DRAFT PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

District 5

S.R. 60 Project Development and Environment (PD&E) Study

Limits of Project: Prairie Lake Road to Florida's Turnpike

Osceola County, Florida

Financial Management Number: 452574-1

ETDM Number: 14563

September 2025

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

This item has been digitally signed and sealed by *[Insert P.E. Name]* on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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ACRONYM LIST

AADT	Annual Average Daily Traffic
ADA	American Disabilities Act
APE	Area of Potential Effects
C.R.	County Road
DHR	Division of Historical Resources
DOE	Degree of Effect
EJ	Environmental Justice
EPA	Environmental Protection Agency
ETAT	Environmental Technical Advisory Team
ETDM	Efficient Transportation Decision Making
FDOT	Florida Department of Transportation
FDEM	Florida Division of Emergency Management
FDEP	Florida Department of Environmental Protection
FHWA	Federal Highway Administration
FLUCFCS	Florida Land Use Cover and Forms Classifications Systems
FPPA	Farmland Protection Policy Act
GIS	Geographic Information System
ILC	Intermodal Logistics Center
LOS	Level of Service
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PD&E	Project Development and Environment
ROW	Right of way
SDR	Sociocultural Data Report
SHPO	State Historic Preservation Officer
SIS	Strategic Intermodal System
SJRWMD	St. Johns River Water Management District
S.R.	State Road
SWFWMD	Southwest Florida Water Management District
TIP	Transportation Improvement Program
USDA-NRCS	United State Department of Agriculture-Natural Resources Conservation Service
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
vpd	Vehicles Per Day

1.0 PROJECT SUMMARY

This Preliminary Engineering Report (PER) contains detailed engineering information that documents the purpose and need, the alternatives developed, the process of selecting the Preferred Alternative, and presents the preliminary design analysis for the Preferred Alternative for the S.R. 60 PD&E Study from Prairie Lake Road to Florida's Turnpike in Osceola County, Florida.

1.1 PROJECT DESCRIPTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate improvements to S.R. 60 in Osceola County, Florida. The project is within the jurisdiction of the MetroPlan Orlando Transportation Planning Organization (TPO). The improvements evaluated by this PD&E Study include widening the existing roadway from two to four lanes from Prairie Lake Road to Florida's Turnpike, approximately 20 miles in length.

S.R. 60 begins in Clearwater Beach on the west coast of Florida and continues east to the east coast of Florida where it terminates in Vero Beach (approximately 160 miles in length). Much of this roadway is a divided four-lane highway except for a 27-mile (+/-) section beginning at County Road (C.R.) 630E in Polk County and ending at Florida's Turnpike in Osceola County. A PD&E Study was completed in 2019 for S.R. 60 from C.R. 630E to east of the Kissimmee River bridge (approximately 7 miles) and included transitions which ended just west of Prairie Lake Road in Osceola County. Within the study limits, S.R. 60 is a two-lane undivided rural principal arterial other with paved shoulders and roadside ditches that runs in an east and west direction with a posted speed of 60 miles per hour (mph) to just west of U.S. 441/ S.R. 15 (Kenansville Road) where the speed transitions to 45 mph. No transit facilities or dedicated bicycle and pedestrian facilities are currently provided. The existing right of way (ROW) is generally 100 feet in width. Alternatives under consideration include widening the existing 2-lane rural roadway to a 4-lane rural roadway with paved shoulders and roadside ditches. There is one existing bridge (Bridge No. 920172) over Blanket Bay Slough within the study limits.

S.R. 60 is part of the Florida Strategic Intermodal System (SIS) and is designated by MetroPlan Orlando as a Regional Freight Mobility Corridor. S.R. 60 is also designated by the Florida Division of Emergency Management (FDEM) as an evacuation route.

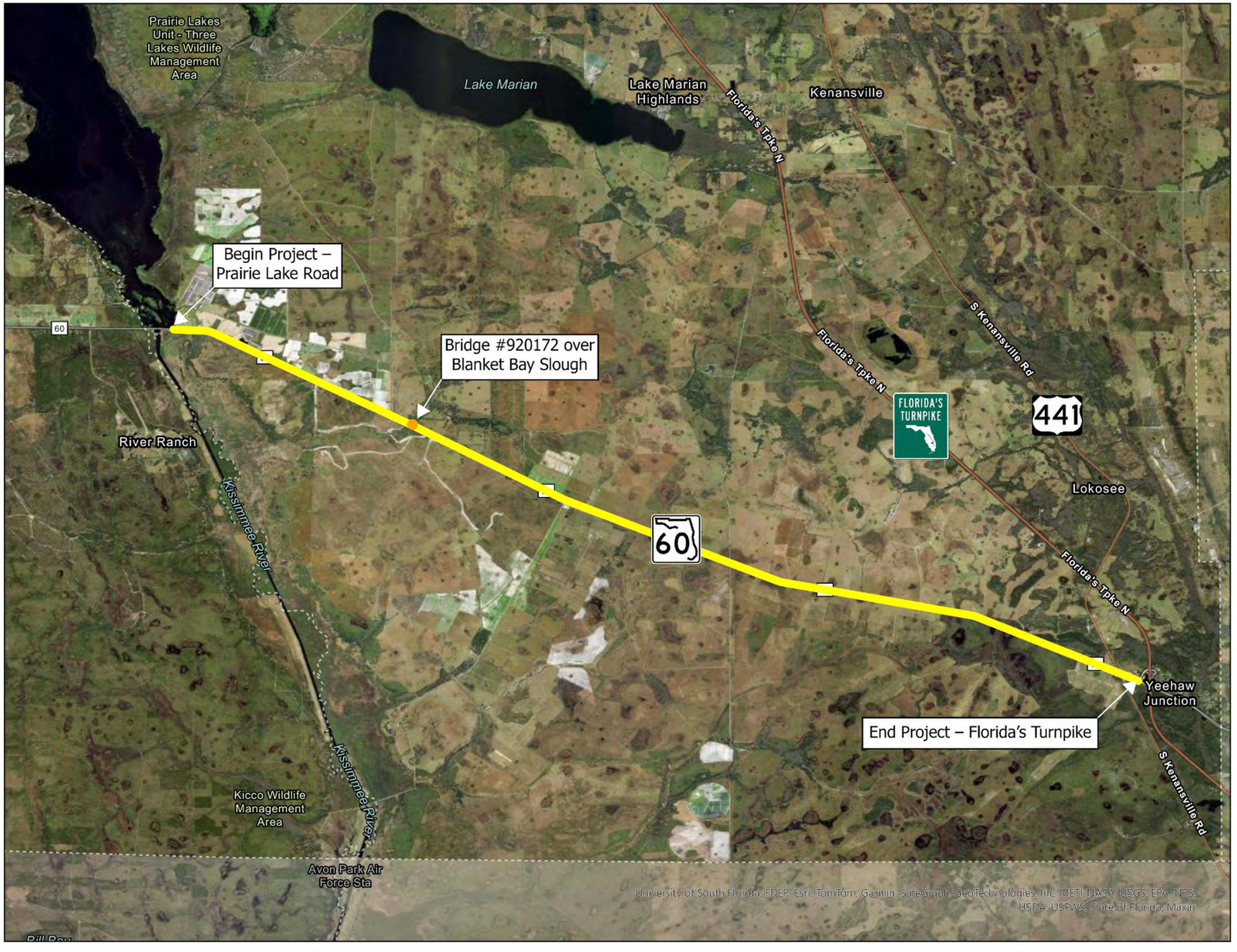
A project location map is shown in **Figure 1-1**.

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 1-1
Project Location



Data Source: N/A
Spatial Reference: WGS 1984
Date: 7/7/2025

N

1 in = 2 mi when printed at 11x17"

0 1 2

Miles

FDOT

1.2 PURPOSE & NEED

1.2.2 PURPOSE AND NEED

The purpose of this project is to provide additional roadway capacity and safety improvements from Prairie Lake Road to Florida's Turnpike. The primary needs for this project are to meet existing and future capacity/travel demand and improve safety. Additional details regarding these primary needs are discussed in the following sections.

1.2.2.1 CAPACITY/TRANSPORTATION DEMAND

The existing year (2025) Annual Average Daily Traffic (AADT) volumes for the S.R. 60 study corridor range between 10,000 vehicles per day (vpd) and 14,000 vpd. The roadway currently operates at Level of Service (LOS) B. Based on the approved Osceola County Comprehensive Plan's future land-uses, the design year (2050) AADT volumes for the study corridor are projected to range between 24,000 vpd and 29,500 vpd (**Table 1-1**). Based on the future growth in travel demand, the existing two-lane undivided roadway is projected to operate at LOS F in the design year. The minimum acceptable LOS for S.R. 60 as a SIS facility is LOC C.

