NATURAL RESOURCES EVALUATION

Turnpike (SR 91) Widening Project Development and Environment (PD&E) Study

Study Limits of Project: from South of SR 408 to SR 50 (MP 263 to 273)

Orange County, Florida

Financial Project ID (FPID) No. 444007-1-22-01

ETDM No.: 14378

Date: January 2023

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

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Executive Summary

The Florida Turnpike Enterprise (FTE), part of the Florida Department of Transportation (FDOT) is evaluating alternatives to widen Florida's Turnpike (State Road (SR) 91) from south of SR 408 to SR 50 (milepost (MP) 263 to 273), a distance of approximately 10 miles and along SR 408 from the Florida's Turnpike interchange to east of the Old Winter Garden Road overpass in Orange County. As part of the study, all existing interchanges within the project limits and the need for a new interchange will be evaluated. This PD&E Study will evaluate the widening of the Florida's Turnpike while also including milling and resurfacing, bridge construction, and interchange improvements within the study limits. Interchanges with proposed improvements or modifications on Florida's Turnpike include SR 408, SR 429, SR 50 (Ocoee / Winter Garden), SR 50 (Clermont / Oakland), and a new proposed interchange at Avalon Road.

Protected Species and Habitat

The project study area was evaluated for the presence of federal and/or state protected species and their suitable habitat in accordance with Sections 7 and 10 of the Endangered Species Act (ESA) and Part 2, Chapter 16 of the PD&E Manual. The following list summarize the effect determinations that have been made for each federal- and state-managed/protected species based upon their probability ranking and the implementation measures and/or commitments to offset any potential impacts to each species and potential impacts to wetlands and other surface waters. **Section 3** includes details of the effect determinations summarized below.

The project may affect, but is not likely to adversely affect the following federally listed species:

- Sand skink;
- Florida scrub-jay;
- Eastern indigo snake;
- Snail kite; and
- Wood stork

The project will have no effect on the following federally listed species:

- Florida bonamia;
- Pygmy fringe tree;
- Scrub pigeon-wing;
- Short-leaved rosemary;
- Beautiful pawpaw;
- Scrub buckwheat;
- Florida blazing star;
- Scrub lupine;
- Britton's beargrass;
- Paper-like nailwort;
- Lewton's polygala;
- Small's jointweed;
- Scrub plum;
- Clasping warea; and
- Carter's warea.

The project will have no adverse effect anticipated on the following state listed species:

- Florida burrowing owl;
- Southeastern American kestrel;
- Gopher tortoise;
- Wading birds including little blue heron, tricolored heron, and roseate spoonbill;
- Florida sandhill crane;
- Short-tailed snake;
- Florida pine snake;
- Many-flowered grass-pink;
- Chapman's sedge;
- Piedmont jointgrass;
- Hartwrightia;
- Star anise;
- Pondspice;
- Celestial lily;
- Cutthroat grass; and
- Florida willow.

The project will have no effect anticipated on the following state listed species:

- Variable-leaved Indian-plantain;
- Incised groove-bur;
- Ashe's savory;
- Sand butterfly pea;
- Nodding pinweed;
- Giant orchid;
- Scrub bluestem;
- Florida spiny-pod; and
- Florida Beargrass.

The project will have no adverse effect anticipated on the following managed/protected species:

- Bald eagle; and
- Florida black bear.

The project will have no effect anticipated on the following managed/protected species:

- Osprey; and
- Bat species.

Wetlands

Wetlands and other surface water habitat types to be impacted by the proposed construction include natural wetland and manmade waterways, reservoirs, mixed wetland hardwoods, exotic wetland hardwoods, wetland forested mixed, wetland scrub, and freshwater marshes. The build alternative roadway widening is anticipated to impact 12.02 acres of wetland and surface waters within the project limits. Impacts associated with the build alternative stormwater treatment facilities and floodplain compensation alternatives are anticipated to impact 4.05 acres of wetlands and surface waters. Wetland impacts which will result from the construction of the build alternative 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 the build alternative will be completed through the use of

mitigation banks and any other mitigation options that satisfy state and federal requirements. **Section 4** includes additional detail of anticipated wetland impacts.

1.0 Project Overview

1.1 Project Description

The Florida Turnpike Enterprise (FTE), part of the Florida Department of Transportation (FDOT), is evaluating alternatives to widen Florida's Turnpike (State Road (SR) 91) from south of SR 408 to SR 50 (milepost (MP) 263 to 273), a distance of approximately 10 miles, and along SR 408 from the Florida's Turnpike interchange to east of the Old Winter Garden Road overpass. As part of the study, all existing interchanges within the project limits and the need for a new interchange were evaluated. The project is located in Orange County, Florida within the municipalities of Oakland, Winter Garden, and Ocoee. The project location map, **Figure 1.1.1**, shows the study area for the Florida's Turnpike Project Development and Environment (PD&E) Study.

Figure 1-1 Project Location Map

Florida's Turnpike currently has eight to twelve lanes (four travel lanes and up to two auxiliary lanes in each direction) within the study limits. The roadway is functionally classified as an Urban Principal Arterial - Freeway and Expressway and has a posted speed limit of 70 miles per hour (mph). The access management classification is Class 1 and the corridor does not have a context classification.

Early planning efforts conducted by FTE concluded that major operational, safety, and capacity improvements are needed along Florida's Turnpike to improve current and future peak period traffic operations along the mainline at the major interchanges with SR 408, SR 429, and SR 50 to reduce the potential for traffic incidents and accommodate travel at acceptable levels of service. This PD&E Study evaluated the widening of the Florida's Turnpike as well as milling and resurfacing, bridge construction, and interchange improvements. Interchange improvements were evaluated at SR 408, SR 429, SR 50 (Ocoee / Winter Garden), SR 50 (Clermont / Oakland), and a new interchange was evaluated at Avalon Road.

1.2 Purpose & Need

The purpose of the project is to reduce congestion and improve mobility on Florida's Turnpike mainline from south of SR 408 to SR 50 to accommodate current and future traffic volumes generated by growth in Orange County and adjacent counties. A goal of the project is to enhance safety and improve emergency evacuation times.

The need for this project is to improve current and future peak period traffic operations and safety issues at the interchanges and throughout the corridor. The SR 408 to SR 429 segment of the project currently has a high volume of weaving and merging movements, with 45% of traffic from SR 408 exiting at SR 429 and 32% of northbound Florida's Turnpike traffic exiting at SR 429. This hinders the traffic operations and increases the concern for safety. The close proximity (1.3 miles) of these system-to-system interchanges causes merging and weaving conflicts. A total of 1,792 crashes were reported in the study limits between 2013 to 2017. Of those crashes, 60 percent occurred on the Florida's Turnpike mainline, seven percent on the SR 408 mainline, 11 percent on the SR 429 mainline, and 22 percent at the SR 50

(Clermont / Oakland) intersection. The proposed improvements will improve the travel time reliability, enhance safety, and improve emergency response and evacuation times.

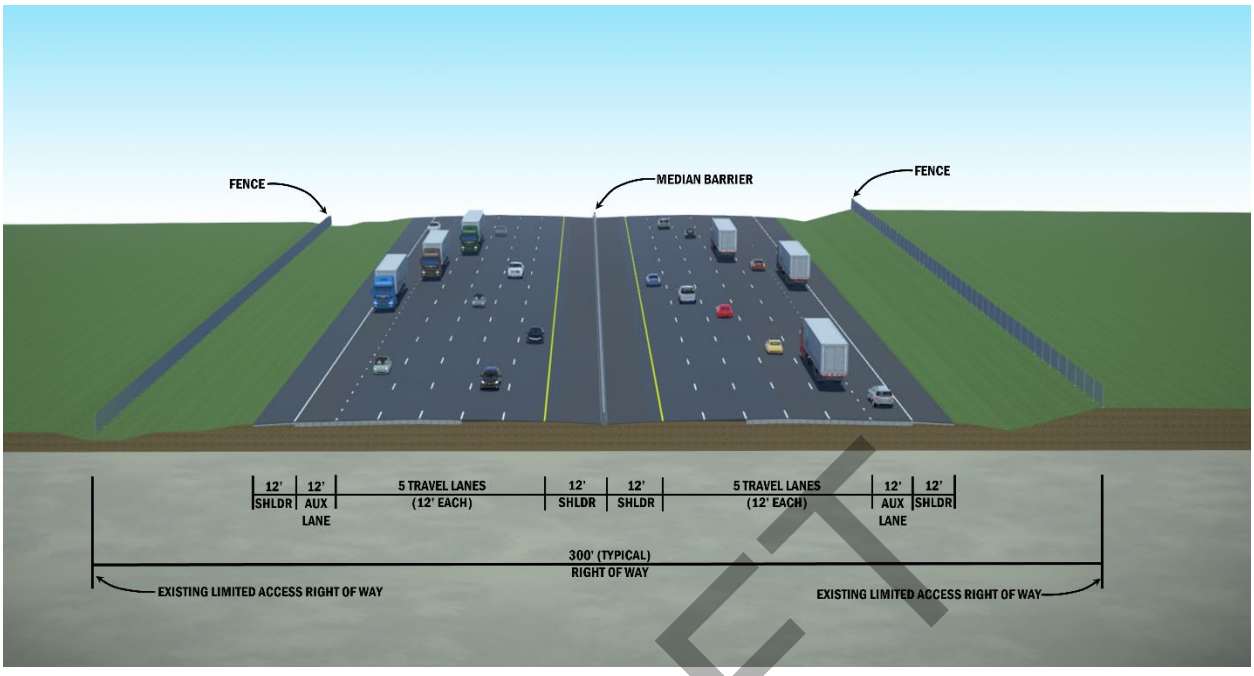
1.3 Alternatives Analysis Summary

For the purpose of defining the Build Alternatives, the project is subdivided into three mainline segments and five interchanges:

- Mainline:
  - Turkey Lake Service Plaza to SR 408;
  - SR 408 to SR 429; and
  - SR 429 to SR 50 (Clermont/Oakland).
- Interchanges:
  - SR 408;
  - SR 429;
  - SR 50 (Ocoee / Winter Garden) Connector;
  - Avalon Road (proposed new interchange); and
  - SR 50 (Clermont / Oakland).

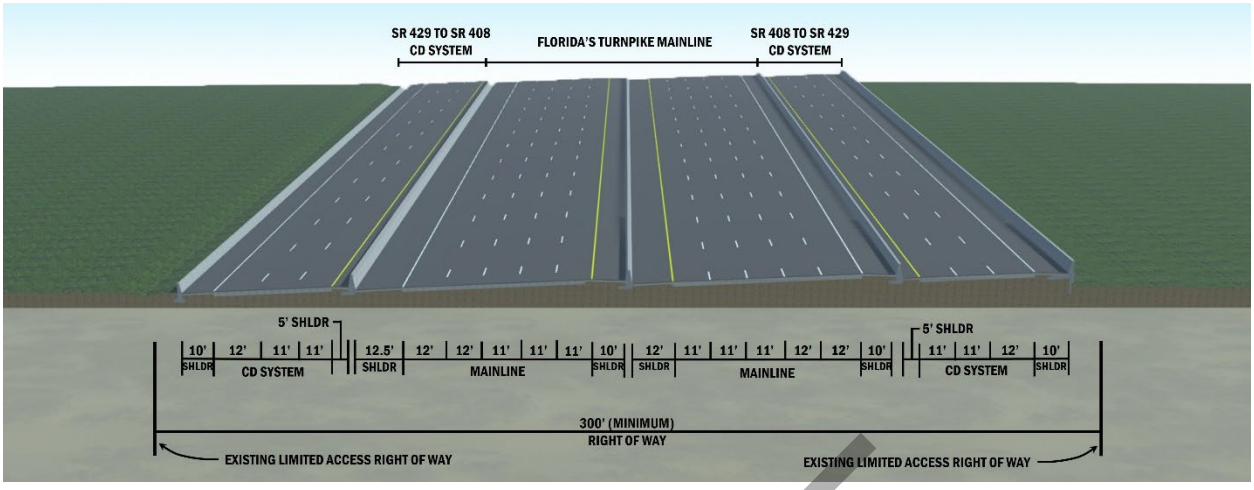
As described above, the Build Alternatives for Florida's Turnpike mainline are subdivided into three segments. The segment of Florida's Turnpike from Turkey Lake Service Plaza to SR 408 includes adding a total of two lanes in each direction for a total of five travel lanes and one auxiliary lane in each direction. **Figure 1.3.1** shows the proposed typical section for Segment 1 of the Florida's Turnpike mainline.

Figure 1.3.1: Proposed Typical Section – Segment 1



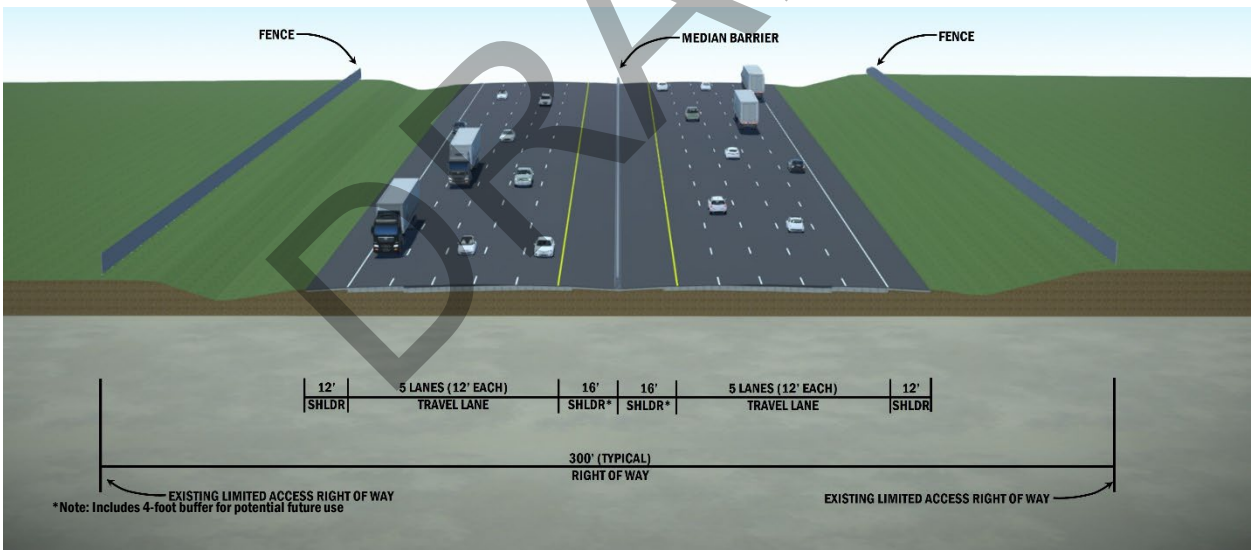
The second segment, from SR 408 to SR 429, was updated after coordination with the City of Ocoee to minimize right-of-way impacts. This segment includes a C-D system consisting of a separate roadway facility that will parallel the mainline lanes of Florida's Turnpike. The purpose of the separate roadway system is to move the weaving movements associated with the interchanges from the high-speed mainline, thereby improving traffic operations and safety. Traffic traveling to either SR 408 or SR 429 will use the C-D system comprised of three additional lanes in each direction. These lanes will be barrier separated from the mainline travel lanes. In addition, the mainline will be widened to five lanes in each direction to serve the regional traffic passing through this segment. **Figure 1.3.2** shows the proposed typical section for the second segment of Florida's Turnpike.

Figure 1.3.2: Proposed Typical Section – Segment 2



The final segment of the study, from SR 429 to SR 50, consists of adding one through lane in each direction, for a total of five travel lanes in each direction. **Figure 1.3.3** shows the proposed typical section for the third segment of Florida's Turnpike.

Figure 1.3.3: Proposed Typical Section – Segment 3



Early phases of alternative development consisted of designing sketch alternatives for each of the interchanges. The sketch alternatives were examined, refined, and ultimately assessed based on functionality, safety, traffic improvement, cost, and right-of-way requirements. All alternatives considered during the Tier 1 (sketch alternatives) phase were then narrowed down to the Tier 2 Alternatives. Both Tier 1 and Tier 2 alternatives are included in Appendix A. The Tier 2 alternatives were refined and further developed into the Build Alternatives, or

Tier 3 alternatives, that were introduced at the Alternatives Public Information Meeting in August 2021, shown in Appendix A, and described below. Further descriptions and graphics of the interchange alternatives are located in Section 4.6 of this report.

SR 408 to SR 429

The proposed Build Alternative for SR 408 to SR 429 includes a C-D system that would increase capacity while improving driver safety. An additional lane in each direction will be added to the Florida's Turnpike mainline as well as four additional travel lanes in each direction as part of the C-D system. The C-D system allows for all traffic exiting at SR 408 or SR 429 to avoid the mainline lanes, thereby allowing for better free flow and fewer conflict points.

The SR 408 interchange will be reconstructed to provide direct connections to both the Florida's Turnpike mainline and the proposed C-D system. The Florida's Turnpike southbound exit ramp to SR 408 will be replaced with a new three-lane ramp designed for 55 mph.

The existing SR 429 interchange ramps will remain in their current configuration except for the northbound Florida's Turnpike to southbound SR 429 ramp. This ramp will be replaced with a new two-lane ramp designed to meet the required design criteria. Other minor modifications will be made to accommodate the connections to the new C-D system between SR 429 and SR 408.

SR 50 (Ocoee / Winter Garden) Connector

Two Build Alternatives were considered for this portion of the project: Option 1: Bridge Widening and Option 2: New Signalized Intersection.

Option 1: Bridge Widening: This option widens the existing bridge to meet current design standards. This option includes a new eastbound right turn lane on SR 50 to meet with the exit ramp from Florida's Turnpike along SR 50 just before the Marshall Farms Road intersection. Motorists wishing to turn right onto Marshall Farms Road will need to make the decision before the overpass. The merge will be signal controlled.

Option 2: New Signalized Intersection: This option provides a new single lane loop / bridge from SR 50 westbound to Florida's Turnpike. The loop ramp will merge with the SR 50 eastbound ramp exiting to Florida's Turnpike, similarly to the existing condition. The ramp from Florida's Turnpike to SR 50 widens to five lanes at a new signalized intersection, with three for SR 50 westbound and two for SR 50 eastbound.

Avalon Road Alternatives

As mentioned in the project description, the project evaluated the addition of a local access interchange to Florida's Turnpike. After considering various locations for a new interchange, Avalon Road was determined to be the most logical location for a proposed local access interchange. Three Build Alternatives were evaluated at Avalon Road. Each Build Alternative ties into Orange County's Avalon Road widening project, which extends from the Florida's Turnpike north to SR 50. The tie-in points vary depending on the interchange.

One interchange alternative is the **Tight Urban Diamond Interchange,** which includes diamond ramps in all four quadrants of the interchange with left- and right-turn lanes added to Avalon Road. This alternative requires the least amount of right-of-way.

The second alternative is the **Turbo Roundabout Interchange**. The difference between a "turbo" roundabout and a standard two-lane roundabout is the elimination of weaving while in the roundabout. This alternative introduces two turbo roundabouts, one at each entrance / exit ramp intersection, thereby allowing for more capacity than a standard roundabout and providing additional safety features by not requiring weaving in the roundabout. Similar to the Tight Urban Diamond Interchange, all ramp intersection movements are available to and from the southbound and northbound Florida's Turnpike mainline.

The third alternative is the **Diverging Diamond Interchange,** which allows for free-flowing turns when entering and exiting the mainline by eliminating the left turn against oncoming traffic and limiting the number of traffic signal phases. The design reduces congestion and conflict points creating a safer condition than a regular diamond interchange.

SR 50 (Clermont / Oakland) Alternatives

Three Build Alternatives were evaluated for the SR 50 (Clermont / Oakland) interchange: the Flyover Alternative, the Parallel Flow Alternative, and the Single Point Alternative.

The **Flyover Alternative** widens the ramps at the interchange and upgrades the mainline geometry to meet current requirements provided by FDOT. The Flyover Alternative provides an overpass from northbound Florida's Turnpike to westbound SR 50 that bypasses the local traffic at the intersection. The proposed traffic signals north and south of the mainline will remain in similar positions to the existing signals. This alternative improves safety by allowing for fewer conflict points and improves mobility by allowing the northbound mainline traffic traveling westbound on SR 50 to bypass the interchange.

The **Parallel Flow Alternative** upgrades the mainline geometry in the northwest, southeast, and southwest quadrants of the interchange. The alternative splits the ramp in the northeast quadrant to allow eastbound traffic on SR 50 to make a right turn, while the westbound traffic moves under the Florida's Turnpike mainline to bypass the northern junction. This alternative improves safety by allowing for fewer conflict points and improves mobility by bypassing the northern traffic signal on SR 50.

The **Single Point Alternative** consists of extending the Florida's Turnpike overpass to provide access for a single point intersection for SR 50. The single point intersection allows for one signal to be placed at the intersection, thereby requiring only three signal phases at the interchange. This alternative improves mobility by combining the signals north and south of the mainline into one signal at the interchange.

2.0 Existing Environmental Conditions

This section presents a description of existing conditions within the project study area, including soils and land use cover types. **Section 3.0** presents a description of the potential impacts to federal- and state-protected species and habitats. **Section 4.0** presents a description of wetland and other surface water impacts that would result from the construction of the preferred alternative and a discussion of the mitigation options to offset these impacts.

2.1 Methodology

In addition to review of the ETDM Summary Report comments, a literature search of agency records was conducted, focusing on known occurrences of listed species near the project study area, which includes a 300-foot buffer surrounding proposed right of way. Literature reviews were used to determine the current federal and state listed status of all protected flora and fauna species having the potential to occur in the vicinity of the project. Field investigations were conducted by environmental scientists familiar with central Florida natural communities in November 2019, January 2020, April 2020 and November 2021. These pedestrian surveys focused on the remaining natural communities within 500 feet of the existing right of way; in particular, on natural communities known to support listed plant and wildlife species.

Project biologists researched publicly accessible databases of the federal, state, and local government agencies to gather information on known sightings of listed species and important habitats in Orange County. These agencies included the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), Florida Natural Areas Inventory (FNAI), South Florida Water Management District (SFWMD), St. Johns River Water Management District (SJRWMD), and Orange County. Other sources of area-specific information included the Environmental Screen Tool (EST), Florida's Turnpike Enterprise, Oakland Nature Preserve, and the Florida Native Plant Society.

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

- Aerial photographs, (scale 1" = 200') ESRI 2020 and Orange County Property Appraiser 2021;
- Florida Association of Environmental Soil Scientists, Hydric Soils of Florida Handbook, 4th ed., (Hurt et al. 2007);
- FDOT, Florida Land Use Cover, and Forms Classification System (FLUCFCS) Handbook, 3rd ed., January 1999.
- SFWMD, Florida Land Use, Cover and Forms Classification System GIS Database, (SFWMD 2016).
- SJRWMD, Florida Land Use, Cover and Forms Classification System GIS Database, (SJRWMD 2014)
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), Soil Survey of Orange County, Florida, 1989;
- USDA, NRCS Web Soil Survey, (August 2021);
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), Wetlands Online Mapper (August 2021); and
- USFWS, Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).
- USFWS Information for Planning and Consultation (IPaC) (IPaC: Getting Started - Draw on Map (fws.gov));
- FNAI Biodiversity Matrix Report (http://www.fnai.org/biointro.cfm);
- FNAI Standard Data Report (November 2021).
- FWC
    - Bald eagle (*Haliaeetus leucocephalus*) nest locator (1998-2017) nesting season data;
    - Wading bird rookeries locator (1999);
    - Florida scrub-jay habitat and observations (1992-1993);
    - Cooperative Land Cover (CLC), Version 3.5 (2021)
- Audubon Florida Eagle Watch public nest application (2021 nesting data);
- USFWS – https://www.fws.gov/northflorida/
    - Critical Habitat for threatened and endangered species;
    - Wood stork active colonies (2010-2019) (USFWS, 2020);

- Central Florida wood stork (*Mycteria americana*) core foraging areas (CFA) (15-mile radius);
- Consultation Areas for federally listed species; and
- U.S. Army Corps of Engineers (USACE) Effect Determination Keys for the wood stork and eastern indigo snake.

For the purposes of this document, wetlands are defined in accordance with Chapter 62-340 F.A.C., Section 373.019(27), F.S., and Corps of Engineers Wetland Delineation Manual (1987) with Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region (2010).

2.2 Soils

Based on the Soil Survey of Orange County, Florida (USDA, 1989), the project study area is comprised of 22 soil types within the 300-foot right of way buffer of the project limits (project study area). **Appendix B** provides an aerial map depicting the boundaries of each soil type within the project area. According to the NRCS Web Soil Survey, two soil types reported within the project study area are classified as hydric and 20 are listed as non-hydric. Mapped hydric soils comprise approximately 8.8 percent and non-hydric soils cover 91.2 percent of the project study area. Open water comprises approximately 0.4 percent of the project study area.

Table 2-1 lists the soil types within the study area, their hydric ranking and the approximate acreage and percentage within the project study area.

Table 2-1: NRCS Soil Types within Project Study Area

Map Unit Symbol	Map Unit Name	Acres in Project Area	Percent of Project Area
1	Arents, nearly level	1.1	0.1%
2	Archbold fine sand, 0 to 5 percent slopes	66.2	7.5%
3	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	29.2	3.3%
4	Candler fine sand, 0 to 5 percent slopes	75.5	8.5%
5	Candler fine sand, 5 to 12 percent slopes	19.8	2.2%
6	Candler-Apopka fine sands, 5 to 12 percent slopes	13.4	1.5%
20	Immokalee fine sand	61.2	6.9%

Continued on next page

Map Unit Symbol	Map Unit Name	Acres in Project Area	Percent of Project Area
22	Lochloosa fine sand	1.5	0.2%
26	Ona fine sand, 0 to 2 percent slopes	36.4	4.1%
33	Pits	2.1	0.2%
34	Pomello fine sand, 0 to 5 percent slopes	25.3	2.9%
37	St. Johns fine sand	17.1	1.9%
40	Samsula muck, frequently ponded, 0 to 1 percent slopes*	9.2	1.0%
41	Samsula-Hontoon-Basinger association, depressional	9.1	1.0%
42	Sanibel muck*	68.7	7.8%
43	Seffner fine sand, 0 to 2 percent slopes	3.5	0.4%
44	Smyrna-Smyrna, wet, fine sand, 0 to 2 percent slopes	147.1	16.7%
46	Tavares fine sand, 0 to 5 percent slopes	79.8	9.0%
47	Tavares-Millhopper fine sands, 0 to 5 percent slopes	50.4	5.7%
53	Wauberg fine sand	7	0.8%
54	Zolfo fine sand, 0 to 2 percent slopes	156.3	17.7%
99	Water	3.4	0.4%
Totals for Project Area		**883.3**	**100.00%**
* Indicates Hydric Soil Source: Web Soil Survey National Cooperative Soil Survey, November 2021			

2.3 Land Use

Land uses within the project study area were evaluated utilizing GIS data from the SFWMD and SJRWMD Land Cover Land Use data. Each land use type within the project study area have been classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS; FDOT 1999). A total of 37 upland, six (6) wetland and four (4) other surface water land use types were mapped within the project study area. Aerial maps depicting existing land uses and habitats within the project study area are provided in **Appendix C**.

