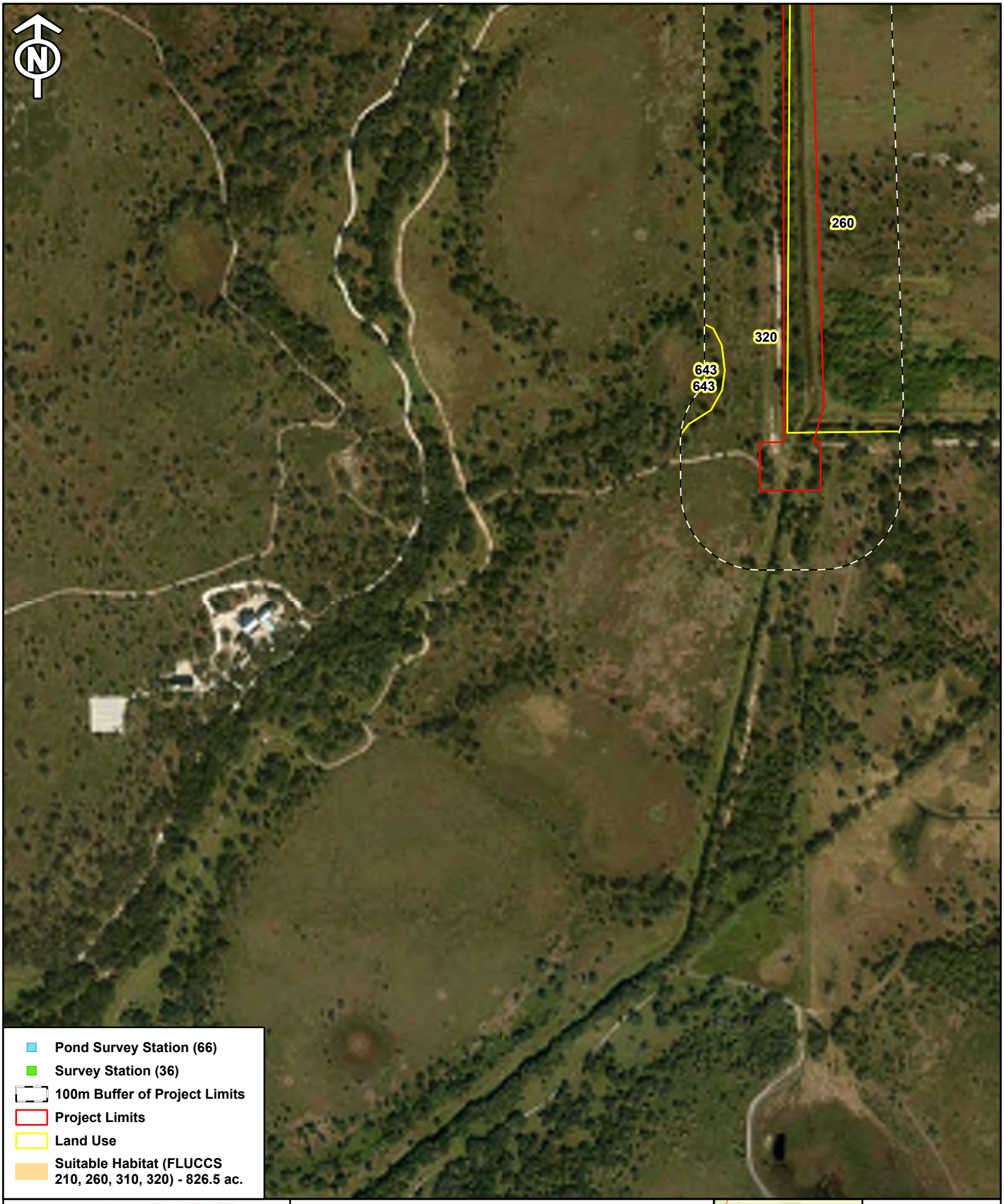
SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 13 of 26

Feet
0 500
0 150
Meters

FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 14 of 26

Feet
0 500
0 150
Meters

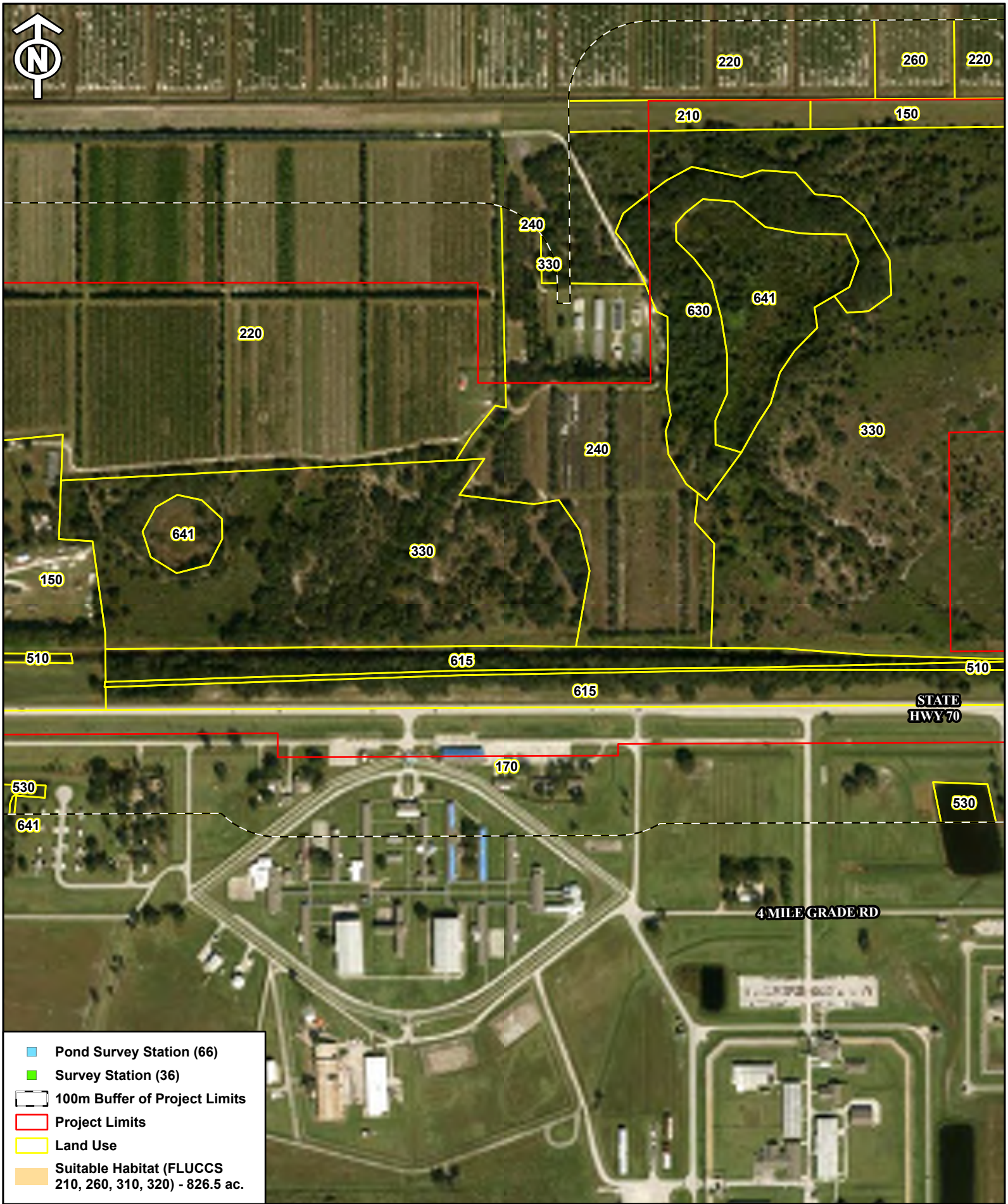


- Pond Survey Station (66)
- Survey Station (36)
- 100m Buffer of Project Limits
- Project Limits
- Land Use
- Suitable Habitat (FLUCCS 210, 260, 310, 320) - 826.5 ac.

FDOT

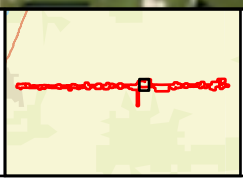
SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 15 of 26

Feet
0 500
0 150
Meters

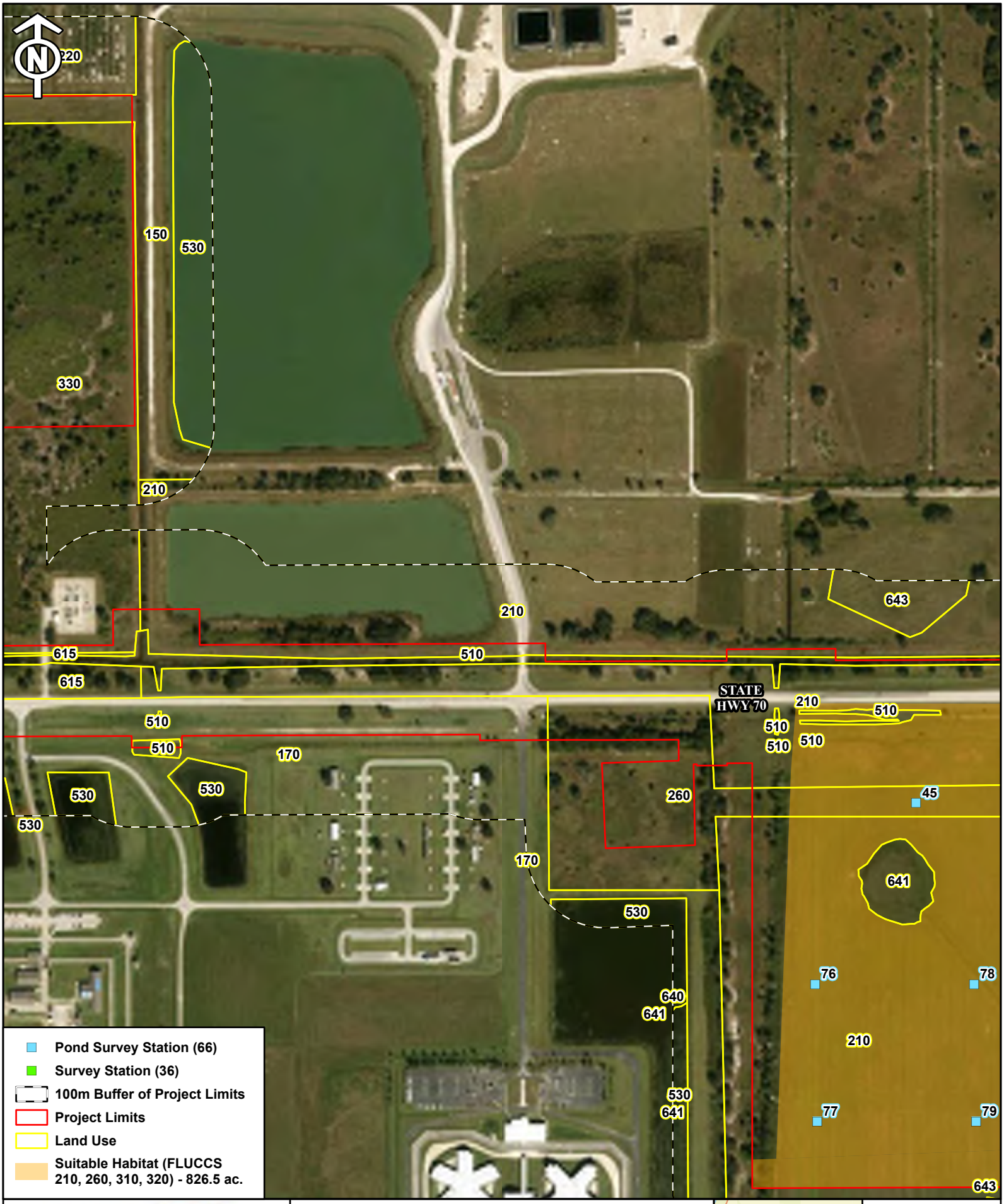


FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 16 of 26



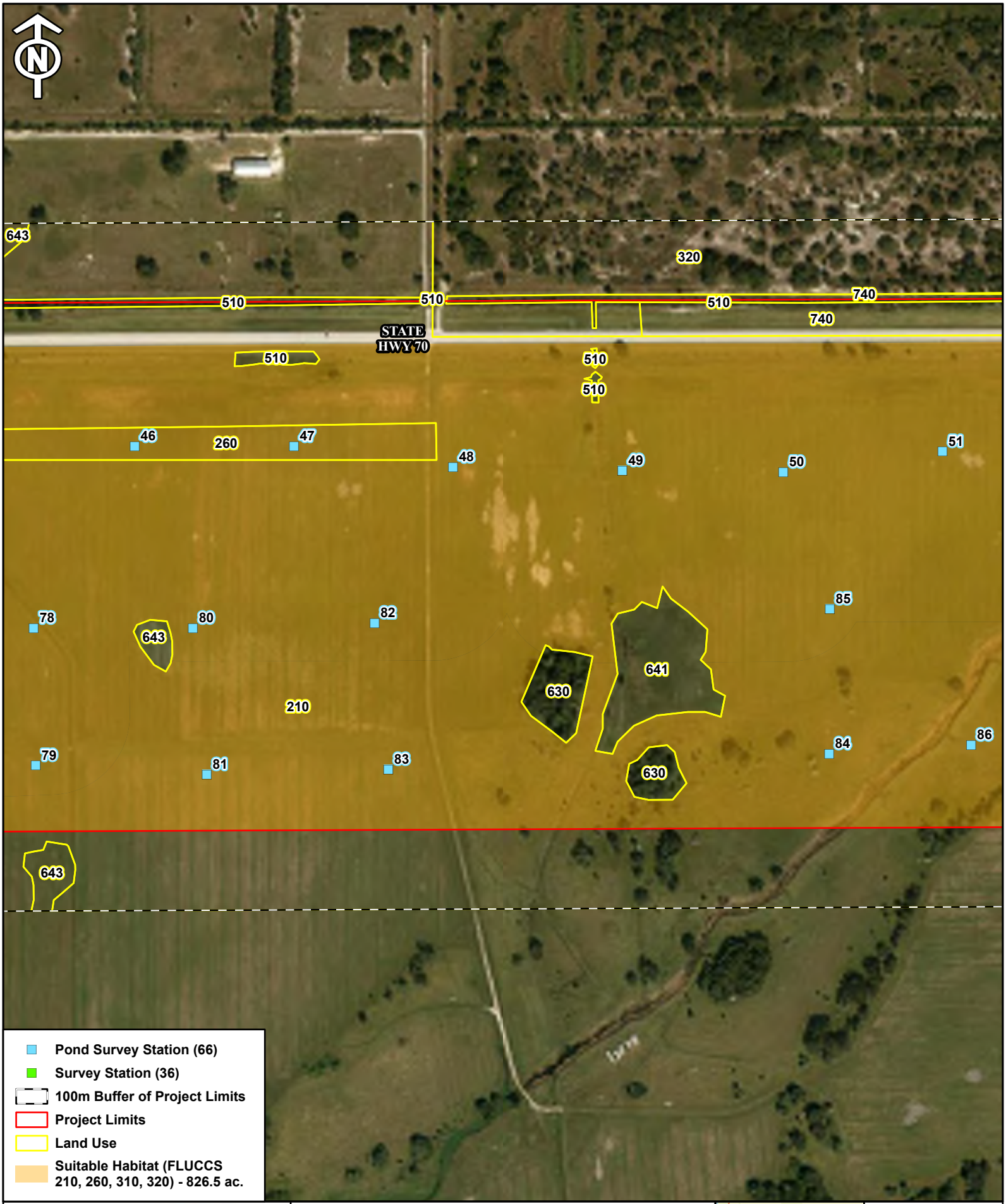
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 17 of 26

Feet
0 500
0 150
Meters



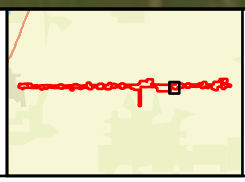
FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 18 of 26

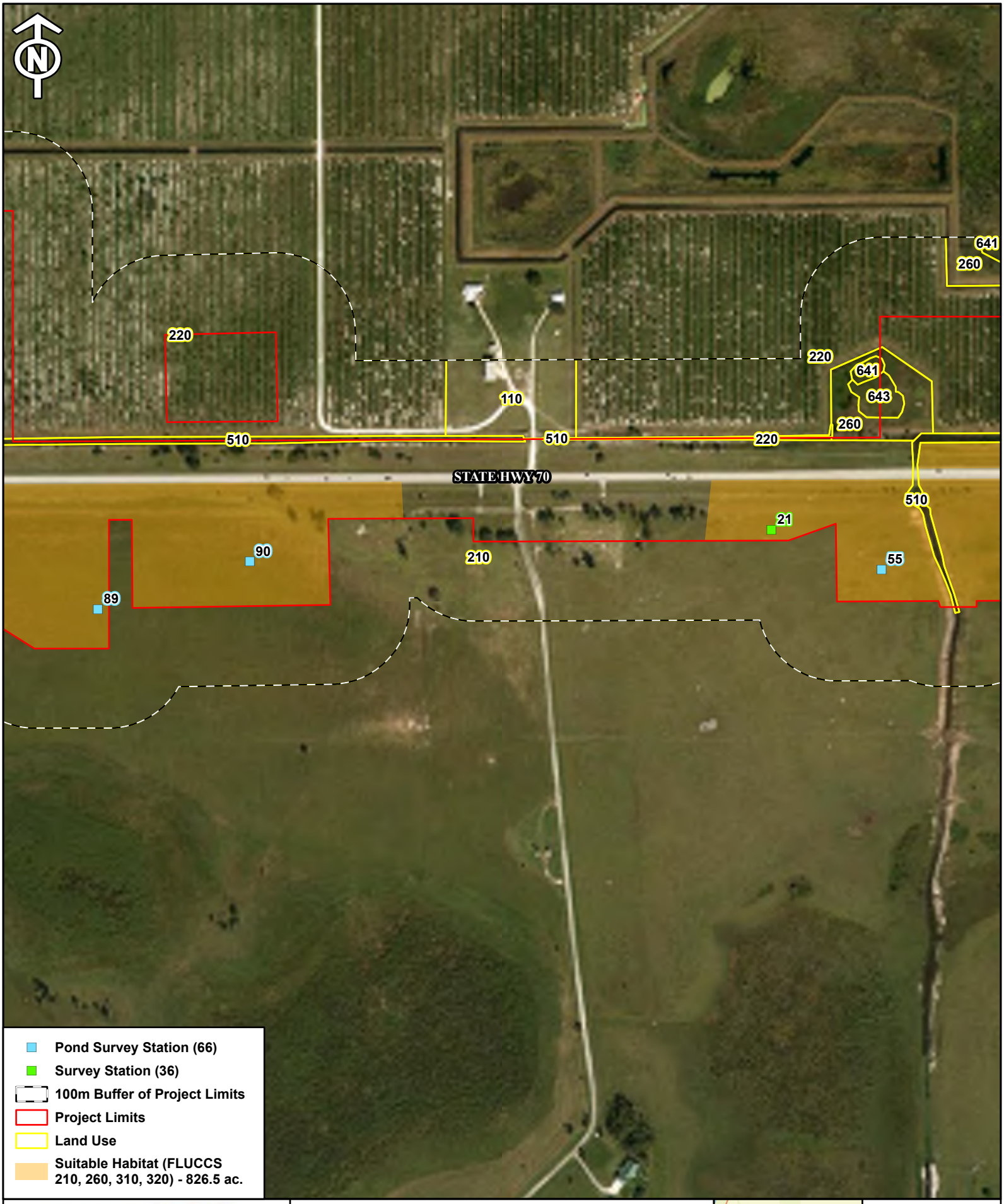
Feet
0 500
0 150
Meters

FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 19 of 26



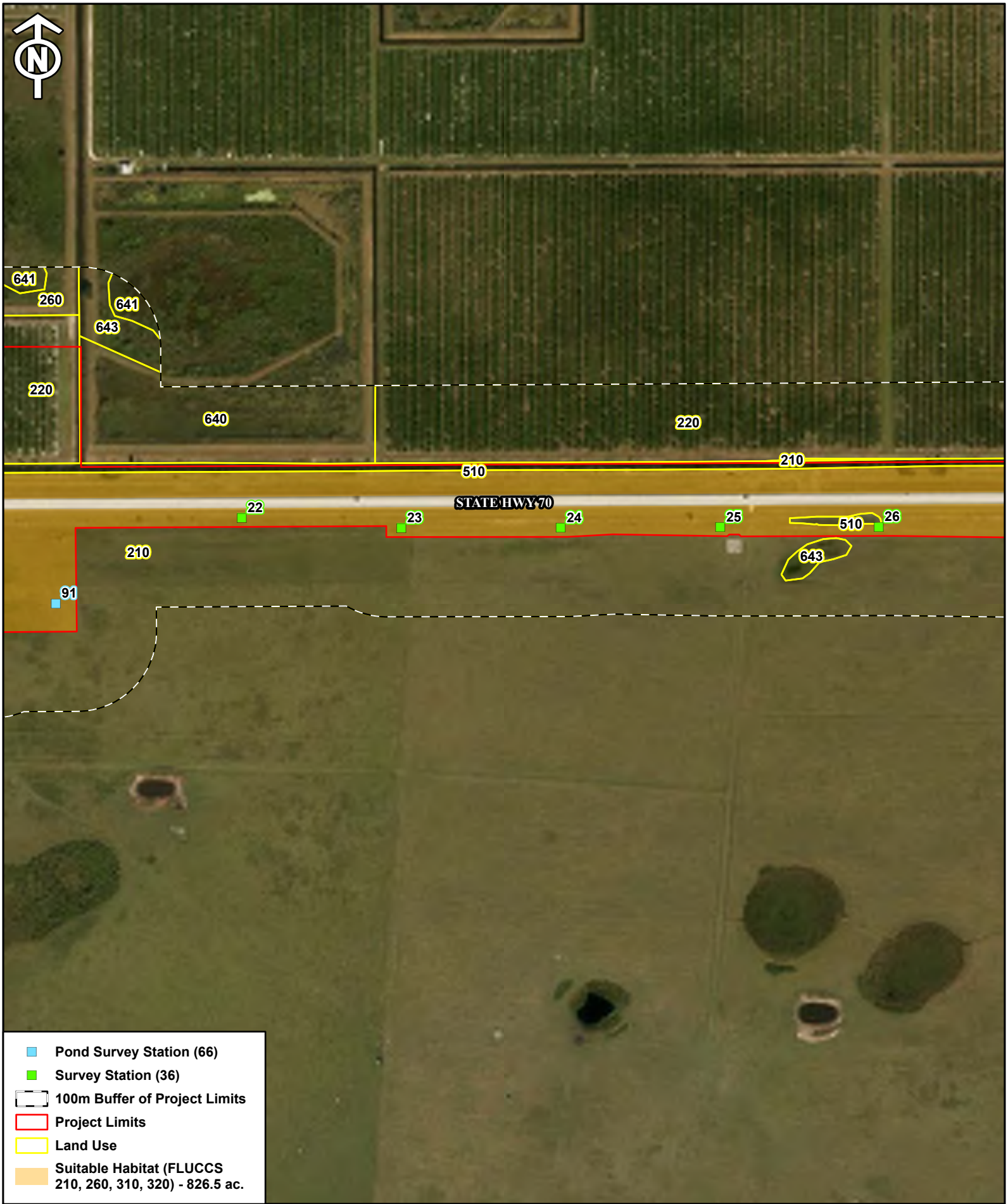
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 20 of 26

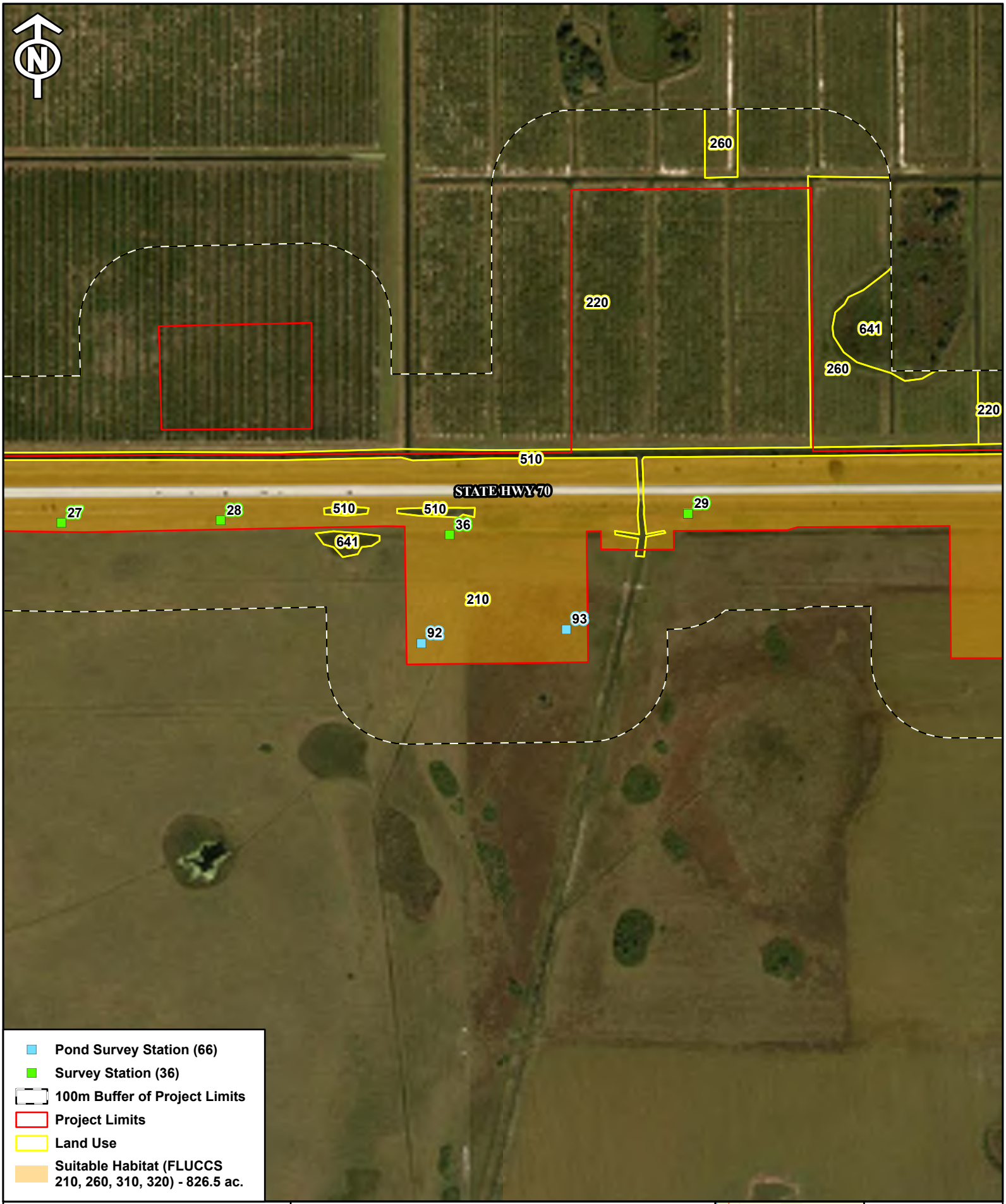
Feet
0 500
0 150
Meters



FDOT

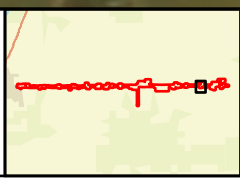
SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 21 of 26

Feet
0 500
0 150
Meters

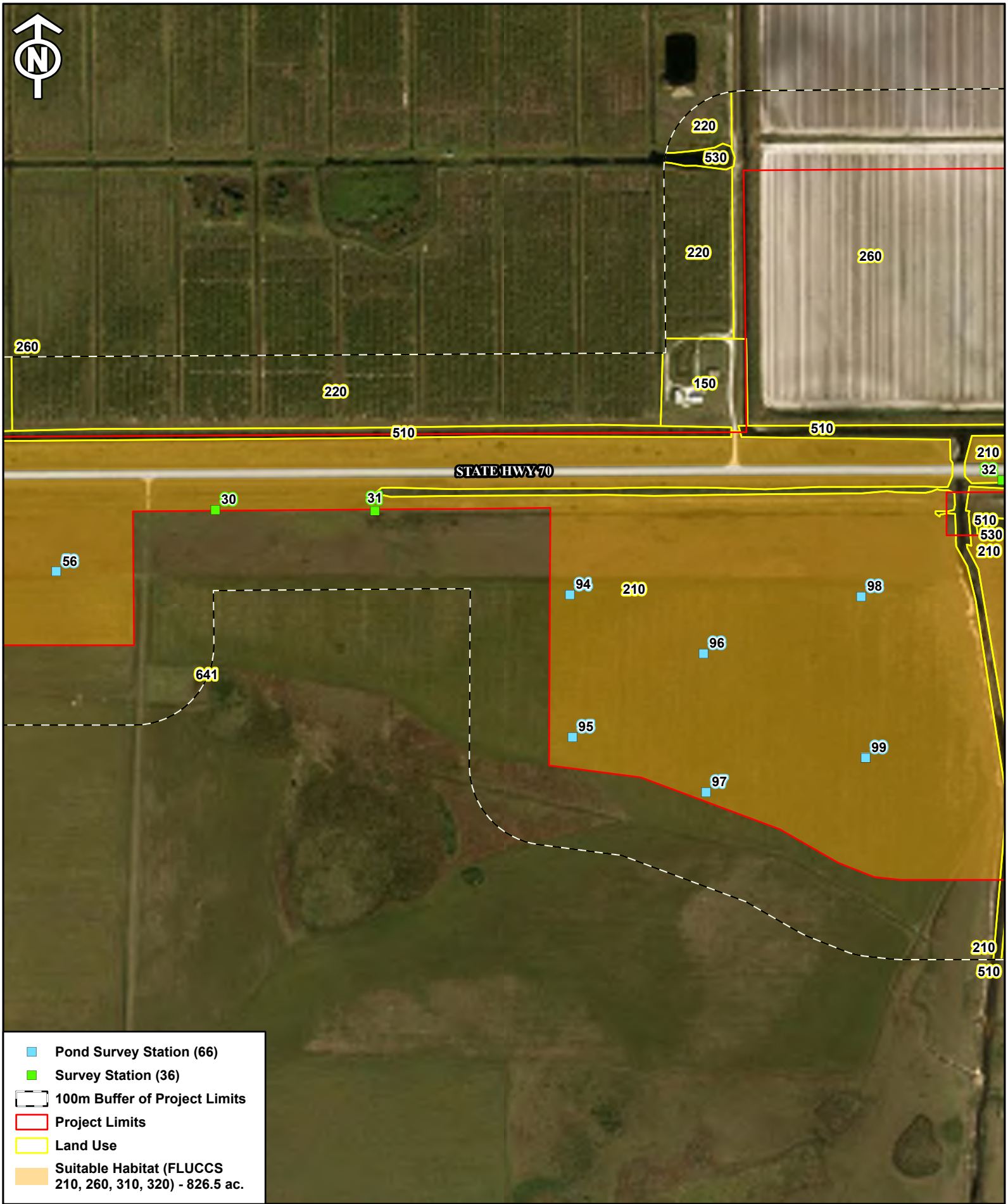


FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 22 of 26



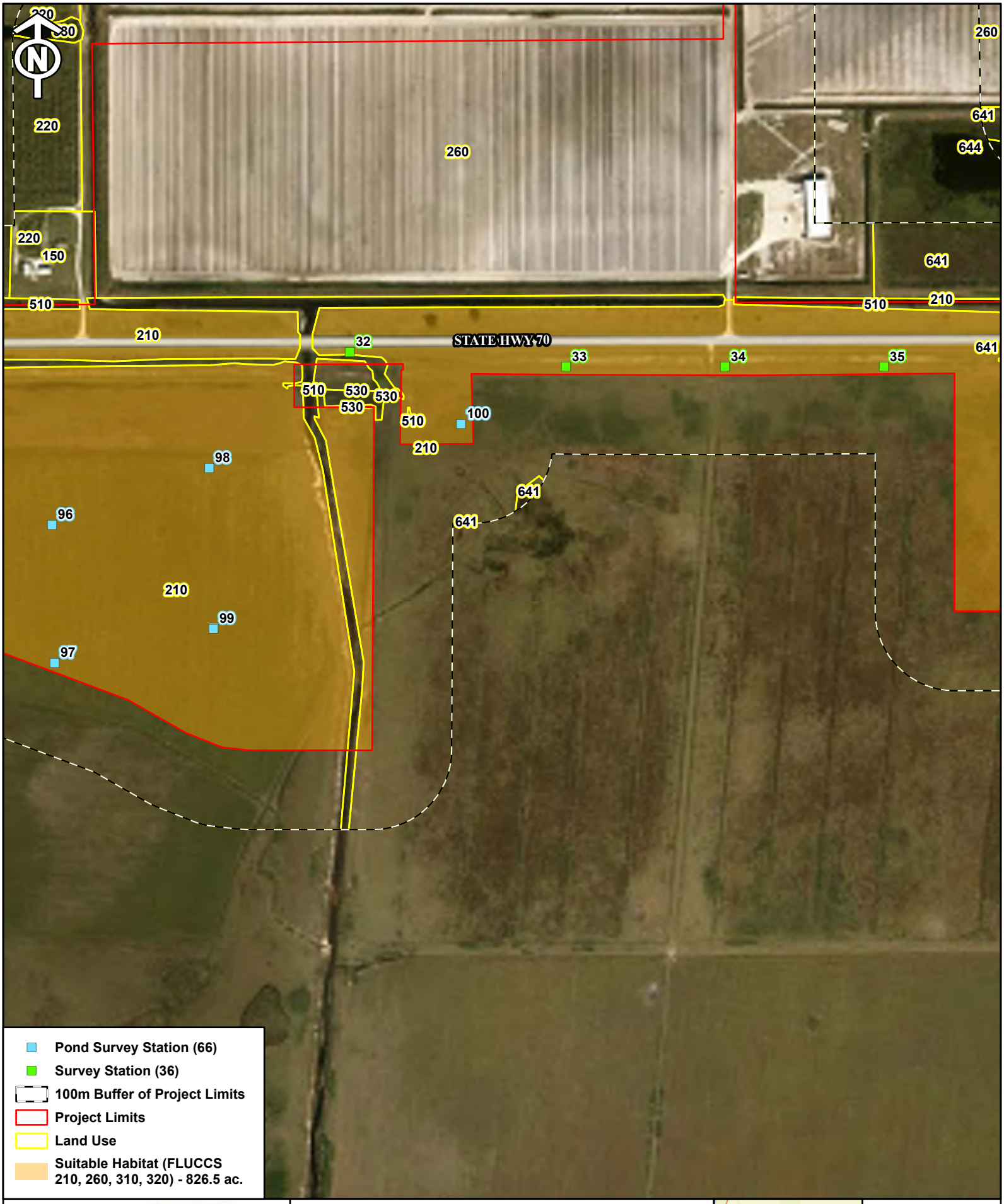
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 23 of 26

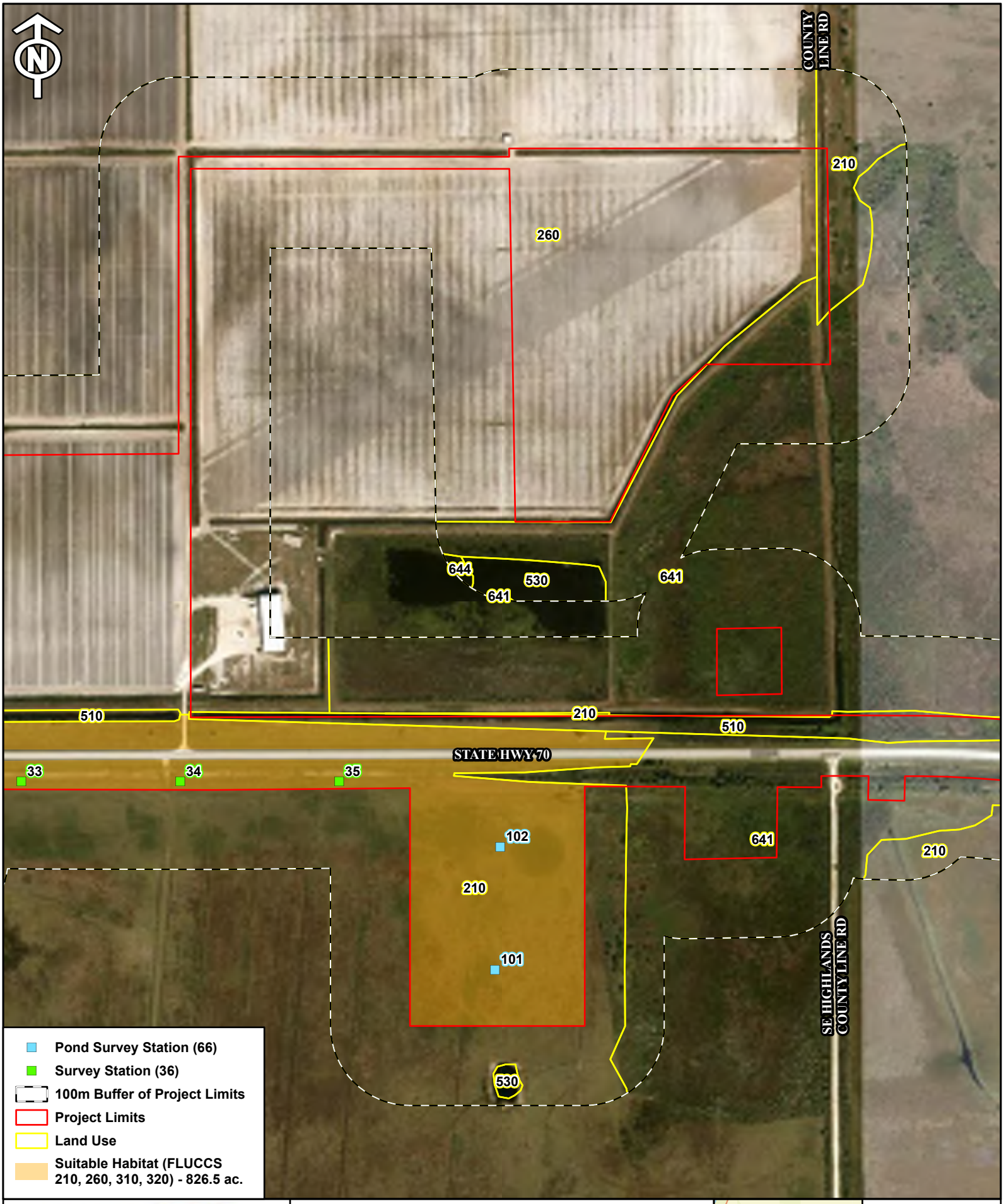
Feet
0 500
0 150
Meters



FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 24 of 26

Feet
0 500
0 150
Meters



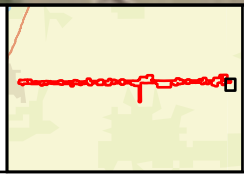
FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 25 of 26

Feet
0 500
0 150
Meters

FDOT

SR 70 FROM WEST OF SR 31 TO
SE HIGHLANDS COUNTY LINE ROAD
FPID: 451942-1-22-01
FLORIDA GRASSHOPPER SPARROW
SURVEY STATION MAP 26 of 26

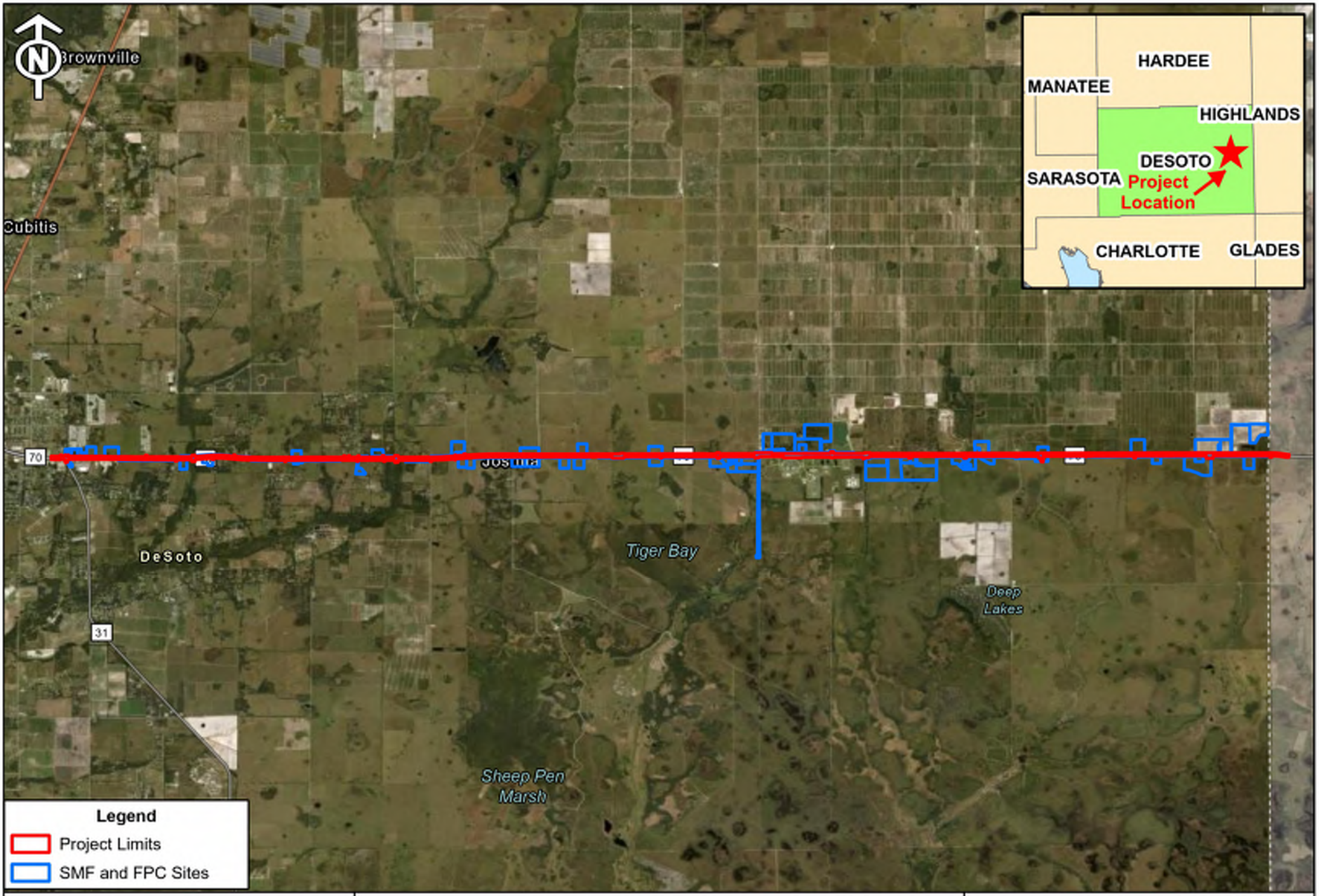


Feet
0 500
0 150
Meters

Attachment I

Florida Scrub-Jay Survey Maps for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-5-32-01: SR 70 from CR 29 to Lonesome Island Rd