Table 1-1: EXISTING AND FORECAST TRAFFIC VOLUMES

Roadway/Segment	Existing Year (2025) AADT / LOS	Design Year (2050) No-Build AADT / LOS
From Prairie Lake Road to Kenansville Road	10,000 – 10,500 / LOS B	24,000 – 24,500/ LOS F
From Kenansville Road to Turnpike Ramps	13,500 – 14, 000/ LOS B	29,000 – 29,500/ LOS F

1.2.2.2 SAFETY

Based on a review of crash data for the year 2020 to 2024 there were a total of 334 crashes within the project limits. Of the 334 crashes, 158 occurred within the area of influence of three intersections (S.R. 60 at Peavine Road, S.R. 60 at Kenansville Road, and S.R. 60 at Turnpike Ramps). There were nine fatalities, 123 injury crashes, and the remaining 202 resulting in property damage only. Seven of the nine fatal crashes were the result of head-on collisions. Safety analysis indicates that slow moving truck traffic (approximately 30 percent of the daily traffic is trucks) is likely contributing to unsafe passing maneuvers within the project limits.

Existing curve features were compiled from available project plans and FDOT Straight Line Diagram (SLD) information. Upon reviewing the existing S.R. 60 horizontal alignment, two of the six curves (MP 12.932 and MP 16.623) meet the minimum 400-foot curve length requirement but are less than desirable for a 65 mph design speed with existing horizontal curve lengths. One curve within the study limits (MP 8.561) was documented by a Design Exception in the previous resurfacing project (FPID# 428867-1) for a deficient curve length, and an additional curve (MP

19.847) is deficient for curve length based on SLD information. A table summarizing the existing horizontal alignment is provided in **Chapter 2, Table 2-4**.

1.2.3 PROJECT STATUS

S.R. 60 is located within the jurisdiction of MetroPlan Orlando, the Metropolitan Planning Organization (MPO) covering Orange, Osceola and Seminole Counties. Funding for the PD&E Study is currently included in the Florida Department of Transportation (FDOT) 2025-2030 Work Program (Work Program) in Fiscal Year (FY) 2029. Amendments to the FDOT Work Program to PD&E funding into FY 2025 are ongoing. Amendments to revise the Cost Feasible Plan of the 2045 Metropolitan Transportation Plan/Long Range Transportation Plan (MTP/LRTP) and the 2025-2029 MetroPlan Orlando Transportation Improvement Program (TIP) are ongoing. A State Transportation Improvement Program (STIP) amendment will follow the inclusion of the project in the MTP/LRTP and TIP. There is currently no funding for the ROW or construction phases.

1.3 COMMITMENTS

The FDOT has made a series of commitments and recommendations during this PD&E Study. The following sections summarize the commitments and recommendations that will be adhered to during the future transportation phases:

1. TBD.

1.4 ALTERNATIVES ANALYSIS SUMMARY

The alternatives analysis was conducted with a two-phase approach. Phase I was initial planning (sketch level planning) where improvement concepts were evaluated based on purpose and need, costs, constructability, and potential environmental fatal flaws. Concept development was iterative and considered various typical sections and alignments, Phase 2 was a detailed evaluation of the Build Alternative that was selected during the Phase 1 analysis with respect to engineering and environmental impacts. An evaluation matrix was developed to compare the No-Build and Build Alternative.

For purposes of analysis, two primary project segments were identified based on land use context and projected traffic volumes.

- Segment 1: From Prairie Lake Road to U.S. 441 (Kenansville Road)
- Segment 2: From Kenansville Road to Florida's Turnpike

1.4.1 NO-BUILD ALTERNATIVE

The No-Build Alternative assumes no improvements will be made to S.R. 60 within the study area other than routine maintenance or already programmed improvements. This includes the S.R. 60 passing lanes project from Blanket Bay Slough to Peavine Road (FPID# 443702-1). The No-Build Alternative serves as the baseline against which the build alternatives are evaluated but does not address the purpose and need for this project and offers no future capacity, operational, or safety improvements. Based on programmed improvements, the existing typical section evaluated for the No-Build Alternative in Segment 1 is primarily a two-lane undivided rural typical section with limited locations utilizing a three-lane typical section for passing lane accommodations. Also

within Segment 1 is an existing two-lane bridge over Blanket Bay Slough (Bridge# 920172). Segment 2 includes a two-lane rural section with a center two-way left turn lane. The typical sections along S.R. 60 within the study limits are provided in **Figures 1-2 through 1-4** below.

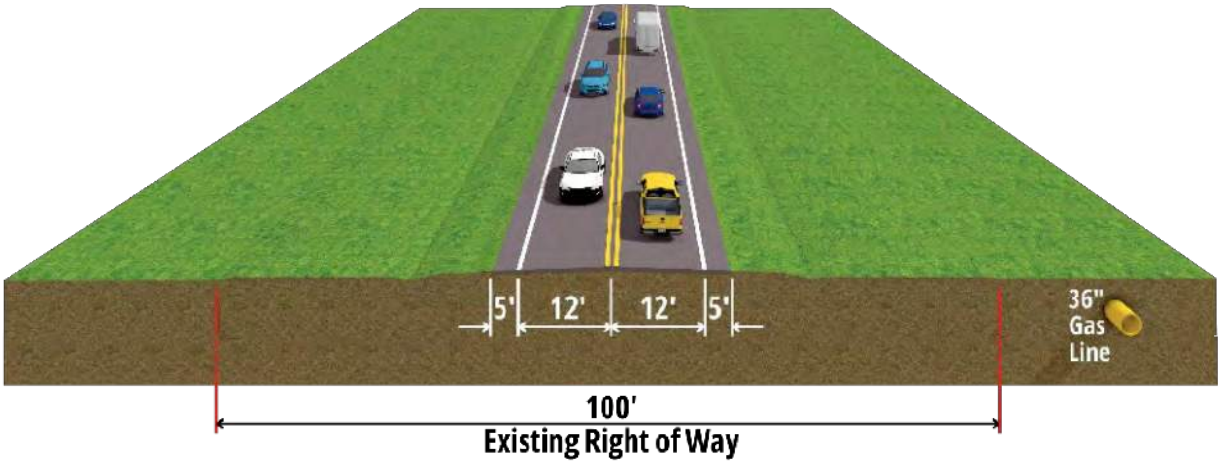


Figure 1-2: S.R. 60 EXISTING TYPICAL SECTION 1 (PRAIRIE LAKE ROAD TO KENANSVILLE ROAD)

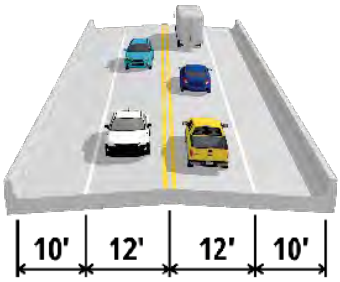


Figure 1-3: S.R. 60 EXISTING TYPICAL SECTION 2 (BRIDGE #920172 OVER BLANKET BAY SLOUGH)

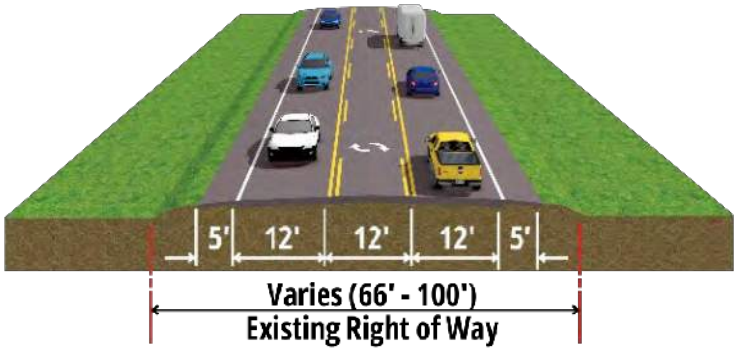


Figure 1-4: S.R. 60 EXISTING TYPICAL SECTION 3 (KENANSVILLE ROAD TO FLORIDA'S TURNPIKE)

1.4.2 BUILD ALTERNATIVE

Within Segment 1, the Build Alternative proposes to widen S.R. 60 from a two-lane undivided rural roadway to a four-lane rural divided highway. The design speed for Segment 1 is 65 mph. The alignment for Segment 1 includes a shift of the existing alignment to the north while holding the existing southern ROW. Additionally, the Build Alternative will improve roadway horizontal curve geometry.

Within Segment 2, the Build Alternative proposes to widen S.R. 60 from a two-lane typical section with a two way center turn lane to a four-lane urban roadway. The design speed for Segment 2 is 45 mph. Segment 2 utilizes a best fit alignment to minimize impacts to the adjacent commercial properties.

1.4.3 EVALUATION MATRIX

The comparative analysis including purpose and need, cost, engineering factors and environmental impacts for the Build and No-Build Alternatives is presented in **Table 5-4**. The Build Alternative addresses the purpose and need for the project but will result in environmental impacts. The No-Build will not result in direct environmental impacts but does not accommodate existing or future traffic demand nor the need to improve safety within the study limits. The estimated cost of the Build Alternative is $418.1 million.