Table 2-2 provides land use and habitat types, their classifications, total acreage and percent coverage within the project study area. Upland communities comprise 22,803.64 acres (95.82 percent) of the project study area. Developed uplands include residential development, commercial and services, industrial areas, and institutional and recreational facilities. Undeveloped uplands of the project study area consist of open land, pastures, agriculture, dry prairie, rangeland, shrub and brushland, pine flatwoods, upland hardwood forests,

hardwood-conifer mixed uplands, and disturbed land. Infrastructure within the project study area consists predominantly of transportation, with communications facilities and sewage treatment areas.

Wetland and other surface water communities comprise 998.73 acres (4.18 percent) of the project study area. Based on collected field data and in-house reviews, a total of 11 wetland and other surface water habitat types, including six (6) wetland and two (2) other surface water types were identified within the project study area. Other surface waters are defined as open water bodies and manmade drainage features. Wetland and other surface water habitats include bay swamps, mixed wetland hardwoods, freshwater marshes, emergent wetlands and treeless hydric savannas. **Appendix F** provides aerial maps depicting the location of wetland and other surface water habitats within the project study area.

Table 2-2: Land Use Types

Land use Type	FLUCFCS Code*	FLUCFCS Description	Acreage within Project Study Area	Percent of Project Study Area
Developed	110	Residential, Low Density (Less Than Two Dwelling Units Per Acre)	433.61	1.82%
	120	Residential, Medium Density (Two-Five Dwelling Units Per Acre)	3,056.25	12.80%
	129	Residential, Medium Density Under Construction (Two-Five Dwelling Units Per Acre)	48.02	0.20%
	130	Residential, High Density (Six Or More Dwelling Units Per Acre)	947.17	3.97%
	139	Residential, High Density Under Construction (Six Or More Dwelling Units Per Acre)	16.73	0.07%
	140	Commercial And Services	826.62	3.46%
	148	Cemeteries	6.64	0.03%
	149	Commercial And Services Under Construction	13.43	0.06%
	155	Other Light Industrial	30.50	0.13%
	156	Other Heavy Industrial	21.00	0.09%
	162	Sand And Gravel Pits	43.31	0.18%
	162	Sand And Gravel Pits	43.31	0.18%

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Land use Type	FLUCFCS Code*	FLUCFCS Description	Acreage within Project Study Area	Percent of Project Study Area
Undeveloped	170	Institutional	216.92	0.91%
	182	Golf Courses	44.57	0.19%
	185	Parks And Zoos	77.99	0.33%
	186	Community Recreational Facilities	9.30	0.04%
	190	Open Land	65.92	0.28%
	211	Improved Pastures	1.17	0.00%
	212	Unimproved Pastures	19.18	0.08%
	213	Woodland Pastures	3.37	0.01%
	215	Field Crops	53.49	0.22%
	221	Citrus Groves	58.37	0.24%
	243	Ornamentals	37.40	0.16%
	260	Other Open Lands (Rural)	5.13	0.02%
	310	Herbaceous (Dry Prairie)	55.79	0.23%
	320	Shrub And Brushland	5.70	0.02%
	330	Mixed Rangeland	32.36	0.14%
	411	Pine Flatwoods	32.77	0.14%
	420	Upland Hardwood Forests	32.54	0.14%
	421	Xeric Oak	1.78	0.01%
	434	Hardwood - Coniferous Mixed	126.15	0.53%
	441	Coniferous Plantations	9.15	0.04%
	443	Forest Regeneration Areas	11.36	0.05%
Infrastructure	814	Roads And Highways	16,312.30	68.33%
	820	Communications	17.73	0.07%
	831	Electric Power Facilities	2.83	0.01%
	837	Surface Water Collection Ponds	83.76	0.35%
Total Upland Land Uses			22,803.64	95.82%
Surface Waters	520	Lakes	33.17	0.14%
	530	Reservoirs	122.06	0.51%
Wetlands	611	Bay Swamps	6.07	0.03%
	617	Mixed Wetland Hardwoods	297.69	1.25%
	630	Wetland Forested Mixed	47.20	0.20%
	641	Freshwater Marshes	405.43	1.70%
	644	Emergent Aquatic Vegetation	9.36	0.04%
	646	Treeless Hydric Savanna	77.73	0.33%
Total Wetlands and Surface Waters			998.73	4.18%
Total			46,606.01	100.00%

*FDOT FLUCFCS, January 1999

The project study area was also evaluated using the Florida Cooperative Land Cover Map (CLC). The CLC is produced by a partnership between the FWC and Florida Natural Areas Inventory (FNAI) to develop ecologically based statewide land cover from existing sources and expert review of aerial photography. The CLC follows the Florida Land Cover

Classification System. Aerial maps depicting existing CLC land uses and habitats within the project study area are provided in **Appendix C**.

3.0 Protected Species and Habitat

This project was evaluated for impacts to wildlife and habitat resources, including federally and state protected species. Species protections are afforded by Section 7 of the Endangered Species Act (ESA, 1973), as amended, and Chapter 68A-27, F.A.C. The project was also evaluated for plant species designated as endangered, threatened or commercially exploited in accordance with the Regulated Plant Index (5B-40.0055, F.A.C.), which is administered by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry, pursuant to Chapter 5B-40, F.A.C. Evaluations were conducted in accordance with the FDOT PD&E Manual Part 2, Chapter 16 (2019), while using information from the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), FDACS, Florida Natural Areas Inventory (FNAI), Natural Resources Conservation Service (NRCS), and other databases.

Initial agency comments were provided through the Efficient Transportation Decision Making (ETDM) process. The results of the programming screen review of the project (ETDM #14378) were published on June 28th, 2019. Reviewing agency comments about potential effects to wildlife and habitat range from "Not Applicable/No Involvement" to "Moderate", with most comments summarized as "Minimal" effect on the wildlife and habitats being considered.

- Not Applicable/ No Involvement on Wildlife and Habitat – FL Department of Agriculture and Consumer Services
- Minimal Effect on Wildlife and Habitat – National Marine Fisheries Service (NMFS), USFWS, SJRWMD, and SFWMD
- Moderate Effect on Wildlife and Habitat – FWC

The project area does not fall within USFWS-designated critical habitat (CH) for any species. The project area does fall within the USFWS Consultation Areas (CAs) of the Florida scrub-jay (*Aphelocoma coerulescens*), sand skink (*Neoseps reynoldsi*), snail kite (*Rostrhamus sociabilis plumbeus*), and the Lake Wales Ridge Plants Consultation Area. The Orange County Soil Survey, recent aerial imagery (2019), CLC, SFWMD and SJRWMD land use/land cover mapping have been reviewed to determine habitat types occurring within and adjacent to the project corridor.

The following sections discuss the existing habitat types and potentially occurring state and federal listed and otherwise protected species that may be affected by the proposed improvements. The evaluated corridor includes the existing right of way and 300 feet on each side.

3.1 Protected Species Evaluation

3.1.1 Existing Conditions

Based on desktop research and field reviews, tables of potentially occurring protected fauna and flora were developed. Further research for protected flora was conducted to determine the flowering season and form, in order to effectively schedule field efforts. Field reviews consisted of vehicular surveys and detailed pedestrian surveys through natural areas and altered habitats with the potential to support protected species. In the absence of physical evidence of a protected species, evaluation of the appropriate habitat was conducted to determine the likelihood of a species being present. Appropriate habitat within 500 feet of the project area was visually scanned for evidence of listed species as well as general wildlife. The primary land use along the corridor is medium/high residential, with commercial areas established throughout and several large wetland areas. Upland areas tend to be small, disturbed, and separated by development. Most of the right of way is enclosed by segments of noise walls connected by chain-link fences. Therefore, wildlife movement is very limited. **Appendix D** depicts field observations within the project study area as well as historic species occurrences from database searches.

3.1.2 Remaining Habitats and Conservation Lands

Urban mowed/landscaped back yards, areas dominated by impervious surface, and small isolated medians were considered too disturbed to qualify as potential protected species habitat. Note that although the existing pavement was not classified as habitat, the structures over and at the sides of the roadway could provide nesting/roosting habitat for osprey, bald eagles, and bats.

The SR 408 to SR 429 Build Alternative impacts SJRWMD deeded conservation easements just west of Lake Pearl and north of the proposed SR 408 exit ramp to northbound Florida's

Turnpike. To determine if the SJRWMD should consider an exchange of land or mitigation credits, the district uses the provisions established in Florida law. Requests are evaluated through Florida's Uniform Mitigation Assessment Methodology (UMAM) process, which determines the ecological value of an easement and of the potential traded property. The burden is on the applicant who requests the exchange to provide analysis and justification for the action. The SJRWMD will not release the easement unless the exchange is favorable to the district. If an exchange or mitigation credit proposal is deemed appropriate by staff, they recommend action to the SJRWMD Governing Board, and the recommendation would appear on the board's public meeting agenda.

3.1.3 Wildlife

State and federally protected species with the potential to occur along the corridor includes 18 protected animals and 33 protected plants. Species status in **Tables 3-1 and 3-3** below include the following USFWS and FWC abbreviations: "E" for endangered, "T" for threatened, or "N" for species that are not listed as endangered, threatened, or species of special concern, but are protected by various regulations. To summarize the results of desktop and field data collection efforts, each potentially occurring species was assigned a likelihood for occurrence of "none", "low", "moderate", or "high" within habitats found on or immediately adjacent to the project corridor and an indicator of suitable habitat proximity to the project area of "distant", "near R/W (right of way)", or "within R/W". Definitions of probability of species presence/habitat proximity are provided below.

Likelihood of Species Presence Within the Project Corridor

None – Species has the potential to occur in Orange County, but due to complete absence of suitable habitat, could not be naturally present within the project corridor.

Low – Species with a low likelihood of occurrence within the project corridor are defined as those species that are known to occur in Orange County or the bio-region, but preferred habitat is limited on the project corridor, or the species is rare.

Moderate - Species with a moderate likelihood for occurrence are those species known to occur in Orange or nearby counties, and for which suitable habitat is well represented on the project corridor, but no observations or positive indications exist to verify presence.

High - Species with a high likelihood for occurrence are suspected within the project corridor based on known ranges and existence of sufficient preferred habitat on the corridor; are known to occur adjacent to the corridor; or have been previously and recently observed or documented in the vicinity.

Habitat Proximity

Distant - Appropriate habitat is more than 500 feet from the project footprint when accounting for the species' home range size and level of mobility.

Near R/W - Appropriate habitat is within 500 feet of the project footprint when accounting for the species' home range size and level of mobility.

Within R/W - Appropriate habitat occurs within the project footprint.

3.1.4 Federally Listed Species

Florida Scrub-jay

The project falls within the CA of the federally listed Threatened Florida scrub-jay (*Aphelocoma coerulescens*), and potential habitat is documented to occur just south of project area (no designated suitable habitat is documented within the project study area). The closest historical observation was located seven (7) miles southwest in 1992-1993 (Florida Scrub-Jay Umbrella Habitat Conservation Plan, 2007). The ideal habitat conditions for scrub-jays consist of xeric areas dominated by scrub oaks growing on excessively well-drained sandy soils. In these habitats, bare sand patches are dominant, with sparse groundcover consisting of various short grasses and shrubs. Sand pines are typically scattered with less than 10% cover and high-intensity fires maintain the habitat. Florida scrub-jays may also live in less desirable areas like pine flatwoods, oak-dominated communities, or orange groves that are not well maintained. Existing habitat types that could potentially support the scrub-jay along the project corridor are FLUCFCS codes 411 (pine flatwoods) and 421 (xeric oak) (see **Appendix C**).

In Florida, scrub-jay habitat is broken down into three (3) types, defined by its quality to scrub- jays. These habitat types are used to determine areas of occupancy under section 7 consultation, as well as when restoring areas for the species. The types of scrub-jay habitat are defined by Fitzpatrick et al. (1991) as follows:

- Type I Habitat: Any upland plant community in which the percent cover of the substrate by scrub oak species is 15% or more.
- Type II Habitat: Any plant community, not meeting the definition of Type I habitat, in which one or more scrub oak species is represented.
- Type III: Any upland or seasonally dry wetland within ¼ mile of any designated as Type I or Type II habitat.

There are two pine flatwoods communities; the first is located at the eastern limit of the project in the southwest quadrant of the Turnpike and Hiawassee Road South and the second is located on the west side of the SR 408 off-ramp to the Turnpike. The xeric oak community is located north of West Colonial Drive and west of South Tubb Street.

However, these areas that provide potential habitat along the corridor are disturbed by fire suppression and either agricultural land use or surrounding urban land use. Therefore, bare sand patches are sparse (ground cover is more continuous), scrub oaks in some areas have been cleared, and pines are denser than 10% cover. Additionally, informal scrub-jay call surveys were performed in April 2020 at these potential scrub-jay habitat areas, which would be classified as Type II habitats, and no scrub-jays were observed. A future development project, a residential neighborhood called Longleaf at Oakland, is planned in the potential habitat area located north of West Colonial Drive and west of South Tubb Street. Therefore, it is possible that this region of potential scrub-jay habitat will no longer exist at the time of this project's design phase. No wildlife survey data was found for the site in permit application documents. Since likelihood of scrub-jay presence within the project study area is low, the project may affect but is not likely to adversely affect this species. The FTE will initiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design. Currently, no species-specific surveys are anticipated to be required.

Eastern Indigo Snake

The Eastern indigo snake (*Drymarchon couperi*), federally listed as Threatened, inhabits pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps. This species could occur in many habitat types throughout the corridor but is often found in habitats containing gopher tortoises. Therefore, it is more likely to be found in the

upland locations. The FWC Rare Snake Sightings GIS database was reviewed for Eastern indigo snake sightings. No sightings have been documented within the project study area. The FTE will implement the Standard Protection Measures for the Eastern Indigo Snake and based on the Eastern Indigo Snake Determination of Effect Key (A>B>C>D>E "MANLAA"), it has been determined that the project may affect, but is not likely to adversely affect this species (**Appendix E**).

The FTE will initiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design and the implementation of specific protection actions and measures.

Sand Skink

The project falls within the CA of the federally listed Threatened sand skink (*Neoseps reynoldsi*). This species requires habitat that contains sandy soils (USFWS has identified 28 soils that could support the species) and an elevation above 82 feet NAVD. Potentially suitable habitat based on these criteria are shown in **Appendix D**; however, many areas within the suitable habitat contain extensive rooted vegetation or are otherwise disturbed such that there is no potential to support skinks. Preferred skink habitat is dominated by xeric vegetation such as oak-dominated scrub, turkey oak barrens, high pine, and xeric hammocks. Skinks typically occur in habitats that contain a mosaic of open sandy patches interspersed with forbs, shrubs and trees.

Potential habitat exists in four areas throughout the corridor, where suitable soil type and elevation overlap. They are generally the same areas as the three potential scrub-jay habitat areas, plus the addition of one parcel that currently supports a citrus grove in the east quadrant of West Colonial Drive and the Turnpike. The closest known observation was located 5.4 miles west of the project area. An updated evaluation and consultation with USFWS will occur during the design phase of this project and agency coordination is expected to result in an effect determination of may affect, but not likely to adversely affect.

Wood Stork

The project is within the 15-mile Core Foraging Area (CFA) of three (3) wood stork nesting colonies (Lake Lawne, Gatorland, and Eagle Nest Park). This federally listed Threatened wading bird prefers freshwater and estuarine habitats for nesting, roosting, and foraging.

Typical foraging sites for the wood stork include freshwater marshes and ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas (2-15 inches of water). During the design and permitting phase of this project, a Wood Stork Foraging Analysis will be conducted to determine the amount of biomass lost from surface water and wetland impacts in accordance with USFWS methodology. Impacts to wetlands within the project study area will be mitigated for within the CFA of one or more of the affected rookeries or at a regional mitigation bank that has been approved by the USFWS or pursuant to Section 373.4137, F.S. Additionally, the FTE will reinitiate technical assistance with the USFWS during the project's design phase to determine the need to develop a construction schedule to minimize impact to the wading bird rookery. Based on the implementation and Wood Stork Determination of Effect Key (A>B>C>D>E "MANLAA"), it has been determined that the project may affect, but is not likely to adversely affect the wood stork (**Appendix E**).

Snail Kite

The project is within the CA of the snail kite (*Rostrhamus sociabilis*), a federally listed Endangered species. Snail kite habitat consists of freshwater marshes and the shallow vegetated edges of lakes (natural and man-made) where apple snails can be found. Suitable foraging habitat for the snail kite is typically a combination of low marsh with an interdigitated matrix of shallow open water, which is relatively clear and calm. Snail kites require foraging areas that are relatively clear and open in order to visually search for apple snails. Therefore, dense growth of herbaceous or woody vegetation is not conducive to efficient foraging. The closest observation of this species has been located 17 miles southeast of the project area along Lake Tohopekaliga. Little suitable habitat exists within the project study area, and no individuals were observed during field reviews nor were any apple snail shells observed. Therefore, it is anticipated that the project may affect, but is not likely to adversely

affect the snail kite. The FTE will initiate technical assistance with the USFWS during the project's design phase to revisit this effect determination relative to updates to project design. Currently, no species-specific surveys are anticipated to be required.

Federally Protected Plants

All plants listed in **Table 3-1** are known to require the conditions of high pine and/or scrub habitat types. While these habitats are not present along the corridor, these species could potentially be found in some adjacent parcels mapped as pine flatwoods and xeric oak (FLUCFCS codes 411 and 421, respectively - see Florida scrub-jay section for location of these FLUCFCS codes). In addition, certain areas mapped as pastureland, citrus groves, coniferous plantation, and disturbed land (FLUCFCS codes 210, 221, 441, and 740, respectively), including some right of way, have a low likelihood of supporting the species.

There was one documented occurrence of scrub lupine (*Lupinus aridorum*) within the project footprint (**Appendix D**) but none were found during field surveys. The area where the scrub lupine was documented to have been found is owned by FTE and protected under a Conservation Easement originally granted by the Orlando/Orange County Expressway Authority to the SJWMD and contains viable conditions for supporting protected scrub vegetation. However, no protected plants were found during field reviews. Historical presence of the species was also identified in the general region of the northeast quadrant of the Turnpike and South Apopka Vineland Road near the service plaza; however, this area is now developed for residential properties and no individuals were observed during field reviews. This location was also cited to historically support the Florida bonamia (*Bonamia grandiflora*); similarly, the species was not observed during field reviews.

Table 3-1 lists the federally listed wildlife and plant species known to occur within Orange County that could potentially occur near the project area based on potential availability of suitable habitat and known ranges.

Table 3-1 Federally Listed Species with the Potential to Occur

Species	Common Name	USFWS Status	Habitat Proximity	Potential for Occurrence	Comments
Birds					
Aphelocoma coerulescens	Florida scrub-jay	T	Near R/W	Low	Potential habitat limited. Historical occurrence south of project limits.
Rostrhamus sociabilis	Snail kite	E	Near R/W	Low	Habitat preferences are edges of large lakes; low likelihood within corridor.
Mycteria americana	Wood stork	T	Within R/W	High	Suitable foraging habitat consists of shallow inundated areas.
Reptiles					
Neoseps reynoldsi	Sand skink	T	Within R/W	Low	Potential habitat limited to four areas with appropriate soils/elevation.
Drymarchon couperi	Eastern indigo snake	T	Within R/W	Low	Could occur in most undeveloped areas; correlation with gopher tortoise burrows.
Plants					
Bonamia grandiflora	Florida bonamia	E	Within R/W	Low	Historical occurrence in general region of FTE service plaza. Limited, sub-optimal habitat.
Chionanthus pygmaeus	Pygmy fringe tree	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Clitoria fragrans	Scrub pigeon-wing	T	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Conradina brevifolia	Short-leaved rosemary	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Deeringothamnus pulchellus	Beautiful pawpaw	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Erigonum longifolium var. *gnaphalifolium*	Scrub buckwheat	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.

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Liatris ohlingerae	Florida blazing star	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Lupinus aridorum	Scrub lupine	E	Within R/W	Low	Historical occurrence at SR 408 interchange (**Appendix D**) and general region of FTE service plaza. Limited, sub-optimal habitat.
Nolina brittoniana	Britton's beargrass	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Paronychia chartacea ssp. chartacea	Paper-like nailwort	T	Within R/W	Low	Historical occurrence south of project limits. Limited, sub-optimal habitat.
Polygala lewtonii	Lewton's polygala	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Polygonella myriophylla	Small's jointweed	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Prunus geniculata	Scrub plum	E	Within R/W	Low	Historical occurrence south of project limits. Limited, sub-optimal habitat.
Warea amplexifolia	Clasping warea	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Warea carteri	Carter's warea	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.

Ranking: E - endangered, T – threatened

Sources:

(1) USFWS - U.S. Fish and Wildlife Service status, Official lists of Threatened and Endangered species, 50 CFR 17.11

(2) Federally Listed Species in Orange County, Florida | https://ecos.fws.gov/ecp/report/species

Note: *In accordance with Florida Administrative Code (FAC) Title 68A-27.0012, Procedures for Listing and Removing Species from Florida's Endangered and Threatened Species List, federally endangered or threatened species under the Endangered Species Act will be listed by the FWC by their federal designation.*

Section 7 of this report summarizes the effect determinations that have been made for each federal- and state-managed/protected species. In summary for federally listed plant species, suitable native habitats have been fragmented over time by land development and what remains are patches too small and altered to reasonably support the species. In addition, the existing right of way is generally not conducive to supporting these listed plants given regular maintenance activities including mowing and nuisance/exotic species management. These species have not been observed in the project corridor for approximately 15 years and were not observed during field reviews. Given this information, and that it is unlikely that the

fragments of disturbed habitat available within the project corridor could support these species, the project will have no effect on federally listed plant species.

3.1.5 State Listed Species

Florida Burrowing Owl

The Florida burrowing owl (*Athene cunicularia floridana*) is state-listed as Threatened and is known to inhabit open upland prairies in Florida that have very little understory vegetation. Burrowing owls may also use golf courses, airports, pastures, agriculture fields, and vacant lots. Although no burrows were observed that appeared to be indicative of burrowing owl presence, potentially suitable habitat exists within the project study area.

The FTE will initiate technical assistance during the project's design phase to determine the need and extent for pre-construction surveys pursuant to the FWC Imperiled Species Management Plan and Permitting Guidelines for the Florida burrowing owl. If burrowing owls are found, technical assistance with the FWC will establish avoidance, minimization, and permitting options. With the implementation of these measures, it has been determined that the project will have no adverse effect anticipated on the Florida burrowing owl.

Wading Birds

State-protected wading birds with potential to occur in the project area include the little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), and roseate spoonbill (*Platalea ajaja*). These birds are state-listed as Threatened and prefer shallow wet areas for foraging. A rookery was documented in 1999 one mile northwest of the project limits. No wading bird rookeries have been documented or observed within the project study area, but there are several areas that could provide suitable foraging habitat; these areas include wetlands and the shallow edges of surface waters.

All wetland impacts will be mitigated to prevent a net loss of wetland functions and values. Based on the implementation of these measures, it has been determined that the proposed project will have no adverse effect anticipated on the little blue heron, tricolored heron, and roseate spoonbill.

Southeastern American Kestrel

The southeastern American kestrel (*Falco sparverius paulus*), a state-listed Threatened non-migratory subspecies of kestrel, favors open pine savannahs, sandhills, dry flatwoods, prairies, fields, and pastures. Several of these habitat types exist within the project study area. This species typically nests in cavities created by woodpeckers in large dead trees. No individuals were observed during field reviews, and there are no records of occurrences near the project limits.

The FTE will initiate technical assistance during the project's design phase to determine the need and extent for pre-construction surveys pursuant to the FWC Imperiled Species Management Plan and Permitting Guidelines for the southeastern American kestrel. If southeastern American kestrel nests are found, technical assistance with the FWC will establish avoidance, minimization, and permitting options. With the implementation of these measures, it has been determined that the proposed project will have no adverse effect anticipated on the southeastern American kestrel.

Florida Sandhill Crane

The Florida sandhill crane (*Grus canadensis pratensis*) is a state-listed Threatened non-migratory bird that prefers freshwater marshes, prairies, and pastures for breeding but can be found foraging in almost any habitat type. The corridor offers foraging habitat for this species. Potential nesting habitat is present beyond the existing right of way in freshwater marshes.

The FTE will survey areas of suitable nesting habitat prior to construction if construction activities take place during the nesting season (January through July) and will initiate technical assistance with the FWC if active nests are identified within 400 feet of the project's construction limits. 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.

Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is a state-listed Threatened species. It is also a candidate species by the USFWS. Gopher tortoises prefer well-drained, sandy soils found in habitats such as longleaf pine sandhills, xeric oak hammocks, scrub, pine flatwoods, dry

prairies, and coastal dunes. They are also found in a variety of disturbed habitats including pastures and urban areas. As shown in **Appendix D**, burrows were found in two locations. One burrow was found on the northern embankment of the Turnpike, east of Avalon Road, classified as FLUCFCS code 110 (residential, low density) and field verified as FLUCFCS code 436 (upland scrub, pine and hardwood). This area is a highly disturbed, steep landscaped area with dense groundcover that would not normally support gopher tortoises. The presence of a burrow at this location likely indicates that remnant individuals remain from an area that was historically more suitable. This observation also indicates that the species has the potential to occur in other highly disturbed areas along the corridor.

The FWC Gopher Tortoise Permitting Guidelines (Revised July 2020) will be implemented for gopher tortoise burrows found within 25 feet of the limits of construction. The FTE will secure an FWC Gopher Tortoise Relocation Permit to relocate the tortoises and associated commensal species if the gopher tortoise burrows cannot be avoided. With the implementation of these measures, it has been determined that the proposed project will have no adverse effect anticipated on the gopher tortoise.

Short-tailed Snake

The short-tailed snake (*Lampropeltis extenuata*) is a state-listed Threatened species that can primarily be found burrowed in sandy soils, particularly longleaf pine and xeric oak sandhills, but they may also be found in scrub and xeric hammock habitats. Sub-optimal habitats exist within the corridor, specifically a few parcels coded as FLUCFCS 411, 421, and select disturbed lands (see Florida scrub-jay section for location of these FLUCFCS-coded parcels). However, no individuals were observed during field reviews and minimal habitat disturbance is anticipated as part of this project.

The FTE will survey the selected Build Alternative for gopher tortoise burrows prior to construction and will initiate technical assistance with the FWC to secure a Gopher Tortoise Relocation Permit to relocate gopher tortoises and associated commensal species, such as the short-tailed snake, prior to construction. With the implementation of these measures, it has been determined that the proposed project will have no adverse effect anticipated on the short-tailed snake.

Florida Pine Snake

The Florida pine snake (*Pituophis melanoleucus mugitus*) is a state-listed Threatened species that inhabits areas that feature well-drained sandy soils with a moderate to open canopy. Such habitats exist within the corridor, specifically parcels coded as FLUCFCS 411 (see Florida scrub-jay section for location of this FLUCFCS code), 441 (coniferous plantation), and select disturbed lands; parcels coded as FLUCFCS 441 are mostly located in the north, east and west quadrant of West Colonial Drive and the Turnpike – at the west end of the project – and one parcel located in the southeast quadrant of Daniel Webster Beltway (SR 429). However, no individuals were observed during field reviews and minimal habitat disturbance is anticipated as part of this project.

The FTE will survey the selected Build Alternative for gopher tortoise burrows prior to construction and will initiate technical assistance with the FWC to secure a Gopher Tortoise Relocation Permit to relocate gopher tortoises and associated commensal species (such as the Florida pine snake) prior to construction. With the implementation of these measures, it has been determined that the proposed project will have no adverse effect anticipated on the Florida pine snake.