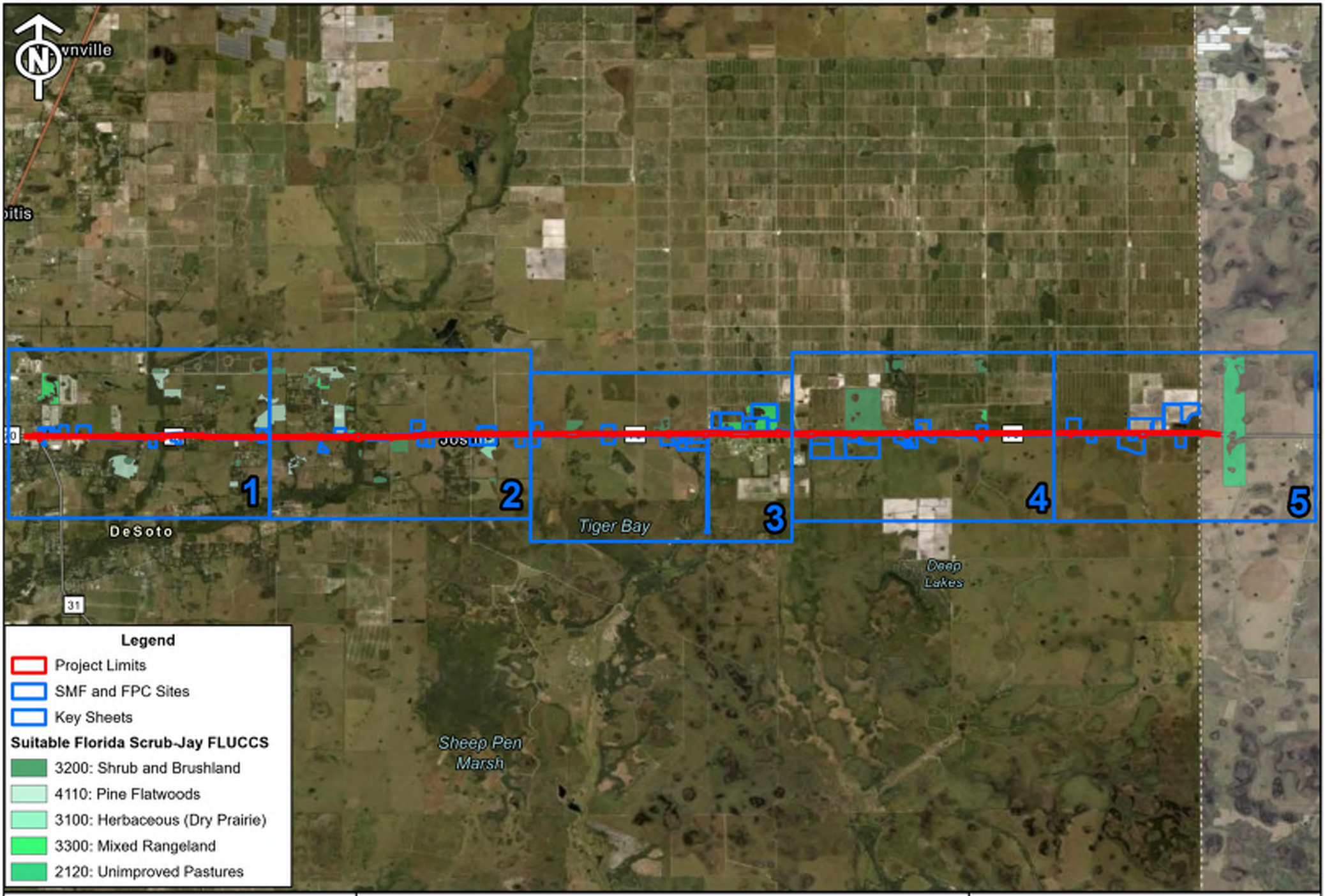
Figures



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
Project Location Map

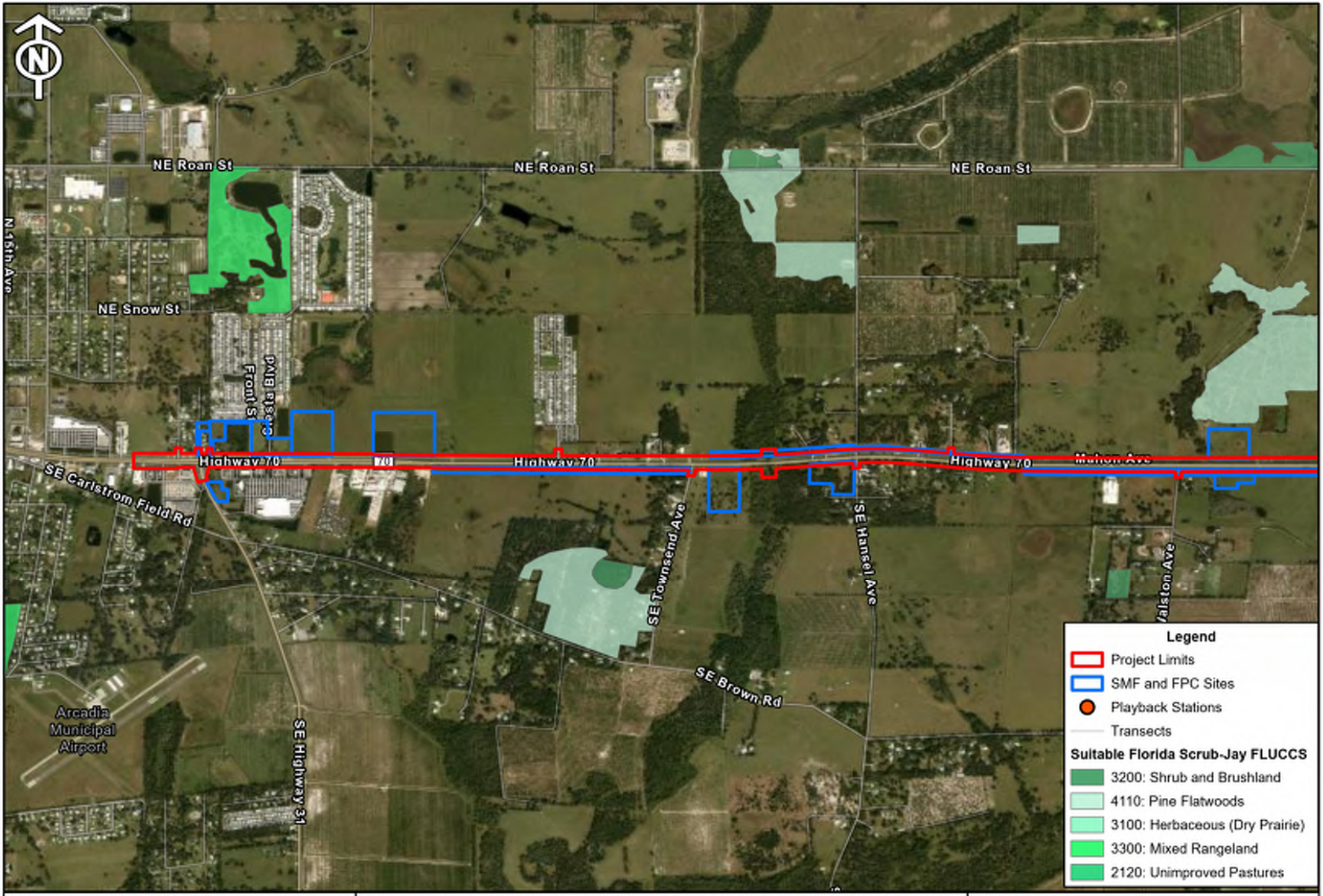
0 0.5 1 2 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
FPC and SMF Sites Location Map

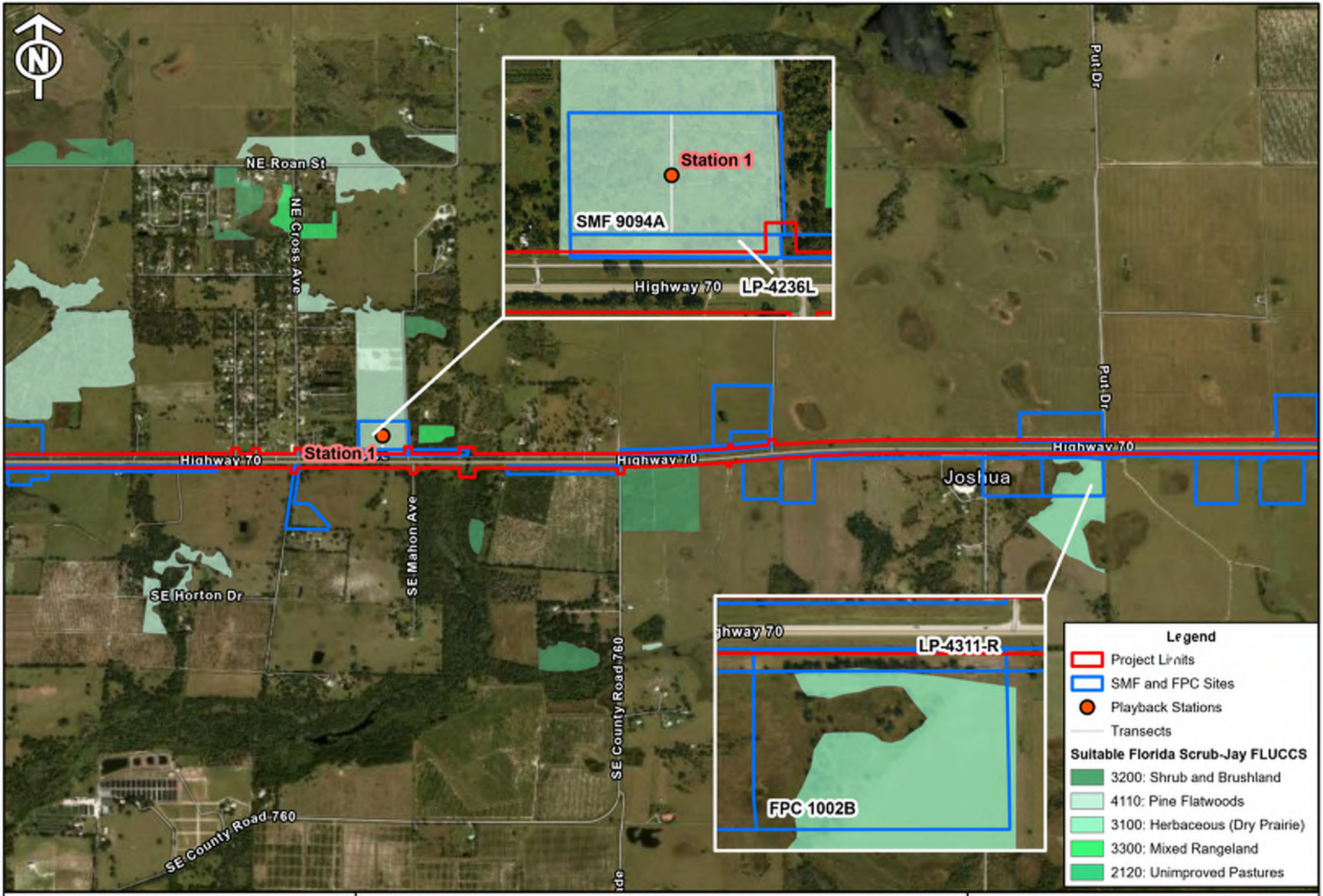
0 0.75 1.5 3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
FPC and SMF Sites Location Map

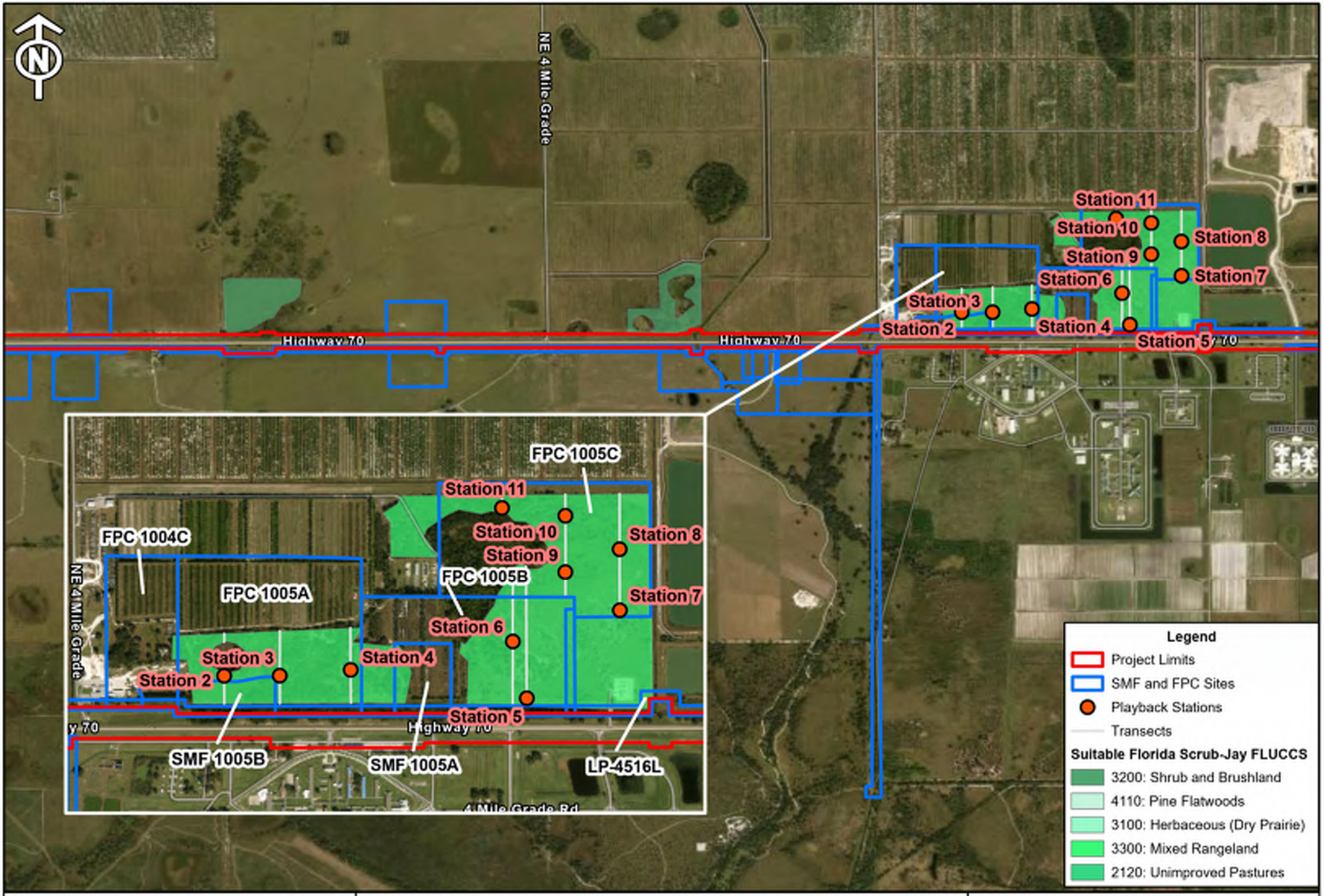
0 0.13 0.25 0.5 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
FPC and SMF Sites Location Map

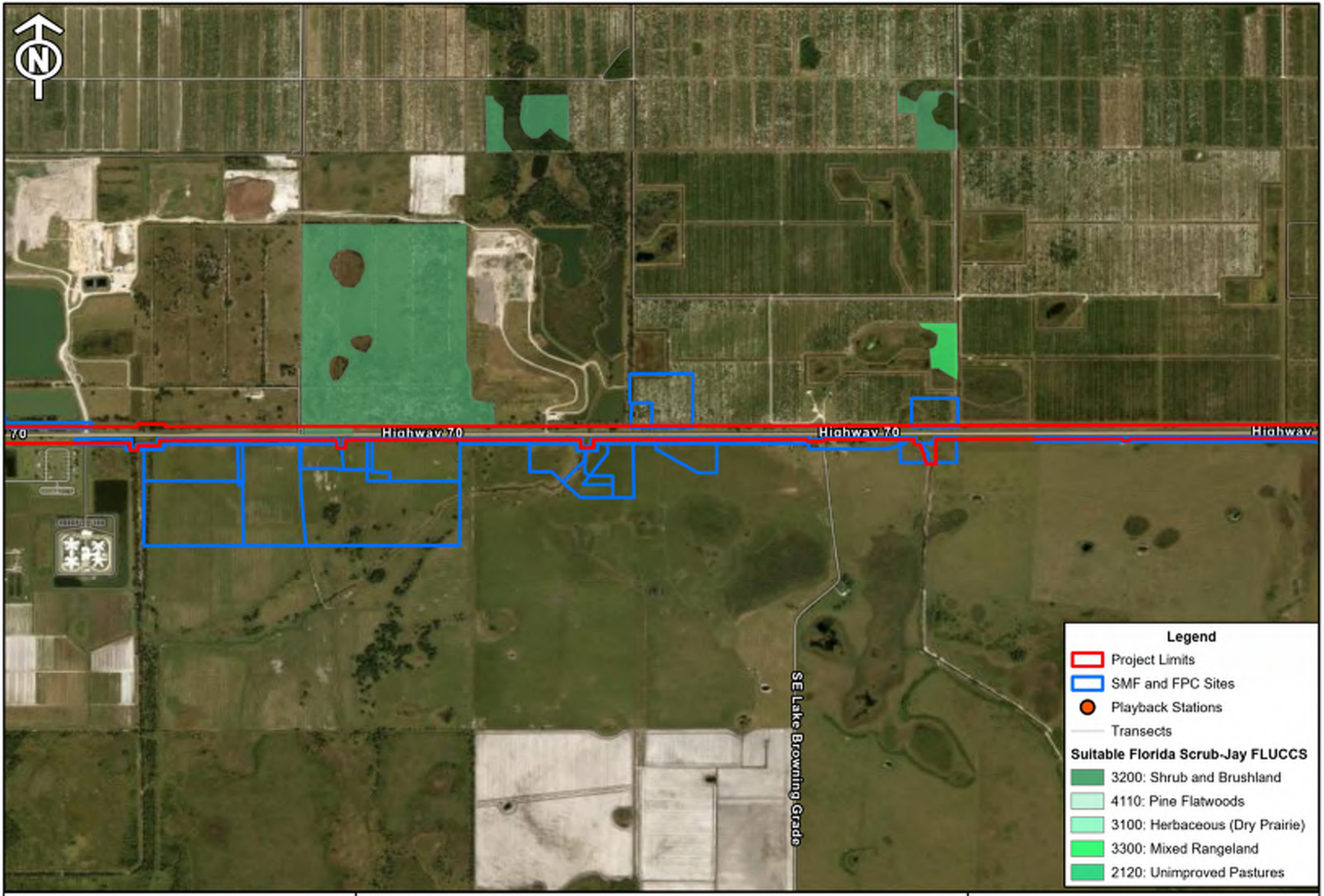
0 0.13 0.25 0.5 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
FPC and SMF Sites Location Map

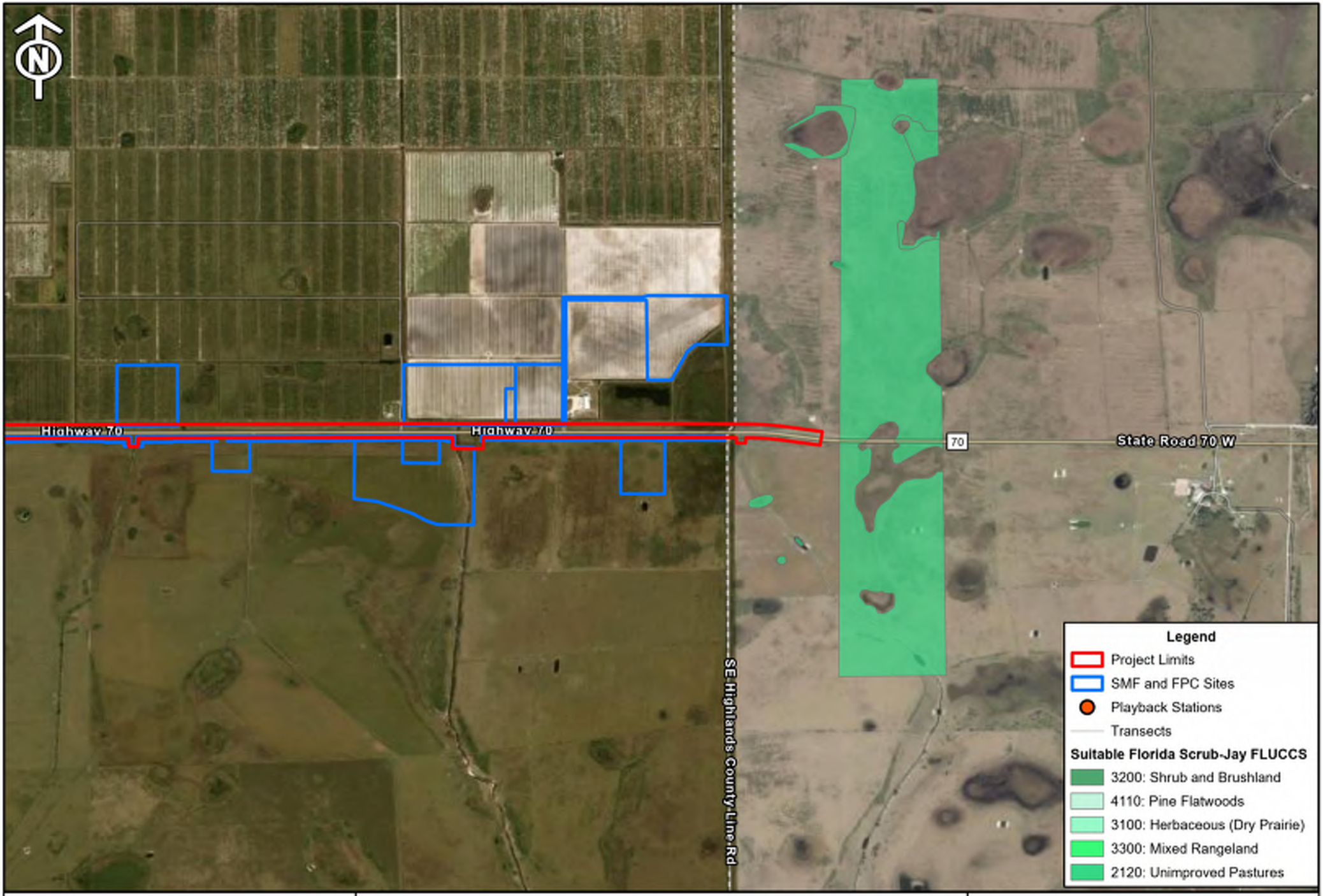
0 0.13 0.25 0.5 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
FPC and SMF Sites Location Map

0 0.13 0.25 0.5 Miles



FDOT

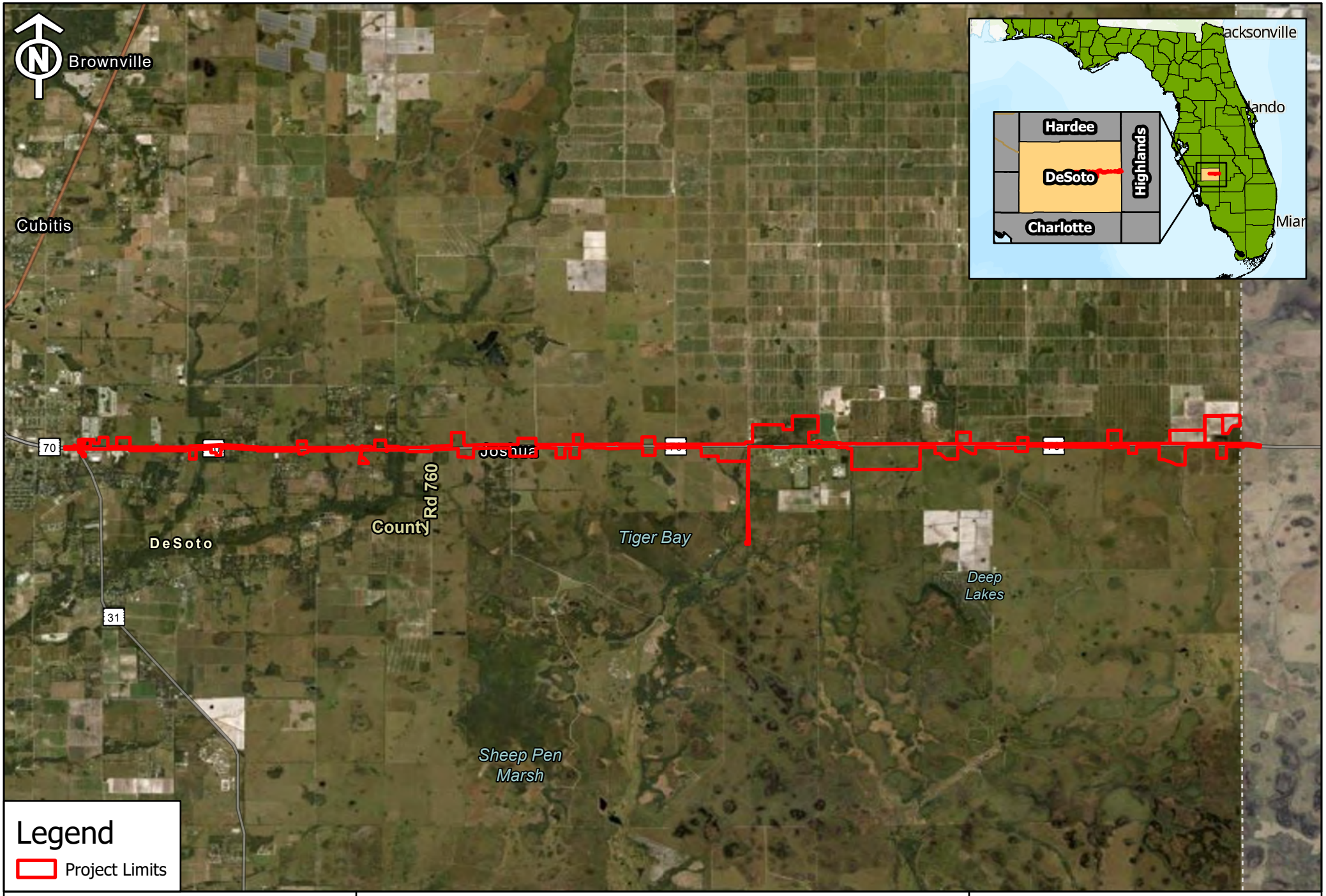
SR 70 from West of SR 31 to SE Highlands County Line Rd
FPID: 451942-1-22-01
FPC and SMF Sites Location Map

0 0.13 0.25 0.5 Miles

Attachment J

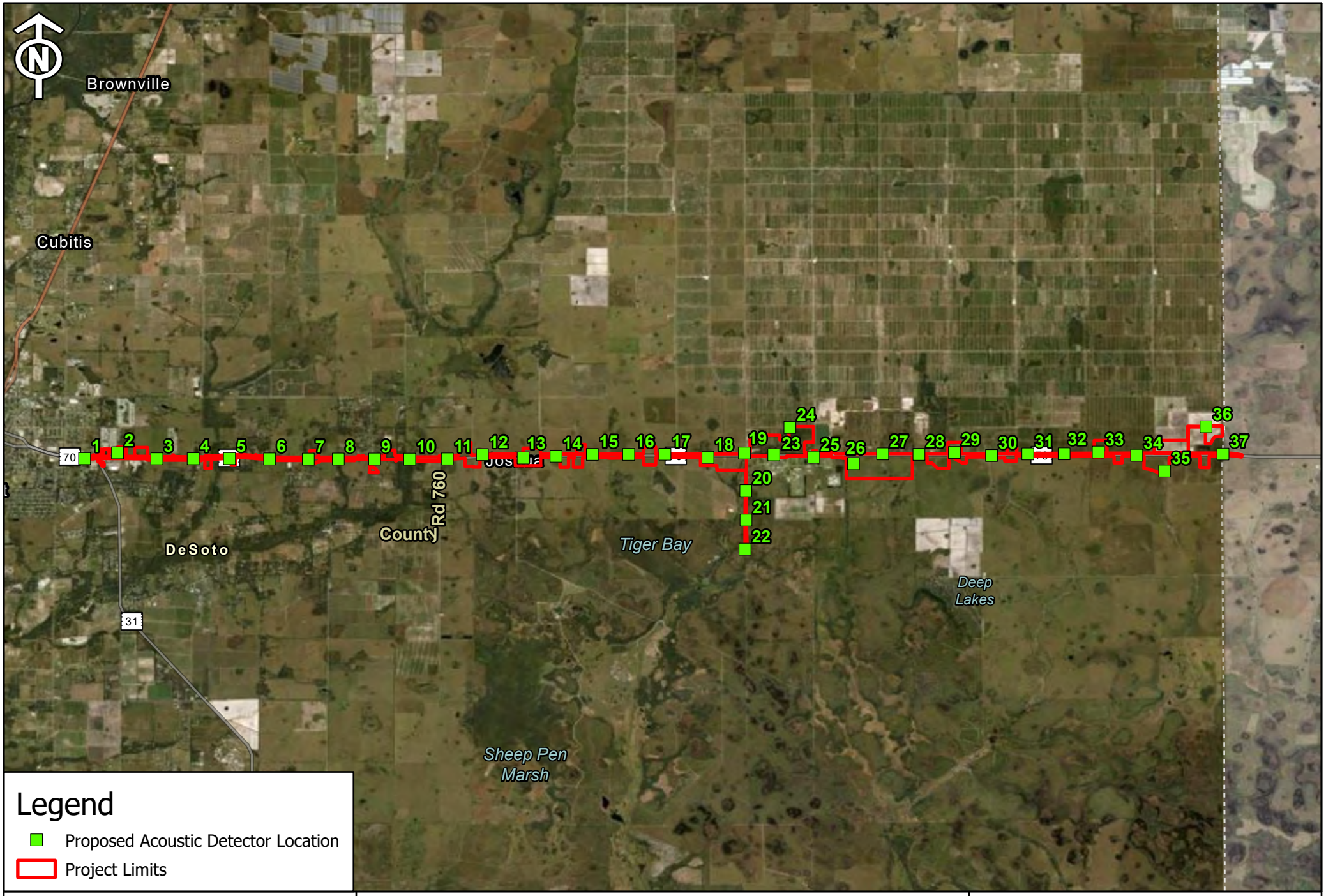
Florida Bonneted Bat & Tricolored Bat Survey Maps for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29
and SR 70 from CR 29 to Lonesome Island Rd

Figures



SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 1 - Project Location

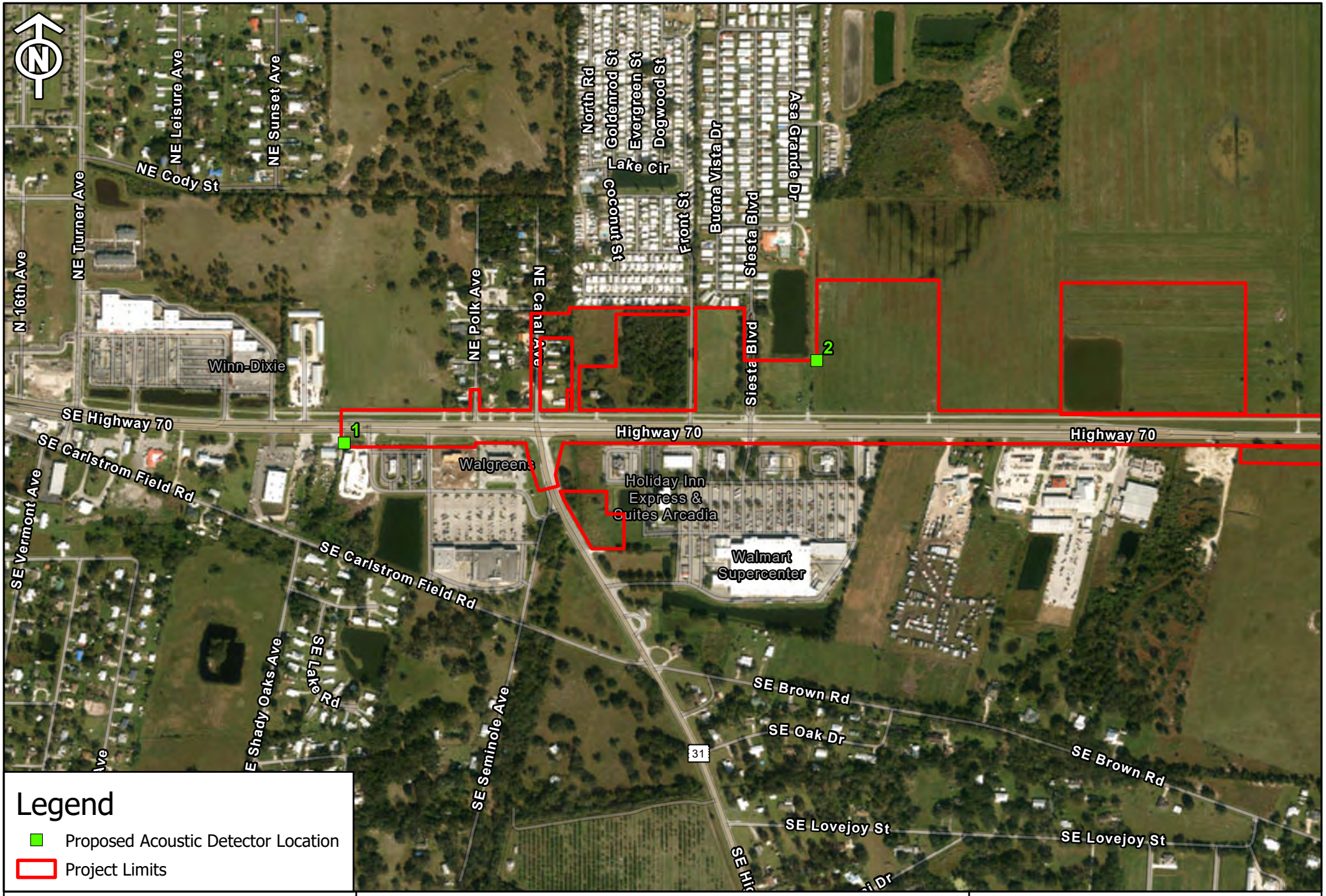
0 1 2 3 4 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-1 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

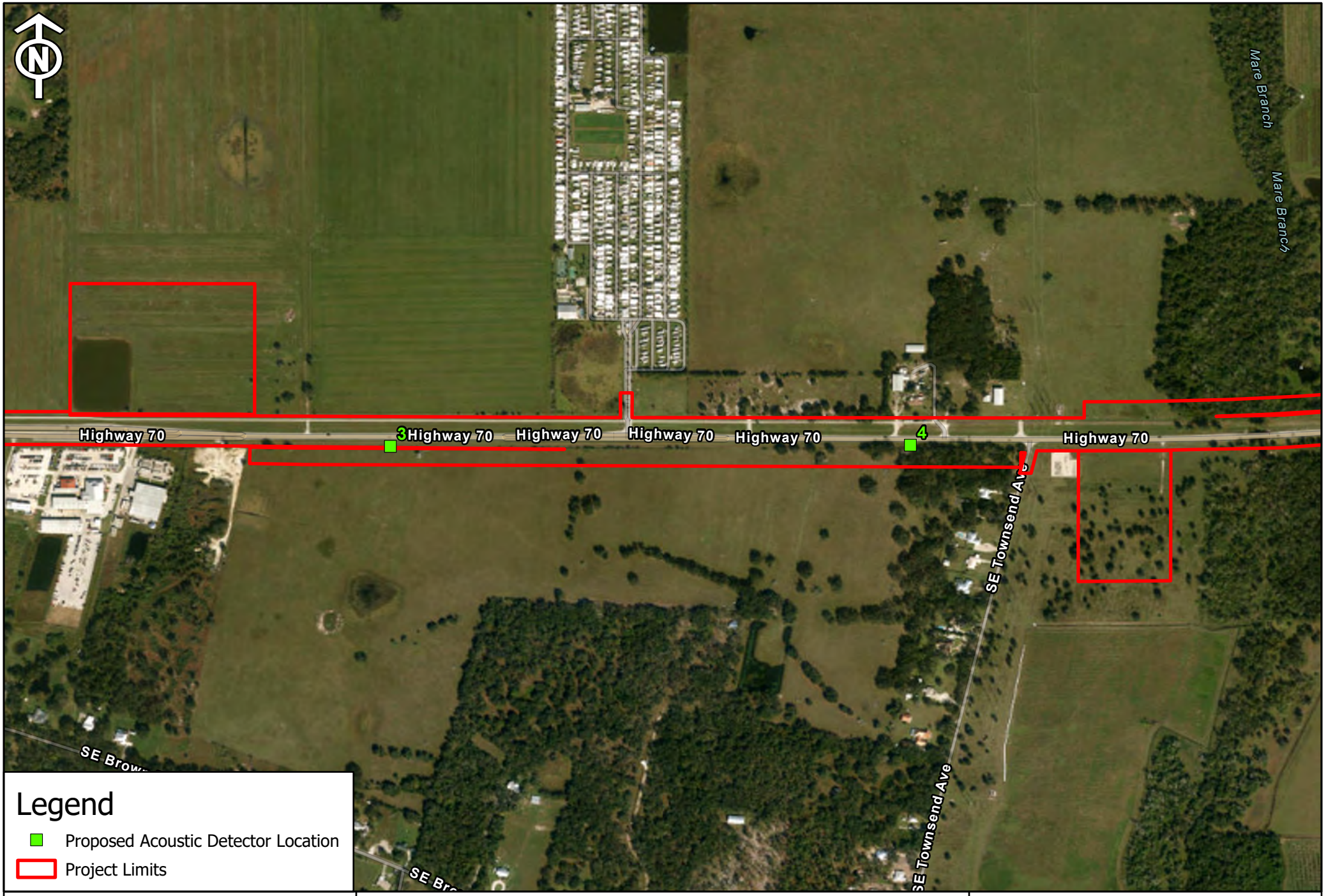
0 4.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-2 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