1.5 DESCRIPTION OF PREFERRED ALTERNATIVE

The Build Alternative was selected as the Preferred Alternative because it addresses the purpose and need for the project by adding capacity to S.R. 60 and thereby accommodating projected future traffic growth in the project area. Additionally, constructing additional lanes and improving the existing curve geometry will improve safety throughout the corridor.

Within Segment 1, the Preferred Alternative consists of widening S.R. 60 from the existing two-lane rural roadway with paved shoulders and roadside ditches to a four-lane rural roadway with paved shoulders, a grassed median, and roadside ditches.

The Preferred Alternative typical section for Segment 1 includes two 12-foot-wide travel lanes in each direction, 12-foot wide (five-foot paved) outside shoulders, a 40-foot depressed grassed median, and open ditches for stormwater treatment and conveyance as shown in **Figures 1-5 through 1-7**. Additional ROW to the north will be required to widen S.R. 60.

Within Segment 2, the Preferred Alternative consists of widening S.R. 60 from the existing two-lane rural roadway with two-way center turn lane, paved shoulders, and roadside ditches to a four-lane urban roadway with bicycle lanes, sidewalks, and closed drainage conveyance. The typical section for Segment 2 includes two 12-foot-wide lanes in each direction, 7-foot bike lanes with curb and gutter, a 22-foot grassed median, and a 220-foot-wide raised grassed median as shown in **Figure 1-8**.

The concept plans for the Preferred Alternative are provided in **Appendix A**.

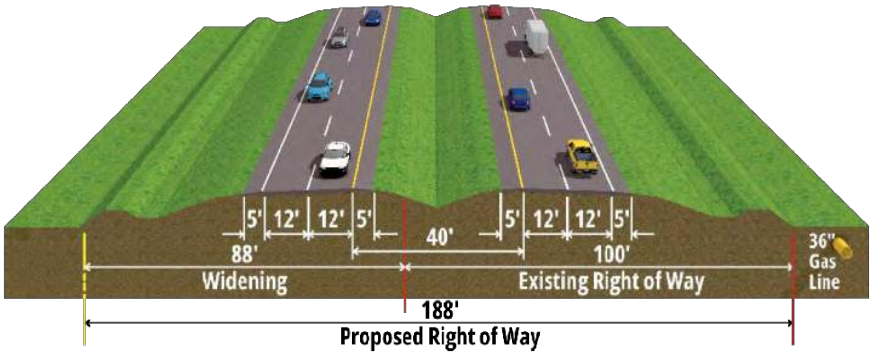


Figure 1-5: S.R. 60 PREFERRED TYPICAL SECTION 1
(WEST OF PRAIRIE LAKE ROAD TO EAST OF PRAIRIE LAKE ROAD)

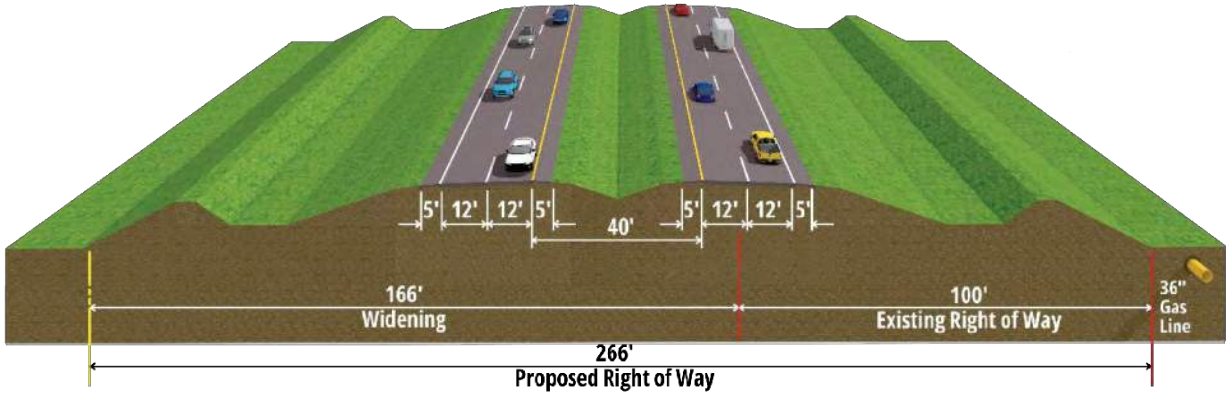


Figure 1-6: S.R. 60 PREFERRED TYPICAL SECTION 2
(EAST OF PRAIRIE LAKE ROAD TO WEST OF KENANSVILLE ROAD)

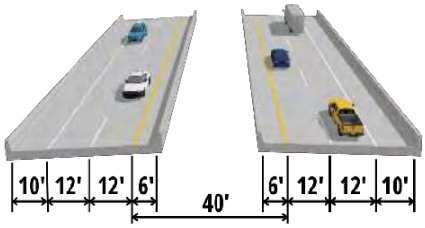


Figure 1-7: S.R. 60 PREFERRED TYPICAL SECTION 3
(BLANKET BAY SLOUGH BRIDGES)

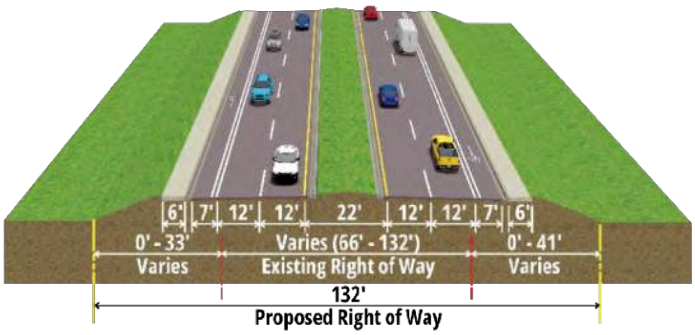


Figure 1-8: S.R. 60 PREFERRED TYPICAL SECTION 4
(WEST OF KENANSVILLE ROAD TO FLORIDA'S TURNPIKE)

1.6 LIST OF TECHNICAL DOCUMENTS

The following technical, environmental, and public involvement documents are referenced in support of the Preliminary Engineering Report. These documents are in the process of being finalized.

- Typical Section Package (TSP)
- Water Quality Impacts Evaluation (WQIE)
- Project Traffic Analysis Report (PTAR)
- Conceptual Drainage Design Report (CDDR)
- Location Hydraulics Report (LHR)
- Utilities Assessment Package (UAP)
- Natural Resources Evaluation (NRE)
- Cultural Resource Assessment Survey (CRAS)
- Farmlands Assessment
- Noise Study Report (NSR)
- Public Involvement Plan (PIP)—June 2025
- Public Hearing Transcript
- Comments and Coordination Report (CCR)
- Contamination Screening Evaluation Report (CSER)

2.0 EXISTING CONDITIONS

This section summarizes existing physical, social, and environmental features. A review of available plans and documents as well as field investigations provide the data for analysis. Some of the features evaluated include roadway characteristics, existing ROW, posted speed limits, traffic conditions, crash history, geotechnical information, and drainage information. Important project features along S.R. 60 such as the existing social and environmental characteristics were also reviewed.

2.1 PREVIOUS PLANNING STUDIES

S.R. 60 in Osceola, Polk, and the surrounding counties has been the focus of several projects as part of an ongoing effort aimed at enhancing overall safety and improving LOS. A PD&E study (433586-1) was performed for the segment of S.R. 60 immediately west of Prairie Lake Road. A separate PD&E study (423374-2) for Florida's Turnpike widening from north of S.R. 70 to north of S.R. 60 is nearing completion. Safety studies have been conducted for passing lanes and curve and intersection safety within the limits of this study. These studies were taken into consideration when identifying potential improvements along S.R. 60.

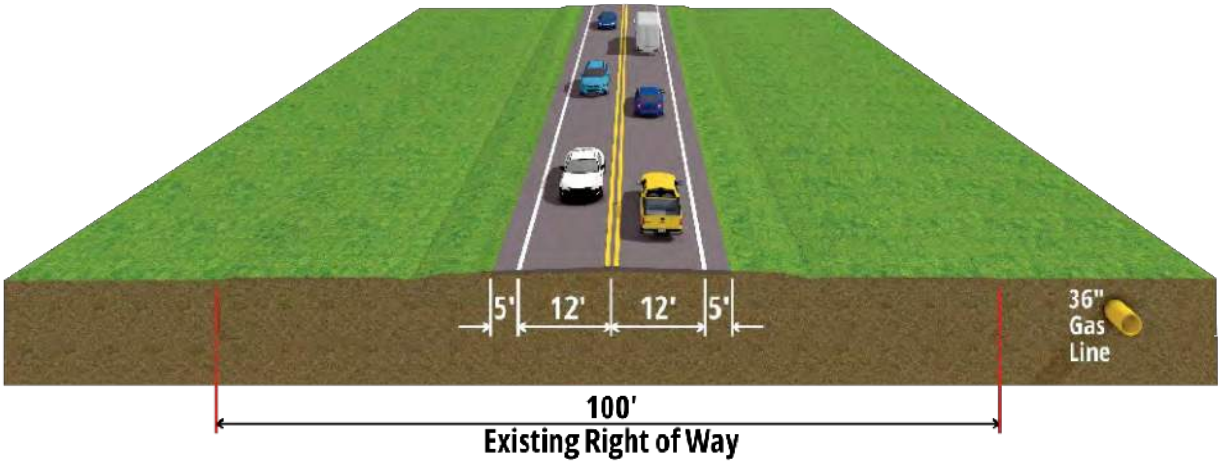
2.2 EXISTING ROADWAY CONDITIONS

2.2.1 ROADWAY TYPICAL SECTIONS

The existing typical section for Segment 1 is primarily a two-lane undivided roadway with 12-foot travel lanes. Four-foot paved shoulders are provided with an open drainage system for stormwater conveyance. There are two existing segments utilizing a three-lane typical section for passing lane accommodations and one additional segment of passing lanes currently in construction. The existing typical section for this segment of S.R. 60 is shown in **Figure 2-1**.