State Protected Plants

The plants listed in **Table 3-2** are classified below according to preferred habitat type. No state-protected plants have been documented within the project study area. Some appropriate habitat exists within and adjacent to the right of way for all of these species. However, the existing right of way is generally not conducive to supporting these listed plants given regular maintenance activities including mowing and nuisance/exotic species management. Per Florida Statutes Title 35 Section 581.185, the FDACS is to be notified prior to highway construction that may affect state-listed species, to allow for the coordination and preservation of any plants on the regulated plant index, such as via seed harvesting or relocation.

Wetland Plants –

State-listed plants that favor wetland habitat types include the following species:

- Many-flowered grass-pink (*Calopogon multiflorus*)

- Chapman's sedge (*Carex chapmanii*)
- Piedmont jointgrass (*Coelorachis tuberculosa*)
- Hartwrightia (*Hartwrightia floridana*)
- Star anise (*Illicium parviflorum*)
- Pondspice (*Litsea aestivalis*)
- Celestial lily (*Nemastylis floridana*)
- Cutthroat grass (*Panicum abscissum*)
- Florida willow (*Salix floridana*)

These plants have the potential to occur in wetlands and the edges of surface waters. These habitat types include FLUCFCS codes 617 (mixed wetland hardwood), 630 (wetland forested mixed), 631 (wetland shrub), 641 (freshwater marsh), 643 (wet prairies), 644 (emergent aquatic vegetation), 520 (lakes), and 530 (reservoirs); these wetlands and surface waters can be found scattered throughout the project corridor. However, no individuals were observed during field reviews. Given that wetland communities are protected by state and federal regulations, land management activities in wetlands tend to be of more limited scope as compared to upland areas. Therefore, the potential for these wetland-dependent state-listed species to occur in the project corridor was deemed to be higher than that of the following state-listed species that depend on upland conditions.

High Pine and Scrub Plants –
State-listed plants that favor high pine and scrub habitat types, such as sandhill, scrubby flatwoods, scrub, oak scrub, and pine flatwoods, include the following species:

- Variable-leaved Indian-plantain (*Arnoglossum diversifolium*)
- Incised groove-bur (*Agrimonia incisa*)
- Ashe's savory (*Calamintha ashei*)
- Sand butterfly pea (*Centrosema arenicola*)
- Nodding pinweed (*Lechea cernua*)
- Giant orchid (*Pteroglossaspis ecristata*)
- Scrub bluestem (*Schizachyrium niveum*)

These species have the potential to occur in high pine and scrub habitat types (FLUCFCS codes 411 and 421), as well as certain disturbed areas (FLUCFCS codes 210, 221, 441, and 740). No individuals were observed, and upland areas are subject to routine maintenance including mowing, nuisance/exotic vegetation control, and other land management activities that can preclude establishment of native plant communities.

Other Upland Plants –
State-listed plants that favor other upland habitat types, specifically mesic flatwoods and upland hardwood forests, include the following species:

- Florida spiny-pod (*Matelea floridana*)
- Florida beargrass (*Nolina atopocarpa*)

These plants could be found in grassy areas of mesic flatwoods or hardwood forests, especially where there has been a recent, canopy-opening disturbance. Although these habitat types exist within the project study area (FLUCFCS codes 210, 221, 420, 434, 436, 441, and 740), no individuals were observed during field reviews. Upland areas are subject to routine maintenance including mowing, nuisance/exotic vegetation control, and other land management activities that can preclude establishment of native plant communities.

To summarize potential involvement with state-listed plant species, there are several areas along the corridor that could provide habitat. However, these habitats have been disturbed by construction of the Turnpike and associated roadways, right of way routine maintenance including mowing and nuisance/exotic species control, adjacent development, and other land management activities and land use conversions. As needed, during the design and permitting phases of this project, the FTE will conduct a general plant survey and if any protected plant species are found within 25 feet of construction limits, coordination will occur with the FDACS to secure any necessary permits. In an effort to mitigate impacts to protected plant species within the project area, the FTE will coordinate with the FDACS prior to construction for possible relocation of protected plants. Therefore, the project will have no effect anticipated on state listed plant species that occur in uplands and no adverse effect anticipated on state listed plant species that occur in wetlands.

Table 3-2 lists the state protected wildlife and plant species known to occur within Orange County that could potentially occur near the project area based on potential availability of suitable habitat and known ranges.

Table 3-2: State Listed Species with the Potential to Occur

Species	Common Name	FWC Status	Habitat Proximity	Potential for Occurrence	Comments
Birds					
Athene cunicularia floridana	Florida burrowing owl	T	Within R/W	Moderate	No known presence nearby but could occur in open upland areas.
Egretta caerulea	Little Blue Heron	T	Within R/W	Moderate	Prefers wetlands/surface waters.
Egretta tricolor	Tricolored Heron	T	Within R/W	Moderate	Prefers wetlands/surface waters.
Falco sparverius paulus	Southeastern American kestrel	T	Within R/W	Moderate	Several disturbed uplands and open areas present that could provide habitat.
Grus canadensis pratensis	Florida sandhill crane	T	Within R/W	Moderate	Foraging habitat varies among many habitat types; prefers sparse canopy or open land.
Reptiles					
*Gopherus polyphemus**	Gopher tortoise	T	Within R/W	High	Burrows observed within and adjacent to R/W.
Lampropeltis extenuata	Short-tailed snake	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411 and 421.
Pituophis melanoleucus mugitus	Florida pine snake	T	Within R/W	Low	Prefers pine-dominated uplands (such as FLUCFCS codes 411 and 441)
Platalea ajaja	Roseate Spoonbill	T	Within R/W	Moderate	Prefers wetlands/surface waters.
Plants					
Agrimonia incisa	Incised groove-bur	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Arnoglossum diversifolium	Variable-leaved Indian-plantain	T	Within R/W	Low	Potential habitat includes sandhill.

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Species	Common Name	FWC Status	Habitat Proximity	Potential for Occurrence	Comments
Calamintha ashei	Ashe's savory	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Calopogon multiflorus	Many-flowered grass-pink	E	Within R/W	Moderate	Potential habitat includes wetlands.
Carex chapmanii	Chapman's sedge	T	Within R/W	Moderate	Potential habitat includes wetlands.
Centrosema arenicola	Sand butterfly pea	E	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Coelorachis tuberculosa	Piedmont jointgrass	T	Within R/W	Moderate	Potential habitat includes wetlands.
Hartwrightia floridana	Hartwrightia	T	Within R/W	Moderate	Potential habitat includes wetlands.
Illicium parviflorum	Star anise	E	Within R/W	Moderate	Potential habitat includes wetlands.
Lechea cernua	Nodding pinweed	T	Within R/W	Low	Historical occurrence south of project limits. Potential habitat limited to FLUCFCS codes 411, 421, and xeric disturbed land.
Litsea aestivalis	Pondspice	E	Within R/W	Moderate	Potential habitat includes wetlands.
Matelea flordana	Florida spiny-pod	E	Within R/W	Low	Potential habitat includes uplands.
Nemastylis floridana	Celestial lily	E	Within R/W	Moderate	Potential habitat includes wetlands.
Nolina atopocarpa	Florida beargrass	T	Within R/W	Low	Potential habitat includes uplands.
Panicum abscissum	Cutthroat grass	E	Within R/W	Moderate	Potential habitat includes wetlands.
Pteroglossaspis ecristata	Giant orchid	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Salix floridana	Florida willow	E	Within R/W	Moderate	Potential habitat includes wetlands.
Schizachyrium niveum	Scrub bluestem	E	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.

Ranking: E - endangered, T – threatened,

* = Candidate species for federal listing

Sources:

(1) FWC – Florida Fish and Wildlife Conservation Commission, Florida's Threatened and Endangered Species List, Updated June 2021.

http://ecos.fws.gov/tess_public/reports/species-by-current-range-county?fips=12105 accessed February 2020

http://www.fnai.org/bioticssearch.cfm accessed February 2020

Note: *In accordance with Florida Administrative Code (FAC) Title 68A-27.0012, Procedures for Listing and Removing Species from Florida's Endangered and Threatened Species List, federally endangered or threatened species under the Endangered Species Act will be listed by the FWC by their federal designation.*

3.1.6 Managed and Protected Species

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is protected by the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). Habitat for this species includes estuaries, lakes, and reservoirs, near which they build nests in tall trees or other structures. Four bald eagle nests have been documented within 300 feet of the existing right-of-way (OR110, OR018, OR052, and OR039) within the project area. Nest OR110 was active during the 2021/2022 nesting season as per eagle nest databases. During the May 2022 field review, the nest was not present; however, during the November 2022 field review a nest was observed on a cell tower. Nest OR039 was field verified in April 2020 and was also considered active during the 2021/2022 nesting season as per databases. The November 2022 field review confirmed nest presence but there was no current eagle activity. Nest OR052, which is located in a large, forested wetland, was last documented as active as per databases in the 2016 season but is currently "unmonitored" given the inaccessibility. Project biologists confirmed the nest during the field survey in April 2020. Nest OR018, also listed as "unmonitored", was observed during the April 2020 field survey; however, during the November 2022 survey the nest was no longer observed. No additional bald eagle nests were observed during the field surveys. Since bald eagle nests are considered as active for five (5) consecutive years after last documented as active, even if the nest tree is no longer present, all these nests are considered active as of the date of this NRE document.

An updated survey will be completed during the final design and permitting phase of the project to evaluate the status of the currently documented nests and to identify potential new nests within 660 feet of the project area. Work within 660 feet of nests will require adherence to criteria outlined by the USFWS, and the FTE will coordinate with USFWS should active

nests be identified within 330 feet of proposed work. Therefore, the project will have no adverse effect anticipated on the bald eagle.

Osprey

The osprey (*Pandion haliaetus*) is protected by the MBTA. Habitat for this species includes estuaries, lakes, and reservoirs, near which they build nests in trees or other structures.

One osprey nest was observed in a tree adjacent to the right of way and two were observed on signs approaching the northbound off-ramp onto West Colonial Drive. Since a permit is not required for removing inactive nests, any required nest removal can be scheduled to occur during times of non-nesting. Therefore, the project will have no effect anticipated on the osprey.

Florida Black Bear

Florida black bear (*Ursus americanus floridanus*) is no longer listed as a threatened species by the FWC. While it was removed from the state list of protected species in August 2012, it is still protected through the Florida Administrative Code 68A-4.009 Florida Black Bear Conservation. The project occurs within the primary range of the Ocala population within the Central Bear Management Unit, and bears are considered abundant in the project area. In total, 26 nuisance reports of Florida black bears have occurred within 500 feet of the right of way. Additionally, two road kills have been reported within the corridor; both of these were documented to have occurred near the Maguire Road overpass. Documented morality and observations of black bears are shown in **Appendix D**. Although suitable habitat occurs in pockets surrounding the project area, this project is not anticipated to result in an increase in the chance for road-associated mortalities given the existing developed nature of the transportation corridor. Therefore, the project will have no adverse effect anticipated on the Florida black bear.

Bat Species

All bat species are protected in Florida per chapter 68A of the Florida Administrative Code. The following bat species are known to occur in the region: the Mexican free-tail (*Tadarida brasiliensis*), tri-colored (*Perimyotis subflavus*), evening (*Nycticeius humeralis*), big brown (*Eptesicus fuscus*), northern yellow (*Dasypterus intermedius*), and Rafinesque's big-eared

(*Corynorhinus rafinesquii*). Bats utilize structures such as bridges as well as cavities in trees for roosting habitat. All bridges within the project area were inspected for evidence of bat utilization, and no evidence was found. Since no other roosting habitat is anticipated to be disturbed by the project, the project is expected to have no effect anticipated on bat species. The CA for the Florida bonneted bat (*Eumops floridanus*), a federally endangered species, does not include the project area.

Table 3-3 lists the managed and protected species known to occur within Orange County that could potentially occur near the project area based on potential availability of suitable habitat and known ranges. **Section 7** of this report summarizes the effect determinations that have been made for each federal- and state-managed/protected species.

Table 3-3: Managed and Protected Species with the Potential to Occur

Species	Common Name	USFWS Status	Habitat Proximity	Potential for Occurrence	Comments
Birds					
Haliaeetus leucocephalus	Bald eagle	N	Within R/W	High	4 nests within 660-feet of existing R/W; new nests could occur in tall trees or structures.
Pandion haliaetus	Osprey	N	Within R/W	High	Nests observed within R/W; new nests could occur in trees or structures.
Mammals					
*Ursus americanus floridanus**	Florida black bear	N	Within R/W	Medium	Known to occur within the project footprint.
Myotis spp.	Bat species	N	Within R/W	Low	No evidence under bridges; limited other structures to provide habitat.

Ranking: N - none

Sources:

(1) USFWS - U.S. Fish and Wildlife Service status, Official lists of Threatened and Endangered species, 50 CFR 17.11

(2) FWC – Florida Fish and Wildlife Conservation Commission, Florida's Threatened and Endangered Species List, Updated June 2021.

http://ecos.fws.gov/tess_public/reports/species-by-current-range-county?fips=12105 accessed February 2020

http://www.fnai.org/bioticssearch.cfm accessed February 2020

FWC Notations:

*The Florida black bear is no longer listed as threatened, however is still protected under the FWC Florida Black Bear Management Plan.

Note: *In accordance with Florida Administrative Code (FAC) Title 68A-27.0012, Procedures for Listing and Removing Species from Florida's Endangered and Threatened Species List, federally endangered or threatened species under the Endangered Species Act will be listed by the FWC by their federal designation.*

3.1.7 Peninsular Florida Plant Genera of Concern

As per the April 2021 FDOT Native Florida Plant Coordination Guidance, peninsular Florida non-listed plants of interest or concern were reviewed for this project. None of the genera were listed in the FNAI Elemental Occurrence Report as documented in the project area with the exception of the scrub lupine, member of the Lupinus genus. Plants of the genera of concern list considered as "potential" within the FNAI report include many-flowered grass-pink (member of the Calopogon genus) and Lewton's polygala (member of the Polygala genus) are state or federal listed species previously evaluated. While plants of the genera of concern list were not specifically targeted with surveys, the genera with the greatest likelihood of occurring in the project footprint include Asclepias, Chamaecrista, Liatris, Linum, and Lupinus. As previously described, a design-phase survey will be conducted and any observed plants included in the genera of concern list can be reported to the FDACS. The agency may choose to forward the documentation to the Endangered Plant Advisory Council or similar organizations for plant preservation.

3.1.8 Wildlife Crossings

Roads have been documented to create both direct and indirect deleterious effects to wildlife by creating a barrier to movement and fragmenting natural habitats. As a result, the FDOT has prepared wildlife crossing guidelines (2018) in coordination with the USFWS and FWC to evaluate appropriateness of the inclusion of wildlife crossings for proposed projects on the State Highway System. Evaluation criteria include: a documented science-based need for a crossing supported by the USFWS and/or FWC; wildlife species documented within and using the project area; documented roadkills of species with high conservation value or within a known area where traversing the roadway creates a potential hazard to motorists and/or wildlife; presence within a documented range of the Florida panther and/or Florida black bear; project crossing of Critical Habitat, ecological greenway, or other landscape-level habitat linkage; presence of public conservation lands or lands under perpetual conservation easement necessary to achieve successful use of a crossing feature; compatibility of future land use and development patterns; and project location within critical conservation need.

A wildlife crossing need was not identified for this project within the agency comments as part of the ETDM review. While the project area is within a Florida black bear population primary range and there have been three Florida black bear road kills since 1997 along the

corridor, this is an urbanized area and little native habitats remain aside from wetland communities. There are no documented Florida panther mortalities in this region and the corridor is far north of the Florida panther CA. There are no Florida Ecological Greenways Network Priorities or Green Links along the corridor; the nearest is approximately 7.5 miles west in the vicinity of the Green Swamp and connected lakes. Conservation lands along the project corridor are limited to Bill Frederick Park at Turkey Lake near the southern/eastern limits of the project and Tucker Ranch Heritage Park in the northern/western limits of the project. There are no locations along the corridor where conservation lands are present on both sides. The wildlife crossing criteria to address larger mammals such as bear and panther are not adequately met for this project and therefore no crossings are proposed.

Through desktop review, one small animal (such as snakes, frogs) upland crossing hot-spot was identified just west of the SR 408 interchange and was classified as a value 4-6, with FNAI Priority ranking 1 as highest and ranking 6 as lowest priority. This area of the corridor is generally characterized as containing noise walls and other barriers to wildlife movement and this location contains multiple lanes and ramps for the interchange that create numerous crossing challenges, Small, dry culverts in this region could potentially benefit small animal movement and would need to be evaluated for feasibility and costs-benefits

4.0 Wetland Evaluation

Approximate wetland boundaries were identified in accordance with the State of Florida Wetlands Delineation Manual (Chapter 62-340, Florida Administrative Code [F.A.C.]), the criteria found within the U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1) and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0) (ERDC/EL TR-10-20), EO 11990, and Part 2, Chapter 9 -Wetlands and Other Surface Waters of the FDOT PD&E Manual. **Attachment F** shows the location of the wetlands evaluated within the project study area. Formal wetland boundaries were not determined as part of this study and will be completed during the design and permitting phases of this project.

4.1 Wetland and Surface Water Communities

4.1.1 Wetlands

There are numerous freshwater wetlands within and adjacent to the project right of way, some of which are protected by conservation easements. **Section 3.1.2** includes additional information regarding these conservation easements. All wetland habitats are discussed in the Wetlands section of this NRE report. Wetlands are classified according to the following FLUCFCS code subcategories:

- 611 – Bay Swamps

This category is composed of dominant trees such as loblolly bay (*Gordonia lasianthus*), sweetbay magnolia (*Magnolia virginiana*), swamp bay (*Persea palustris*), with slash pine (*Pinus elliottii*) and loblolly pine (*Pinus taeda*) as an associated component at times. Large gallberry (Ilex glabra), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*) and titi (*Cyrilla racemiflora*) are included in the understory vegetation.

- 617 – Mixed Wetland Hardwoods

This category is reserved for those wetland hardwood communities which are composed of a large variety of hardwood species tolerant of hydric conditions yet exhibit an ill-defined mixture of species. Common vegetation within this wetland type includes; red maple (*Acer rubrum*), laurel oak (*Quercus laurifolia*), wax myrtle (*Myrica cerifera*), sweetbay magnolia (*Magnolia virginiana*) and Peruvian primrosewillow (*Ludwigia peruviana*). **Photo 1** shows Wetland 32, which is an example of a mixed wetland hardwood wetland.

Photo 1 (Wetland WL32)

- 630 – Wetland Forested Mixed

This category includes mixed wetlands forest communities in which neither hardwoods or conifers achieve a 66 percent dominance of the crown canopy composition. Common vegetation within this wetland type includes; laurel oak, red maple, bald cypress (*Taxodium distichum*), wax myrtle, and Peruvian primrosewillow.

- 641, 644– Freshwater Marsh

The communities included in this category are characterized by a dominance of herbaceous and shrub vegetation where the dominant species are not structurally supported by water. Common vegetation within this wetland type includes Carolina willow (*Salix caroliniana*), buttonbush (*Cephalanthus occidentalis*), Peruvian primrosewillow and Cattail (*Typha latifolia*). **Photo 2** shows an example of a fringe of a freshwater marsh (Wetland WL 26).

Photo 2 (Wetland WL 26)

- 646 – Treeless Hydric Savanna

This category is typically dominated by wiregrass or cutthroat grass along with wetland plant associates.

4.1.2 Surface Waters

There are several ditches, ponds, and lakes within and adjacent to the project area which are discussed in the Wetlands section of this NRE report (see **Appendix F**). All surface waters are freshwater, and none are considered Essential Fish Habitat or provide access to any marine or estuarine species. These surface waters can provide habitat to aquatic species such as fish, alligators, and turtles, as well as birds. Wet areas that are inundated by two to 15 inches of water could provide suitable foraging habitat for wood storks and wading birds when surface

water is present. Surface waters are classified according to the following FLUCFCS code subcategories:

- 520 – Lakes

The Lakes category includes extensive inland water bodies, excluding reservoirs.

Add Streams/Waterways for the ditches

- 530 – Reservoirs

Reservoirs are artificial impoundments of water. Other surface waters are defined as open water bodies and manmade drainage features.

4.2 Wetland and Other Surface Water Impacts

Potential direct impacts to wetlands and other surface waters have been assessed for all Build Alternatives within the project corridor using GIS. The wetlands and other surface waters within the project study area were overlaid with the Build Alternatives to identify areas of impacts. **Table 4-1** provides anticipated wetland and other surface water impacts for the mainline widening segments and each interchange improvement option.

Table 4-1: Wetland and Other Surface Water Impacts

Roadway Improvements Wetland / Surface Water Identification	FLUCFCS	Impact Area (Acres)
3	617/630	0.22
30/34	641	0.68
31/17	618	2.10
12	618	0.29
10	618	0.27
13/33	617/630	1.28
2	617/630	0.57
29	617/630	0.11
5	617/630	0.16
32	617/630	0.43
7	617/630	0.85
20/26	617/630	1.05
23/6	617/630	2.75
22	520	0.25
14	520	0.49
15	641	0.10
19/25	641	0.25
18	641	0.17
Roadway Subtotal		**12.02**
Pond Alternative Impacts		
31/17	641	1.64
36	617/630	2.11
6	617/630	0.31
Pond Alternative Subtotal		**4.05**

The build alternative roadway widening is anticipated to impact 12.02 acres of wetland and surface waters within the project limits. Impacts associated with the build alternative stormwater treatment facilities and floodplain compensation alternatives are anticipated to impact 4.05 acres of wetlands and surface waters.

4.2.1 Proposed Stormwater Treatment Facilities

Stormwater treatment is an integral feature of all proposed improvements. The proposed project will include a stormwater management system, which will be designed in compliance

with applicable water quality criteria to prevent degradation of water resources and habitat quality. Specific impacts to wetlands and other surface waters is included in the Location Hydraulics Report, under separate cover.

4.2.2 Avoidance and Minimization

Avoidance and minimization measures include utilizing existing roadway fill areas for bridge approaches and roadway widening, and siting stormwater treatment facilities outside of wetland areas to the extent feasible. Additionally, impacts were minimized by adjusting slopes where safely possible and stormwater treatment locations will avoid wetlands when practicable. Surficial runoff from additional impervious areas will be treated to prevent increased water quality degradation as a result of the proposed transportation improvements.

Due to the incorporation of stormwater treatment facilities, the proposed project will not result in the degradation of water quality in the wetlands and other surface waters of the project area. Additionally, sedimentation and erosion control measures (i.e., silt fences, turbidity barriers) will be implemented during construction to minimize soil exposure and siltation into the water column, further reducing adverse impacts to wetlands and other surface waters.

As part of this PD&E study, two (2) project alternatives, one (1) Build and one (1) No-Build, were evaluated for the mainline. Additionally, alternatives for three interchanges along the mainline and the No-Build Alternative were evaluated. The preferred alternative will be selected based on the natural, physical, social, and right of way information. Avoidance and minimization, to the greatest extent possible, of impacts to wetlands and other surface waters will be considered in the selection of the preferred alternative. A detailed analysis of the alternatives is included in a Preliminary Engineering Report.

4.2.3 Indirect and Cumulative Effects

Indirect Effects are reasonably foreseeable effects that occur as a result of an action but occur later in time or are removed from the action location. Indirect impacts resulting from construction of the preferred alternative include secondary wetland and natural other surface water impacts in the proposed project area. These impacts are anticipated to be minor since

they are already associated with the existing roadway and interchanges. Habitats along the edge of the existing roadway and interchanges were disturbed when these areas were constructed and have since experienced constant disturbance from right of way maintenance and exposure to nuisance/exotic species. This "edge effect" will remain with the construction of the proposed project but would migrate to the new transitional area between remaining wetlands and new construction. Therefore, these disturbed edges are not expected to increase in areas where the roadway and interchanges already exist.

Cumulative Effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. As outlined in **Section 1**, this project includes the evaluation of a new interchange location at Avalon Road. The project area is an existing facility and will not increase access to areas suitable for development, as these areas are currently accessible through an existing roadway network.

The FTE will minimize direct and indirect impacts to all extent practicable to reduce potential contribution to the cumulative effects. Unavoidable impacts to wetland function and value will be offset at an approved mitigation bank within the service area and drainage basin of the impacts.

4.3 Uniform Mitigation Assessment Method Assessment

The Uniform Mitigation Assessment Method (UMAM) was established to fulfill the mandate of subsection 373.414(18), F.S., which requires the establishment of a uniform mitigation assessment method to determine the amount of mitigation needed to offset adverse impacts to wetlands and other surface waters and to award and deduct mitigation bank credits. Functional loss was calculated by wetland and natural other surface water habitat type for the preferred alternative using the UMAM.

UMAM datasheets for each habitat type impacted are included **in Appendix G**. These scores are subject to agency review and revisions are anticipated during the permitting process. Table 4-2 summarizes anticipated wetland impacts and UMAM functional loss for each wetland type impacted by the build alternative.

Table 4-2: Wetland Impacts and UMAM Score

Roadway Improvements	FLUCFCS	Impact Area (Acres)	USFWS Classification	Location & Landscape Support		Water Environment		Community Structure		Score (sum/30)	UMAM Functional Loss
Wetland / Surface Water Identification				Current	With	Current	With	Current	With		
3	617/630	0.22	PFO1C	5	0	5	0	5	0	0.50	0.11
30/34	641	0.68	PSS/EM1C	3	0	4	0	4	0	0.37	0.25
31/17	618	2.10	PSS/EM1C	3	0	4	0	4	0	0.37	0.77
12	618	0.29	PSS/EM1C	3	0	4	0	4	0	0.37	0.11
10	618	0.27	PSS/EM1C	3	0	4	0	4	0	0.37	0.10
13/33	617/630	1.28	PFO1C	4	0	5	0	4	0	0.43	0.55
2	617/630	0.57	PFO1C	4	0	5	0	4	0	0.43	0.25
29	617/630	0.11	PFO1C	4	0	5	0	4	0	0.43	0.05
5	617/630	0.16	PFO1C	4	0	5	0	4	0	0.43	0.07
32	617/630	0.43	PFO1C	4	0	5	0	4	0	0.43	0.19
7	617/630	0.85	PFO1C	4	0	5	0	4	0	0.43	0.37
20/26	617/630	1.05	PFO1C	4	0	5	0	4	0	0.43	0.45
23/6	617/630	2.75	PFO1C	4	0	5	0	4	0	0.43	1.19
22	520	0.25	PUBF	5	0	6	0	6	0	0.57	0.14
14	520	0.49	PUBF	5	0	6	0	6	0	0.57	0.28
15	641	0.10	PSS/EM1C	3	0	4	0	4	0	0.37	0.04
19/25	641	0.25	PSS/EM1C	3	0	4	0	4	0	0.37	0.09
18	641	0.17	PSS/EM1C	3	0	4	0	4	0	0.37	0.06
Roadway Subtotal		**12.02**									**5.06**
Pond Alternative Impacts											
31/17	641	1.64	PSS/EM1C	3	0	4	0	4	0	0.37	0.60
36	617/630	2.11	PFO1C	5	0	5	0	5	0	0.50	1.05
6	617/630	0.31	PFO1C	5	0	5	0	5	0	0.50	0.15
Pond Alternative Subtotal		**4.05**									**1.81**

4.4 Conceptual Mitigation Plan

There are no practical avoidance alternatives to the construction of the proposed project design within wetland areas. Wetland impacts will be further refined during future project phases and minimization/avoidance measures will be implemented to the extent practicable as discussed above.