0 0.3 Miles



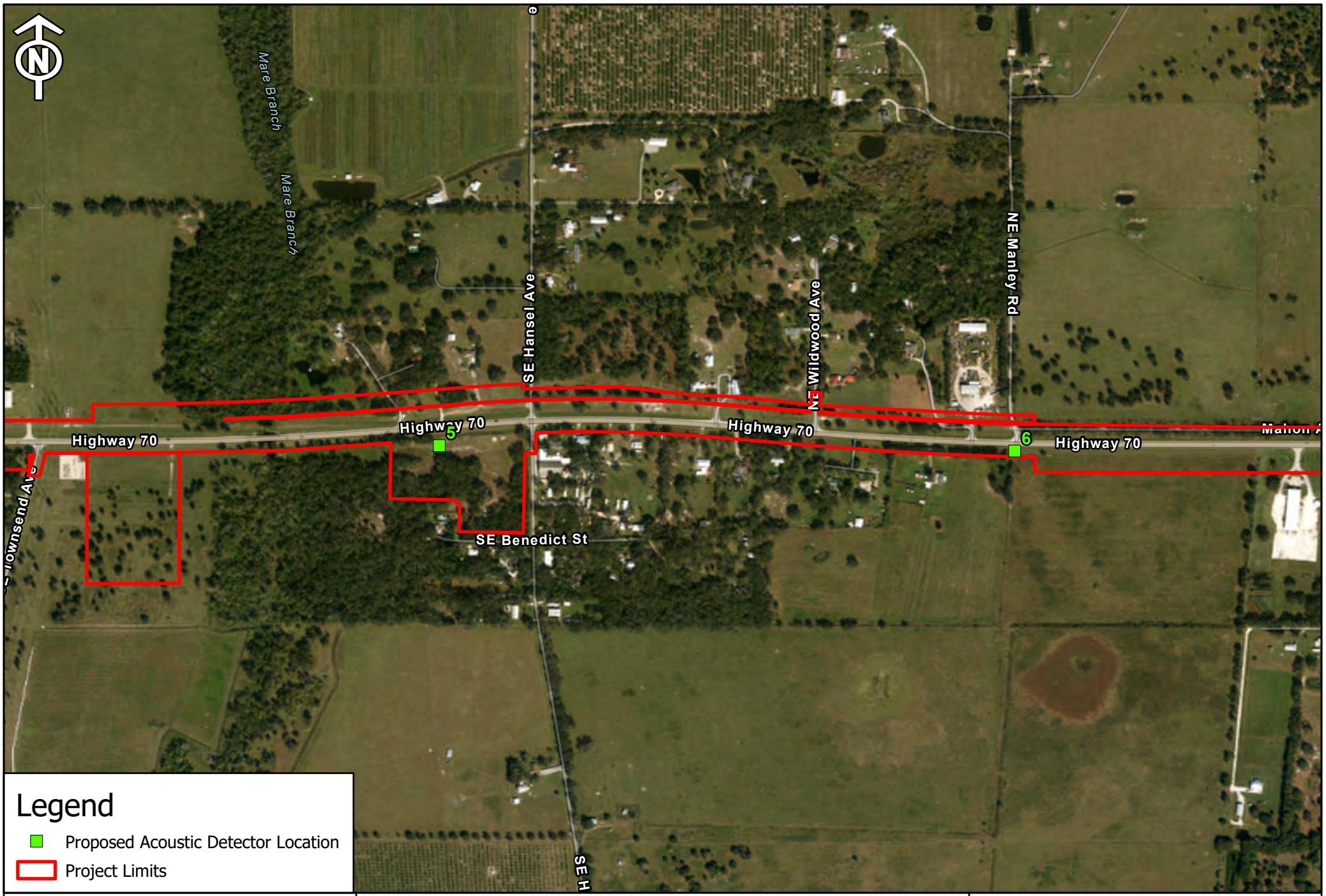
Legend

- Proposed Acoustic Detector Location
- Project Limits

FDOT

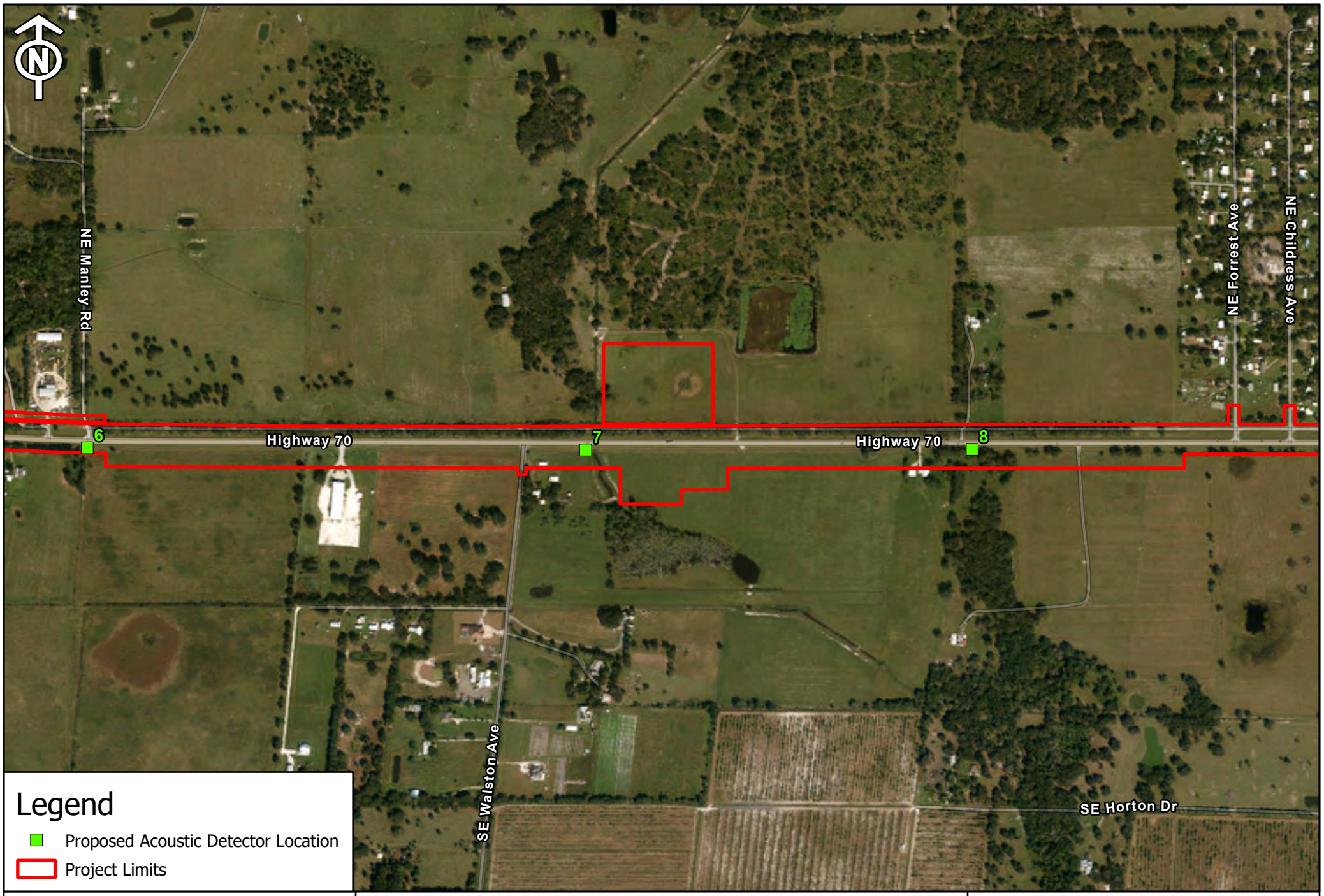
SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-3 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

0 0.3 Miles



SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-4 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

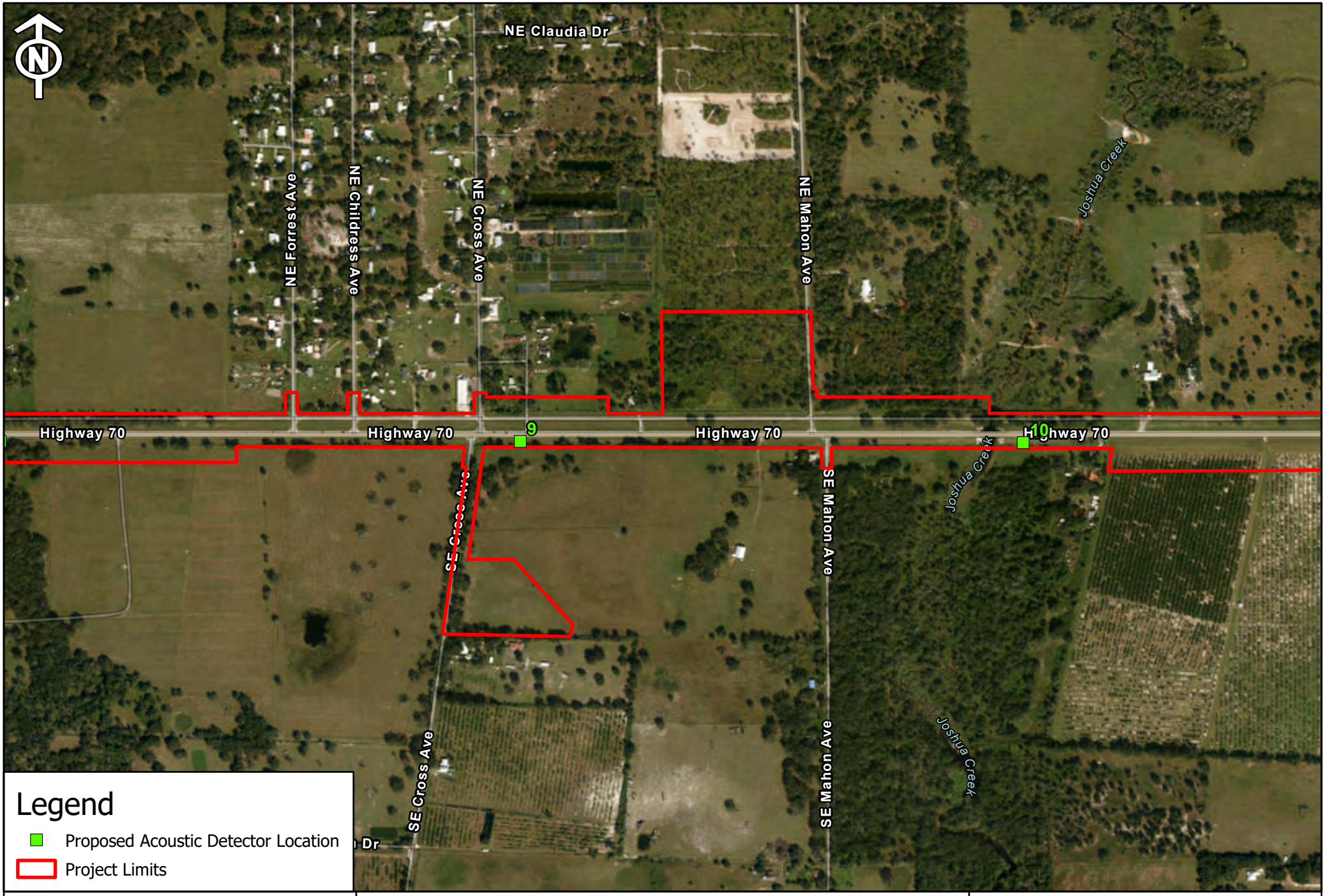
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-5 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

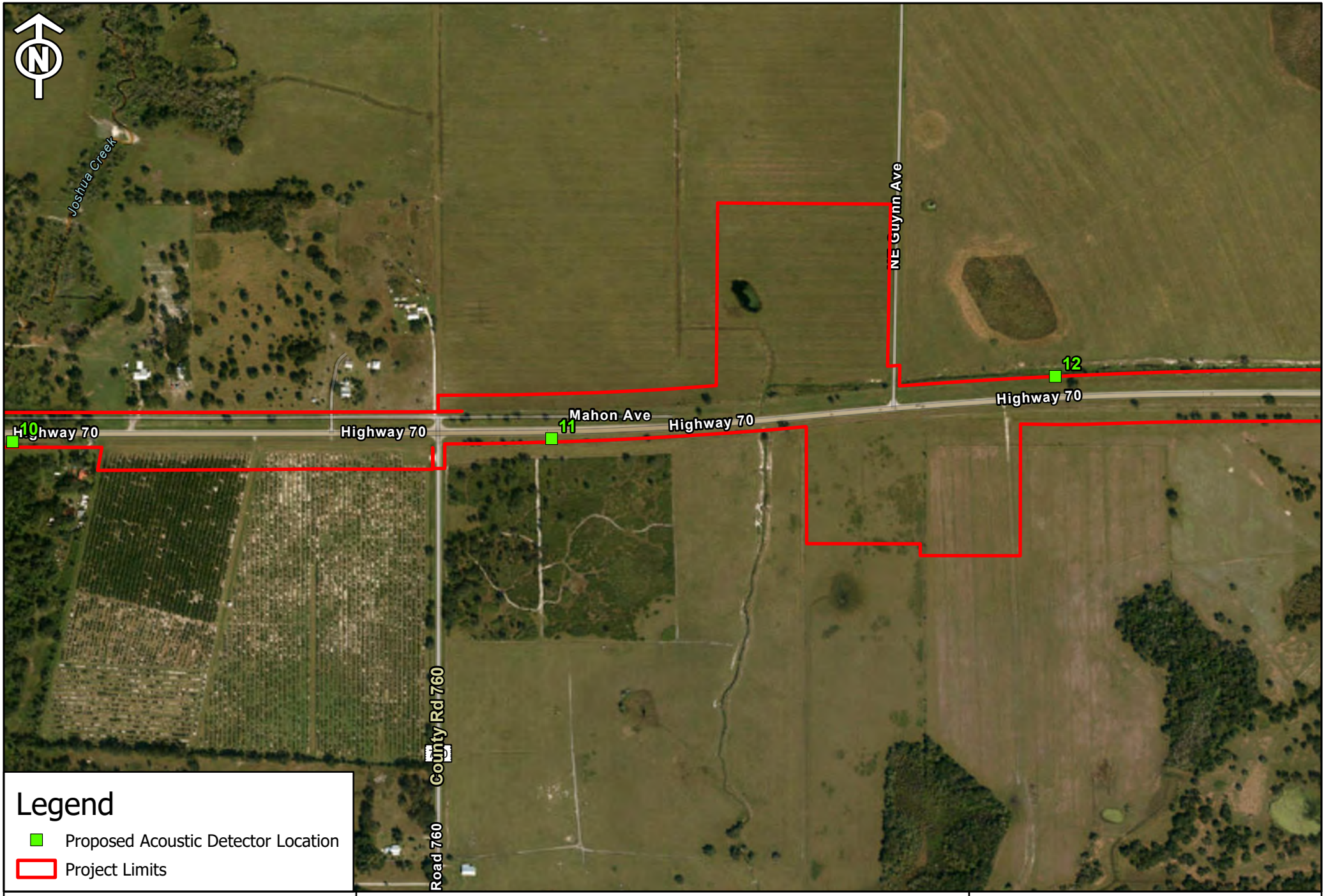
0 0.33 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-6 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

0 0.3 Miles



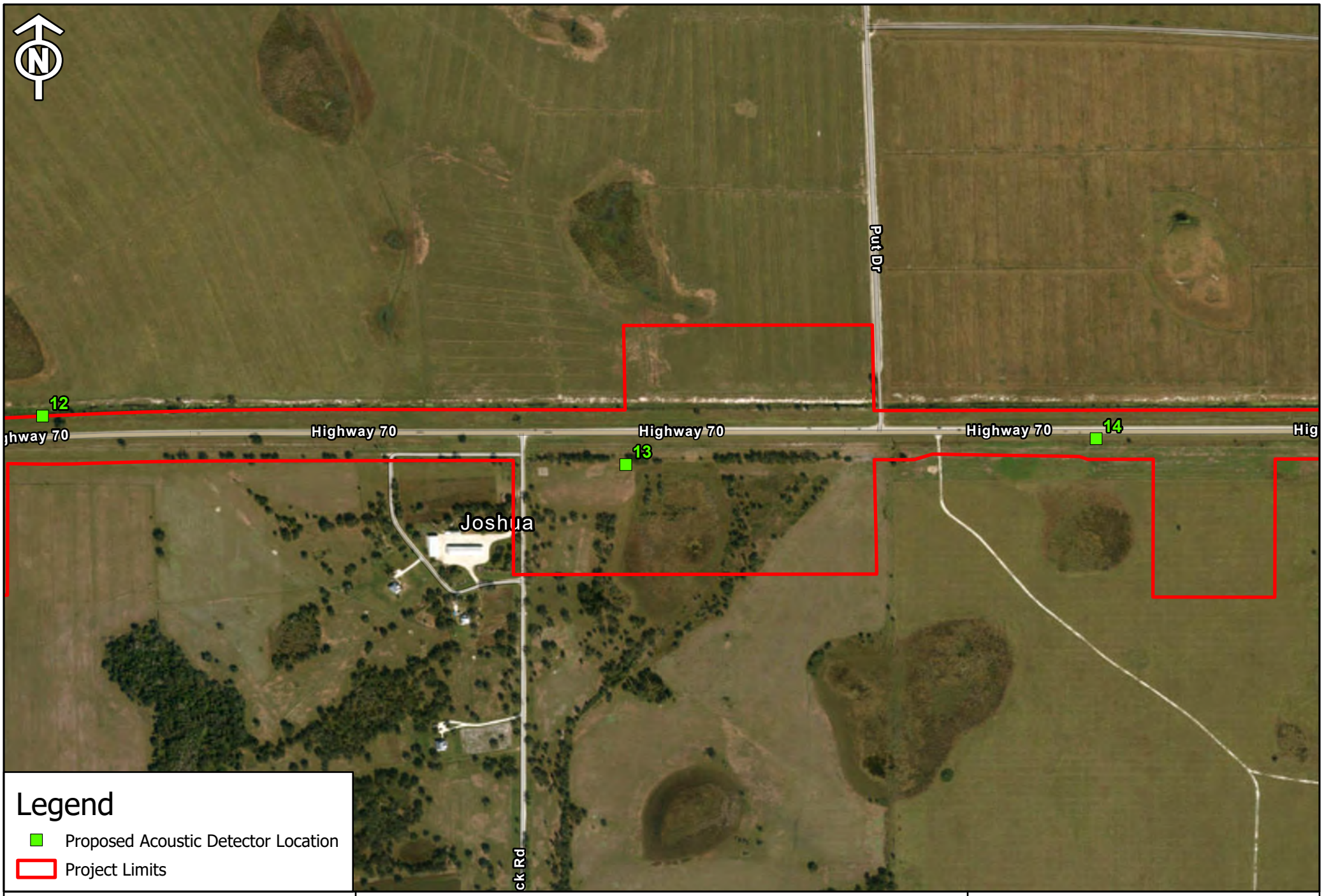
Legend

- Proposed Acoustic Detector Location
- Project Limits

FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-7 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

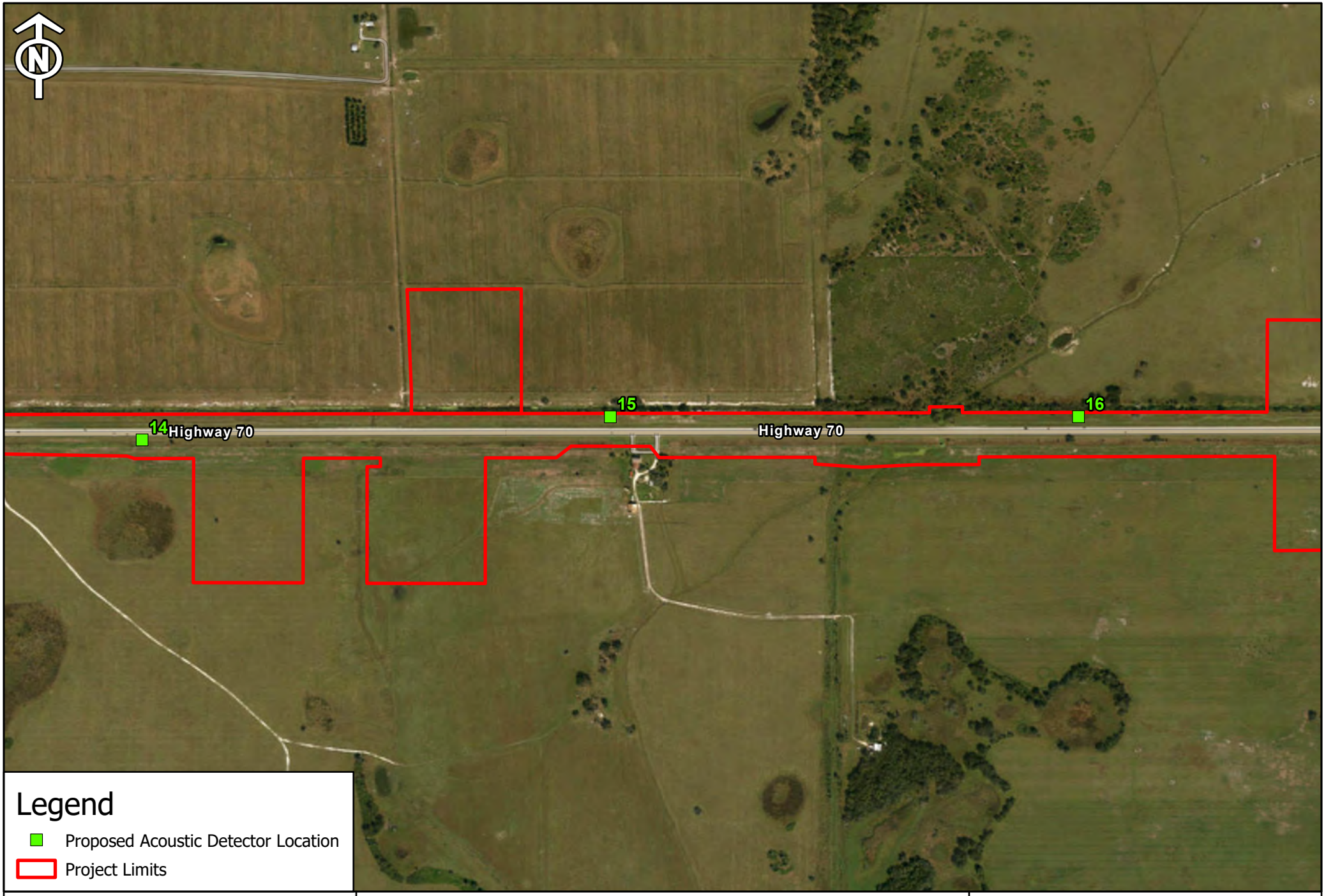
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-8 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

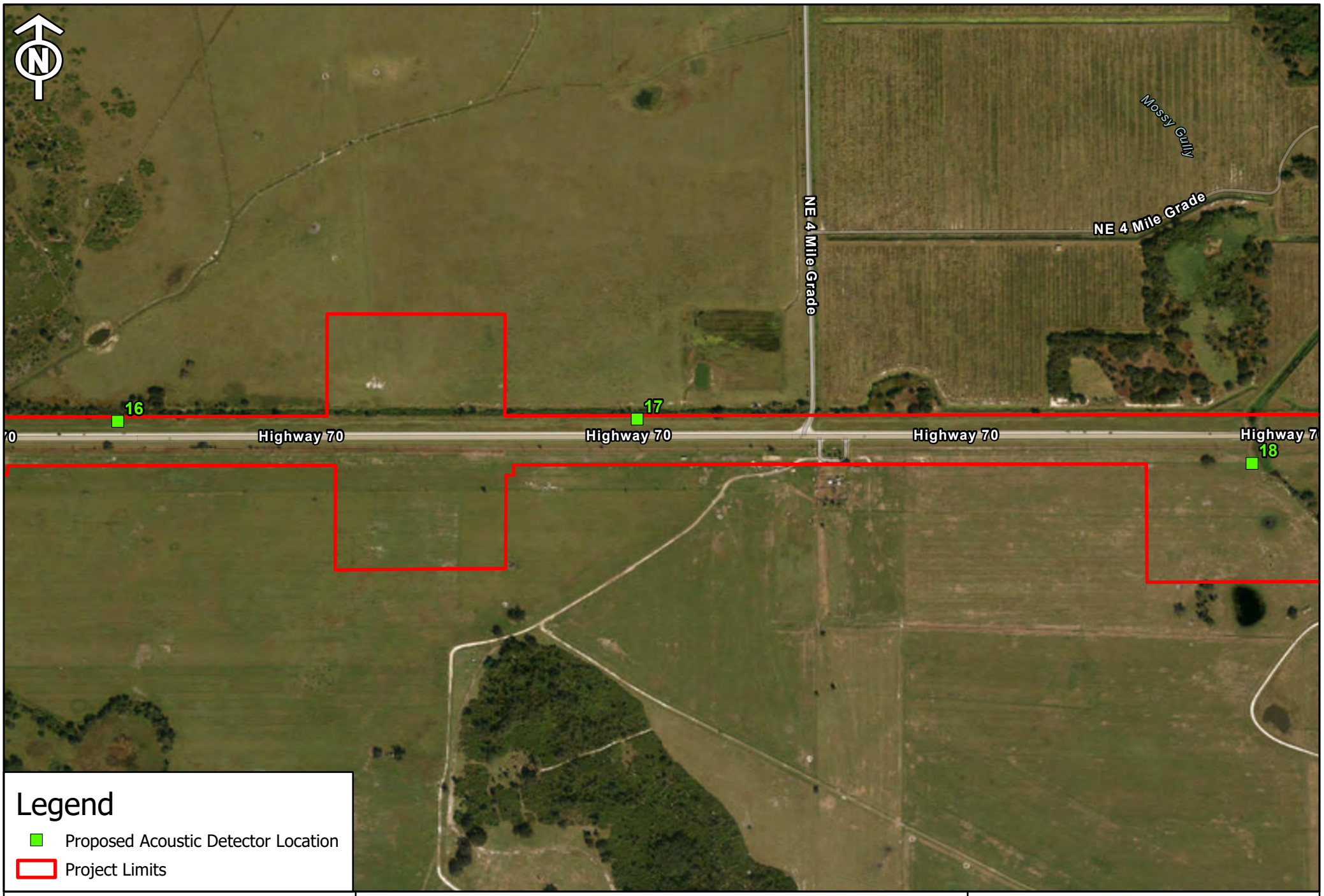
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-9 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

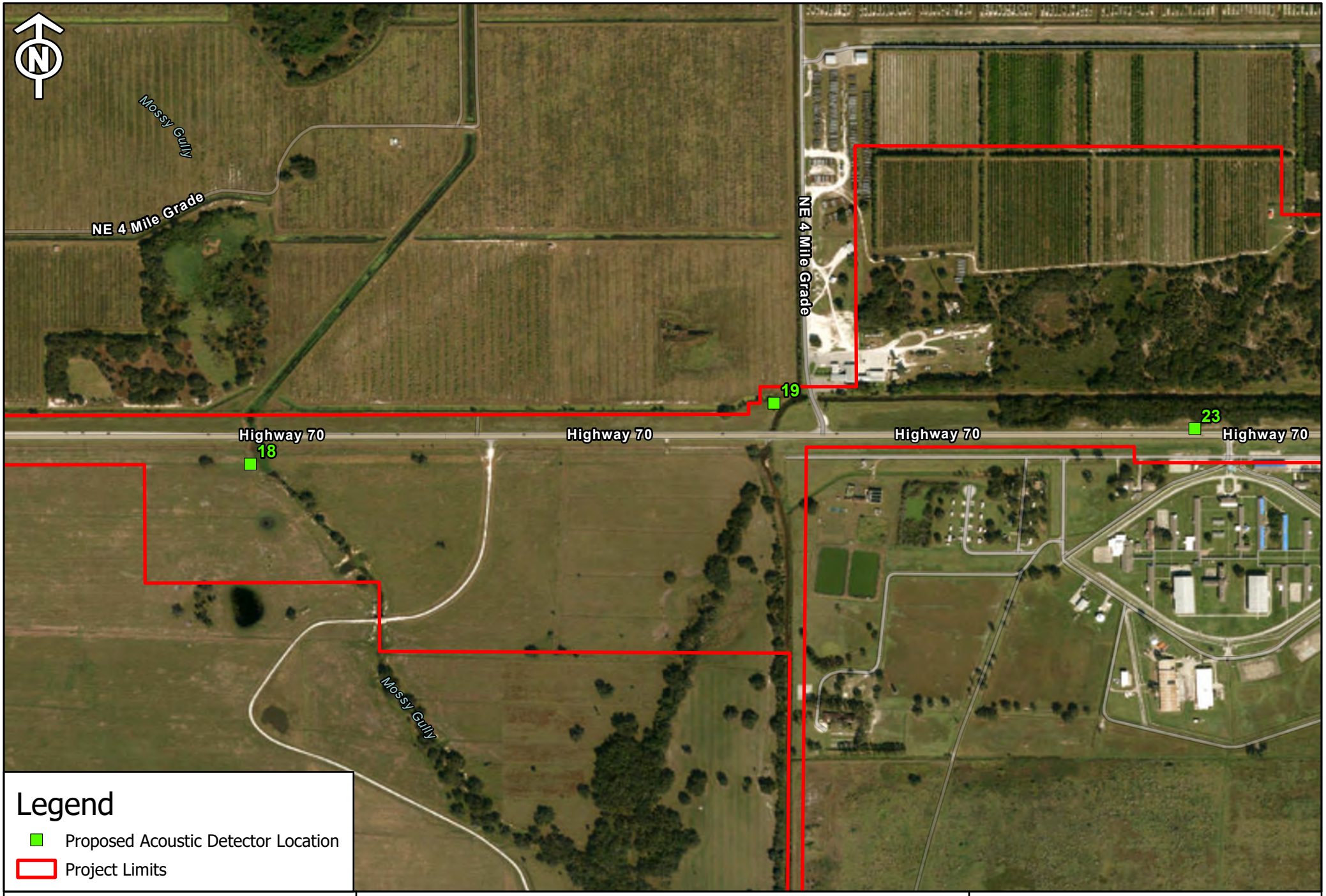
0 0.33 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-10 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

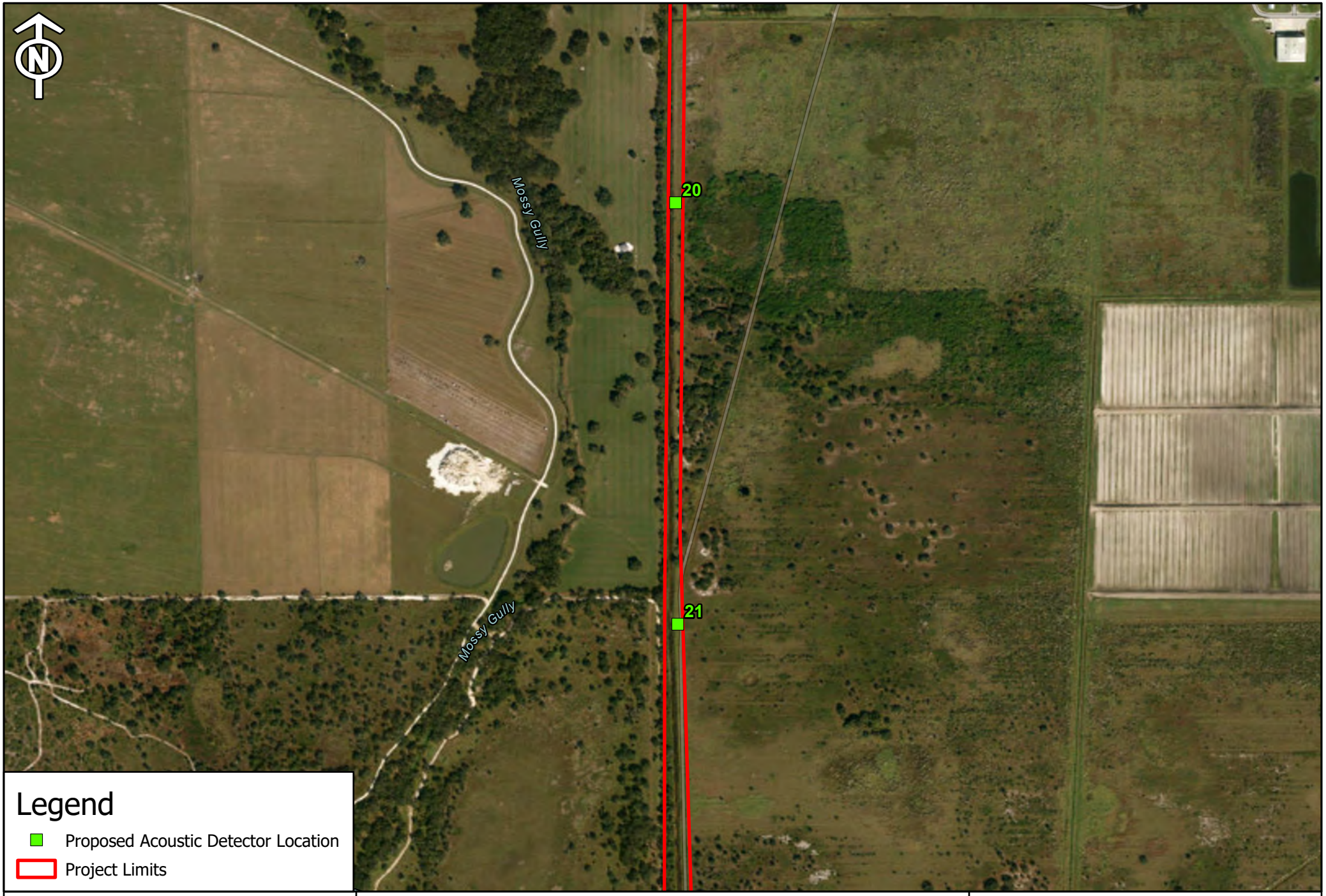
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-11 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

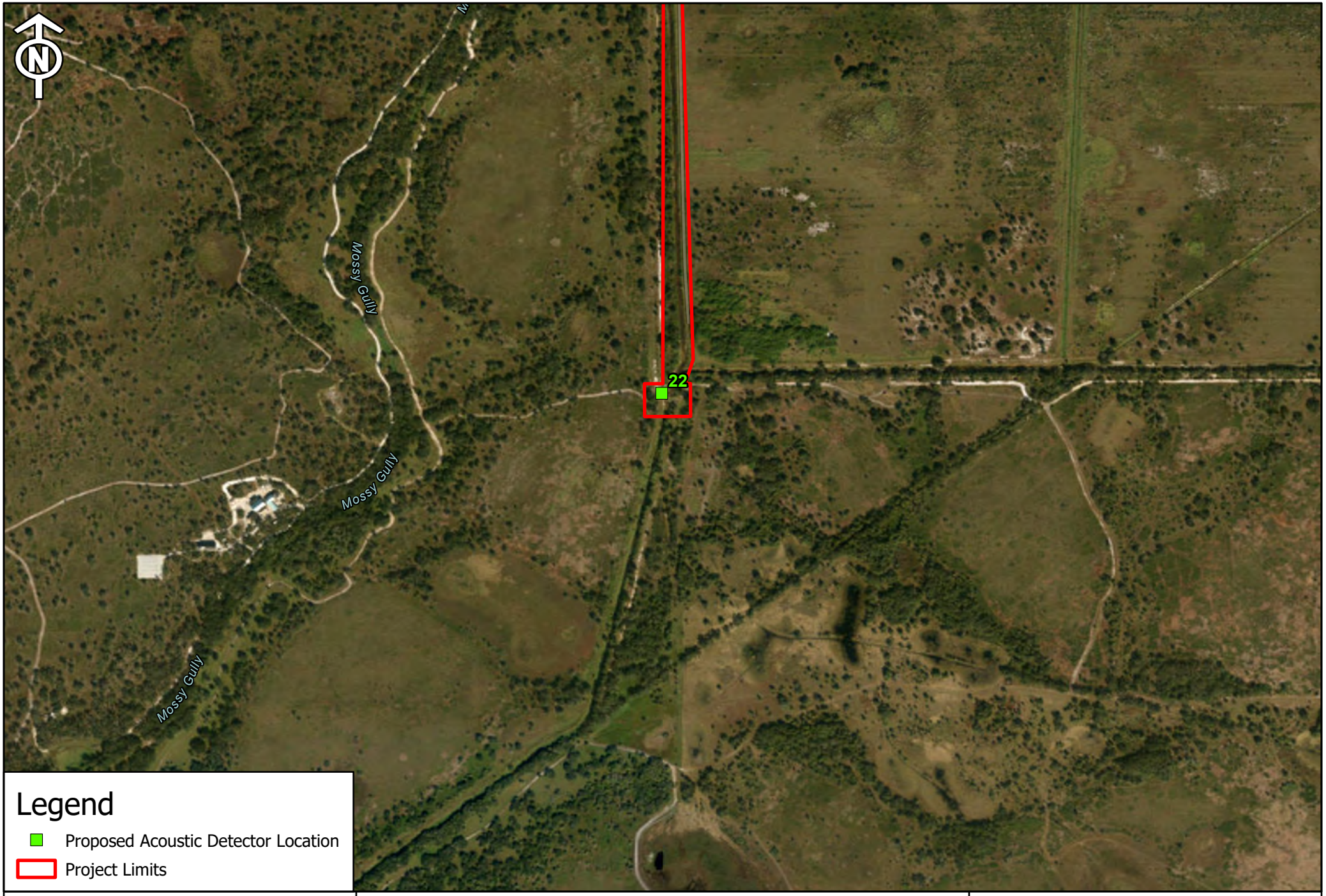
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-12 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

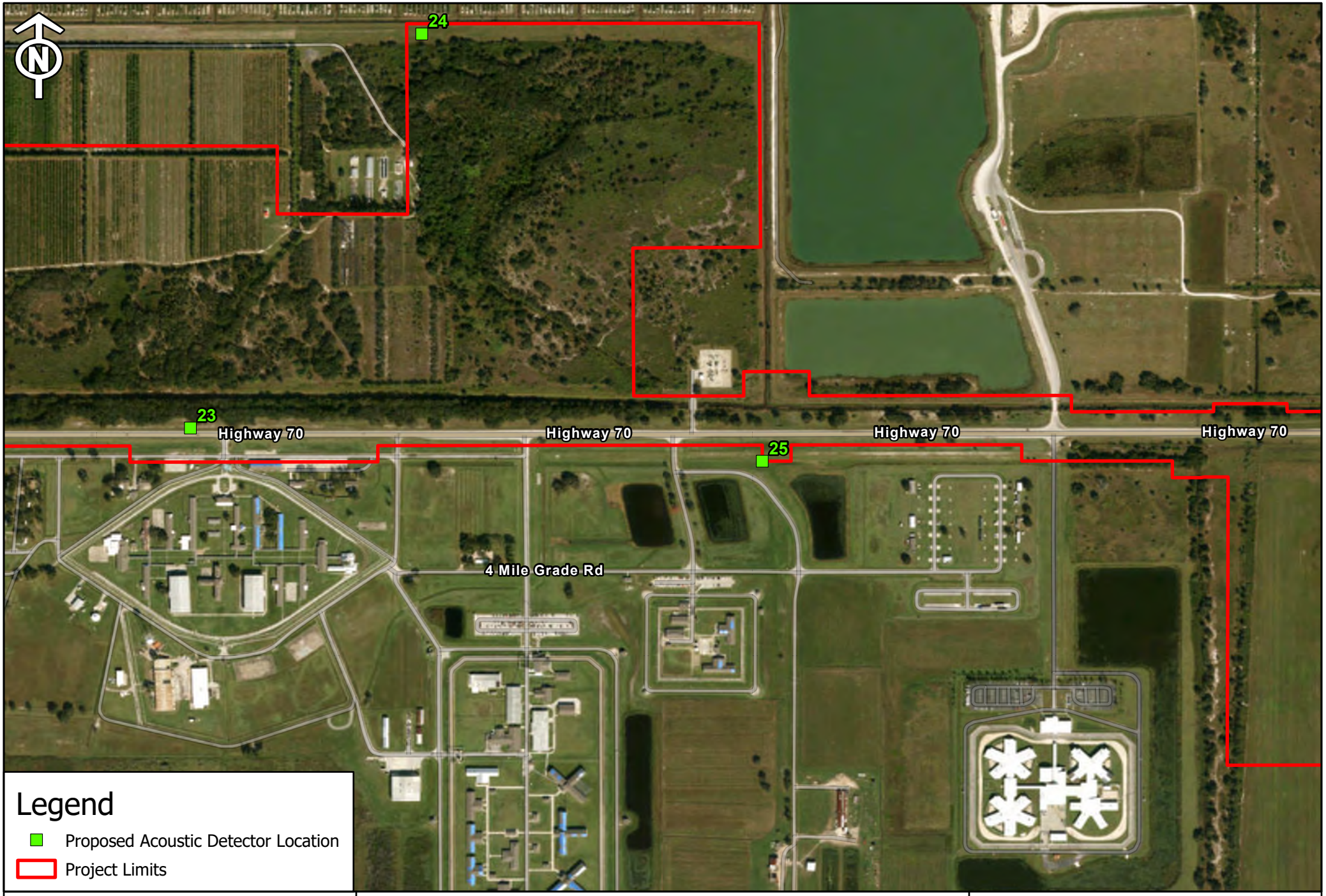
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-13 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

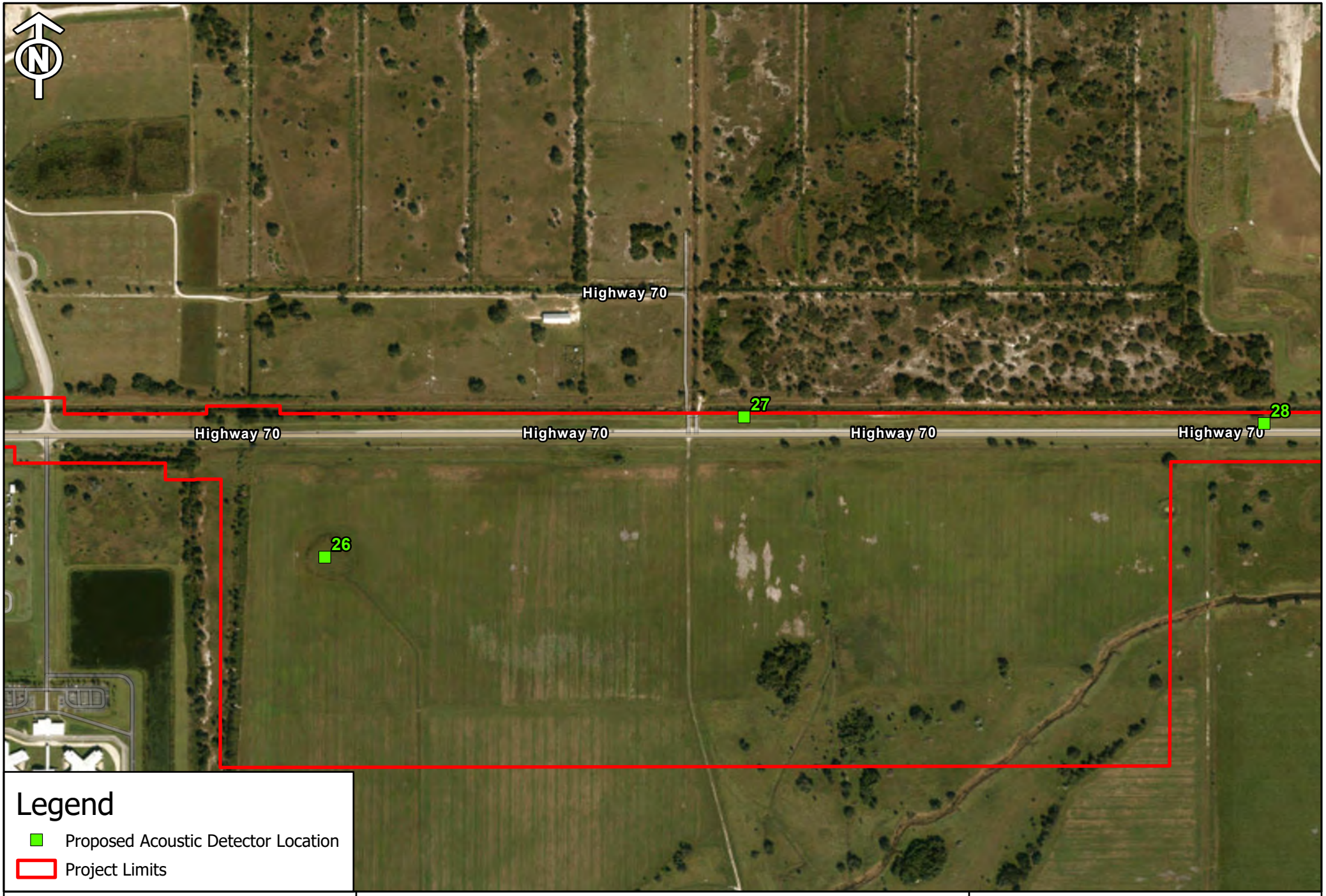
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-14 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