Within Segment 1 is an existing undivided two-lane bridge over Blanket Bay Slough (Bridge# 920172). The bridge includes a 12-foot travel lane and 10-foot shoulder in each direction. The existing bridge typical section is shown in **Figure 2-2**.

The existing typical section for Segment 2 is a 2-lane undivided rural section with a center two-way left turn lane. The travel lanes and center turn lane are each approximately 12-foot-wide. Five-foot paved shoulders and an open drainage system are also provided in this segment. The existing typical section for this segment of S.R. 60 is shown in **Figure 2-3**.



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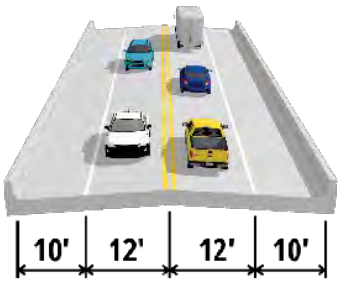


Figure 2-2: S.R. 60 EXISTING TYPICAL SECTION 2
(BRIDGE #920172 OVER BLANKET BAY SLOUGH)

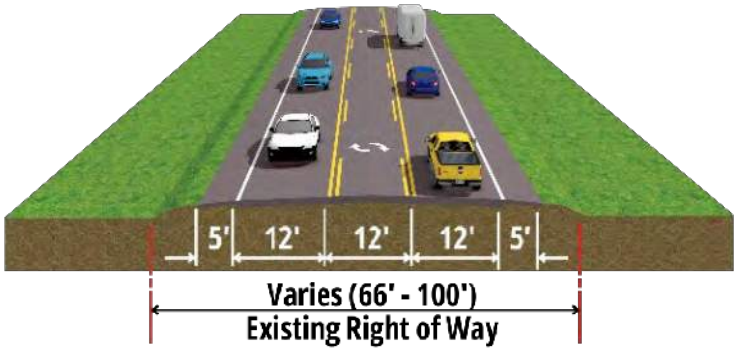


Figure 2-3: S.R. 60 EXISTING TYPICAL SECTION 3
(KENANSVILLE ROAD TO FLORIDA'S TURNPIKE)

2.2.2 ROADWAY FUNCTIONAL & CONTEXT CLASSIFICATIONS

S.R. 60 within the study area is functionally classified as a "Rural Principal Arterial-Other". S.R. 60 is part of the Florida Strategic Intermodal System (SIS) and is designated by MetroPlan Orlando as a Regional Freight Mobility Corridor. S.R. 60 is also designated by FDEM as a hurricane evacuation route.

The context classifications are C2 – Rural and C3R — Suburban Residential for Segment 1 and Segment 2, respectively.

2.2.3 ACCESS MANAGEMENT CLASSIFICATION

Although S.R. 60 is an undivided roadway, the existing corridor is designated Access Class 3 (restrictive) within the study limits. Access Class 3 roadways are controlled access facilities where direct access to abutting land is controlled to maximize the operation of the through traffic movement. The land adjacent to these roadways is generally not extensively developed and/or the probability of significant land use change is very low. These roadways are distinguished by existing or planned restrictive medians.

Requirements for this access class are detailed in **Table 2-1**.

Table 2-1: ACCESS CLASS REQUIREMENTS

Access Class	Minimum Opening Spacing			Minimum Connection Spacing	
	Signal	Full	Directional	≤ 45 mph	> 45 mph
3	2,640	2,640	1,320	440	660

Within Segment 1, most of the existing connections along the corridor generally meet spacing requirements with the exception of a few locations. In Segment 1, one driveway on the north side of the current alignment just west of Florida National Scenic Trail is less than the 660-foot requirement from the nearest adjacent access driveway. The minimum opening spacing for the two existing signalized intersections, the Kenansville Road intersection and the signal for the Turnpike ramps, is approximately 2,100 feet, a variance from criteria of 20%. In addition, most of the driveways on both the north and south sides of S.R. 60 in Segment 2 are less than the required 440-foot spacing requirement.

2.2.4 RIGHT OF WAY

Florida Department of Transportation ROW maps and Osceola County property appraiser GIS files were used to determine the apparent ROW of S.R. 60 within the project limits. Within Segment 1, the existing ROW width along the corridor is typically 100-foot with a few areas where it varies just east and west of Prairie Lake Road. Within Segment 2, existing ROW varies from 66 to 100 feet but is generally 100 feet in width. Existing ROW, property lines and other features along the project corridor are provided on the PD&E concept plans in **Appendix A**.

2.2.5 EXISTING LAND USE

Existing land use within the 500 foot buffer of the project is summarized in **Table 2-2**. Most of the existing land use along the S.R. 60 corridor is categorized as Agricultural (97.9%), with the remaining land use including Residential, Rural, Commercial, Planned Commercial Development, Planned Development, and Rural Settlement. The existing land use map is provided in **Appendix G**.

Table 2-2: EXISTING LAND USE

Land Use	Acres within 500'	Percent within 500' Study Area
Agricultural	12421.06	97.90%
Residential	148.70	1.17%
Rural	63.72	0.50%
Commercial	45.89	0.36%
Planned Commercial Development	6.56	0.05%
Planned Development	0.96	0.0076%
Rural Settlement	0.27	0.0021%

Source: Osceola County GIS Planning & Zoning, 2025.

2.2.6 PAVEMENT TYPE AND CONDITION

The Pavement Condition Survey (PCS) Unit conducts annual surveys of the entire state highway system in support of the Department's Pavement Management program. As part of the PCS, each section of pavement is rated for cracking and rideability on a 0-10 scale with 0 being the worst and 10 being the best. Any crack rating of 6.4 or less is considered deficient pavement. For speed limits greater than or equal to 50 miles per hour, a ride rating of 6.4 or less is considered deficient.

According to the FDOT's PCS database, the pavement rating for the most current year (2025) within the project corridor ranges from 3.9 to 9.3 for cracking, and 7.1 to 8.6 for rideability. The cracking score is considered deficient within the portion of the project corridor around Justin Rohde Road. The existing pavement throughout the project limits is asphalt.

2.2.7 EXISTING DESIGN AND POSTED SPEED

The existing design and posted speeds for S.R. 60 are described in **Table 2-3**.

Table 2-3: EXISTING DESIGN AND POSTED SPEEDS

Roadway/Segment	Design Speed (mph)	Posted Speed (mph)
Segment 1	60	60
Segment 2	45	45

2.2.8 HORIZONTAL ALIGNMENT

The existing horizontal alignment was determined based on as-built plans, the SLD, and aerial imagery. The existing horizontal curve geometry is shown in **Table 2-4**. Within Segment 1, Curves 3, 4 and 5 do not meet the FDOT design criteria for desirable curve length of 975 feet. Within Segment 2, Curve 6 does not meet the FDOT design criteria for desirable curve length of 675 feet.

Table 2-4: EXISTING HORIZONTAL ALIGNMENT

Curve	PI* MP	Delta	Degree of curve	Tangent (feet)	Length (feet)	Radius (feet)	PC** MP	PT*** MP
Curve 1	1.022	25º41'05" (RT.)	02º00'00''	2,391.39	1,283.04	2,865	0.899	1.142
Curve 2	5.241	01º15'00'' (RT.)	02º00'00"	112.02	1,499.52	2,865	5.089	5.373
Curve 3	8.561	05º30'00" (LT.)	03º00'00"	97.76	184.80	1,910	8.544	8.579
Curve 4	12.932	12º00'00" (LT.)	03º00'00"	716.93	401.28	1,910	12.894	12.970
Curve 5	16.623	12º55'00" (RT.)	03º00'00"	771.90	432.96	1,910	16.582	16.664
Curve 6	19.847	02º33'00'' (RT.)	02º00'00"	228.52	126.72	2,865	19.835	19.859

* Point of Intersection, ** Point of Curvature, *** Point of Tangency

Curve Date Source: FDOT Straight Line Diagram

2.2.9 VERTICAL ALIGNMENT

Existing as-built plans were reviewed for information regarding the existing vertical alignment for SR 60 within the project limits. These as-built plans generally lacked comprehensive vertical alignment data. Based on the available information within the as-built plans and available LiDAR data, the existing vertical geometry is generally flat.