Compensatory mitigation for this project will be provided using mitigation banks and other mitigation options to satisfy state and federal requirements. Compensatory mitigation will be provided pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. In accordance with EO 11990.

The project includes area within two mitigation area basins. The western portion of the project, between SR 408 and SR 50, is located within the Ocoeee Drain Basin, and the eastern portion of the project, east of SR 408, is located within the Southern Ocklawaha River Basin.

Within the Ocoee Drain Basin, there are two mitigation banks which list this basin in their service area: Wekiva River Mitigation Bank and Blackwater Creek Mitigation Bank. Within the Ocklawaha River Basin, the Emeralda Marsh Mitigation Bank is approved to provide mitigation credits. **Table 4-3** includes a summary of mitigation credit availability as of October 2022 from review of existing permit information from SJRWMD and FDEP.

Table 4-3: Mitigation Credit Availability

Basin	Mitigation Bank	Total Potential Credits (UMAM)	Available Credits - Forested (10/2022)	Available Credits - Herbaceous (10/2022)
Southern Ocklawaha River Basin	Emeralda Marsh Mitigation Bank SJRWMD Permit #159760-1	49.32	1.03	4.96
Ocoee Drain Basin	Wekiva River Mitigation Bank FDEP Permit #234803	191.02	44.74	0.83
Ocoee Drain Basin	Blackwater Creek Mitigation Bank SJRWMD Permit #92314-16	51.1	2.18	16.48

As shown in **Table 4-2**, the project roadway improvements are anticipated to impact 12.02 acres of wetlands and surface waters. Preliminary UMAM calculations in **Table 4-2** show that the project roadway improvements are anticipated to require 5.06 units of UMAM Functional Gain to offset unavoidable impacts. Preliminary UMAM calculations and wetland boundaries 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 Turnpike mainline widening will be determined through coordination with the FDEP, SFWMD and/or SJRWMD, based on the final design plans of this project.

4.5 Special Designations

This project does not include any areas designated as Outstanding Florida Waters, Aquatic preserves, Scenic Highways or Wild and Scenic Rivers.

5.0 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act, as amended through October 11, 1996, requires the regional Fishery Management Councils and the Secretary of Commerce to describe and identify Essential Fish Habitat (EFH) for species under federal Fishery Management Plans. EFH is defined in the Magnuson-Stevens Act as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The term "fish" includes finfish, crabs, shrimp, and lobsters in the Gulf of Mexico region. On April 23, 1997 [62 Federal Register (FR) 19723], the National Marine Fishery Service (NMFS) issued proposed regulations containing guidelines for the description and identification of EFH in fishery management plans, adverse impacts on EFH, and actions to conserve and enhance EFH. These rules were revised and finalized on January 22, 2002 (67 FR 2343). The regulations also provide a process for NMFS to coordinate and consult with federal and state agencies on activities that may adversely affect EFH. The purpose of the rule is to assist in describing and identifying EFH, minimize adverse effects on EFH, and identify other actions to conserve and enhance EFH. The purpose of the coordination and consultation provisions is to specify procedures for adequate consultation with NMFS on activities that may adversely affect EFH.

5.1 EFH Impact Evaluation

Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) has provided concurrence that essential fish habitat (EFH) would not be impacted by the proposed road modifications.

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6.0 Anticipated Permits

The FDEP, SJRWMD and SFWMD regulate impacts to wetlands within the project study area. The State 404 Program, administered by FDEP, is responsible for overseeing permitting for any project proposing dredge or fill activities within state assumed waters, or "non-retained waters". The State 404 Program is a separate program from the existing ERP program, and projects within state-assumed waters require both an ERP and a State 404 Program authorization. As this project spans the jurisdiction of SFWMD and SJRWMD, it is anticipated that one water management district will lead the Environmental Resource Permitting for the project corridor. Other agencies, including the USFWS, the U.S. Environmental Protection Agency (EPA), and the FWC, review and comment on wetland permit applications.

40 CFR Part 122 prohibits point source discharges of stormwater to waters of the U.S. without a National Pollutant Discharge Elimination System (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 Pollution Prevention Plan (SWPPP). The SWPPP identifies potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the site and discusses good engineering practices (i.e., best management practices) that will be used to reduce the pollutants.

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 the FWC before initiating any relocation work. The FWC will require a 100 percent gopher tortoise survey to be conducted within 90 days of construction commencement to support the permit application.

It is anticipated that the following permits will be required for this project:

Permits and Approvals	Issuing Agency
Section 404 Dredge and Fill Permit (State 404 Permit)	FDEP
Environmental Resource Permit	SJRWMD /SFWMD
National Pollutant Discharge Elimination System	FDEP
Gopher Tortoise Relocation Permit (as necessary)	FWC

7.0 Conclusion

The project study area was evaluated for the presence of federal and/or state protected species and their suitable habitat in accordance with Section 7 of the ESA and Part 2, Chapter 16 of the PD&E Manual. The following sections summarize the effect determinations that have been made for each federal- and state-managed/protected species based upon their probability ranking and the implementation measures and/or commitments to offset any potential impacts to each species and potential impacts to wetlands and other surface waters.

7.1 Protected Species and Habitat

The project may affect, but is not likely to adversely affect the following federally listed species:

- Sand skink;
- Florida scrub-jay;
- Eastern indigo snake;
- Snail kite; and
- Wood stork

The project will have no effect on the following federally listed species:

- Florida bonamia;
- Pygmy fringe tree;
- Scrub pigeon-wing;
- Short-leaved rosemary;
- Beautiful pawpaw;
- Scrub buckwheat;
- Florida blazing star;
- Scrub lupine;
- Britton's beargrass;
- Paper-like nailwort;
- Lewton's polygala;
- Small's jointweed;
- Scrub plum;
- Clasping warea; and

- Carter's warea.

The project will have no adverse effect anticipated on the following state listed species:

- Florida burrowing owl;
- Southeastern American kestrel;
- Gopher tortoise;
- Wading birds including little blue heron, tricolored heron, and roseate spoonbill;
- Florida sandhill crane;
- Short-tailed snake;
- Florida pine snake;
- Many-flowered grass-pink;
- Chapman's sedge;
- Piedmont jointgrass;
- Hartwrightia;
- Star anise;
- Pondspice;
- Celestial lily;
- Cutthroat grass; and
- Florida willow.

The project will have no effect anticipated on the following state listed species:

- Variable-leaved Indian-plantain;
- Incised groove-bur;
- Ashe's savory;
- Sand butterfly pea;
- Nodding pinweed;
- Giant orchid;
- Scrub bluestem;
- Florida spiny-pod; and
- Florida Beargrass.

The project will have no adverse effect anticipated on the following managed/protected species:

- Bald eagle; and
- Florida black bear.

The project will have no effect anticipated on the following managed/protected species:

- Osprey; and
- Bat species.

7.2 Wetland Evaluation

Wetlands and other surface water habitat types to be impacted by the proposed construction include natural wetland and manmade waterways, reservoirs, mixed wetland hardwoods, exotic wetland hardwoods, wetland forested mixed, wetland scrub, and freshwater marshes. The build alternative roadway widening is anticipated to impact 12.02 acres of wetland and surface waters within the project limits. Impacts associated with the build alternative stormwater treatment facilities and floodplain compensation alternatives are anticipated to impact 4.05 acres of wetlands and surface waters. Wetland impacts which will result from the construction of the build alternative 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 the build alternative will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements.

7.3 Essential Fish Habitat

This project will have no effect on Essential Fish Habitat.

7.4 Implementation Measures / Design Consideration

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

- As determined necessary through agency technical assistance, the FTE will perform surveys for the species discussed in this report and other wildlife species during the

project design phase to ascertain the involvement, if any, of protected species. Species specific surveys, conducted in accordance with appropriate survey guidelines, will be considered for, but not limited to, the sand skink.

- During the design and permitting phases of this project, a Wood Stork Foraging Analysis per USFWS methodology will be conducted to determine the amount of biomass lost from wetland and other surface water impacts. Impacts to suitable foraging habitat for the federally protected wood stork will be mitigated through the purchase of credits from a U.S. Fish and Wildlife Service-approved mitigation bank pursuant to Section 373.4137, F.S. or as otherwise agreed to by the FTE and the appropriate regulatory agencies.
- As needed, during the design and permitting phases of this project, a general plant survey will be conducted and if any federally or state protected plant species are found within 25 feet of construction limits, coordination will occur with the USFWS and the FDACS to secure any necessary permits.
- During the design and permitting phase of this project, gopher tortoise surveys will be conducted and if any burrows are found within 25 feet of construction limits, coordination will occur with FWC to secure any necessary permits in accordance with the current FWC Gopher Tortoise Permitting Guidelines for gopher tortoises and associated commensal species before construction.
- If a bald eagle nest is identified within 660 feet of the proposed project area, the FTE will reinitiate technical assistance with the USFWS to secure all necessary approvals prior to the start of construction.
- During the design and permitting phases of this project, the FTE will conduct surveys to identify any osprey nests within the project area. If nest removal is deemed necessary, the FTE will remove nest(s) when they are inactive (i.e., without eggs or flightless young).
- The USFWS *Standard Protection Measures for the Eastern Indigo Snake* will be implemented to assure that the Eastern indigo snake will not be adversely impacted by the project.

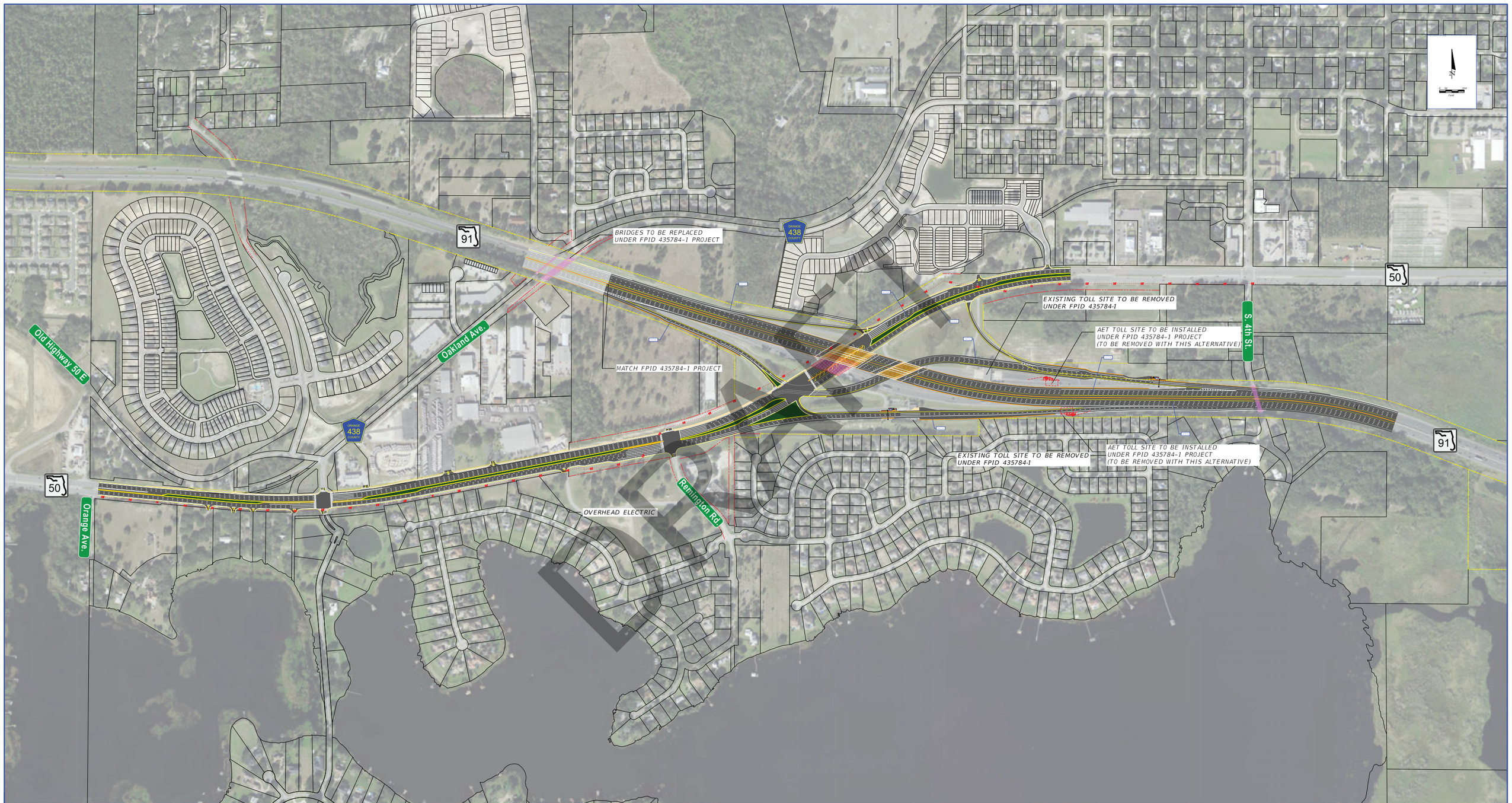
7.5 Commitments

- In an effort to mitigate impacts to protected plant species within the project area, the FTE will coordinate with FDACS prior to construction for possible relocation of protected plants.
- If Florida sandhill crane nests are observed during future surveys conducted prior to construction, then a 400-foot buffer will be implemented if construction occurs during the nesting season (January through July). The FTE will coordinate with the FWC during the project construction phase, if necessary.
- The project will implement the USFWS-approved Standard Protection Measures for the Eastern Indigo Snake (most updated version) during the proposed roadway improvements.
- Compensatory mitigation will be provided pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. In accordance with EO 11990.

8.0 Agency Coordination

To facilitate intergovernmental interaction, the FTE utilizes an Environmental Technical Advisory Team (ETAT). ETAT members and the public have the opportunity to provide input to the FDOT regarding a project's potential effects on the natural, physical, cultural, and community resources throughout the Planning phase of project delivery. These comments help to determine the feasibility of a proposed project; focus the issues to be addressed during the PD&E phase; allow for early identification of potential avoidance, minimization, and mitigation opportunities; and create products that may be used in the PD&E phase to promote efficiency and consistency during project development. The ETAT evaluated the project's effects on various natural, physical and social resources. ETAT comments can be reviewed on FDOT's Environmental Screening Tool at https://etdmpub.fla-etat.org/est/ and searching for ETDM #14378. Agency correspondence and coordination documents are provided in **Appendix H** (to be updated following agency coordination).

Appendix A Build Alternative Concept Maps



LEGEND

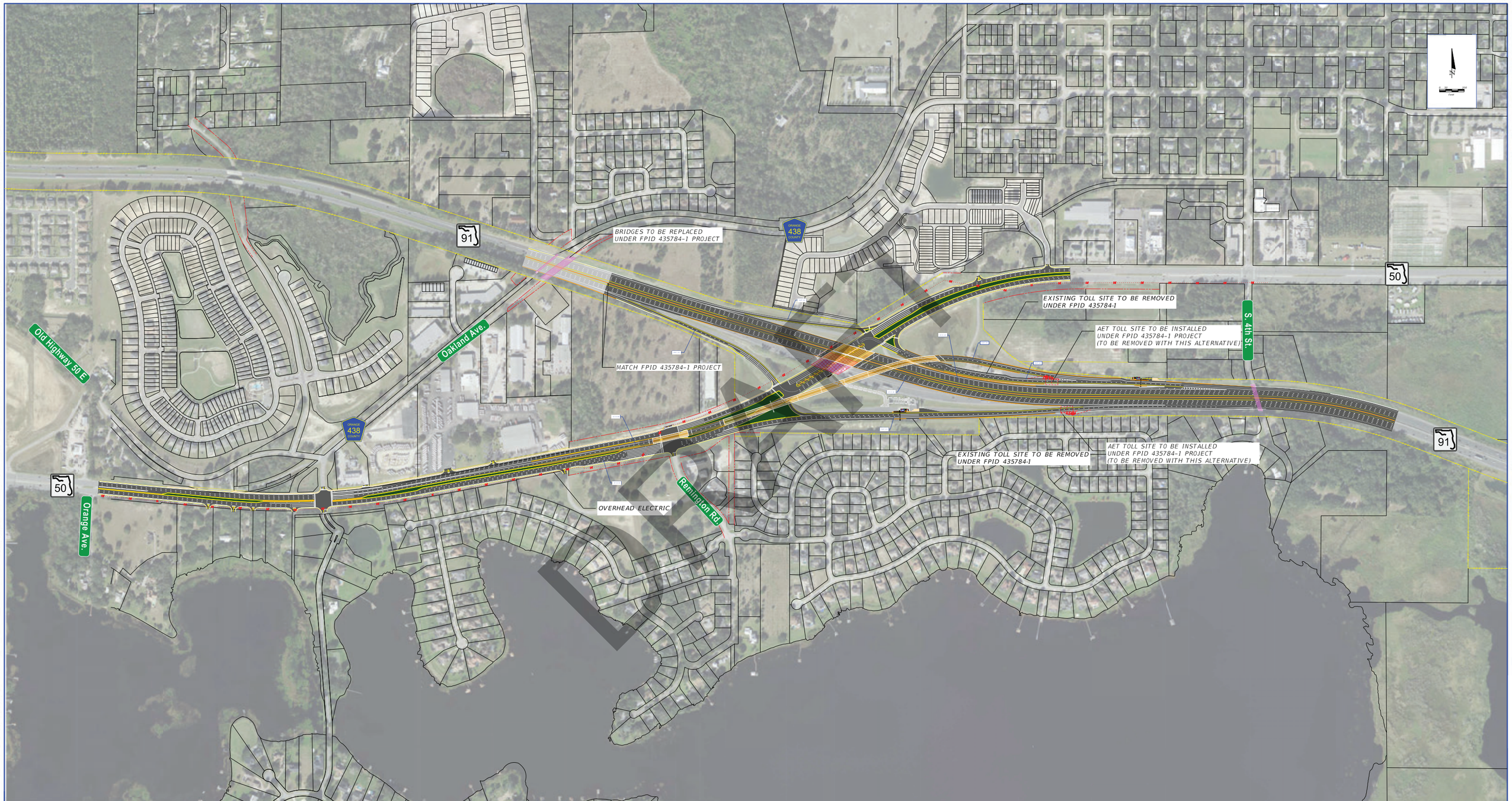
SOD
PAVEMENT
NEW BRIDGE
EXIST BRIDGE
BRIDGE REMOVAL

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

SR 50 INTERCHANGE
ALTERNATIVE # 1 - PPFI

Draft Date:

3/25/2021



LEGEND

- SOD
- PAVEMENT
- NEW BRIDGE
- EXIST BRIDGE
- BRIDGE REMOVAL

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENT STUDY

SR 50 INTERCHANGE
ALTERNATIVE #2 - FLY OVER

Draft Date:

3/25/2021

LEGEND

- SOD
- PAVEMENT
- NEW BRIDGE
- EXIST BRIDGE
- BRIDGE REMOVAL

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

SR 50 INTERCHANGE
ALTERNATIVE # 3 - SPUI

Draft Date:

3/25/2021

LEGEND

- SOD
- PAVEMENT
- SIDEWALK
- TRAF. SEP.
- EXIST BRIDGE
- BRIDGE WIDENING
- EXIST NOISE WALL
- ORANGE COUNTY WIDENING PAVEMENT

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

AVALON RD INTERCHANGE
TIGHT URBAN DIAMOND ALTERNATIVE

Draft Date:

3/18/2021

LEGEND

- SOD
- PAVEMENT
- SIDEWALK
- TRAF. SEP.
- EXIST BRIDGE
- BRIDGE WIDENING
- EXIST NOISE WALL
- ORANGE COUNTY WIDENING PAVEMENT

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

AVALON RD INTERCHANGE
TURBO ROUNDABOUT ALTERNATIVE

Draft Date:

3/18/2021

LEGEND

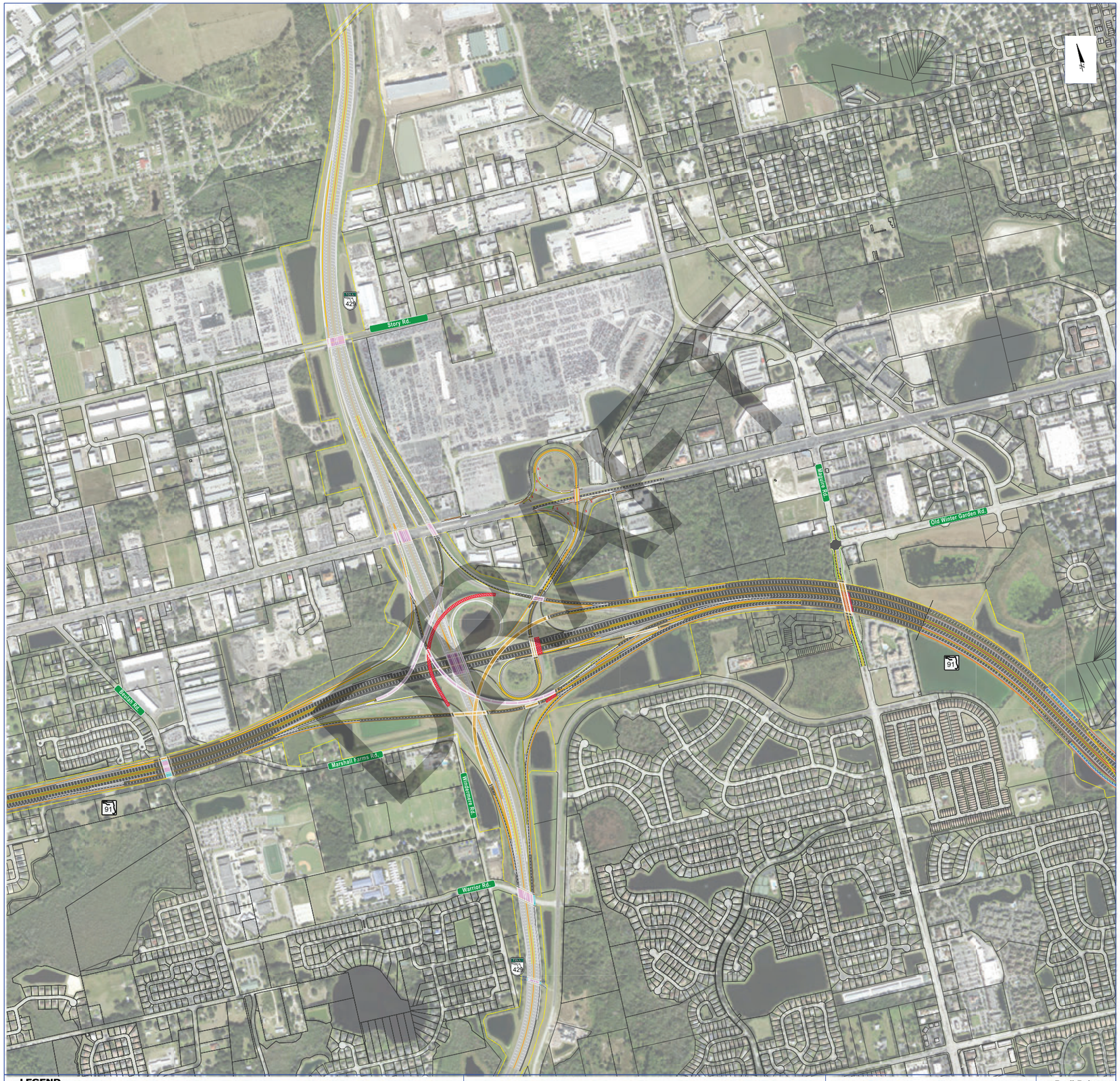
- SOD
- PAVEMENT
- SIDEWALK
- TRAF. SEP.
- EXIST BRIDGE
- BRIDGE WIDENING
- EXIST NOISE WALL
- ORANGE COUNTY WIDENING PAVEMENT

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

AVALON RD INTERCHANGE
DDI ALTERNATIVE

Draft Date:

3/18/2021



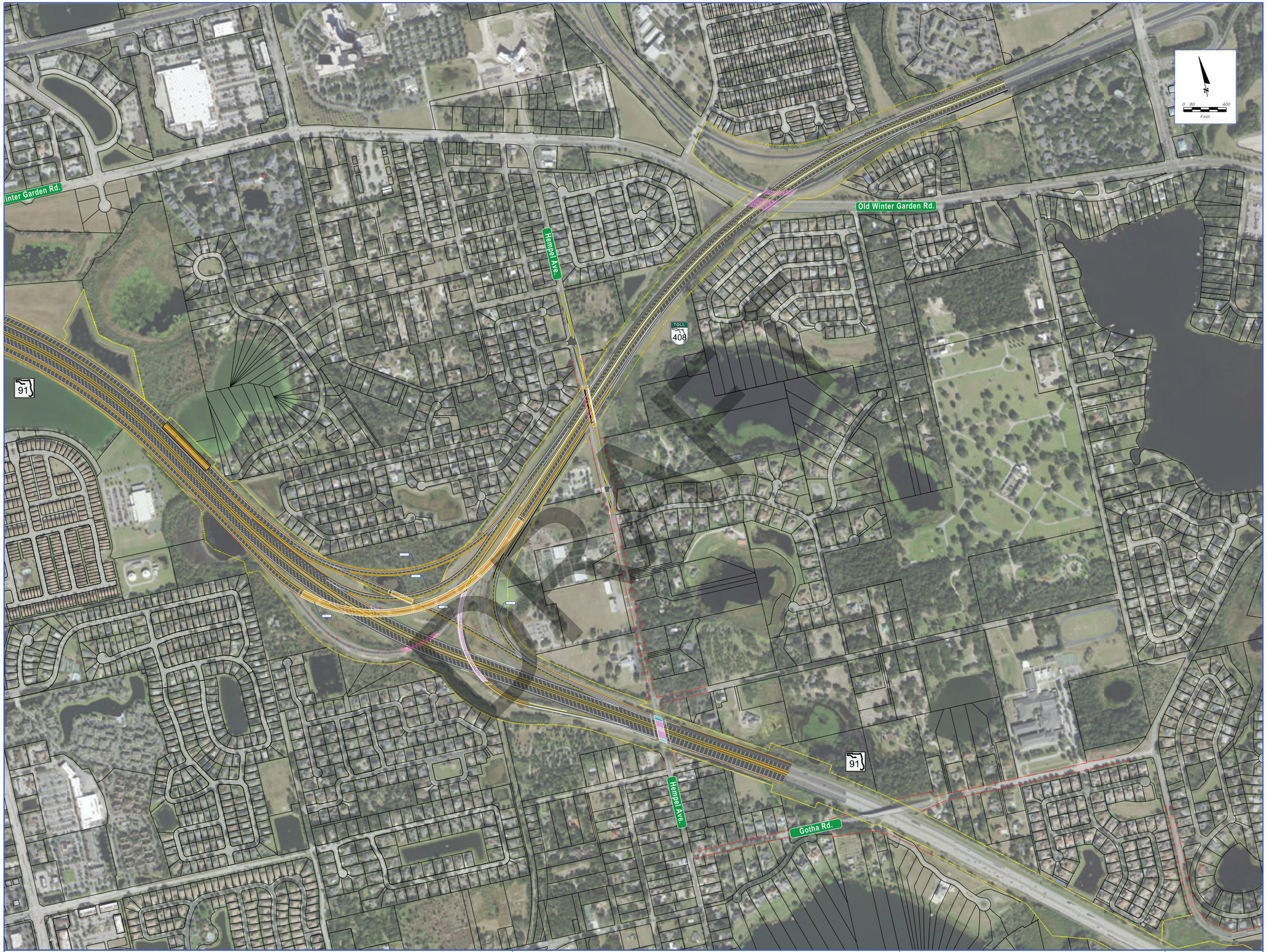
LEGEND

PAVEMENT
CFX EXISTING PAVEMENT
NEW BRIDGE
EXIST BRIDGE
BRIDGE WIDENING
BRIDGE REMOVAL

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

ALTERNATIVE #3
ALIGNMENT CURVE DATA

Draft Date:
11/1/2021



LEGEND

- PAVEMENT
- BRIDGE WIDENING
- NEW BRIDGE
- EXIST BRIDGE
- BRIDGE REMOVAL

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

SR 408 INTERCHANGE
50 MPH FLYOVER ALTERNATIVE

Draft Date:

5/21/2021

LEGEND

SOD | NEW BRIDGE | BRIDGE WIDENING

PAVEMENT | EXIST BRIDGE | BRIDGE REMOVAL

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

SERVICE PLAZA
ALTERNATIVE # 500

Draft Date:

3/15/2021

MATCHLINE A - A

ACTUATED SIGNAL

FDOT PARCEL PER ORANGE COUNTY PROPERTY APPRAISER

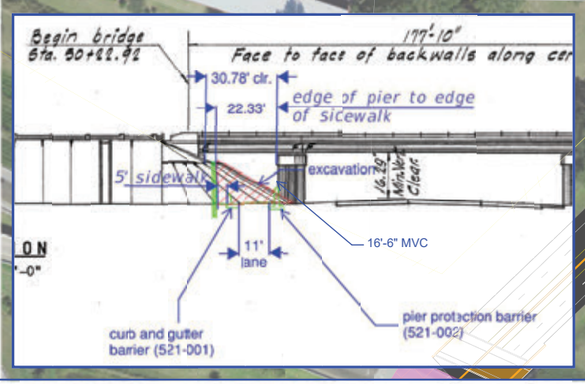
FDOT PARCEL PER ORANGE COUNTY PROPERTY APPRAISER

Marshal Farms Road

FLEXIBLE DELINEATORS TO SEPARATE MOVEMENTS

MAINTAIN ACCESS TO CELL TOWER

REMOVE BRIDGE SLOPE PAVEMENT FOR SHARED THRU RIGHT TURN LANE AND SIDEWALK



MATCHLINE A - A

LEGEND

- EXISTING TRAFFIC DIRECTION
- PROPOSED TRAFFIC DIRECTION
- EXISTING BRIDGE
- BRIDGE WIDENING

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

SR 50 CONNECTOR
ALTERNATIVE 1A

FIGURE 3.2

Draft Date:

9/15/2020

LEGEND

- EXISTING TRAFFIC DIRECTION
- PROPOSED TRAFFIC DIRECTION
- EXISTING BRIDGE REMOVAL
- NEW BRIDGE

WIDEN TURNPIKE FROM SOUTH OF SR 408 TO SR50
PROJECT DEVELOPMENT & ENVIRONMENTAL STUDY

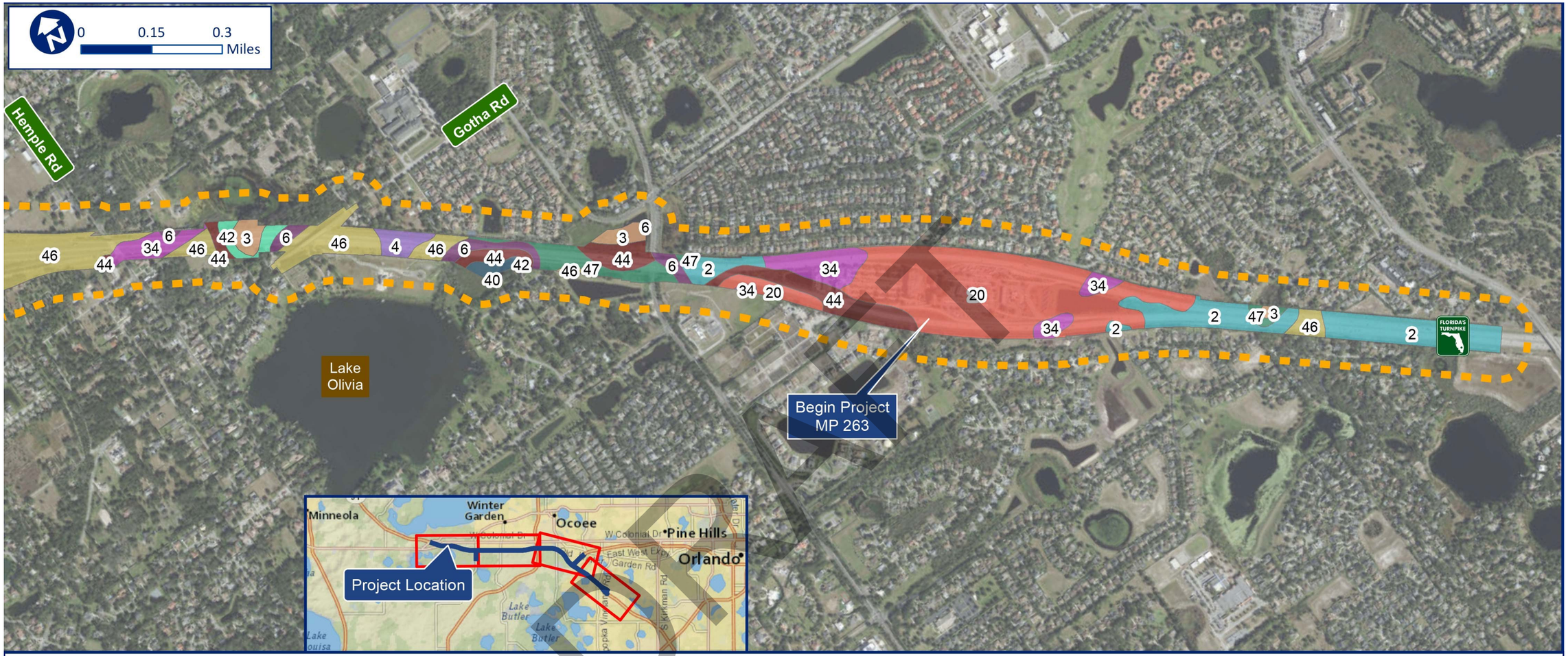
SR 50 CONNECTOR
ALTERNATIVE 2

FIGURE 3.4

Draft Date:

9/15/2020

Appendix B Soils Maps

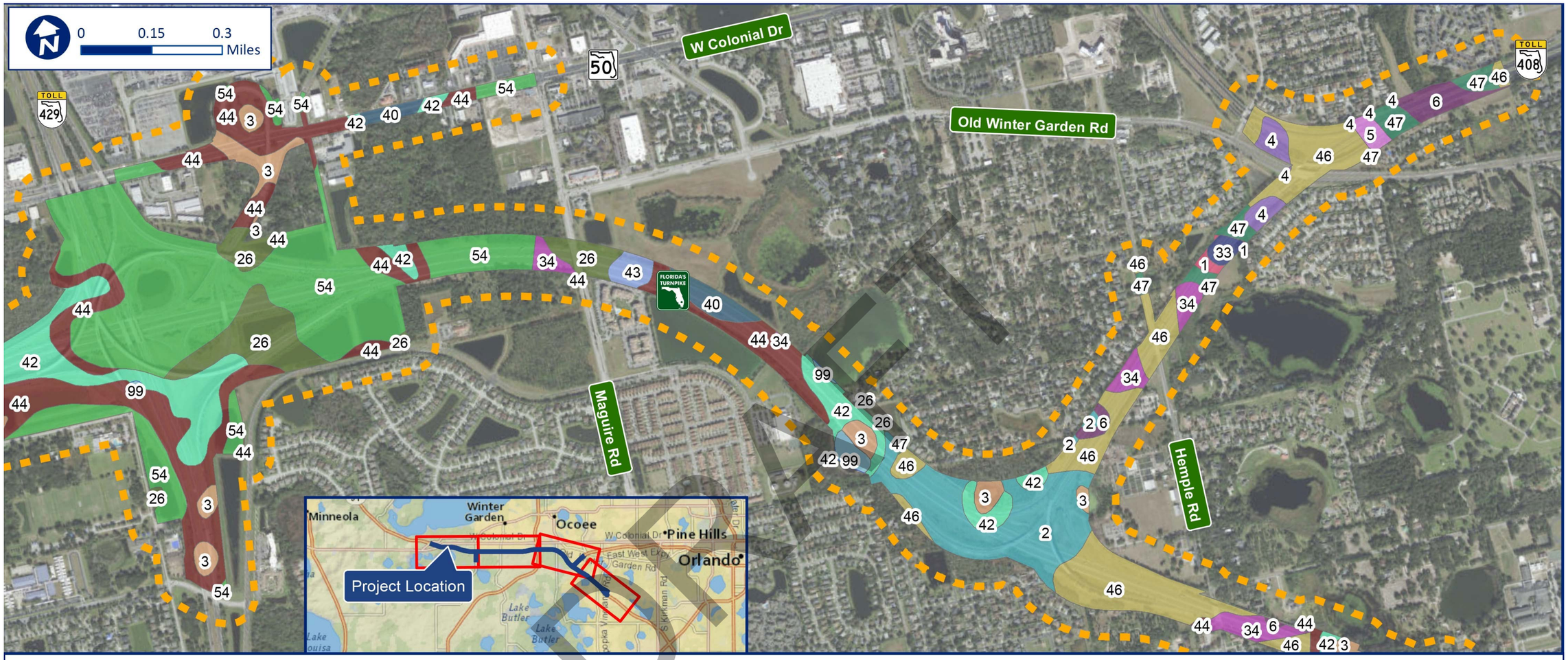


Legend

- 300-Foot Right of Way Buffer
- 1: Arents, Nearly Level
- 2: Archbold fine sand, 0 to 5 percent slopes
- 3: Basinger fine sand, frequently ponded, 0 to 1 percent slopes
- 4: Candler fine sand, 0 to 5 percent slopes
- 5: Candler fine sand, 5 to 12 percent slopes
- 6: Candler-Apopka fine sands, 5 to 12 percent slopes
- 20: Immokalee fine sand
- 22: Lochloosa fine sand
- 26: Ona fine sand, 0 to 2 percent slopes
- 33: Pits
- 34: Pomello fine sand, 0 to 5 percent slopes
- 37: St. Johns fine sand
- 40: Samsula muck, frequently ponded, 0 to 1 percent slopes*
- 41: Samsula-Hontoon-Basinger association, depressional
- 42: Sanibel muck*
- 43: Seffner fine sand, 0 to 2 percent slopes
- 44: Smyrna-Smyrna, wet, fine sand, 0 to 2 percent slopes
- 46: Tavares fine sand, 0 to 5 percent slopes
- 47: Tavares-Millhopper fine sands, 0 to 5 percent slopes
- 53: Wauberg fine sand
- 54: Zolfo fine sand, 0 to 2 percent slopes
- 99: Water

*Indicates Hydric Soil

Source: Web Soil Survey
National Cooperative Soil Survey
November 2021



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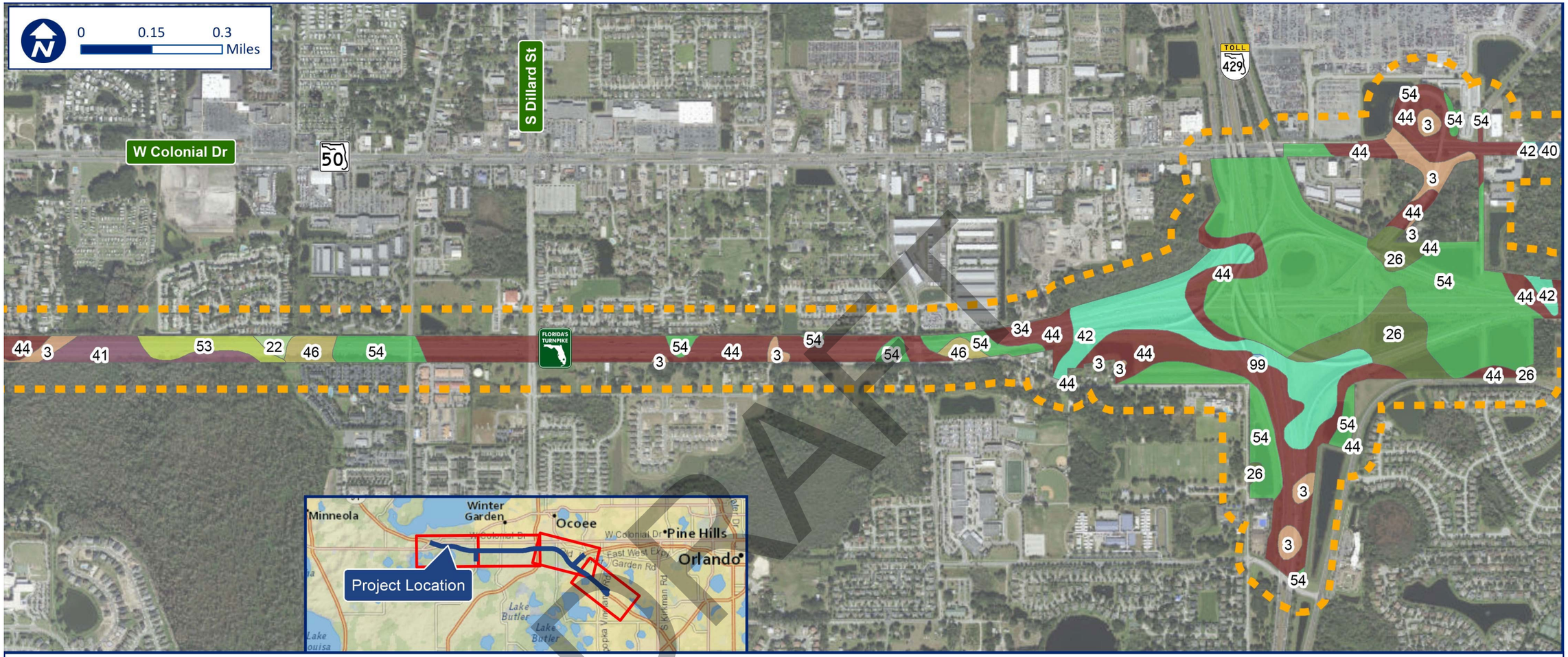
Source: Web Soil Survey
National Cooperative Soil Survey
November 2021



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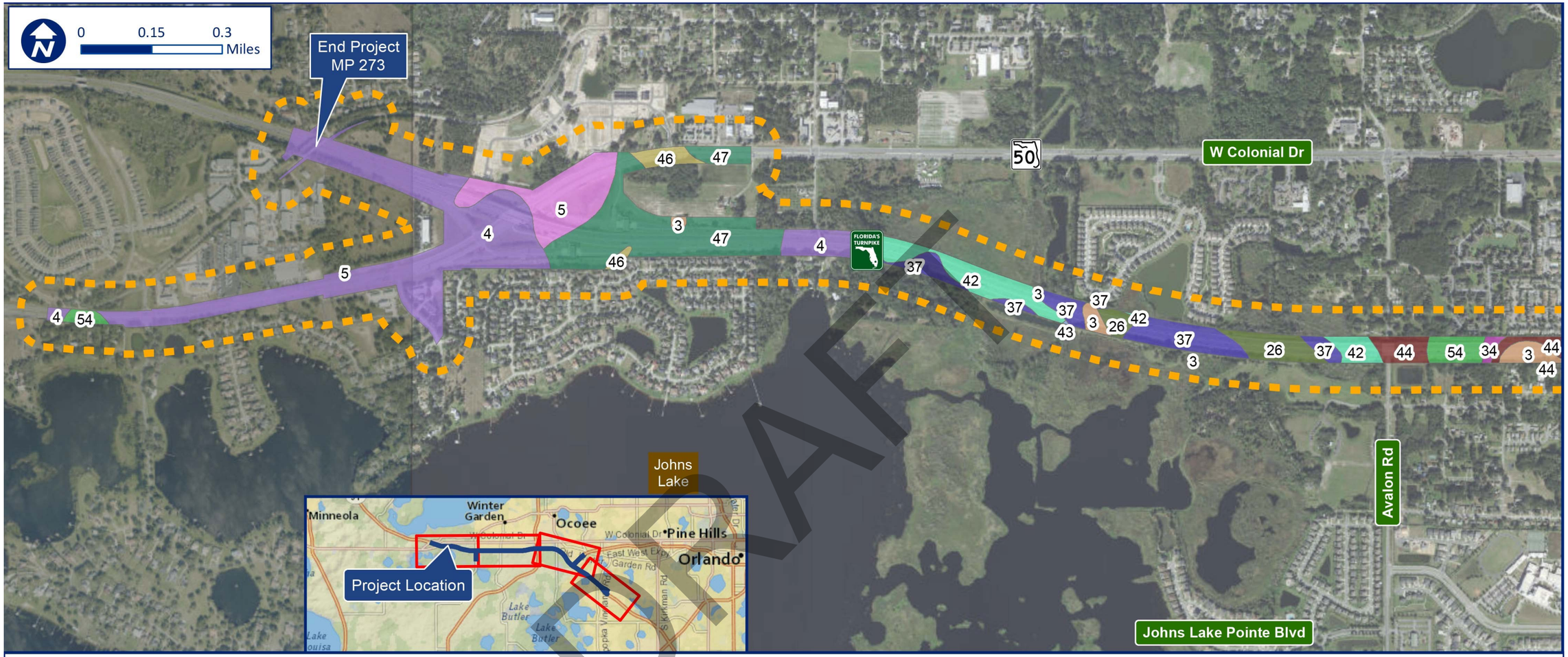
National Cooperative Soil Survey
November 2021



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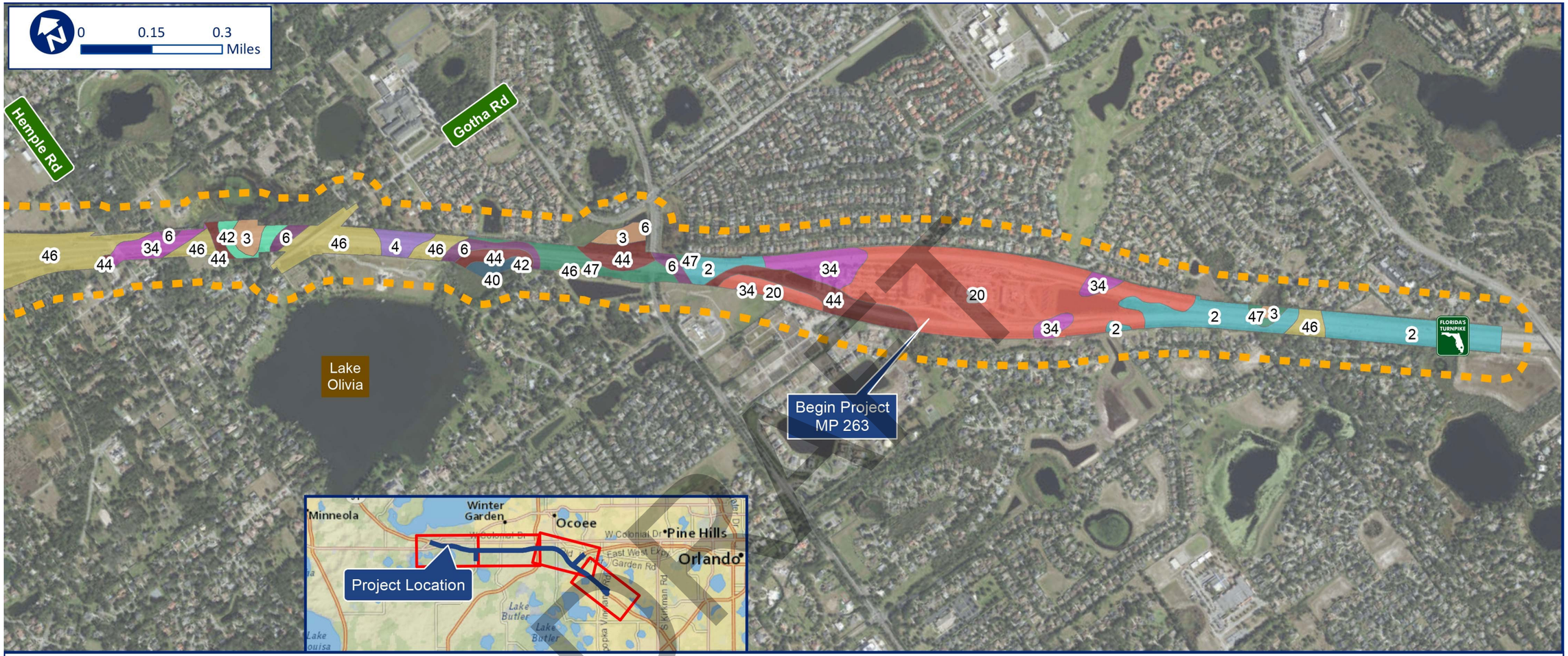
November 2021



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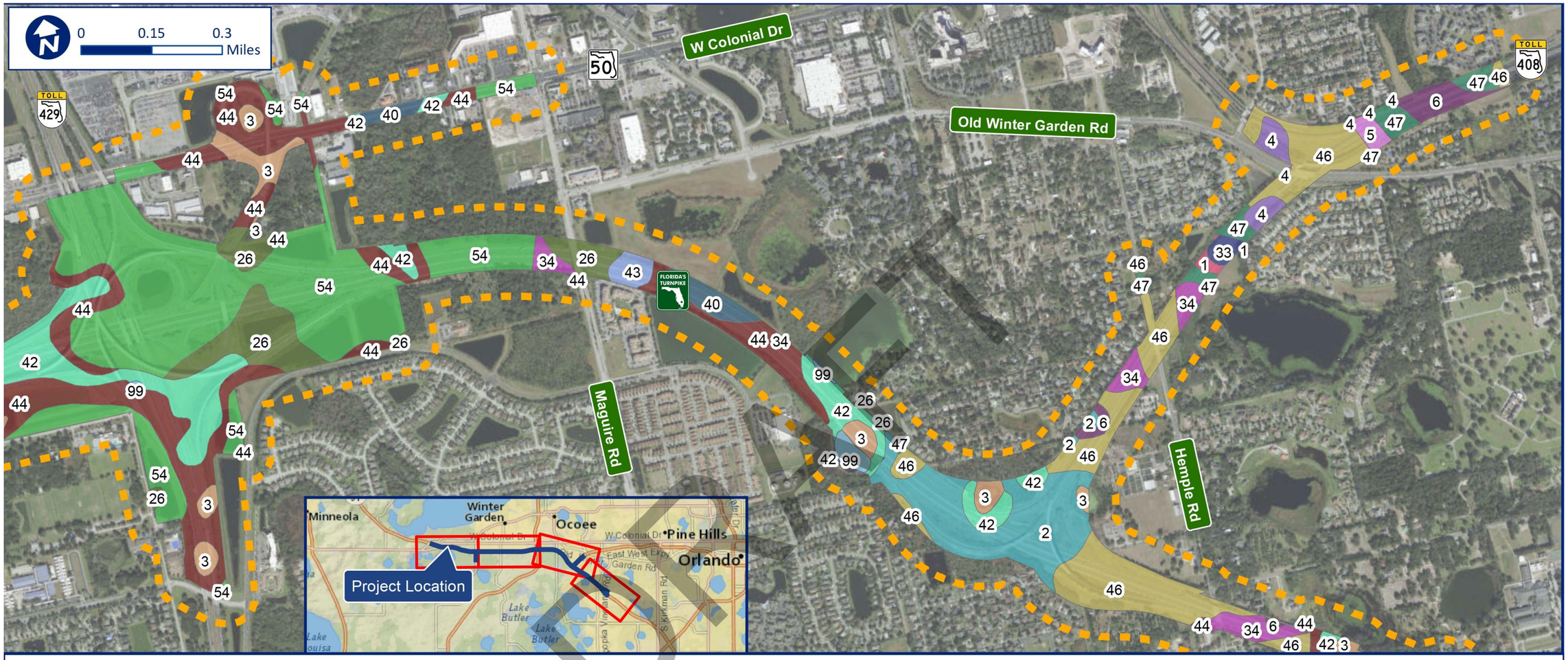
November 2021



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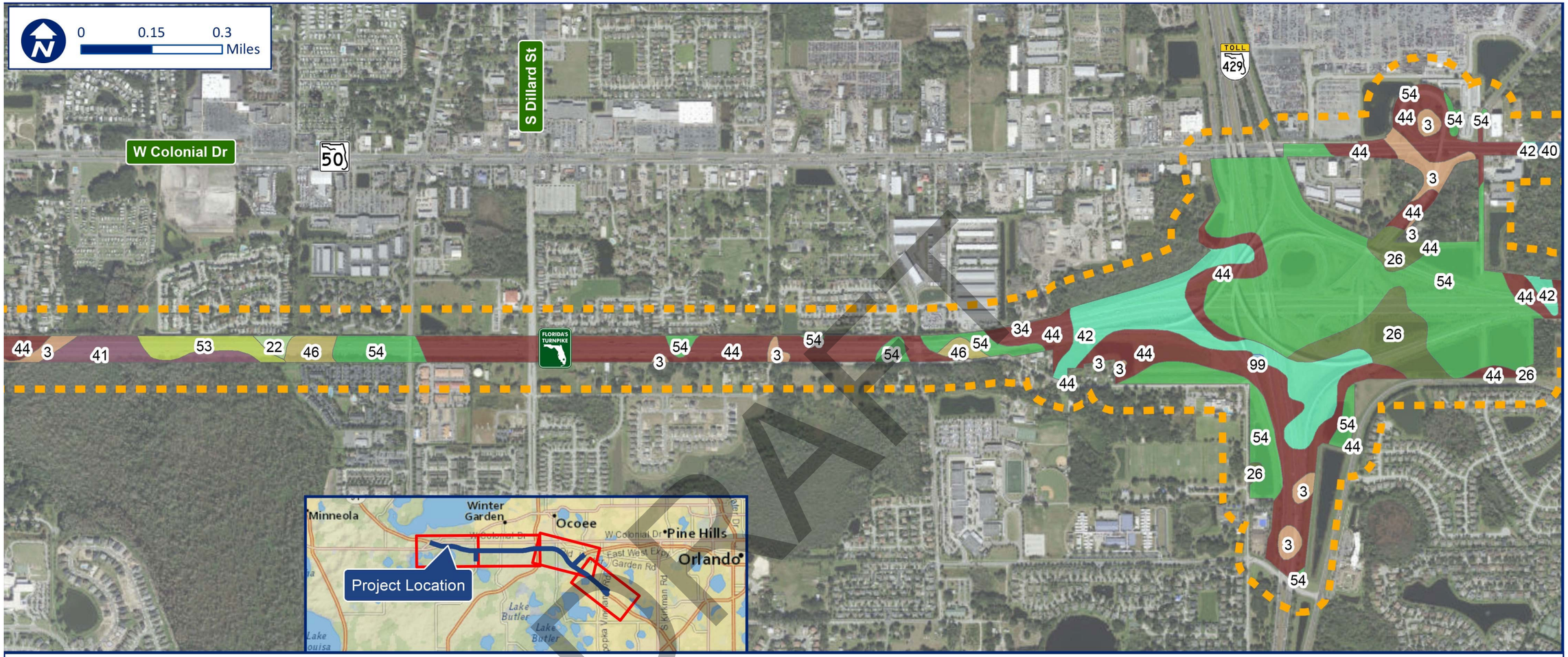
National Cooperative Soil Survey
November 2021