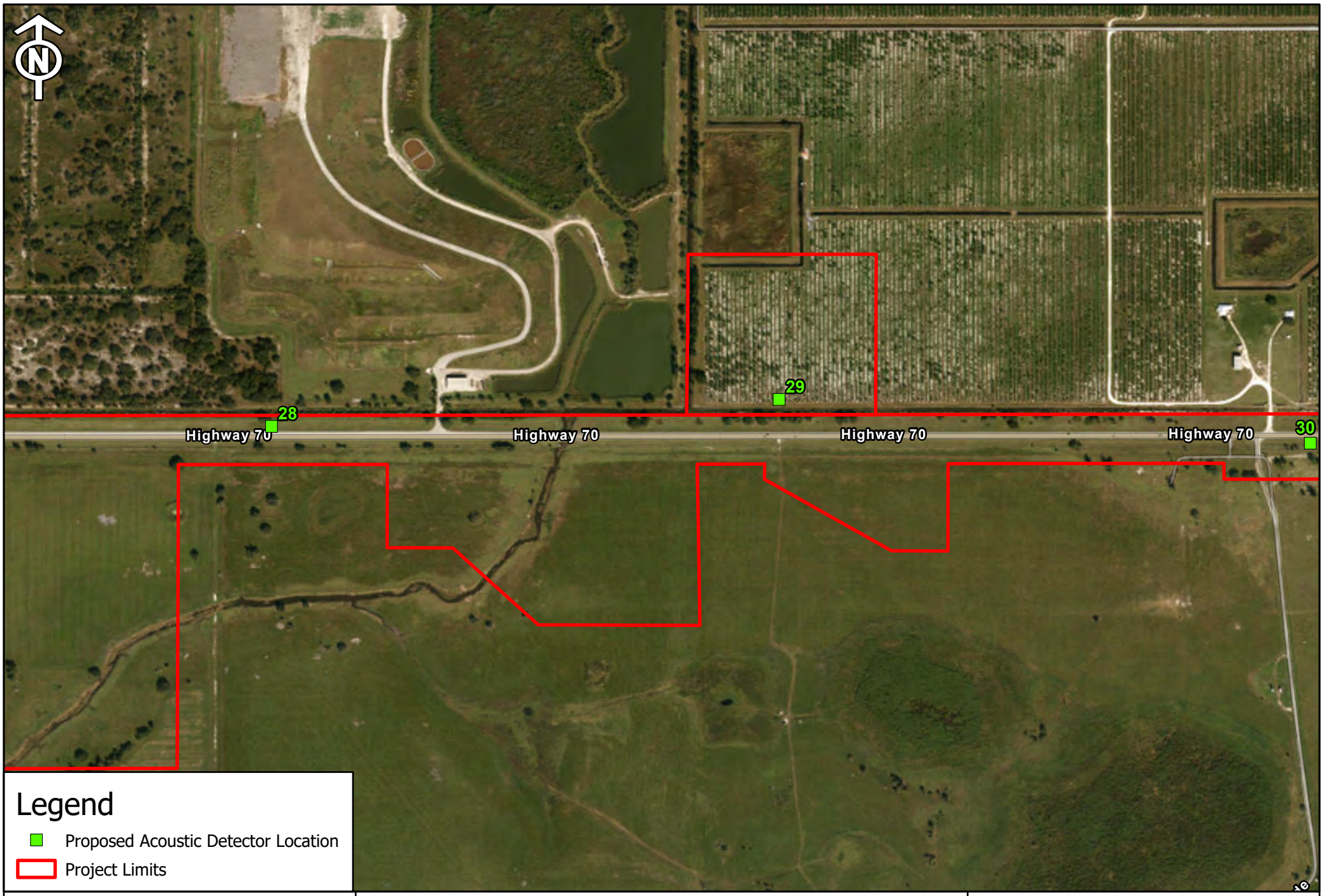
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-15 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

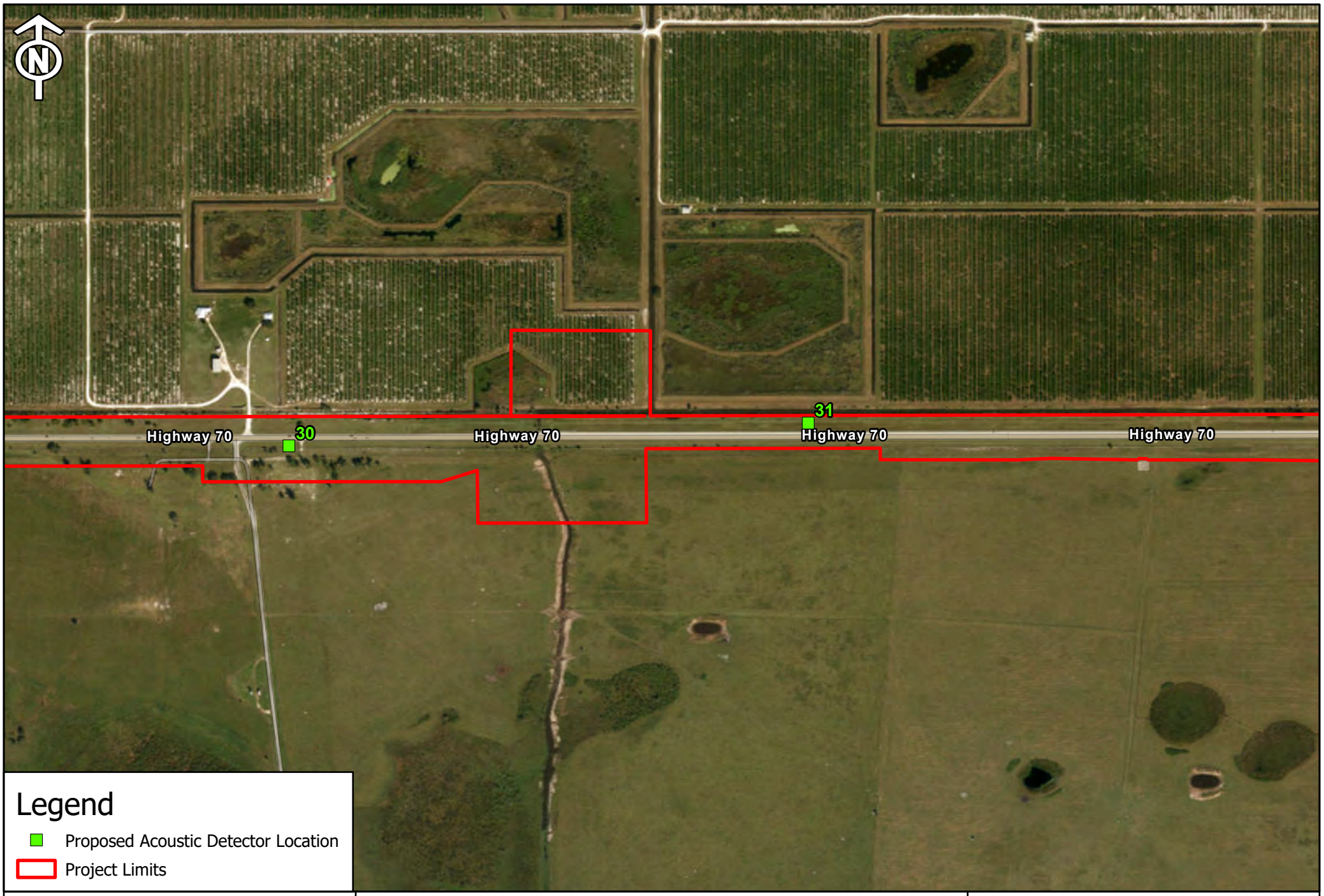
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-16 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

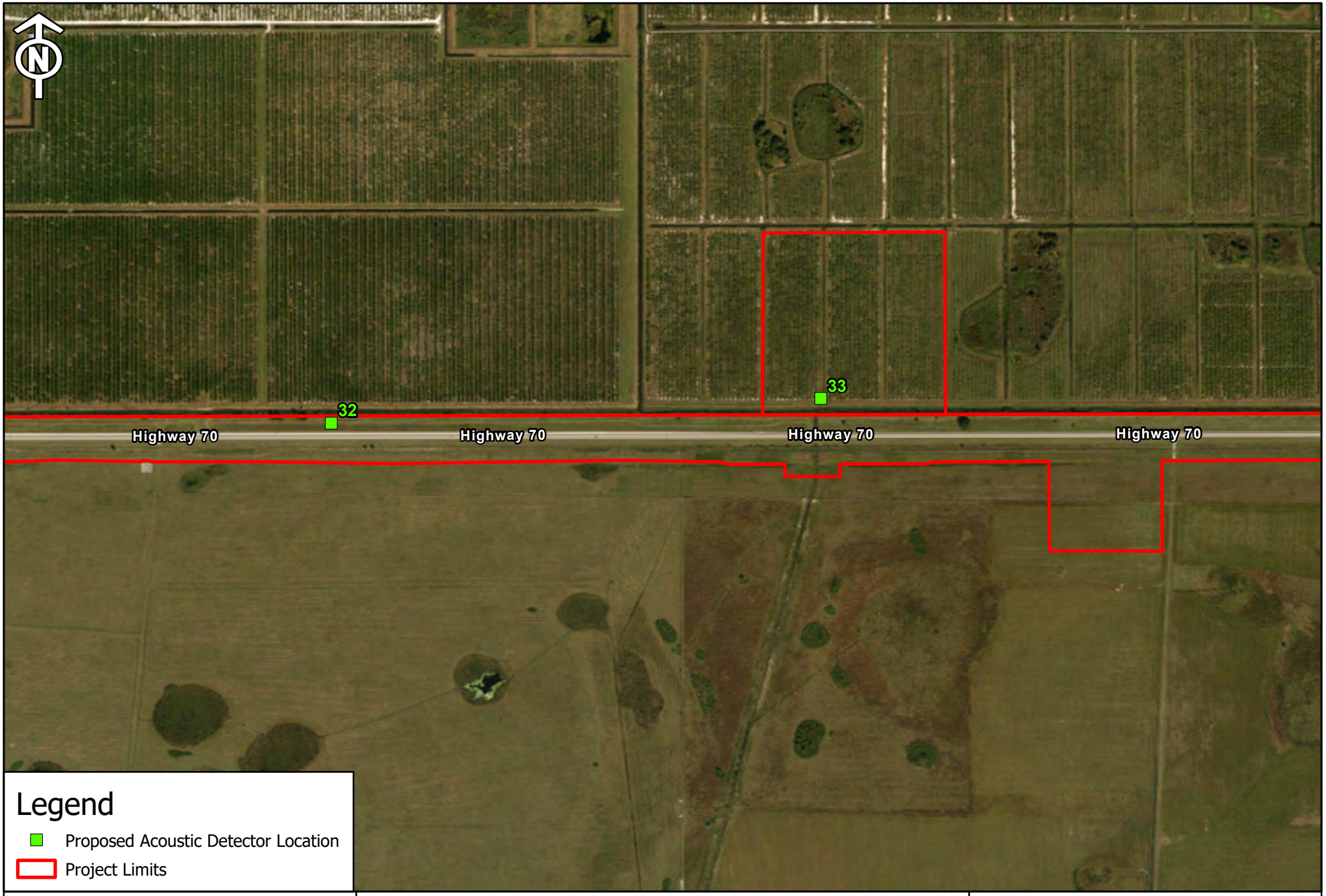
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-17 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

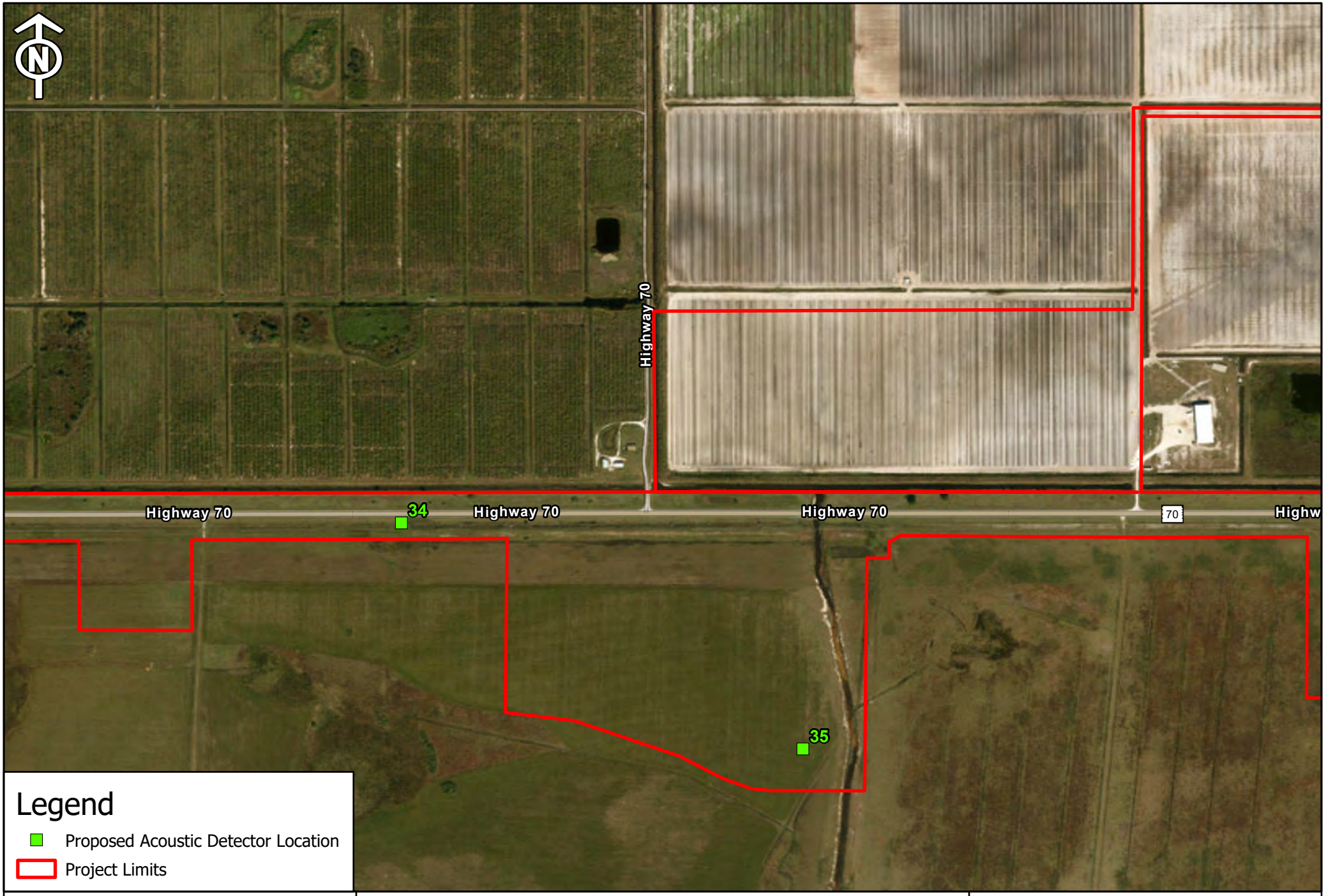
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-18 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

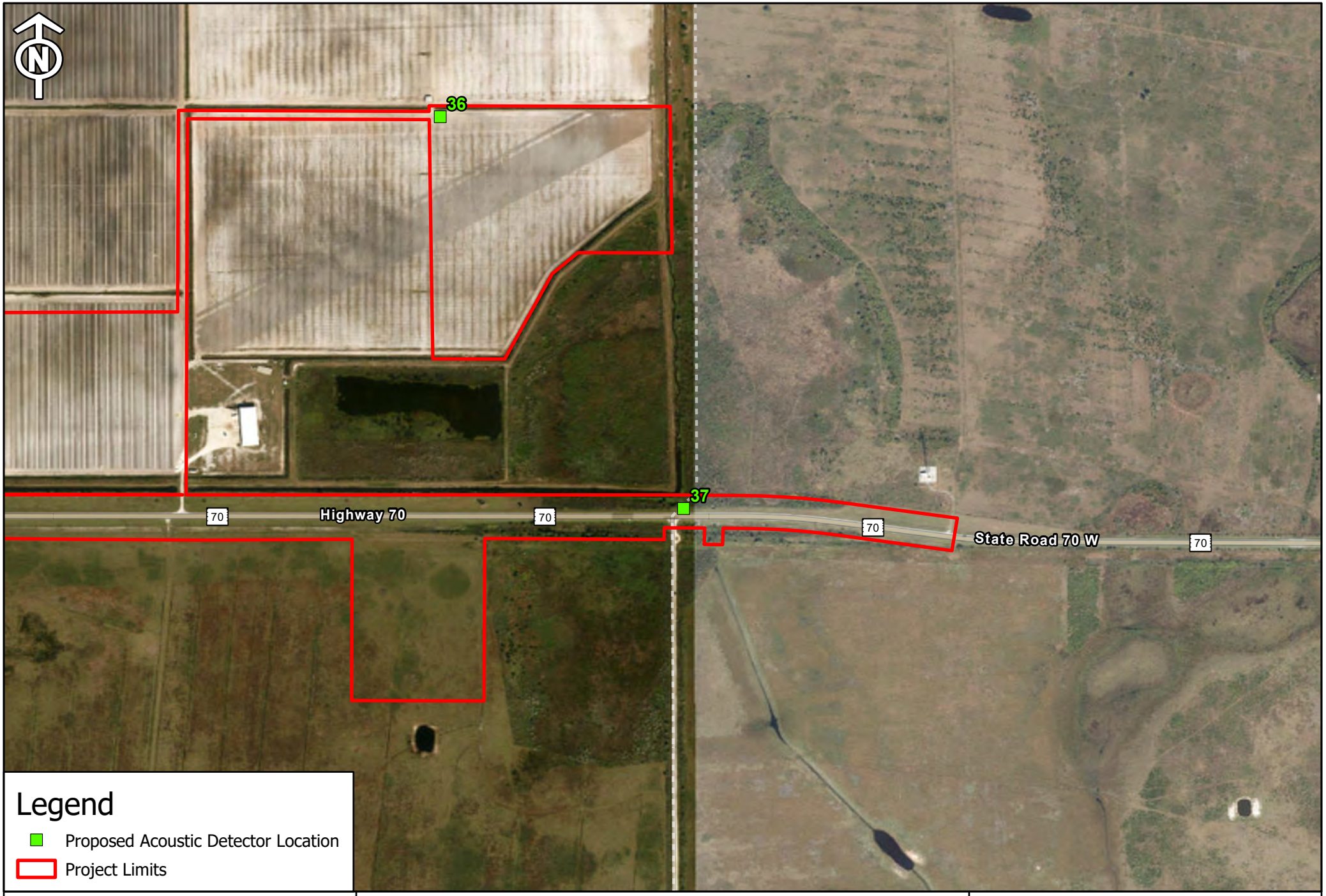
0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-19 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

0 0.3 Miles



FDOT

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01
Figure 2-20 - Florida Bonneted Bat and Tricolored Bat
Acoustic Survey Detector Location Map

0 0.3 Miles

Attachment K

Everglade Snail Kite Survey Maps for
451942-1-22-01: SR 70 from West of SR 31 to SE Highlands Co. Line Rd.
414506-1-22-01 and 414506-5-32-01: SR 70 from Jefferson Avenue to CR 29
and SR 70 from CR 29 to Lonesome Island Rd

Appendix A

- Determined Observation Station Map Figures for SNKI.

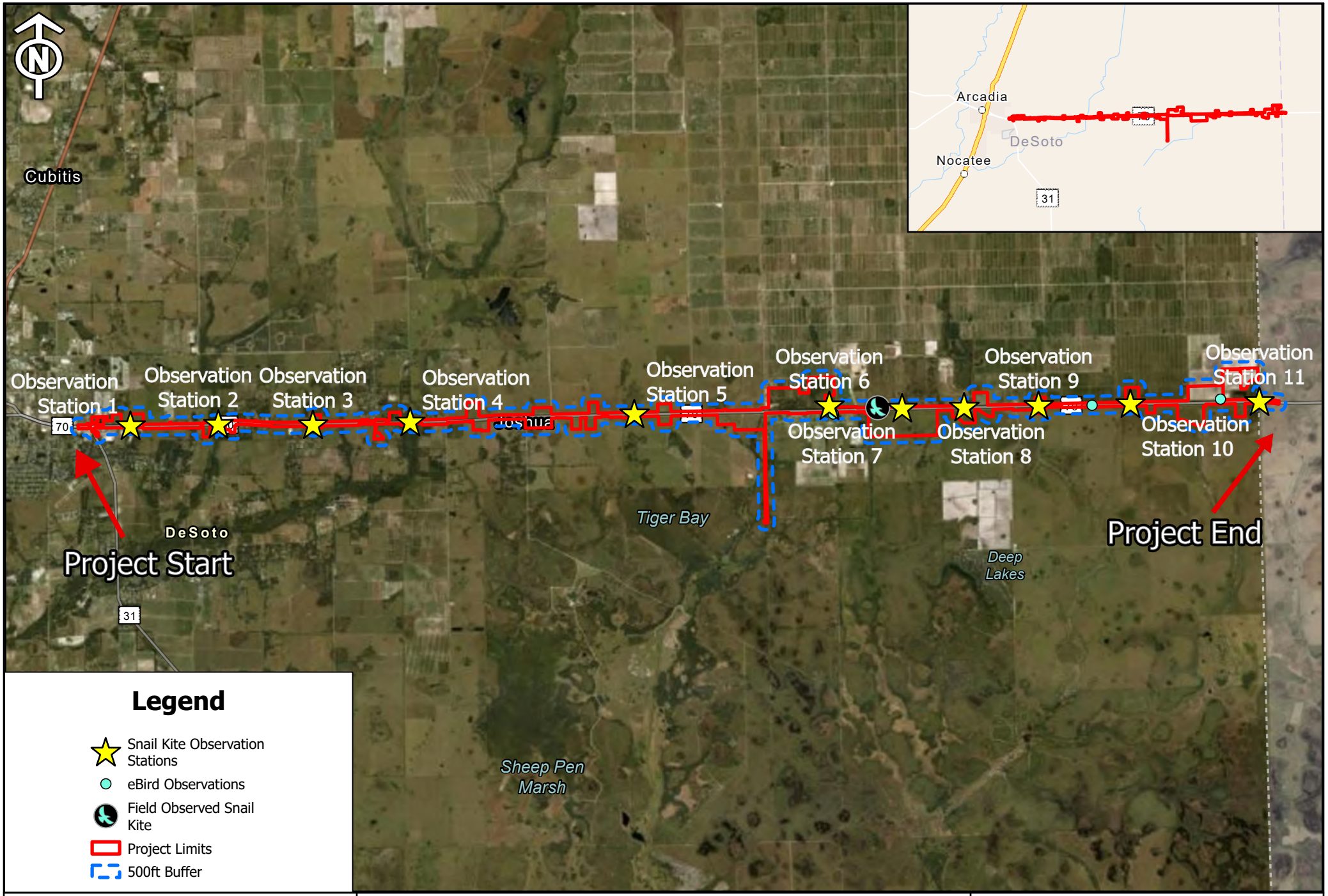
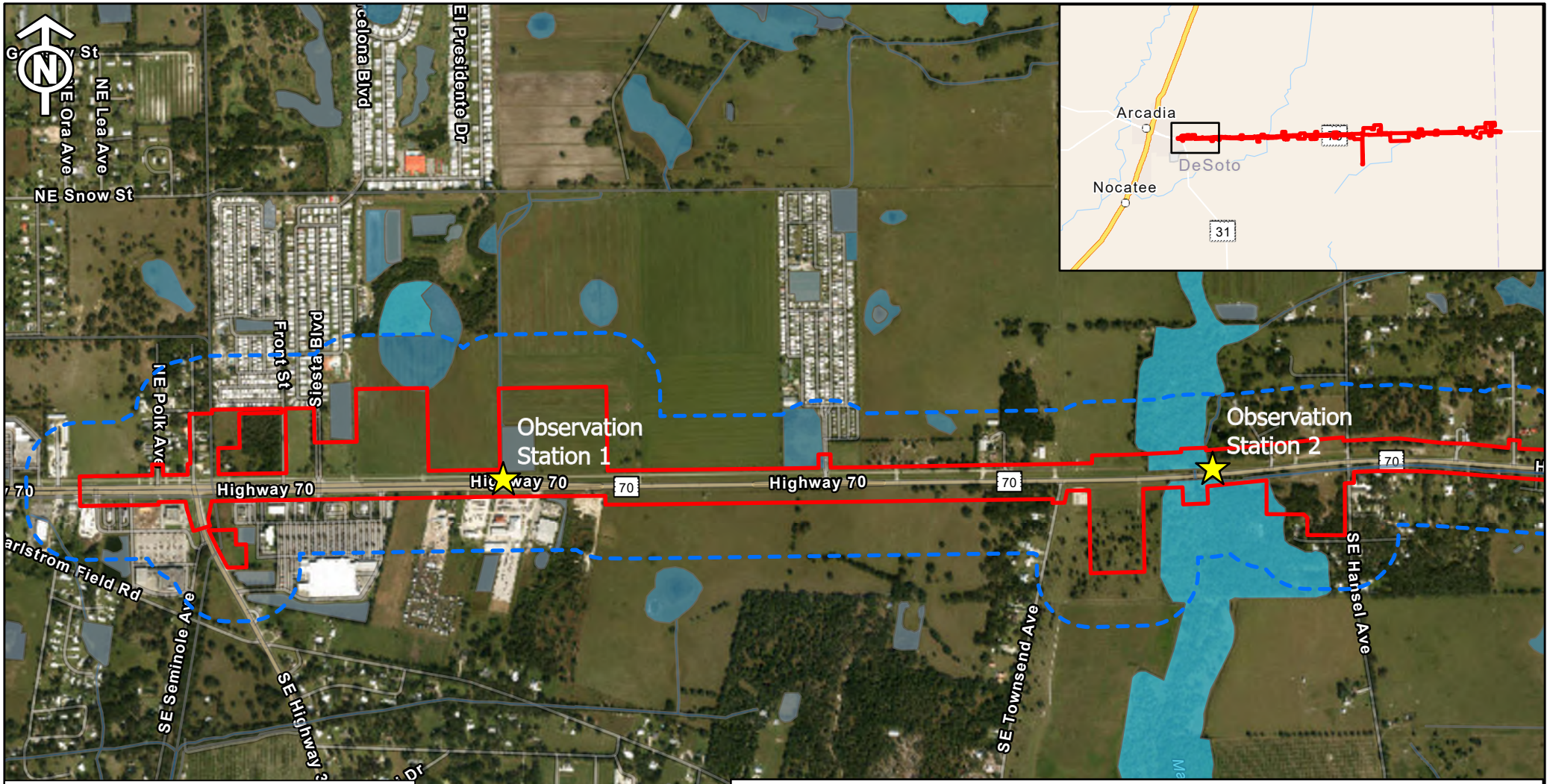


Figure 1. Project Location Map
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 0.5 1 2 3 Miles



Legend

- Snail Kite Observation Stations
- eBird Observations
- Field Observed Snail Kite
- Project Limits
- 500ft Buffer

NWI Wetland Type

- ESTUARINE AND MARINE DEEPWATER
- ESTUARINE AND MARINE WETLAND
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- OTHER
- RIVERINE

FDOT

Figure 2-1. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 1 & 2
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 500 1,000 2,000 US Feet

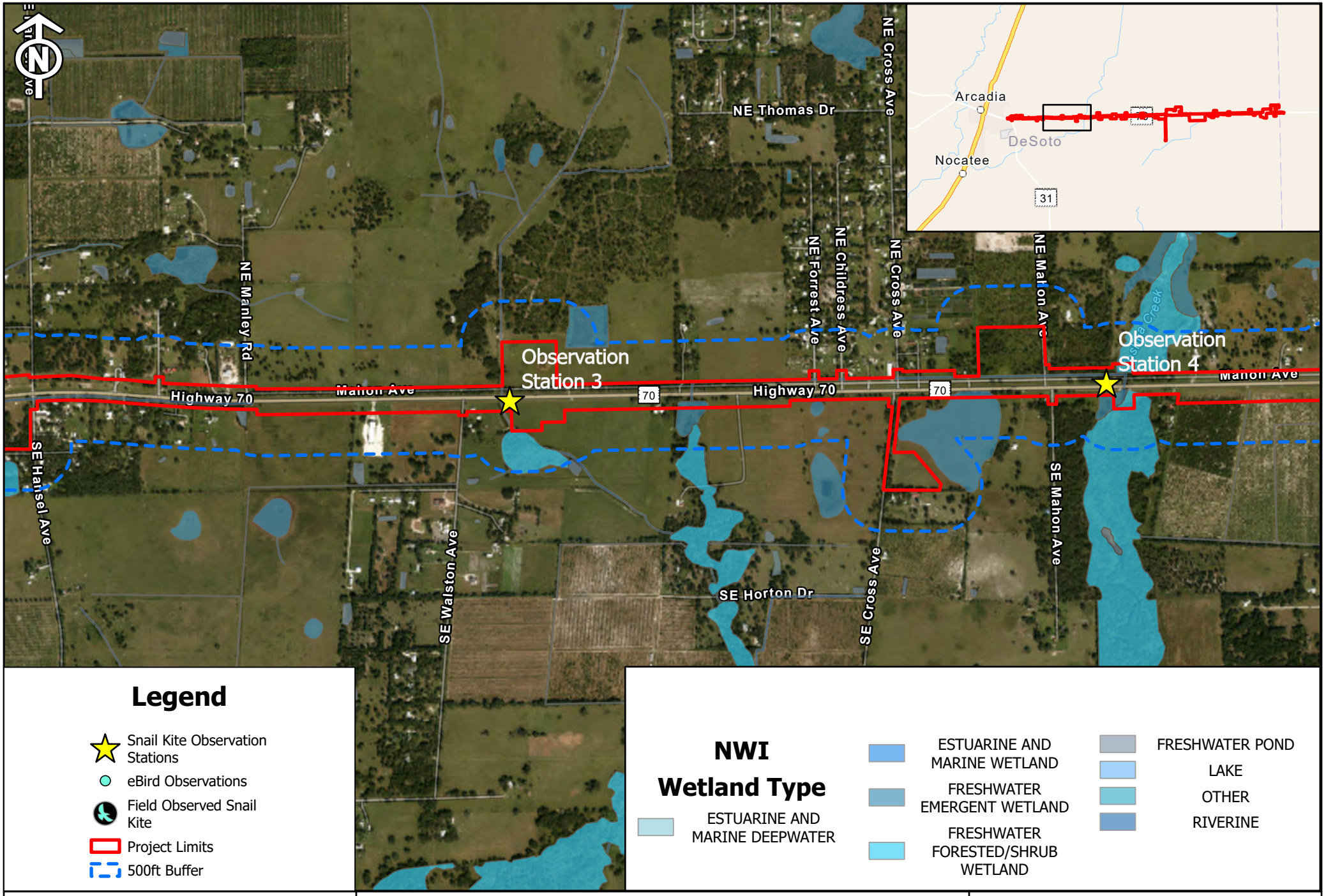
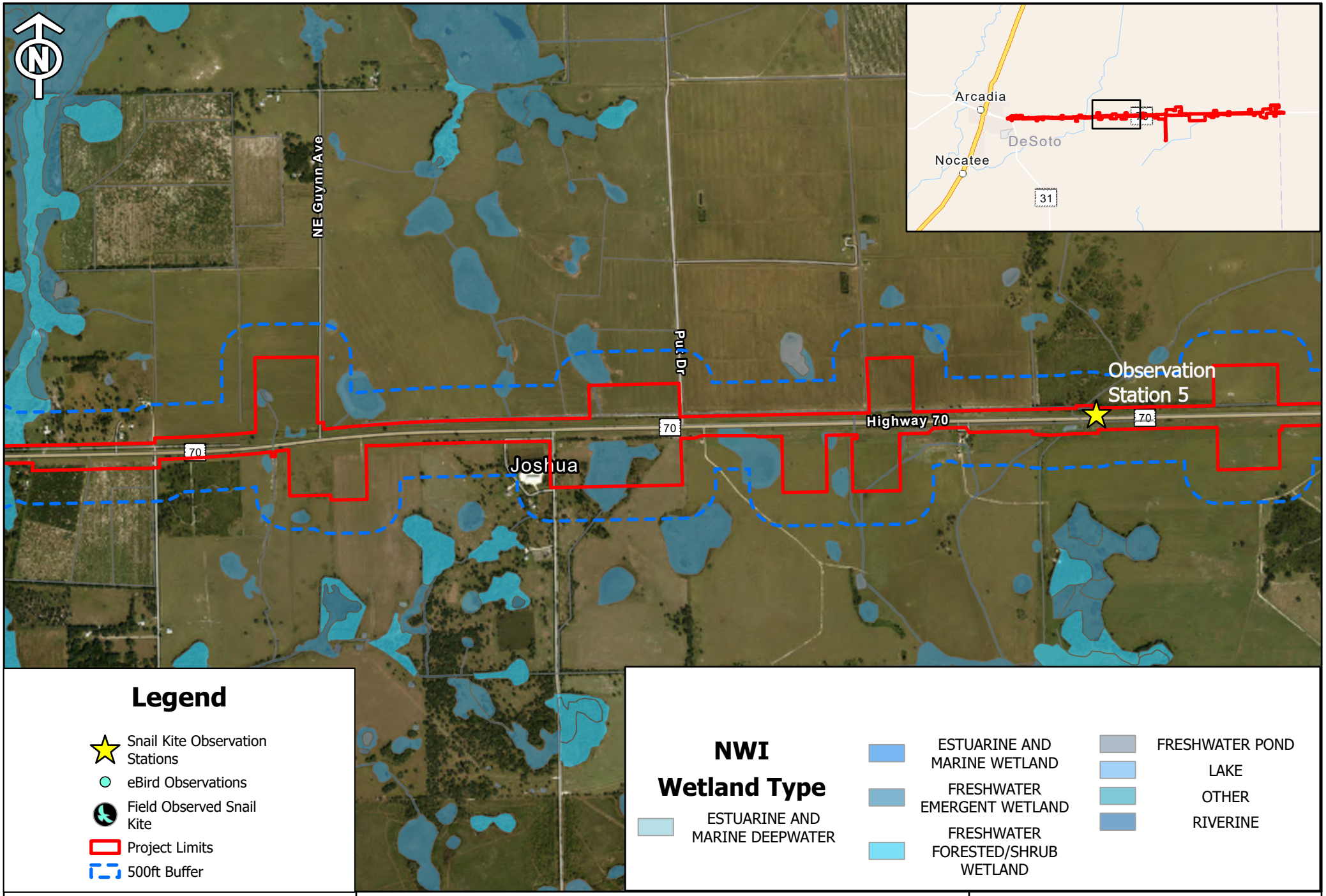


Figure 2-2. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 3 & 4

SR 70 West of SR 31 to SE Highlands County Line Road

FPID: 451942-1-22-01

0 500 1,000 2,000 US Feet



Legend

- Snail Kite Observation Stations
- eBird Observations
- Field Observed Snail Kite
- Project Limits
- 500ft Buffer

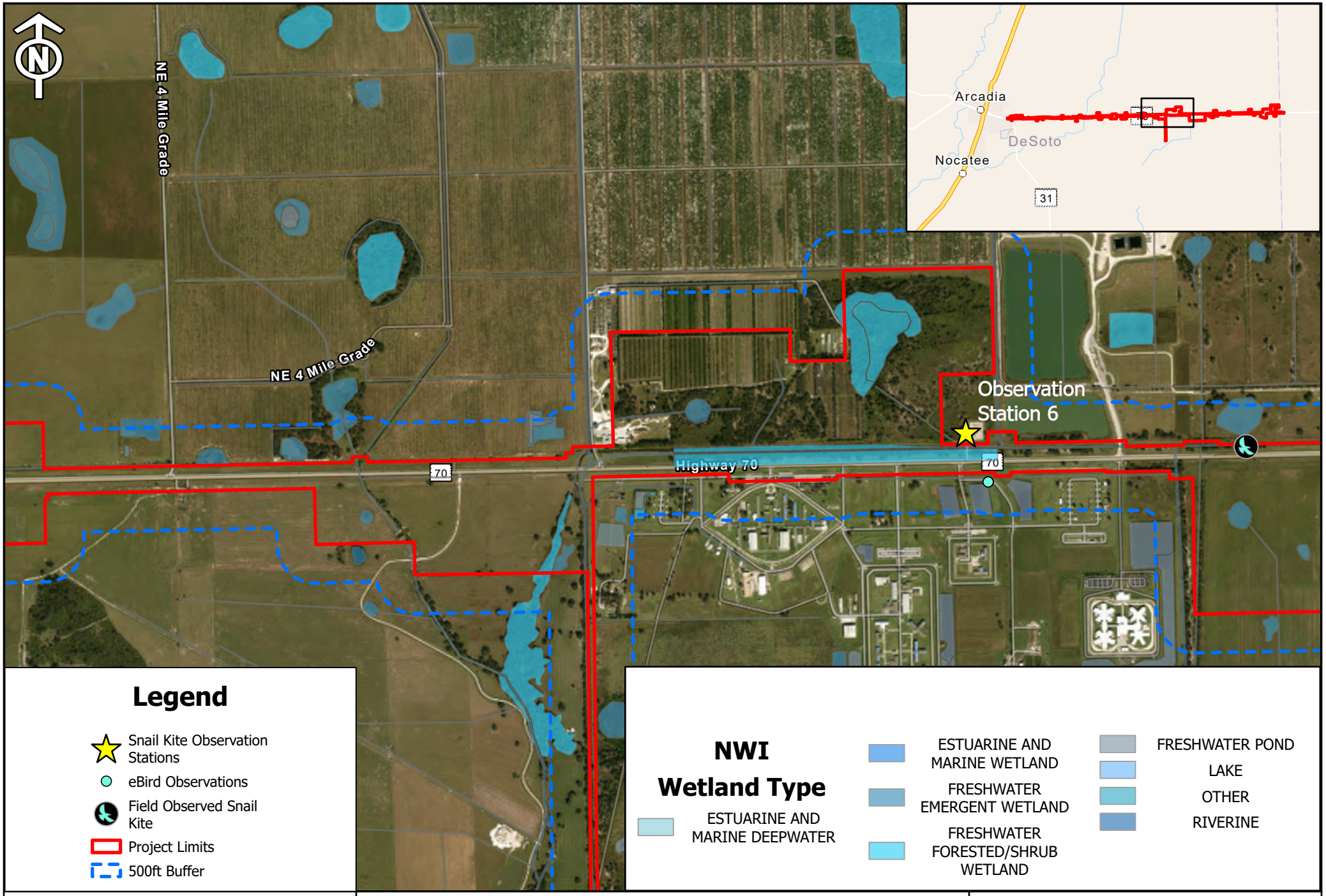
NWI Wetland Type

- ESTUARINE AND MARINE DEEPWATER
- ESTUARINE AND MARINE WETLAND
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- OTHER
- RIVERINE

FDOT

Figure 2-3. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)
Observation Station 5
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