2.2.10 MULTI-MODAL FACILITIES

There are no existing sidewalks, designated bicycle paths, shared-use paths, or transit within the project corridor. S.R. 60 is designated by MetroPlan Orlando as a Regional Freight Mobility Corridor.

2.2.11 INTERSECTIONS

Eight intersections were analyzed as part of this study. The study intersections are the following:

1. Prairie Lake Road - Stop Control
2. Mack Farms - Stop Control

3. Peavine Road - Stop Control
4. Justine Rohde Road - Stop Control
5. Rohde Road - Stop Control
6. Kennansville Road - Signal
7. Racetrac/Pilot Travel Center - Stop Control
8. Florida's Turnpike Ramps – Signal

The existing lane geometry for these intersections is shown in **Figure 2-6**.

2.2.12 PHYSICAL OR OPERATIONAL RESTRICTIONS

There are no physical or operational restrictions, such as multimodal use lanes, parking, fixed objects, barriers, or railroad crossings listed within the study area. This was verified by review of the straight-line diagrams, construction as-builts, field visits, and aerial photography.

2.2.13 TRAFFIC DATA

Based on the PTAR prepared for this study, the existing year (2025) AADT volumes for S.R. 60 within the project limits range from 10,000 vehicles per day (vpd) to 14,000 vpd with daily truck percentage (T-daily) range from 24.7 to 34.4%, with an average of 30.2%. The existing year 2025 AADT volumes and factors for the study corridor are provided in **Table 2-5** and **Figure 2-4**. The 2025 AM and PM peak hour turning movement volumes are included in **Figure 2-5** and the existing geometry is included in **Figure 2-6** for all study intersections.

Table 2-5: EXISTING TRAFFIC VOLUMES AND FACTORS

Roadway / Segment	Source	2025 AADT Data				Peak Hour Data		Traffic Factors		
		ADT	Seasonal Adjustment	Axle Adjustment	AADT	Peak Hour Two-Way Volume	Peak hour Peak Direction Volume	"K"	"D"	"T_{Daily}"
SR 60 (West to East)										
From Prairie Lake Road to Peavine Road	48-Hour Classification Count	10,405	0.97	1.00	**10,000**	791	449	7.6%	56.7%	24.7%
From Peavine Road to US 441	48-Hour Classification Count	10,621	0.97	1.00	**10,500**	792	451	7.5%	56.9%	34.4%
From US 441 to RaceTrac/Pilot Travel Center	48-Hour Classification Count	14,208	0.97	1.00	**14,000**	983	506	6.9%	51.5%	31.6%
From RaceTrac/Pilot Travel Center to Turnpike Ramps	6-Hour Turning Movement Count	13,671	-	-	**13,500**	957	530	-	55.4%	-
East of Turnpike Ramps	Estimated from Turnpike Mainline and Yeehaw Junction/SR 60 Interchange IMR	-	-	-	**7,300**	-	-	-	-	-
Side Streets										
Prairie Lake Road, North of SR 60	6-Hour Turning Movement Count	11	-	-	**50**	2	1	-	50.0%	-
Mack Farms, North of SR 60	6-Hour Turning Movement Count	180	-	-	**180**	17	11	-	64.3%	-
Peavine Road, North of SR 60	6-Hour Turning Movement Count	621	-	-	**600**	59	30	-	50.8%	-
Rohde Road, North of SR 60	6-Hour Turning Movement Count	53	-	-	**50**	5	4	-	80.0%	-
US 441, North of SR 60	48-Hour Classification Count	1,823	0.97	1.00	**1,800**	144	76	7.9%	52.6%	39.2%
US 441, South of SR 60	48-Hour Classification Count	4,838	0.97	1.00	**4,800**	362	195	7.5%	53.9%	41.8%
Pilot Travel Center, North of SR 60	6-Hour Turning Movement Count	1,232	-	-	**1,200**	117	92	-	78.6%	-
RaceTrac, South of SR 60	6-Hour Turning Movement Count	2,126	-	-	**2,100**	202	108	-	53.5%	-
Turnpike Southbound Ramps, North of SR 60	Turnpike SB On/Off Ramps FTO Stations 971939, 971933 (from TPK)	-	-	-	**5,800**	-	-	-	-	16.0%
Turnpike Northbound Ramps, North of SR 60	Turnpike NB On/Off Ramps FTO Stations 971932, 971931 (to TPK)	-	-	-	**6,700**	-	-	-	-	16.0%

Notes:

1. The seasonal factor was obtained from the 2024 FTO

2. AADT for SR 60 east of Turnpike Ramps is estimated using the year 2022 AADT and estimated growth rate from the Turnpike Mainline and Yeehaw Junction/SR 60 Interchange IMR