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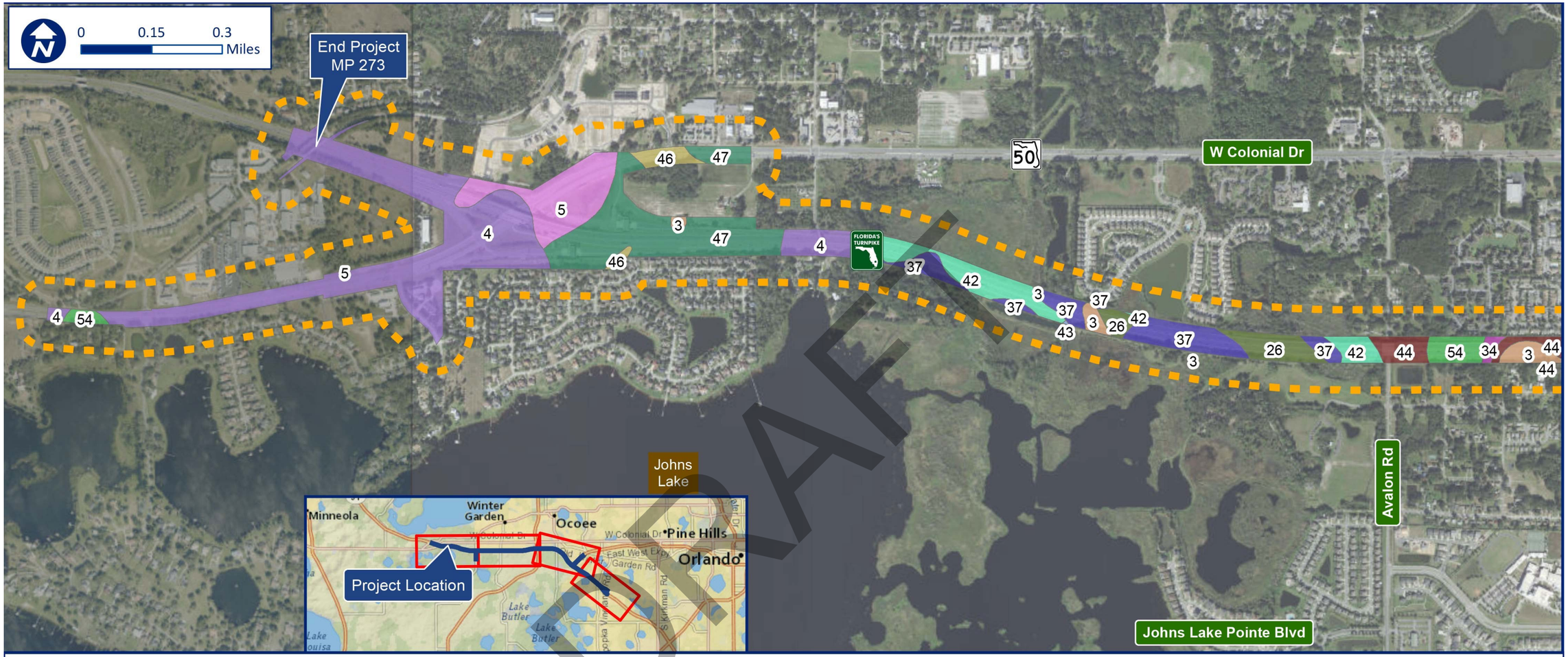
Source: Web Soil Survey
National Cooperative Soil Survey
November 2021



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*Indicates Hydric Soil

Source: Web Soil Survey
National Cooperative Soil Survey
November 2021

Appendix C Land Use Maps

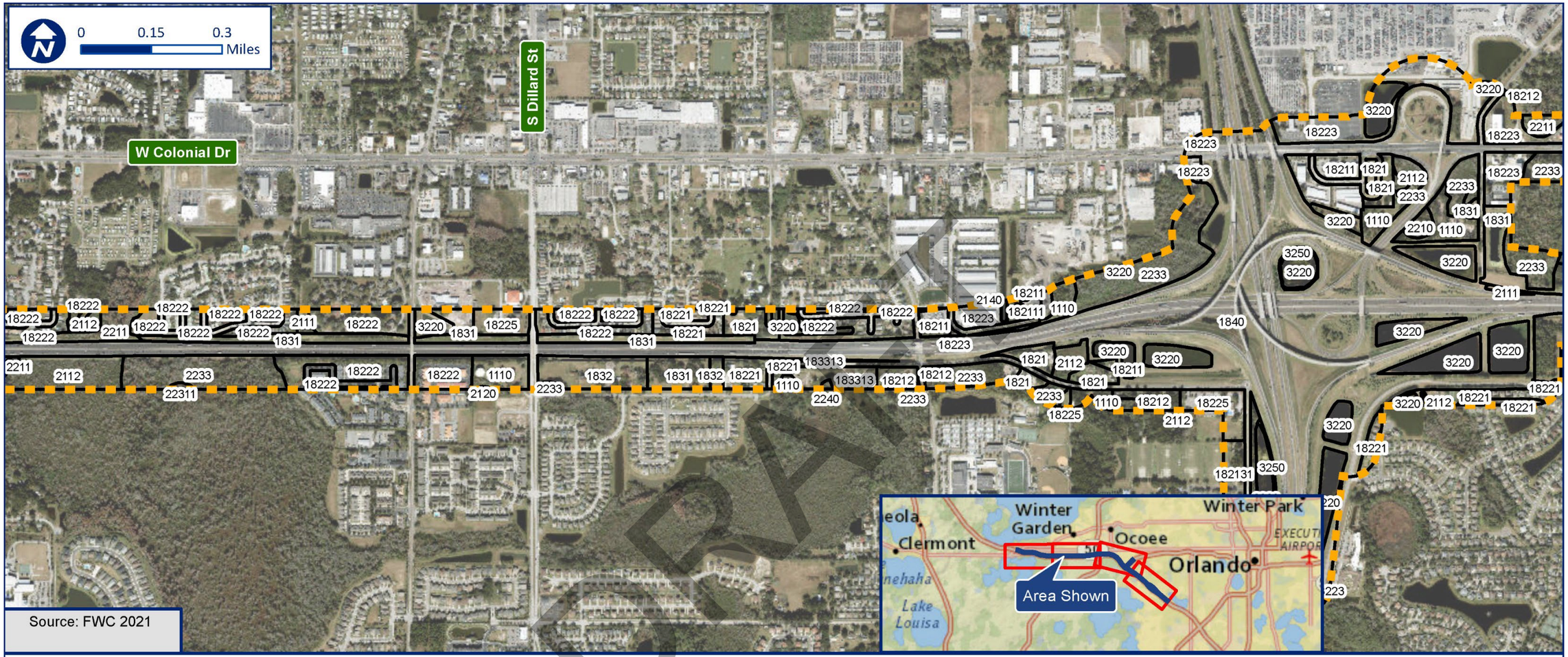
FWC Land Use Maps

Legend

300-FOOT RIGHT OF WAY BUFFER

Florida Cooperative Land Cover Types

1110, Upland Hardwood Forest
1120, Mesic Hammock
1210, Scrub
1400, Mixed Hardwood-Coniferous
1500, Shrub and Brushland
1821, Low Intensity Urban
1822, High Intensity Urban
1830, Rural
1840, Transportation
1850, Communication
1860, Utilities
1870, Extractive
2100, Freshwater Non-Forested Wetlands
2110, Prairies and Bogs
2120, Marshes
2121, Isolated Freshwater Marsh
2200, Freshwater Forested Wetlands
2210, Cypress/Tupelo
2211, Cypress
2231, Baygall
3000, Lacustrine
3100, Natural Lakes and Ponds
3200, Cultural - Lacustrine
18332, Orchards/Groves
18333, Tree Plantations
18334, Vineyard and Nurseries
183313, Improved Pasture

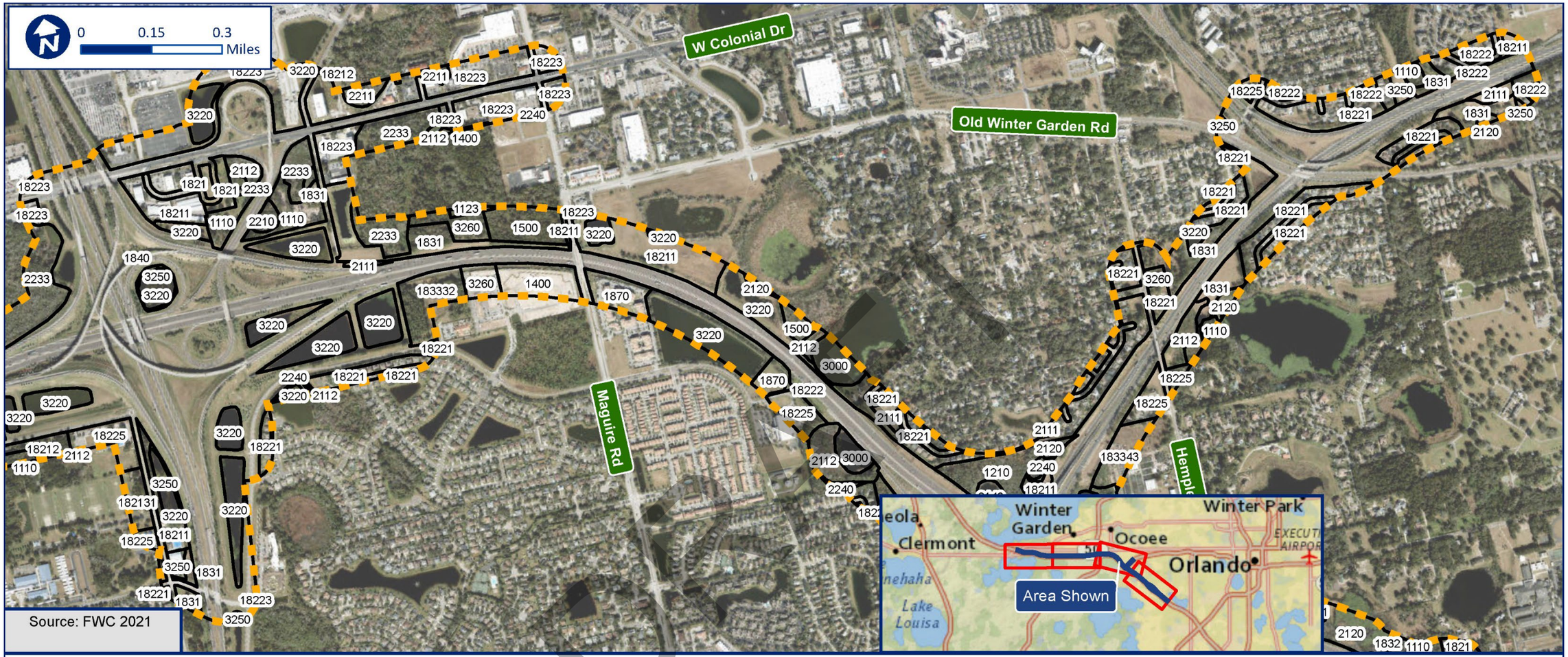


Legend

300-FOOT RIGHT OF WAY BUFFER

Florida Cooperative Land Cover Types

1110, Upland Hardwood Forest
1120, Mesic Hammock
1210, Scrub
1400, Mixed Hardwood-Coniferous
1500, Shrub and Brushland
1821, Low Intensity Urban
1822, High Intensity Urban
1830, Rural
1840, Transportation
1850, Communication
1860, Utilities
1870, Extractive
2100, Freshwater Non-Forested Wetlands
2110, Prairies and Bogs
2120, Marshes
2121, Isolated Freshwater Marsh
2200, Freshwater Forested Wetlands
2210, Cypress/Tupelo
2211, Cypress
2231, Baygall
3000, Lacustrine
3100, Natural Lakes and Ponds
3200, Cultural - Lacustrine
18332, Orchards/Groves
18333, Tree Plantations
18334, Vineyard and Nurseries
183313, Improved Pasture

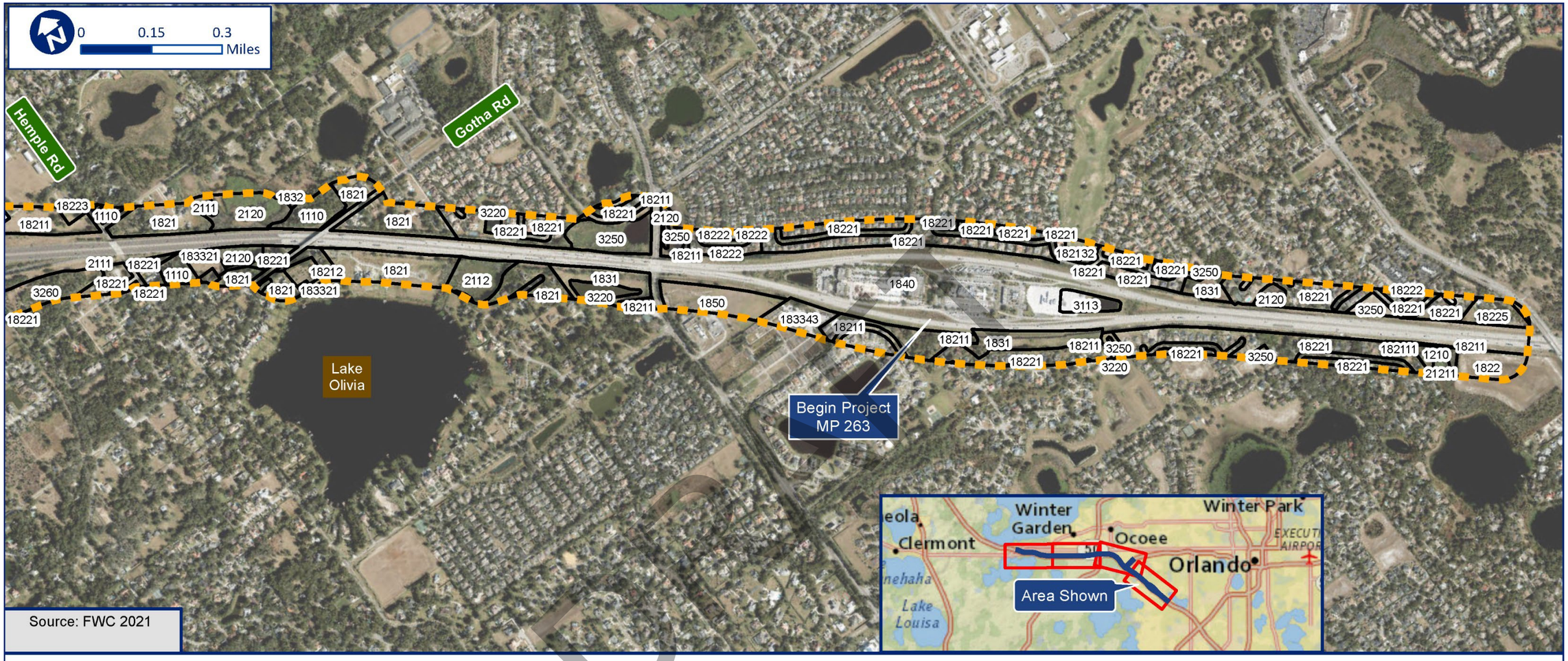


Legend

300-FOOT RIGHT OF WAY BUFFER

Florida Cooperative Land Cover Types

1110, Upland Hardwood Forest
1120, Mesic Hammock
1210, Scrub
1400, Mixed Hardwood-Coniferous
1500, Shrub and Brushland
1821, Low Intensity Urban
1822, High Intensity Urban
1830, Rural
1840, Transportation
1850, Communication
1860, Utilities
1870, Extractive
2100, Freshwater Non-Forested Wetlands
2110, Prairies and Bogs
2120, Marshes
2121, Isolated Freshwater Marsh
2200, Freshwater Forested Wetlands
2210, Cypress/Tupelo
2211, Cypress
2231, Baygall
3000, Lacustrine
3100, Natural Lakes and Ponds
3200, Cultural - Lacustrine
18332, Orchards/Groves
18333, Tree Plantations
18334, Vineyard and Nurseries
183313, Improved Pasture



Legend

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Florida Cooperative Land Cover Types

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1870, Extractive
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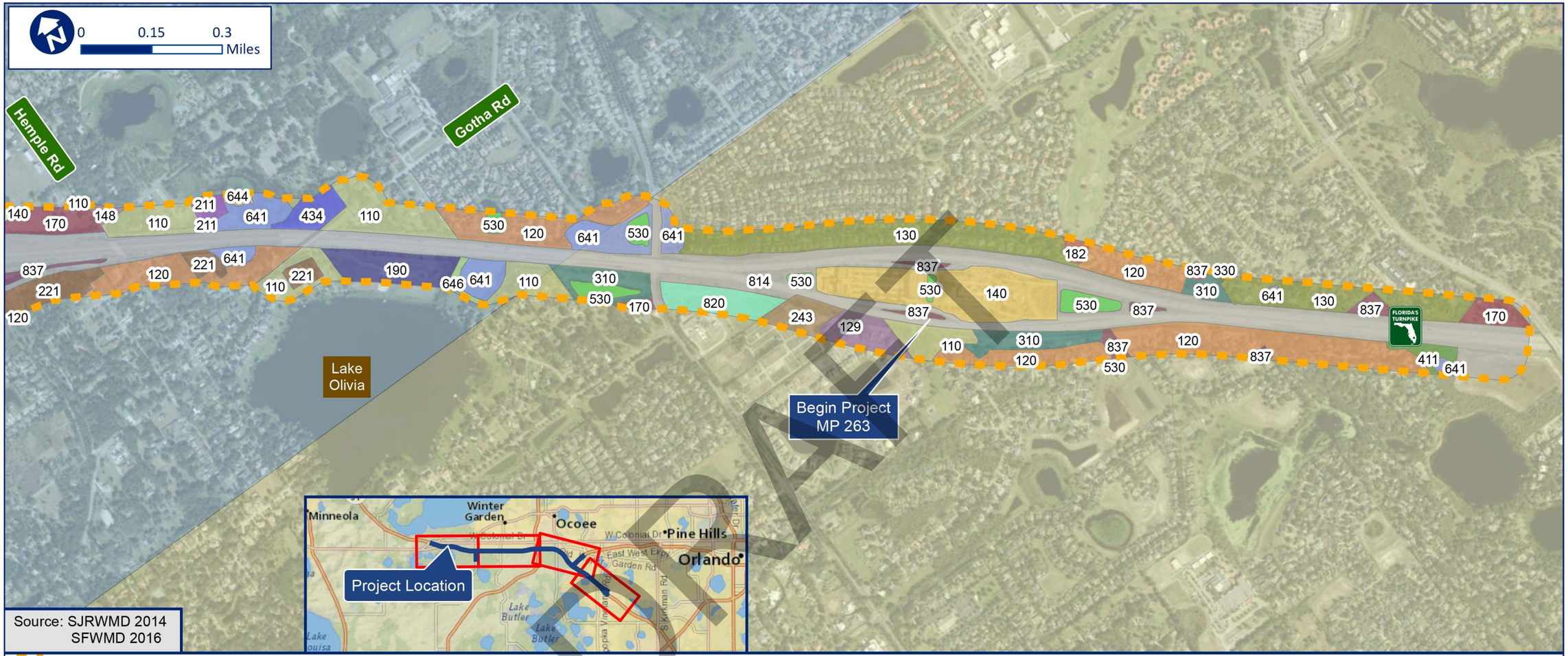
3100, Natural Lakes and Ponds
3200, Cultural - Lacustrine
18332, Orchards/Groves
18333, Tree Plantations
18334, Vineyard and Nurseries
183313, Improved Pasture

SJRWMD Land Use Maps



300-FOOT RIGHT OF WAY BUFFER
SOUTH FLORIDA WATER MANAGEMENT DISTRICT (2016)
SAINT JOHNS RIVER WATER MANAGEMENT DISTRICT (2014)
110: RESIDENTIAL, LOW DENSITY - LESS THAN 2 DWELLING UNITS/ACRE
120: MEDIUM DENSITY RESIDENTIAL - 2-5 UNITS/ACRE
129: MEDIUM DENSITY UNDER CONSTRUCTION
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156: PRE-STRESSED CONCRETE PLANTS (INCLUDES 1564)
530: RESERVOIRS - PITS, PONDS, DAMMED SYSTEMS
149: COMMERCIAL & SERVICES UNDER CONSTRUCTION
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190: OPEN LAND
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837: SURFACE WATER COLLECTION BASINS
212: UNIMPROVED PASTURES
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646: MIXED SCRUB-SHRUB WETLAND
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820: COMMUNICATIONS

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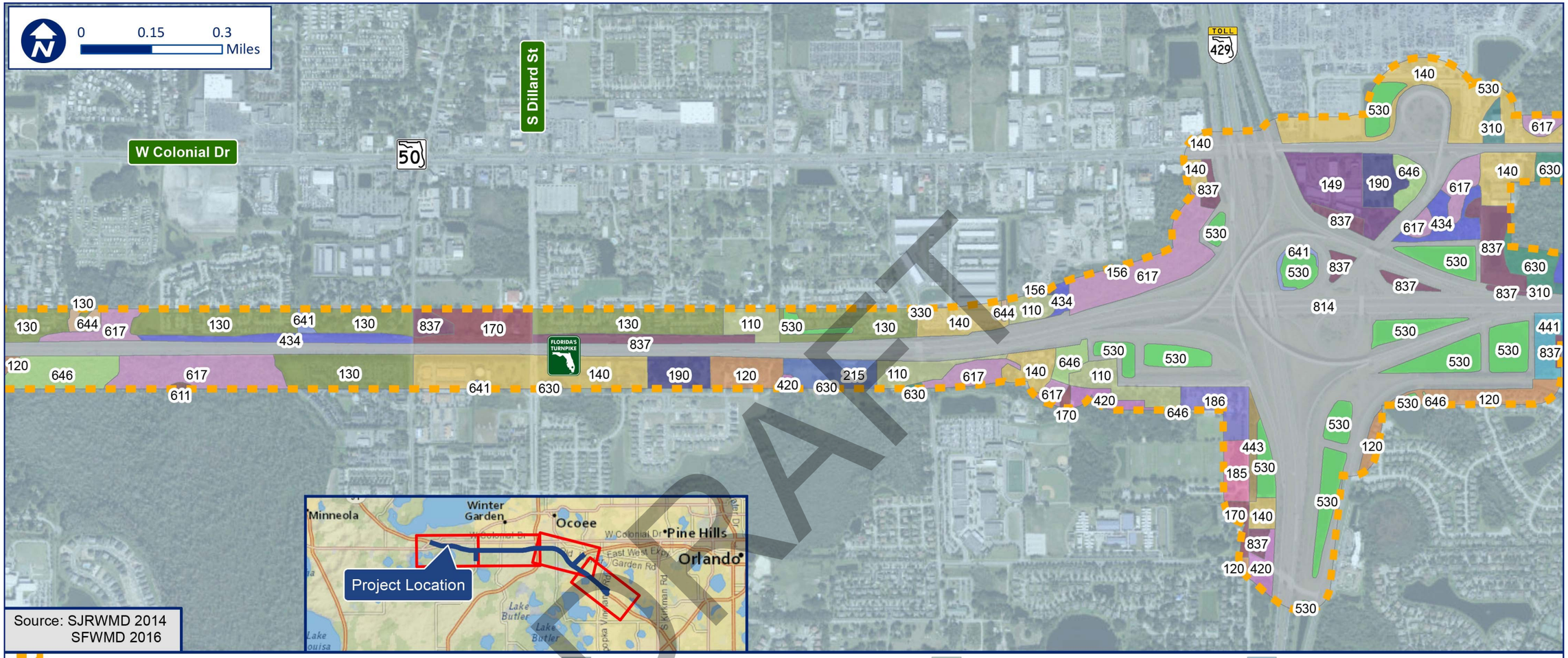

- 300-FOOT RIGHT OF WAY BUFFER
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- 420: UPLAND HARDWOOD
- 617: MIXED HARDWOOD WETLAND
- 641: FRESHWATER MARSH
- 644: EMERGENT AQUATIC VEGETATION
- 646: MIXED SCRUB-SHRUB WETLAND
- 831: ELECTRICAL POWER FACILITIES
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- 520: LAKES
- 148: CEMETERIES
- 611: BAY SWAMP (DISTINCT)
- 820: COMMUNICATIONS


0
0.15
0.3
Miles
End Project
MP 273
W Colonial Dr
50
Avalon Rd
Johns Lake Pointe Blvd
FLORIDA'S TURNPIKE
Project Location
Winter Garden
Ocoee
Pine Hills
Orlando
Minneola
Lake Butler
Source: SJRWMD 2014
SFWMD 2016
300-FOOT RIGHT OF WAY BUFFER
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Appendix D Protected Species Habitat and Occurrence Maps

Legend

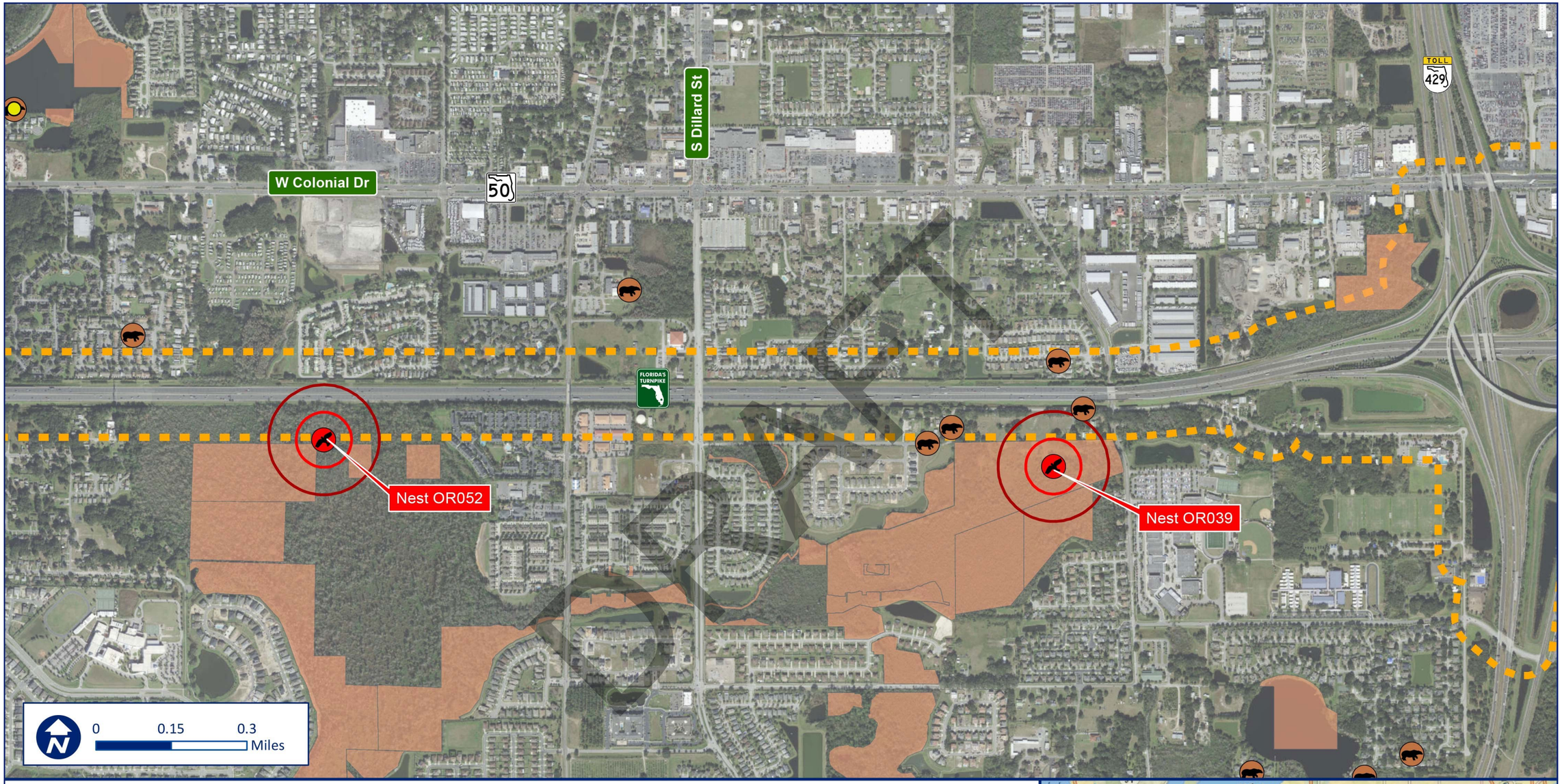
- 300-foot Right of Way Buffer
- Observed Ospreys, January 2020 Field Visit
- Florida Black Bear Nuisance, 1980 - 2018
- Florida Black Bear Mortality, 1976 - 2018
- Bald Eagle Nest
- Bald Eagle 330-ft Buffer
- Bald Eagle 660-ft Buffer
- Sand Skink Suitable Habitat
- Conservation Easement
- Scrub Lupine Historical Observation in 2003
- Gopher Tortoise Burrows