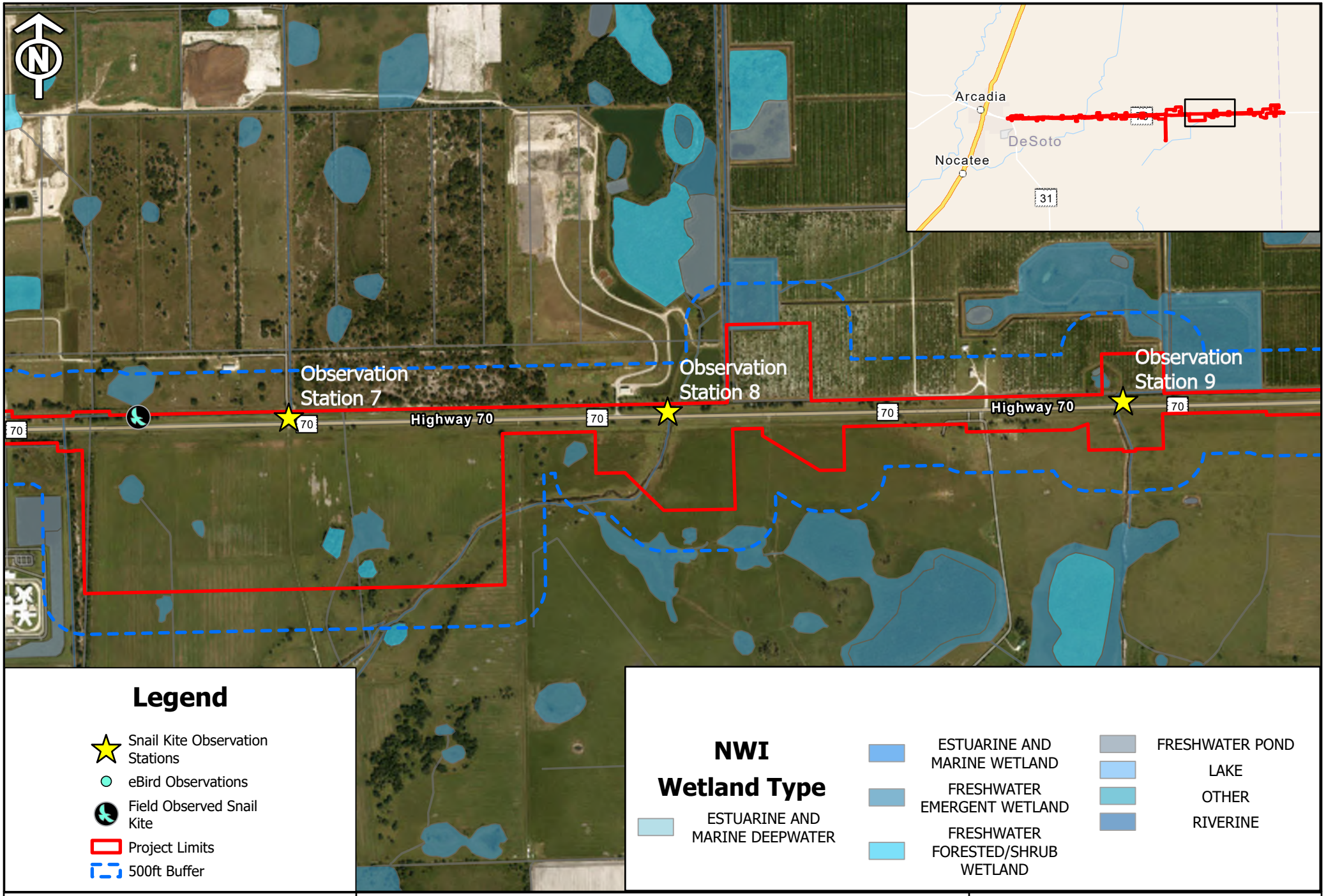
0 0.25 0.5 Miles



FDOT

Figure 2-4. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)
Observation Station 6
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 500 1,000 2,000 US Feet



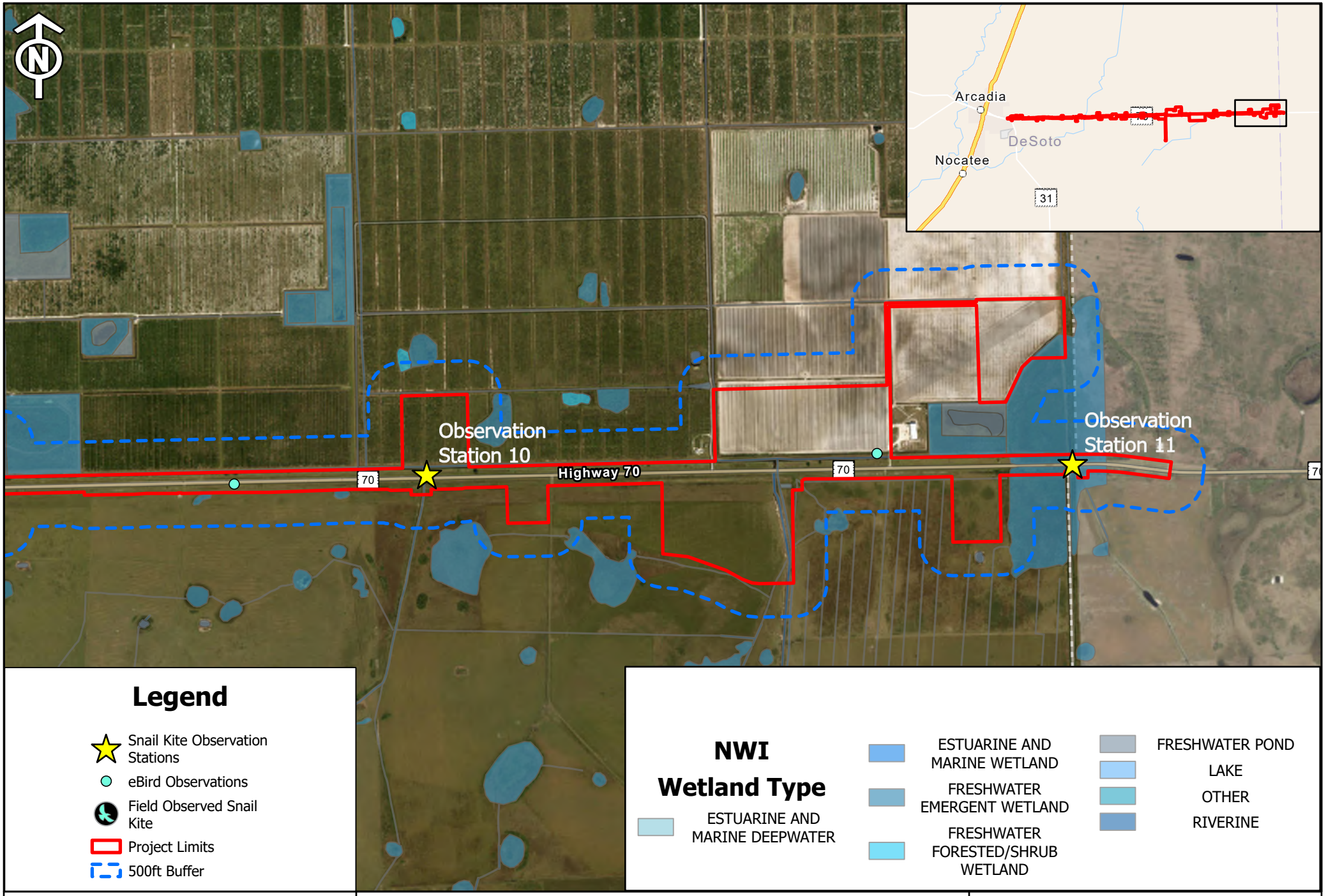
FDOT

Figure 2-5. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 7, 8, & 9

SR 70 West of SR 31 to SE Highlands County Line Road

FPID: 451942-1-22-01

0 1,250 2,500 US Feet



Legend

- Snail Kite Observation Stations
- eBird Observations
- Field Observed Snail Kite
- Project Limits
- 500ft Buffer

NWI Wetland Type

- ESTUARINE AND MARINE DEEPWATER
- ESTUARINE AND MARINE WETLAND
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- LAKE
- OTHER
- RIVERINE

FDOT

Figure 2-6. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 10 & 11
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 1,000 2,000 US Feet

From: Feagle, Autumn "Brooke" <Brooke.Feagle@dot.state.fl.us>
Sent: Friday, March 21, 2025 9:03 AM
To: Matthew Dockins <mdockins@hntb.com>; Gordon Mullen <gmullen@rkk.com>; James Fine <jfine@HNTB.com>
Cc: Lauk, Joe <Joe.Lauk@dot.state.fl.us>; Cothern, Kathern <Kathern.Cothern@dot.state.fl.us>
Subject: Fw: [EXTERNAL] Multi-Species Methodology Memo for Multiple SR 70 Projects

Good morning,

Just letting you know the Methodology Memo for the SR 70 project segments was accepted by USFWS. The Department will be sending the other memos next week.

Thanks!

Brooke Feagle
AtkinsRéalis on behalf of **FDOT**
GEC Project Manager
FDOT District One
Direct Line: 863.800.9539

From: Wrublik, John
Sent: Thursday, March 20, 2025 1:21 PM
To: Gilmer, Nikki
Cc: Lauk, Joe; Cothern, Kathern; Feagle, Autumn "Brooke"; James, Jeffrey W; Joyner, Melody; James Fine
Subject: Re: [EXTERNAL] Multi-Species Methodology Memo for Multiple SR 70 Projects

Nikki,

I have reviewed the survey methodology memorandum for Federally listed species provided for the following projects:

451942-1 SR 70 from W of SR 31 to SE Highlands County Line Rd (ETDM # 14569)
414506-1 SR 70 from Jefferson Ave to CR 29 (ETDM # 3054)
414506-5 SR 70 from CR 29 to Lonesome Island Rd (ETDM # 14364).

The listed species surveys proposed for these projects are acceptable to the U.S. Fish and Wildlife Service.

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: Gilmer, Nikki <nikki.gilmer@dot.state.fl.us>
Sent: Thursday, March 20, 2025 11:19 AM
To: Wrublik, John <john_wrublik@fws.gov>
Cc: joe.lauk@dot.state.fl.us <joe.lauk@dot.state.fl.us>; kathern.cothern@dot.state.fl.us <kathern.cothern@dot.state.fl.us>; brooke.feagle@dot.state.fl.us <brooke.feagle@dot.state.fl.us>; jeffrey.james@dot.state.fl.us <jeffrey.james@dot.state.fl.us>; melody.joyner@dot.state.fl.us <melody.joyner@dot.state.fl.us>; jfine@hntb.com <jfine@hntb.com>
Subject: [EXTERNAL] Multi-Species Methodology Memo for Multiple SR 70 Projects

Gilmer, Nikki sent you a secure message

Access message

Good morning Mr. Wrublik,

On behalf of FDOT D1s Corridors office, please see the attached species methodology memo for your review and approval.

This memo covers three different projects:

- 451942-1 SR 70 from W of SR 31 to SE Highlands County Line Rd (ETDM # 14569)
- 414506-1 SR 70 from Jefferson Ave to CR 29 (ETDM # 3054)
- 414506-5 SR 70 from CR 29 to Lonesome Island Rd (ETDM # 14364).

We humbly ask for your approval by April 1st, as we are anticipating starting some of the surveys then. Please reach out if you require any additional information or have any questions.

Thank you for your time,

Nikki Gilmer

ETDM Coordinator & Environmental Project Manager

Florida Department of Transportation | District One

801 North Broadway Ave | Bartow, FL 33830

Phone: (863) 519-2375 Email: nikki.gilmer@dot.state.fl.us

APPENDIX E

FNAI Data Report

Florida
Natural Areas
Inventory

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

August 27, 2024

Hillary Saunders
HNTB Corporation
1276 Metropolitan Blvd., Suite 304
Tallahassee, FL 32312

Dear Ms. Saunders,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). At your request we have produced the following report for your project area.

The purpose of this Standard Data Report is to provide objective scientific information on natural resources located in the vicinity of a site of interest, in order to inform those involved in project planning and evaluation. This Report makes no determination of the suitability of a proposed project for this location, or the potential impacts of the project on natural resources in the area.

Project: SR 70 - Segments 9 and 10

Date Received: 8/20/2024

Location: Desoto County

Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

The element occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.

Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

CLIP

The enclosed map shows natural resource conservation priorities based on the Critical Lands and Waters Identification Project. CLIP is based on many of the same natural resource data developed for the Florida Forever Conservation Needs Assessment, but provides an overall picture of conservation priorities across different resource categories, including biodiversity, landscapes, surface waters, and aggregated CLIP priorities (that combine the individual resource categories). CLIP is also based primarily on remote sensed data and is not intended to be the definitive authority on natural resources on a site.

For more information on CLIP, visit https://www.fnai.org/services/clip.

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/species-communities/tracking-main for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. **The maps contain sensitive environmental information, please do not distribute or publish without prior consent from FNAI.** FNAI data may not be resold for profit.

Thank you for your use of FNAI services. If I can be of further assistance, please contact me at (850) 224-8207 or at kbrinegar@fnai.fsu.edu.

Sincerely,

Kerri Brinegar

Kerri Brinegar
GIS / Data Services

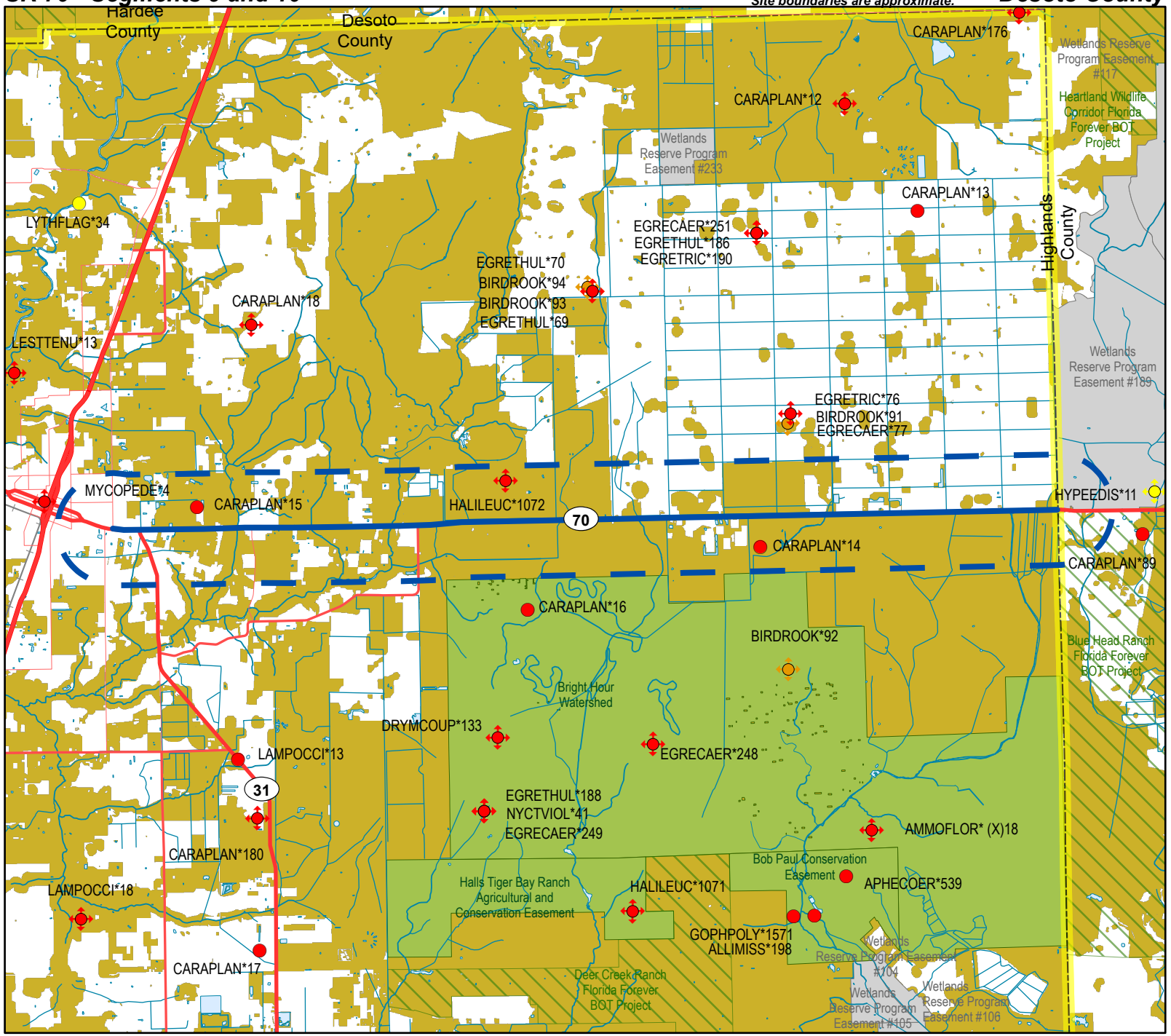
Encl

Florida Natural Areas Inventory
1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
www.fnai.org

SR 70 - Segments 9 and 10

Site boundaries are approximate.

Desoto County



Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive

Point Indicates General Vicinity of Element

Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

N

Land Acquisition Projects

- Florida Forever Board of Trustees Projects
- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units
- County Boundary
- Roads
- Water

0 1.5 3 6 Miles

NOTE

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

Map produced by KAB
8/27/2024

SR 70 - Segments 9 and 10

Site boundaries are approximate.

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
www.fnai.org

Florida Natural Areas Inventory

CLIP v4.0 Resource Priorities

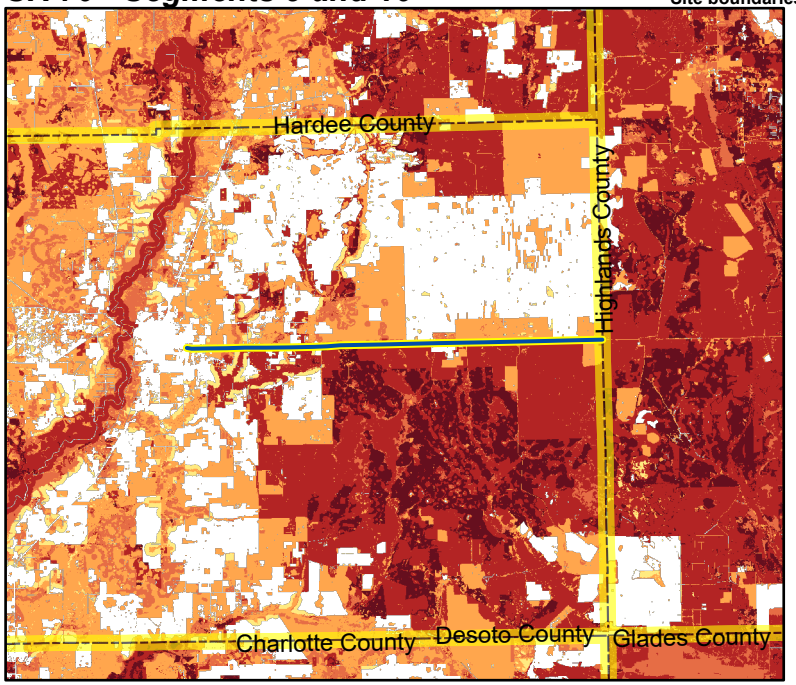
Biodiversity Resource Category
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Landscape Resource Category
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Surface Water Resource Category
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

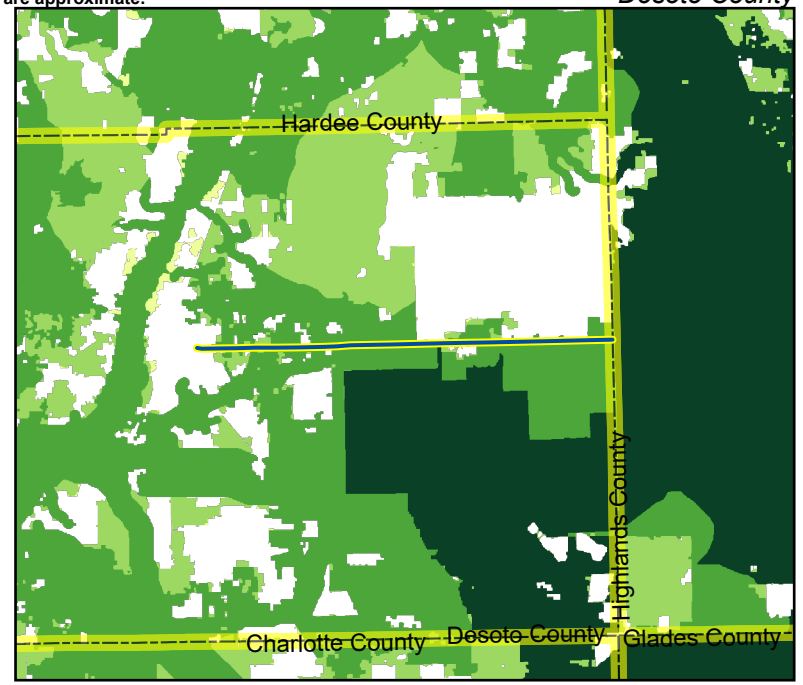
Aggregated CLIP Priorities
- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Site Boundary

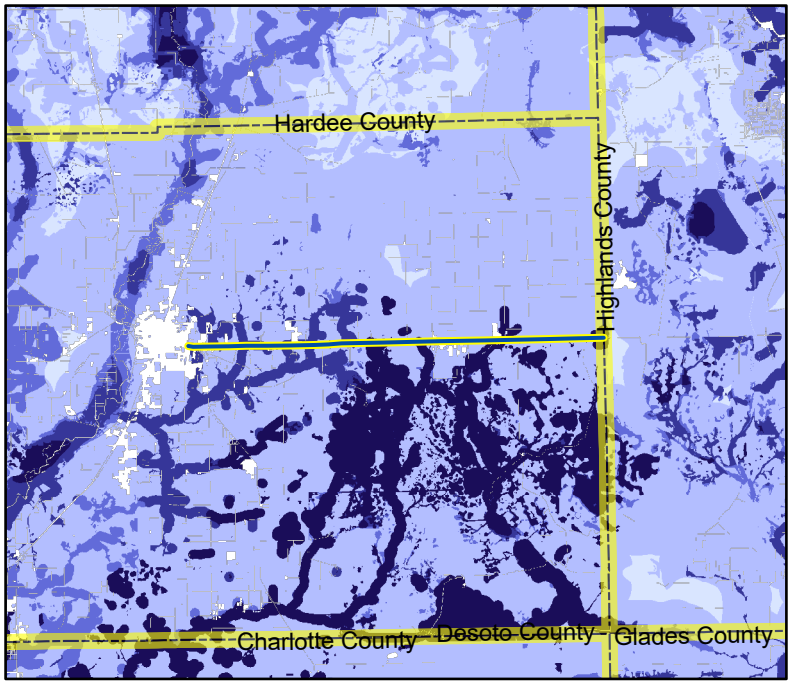


CLIP Biodiversity Resource Priorities

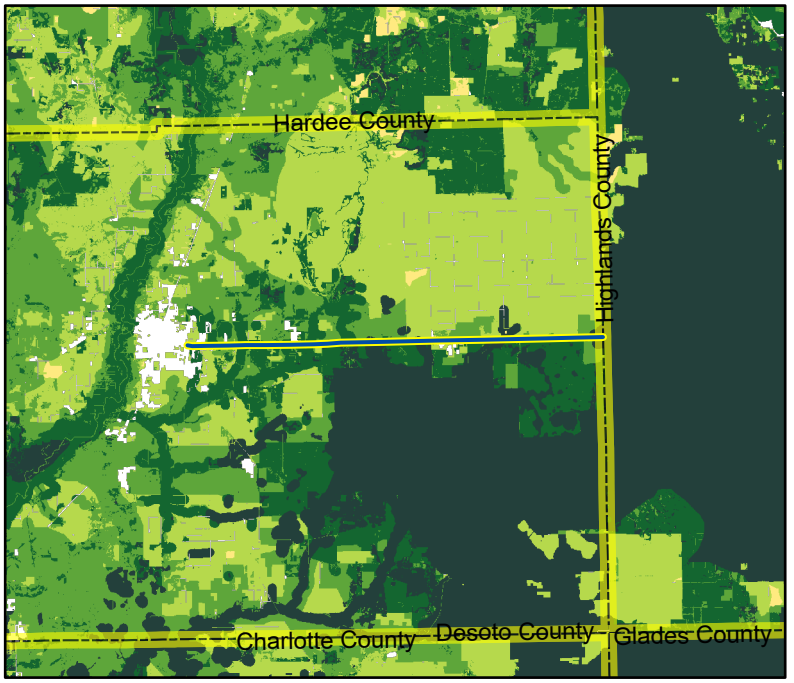
Desoto County



CLIP Landscape Resource Priorities



CLIP Surface Water Resource Priorities



CLIP Aggregated Resource Priorities

0 2.5 5 10 15 20 25 30 Miles

Map should not be interpreted without accompanying documents.

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

Map produced by KAB
8/27/2024

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
www.fnai.org

Florida Natural Areas Inventory

FNAI ELEMENT OCCURRENCE REPORT on or near

SR 70 - Segments 9 and 10

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
BIRDROOK*91	Bird Rookery		G5	SNRB	N	N	1978-07	COLONY SITE IS SHRUBS ALONG DRAINAGE DITCH; SURROUNDED BY ORANGE GROVE. NESTING SUBSTRATE IS BACCHARIS & ELDER OVER WATER, LESS THAN 0.8 KM FROM HUMAN DISTURBANCE.	ACTIVE ROOKERY. LITTLE BLUE HERON(25+ PRS IN 4/78; SOME IN 7/78); CATTLE EGRET (150 PRS IN 4/78; 2000- 2500 PRS IN 7/78); TRICOLOR HERON (SOME IN 4/78).
CARAPLAN*14	*Caracara plancus*	Crested Caracara	G5	S2	T	FT	1978	No general description given	ACTIVE TERRITORY/BREEDING PAIR.
CARAPLAN*15	*Caracara plancus*	Crested Caracara	G5	S2	T	FT	1978	No general description given	BELIEVED TO BE ACTIVE TERRITORY/BREEDING PAIR.
EGRECAER*77	*Egretta caerulea*	Little Blue Heron	G5	S4	N	ST	1978-07	COLONY SITE IS SHRUBS ALONG DRAINAGE DITCH; SURROUNDED BY ORANGE GROVE. NESTING SUBSTRATE IS BACCHARIS & ELDER OVER WATER, LESS THAN 0.8 KM FROM HUMAN DISTURBANCE.	ACTIVE ROOKERY. 25+ NESTING PAIRS SEEN 4/78; SOME IN 7/78.
EGRETRIC*76	*Egretta tricolor*	Tricolored Heron	G5	S4	N	ST	1978-07	COLONY SITE IS SHRUBS ALONG DRAINAGE DITCH; SURROUNDED BY ORANGE GROVE. NESTING SUBSTRATE IS BACCHARIS & ELDER OVER WATER, LESS THAN 0.8 KM FROM HUMAN DISTURBANCE.	ACTIVE ROOKERY. NESTING PAIRS (NUMBER NOT SPECIFIED) SEEN 4/78.
HALILEUC*1072	*Haliaeetus leucocephalus*	Bald Eagle	G5	S3	N	N	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
HYPEEDIS*11	*Hypericum edisonianum*	Edison's ascyrum	G2G3	S2S3	N	E	1995-03-10	Open prairie	Flowering specimens collected in 1956 and 1995.
MYCOPEDE*4	*Mycotrupes pedester*	Southwest Florida Mycotrupes Beetle	G1G2	S1S2	N	N	1930	1930: No description given (B54OLS01FLUS, page 28).	1930: T.H. Hubbell collected one male specimen (B54OLS01FLUS, page 28).

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
www.fnai.org

Florida Natural Areas Inventory

Aggregated Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Documented-Historic					
Caracara plancus	Crested Caracara	G5	S2	T	FT
Likely					
Antigone canadensis pratensis	Florida Sandhill Crane	G5T2	S2	N	ST
Dry prairie		G2	S2	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S2?	T	FT
Hypericum edisonianum	Edison's ascyrum	G2G3	S2S3	UR	E
Mesic flatwoods		G4	S4	N	N
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3?	S3?	N	N
Puma concolor coryi	Florida Panther	G5T1	S1	E	FE
Potential					
Andropogon arctatus	pinewoods bluestem	G3	S3	N	T
Aphelocoma coerulescens	Florida Scrub-Jay	G1G2	S1S2	T	FT
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	ST
Bonamia grandiflora	Florida bonamia	G3	S3	T	E
Calopogon multiflorus	many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola	sand butterfly pea	G2Q	S2	N	E
Chionanthus pygmaeus	pygmy fringe tree	G2G3	S2S3	E	E
Chrysopsis floridana	Florida goldenaster	G3	S3	E, PDL	E
Clinopodium ashei	Ashe's savory		S3	N	T
Clitoria fragrans	scrub pigeon-wing	G2G3	S2S3	T	E
Coleataenia abscissa	cutthroatgrass	G3	S3	N	E
Conradina brevifolia	short-leaved rosemary	G2Q	S2	E	E
Dryobates borealis	Red-cockaded Woodpecker	G3	S2	E, PT	FE
Eriogonum floridanum	scrub buckwheat	G4T3	S3	T	E
Farancia erytrogramma seminola	South Florida Rainbow Snake	G4TH	SH	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	ST
Gymnopogon chapmanianus	Chapman's skeletongrass		S3	N	N
Lampropeltis extenuata	Short-tailed Snake		S3	PT	ST
Lechea cernua	nodding pinweed		S3	N	T
Liatris ohlingerae	Florida blazing star	G2	S2	E	E
Lithobates capito	Gopher Frog	G2G3	S3	UR	N
Litsea aestivalis	pondspice	G3?	S2	N	E
Matelea floridana	Florida spiny-pod	G2	S2	N	E
Mnesithea tuberculosa	Piedmont jointgrass	G3	S3	N	T
Mycotrupes pedester	Southwest Florida Mycotrupes Beetle	G1G2	S1S2	N	N
Nemastylis floridana	celestial lily	G3	S3	N	E
Neofiber alleni	Round-tailed Muskrat	G2	S2	N	N
Nolina atopocarpa	Florida beargrass	G3	S3	N	T
Nolina brittoniana	Britton's beargrass		S3	E	E
Paronychia chartacea	paper nailwort		S3	T	E
Peucaea aestivalis	Bachman's Sparrow		S3	N	N
Platanthera integra	yellow fringeless orchid	G3G4	S2	N	E
Plestiodon egregius lividus	Blue-tailed Mole Skink	G5T2	S2	T	FT
Podomys floridanus	Florida Mouse	G3	S3	N	N
Polygala lewtonii	Lewton's polygala	G2	S2	E	E
Polygonella basiramia	Florida jointweed	G3	S3	E	E
Rostrhamus sociabilis	Snail Kite	G4G5	S2	E	FE
Sceloporus woodi	Florida Scrub Lizard	G2G3	S2S3	UR	N

Definitions: *Documented - Rare species and natural communities documented on or near this site.*
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
www.fnai.org

Florida Natural Areas Inventory

Florida Natural Areas Inventory

Aggregated Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Schizachyrium niveum	scrub bluestem	G1G2	S1S2	N	E
Sciurus niger niger	Southeastern Fox Squirrel	G5T5	S3	N	N
Ursus americanus floridanus	Florida Black Bear	G5T4	S4	N	N
Warea carteri	Carter's warea	G1	S1	E	E
Zephyranthes simpsonii	redmargin zephyrlily	G2G3	S2S3	N	T

Definitions: *Documented - Rare species and natural communities documented on or near this site.*
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.
G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.
GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
GNR = Element not yet ranked (temporary).
GNRTNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.
SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
SX = Believed to be extirpated throughout Florida.
SU = Unrankable; due to a lack of information no rank or range can be assigned.
SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
E, T = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
E, PDL = Species currently listed endangered but has been proposed for delisting.
E, PT = Species currently listed endangered but has been proposed for listing as threatened.
E, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
T = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
PE = Species proposed for listing as endangered.
PS = - An infraspecific taxon or population has federal status but the entire species does not - status is in only a portion of the species range.
PT = Species proposed for listing as threatened.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.
DL = Delisted.
UR = Under review.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

C = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
FXN = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011, 581.185 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40.

E = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
T = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
CE = Commercially exploited: species native to the state which are subject to being removed in significant numbers from native habitats in the state and sold or transported for sale.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

A = Excellent estimated viability
A? = Possibly excellent estimated viability
AB = Excellent or good estimated viability
AC = Excellent, good, or fair estimated viability
B = Good estimated viability
B? = Possibly good estimated viability
BC = Good or fair estimated viability
BD = Good, fair, or poor estimated viability
C = Fair estimated viability
C? = Possibly fair estimated viability
CD = Fair or poor estimated viability
D = Poor estimated viability
D? = Possibly poor estimated viability
E = Verified extant (viability not assessed)
F = Failed to find
H = Historical
NR = Not ranked, a placeholder when an EO is not (yet) ranked.
U = Unrankable
X = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

H? = Possibly historical
F? = Possibly failed to find
X? = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

APPENDIX F

Eastern Indigo Snake Package

United States Department of the Interior

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

August 1, 2017

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

Subject: Consultation Key for the Eastern Indigo Snake – Revised

Dear Mr. Kinard:

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

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

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

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

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

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

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

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

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

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

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

Scope of the Key

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

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

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

Habitat

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

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

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

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

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

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

Even though thermal stress may not be a limiting factor throughout the year in south Florida, eastern indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigo snakes use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumi*) burrows in coastal areas (Layne and Steiner 1996; Wilson and Porras 1983). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges.

Minimization Measures

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

Determinations

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

End Key

---

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

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

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

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

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

Sincerely,

Roxanna Hinzman
Field Supervisor
South Florida Ecological Services

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

LITERATURE CITED

Enge K. M. 2017. Personal communication. Email from Kevin Enge, Florida Fish and Wildlife Conservation Commission, Gainesville, Florida to Steve Mortellaro, U.S. Fish and Wildlife Service, Vero Beach, Florida, July 5, 2017. Locations of Eastern Indigo Snake (*Drymarchon couperi*).

Enge K. M. and M. J. Endries. 2009. Status of the Eastern Indigo Snake (*Drymarchon couperi*) in Florida. Southeast Partners in Amphibian and Reptile Conservation Meeting.

Landers, J. L. and D.W. Speake. 1980. Management Needs of Sandhill Reptiles in Southern Georgia. Proceedings Annual Conference of Southeastern Association of Fish and Wildlife Agencies. 34: 515-529.

Layne, J.N., and T.M. Steiner. 1996. Eastern indigo snake (Drymarchon corais couperi): summary of research conducted on Archbold Biological Station. Report prepared under Order 43910-6-0134 to the U.S. Fish and Wildlife Service; Jackson, Mississippi.

Lawler, H.E. 1977. The status of *Drymarchon corais couperi* (Holbrook), the eastern indigo snake, in the southeastern U.S.A. *Herpetological Review* 8(3):76-79.

Means, D. B. 2006. Vertebrate faunal diversity of longleaf pine ecosystems. In *The Longleaf Pine Ecosystem* pp. 157-213. Springer New York.

Molar, P.E. 1985a. Distribution of the eastern indigo snake, *Drymarchon corais couperi*, in Florida. *Herpetological Review* 16(2):37-38.

Moler, P.E. 1985b. Home range and seasonal activity of the eastern indigo snake, Drymarchon corais couperi, in northern Florida. Final performance report, Study E-1-06, III-A-5. Florida Game and Fresh Water Fish Commission; Tallahassee, Florida.

Steiner, T.M., O.L. Bass, Jr., and J.A. Kushlan. 1983. Status of the eastern indigo snake in Southern Florida National Parks and vicinity. South Florida Research Center Report SFRC-83-01, Everglades National Park; Homestead, Florida.

U.S. Fish and Wildlife Service (Service). 1999. South Florida multi-species recovery plan. 23 pp.

U.S. Fish and Wildlife Service (Service). 2013. Standard Protection Measures for the Eastern Indigo Snake. August 12, 2013. U.S. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida.

Wilson, L.D. and L. Porras. 1983. The ecological impact of man on the south Florida herpetofauna. *University of Kansas Museum of Natural History Special Publication* 9:1–89.

Zeigler, M. 2006. Personal communication. Citrus grove operations manager. Meeting with the U.S. Fish and Wildlife Service on August 1, 2006. Agricultural Resource Management; Vero Beach, Florida.

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

U.S. Fish and Wildlife Service

May 2024

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

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

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

STANDARD PROTECTION MEASURES

BEFORE AND DURING CONSTRUCTION ACTIVITIES:

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

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

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

POST CONSTRUCTION ACTIVITIES:

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

USFWS FIELD OFFICE CONTACT INFORMATION

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

POSTER & PAMPHLET INFORMATION

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

POSTER CONTENT (ENGLISH):

ATTENTION

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

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

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

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

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

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

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

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

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

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

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

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

in the throat area. They are not typically aggressive.

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

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

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

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

Florida Office: (352) 448-9151

Georgia Office: (706) 613-9493

POSTER CONTENT (SPANISH):

ATENCIÓN

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Oficina de Florida: (352) 448-9151

Oficina de Georgia: (706) 613-9493

APPENDIX G

Crested Caracara Specific Species Survey

Memorandum

Subject: **SR 70 From West of SR 31 to SE Highlands County Line Road**
USFWS Audubon's Crested Caracara Technical Results Memorandum
FPID 451942-1-22-01
DeSoto County, FL

Introduction

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate options for widening State Road 70 (SR 70) in DeSoto County. The study covers 17.11 miles of SR 70 beginning west of SR 31 (Mile Post [MP] 14.973) and ending just east of SE Highlands County Line Road (MP 31.763). See **Appendix A** Project Location and Station Map for project location. The objective of the PD&E study is to evaluate widening the existing two-lane undivided roadway to a four-lane divided roadway. The purpose of this project is to address traffic safety conditions on SR 70 in unincorporated DeSoto County. Other goals of this project are to maintain important east-west connectivity within the regional transportation network and to accommodate freight activity within the area.

This project is within the U.S. Fish and Wildlife Service's (USFWS) consultation area for the federally threatened crested caracara (*Polyborus plancus audubonii*). Crested caracaras were listed as a federally threatened species by the USFWS in 1987 and receive protection under the Endangered Species Act 16 U.S.C. §1531-1544, Florida's Endangered and Threatened Species Rule 68A-27 F.A.C., and the Migratory Bird Treaty Act 16 U.S.C. §§ 703–712.

Methodology

A desktop review was conducted for the project area to assess the suitable crested caracara habitat in the project area. Based on the proposed project activities and the desktop review, it was determined that a formal caracara survey will be required, to be conducted from January 2025 to April 2025 per the USFWS' Crested Caracara Draft Survey Protocol - Additional Guidance (2016-2017 Breeding Season). A caracara survey for this project was completed in 2024 for the roadway mainline, these same stations were used for the mainline roadway survey in 2025. Three (3) additional survey stations were added for the 2025 survey to include suitable habitat for potential pond sites. These sites were determined based on a desktop review prior to December 21, 2024. A total of 12 survey stations were strategically placed along the project corridor where suitable habitat is present and observation blocks were identified. The survey stations were located to document any observations within the project boundary and 1,500-meter (4,920 feet) buffer to account for off-site territories that might overlap onto the project area. See **Appendix A** Project Location and Station Map for the 2025 locations of each survey station. Station 10 was surveyed as part of this project; however, the results for the station were included in the 2025 SR 70 451649-1-22-01 caracara technical memorandum. Therefore, station 10 is not discussed as part of this memorandum.

Biologists experienced in avian surveys conducted the survey, beginning 15 minutes prior to sunrise and lasting a minimum of three hours. The surveys were conducted one morning every two weeks for duration of the survey period (9 survey days total for each station). The caracara nest survey for the 2025 nesting season began on January 4, 2025, and lasted until April 30, 2025. **Table 1** below outlines the surveyor experience.

Table 1. Surveyor Experience

Name	2025 Hours (Pre-survey)	2025 Hours (Post-survey)	# Nests Found in 2025 (Pre-survey)	# Nests Found in 2025 (Post-survey)	Primary/ Secondary Observer
James Fine	247	478	2	4	Primary
Gordon Mullen	86	119	1	5	Primary
Andi Gann	26	149	0	2	Primary
Briana Hazel	65	140	2	4	Primary
Danielle Puls	80	170	1	1	Primary
Hannah Smith	63	117	0	0	Primary
Jeff Hemphill	120	147	2	2	Primary
Kelsey Vander Ley	0	48	0	0	Secondary/ Primary
Rick Browne	60	78	1	1	Primary
Sarah Johnson	>500	>575	7	8	Primary
Shelby Oenbrink	150	156	3	3	Primary
Tori Bacheler	100	106	3	3	Primary
Christine Umi Prince	0	45	0	2	Secondary/ Primary

Station 1 was placed approximately 0.7 miles east of the SR 70 and SR 31 intersection on the north side of the roadway. The surrounding habitat includes agriculture (Florida Land Use, Cover, and Forms Classification System) (FLUCCS 2110) and urban and built up (FLUCCS 1180).

Station 2 was placed approximately 0.4 miles west of the SR 70 and NE Hansel Ave intersection on the south side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of upland hardwood forest (FLUCCS 4200).

Station 3 was placed approximately 0.9 miles east of the SR 70 and NE Hansel Ave intersection on the north side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of upland hardwood forest (FLUCCS 4200).

Station 4 was placed approximately 0.2 miles west of the SR 70 and SE County Road 760 intersection on the south side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of upland hardwood forest (FLUCCS 4200).

Station 5 was placed approximately 1.3 miles east of the SR 70 and SE County Road 760 intersection on the south side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of upland hardwood forest (FLUCCS 4200).

Station 6 was placed approximately 3.5 miles east of the SR 70 and SE County Road 760 intersection on the south side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of upland hardwood forest (FLUCCS 4200).

Station 7 was placed approximately 1.6 miles west of the SR 70 and SE Lake Browning Grade intersection on the south side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of wetlands (FLUCCS 6000).

Station 8 was placed approximately 350 feet east of the SR 70 and SE Lake Browning Grade intersection on the south side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of wetlands (FLUCCS 6000).

Station 9 was placed approximately 1.9 miles east of the SR 70 and SE Lake Browning Grade intersection on the north side of the roadway. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of wetlands (FLUCCS 6000).

Station 11 was placed approximately 9.5 miles north of the SR 70 and NE 4 Mile Grade intersection. The surrounding habitat includes agriculture (FLUCCS 2000) and small pockets of wetlands (FLUCCS 6000).

Station 12 was placed approximately 10.4 miles northeast of the SR 70 and NE 4 Mile Grade intersection. The surrounding habitat includes agriculture (FLUCCS 2000).

Station 13 was placed approximately 11.3 miles northeast of the SR 70 and NE 4 Mile Grade intersection. The surrounding habitat includes agriculture (FLUCCS 2000) and scattered water bodies (FLUCCS 5000).

See **Appendix A** for the Project Location, Station Map, and Land Use Land Cover. Additional detailed information for each of the survey stations is provided in **Appendix B.**

Results

During the 2025 nesting season, one active caracara nest was observed at station 6, located within the 1,500-meter buffer zone around the perimeter of the project area. Additionally, caracara activity was observed at nine of the thirteen stations. It should be noted that some observations documented in **Appendix B** were of multiple caracaras seen at the same time but **Table 2** logs individual caracara observations. See **Appendix B** for Observation Flight Paths Maps for each station. See **Appendix C** for Photo Documentation.