3. AADT for the side streets was estimated from the existing turning movement counts and a K factor of 9.5%

Figure 2-4: EXISTING AADT

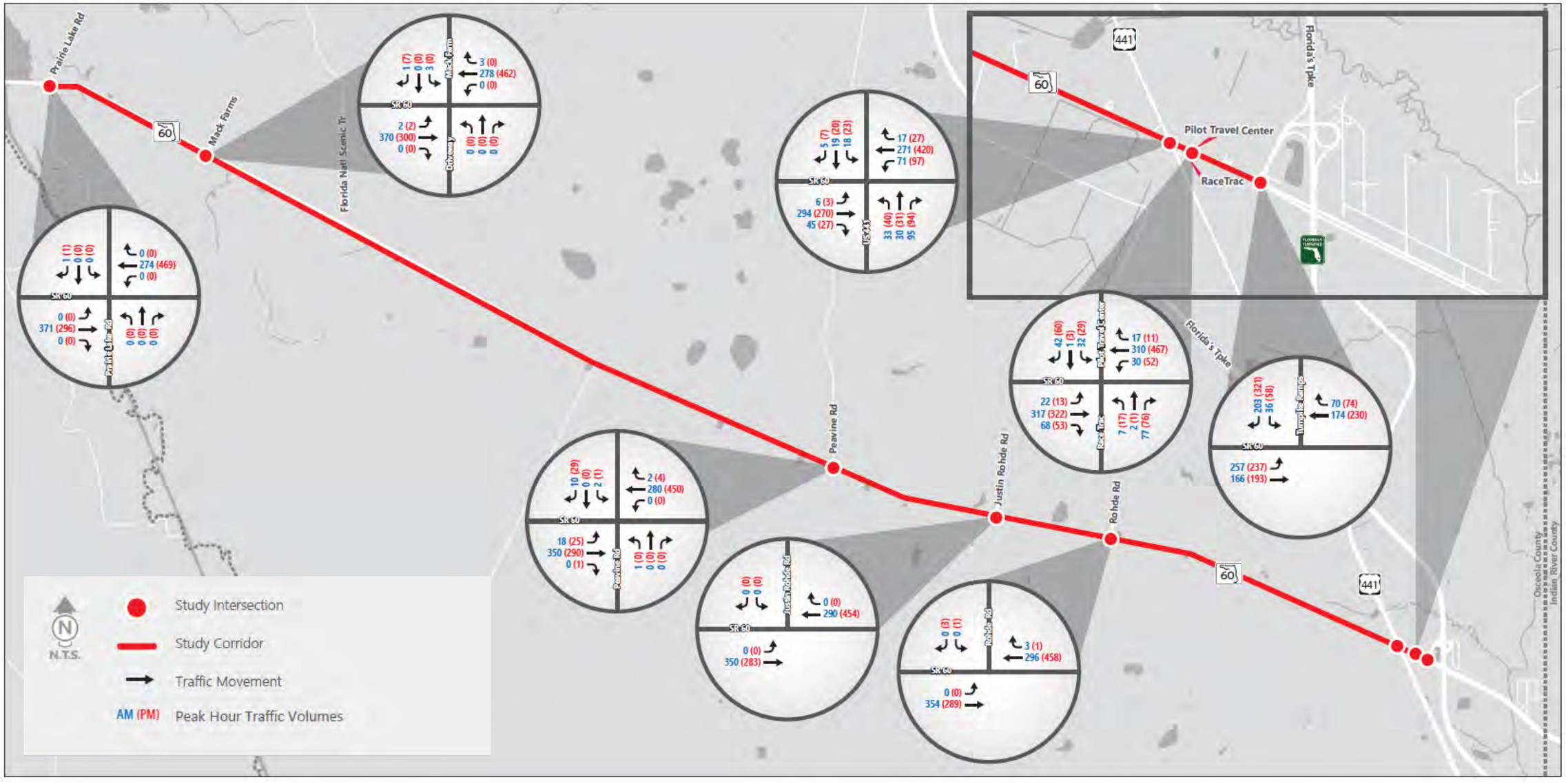


Figure 2-5: EXISTING TURNING MOVEMENT COUNTS

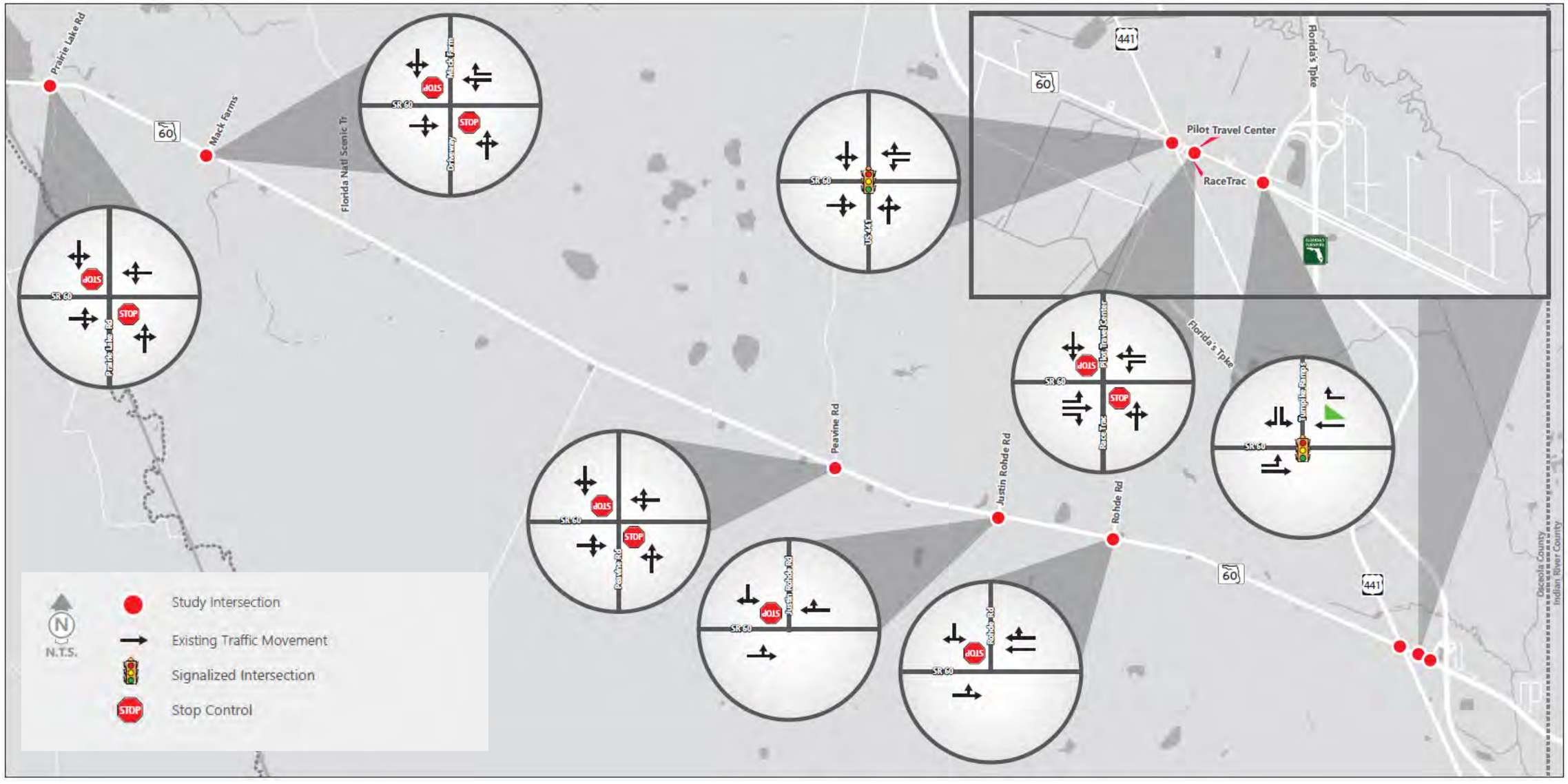


Figure 2-6: EXISTING GEOMETRY

2.2.14 ROADWAY OPERATIONAL CONDITIONS

The PTAR documented an existing conditions analysis using Synchro software (version 12) to perform intersection operational analysis based on Highway Capacity Manual (HCM) 7th Edition methodology at the study intersections. Roadway segment analysis was conducted using HCS 2025 software.

2.2.14.1 EXISTING YEAR 2025 INTERSECTION LOS ANALYSIS

The overall intersection delay and LOS information is summarized in **Table 2-6**. Heavy vehicle percentages (T-factors) for the AM and PM peak hours and Peak Hour Factors (PHFs) were derived from the field collected counts. The results show that all intersections operate within the target LOS C, except for one study intersection. The intersection of S.R. 60 at Florida's Turnpike Ramps operates at LOS D during both AM and PM peak hours. Additional detail and analysis results along with signal timings are available in the PTAR.

Table 2-6: EXISTING CONDITONS INTERSECTON LOS SUMMARY

S.R. 60 at	Control Type*	Target LOS	Existing 2025			
			AM Peak Hour		PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
Prairie Lake Road	TWSC	C	0.0/9.9	A/A	0.0/11.2	A/B
Mack Farms	TWSC	C	7.9/17.0	A/C	8.4/12.7	A/B
Peavine Road	TWSC	C	8.2/16.7	A/C	8.4/12.2	A/B
Justin Rohde Road	TWSC	C	0.0/0.0	A/A	0.0/0.0	A/A
Rohde Road	TWSC	C	0.0/0.0	A/A	0.0/11.3	A/B
U.S. 441/Kenansville Road	Signal	C	28.0	C	24.8	C
RaceTrac/Pilot Travel Center	TWSC	C	8.8/16.1	A/C	9.3/19.8	A/C
Florida's Turnpike Ramps	Signal	C	35.1	D	45.0	D

*TWSC—Two Way Stop Condition

2.2.14.2 EXISTING YEAR 2025 ROADWAY LOS ANALYSIS

A roadway operational analysis for the AM peak hour peak direction (eastbound) and PM peak hour peak direction (westbound) was also performed for the existing year traffic conditions for the two-lane facility of S.R. 60 between Prairie Lake Road and just west of Kenansville Road. The operational results show that the overall study segment operates as LOS B during both AM and PM peak hours peak directions as summarized in **Table 2-7** below.

Table 2-7: EXISTING CONDITIONS ROADWAY LOS SUMMARY

Roadway/Segment	AM Peak Hour Peak Direction (EB)	PM Peak Hour Peak Direction (WB)
From Prairie Lake Road to Kenansville Road	B	-
From Kenansville Road to Turnpike Ramps	-	B

2.2.15 MANAGED LANES

There are no managed lanes along S.R. 60 within the study limits.

2.2.16 CRASH DATA

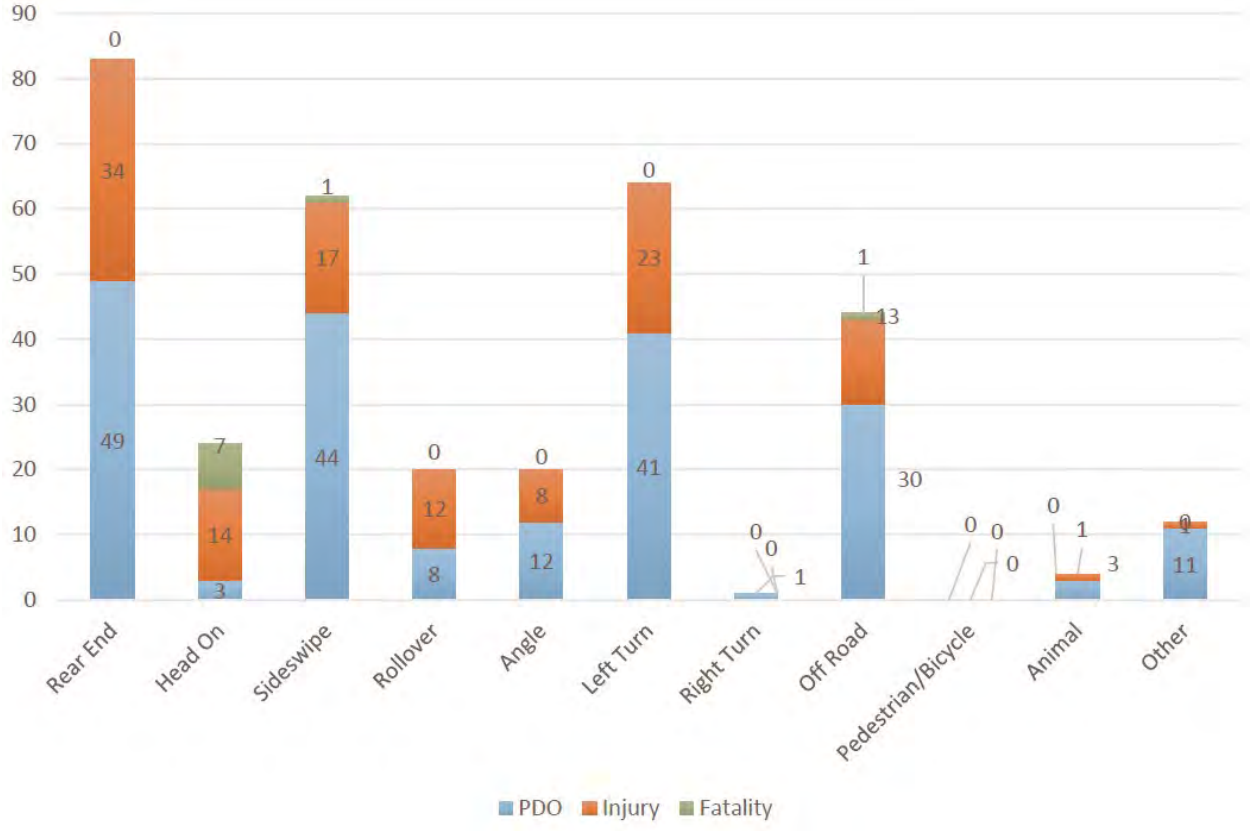
Crash records were obtained from the University of Florida's Singal Four (S4) crash database for S.R. 60 and associated interchanges as part of the PTAR Area of Impact (AOI). The safety analysis was performed for the most recent five years of crash data (January 1, 2020 – December 31, 2024).