Turnpike (SR 91) Widening PD&E Study

FPID #: 444007-1-22-01 / ETDM #: 14378

Turnpike (SR 91) Widening PD&E Study

FPID #: 444007-1-22-01 / ETDM #: 14378



Turnpike (SR 91) Widening PD&E Study

FPID #: 444007-1-22-01 / ETDM #: 14378


End Project
MP 273
Nest OR110
50
W Colonial Dr
Nest OR092
FLORIDA'S TURNPIKE
Nest OR018
Avalon Rd
Johns
Lake
Johns Lake Pointe Blvd
DRAFT
0
0.15
0.3
Miles
Legend
300-foot Right of Way Buffer
Observed Ospreys, January 2020 Field Visit
Florida Black Bear Nuisance, 1980 - 2018
Florida Black Bear Mortality, 1976 - 2018
Bald Eagle Nest
Bald Eagle 330-ft Buffer
Bald Eagle 660-ft Buffer
Sand Skink Suitable Habitat
Conservation Easement
Scrub Lupine Historical Observation in 2003
Gopher Tortoise Burrows
Project Location
Minneola
Winter Garden
Ocoee
Pine Hills
Orlando
Lake Minneola
Lake Minnehaha
Lake Butler
Lake Louisa
East West Expy
Garden Rd
S Kirkman Rd
S Solandra Ave

Appendix E Species Determination Keys

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

Wood Stork Determination of Effect Key

The SFESO recognizes a 29.9 kilometer [km] (18.6-mile) core foraging area (CFA) around all known wood stork colonies in south Florida. Enclosure 2 (to be updated as necessary) provides locations of colonies and their CFAs in south Florida that have been documented as active within the last 10 years. The Service believes loss of suitable wetlands within these CFAs may reduce foraging opportunities for the wood stork. To minimize adverse effects to the wood stork, we recommend compensation be provided for impacts to foraging habitat. The compensation should consider wetland type, location, function, and value (hydrology, vegetation, prey utilization) to ensure that wetland functions lost due to the project are adequately offset. Wetlands offered as compensation should be of the same hydroperiod and located within the CFAs of the affected wood stork colonies. The Service may accept, under special circumstances, wetland compensation located outside the CFAs of the affected wood stork nesting colonies. On occasion, wetland credits purchased from a "Service Approved" mitigation bank located outside the CFAs could be acceptable to the Service, depending on location of impacted wetlands relative to the permitted service area of the bank, and whether or not the bank has wetlands having the same hydroperiod as the impacted wetland.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing the Wood Stork Effect Determination Key below. If the use of this key results in a Corps determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination[1]. This Key is subject to revisitation as the Corps and Service deem necessary.

The Key is as follows:

A. Project within 0.76 km (0.47 mile)[2] of an active colony site[3] ..... "*may affect*[4]"

Project impacts Suitable Foraging Habitat (SFH)[5] at a location greater than 0.76 km (0.47 mile) from a colony site..... ..... "*go to* B"

[1] With an outcome of "no effect" or "NLAA" as outlined in this key, and the project has less than 20.2 hectares (50 acres) of wetland impacts, the requirements of section 7 of the Act are fulfilled for the wood stork and no further action is required. For projects with greater than 20.2 hectares (50 acres) of wetland impacts, written concurrence of NLAA from the Service is necessary.

[2] Within the secondary zone (the average distance from the border of a colony to the limits of the secondary zone is 0.76 km (2,500 feet, or 0.47 mi).

[3] An active colony is defined as a colony that is currently being used for nesting by wood storks or has historically over the last 10 years been used for nesting by wood storks.

[4] Consultation may be concluded informally or formally depending on project impacts.

[5] Suitable foraging habitat (SFH) includes wetlands that typically have shallow-open water areas that are relatively calm and have a permanent or seasonal water depth between 5 to 38 cm (2 to 15 inches) deep. Other shallow non-wetland water bodies are also SFH. SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to freshwater marshes, small ponds, shallow, seasonally flooded roadside or agricultural ditches, seasonally flooded pastures, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.

Project does not affect SFH……..…..*"no effect*[1]".

B. Project impact to SFH is less than 0.20 hectare (one-half acre)[6]……..……*NLAA*[1]"

Project impact to SFH is greater in scope than 0.20 hectare (one-half acre)....……*go to* C

C. Project impacts to SFH not within the CFA (29.9 km, 18.6 miles) of a colony site ……..……..……..……*go to* D

Project impacts to SFH within the CFA of a colony site ……..……..……*go to* E

D. Project impacts to SFH have been avoided and minimized to the extent practicable; compensation (Service approved mitigation bank or as provided in accordance with Mitigation Rule 33 CFR Part 332) for unavoidable impacts is proposed in accordance with the CWA section 404(b)(1) guidelines; and habitat compensation replaces the foraging value matching the hydroperiod[7] of the wetlands affected and provides foraging value similar to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance[8]…….. *NLAA*[1]"

Project not as above……... "*may affect*[4]"

E. Project provides SFH compensation in accordance with the CWA section 404(b)(1) guidelines and is not contrary to the HMG; habitat compensation is within the appropriate CFA or within the service area of a Service-approved mitigation bank; and habitat compensation replaces foraging value, consisting of wetland enhancement or restoration matching the hydroperiod[7] of the wetlands affected, and provides foraging value similar

---

[6] On an individual basis, SFH impacts to wetlands less than 0.20 hectare (one-half acre) generally will not have a measurable effect on wood storks, although we request that the Corps require mitigation for these losses when appropriate. Wood storks are a wide ranging species, and individually, habitat change from impacts to SFH less than one-half acre are not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

[7] Several researchers (Flemming et al. 1994; Ceilley and Bortone 2000) believe that the short hydroperiod wetlands provide a more important pre-nesting foraging food source and a greater early nestling survivor value for wood storks than the foraging base (grams of fish per square meter) than long hydroperiod wetlands provide. Although the short hydroperiod wetlands may provide less fish, these prey bases historically were more extensive and met the foraging needs of the pre-nesting storks and the early-age nestlings. Nest productivity may suffer as a result of the loss of short hydroperiod wetlands. We believe that most wetland fill and excavation impacts permitted in south Florida are in short hydroperiod wetlands. Therefore, we believe that it is especially important that impacts to these short hydroperiod wetlands within CFAs are avoided, minimized, and compensated for by enhancement/restoration of short hydroperiod wetlands.

[8] For this Key, the Service requires an analysis of foraging prey base losses and enhancements from the proposed action as shown in the examples in Enclosure 3 for projects with greater than 2.02 hectares (5 acres) of wetland impacts. For projects with less than 2.02 hectares (5 acres) of wetland impacts, an individual foraging prey base analysis is not necessary although type for type wetland compensation is still a requirement of the Key.

to, or higher than, that of impacted wetlands. See Enclosure 3 for a detailed discussion of the hydroperiod foraging values, an example, and further guidance[8]……..... *"NLAA[1]"*

Project does not satisfy these elements ……..……..…….....*"may affect[4]"*

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

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued where the effect determination was: "may affect, not likely to adversely affect." We request that the Corps send us an annual summary consisting of: project dates, Corps identification numbers, project acreages, project wetland acreages, and project locations in latitude and longitude in decimal degrees.

Thank you for your cooperation and effort in protecting federally listed species. If you have any questions, please contact Allen Webb at extension 246.

Sincerely yours,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

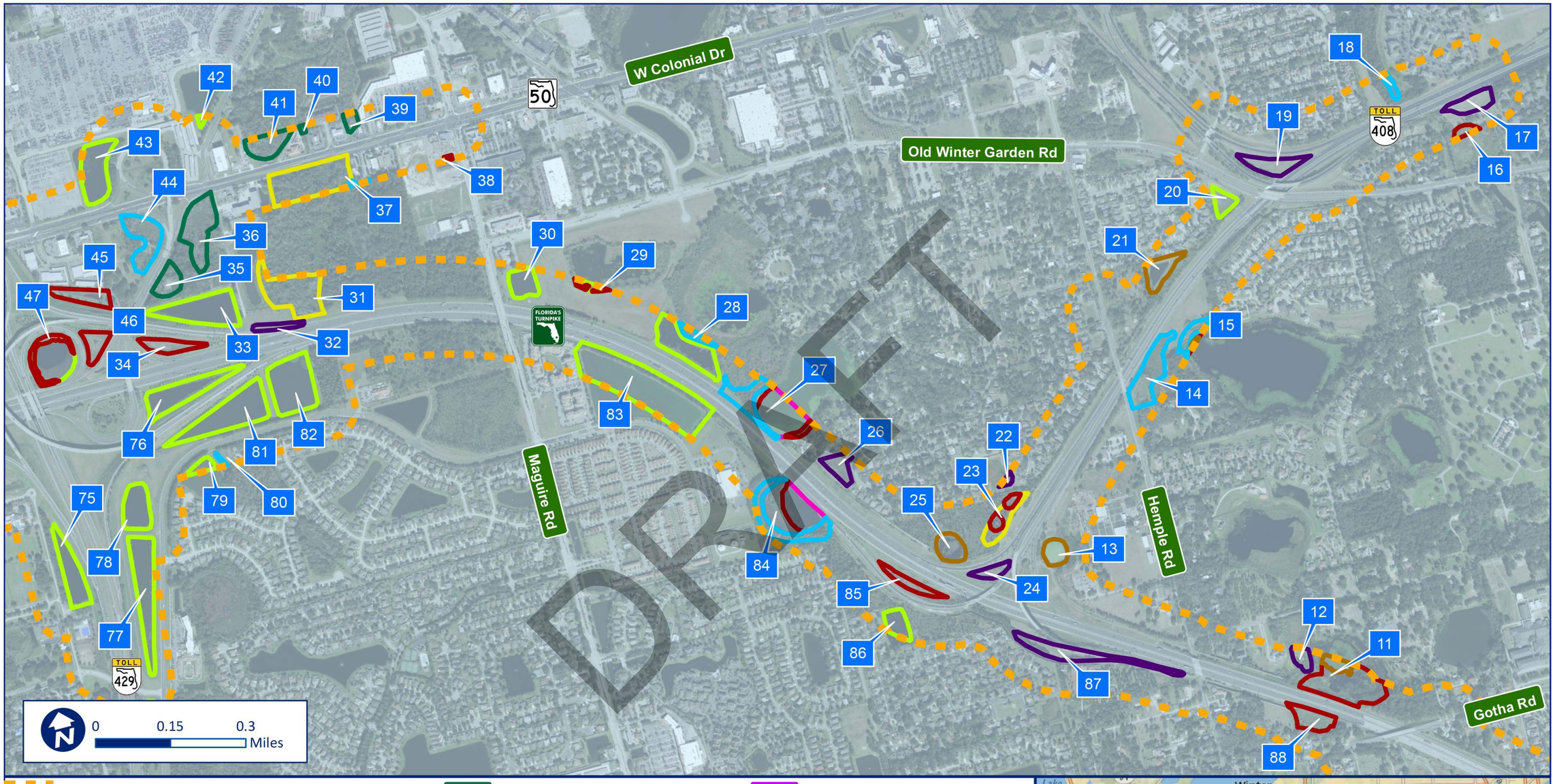
Enclosures

cc: w/enclosures (electronic only)
Corps, Jacksonville, Florida (Stu Santos)
EPA, West Palm Beach, Florida (Richard Harvey)
FWC, Vero Beach, Florida (Joe Walsh)
Service, Jacksonville, Florida (Billy Brooks)

Appendix F Wetland and Other Surface Waters Maps

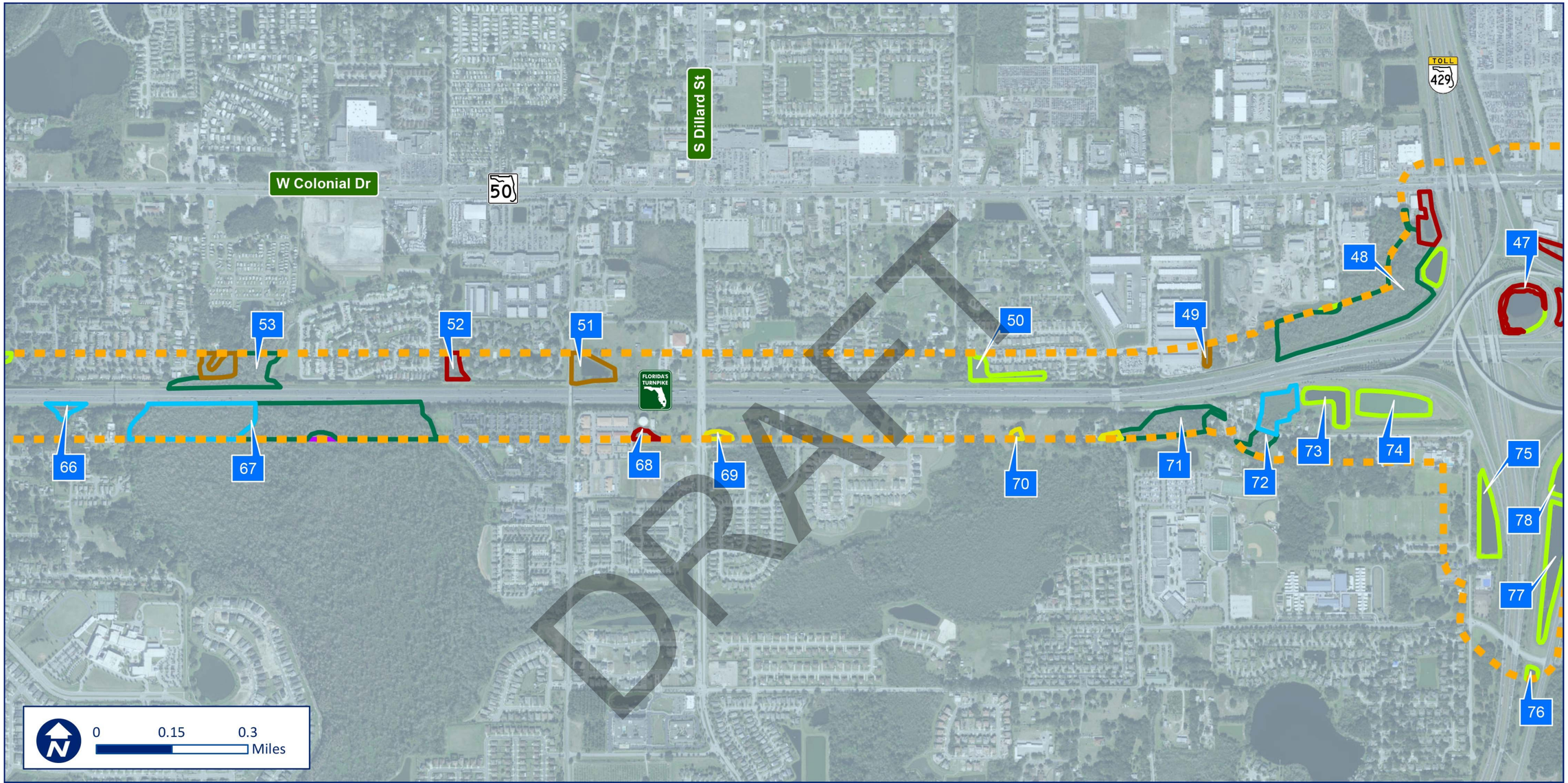
Turnpike (SR 91) Widening PD&E Study

FPID #: 444007-1-22-01 / ETDM #: 14378



Turnpike (SR 91) Widening PD&E Study

FPID #: 444007-1-22-01 / ETDM #: 14378



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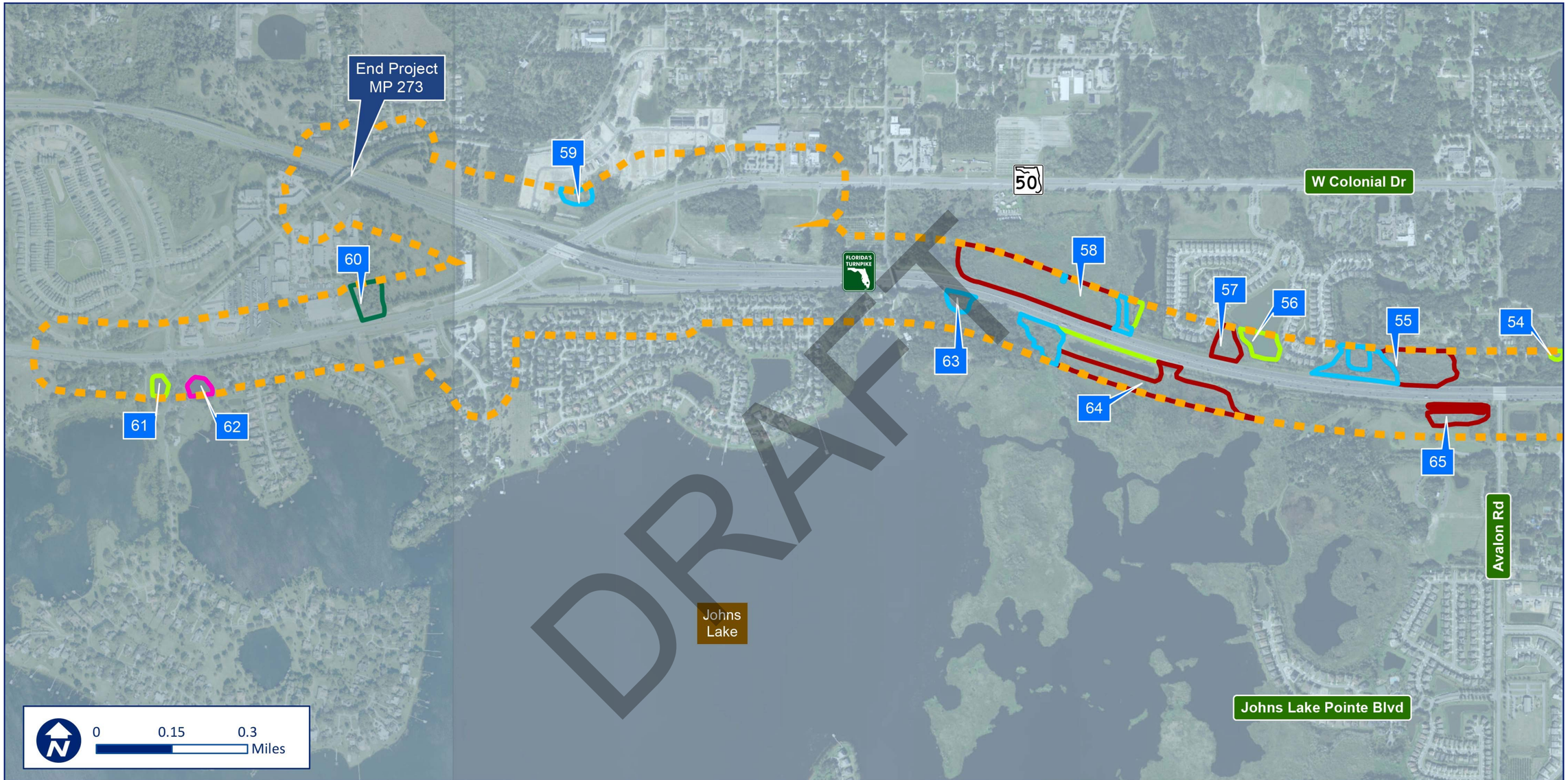

Turnpike (SR 91) Widening PD&E Study

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Appendix G UMAM Data Sheets

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 617/630 - Wetlands 13, 33, 2, 27, 5, 32, 7, 20, 26)**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617/630	**PFO1C**	**Impact**	**7.2** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
	Lake Apopka	**N/A**

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

Wetlands are a series of forested wetlands that lie directly adjaent to the limited access highway. Wetlands are located within the urban service areas of Ocoee, Winter Garden and Oakland

Assessment area description

Common vegeation within the assessment area consists primarly of red maple (*Acer rubrum*), laurel oak (*quercus laurifolia*), sweetgum (*Liquidambar syraciflua*) primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*), dog fennel (*Eupatorium capillifolium*), Mimosa tree (*Albizia julibrissin*), brazilian pepper (*Schinus terebinthifolia*)

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida's Turnpike	**Common throughout Central Florida**

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, flood attenuation	**N/A**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, deer	**These wetlands can proivde foraging opportunities for wood stork (T)**

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

No wildlife observed during field reviews

Additional relevant factors:

These wetlands receive runoff directly from adjacent developed areas.

Assessment conducted by:	Assessment date(s):
C. Dailey	**11/12/2021**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 617/630 - Wetlands 13, 33, 2, 27, 5, 32, 7, 20, 26)**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**C. Dailey**	**11/12/21**

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

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	X	
	b. **Invasive plant species.**	X	
	c. **Wildlife access** to and from AA (proximity and barriers).		
	d. **Downstream benefits** provided to fish and wildlife.		
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.		
	f. **Hydrologic connectivity** (impediments and flow restrictions).		
	g. **Dependency** of downstream habitats on quantity or quality of discharges.		
	h. Protection of wetland functions provided by uplands (**upland** AAs only).		
Current: 4 / **With Impact: 0**	Notes: Assessment area is adjacent to Florida's Turnpike. Assessment area provides minimal landscape support due proximity to limited access highway	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

		Current	With Impact
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.		
	b. Reliability of **water level indicators**.		
	c. Appropriateness of **soil moisture**.	X	
	d. **Flow rates**/points of discharge.		
	e. **Fire frequency**/severity.		
	f. **Type of vegetation**.	X	
	g. **Hydrologic stress** on vegetation.		
	h. **Use by animal**s with hydrologic requirements.		
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).		
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).		
	k. **Water quality data** for the type of community.		
	l. **Water depth, wave energy, and currents**.		
Current: 5 / **With Impact: 0**	Notes: Water levels within assessement area appear approapriate for wetland types. Water quality is affected by proximity to adjacent roadway. Significant levels of trash and debris is apparent within assessment area.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

		Current	With Impact
.500(6)(c) Community Structure	I. Appropriate/desirable species		
	II. Invasive/exotic plant species	X	
	III. Regeneration/recruitment		
X Vegetation	IV. Age, size distribution.		
	V. Snags, dens, cavity, etc.	X	
Benthic	VI. Plants' condition.		
	VII. Land management practices.		
Both	VIII. Topographic features (refugia, channels, hummocks).		
	IX. Submerged vegetation (only score if present).		
	X. Upland assessment area		
Current: 4 / **With Impact: 0**	Notes: Approximately 50% of aerial coverage of the the assessment area consists of nuisance exotic vegetation. Fragmented habitat, encroachment of upland or marginal wetland species evident, encroachment of nuisance and exotic species, no signs of wildlife with little chance of wildlife movement from surrounding areas given the location and use of adjacent lands.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.43	0.00

Impact Acres =	7.2

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	3.10

Impact Delta (ID)	
Current - w/Impact	0.43

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 617/630 - Wetlands 3, 6, 36)**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617/630	**PFO1C**	**Impact**	**2.64** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
	Lake Apopka	**N/A**

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

Wetlands are a series of forested wetlands that lie in general proximity to Florida's Turnpike, but are not directly adjaent to the limited access highway. Wetlands are located within the urban service areas of Ocoee, Winter Garden and Oakland

Assessment area description

Common vegeation within the assessment area consists primarly of red maple (*Acer rubrum*), laurel oak (*quercus laurifolia*), sweetgum (*Liquidambar syraciflua*) primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*), dog fennel (*Eupatorium capillifolium*), Mimosa tree (*Albizia julibrissin*), brazilian pepper (*Schinus terebinthifolia*)

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida's Turnpike	**Common throughout Central Florida**

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, flood attenuation	**N/A**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, deer	**These wetlands can proivde foraging opportunities for wood stork (T)**

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

No wildlife observed during field reviews

Additional relevant factors:

These wetlands receive runoff directly from adjacent developed areas.

Assessment conducted by:	Assessment date(s):
C. Dailey	**11/12/2021**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 617/630 - Wetlands 3, 6, 36)**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**C. Dailey**	**11/12/21**

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

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	X	
	b. **Invasive plant species.**	X	
	c. **Wildlife access** to and from AA (proximity and barriers).		
	d. **Downstream benefits** provided to fish and wildlife.		
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.		
	f. **Hydrologic connectivity** (impediments and flow restrictions).		
	g. **Dependency** of downstream habitats on quantity or quality of discharges.		
	h. Protection of wetland functions provided by uplands (**upland** AAs only).		
Current: **5** / With Impact: **0**	Notes: Assessment area is general proximity to Florida's Turnpike, but not adjacent. Asessment area provides minimal landscape support due proximity to limited access highway	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.		
	b. Reliability of **water level indicators**.		
	c. Appropriateness of **soil moisture**.	X	
	d. **Flow rates**/points of discharge.		
	e. **Fire frequency**/severity.		
	f. **Type of vegetation**.	X	
	g. **Hydrologic stress** on vegetation.		
	h. **Use by animal**s with hydrologic requirements.		
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).		
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).		
	k. **Water quality data** for the type of community.		
	l. **Water depth, wave energy, and currents**.		
Current: **5** / With Impact: **0**	Notes: Water levels within assessement area appear approapriate for wetland types. Water quality is affected by proximity to adjacent roadway. Significant levels of trash and debris is apparent within assessment area.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species		
	II. Invasive/exotic plant species	X	
	III. Regeneration/recruitment		
	IV. Age, size distribution.		
	V. Snags, dens, cavity, etc.	X	
	VI. Plants' condition.		
	VII. Land management practices.		
	VIII. Topographic features (refugia, channels, hummocks).		
	IX. Submerged vegetation (only score if present).		
	X. Upland assessment area		
Current: **5** / With Impact: **0**	Notes: Between 25% and 50% of aerial coverage of the the assessment area consists of nuisance exotic vegetation. Fragmented habitat, encroachment of upland or marginal wetland species evident, encroachment of nuisance and exotic species, no signs of wildlife with little chance of wildlife movement from surrounding areas given the location and use of adjacent lands.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)

Current	With Impact
0.50	0.00

Impact Acres =	2.64

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	1.32

Impact Delta (ID)	
Current - w/Impact	0.50

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 520 - Wetlands 22, 14**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
520	**PUBF**	**Impact**	**0.74** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
	Lake Apopka	**N/A**

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

Wetlands are a series of natural ponds that lie directly adjaent to the limited access highway. Wetlands are located within the urban service areas of Ocoee, Winter Garden and Oakland

Assessment area description

Common vegeation surrounding the open water pond, within the assessment area, consists primarly of primrose willow (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*), cattail (*Typha latifolia*), elephant ear (*Xanthosoma sattifolium*), fire flag (*Thalia geniculata*), duck potato (*Sagittaria lancifolia*), smartweed (*Polygonum sp.*)

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida's Turnpike	**Common throughout Central Florida**

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, flood attenuation	**N/A**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
fish	**These wetlands can proivde foraging opportunities for wood stork (T)**

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

No wildlife observed during field reviews

Additional relevant factors:

These wetlands receive runoff directly from adjacent developed areas.