Table 2. Observations Per Week and Per Station

		Station Number												
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**11**	**12**	**13**	**Weekly Total**
Survey Week	1	0	0	0	3	0	0	2	0	0	0	0	0	**5**
	2	0	0	0	0	1	1	6	0	2	0	4	0	**11**
	3	0	0	0	0	0	2	0	0	0	1	0	0	**3**
	4	0	0	0	1	2	1	9	0	0	0	0	1	**12**
	5	0	0	1	0	0	0	1	0	0	0	0	0	**5**
	6	0	0	0	0	0	3	3	0	0	0	0	0	**8**
	7	0	0	0	0	0	4	5	0	1	0	0	0	**8**
	8	0	0	0	0	3	0	2	0	1	0	1	3	**11**
	9	0	0	0	0	0	0	1	0	1	0	0	0	**2**
	Total	**0**	**0**	**1**	**4**	**6**	**17**	**22**	**0**	**5**	**1**	**5**	**4**	**65 total**

Station One

No individuals were observed at this station during the 2025 nesting season.

Station Two

No individuals were observed at this station during the 2025 nesting season.

Station Three

There was one observation at this station during survey week five. This observation was of an adult caracara flying within the station field of view near Barkman & Llooney Correctional Facility and the adjacent field along SR 70. There were no observations during the other eight survey weeks. No instances of nesting activity or territorial behavior were observed.

Station Four

There were four observations at this station during survey weeks one and four. These observations were of adult caracaras flying within the station field of view among the surrounding agricultural areas adjacent to SR 70. No instances of nesting activity or territorial behavior were observed.

Station Five

There were six observations at this station during survey weeks two, four, and eight. During week eight, two immature caracaras and one adult caracara were observed feeding on an animal carcass approximately 50 yards from station five. One immature caracara was observed flying north with carcass remnants after being harassed by multiple crows, while the other two individuals left flying west along SR 70. No instances of nesting activity were observed.

Station Six

There were 17 observations at this station during survey weeks two, three, four, six, and seven. There were multiple instances of foraging activity during the survey at station six. On January 24, 2025, during week two, a caracara was observed foraging just parallel to the north side of SR 70, before flying north out of sight. On February 7, 2025, during survey week three, a caracara was observed foraging while flying from east to west across Four Mile Grade Rd before flying north out of sight.

On February 20, 2025, during survey week four, a juvenile was observed foraging in the field to the south of station six, before flying southwest across SR 70 out of sight. On March 6, 2025, during survey week 5, two adults and one juvenile were observed roosting in cabbage palms on the southside of SR 70. On March 20, 2025, during survey

week six, two adults and one juvenile were observed roosting and foraging along the fence line adjacent to station six. Later, during the same survey event, one adult and one juvenile were seen exhibiting similar behavior in the same area. On March 28, 2025, during survey week seven, two adults and two juveniles were observed; the two adults were traveling west to east along the north side of SR 70, while the juveniles were observed flying from west to east along the south side of SR 70.

Station Seven

There were 22 observations at this station during survey weeks one, two, four, five, six, seven, eight, and nine. There were multiple instances of foraging activity during the survey at station seven. On January 3, 2025, during survey week one, a caracara was observed foraging along SR 70 before flying northeast out of sight. On January 17, 2025, during survey week two, five adult caracaras and one juvenile were observed foraging along SR 70.

On February 14, 2025, during survey week four, six adult caracaras were observed. In one instance, a group of turkeys were aggressive towards an adult caracara in a field located on the south side of SR 70, before perching on a nearby tree with prey item. All six adults were observed exhibiting territorial behavior by performing aerial maneuvers while flying amongst black vultures. On March 27, 2025, during survey week seven, two adults were observed; one adult was harassed by a nesting crow before joining the second adult and later flying east out of sight. No instances of nesting activity were observed.

Station Eight

No individuals were observed at this station during the 2025 nesting season.

Station Nine

There were five observations at this station during survey weeks two, seven, eight, and nine. These observations were of adult caracaras flying within the station field of view. The majority of the flight patterns were observed in the southern portion of station nine. No instances of nesting activity or territorial behavior were observed.

Station Eleven

There was one observation at this station during survey week three. This observation was of an adult caracara flying within the station field of view along SR 70 and among existing commercial parcels. No instances of nesting activity or territorial behavior were observed.

Station Twelve

There were five observations at this station during survey weeks two and eight. These observations were of adult caracaras flying within the station field of view perching intermittently on pines along SR 70. No instances of nesting activity or territorial behavior were observed.

Station Thirteen

There were four observations at this station during survey weeks four and eight. During week eight, one adult caracara was observed feeding on an animal carcass before a second adult caracara landed and initiated territorial behavior, causing the first individual to leave flying east. The second individual left shortly after flying south. Approximately 24 minutes later, two adults were observed flying from south to north; one adult continued flying out of sight and the other individual perched on a pine before also flying west out of sight. No instances of nesting activity were observed.

Other species observed during each of the survey weeks were recorded and summarized in **Table 3**.

Table 3. Other Species Observed During Survey Weeks 1-9

	Species	Scientific Name
Protected Species Observed	American Kestrel	*Falco sparverius*
	Bald Eagle	*Haliaeetus leucocephalus*
	Florida Sandhill Crane	*Antigone canadensis*
	Little Blue Heron	*Egretta caerulea*
	Tricolored Heron	*Egretta tricolor*
	Wood stork	*Mycteria americana*
Other Species of Interest Observed	American Crow	*Corvus brachyrhynchos*
	American Robin	*Turdus migratorius*
	Anhinga	*Anhinga anhinga*
	Barn Swallow	*Hirundo rustica*
	Belted Kingfisher	*Megaceryle alcyon*
	Black-crowned Night-Heron	*Nycticorax nycticorax*
	Black Vulture	*Coragyps atratus*
	Blue Jay	*Cyanocitta cristata*
	Blue-gray Gnatcatcher	*Polioptila caerulea*
	Brown Thrasher	*Toxostoma rufum*
	Brown-headed Cowbird	*Molothrus ater*
	Carolina Chickadee	*Poecile carolinensis*
	Carolina Wren	*Thryothorus ludovicianus*
	Cattle Egret	*Ardea ibis*
	Common Ground Dove	*Columbina passerina*
	Cooper's Hawk	*Astur cooperii*
	Double-crested Cormorant	*Nannopterum auritum*
	Downy Woodpecker	*Dryobates pubescens*
	Eastern Meadowlark	*Sturnella magna*
	Eastern Phoebe	*Sayornis phoebe*
	Eurasian Collared Dove	*Streptopelia decaocto*
	European Starling	*Sturnus vulgaris*
	Fish Crow	*Corvus ossifragus*
	Flycatcher	*Empidonax sp.*
	Grackle	*Quiscalus sp.*
	Gray catbird	*Dumetella carolinensis*
	Gray Squirrel	*Sciurus carolinensis*
	Great Blue Heron	*Ardea herodias*
	Great Egret	*Ardea alba*
	Great Horned Owl	*Bubo virginianus*
	Indigo Bunting	*Passerina cyanea*
	Killdeer	*Charadrius vociferus*
	Limpkin	*Aramus guarauna*

	Species	Scientific Name
Other Species of Interest Observed	Loggerhead Shrike	*Lanius ludovicianus*
	Mallard	*Anas platyrhynchos*
	Mottled Duck	*Anas fulvigula*
	Mourning Dove	*Zenaida macroura*
	Northern Mockingbird	*Mimus polyglottos*
	Northern Bobwhite	*Colinus virginianus*
	Northern Cardinal	*Cardinalis cardinalis*
	Northern Harrier	*Circus hudsonius*
	Northern Parula	*Setophaga americana*
	Osprey	*Pandion haliaetus*
	Palm Warbler	*Setophaga palmarum*
	Pileated Woodpecker	*Dryocopus pileatus*
	Red-bellied Woodpecker	*Melanerpes carolinus*
	Red-shouldered Hawk	*Buteo lineatus*
	Red-tailed Hawk	*Buteo jamaicensis*
	Red-winged Blackbird	*Agelaius phoeniceus*
	Sharp-shinned Hawk	*Accipiter striatus*
	Short-tailed Hawk	*Buteo brachyurus*
	Snowy Egret	*Egretta thula*
	Swallow-tailed Kite	*Elanoides forficatus*
	Tufted Titmouse	*Baeolophus bicolor*
	Turkey	*Meleagris gallopavo*
	Turkey Vulture	*Cathartes aura*
	White-eyed Vireo	*Vireo griseus*
	White Ibis	*Eudocimus albus*
	Wilson’s Snipe	*Gallinago delicata*

Conclusion

Results of the 2025 caracara nest survey indicate that one active caracara nest was observed at station 6 and was located within the 300-meter buffer zone around the perimeter of the project area. Therefore, it has been determined that the proposed construction is ***likely to adversely affect*** the crested caracara. This survey is valid for one year. If construction does not begin within that year, coordination with USFWS should be re-initiated to determine if additional surveys are required.

SP0070104-2:

LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC - LAWS TO BE OBSERVED - COMPLIANCE WITH FEDERAL ENDANGERED SPECIES ACT AND OTHER WILDLIFE REGULATIONS (EAGLE). (REV 6-16-17) (FA 6-28-17) (1-20)

Additionally, Section 7-1.4: Compliance with Federal Endangered Species Act and other Wildlife Regulations of the Standard Specifications for Road and Bridge Construction should be adhered to for wildlife involvement during construction. If you have any questions, or if you would like any additional information, please contact James Fine at (813) 402-4150 or via e-mail at jfine@hntb.com.

References

Humphrey, S.R., and J. L. Morrison. 1997. Habitat Associations, Reproduction, and Foraging Ecology of Audubon's Crested Caracaras in South-Central Florida. Final Report. Florida Game and Freshwater Fish Commission (Florida Fish and Wildlife Conservation Commission) Nongame Program Project No. NG91-007 (August 8, 1997).

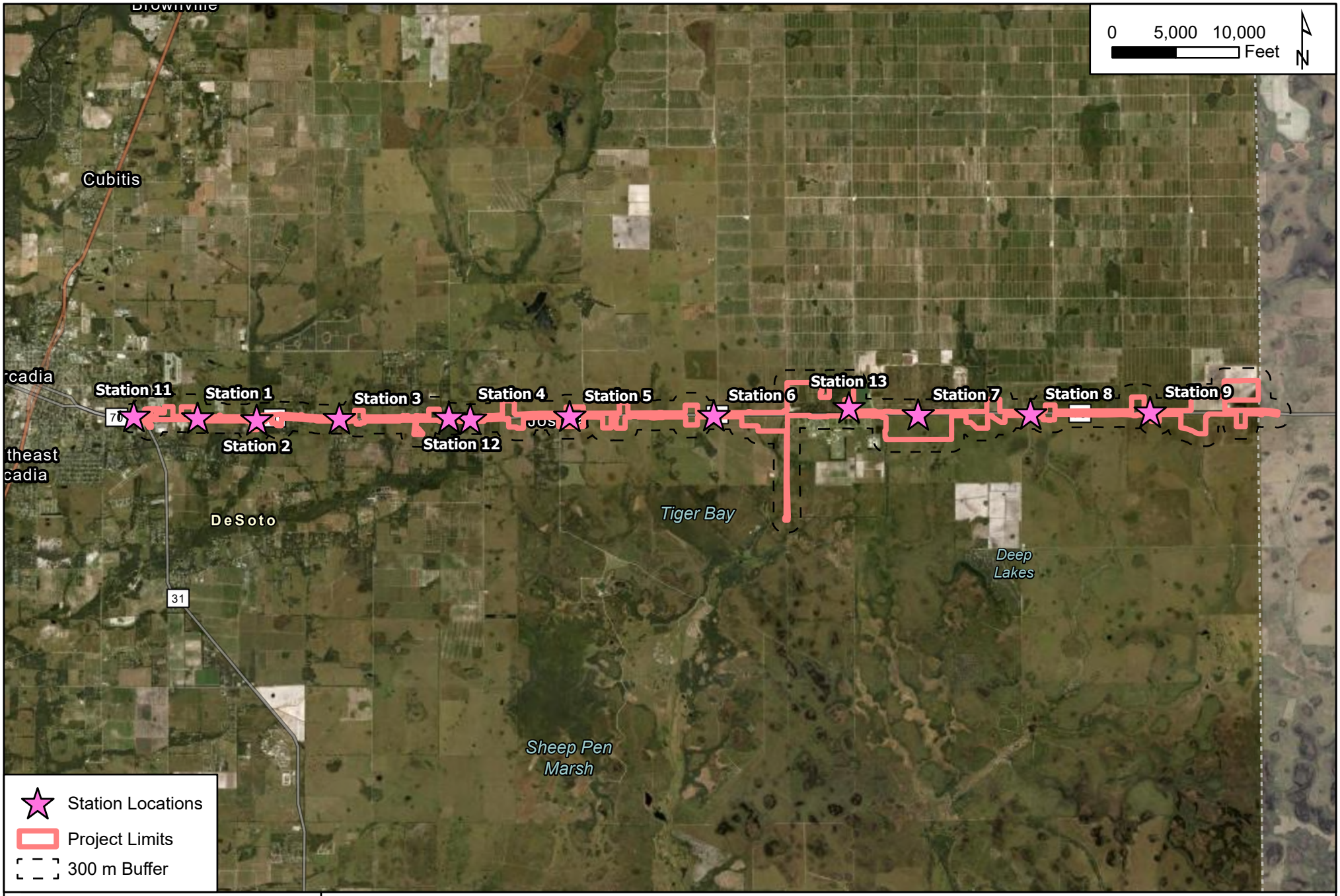
Morrison, J. L. 2001. Recommended Management Practices and Survey Protocols for Audubon's Crested Caracara (*Polyborus plancus audubonii*) in Florida. Technical Report No. 18. Florida Fish and Wildlife Conservation Commission, Tallahassee, FL.

U.S. Fish and Wildlife Service. 2004. Species Conservation Guidelines South Florida. Audubon's Crested Caracara. South Florida Ecological Services. April 2004.

U.S. Fish and Wildlife Service. 2016. USFWS Crested Caracara Draft Survey Protocol – Additional Guidance (2016-2017 Breeding Season). South Florida Ecological Services. December 2016

Appendix A

Project Location, Station Locations, and Land Use Land Cover Map

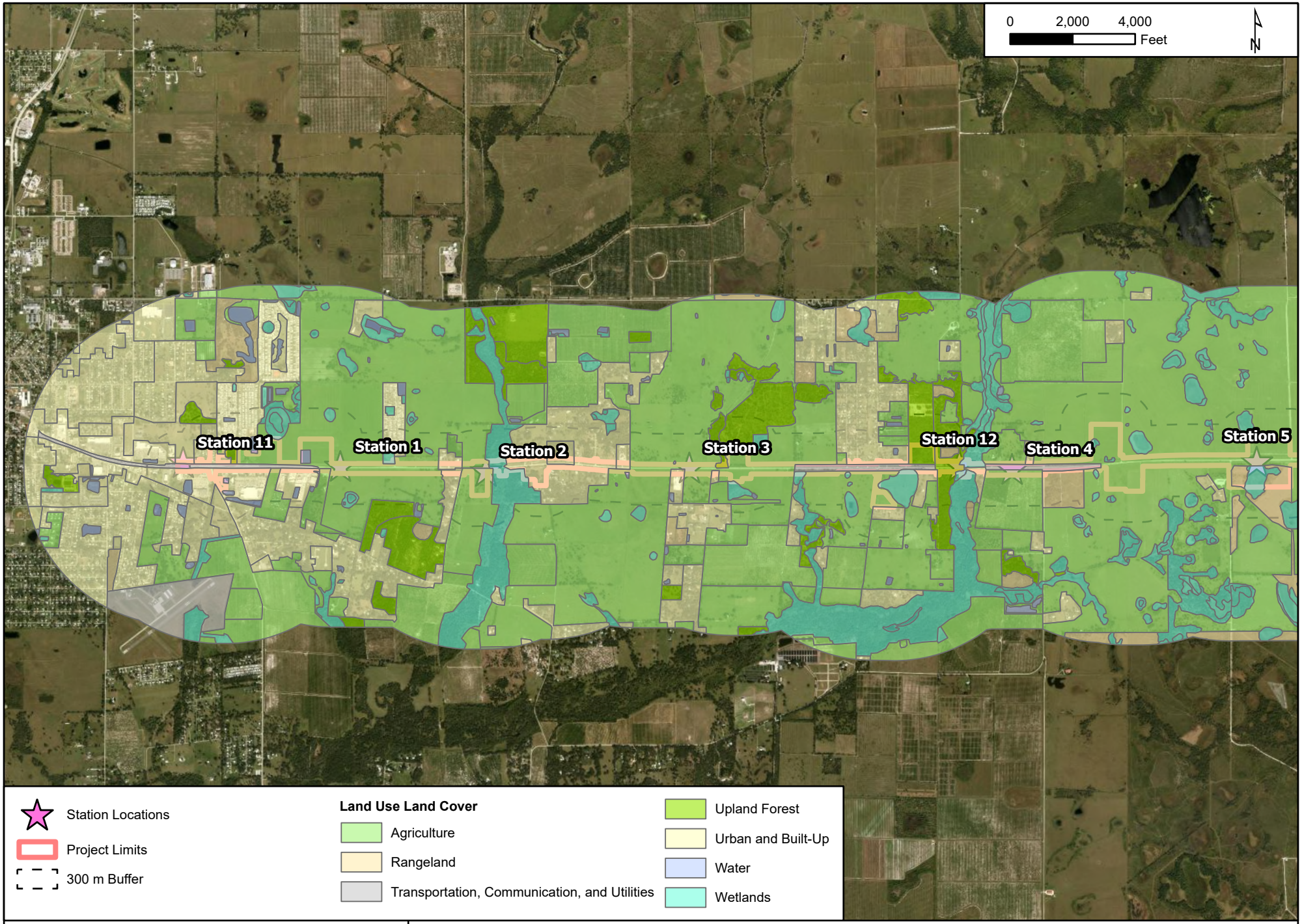


FDOT

Project Location Map

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1000 FT	AUGUST 2025	FIGURE 1

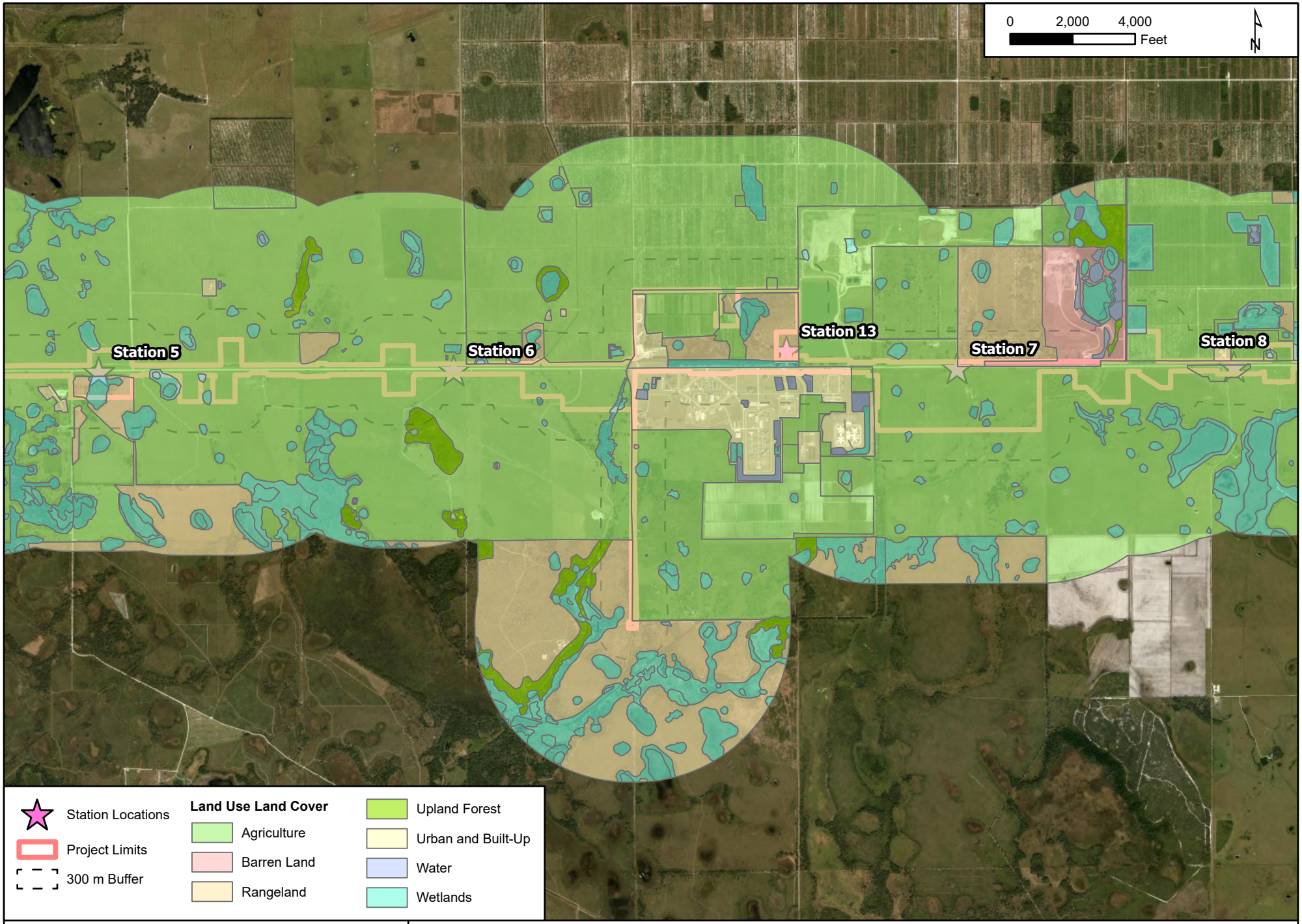


FDOT

Florida Land Use, Cover, and Forms Classification System Map

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 4,000 FT	*AUGUST 2025*	*FIGURE 2, PAGE 1 OF 3*

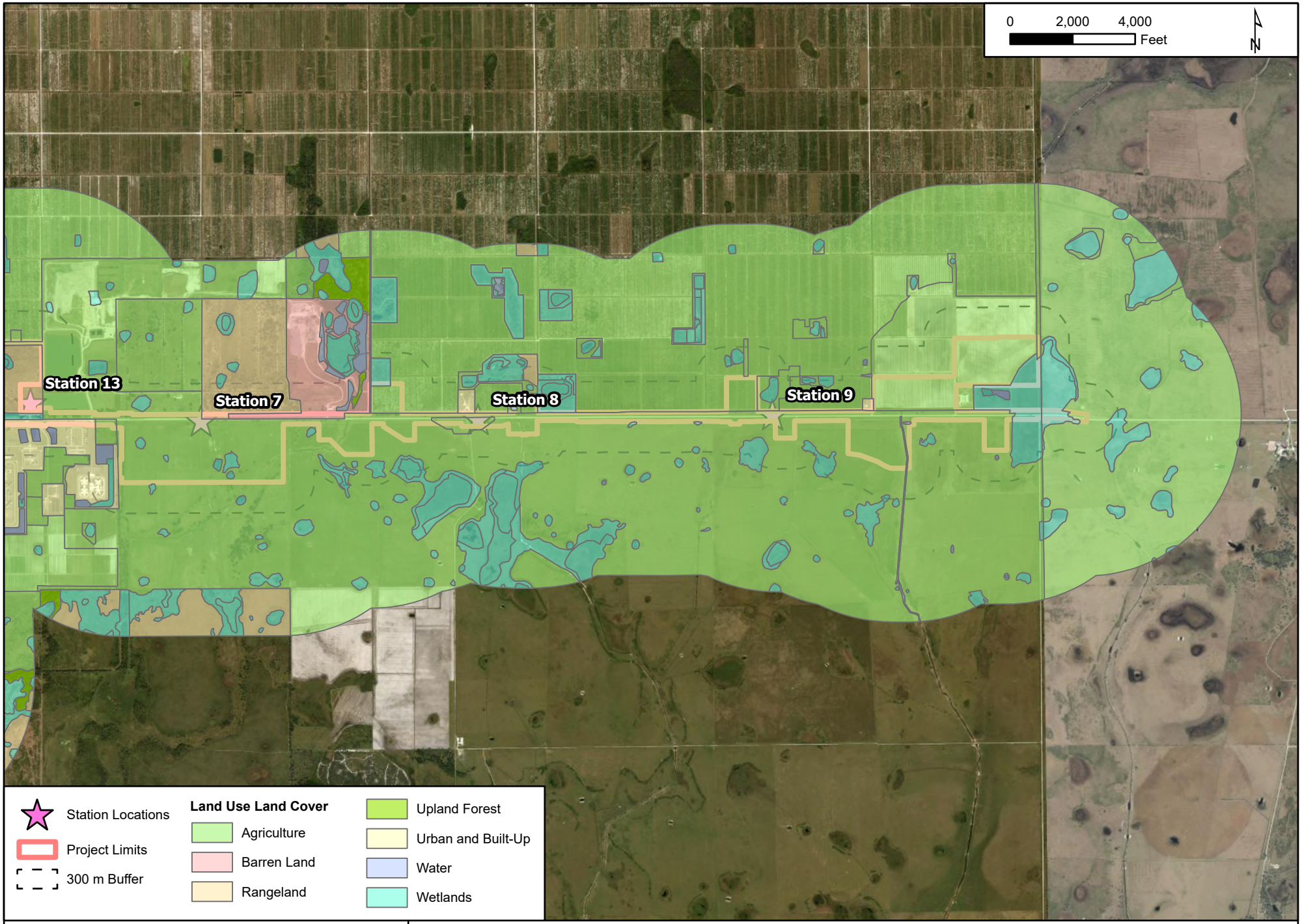


FDOT

Florida Land Use, Cover, and Forms Classification System Map

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 4,000 FT	*AUGUST 2025*	*FIGURE 2, PAGE 2 OF 3*



FDOT

Florida Land Use, Cover, and Forms Classification System Map

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 4,000 FT	*AUGUST 2025*	*FIGURE 2, PAGE 3 OF 3*

Appendix B

Caracara Observation Flight Paths

FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

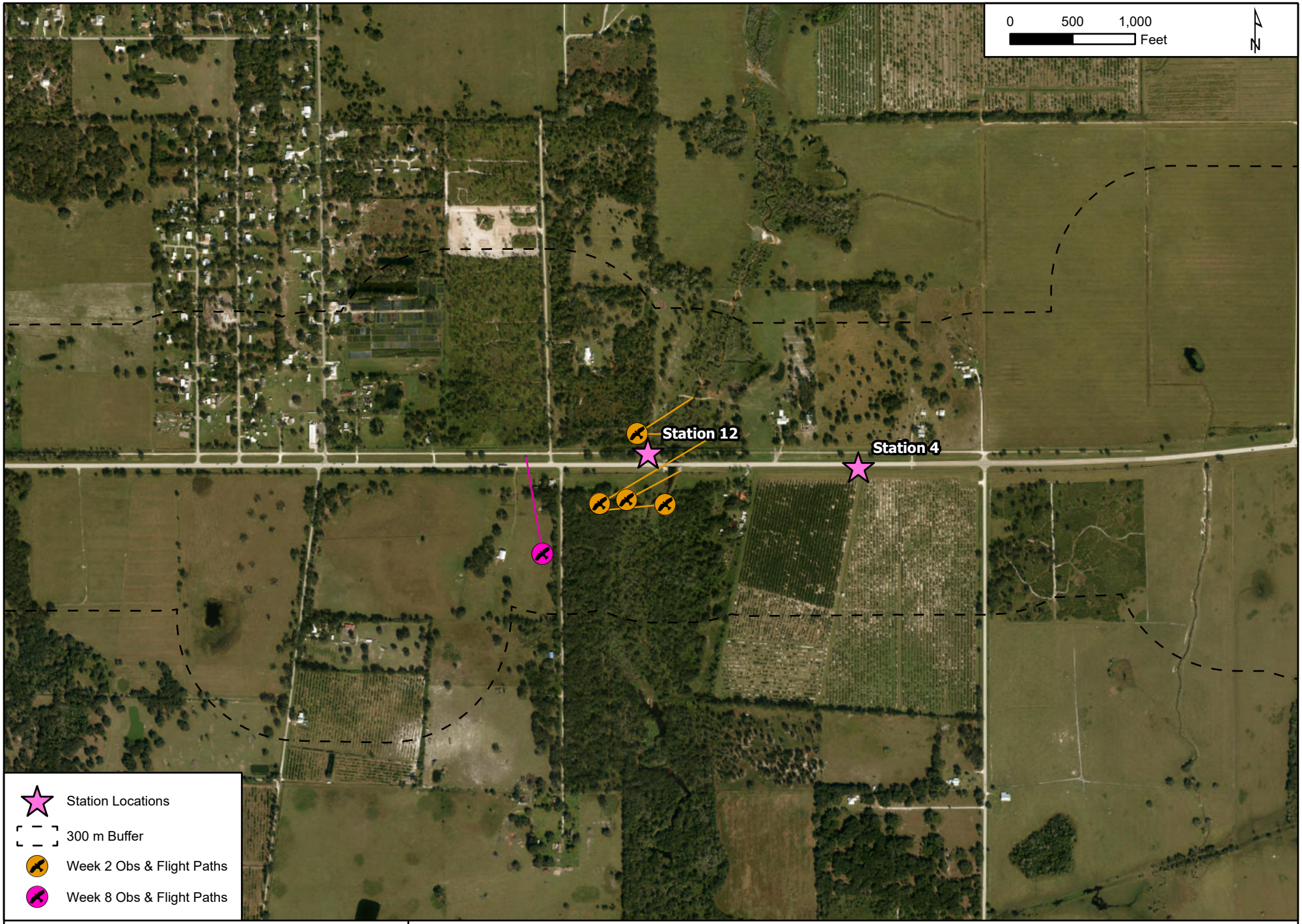
1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 1 OF 10*

FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 2 OF 10*

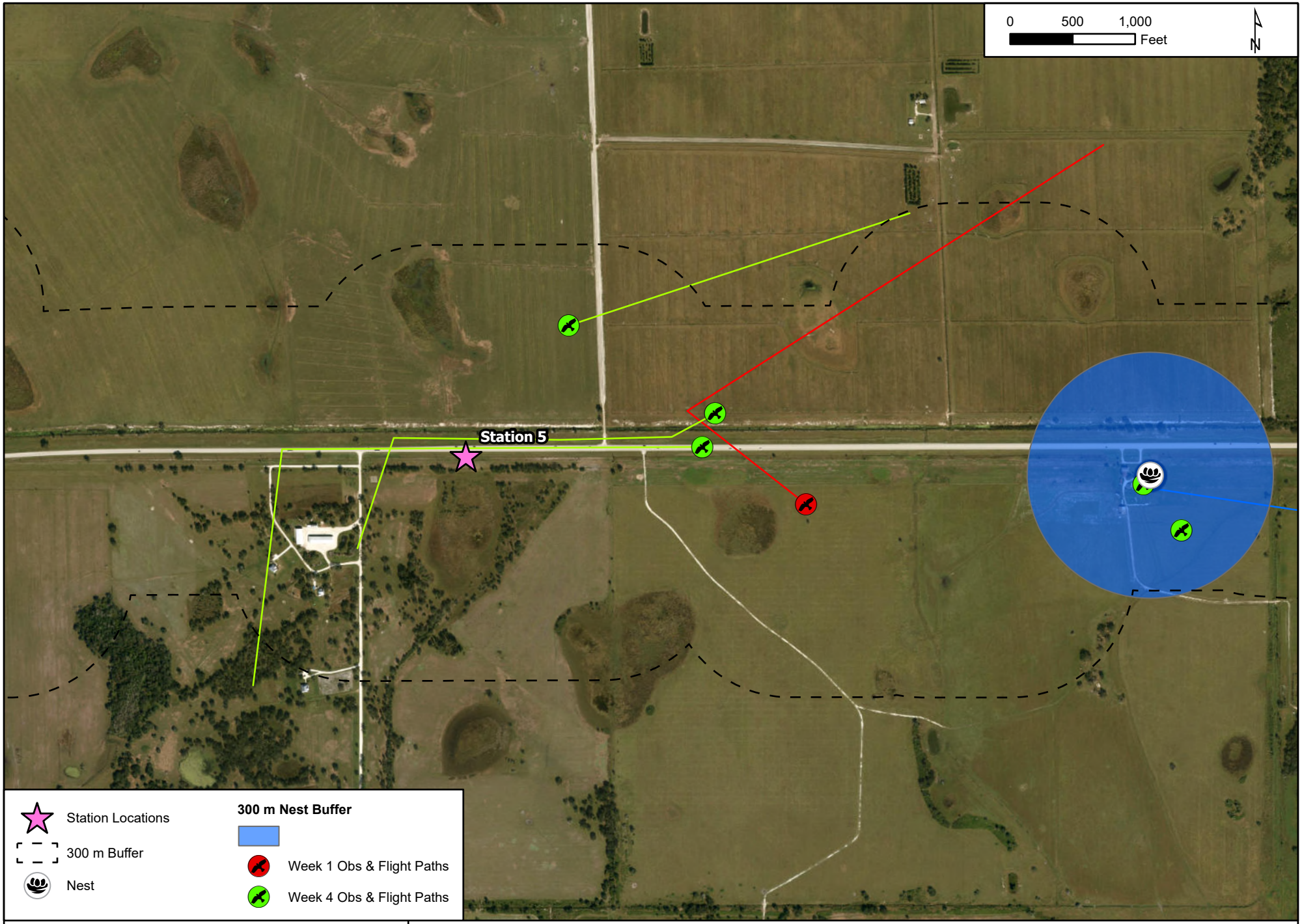


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 3 OF 10*

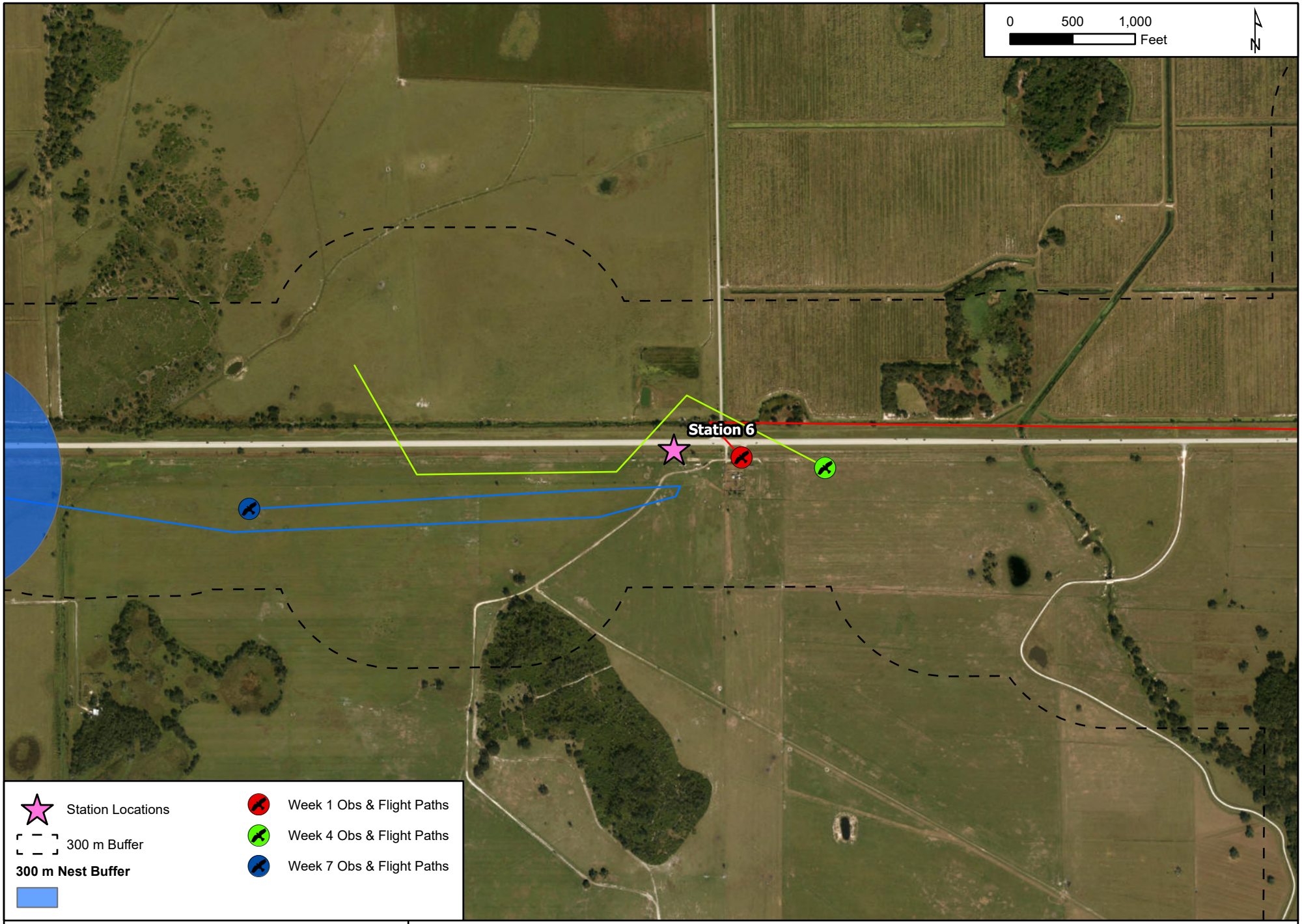


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 4 OF 10*

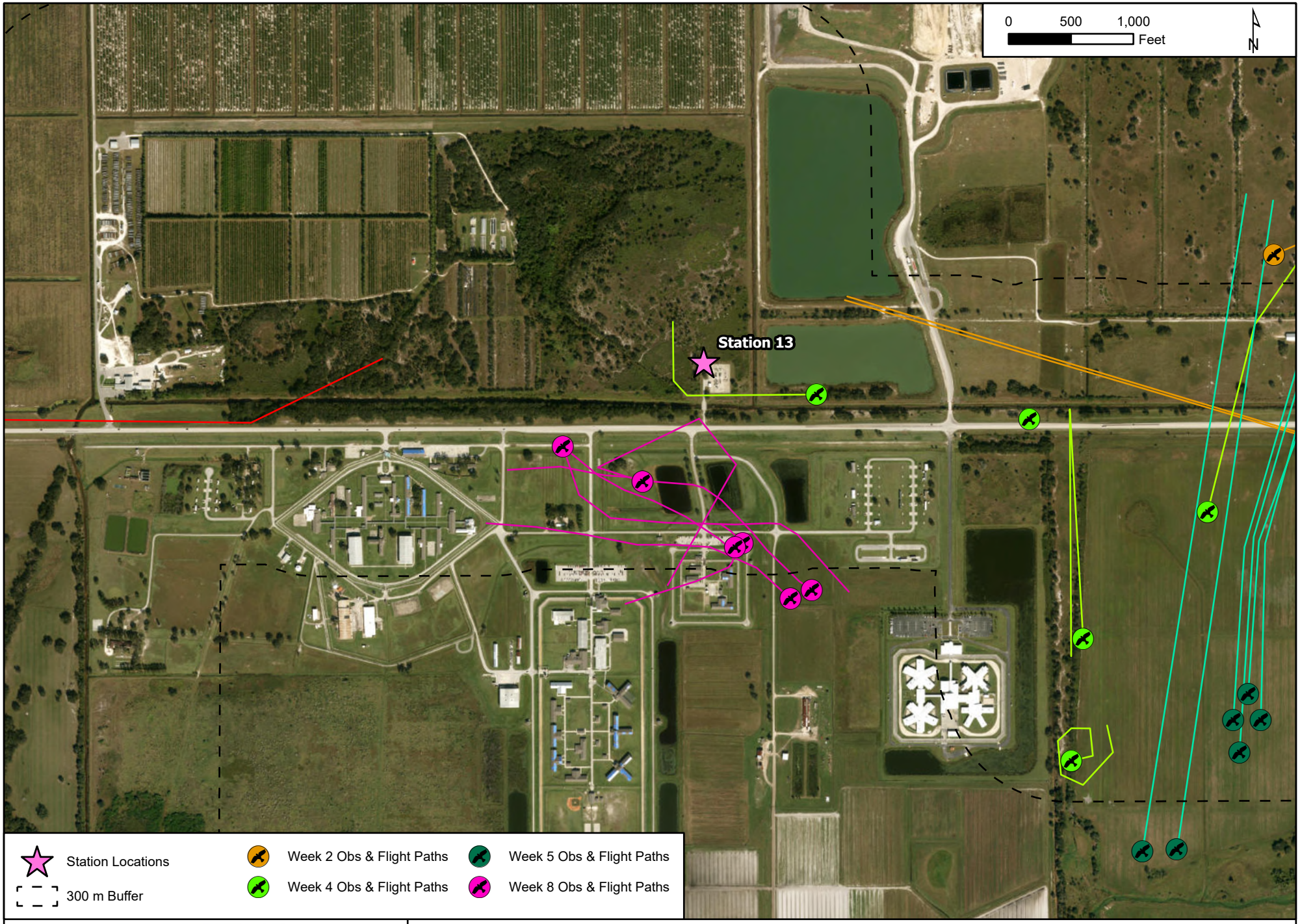


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 5 OF 10*

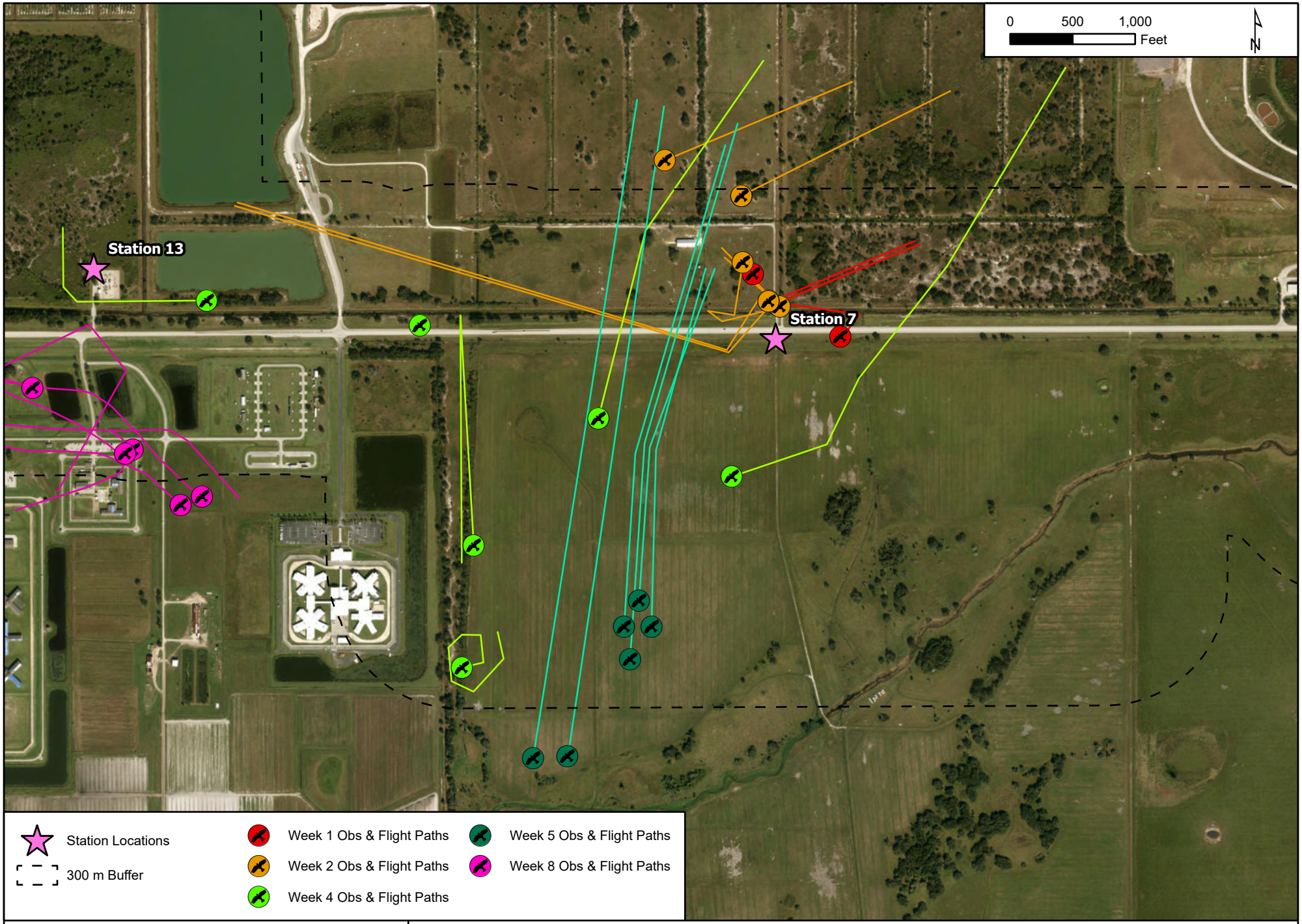


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 6 OF 10*

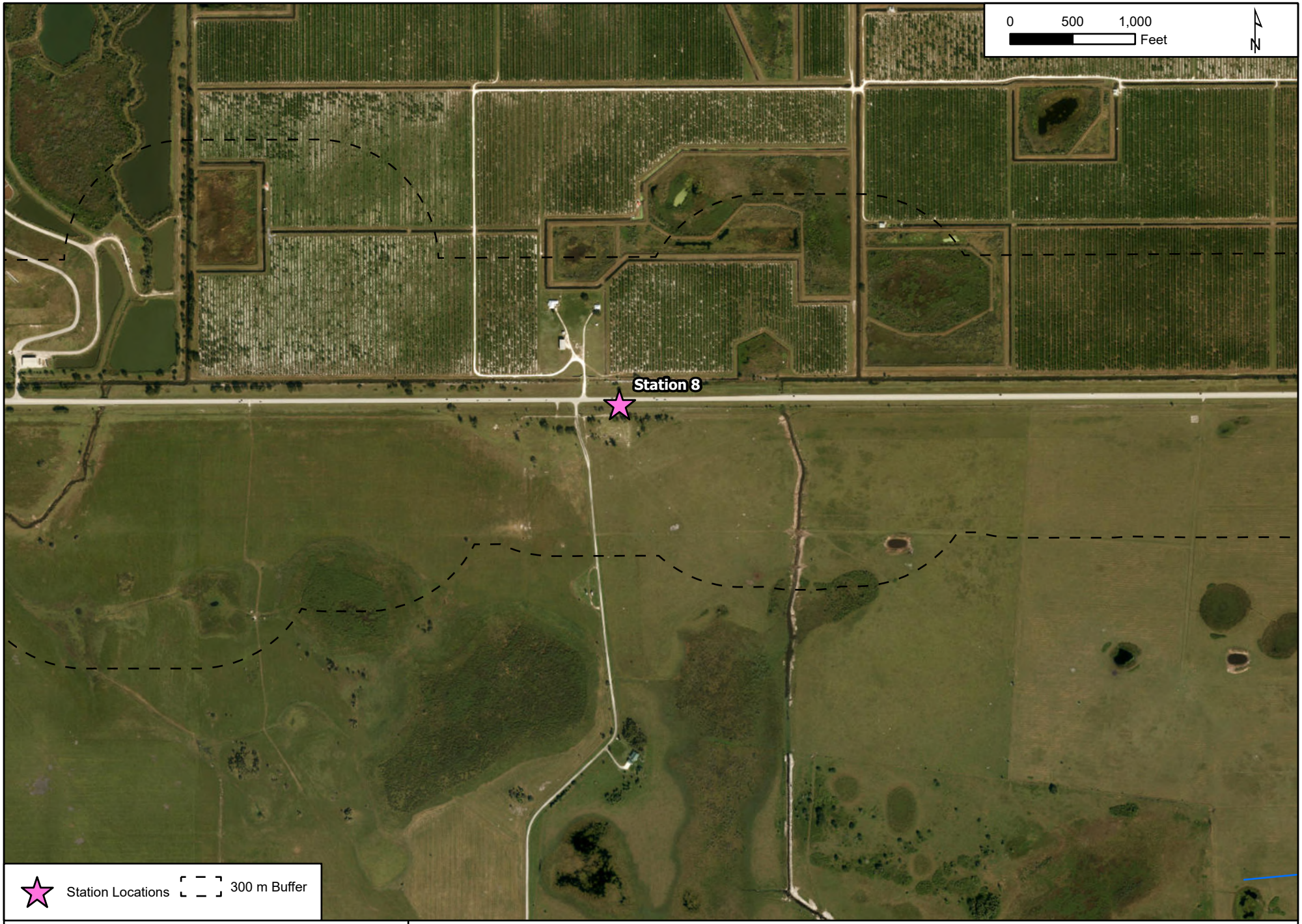


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 7 OF 10*

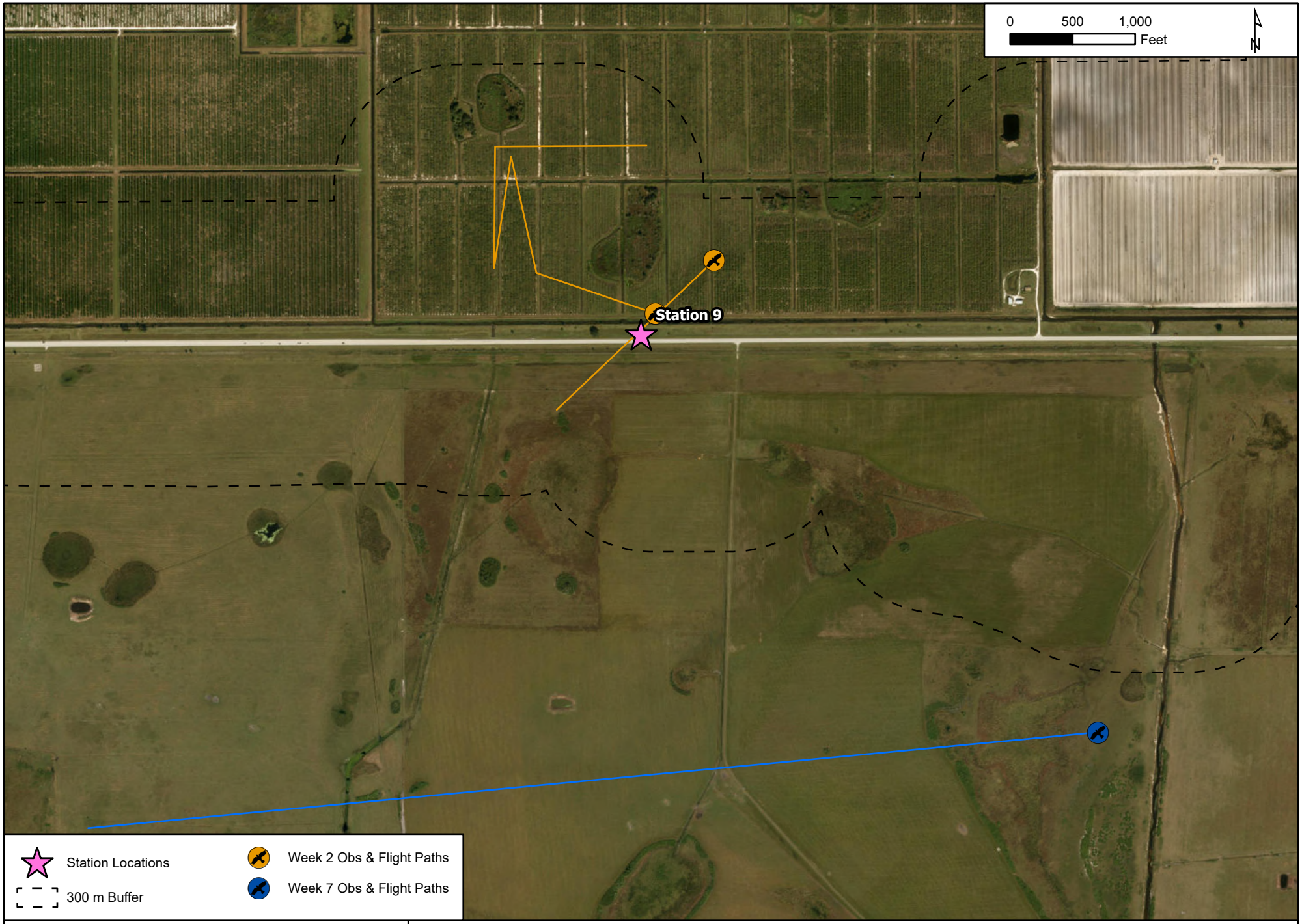


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 8 OF 10*

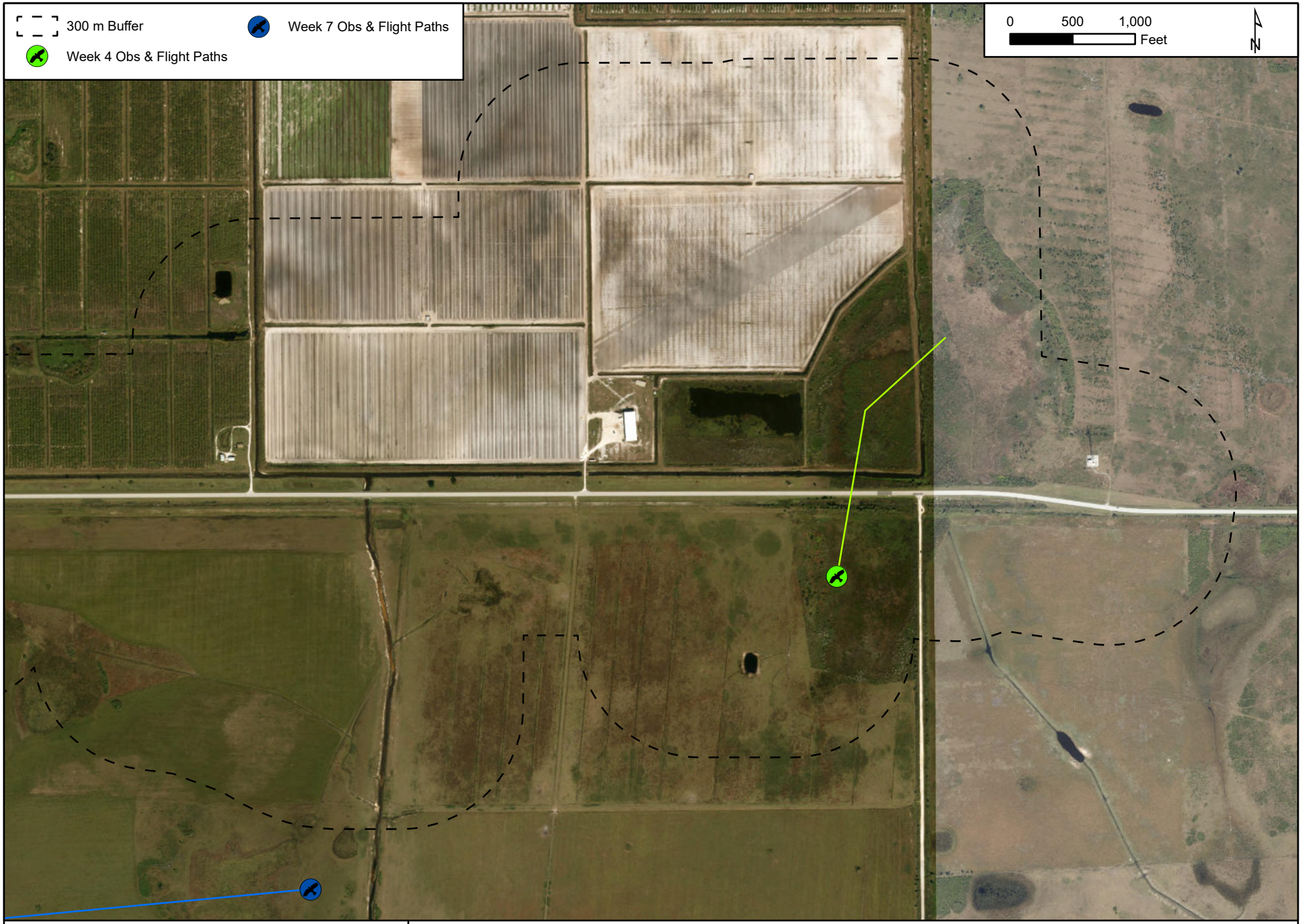


FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 9 OF 10*



FDOT

Caracara Observations and Flight Paths

SR 70 from West of SR 31 to SE Highlands County Line Road
FPID 451942-1-22-01

1 IN = 1,000 FT	*AUGUST 2025*	*FIGURE 3, PAGE 10 OF 10*

Appendix C
Photo Documentation

Figure 1 Station 1 North Orientation

Figure 2 Station 1 South Orientation

Figure 3 Station 1 East Orientation

Figure 4 Station 1 West Orientation

Figure 5 Station 2 North Orientation

Figure 6 Station 2 South Orientation

Figure 7 Station 2 East Orientation

Figure 8 Station 2 West Orientation

Figure 9 Station 3 North Orientation

Figure 10 Station 3 South Orientation

Figure 11 Station 3 East Orientation

Figure 12 Station 3 West Orientation

Figure 13 Station 4 North Orientation

Figure 14 Station 4 South Orientation

Figure 15 Station 4 East Orientation

Figure 16 Station 4 West Orientation

Figure 17 Station 5 North Orientation

Figure 18 Station 5 South Orientation

Figure 19 Station 5 East Orientation

Figure 20 Station 5 West Orientation

Figure 21 Station 6 North Orientation

Figure 22 Station 6 South Orientation

Figure 23 Station 6 East Orientation

Figure 24 Station 6 West Orientation

Figure 25 Station 7 North Orientation

Figure 26 Station 7 South Orientation

Figure 27 Station 7 East Orientation

Figure 28 Station 7 West Orientation

Figure 29 Station 8 North Orientation

Figure 30 Station 8 South Orientation

Figure 31 Station 8 East Orientation

Figure 32 Station 8 West Orientation

Figure 33 Station 9 North Orientation

Figure 34 Station 9 South Orientation

Figure 35 Station 9 East Orientation

Figure 36 Station 9 West Orientation

Figure 41 Station 11 North Orientation

Figure 42 Station 11 South Orientation

Figure 43 Station 11 East Orientation

Figure 44 Station 11 West Orientation

Figure 45 Station 12 North Orientation

Figure 46 Station 12 South Orientation

Figure 47 Station 12 East Orientation

Figure 48 Station 12 West Orientation

Figure 49 Station 13 North Orientation

Figure 50 Station 13 South Orientation

Figure 51 Station 13 East Orientation

Figure 52 Station 13 West Orientation

APPENDIX H

Everglade Snail Kite Specific Species Survey

(451942-1-22-01) SR 70 from West of SR 31 to SE Highlands County Line Road

ETDM # 14569, Desoto County

Everglade Snail Kite Survey Spring 2025 Findings Memorandum

Introduction

The Florida Department of Transportation (FDOT), District One is conducting a Project Development and Environment (PD&E) study for proposed improvements to State Road (SR) 70 from West of SR 31 to SE Highlands County Line Road **(Figure 1)**. This study will evaluate the widening of SR 70 from a two-lane undivided facility to a four-lane divided facility, including operational improvements along SR 70 from west of SR 31 to SE Highlands County Line Road, extending 16.7 miles in length.

The Everglade snail kite (*Rostrhamus sociabilis plumbeus*) (SNKI) was listed as a federally endangered species by the US Fish and Wildlife Service (USFWS) on March 11, 1967, and receives protection under the Federal Endangered Species Act 16 U.S.C. §1531-1544, Florida's Endangered and Threatened Species Rule 68A-27 F.A.C., and the Migratory Bird Treaty Act 16 U.S.C. §§ 703–712. This project is within the USFWS's consultation area for the SNKI. The SNKI ranges in size from approximately 14.2 to 15.4 inches and has a curved bill used to pluck snails out of their shells. Males are slate gray with red eyes and orange legs, with white streaking on the face, neck, and chest. Juvenile SNKI are similar in appearance to females but have more cinnamon or buff-colored streaks instead of white. Suitable habitat for SNKI can be characterized by the presence of shallow freshwater marshes and shallow grassy shorelines of lakes. FDOT conducted an SNKI survey in the spring of 2025 after receiving USFWS's approval of the proposed survey plan and observation stations.

Methodology

Potential suitable habitat for the SNKI was identified during a desktop review of the project limits and an additional 500-ft buffer from the Right-Of-Way (ROW) lines was placed to account for off-site territories that may overlap the project area. For the desktop review, SNKI foraging and nesting suitable habitat is defined as those areas in wetlands that contain emergent vegetation. Dominant foraging emergent vegetation usually consists of spike rushes (*Eleocharis*), maidencane (*Panicum hemitomon*), and bulrushes (*Juncus*). Dominant nest or perching substrate and habitat include willows (*Salix caroliniana*), melaleuca (*Melaleuca quinquenervia*), or cypress (*Taxodium distichum*) (USFWS, 2004). Based on the proposed project activities, a desktop review, and initial surveys, it was recommended that a field survey should be conducted in the time frame between March to May, during the breeding season, to maximize the chances of identifying potential SNKI.

After conducting desktop reviews for the project limits, and performing on-site evaluations, 11 observation stations were identified along the projects limits **(Table 1)**. These stations were evaluated based on National Wetlands Inventory (NWI) data for wetlands, visual inspections for emergent vegetation suitable for SNKI activity, and Cornell University's eBird observations. Although eBird observations are not scientifically collected due to them not being verified occurrence data, the USFWS has utilized this data in prior survey methodologies. Please see **Appendix A** for aerial maps of the project location, observation station locations with SNKI field observation locations, and wetland types and locations **(Figures 1, 2, & 3)**.

Surveys

Qualified biologists experienced in avian surveys conducted the survey. SNKI surveying took place weekly for approximately 4 hours per monitoring iteration, per observation station. The start date for the survey was in March 2025, and the end date of the survey was in May 2025. There were 5 survey events per each station, giving a total of 55 SNKI surveys over the two-month span. Surveying began at dawn and qualified biologists surveyed at each of the observation stations. To the extent possible, monitoring took place from a motor vehicle utilizing both binoculars and a spotting scope, as needed.

The scientists recorded any SNKI observations and their behaviors, particularly behaviors associated with breeding (e.g. defending territory, calling to mate, copulation, carrying nest materials, etc.). Biologists also recorded roosting activity and roosting substrate. A visual survey of suitable habitat was made for birds and nests. This included checking trees along the water's edge for nests or perching birds and observing vegetation along levees and roads for nests in herbaceous vegetation. If present, apple snails and their egg masses were recorded, as they are the primary food source for the SNKI. If nest or roost sites were located within the 500-ft buffer, PVC poles would have been placed to mark the area indicating protected areas and positions of the nests would have been recorded and plotted on a map of the site as well as their distance from uplands (USFWS, 2004). The observations were made via an electronic field data sheet (Survey 123 app), along with an electronic flight path tracker and nest and/or roosting locations (ArcGIS Field Maps). Please see **Appendix B** for survey field data sheets completed by scientists during the SNKI surveys.

Table 1. Observation stations for the SNKI from West of SR 31 to SE Highlands County Line Road (FPID# 451942-1-22-01) on SR 70 with 500-ft buffer, determined using USFWS's NWI and vegetation identification.

Observation Station #	Location	NWI	Emergent Vegetation and Trees
1	27.209062°N 81.824260°W	Freshwater Emergent Wetland (PEM1C)	Broomsedge (*Andropogon spp.*)
2	27.208963°N 81.804066°W	Lake (L1UBH)	Maidencane (*Panicum hemitomon*) Peruvian primrose-willow (*Ludwigia peruviana*) Cattail (*Typha spp.*) Fern (*Tracheophyta spp.*)
3	27.208821°N 81.782229°W	Freshwater Pond (PUBHx)	Peruvian primrose-willow (*Ludwigia peruviana*) Cattail (*Typha spp.*) Alligatorweed (*Alternanthera philoxeroides*) Florida willow (*Salix spp.*)
4	27.208598°N 81.759168°W	Freshwater Emergent Wetland (PEM1F)/ Lake (L1UBH)	Alligatorweed (*Alternanthera philoxeroides*) Live oak (*Quercus virginiana*)
5	27.209530°N 81.707970°W	Freshwater Emergent Wetland (PEM1A)	Maidencane (*Panicum hemitomon*) Peruvian primrose-willow (*Ludwigia peruviana*)
6	27.210744°N 81.662445°W	Riverine (R5UBFx)/ Freshwater Forested/Shrub Wetland (PFO1Cd)	Maidencane (*Panicum hemitomon*) Florida willow (*Salix spp.*)
7	27.209770°N 81.645500°W	Riverine (R2UBHx)	Cabbage palm (*Sabal palmetto*) Peruvian primrose-willow (*Ludwigia peruviana*) Jointweed (*Polygonum spp.*) Maidencane (*Panicum hemitomon*) Rush (*Juncus spp.*)
8	27.209707°N 81.631410°W	Riverine (R2UBHx)	Maidencane (*Panicum hemitomon*) Alligatorweed (*Alternanthera philoxeroides*)
9	27.209762°N 81.613807°W	Riverine (R2AB4Hx)	Maidencane (*Panicum hemitomon*) Broomsedge (*Andropogon spp.*) Alligatorweed (*Alternanthera philoxeroides*)
10	27.209633°N 81.592438°W	Riverine (R5UBFx)	Maidencane (*Panicum hemitomon*) Broomsedge (*Andropogon spp.*) Alligatorweed (*Alternanthera philoxeroides*)
11	27.209680°N 81.563009°W	Freshwater Emergent Wetland (PEM1Cd)	Florida willow (*Salix spp.*) Peruvian primrose-willow (*Ludwigia peruviana*)

Results

During the 2025 nest season, no nests were discovered. SNKI activity was observed at two of the eleven stations. Although there were weeks where stations had zero observations, observations within the study area limits were made every week. See **Appendix A** for Observation Flight Paths Maps for each station. See **Appendix B** for Field Sheet Data. A KMZ file with all the SNKI observations can be provided upon request. **Table 2** summarizes the observations during each survey week and at each survey station below.

Table 2. Observation stations, event numbers, event dates, and stationed biologists for the SNKI survey from West of SR 31 to SE Highlands County Line Road (FPID# 451942-1-22-01) on SR 70. ***Highlighted box indicates of a SNKI being observed during the survey event date.***

FPID: 451942-1-22-01 Station #	Event 1 (Date & Scientist)	Event 2 (Date & Scientist)	Event 3 (Date & Scientist)	Event 4 (Date & Scientist)	Event 5 (Date & Scientist)
Observation Station 1	4-12-25 - James F.	4-26-25 - James F.	5-5-25 - Madison D.	5-19-2025 - Madison D.	5-30-25 - Madison D.
Observation Station 2	4-13-25 - James F.	4-27-25 - James F.	5-5-25 - Jonas L.	5-19-2025 - Jonas L.	5-30-25 - Logan B.
Observation Station 3	4-14-25 - Madison D.	4-28-25 - James F.	5-5-25 - Logan B.	5-19-2025 - Logan B.	5-30-25 - Amber B.
Observation Station 4	4-1-25 - James F.	4-15-25 - James F.	4-30-25 - Logan B.	5-19-2025 - James F.	5-30-25 - Jonas L.
Observation Station 5	4-2-25 - Logan B.	4-22-25 - Logan B.	4-30-25 - Jonas L.	5-14-25 - Madison D.	5-22-25 - James F.
Observation Station 6	4-7-25 - Logan B.	4-22-25 - Madison D.	5-2-25 - Jonas L.	5-15-25 - James F.	5-27-25 - Logan B.
Observation Station 7	4-22-25 - Jonas L.	4-30-25 - Madison D.	5-14-25 - James F.	5-21-25- Logan B.	5-29-25 - Logan B.
Observation Station 8	4-2-25 - Jonas L.	4-18-25 - Jonas L.	4-25-25 - Logan B.	5-5-25 - James F.	5-21-25 - Jonas L.
Observation Station 9	4-11-25 - James F.	4-24-25 - Madison D.	5-2-25 - Logan B.	5-20-25- Jonas L.	5-27-25 - Madison D.
Observation Station 10	4-8-25 - James F.	4-22-25 - James F.	5-2-25 - Madison D.	5-20-25- James F.	5-27-25 - Jonas L.
Observation Station 11	4-7-25 - Jonas L.	4-18-25 - Madison D.	4-25-25 - Jonas L.	5-6-25 - James F.	5-21-25 - James F.

Observation Station One

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Two

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Three

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Four

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Five

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were apple snails observed at this survey station in the riverine, representing a potential suitable food source for SNKI.

Observation Station Six

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were apple snails observed at this survey station, representing a potential suitable food source for SNKI.

Observation Station Seven

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Eight

There was one observation during the five survey events at this location. This observation occurred during the first of the five survey events. The SNKI was perching on the top of an oak tree to the Northeast of the observation station. It appeared to be an adult female based on coloration. The SNKI behavior consisted of circling over the adjacent pond in search of food. However, there were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Nine

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Ten

There were no observations during the entirety of the survey events at this location. There were no instances of foraging or nesting activity or territorial behavior observed. No nest activity was found in the project area. There were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Observation Station Eleven

There was one observation during the five survey events at this location. This observation occurred during the first of the five survey events. The SNKI was spotted perched on a powerline to the North of the observation station. It appeared to an adult female SNKI, but it was not displaying any breeding or hunting behavior. However, there were not any apple snails and/or their egg masses observed at this survey station, suggesting no suitable food source locally for SNKI.

Conclusion

The SR 70 PD&E from West of SR 31 to SE Highlands County Line Rd., FPID# 451942-1-22-01, two-month SNKI Spring 2025 survey was completed and the results collected were examined from the observation stations throughout the proposed project limits to determine the affect the project could have on the SNKI population. A determination of **May Affect, Not Likely to Adversely Affect (MANLAA)** has been concluded. This conclusion was set through the visual presence of SNKI spotted within the 500-ft project limits buffer, along with suitable foraging habitat and food sources. However, there were no nest sites observed within the project limits or within the 500-ft buffer.

Appendix A: Figures

Figure 1. Project Location Map

Figure 2-1 to Figure 2-7. Observation Station and SNKI Sightings Maps

Figure 3. Wetland Type and Location Map

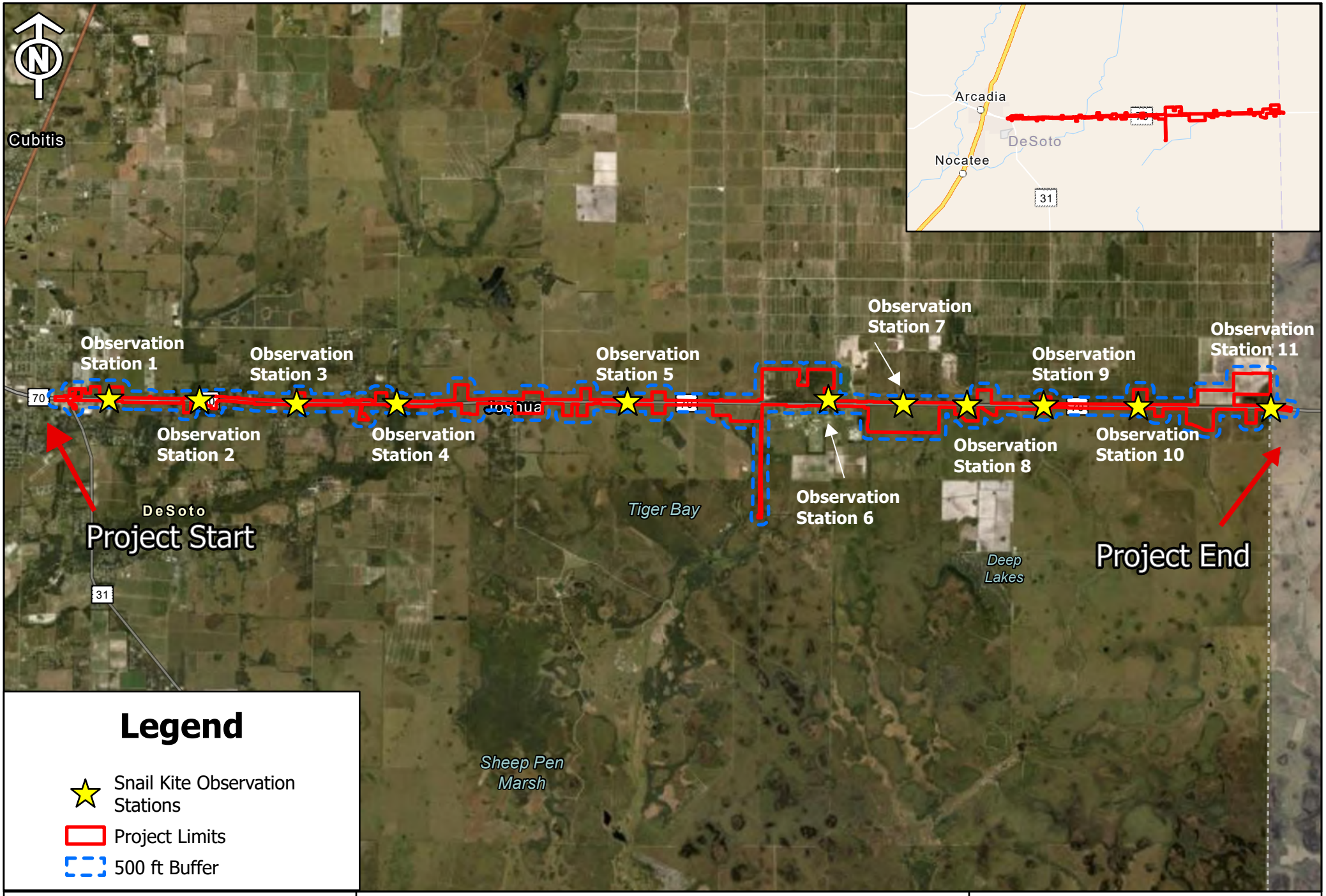


Figure 1. Project Location Map
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 1 2 4 Miles

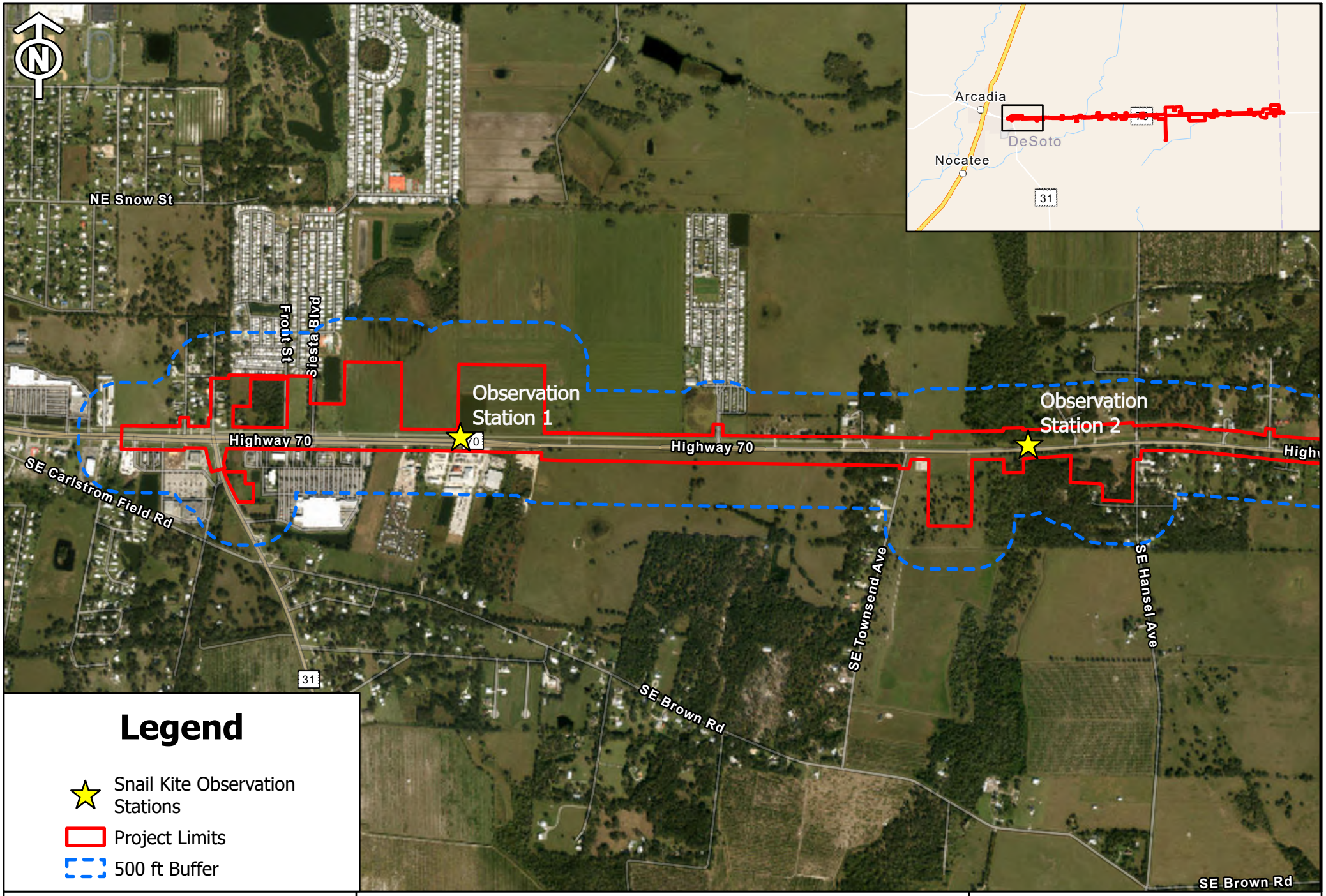


Figure 2-1. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 1 & 2
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 0.25 0.5 Miles

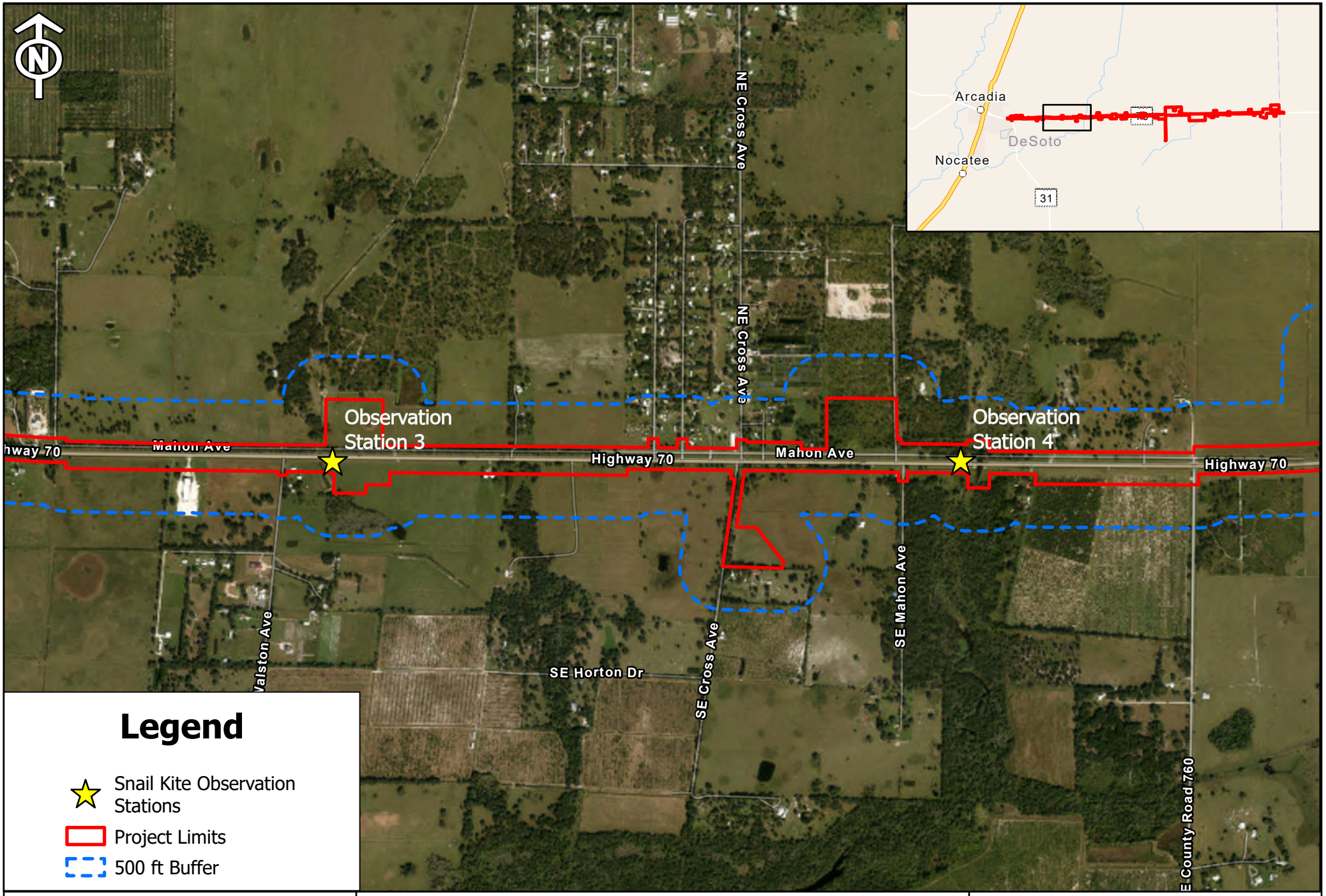


Figure 2-2. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 3 & 4
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 0.25 0.5 Miles

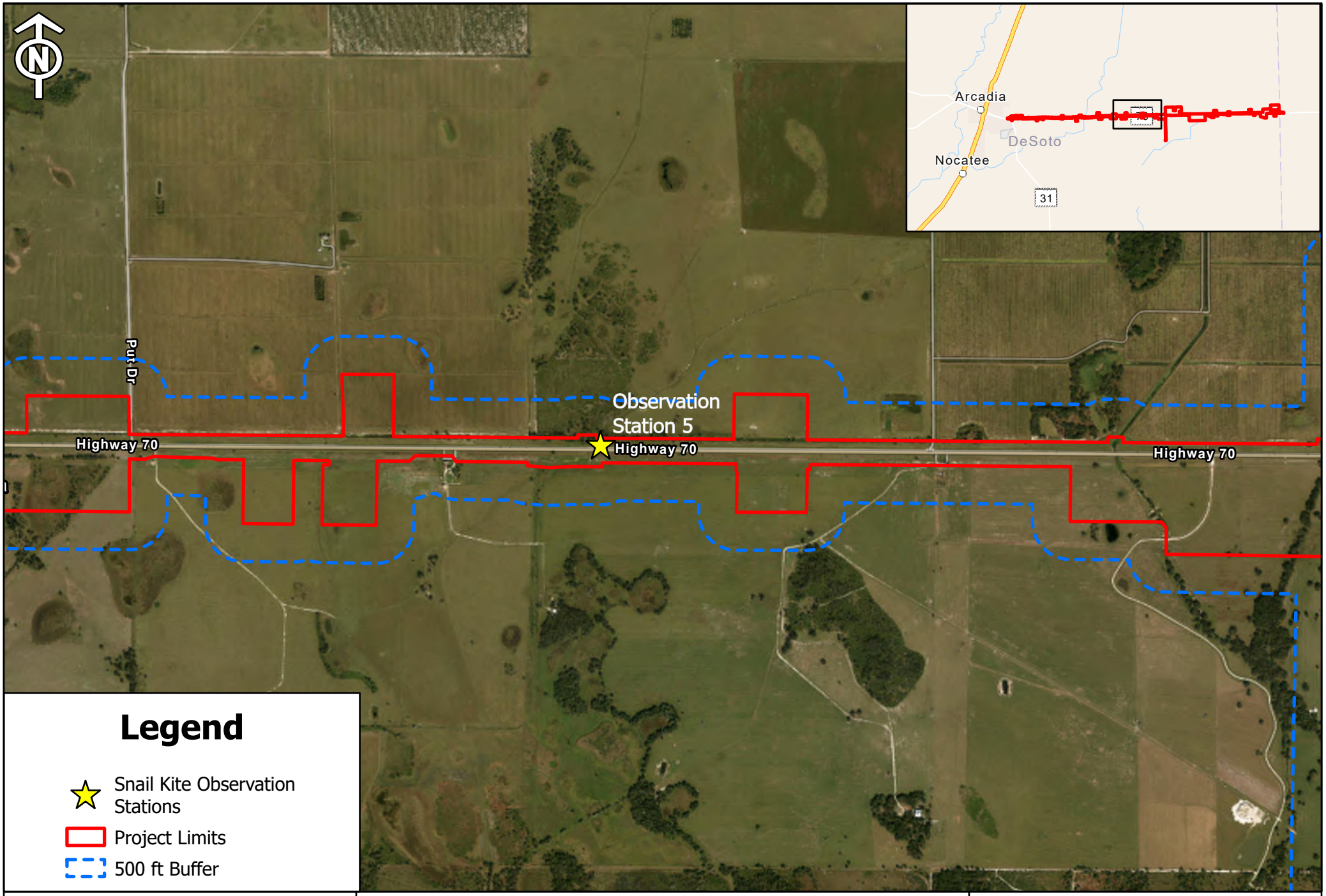


Figure 2-3. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)
Observation Station 5
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