Out of the 334 crashes that occurred within the study area between 2020 and 2024, the intersection that experienced the most crashes was the intersection of S.R. 60 at Turnpike Ramps, consisting of mainly left turn type crashes. The roadway segment that experienced the most crashes was the segment of S.R. 60 from Peavine Road to Kenansville Road. Crashes most often occurred in dry and daylight conditions, and a significant number of crashes resulted in an injury (37% of crashes)/fatality (3% of crashes). Seven of the nine fatal crashes were the result of head-on collisions, with vehicles either attempting to pass improperly or drifting into the opposing traffic lane. This may indicate unsafe passing maneuvers because of slow moving vehicles or trucks (approximately 30% of the daily traffic on S.R. 60 is trucks).

This section summarizes the safety analysis conducted for S.R. 60 within the study's AOI. A more detailed summary of the 2020 to 2024 crash data sets in tabular and graphical format are also provided in the PTAR.

Figure 2-7 displays a summary of crash frequency per year along with their respective severity and type for the study period along S.R. 60.

Figure 2-7: HISTORICAL (2020-2024) CRASHES PER YEAR



2.2.17 RAILROAD CROSSINGS

There are no railroads or railroad crossings along S.R. 60 within the study limits.

2.2.18 DRAINAGE

The existing drainage infrastructure and patterns for S.R. 60 from Prairie Lake Road to Florida's Turnpike were evaluated by review of the project location through existing as-built plans and other available FDOT construction plans, SLD's, GIS maps, and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs). Further, existing permit information was obtained from the SJRWMD and the SFWMD.

2.2.18.1 DRAINAGE CHARACTERISTICS

The project limits span over six primary drainage basins and discharge into two Hydrologic Unit Code (HUC) basins. Lake Kissimmee, Blanket Bay Slough and Skeeter Slough drain into the Kissimmee River (HUC 03090101). Lokosee ditches, unnamed ditch near Yeehaw Junction, and unnamed tributary to Cow Log Branch drain into the Upper St. Johns (HUC 03080101).

The existing drainage for S.R. 60 from Prairie Lake Road to Florida's Turnpike consists predominantly of flat, open ditches that convey runoff to existing cross drain locations. Runoff generally leaves the ROW at these convey drain locations to either an existing channel or man-made ditch. Much of the surrounding area is used for agricultural purposes and irrigation ditches

or canals are present just outside the existing ROW in many locations on the project. Most of the irrigation canals are located on the north side of the roadway and many do no receive any flow from the Department's ROW unless under an extreme event. These locations are generally assumed to be isolated basins that contain runoff from offsite areas. However, there are some locations where runoff does leave the ROW and drain into these man-made canals.

There are no aquatic preserves in the project area. Kissimmee River is classified as an Outstanding Florida Water (OFW). Lake Kissimmee is classified as impaired. For discharges to these waterbodies, 50% additional treatment volume and permanent pool volume will be provided in stormwater management facilities with anticipated direct discharge.

2.2.18.2 BASIN LIMITS AND CROSS DRAINS

The existing drainage divides were determined using one-foot contours generated from LiDAR data from the National Oceanic and Atmospheric Administration (NOAA) Coastal Service Center's Digital Coast Data Access Viewer and the USGS topographic quad maps. The project was delineated into 27 mainline subbasins. All basins within the influence of the study area are considered open basins. **Table 2-8** below lists the limits of the existing drainage basins and the associated cross drains.

See **Appendix C** for Drainage Maps of the project area.

Table 2-8: BASIN LIMITS AND CROSS DRAINS

Basin No.	Existing Basin Limits		Waterbody ID	Watershed	WMD	Outfall	
	From Station	To Station				Type	Station
1	14+10	72+50	3183E2	Lake Kissimmee	SFWMD	Ditch	20+00
2	72+50	158+75	3186G	Blanket Bay Slough	SFWMD	30" CD	134+63
3	158+75	188+45	3186G	Blanket Bay Slough	SFWMD	30" CD	179+38
4	188+45	214+45	3186G	Blanket Bay Slough	SFWMD	36" CD	197+93
5	214+45	257+00	3186G	Blanket Bay Slough	SFWMD	30" CD	231+91
6	257+00	290+75	3186G	Blanket Bay Slough	SFWMD	Bridge	290+75
7	290+75	324+90	3186G	Blanket Bay Slough	SFWMD	Bridge	290+75
8	324+90	357+30	3186G	Blanket Bay Slough	SFWMD	24" CD	326+17
9	357+30	386+80	3186G	Blanket Bay Slough	SFWMD	24" CD	359+88
10	386+80	402+50	3186G	Blanket Bay Slough	SFWMD	30" CD	391+46
11	402+50	477+55	3186F	Skeeter Slough	SFWMD	36" CD	415+23
12	477+55	487+00	3186F	Skeeter Slough	SFWMD	24" CD	481+92
13	487+00	551+95	3186F	Skeeter Slough	SFWMD	8'X3' CBC	540+56
14	551+95	570+30	3186F	Skeeter Slough	SFWMD	24" CD	562+90
15	570+30	611+70	3186F	Skeeter Slough	SFWMD	8'X3' CBC	584+20
16	611+70	632+75	3186F	Skeeter Slough	SFWMD	30" CD	626+59
17	632+75	670+60	3186F	Skeeter Slough	SJRWMD	30" CD	638+99
18	670+60	695+10	3186F	Skeeter Slough	SJRWMD	30" CD	684+77
19	695+10	757+40	3186F	Skeeter Slough	SJRWMD	30" CD	705+90
20	757+40	812+90	3186F	Skeeter Slough	SJRWMD	24" CD	782+44
21	812+90	869+55	3148	Unnamed Ditch Near Yeehaw Junction	SJRWMD	6'X3' CBC	860+86
22	869+55	889+65	3143	Lokosee Ditches	SJRWMD	6'X3' CBC	872+89
23	889+65	915+80	3148	Unnamed Ditch Near Yeehaw Junction	SJRWMD	36" CD	912+04
24	915+80	937+90	3148	Unnamed Ditch Near Yeehaw Junction	SJRWMD	36" CD	929+65
25	937+90	999+20	3148	Unnamed Ditch Near Yeehaw Junction	SJRWMD	8'X5" CBC	959+64
26	999+20	1046+35	3148	Unnamed Ditch Near Yeehaw Junction	SJRWMD	CD – Size Unknown	1039+29
27	1046+35	1079+70	3148	Unnamed Ditch Near Yeehaw Junction	SFWMD	19"X30" CD	1068+00

2.2.18.3 FLOODPLAINS

Flood Insurance Rate Maps (FIRMs) published by FEMA were reviewed to determine potential floodplain involvement within the project limits and include the FIRM map numbers 12097C0725G, 12097C0750G, 12097C0850G, and 12097C0875G.

The current effective FIRMs for Osceola County, dated 2013, indicate multiple locations of floodplain involvement and include multiple areas of Special Flood Hazard Zone A and one Zone AE location. The area Special Flood Hazard Zone AE is connected to Lake Kissimmee and has a base flood elevation (BFE) at elevation 54. Special Flood Hazard Zone A is defined as "No base flood elevation determined". Elevations for these Zone A areas were estimated using LiDAR data.