Assessment conducted by:	Assessment date(s):
C. Dailey	**11/12/2021**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 520 - Wetlands 22, 14**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**C. Dailey**	**11/12/21**

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

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	X	
	b. **Invasive plant species.**	X	
	c. **Wildlife access** to and from AA (proximity and barriers).		
	d. **Downstream benefits** provided to fish and wildlife.		
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.		
	f. **Hydrologic connectivity** (impediments and flow restrictions).		
	g. **Dependency** of downstream habitats on quantity or quality of discharges.		
	h. Protection of wetland functions provided by uplands (**upland** AAs only).		
Current: 5 / **With Impact: 0**	Notes: Assessment area consists of water pond surrounded by wetland vegetation. Assessment area is adjacent to Florida's Turnpike. Assessment area provides minimal landscape support due proximity to limited access highway	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.		
	b. Reliability of **water level indicators**.		
	c. Appropriateness of **soil moisture**.	X	
	d. **Flow rates**/points of discharge.		
	e. **Fire frequency**/severity.		
	f. **Type of vegetation**.	X	
	g. **Hydrologic stress** on vegetation.		
	h. **Use by animal**s with hydrologic requirements.		
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).		
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).		
	k. **Water quality data** for the type of community.		
	l. **Water depth, wave energy, and currents**.		
Current: 6 / **With Impact: 0**	Notes: Water levels within assessement area appear approapriate for wetland types. Water quality is affected by proximity to adjacent roadway.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species		
	II. Invasive/exotic plant species	X	
	III. Regeneration/recruitment		
	IV. Age, size distribution.		
	V. Snags, dens, cavity, etc.	X	
	VI. Plants' condition.		
	VII. Land management practices.		
	VIII. Topographic features (refugia, channels, hummocks).		
	IX. Submerged vegetation (only score if present).		
	X. Upland assessment area		
Current: 6 / **With Impact: 0**	Notes: Nuisance vegetation within assessement area is greather than 25% and less than 50%. Fragmented habitat, encroachment of upland or marginal wetland species evident, encroachment of nuisance and exotic species, no signs of wildlife with little chance of wildlife movement from surrounding areas given the location and use of adjacent lands.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.57	0.00

Impact Acres =	0.74

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.42

Impact Delta (ID)	
Current - w/Impact	0.57

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 641 - Wetlands 31, 17, 12, 10, 15, 19, 25, 18)**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641	**PSS/EM1C**	**Impact**	**5.5** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
	Lake Apopka	**N/A**

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

Wetlands are a series of scrub shrub wetlands that lie adjacent to Florida's Turnpike. Wetlands are located within the urban service areas of Ocoee, Winter Garden and Oakland

Assessment area description

Common vegeation within the assessment area consists primarly of primrose willow (*Ludwigia peruviana*), Carolina willow *(Salix caroliniana*), dog fennel (*Eupatorium capillifolium*), Mimosa tree (*Albizia julibrissin*), brazilian pepper *(Schinus terebinthifolia*), Buttonbush (*cephalanthus occidentalis*), wax myrtle (*Myrica cerifera*), air potato (*Dioscorea bulbifera*)

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Florida's Turnpike	**Common throughout Central Florida**

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, flood attenuation	**N/A**

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Small mammals, deer	**These wetlands can proivde foraging opportunities for wood stork (T)**

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

No wildlife observed during field reviews

Additional relevant factors:

These wetlands receive direct stormwater runoff from the adjacent roadway

Assessment conducted by:	Assessment date(s):
C. Dailey	**11/12/2021**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
Florida's Turnpike Widening from South of SR 408 to SR 50	**N/A**	**Wetland type 641 - Wetlands 31, 17, 12, 10, 15, 19, 25, 18)**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**C. Dailey**	**11/12/21**

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

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	X	
	b. **Invasive plant species.**	X	
	c. **Wildlife access** to and from AA (proximity and barriers).		
	d. **Downstream benefits** provided to fish and wildlife.		
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.		
	f. **Hydrologic connectivity** (impediments and flow restrictions).		
	g. **Dependency** of downstream habitats on quantity or quality of discharges.		
	h. Protection of wetland functions provided by uplands (**upland** AAs only).		
Current: 3 / **With Impact: 0**	Notes: Assessment areas are located adjacent to limited access highway or suburban development. Assessment area provides less than moderate landscape support due proximity to limited access highway	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.		
	b. Reliability of **water level indicators**.		
	c. Appropriateness of **soil moisture**.	X	
	d. **Flow rates**/points of discharge.		
	e. **Fire frequency**/severity.		
	f. **Type of vegetation**.	X	
	g. **Hydrologic stress** on vegetation.		
	h. **Use by animal**s with hydrologic requirements.		
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).		
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).		
	k. **Water quality data** for the type of community.		
	l. **Water depth, wave energy, and currents**.		
Current: 4 / **With Impact: 0**	Notes: No treatment of run-off from adjacent roadways. Water levels within assessement area appear approapriate for wetland types. Water quality is affected by proximity to adjacent roadway. Significant levels of trash and debris is apparent within assessment area.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species		
	II. Invasive/exotic plant species	X	
	III. Regeneration/recruitment		
	IV. Age, size distribution.		
	V. Snags, dens, cavity, etc.	X	
	VI. Plants' condition.		
	VII. Land management practices.		
	VIII. Topographic features (refugia, channels, hummocks).		
	IX. Submerged vegetation (only score if present).		
	X. Upland assessment area		
Current: 4 / **With Impact: 0**	Notes: More than 50% of the assessment area consists of nuisance exotic vegetation. Fragmented habitat, encroachment of upland or marginal wetland species evident, encroachment of nuisance and exotic species, no signs of wildlife with little chance of wildlife movement from surrounding areas given the location and use of adjacent lands.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.37	0.00

Impact Delta (ID)	
Current - w/Impact	0.37

Impact Acres =	5.5

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	2.04

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

Appendix H Agency Coordination

Meeting Notes
FDOT, Florida's Turnpike Enterprise – USFWS and FFWCC Technical Assistance
FPID 444007-1-22-01, Turnpike (SR 91) Widening from S of SR 408 to SR 50 (MP 263 to 273)
Orange County

Meeting Date: April 21, 2022
Time: 1:00 PM
Meeting Location: Teams

1) Introduction of Attendees:

- Turnpike Project Manager – Jazlyn Heywood, P.E. (Jazlyn.Heywood@dot.state.fl.us)
- Turnpike Permit Coordinator – Annemarie Hammond (Annemarie.Hammond@dot.state.fl.us)
- Turnpike Permit Coordinator (Atkins) – Tiffany Crosby (Tiffany.Crosby@dot.state.fl.us)
- USFWS Staff – Zakia Williams (Zakia_Williams@fws.gov)
- FWC Staff – Sean Greene (Sean.Greene@MyFWC.com)
- RS&H Senior Environmental Scientist – Chris Dailey (Chris.Dailey@rsandh.com)
- Scalar Senior Environmental Scientist – Kristin Caruso (KCaruso@scalarinc.net)

- In addition to the meeting notes provided here, meeting attendees viewed a PowerPoint presentation. The presentation slides are included at the end of these meeting notes.

2) Project Description

- Following Introductions, Mr. Dailey provided a summary of the project overview.
  - Project is approximately 10 miles, surrounding area consists of urban, agricultural, extractive, and rural land cover. Existing R/W mostly devoid of natural habitat. Adjacent natural lands consist of pine flatwoods, xeric oak, upland forest, and forested, shrub, and marsh wetlands.
  - Florida's Turnpike currently has 8 to 12 lanes (4 travel lanes and up to 2 auxiliary lanes in each direction) within the study limits. This PD&E Study is evaluating widening to 10, 12 or more lanes while also considering milling and resurfacing, bridge construction, and interchange improvements. Interchanges with proposed improvements or modifications on Florida's Turnpike include SR 408, SR 429, SR 50 (Ocoee / Winter Garden), and SR 50 (Clermont / Oakland).
  - ETDM #14378 – Advanced Notification Package published on March 15, 2019

3) Listed Species Discussion:

a) Eastern Indigo Snake (EIS)

- No observations within the project area and no documented occurrences within 1 mile
- Estimated less than 25 acres of xeric habitat will be impacted.
- Determination based on key "A>B>C>D>E **MANLAA**"
- USFWS ETDM comment indicated low probability of EIS in corridor
- Mr. Greene noted that the nearest documented occurrence of the Eastern indigo snake is approximately 1 mile outside of the project area.

b) Sand Skink

- No observations within the project area and no documented occurrences within 5 miles
- Mr. Dailey noted that there are four locations of potential habitat along corridor (outside existing R/W) shown in brown hatching on the attached exhibits.
- It was noted that surveys for skinks following the survey protocol would be conducted during the Design phase if these parcels are proposed for impact, with USFWS technical assistance
- **MANLAA** currently anticipated based on desk-top data
- USFWS ETDM comment indicated low probability of skinks in corridor
- Potential mitigation could be provided by Conservation Bank credit purchase
- Ms. Williams provided informal concurrence with the approach to conduct sand skink surveys during the design phase.

c) Florida scrub-jay

- Ms. Caruso noted that there were observations within the project area and no documented occurrences within 7 miles.
- Ms. Caruso noted that three locations of suboptimal habitat along corridor (outside existing R/W) were informally surveyed during field reviews. No scrub-jays were observed.
- **MANLAA** anticipated with no design-phase species-specific surveys proposed
- USFWS ETDM comment indicated no suitable habitat in corridor
- Ms. Williams provided informal concurrence that this project is not likely to adversely affect the Florida scrub-jay, and it is unlikely that surveys will be required during the design phase.

d) Wood stork

- Project includes up to 36 acres of suitable foraging habitat within the project area
- One (1) observation within the project area
- Located within the 15-mile core foraging area (CFA) of three (3) nesting colonies
  - Lake Lawne
  - Gatorland
  - Eagle Nest Park
- Foraging analysis to determine biomass loss and mitigation reservation to occur via ERP during Design
- Determination based on key "A>B>C>D>E **MANLAA**"
- Ms. Williams noted that she informally concurred with the MANLAA recommendation for the wood stork.

e) Snail Kite

- Project includes minimal suitable habitat within the project area
- No observations within the project area and no documented occurrences within 17 miles
- **MANLAA** anticipated with no design-phase species-specific surveys proposed

f) Listed Plants

- Ms. Caruso noted that there are 15 listed plant species with potential to occur based on historic records and remnant habitats
- Surveys were conducted during flowering season where possible to maximize identification
- Florida bonamia- last recorded in area 1987
- **No effect** anticipated
- Ms. Crosby noted that the Turnpike to coordinate with Florida Department of Agriculture and Consumer Services (FDCAS) or NGO's regarding the potential relocation of any listed plants during the design phase.

g) Bald Eagle Coordination

- A map showing 4 nests observed within 660 feet of proposed alignments was provided:
  - OR110- last known active 2021
  - OR018- last known active 2020
  - OR052- last known active 2020
  - OR039- last known active 2021
- The project will include updated surveys during the Design phase and USFWS coordination at that time for any impacts that cannot be addressed with avoidance and minimization measures
- Ms. Williams recommended coordinating with Ulgonda Kirkpatrick (USFWS) (Ulgonda_Kirkpatrick@fws.gov, 321-972-9089) during the design phase regarding bald eagle nests.

h) State listed species- all no adverse effect anticipated

- Gopher tortoise- identified, suboptimal habitat, surveys and permitting during Design
- Short-tailed snake- none found, suboptimal habitat
- Florida pine snake- none found, suitable habitat adjacent to corridor
- Florida burrowing owl- none found during field reviews, no optimal habitat
- Southeastern American kestrel- none found during field reviews, no optimal habitat
- Florida sandhill crane- no nests found, potential nesting and foraging adjacent to corridor
- Wading birds- wetland mitigation expected to offset habitat impacts
- Several potential state-listed plants with nodding pinweed most likely to occur based on historic records and remnant habitats- last recorded in area 2007. None found.

4) Anticipated Permits

- Section 404 Dredge and Fill Permit (FDEP Assumed Waters)
- Environmental Resource Permit (ERP – SJRWMD)
- National Pollutant Discharge Elimination System (NPDES – FDEP)
- Gopher Tortoise Relocation Permit (as necessary) (FFWCC)
- Incidental Take Permit (as necessary – FFWCC)
- Incidental Take Permit (as necessary – USFWS)

5) Wildlife Crossings

- None proposed; corridor not identified as warranting a crossing

6) Roundtable/Questions/Comments

- Mr. Greene noted that, as a condition of the 404 permit, the following will be required:
  - Gopher tortoise surveys
  - Sandhill crane nest survey
  - Wood stork foraging habitat mitigation

Meeting concluded at 1:40 pm

Attachment: Presentation Slides

Florida Department of TRANSPORTATION

Turnpike (SR 91) Widening

Project Development and Environment (PD&E) Study

from South of SR 408 to SR 50 (MP 263 to 273)
Orange County
Project Number: 444007-1

Thursday, April 21, 2022

Technical Assistance Meeting Agenda

1. Introductions
2. Project Overview
3. Listed Species
4. Discussion

1

Study Limits

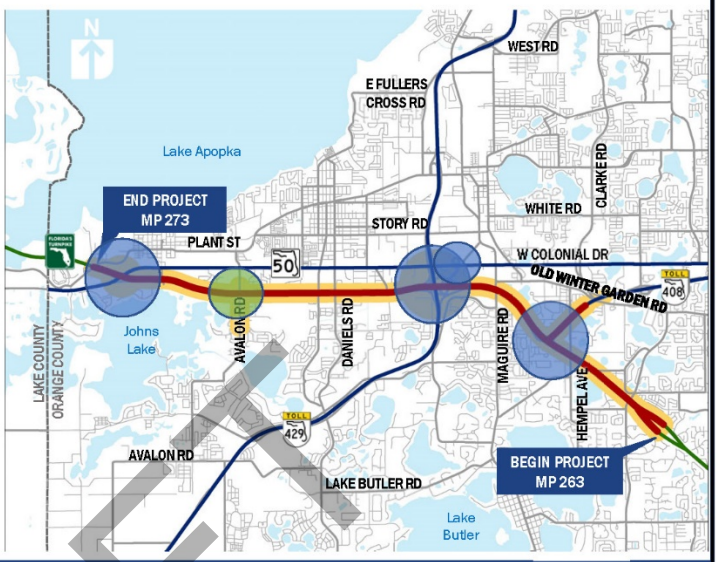
- Florida's Turnpike (SR 91) from south of SR 408 to SR 50 (Clermont/Oakland)
  - Mile Post 263 to 273 (Approximately 10 miles)
- SR 408 from SR 91 to Old Winter Garden Road
  - Approximately 1 mile

2

Study Scope

Includes the evaluation of:

- Existing and future (2045) traffic conditions
- Modifications to existing interchanges
  - SR 408
  - SR 50 (Ocoee/Winter Garden)
  - SR 429
  - SR 50 (Clermont/Oakland)
- Potential new local access interchange evaluated but later eliminated – Avalon Road



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Protected Species and Habitat

- Federally Listed Species

Species	Common Name	USFWS Status	Habitat Proximity	Potential for Occurrence	Comments
			Birds		
Aphelocoma coerulescens	Florida scrub-jay	T	Near R/W	Low	Potential habitat limited. Historical occurrence south of project limits.
Rostrhamus sociabilis	Snail kite	E	Near R/W	Low	Habitat preferences are edges of large lakes; low likelihood within corridor.
Mycteria americana	Wood stork	T	Within R/W	High	Suitable foraging habitat consists of shallow inundated areas.
			Reptiles		
Neoseps reynoldsi	Sand skink	T	Within R/W	Low	Potential habitat limited to four areas with appropriate soils/elevation.
Drymarchon couperi	Eastern indigo snake	T	Within R/W	Low	Could occur in most undeveloped areas; correlation with gopher tortoise burrows.

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Protected Species and Habitat

- Federally Listed Species (continued)

Plants					
Bonamia grandiflora	Florida bonamia	E	Within R/W	Low	Historical occurrence in general region of FTE service plaza. Limited, sub-optimal habitat.
Chionanthus pygmaeus	Pygmy fringe tree	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Clitoria fragrans	Scrub pigeon-wing	T	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Conradina brevifolia	Short-leaved rosemary	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Deeringothamnus pulchellus	Beautiful pawpaw	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Eriogonum longifolium var. *gnaphalifolium*	Scrub buckwheat	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Liatris ohlingerae	Florida blazing star	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Lupinus aridorum	Scrub lupine	E	Within R/W	Low	Historical occurrence at SR 408 interchange (**Appendix D**) and general region of FTE service plaza. Limited, sub-optimal habitat.
Nolina brittoniana	Britton's beargrass	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Paronychia chartacea ssp. chartacea	Paper-like nailwort	T	Within R/W	Low	Historical occurrence south of project limits. Limited, sub-optimal habitat.
Polygala lewtonii	Lewton's polygala	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Polygonella myriophylla	Small's jointweed	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Prunus geniculata	Scrub plum	E	Within R/W	Low	Historical occurrence south of project limits. Limited, sub-optimal habitat.
Warea amplexifolia	Clasping warea	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.
Warea carteri	Carter's warea	E	Within R/W	Low	None observed. Limited, sub-optimal habitat.

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Protected Species and Habitat – Species Keys

- Eastern indigo snake
  - FTE will implement the Standard Protection Measures for the Eastern Indigo Snake during construction
  - Determination of Effect Key: (A>B>C>D>E) "MANLAA"
- Wood stork
  - SFH analysis will be prepared during design and permitting
  - Wetland mitigation, as credit purchase from a USFWS-approved mitigation bank, will offset impacts within the CFA of one or more of the affected colonies.
  - Determination of Effect Key: (A>B>C>D>E) "MANLAA"

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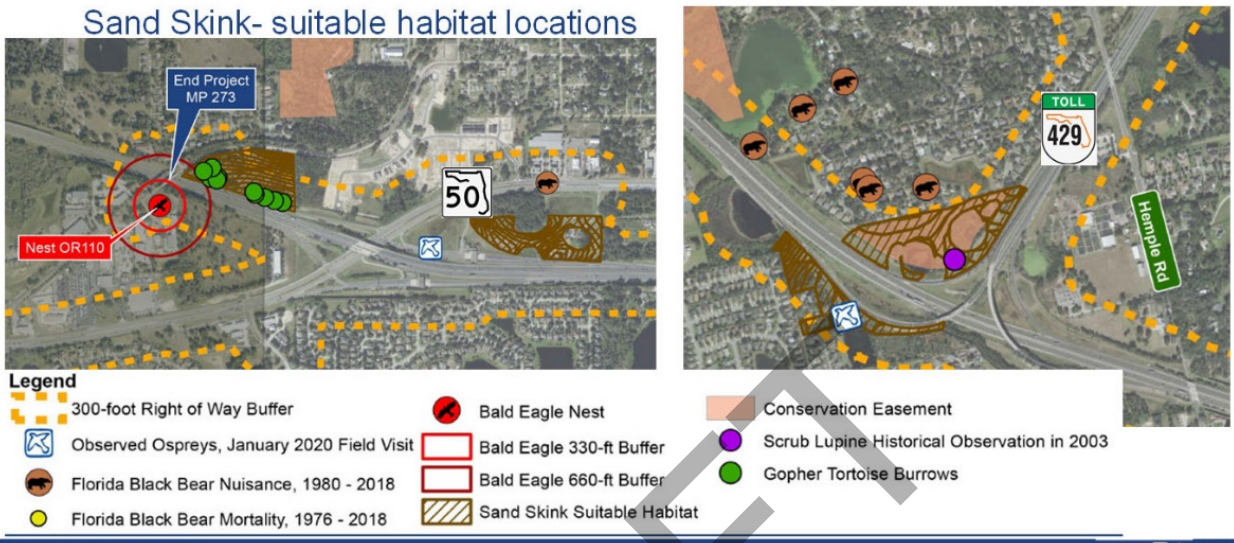
Protected Species and Habitat

- Federally Listed Species

Sand Skink- suitable habitat locations



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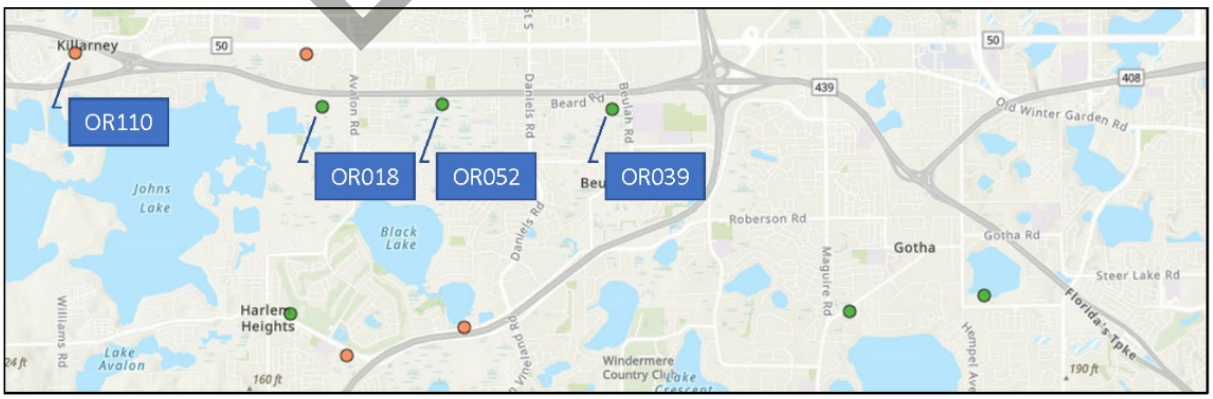
Protected Species and Habitat

- Bald Eagle Nests



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Protected Species and Habitat- Summary

- Proposed Determinations for Federally Listed Species
- The project "may affect, but is not likely to adversely affect" the following federally listed species:
  - Sand skink
  - Florida scrub-jay
  - Eastern indigo snake
  - Snail kite
  - Wood stork
- The project will have "no effect" on:
  - Federally listed plants

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Protected Species and Habitat

- State-Listed Species

Species	Common Name	FWC Status	Habitat Proximity	Potential for Occurrence	Comments
			Birds		
Athene cunicularia floridana	Florida burrowing owl	T	Within R/W	Moderate	No known presence nearby but could occur in open upland areas.
Egretta caerulea	Little Blue Heron	T	Within R/W	Moderate	Prefers wetlands/surface waters.
Egretta tricolor	Tricolored Heron	T	Within R/W	Moderate	Prefers wetlands/surface waters.
Falco sparverius paulus	Southeastern American kestrel	T	Within R/W	Moderate	Several disturbed uplands and open areas present that could provide habitat.
Grus canadensis pratensis	Florida sandhill crane	T	Within R/W	Moderate	Foraging habitat varies among many habitat types; prefers sparse canopy or open land.
			Reptiles		
*Gopherus polyphemus**	Gopher tortoise	T	Within R/W	High	Burrows observed within and adjacent to R/W.
Lampropeltis extenuata	Short-tailed snake	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411 and 421.
Pituophis melanoleucus mugitus	Florida pine snake	T	Within R/W	Low	Prefers pine-dominated uplands (such as FLUCFCS codes 411 and 441)
Platalea ajaja	Roseate Spoonbill	T	Within R/W	Moderate	Prefers wetlands/surface waters.

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Protected Species and Habitat

- State-Listed Species (plants)

Plants					
Agrimonia incisa	Incised groove-bur	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Arnoglossum diversifolium	Variable-leaved Indian-plantain	T	Within R/W	Low	Potential habitat includes sandhill.
Calamintha ashei	Ashe's savory	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Calopogon multiflorus	Many-flowered grass-pink	E	Within R/W	Moderate	Potential habitat includes wetlands.
Carex chapmanii	Chapman's sedge	T	Within R/W	Moderate	Potential habitat includes wetlands.
Centrosema arenicola	Sand butterfly pea	E	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Coelorachis tuberculosa	Piedmont jointgrass	T	Within R/W	Moderate	Potential habitat includes wetlands.
Hartwrightia floridana	Hartwrightia	T	Within R/W	Moderate	Potential habitat includes wetlands.
Illicium parviflorum	Star anise	E	Within R/W	Moderate	Potential habitat includes wetlands.
Lechea cernua	Nodding pinweed	T	Within R/W	Low	Historical occurrence south of project limits. Potential habitat limited to FLUCFCS codes 411, 421, and xeric disturbed land.
Litsea aestivalis	Pondspice	E	Within R/W	Moderate	Potential habitat includes wetlands.
Matelea flordana	Florida spiny-pod	E	Within R/W	Low	Potential habitat includes uplands.
Nemastylis floridana	Celestial lily	E	Within R/W	Moderate	Potential habitat includes wetlands.
Nolina atopocarpa	Florida beargrass	T	Within R/W	Low	Potential habitat includes uplands.
Panicum abscissum	Cutthroat grass	E	Within R/W	Moderate	Potential habitat includes wetlands.
Pteroglossaspis ecristata	Giant orchid	T	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.
Salix floridana	Florida willow	E	Within R/W	Moderate	Potential habitat includes wetlands.
Schizachyrium niveum	Scrub bluestem	E	Within R/W	Low	Potential habitat limited to FLUCFCS codes 411, 421, & xeric disturbed land.

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Protected Species and Habitat

- Proposed Determinations for State Listed Species
- The project will have "no adverse effect anticipated" on the following state listed species:
  - Florida burrowing owl;
  - Southeastern American kestrel;
  - Gopher tortoise;
  - Wading birds including little blue heron, tricolored heron, and roseate spoonbill;
  - Florida sandhill crane;
  - Short-tailed snake;
  - Florida pine snake;
  - Many-flowered grass-pink;
  - Chapman's sedge;
  - Piedmont jointgrass;
  - Hartwrightia;
  - Star anise;
  - Pondspice;
  - Celestial lily;
  - Cutthroat grass; and
  - Florida willow.

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Schedule

Project Milestones	2019		2020				2021				2022		
	July - September	October - December	January - March	April - June	July - September	October - December	January - March	April - June	July - September	October - December	January - March	April - June	July - September
Begin Study	◆												
Data Collection	▬	▬	▬										
Public Input			▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
Public Kickoff Open House			◆										
Alternatives Analysis			▬	▬	▬	▬	▬	▬	▬	▬			
Alternatives Public Information Meeting										◆			
Alternatives Refinement and Documentation										▬	▬		
Public Hearing												◆	
Finalize Documents												▬	
State Environmental Impact Report (SEIR) Approved – Study Completed													◆

Tentative – Subject to Change

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Project Contacts

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