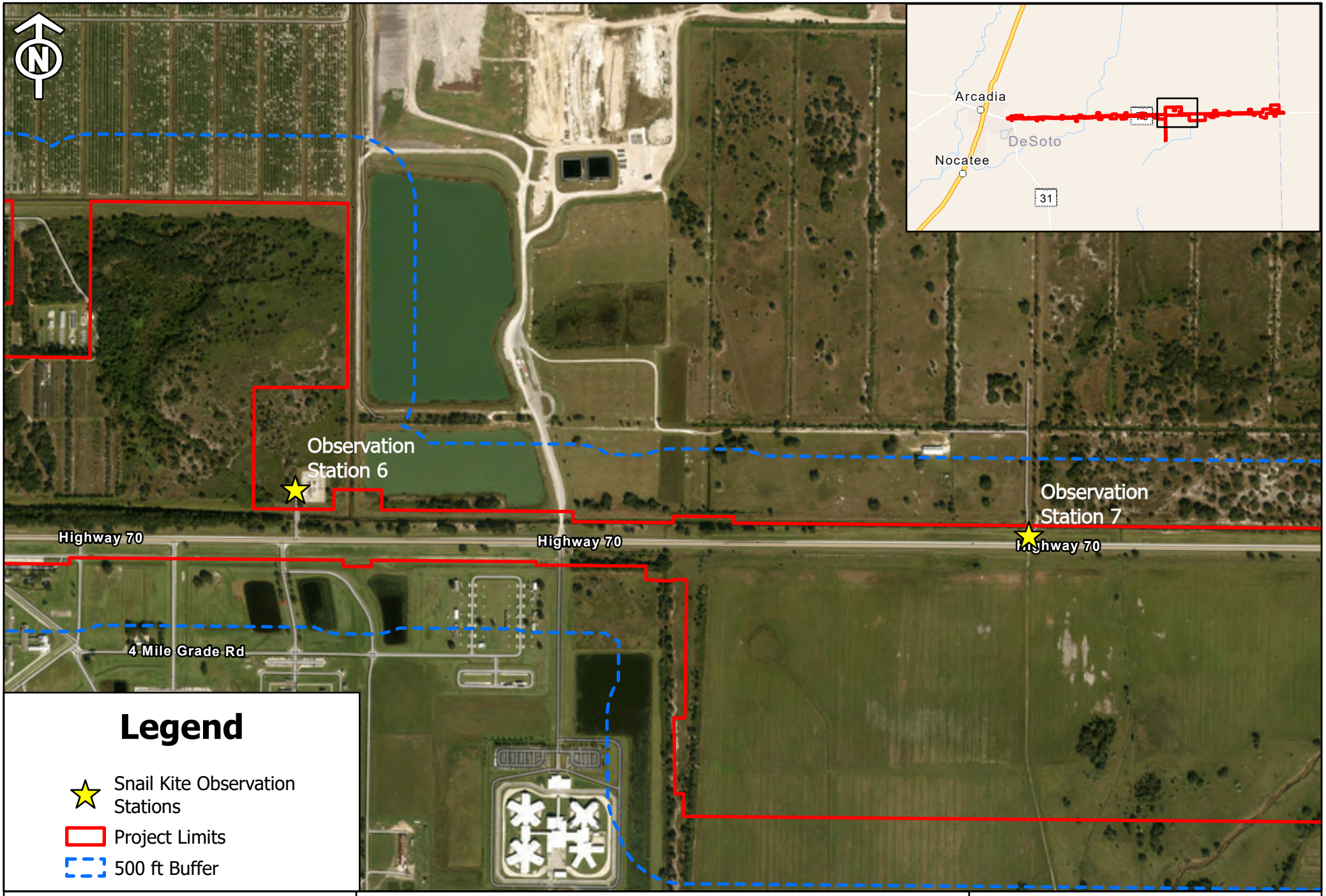


Figure 2-4. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 6 & 7
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 500 1,000 US Feet

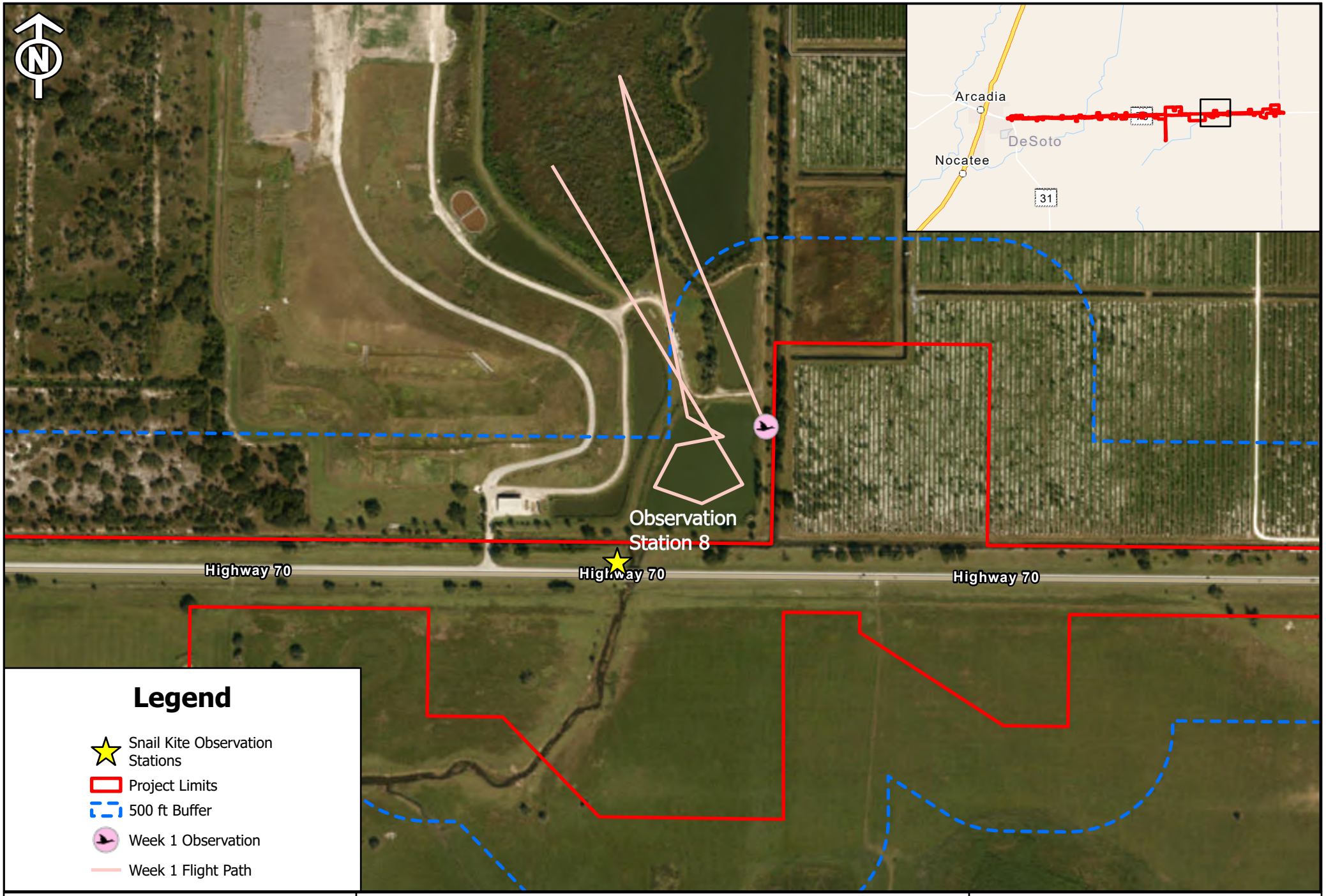


Figure 2-5. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)
Observation Station 8
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 250 500 1,000 US Feet

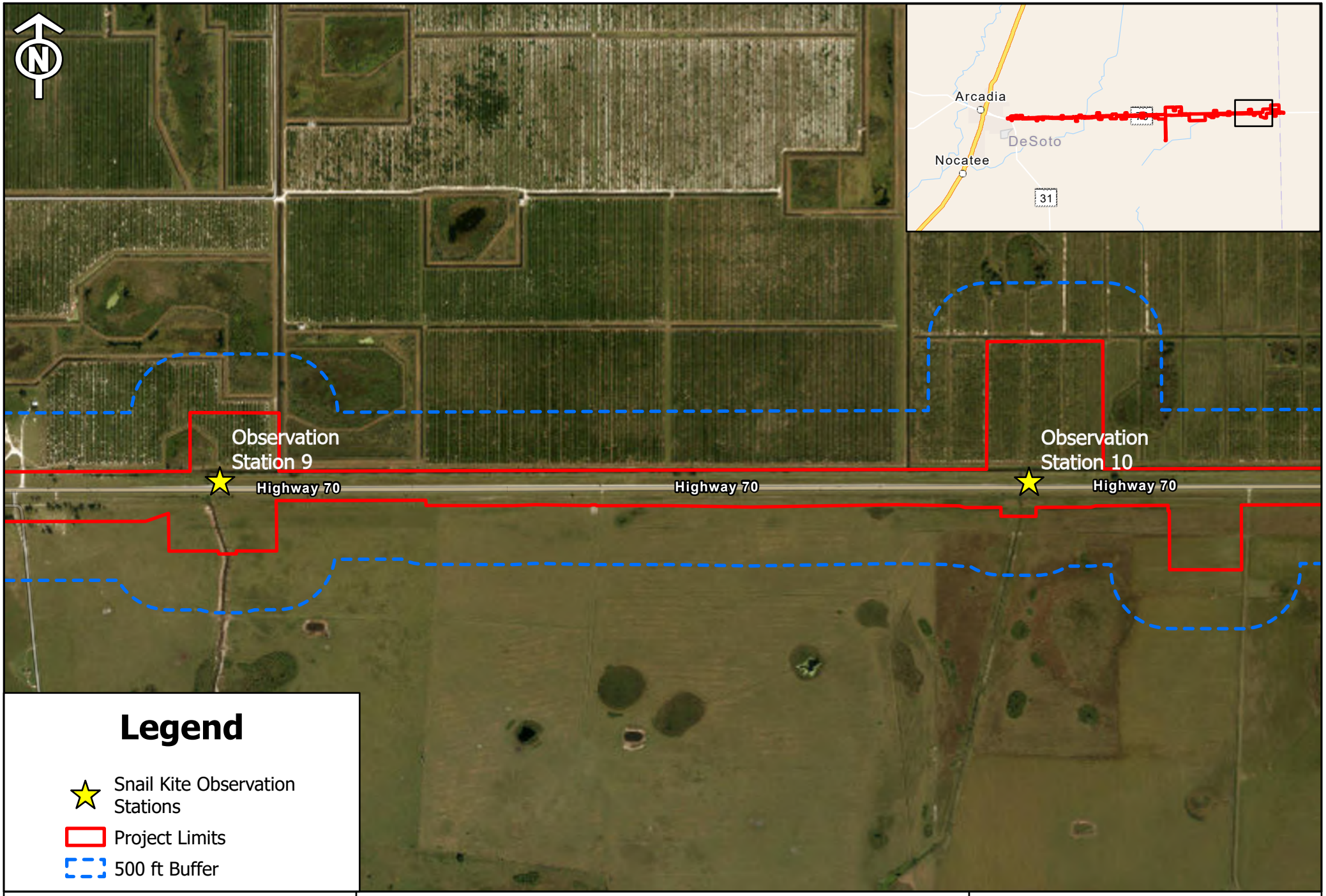
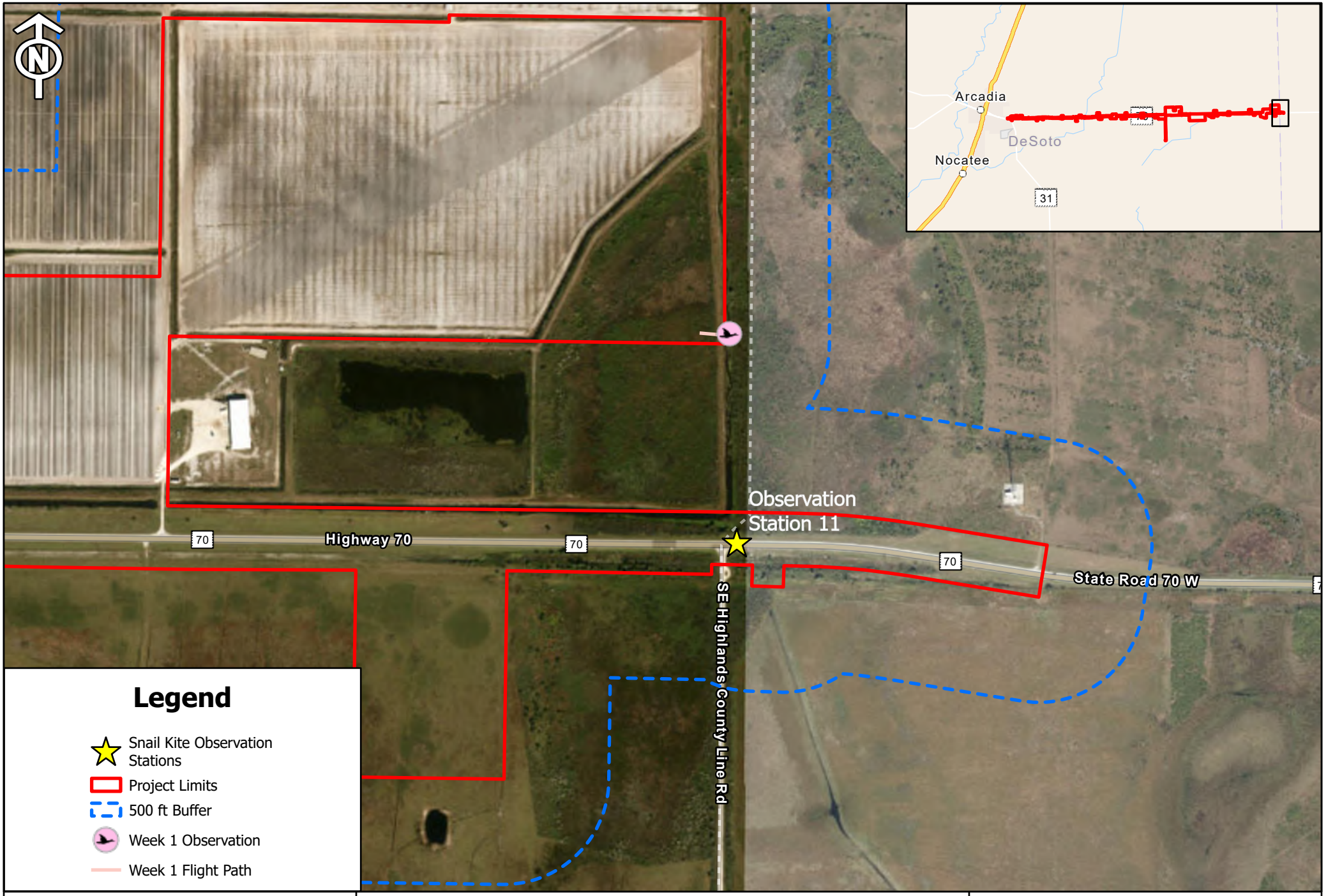


Figure 2-6. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*) Observation Stations 9 & 10
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 1,000 2,000 US Feet



FDOT

Figure 2-7. Everglade Snail Kite (*Rostrhamus sociabilis plumbeus*)
Observation Station 11
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 500 1,000 US Feet

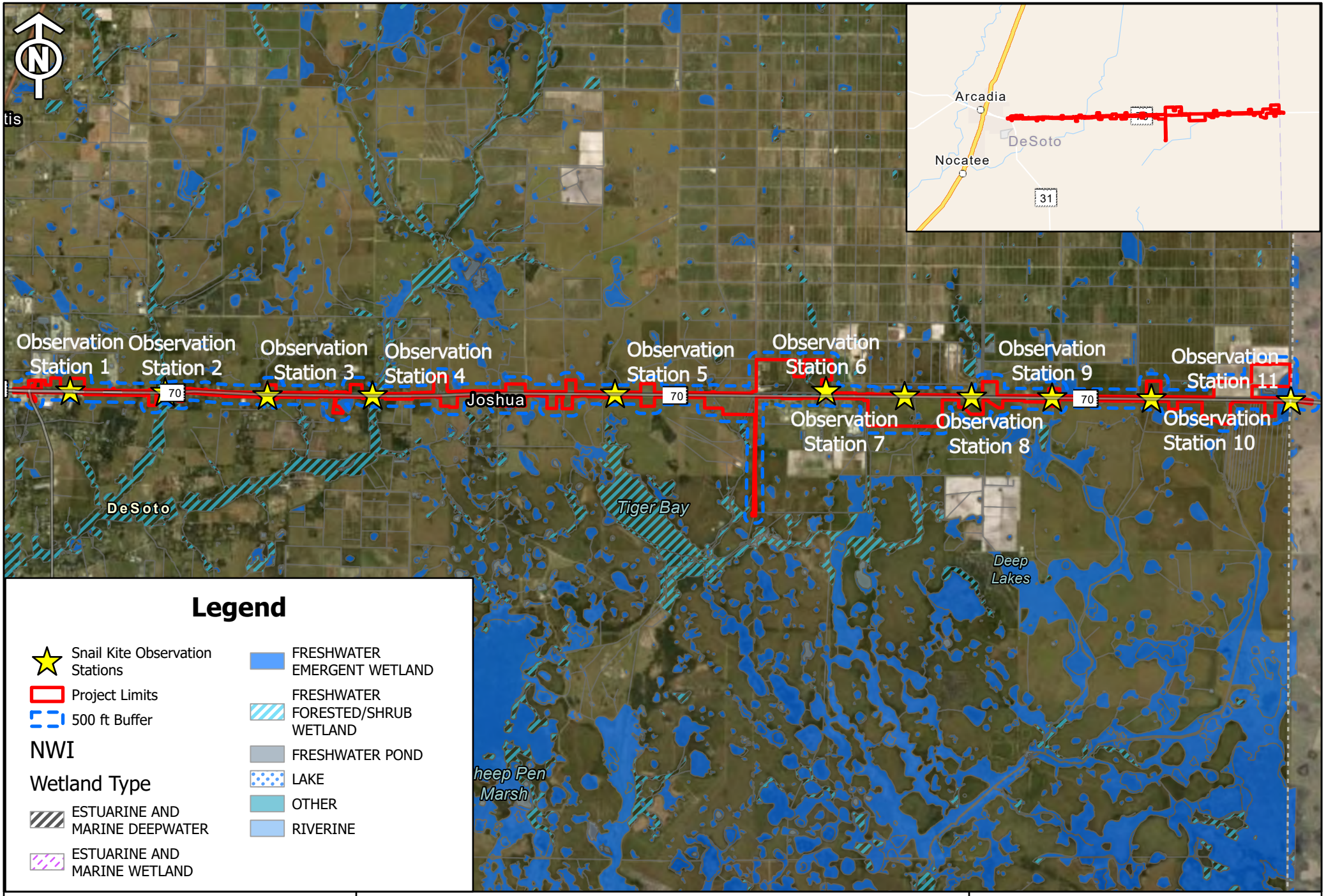


Figure 3. Wetland Type and Location Map
SR 70 West of SR 31 to SE Highlands County Line Road
FPID: 451942-1-22-01

0 0.75 1.5 3 Miles

Appendix B: Survey Field Data Sheets

Station 1 Field Sheets – Events 1 through 5

Station 2 Field Sheets – Events 1 through 5

Station 3 Field Sheets – Events 1 through 5

Station 4 Field Sheets – Events 1 through 5

Station 5 Field Sheets – Events 1 through 5

Station 6 Field Sheets – Events 1 through 5

Station 7 Field Sheets – Events 1 through 5

Station 8 Field Sheets – Events 1 through 5

Station 9 Field Sheets – Events 1 through 5

Station 10 Field Sheets – Events 1 through 5

Station 11 Field Sheets – Events 1 through 5

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

1

Survey Date

April 12, 2025

Observer Names

James Fine

Survey Start Time

06:50

Survey Start Temperature (°F)

60

Survey Start Wind Speed (mph) and Direction

none

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:50

Survey End Temperature (°F)

71

Survey End Wind Speed (mph) and Direction

none

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

None-

Were apple snail egg masses found? Record how many.

None - N/A

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

1

Survey Date

April 26, 2025

Observer Names

James Fine

Survey Start Time

06:42

Survey Start Temperature (°F)

65

Survey Start Wind Speed (mph) and Direction

3mph S

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:45

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

6mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

N/A

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

1

Survey Date

May 5, 2025

Observer Names

Madison Duclos

Survey Start Time

06:30

Survey Start Temperature (°F)

68

Survey Start Wind Speed (mph) and Direction

2 mph w

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:30

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

5 mph ne

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Great egret
Snowy egret
Duck
Little blue heron
Kestrel
Sandhill crane
Black-necked stilt
Shrike
Tri colored heron

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

1

Survey Date

May 19, 2025

Observer Names

Madison Duclos

Survey Start Time

06:22

Survey Start Temperature (°F)

71

Survey Start Wind Speed (mph) and Direction

3mph se

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:22

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

2 mph w

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Little blue heron
Shrike
Great egret
Great blue heron
Snowy egret
Duck
Anhinga

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

1

Survey Date

May 30, 2025

Observer Names

Madison Duclos

Survey Start Time

06:18

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3 mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

22:18

Survey End Temperature (°F)

85

Survey End Wind Speed (mph) and Direction

9 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Black necked stilt
Little blue heron
Duck
Great egret
Sandhill crane

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

2

Survey Date

April 13, 2025

Observer Names

James Fine

Survey Start Time

06:50

Survey Start Temperature (°F)

63

Survey Start Wind Speed (mph) and Direction

none

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:00

Survey End Temperature (°F)

74

Survey End Wind Speed (mph) and Direction

2mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

none

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

2

Survey Date

April 27, 2025

Observer Names

James Fine

Survey Start Time

06:35

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

none

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:35

Survey End Temperature (°F)

80

Survey End Wind Speed (mph) and Direction

2mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

N/A

Were apple snail egg masses found? Record how many.

None

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

2

Survey Date

May 5, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:30

Survey Start Temperature (°F)

67

Survey Start Wind Speed (mph) and Direction

2 mph W

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:30

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

5 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Carolina wren, northern cardinal, great white egret, red-shouldered hawk, little white egret, red bellied woodpecker, white ibis, swallow-tail kite

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

2

Survey Date

May 19, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:19

Survey Start Temperature (°F)

75

Survey Start Wind Speed (mph) and Direction

3 mph S

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:21

Survey End Temperature (°F)

85

Survey End Wind Speed (mph) and Direction

2 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

N/a

Special Notes

Crow, double crested cormorant, red shouldered hawk,

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

2

Survey Date

May 30, 2025

Observer Names

Logan Baxley

Survey Start Time

06:18

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:18

Survey End Temperature (°F)

85

Survey End Wind Speed (mph) and Direction

6mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

red shoulder hawk, crows, glossy ibis, vultures, Sandhill crane, pilleated woodpecker, snowy egret, grackle

Were apple snail egg masses found? Record how many.

No apple snails or the egg masses were found

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

3

Survey Date

April 14, 2025

Observer Names

Madison Duclos
James Fine

Survey Start Time

06:53

Survey Start Temperature (°F)

59

Survey Start Wind Speed (mph) and Direction

3 mph

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:03

Survey End Temperature (°F)

75

Survey End Wind Speed (mph) and Direction

8 mph north

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

None

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Bald eagle
Red shouldered hawk
Cattle egret
Crow
Red bellied woodpecker
Eastern meadowlark
Pileated woodpecker

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

3

Survey Date

April 28, 2025

Observer Names

James Fine

Survey Start Time

06:36

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

1mph SW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:40

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

4mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

none

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

3

Survey Date

May 5, 2025

Observer Names

Logan Baxley

Survey Start Time

06:30

Survey Start Temperature (°F)

66

Survey Start Wind Speed (mph) and Direction

0mph

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:30

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

4mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Great blue herons, great egrets, red shoulder hawk, crows, wood storks, Sandhill cranes (2 adult, 2 juvenile), killdeer, little blue heron, pileated woodpecker, crested caracara

Were apple snail egg masses found? Record how many.

No apple snails, drainage canal dried up

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

3

Survey Date

May 19, 2025

Observer Names

Logan Baxley

Survey Start Time

06:21

Survey Start Temperature (°F)

75

Survey Start Wind Speed (mph) and Direction

1mph SE

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:21

Survey End Temperature (°F)

85

Survey End Wind Speed (mph) and Direction

1mph SE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Red shoulder hawk, Great blue heron, Pilleated woodpecker, Sandhill cranes, Grackle , Crow , Muscovy ducks

Were apple snail egg masses found? Record how many.

No apple snail eggs or apple snails observed

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

3

Survey Date

May 30, 2025

Observer Names

Amber Brocki

Survey Start Time

06:18

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:18

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

5mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Snowy egret, crows, vultures, eastern meadowlark, white ibis, glossy ibis, cormorant, grackle

Were apple snail egg masses found? Record how many.

No none

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

4

Survey Date

April 1, 2025

Observer Names

James Fine

Survey Start Time

06:32

Survey Start Temperature (°F)

68

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:05

Survey End Temperature (°F)

77

Survey End Wind Speed (mph) and Direction

0

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

N/A

Were apple snail egg masses found? Record how many.

None

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

4

Survey Date

April 15, 2025

Observer Names

James Fine

Survey Start Time

06:50

Survey Start Temperature (°F)

60

Survey Start Wind Speed (mph) and Direction

none

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:55

Survey End Temperature (°F)

72

Survey End Wind Speed (mph) and Direction

1mph S

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

-

Were apple snail egg masses found? Record how many.

N/A

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

4

Survey Date

April 30, 2025

Observer Names

Logan Baxley

Survey Start Time

06:34

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

3mph W

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:34

Survey End Temperature (°F)

80

Survey End Wind Speed (mph) and Direction

7mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Vultures, crows, white ibis, red shoulder hawk, great blue heron, caracara, swallow tailed kite, cattle egret, great egret, Sandhill crane, limpkin,

Were apple snail egg masses found? Record how many.

None / 0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

4

Survey Date

May 19, 2025

Observer Names

James fine
Sydney Norris

Survey Start Time

06:27

Survey Start Temperature (°F)

69

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:31

Survey End Temperature (°F)

77

Survey End Wind Speed (mph) and Direction

O

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

None

If applicable, how many Snail Kite nests were observed?

Na

Special Notes

Great heron, crows, limpkin, white eyed vireo, great crested flycather, white ibis

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

4

Survey Date

May 30, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:18

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3 mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:19

Survey End Temperature (°F)

83

Survey End Wind Speed (mph) and Direction

8 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

White ibis, crow, vulture

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

5

Survey Date

April 2, 2025

Observer Names

Logan Baxley

Survey Start Time

07:00

Survey Start Temperature (°F)

70

Survey Start Wind Speed (mph) and Direction

2mph East

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:00

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

6mph SE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Crows, lesser yellowlegs, willet, white ibis, Sandhill crane, bald eagle, multiple caracara , vulture, anhinga, juvenile black crowned night heron.

Were apple snail egg masses found? Record how many.

Apple snails were observed in riverine, but no egg masses were observed

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

5

Survey Date

April 22, 2025

Observer Names

Logan Baxley

Survey Start Time

06:40

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

1mph SE

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:40

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

1mph SE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

None

Special Notes

Multiple caracara, Multiple red shoulder hawks, white ibis, snowy egret, American bittern, great blue heron, Sandhill crane, osprey, killdeer

Were apple snail egg masses found? Record how many.

None / No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

5

Survey Date

April 30, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:34

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

6 mph W

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:35

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

11 mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Great blue heron, 3 crested caracara, loggerhead shrike, vulture

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

5

Survey Date

May 14, 2025

Observer Names

Madison Duclos

Survey Start Time

06:26

Survey Start Temperature (°F)

68

Survey Start Wind Speed (mph) and Direction

3 mph n

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:26

Survey End Temperature (°F)

78

Survey End Wind Speed (mph) and Direction

2 mph e

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Grackle
Crow
Vulture

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

5

Survey Date

May 22, 2025

Observer Names

James Fine

Survey Start Time

06:11

Survey Start Temperature (°F)

61

Survey Start Wind Speed (mph) and Direction

3 ne

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:26

Survey End Temperature (°F)

77

Survey End Wind Speed (mph) and Direction

Sw 8

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Carcara, crow,meadowlark. Vulture, Carolina wren.

Were apple snail egg masses found? Record how many.

N/a

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

6

Survey Date

April 7, 2025

Observer Names

Logan Baxley

Survey Start Time

06:56

Survey Start Temperature (°F)

70

Survey Start Wind Speed (mph) and Direction

2mph SE

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:58

Survey End Temperature (°F)

83

Survey End Wind Speed (mph) and Direction

8mph S

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Sandhill cranes, red winged blackbird, crows, vultures, Great Blue Heron, Bald Eagle, 2 caracara

Lots of FPL construction activity, land clearing taking place North of Station.

Were apple snail egg masses found? Record how many.

No apple snails or egg masses were observed.

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

6

Survey Date

April 22, 2025

Observer Names

Madison Duclos

Survey Start Time

06:44

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

4 mph sw

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:59

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

7 mph nw

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Boat tailed Grackle
Morning dove
Black vulture
Northern cardinal
Great created fly catcher
Red tailed hawk

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

6

Survey Date

May 2, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:31

Survey Start Temperature (°F)

63

Survey Start Wind Speed (mph) and Direction

4 mph SW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:40

Survey End Temperature (°F)

80

Survey End Wind Speed (mph) and Direction

4 mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Red shouldered hawk, northern cardinal, limpkin, common gallinule, vulture, great blue heron, 1 Sandhill crane, boat tailed grackle, crow

Were apple snail egg masses found? Record how many.

No egg masses were found, however, 2 limpkins were observed feeding on apple snails

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

6

Survey Date

May 15, 2025

Observer Names

James Fine

Survey Start Time

06:17

Survey Start Temperature (°F)

61

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:35

Survey End Temperature (°F)

68

Survey End Wind Speed (mph) and Direction

0

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

None

If applicable, how many Snail Kite nests were observed?

Na

Special Notes

Crow, cattle egret, caracara, meadowlark, cardinal. Vukture

Were apple snail egg masses found? Record how many.

None

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

6

Survey Date

May 27, 2025

Observer Names

Logan Baxley

Survey Start Time

06:19

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

2mph NW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:19

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

4mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

grackle, crow, vulture, white ibis, snowy egret, Limpkin, Sandhill cranes, common moorhen, great blue heron

Were apple snail egg masses found? Record how many.

Limpkin observed feeding on apple snails

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

7

Survey Date

April 22, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:40

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

4 mph W

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:42

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

7 mph NW

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Little white egrets, crows, 1 crested caracara

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

7

Survey Date

April 30, 2025

Observer Names

Madison Duclos

Survey Start Time

06:33

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

5 mph sw

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:33

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

9 mph west

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

NONE

Special Notes

Black vulture

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

7

Survey Date

May 14, 2025

Observer Names

James Fine

Survey Start Time

06:26

Survey Start Temperature (°F)

68

Survey Start Wind Speed (mph) and Direction

3 mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:26

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

2 mph e

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Great heron
Sandhill
Woodstork
Ibis
Turkey vulture

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

7

Survey Date

May 21, 2025

Observer Names

Logan Baxley

Survey Start Time

06:20

Survey Start Temperature (°F)

70

Survey Start Wind Speed (mph) and Direction

3mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:20

Survey End Temperature (°F)

85

Survey End Wind Speed (mph) and Direction

3mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Caracara, crows, red shoulder hawk, little blue heron, Sandhill crane, great blue heron, osprey,

Were apple snail egg masses found? Record how many.

No apple snails or their egg masses were observed

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

7

Survey Date

May 29, 2025

Observer Names

Logan Baxley

Survey Start Time

06:17

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3mph NW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:17

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

5mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Sandhill cranes, white ibis, glossy ibis, crows, vultures, caracara

Were apple snail egg masses found? Record how many.

No none

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

8

Survey Date

April 2, 2025

Observer Names

Jonas Leicht

Survey Start Time

07:00

Survey Start Temperature (°F)

71

Survey Start Wind Speed (mph) and Direction

5 mph W

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:00

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

10 mph NW

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

1

If applicable, perching substrate of Snail Kite

Snail kite was perching on what appeared to be the top of an oak tree.

If applicable, age of snail kite (fledgling, juvenile, adult)

Adult (female)

If applicable, record breeding and nonbreeding behavior

Snail kite was circling and foraging for food over the adjacent pond.

If applicable, how many Snail Kite nests were observed?

0

If applicable, proximity of Snail Kite to nearest wading bird colony

100+ snowy egrets flying overhead and traveling South

Special Notes

100+ snowy egrets flying overhead, 1 great blue heron, 6 osprey, 6 cormorants,

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

8

Survey Date

April 18, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:44

Survey Start Temperature (°F)

61

Survey Start Wind Speed (mph) and Direction

5 mph SW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:50

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

11 mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

1 red shouldered hawk, great blue herons, 100+ little white egrets flying southeast, ospreys, cardinals, 1 wood stork, 1 northern harrier hawk, vultures, crows,

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

8

Survey Date

April 25, 2025

Observer Names

Logan Baxley

Survey Start Time

06:36

Survey Start Temperature (°F)

65

Survey Start Wind Speed (mph) and Direction

2mph SW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:36

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

6mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Vultures, crows, red winged blackbird, red shoulder hawk, limpkin, kestrel, cormorant, white ibis, great blue heron, ospreys

Were apple snail egg masses found? Record how many.

Negative / none

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

8

Survey Date

May 5, 2025

Observer Names

James Fine

Survey Start Time

06:38

Survey Start Temperature (°F)

61

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Obstructed

Survey Start Precipitation

None

Survey End Time

10:46

Survey End Temperature (°F)

80

Survey End Wind Speed (mph) and Direction

0

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Vulture. Crows, kingfisher

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

8

Survey Date

May 21, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:22

Survey Start Temperature (°F)

71

Survey Start Wind Speed (mph) and Direction

3 mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:22

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

6 mph NE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Osprey, great white egret, white ibis, vulture, crow, double crested cormorant, little white egret, red shouldered hawk

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

9

Survey Date

April 11, 2025

Observer Names

James Fine

Survey Start Time

06:58

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

2mph S

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:02

Survey End Temperature (°F)

73

Survey End Wind Speed (mph) and Direction

5mph SE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

NA

Were apple snail egg masses found? Record how many.

None found

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

9

Survey Date

April 24, 2025

Observer Names

Madison Duclos
James Fine

Survey Start Time

06:42

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

0.3 mph e

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:42

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

2.5 SE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Duck
Hawk
Raven
Eastern meadowlark
Grey flycatcher
Black vulture

Were apple snail egg masses found? Record how many.

None

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

9

Survey Date

May 2, 2025

Observer Names

Logan Baxley

Survey Start Time

06:31

Survey Start Temperature (°F)

63

Survey Start Wind Speed (mph) and Direction

1mph SW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:31

Survey End Temperature (°F)

78

Survey End Wind Speed (mph) and Direction

1 mph NW

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Red winged blackbird, crow, vulture, grackle, Sandhill crane, caracara, red bellied woodpecker, red shoulder hawk, great blue heron, great egret, osprey

Were apple snail egg masses found? Record how many.

No apple snails or egg masses were observed, water levels low in drainage ditches

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

9

Survey Date

May 20, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:20

Survey Start Temperature (°F)

75

Survey Start Wind Speed (mph) and Direction

4 mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:21

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

7 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Great white egret, crow, great blue heron, northern harrier hawk, boat tailed grackle, little blue heron, snowy egret, vulture, white ibis, 1 crested caracara, red shouldered hawk

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

9

Survey Date

May 27, 2025

Observer Names

Madison Duclos

Survey Start Time

06:17

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3 mph nw

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:17

Survey End Temperature (°F)

87

Survey End Wind Speed (mph) and Direction

8 mph NE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

N/A

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

10

Survey Date

May 8, 2025

Observer Names

James Fine

Survey Start Time

06:57

Survey Start Temperature (°F)

70

Survey Start Wind Speed (mph) and Direction

3mph NW

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:59

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

8mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

none

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9&10

Segment Number

Segments 9&10

Station Number

10

Survey Date

April 22, 2025

Observer Names

James Fine

Survey Start Time

06:40

Survey Start Temperature (°F)

64

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:45

Survey End Temperature (°F)

80

Survey End Wind Speed (mph) and Direction

1mph SE

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

NA

Were apple snail egg masses found? Record how many.

0

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

10

Survey Date

May 2, 2025

Observer Names

Madison Duclos

Survey Start Time

06:31

Survey Start Temperature (°F)

63

Survey Start Wind Speed (mph) and Direction

4 mph sw

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:31

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

4 mph nw

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Caracara
Red winged black bird
Grackle

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

10

Survey Date

May 20, 2025

Observer Names

James Fine

Survey Start Time

06:11

Survey Start Temperature (°F)

71

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:05

Survey End Temperature (°F)

78

Survey End Wind Speed (mph) and Direction

3 sw

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

Na

If applicable, how many Snail Kite nests were observed?

Na

Special Notes

Eastern meadowlark, crow, mockingbird. Grackel

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

10

Survey Date

May 27, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:21

Survey Start Temperature (°F)

74

Survey Start Wind Speed (mph) and Direction

3 mph W

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:24

Survey End Temperature (°F)

83

Survey End Wind Speed (mph) and Direction

6 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Osprey, crow, vulture, 1 crested caracara, great white egret, little blue heron

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

11

Survey Date

April 7, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:56

Survey Start Temperature (°F)

70

Survey Start Wind Speed (mph) and Direction

6 mph N

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

11:05

Survey End Temperature (°F)

84

Survey End Wind Speed (mph) and Direction

12 mph N

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

1 (female)

If applicable, perching substrate of Snail Kite

Snail kite was perched on a power line

If applicable, age of snail kite (fledgling, juvenile, adult)

Adult

If applicable, record breeding and nonbreeding behavior

None

If applicable, how many Snail Kite nests were observed?

0

Special Notes

2 little white egret, 1 great blue heron, 1 great white egret, 1 sand hill crane, 2 red-shouldered hawks,

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9&10 and 12-14

Segment Number

Segments 9&10

Station Number

11

Survey Date

April 18, 2025

Observer Names

Madison Duclos

Survey Start Time

06:48

Survey Start Temperature (°F)

61

Survey Start Wind Speed (mph) and Direction

5 mph sw

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:48

Survey End Temperature (°F)

79

Survey End Wind Speed (mph) and Direction

11 mph w

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Osprey
Red shouldered hawk
Morning dove
Little blue heron
Duck
Great blue heron
Limpkin
Swallow tailed kites

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

11

Survey Date

April 25, 2025

Observer Names

Jonas Leicht

Survey Start Time

06:41

Survey Start Temperature (°F)

65

Survey Start Wind Speed (mph) and Direction

5 mph S

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:43

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

12 mph W

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Green heron, loggerhead shrike, great blue heron, 1 crested caracara, vultures, northern cardinal, little blue heron

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

11

Survey Date

May 6, 2025

Observer Names

James Fine

Survey Start Time

06:31

Survey Start Temperature (°F)

61

Survey Start Wind Speed (mph) and Direction

O

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:53

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

5 se

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

None

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Crow, vulture, meadow lark, cardinal.

Were apple snail egg masses found? Record how many.

No

Snail Kite Survey SR70 Segments 9-10

Segment Number

Segments 9-10

Station Number

11

Survey Date

May 21, 2025

Observer Names

James Fine

Survey Start Time

06:11

Survey Start Temperature (°F)

68

Survey Start Wind Speed (mph) and Direction

0

Survey Start Visibility

Unlimited

Survey Start Precipitation

None

Survey End Time

10:22

Survey End Temperature (°F)

81

Survey End Wind Speed (mph) and Direction

5 sw

Survey End Visibility

Unlimited

Survey End Precipitation

None

If applicable, how many Snail Kite observed?

0

If applicable, how many Snail Kite nests were observed?

0

Special Notes

Crow, caracara flew north, cardinal, meadowlark, dove, ibis, osprey,vulture, grackel

Were apple snail egg masses found? Record how many.

No