Within the 500-foot project buffer, the EST GIS analysis identified D-FIRM 100-year floodplain of 787.99 acres (33.42%), of which 32.72% is within Flood Zone A and 0.070% is within Flood Zone AE. Refer to **Appendix D** for the FIRM Maps relevant to this study.

2.2.19 LIGHTING

There is limited lighting on the mainline corridor of S.R. 60 near the intersections at Peavine Road and Mae Bass Road. However, conventional lighting is present along the two intersections at the east end of the project limits (S.R. 60/Kenansville Road and S.R. 60/Interior Street). Osceola County is responsible for maintaining the lighting provided along S.R. 60 and the associated intersections within the project limits.

2.2.20 UTILITIES

There are eight existing utilities present within the project limits. The following Utility Agency Owners (UAOs) were identified within the study area and are listed below in **Table 2-9** and described further in the following paragraphs.

Table 2-9: UTILITY AGENCY OWNERS IN THE STUDY AREA

Utility Owner	Contact Person	Contact Number	Email Address
AT&T	Dino Farruggio	561-683-2729	G27896@att.com
CenturyLink/ Lemen	Daniel Goette	-	Daniel.goette@lumen.com
Charter Communications	Gary Blevins	813-302-0800	gary.blevins@charter.com
Crown Castle	Rashad Dickerson	678-726-6146	rashad.dickerson@crowncastle.com
Frontier Communications	Denise Hutton	941-504-9652	denise.hutton@ftr.com
Osceola County Traffic	Jack Lott	321-624-1590	jack.lott@osceola.org
Peace River Electric Cooperative, Inc.	Paul Roberts	863-767-4650	paul.roberts@preco.coop
Florida Southeast Connection	Loren Brown	305-552-2132	loren.brown@nexteraenergy.com

A majority of the utilities are present near the vicinity of Kenansville Road and Florida's Turnpike. These consist mostly of communication lines, such as buried telephone and buried fiber lines for AT&T, Century Link, and Crown Castle. There are also buried electric and buried fiber lines related to ITS, signals, and lighting facilities operated by Osceola County.

AT&T has a buried fiber line that runs along the east side of Kenansville Road where it crosses under S.R. 60. CenturyLink (Lumen) has both local facilities and facilities with Level 3 Communications within the project limits.

An overhead television line utility owned by Charter Communications enters the S.R. 60 ROW on the west side of Mae Bass Road connected to power poles and then continues east along north side of S.R. 60 until reaching the intersection with Kenansville Road. West of this intersection, the line goes underground and continues as buried fiber optic until reaching an overhead pole east of the Pilot Travel Center. At this pole, the line goes aerial again to the west side of the SR 91 on and off-ramp intersection. Buried fiber optic line is used to cross under the intersection and then again continues as an aerial line east of the intersection. The line remains aerial past the project limits. The markups from Charter also show a buried fiber line along the east side of Kenansville Road that goes under S.R. 60. Once across the intersection, the fiber line is shown turning east along the south side of S.R. 60.

Crown Castle has buried fiber within conduits that run along the east side of Kenansville Road south of S.R. 60. At the intersection, the lines cross under S.R. 60 on the east side and continue east along the north side of the S.R. 60 past the project limits.

Frontier Communications has a buried telephone that runs along the south side of S.R. 60 underneath Lake Kissimmee and continues along S.R. 60 until routing into a telephone pedestal about 1,200 feet east of the existing bridge. From this pedestal, the telephone line runs above ground as overhead telephone until about 400 feet west of Prairie Lakes Road. At this location, the line crosses S.R. 60 and continues east along the north side of S.R. 60 in a buried line. Approximately 600-feet east of Hyatt Farms Road, an overhead telephone line is also present on the north side of S.R. 60. Both the buried and overhead lines leave the S.R. 60 ROW on the north side about 1,100 feet east of Hyatt Farms Road.

A 36" gas main owned by the Florida Southeast Connection is present along S.R. 60 for most of the project limits. The gas main crosses Lake Kissimmee on the north side of S.R. 60 and then about 600 feet west of Prairie Lake Road it turns and crosses to the south side of the roadway. From there the gas main runs within a 50-foot easement along the southern ROW line. The 36" line turns at KENANSVILLE ROAD and continues south along the west side of SU 441.

Peace River Electric Cooperative (PRECO) has overhead electric lines that run along S.R. 60 for much of the corridor. The overhead lines are on the south side of the roadway from the bridge over Lake Kissimmee until just west of Prairie Lake Road and then it crosses to the north. Near Blanket Bay Slough the overhead lines cross to the south and then cross back to the north on the east side of the bridge. The overhead lines continue on the north side until about 0.5 mile west of Peavine Road where it turns north towards an existing communications town. Overheads lines are not present again until Rohde Road and then they run along the north side of S.R. 60 towards the east to Kenansville Road. The overhead lines cross to the south side at the SU 441 intersection and then cross back to the north side where they run to the end project.

Osceola County Traffic Operations has facilities within the project area related to ITS, signals, and lighting around the Kenansville Road and SR 91 on and off-ramp intersections. These facilities were installed under previous FDOT projects and are now operated by Osceola County.

Each utility agency/owner (UAO) was contacted to document existing and planned facilities located within the study area. A Utilities Assessment Package identifying and providing descriptions for the exact location, type, size, and material of all utility facilities is available in the project file.

2.2.21 SOILS AND GEOTECHNICAL DATA

Geotechnical investigation for this PD&E Study is limited to desktop analysis. The soil types identified in the project area by the National Resources Conservation Service (NRCS) (2024) are listed **Table 2-10** along with their coverage in the study area. **Figure 2-8** provides a map of the hydrologic soil groups (HSGs) throughout the study limits.

The sand soil depicted along the project alignment by the NRCS Soil Report (see **Appendix F**) are generally suitable for support for the proposed roadway improvements. However, organic soil (muck) is present at various locations within the project corridor but primarily within the one mile stretch just east of Mae Bass Road. These conditions could potentially impact design and construction of the roadway improvements. Muck is associated with lowland/wetland depressional areas and can have severe limitations for roadway embankment construction.

Removal or muck, or treatment by means of a soil surcharge, is typically required to provide adequate support for the roadway embankment.

Table 2-10: SOILS IN PROJECT AREA

Soil Map Unit Symbol	Soil Name	Percent of Project Area
1	Adamsville sand, 0 to 2 percent slope	0.3%
4	Arents, 0 to 5 percent slopes	0.0%
5	Basinger, fine sand, 0 to 2 percent slopes	3.9%
6	Basinger fine sand, depressional, 0 to 1 percent slopes	4.1%
9	Cassia fine sand, 0 to 2 percent slopes	4.5%
10	Delray loamy fine sand, depressional	1.0%
11	EauGallie fine sand, 0 to 2 percent slopes	17.7%
12	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	0.1%
13	Gentry fine sand	0.0%
14	Holopaw fine sand, 0 to 2 percent slopes	0.2%
16	Immokalee fine sand, 0 to 2 percent slopes	5.0%
17	Kaliga muck, frequently ponded, 0 to 1 percent slopes	1.0%
19	Malabar fine sand, 0 to 2 percent slopes	11.3%
20	Malabar fine sand, frequently ponded, 0 to 1 percent slopes	1.7%
22	Myakka fine sand, 0 to 2 percent slopes	11.4%
24	Narcoosse fine sand, 0 to 2 percent slopes	0.1%
30	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	1.8%
34	Pomello fine sand, 0 to 5 percent slopes	0.1%
36	Pompano fine sand, 0 to 2 percent slopes	0.0%
37	Pompano fine sand, frequently ponded, 0 to 1 percent slopes	0.9%
39	Riviera fine sand, frequently ponded, 0 to 1 percent slopes	0.5%
40	Samsula muck, frequently ponded, 0 to 1 percent slopes	0.8%
42	Smyrna fine sand, 0 to 2 percent slopes	31.2%
43	St. Lucie fine sand, 0 to 5 percent slopes	0.7%

Figure 2-8: HYDROLOGIC SOIL GROUP MAP

2.2.21.1 FARMLANDS

NRCS soil maps indicate 22 soil types occur in the 500-foot project buffer area, four soils are classified as "Farmland of Unique Importance" and provided in **Appendix F**.

2.2.22 AESTHETICS FEATURES

No existing landscaping was observed along the corridor within the FDOT ROW. No wildflower areas currently exist within the project limits.

2.2.23 TRAFFIC SIGNS

Signing along S.R. 60 within the project study limits consists primarily of standard ground-mounted regulatory signage and roadside wayfinding signage at both interchanges. These signs appear in good condition and have been maintained.

2.2.24 NOISE WALLS AND PERIMETER WALLS

There are no existing noise or perimeter walls within the project study limits.

2.2.25 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)/TSM&O FEATURES

Currently, there are two signalized intersections. The first location is at Kenansville Road. The second signal is at the Florida's Turnpike ramp.

There are no dynamic message signs (DMS) within the project area.

2.3 EXISTING BRIDGES AND STRUCTURES

The existing bridge (Bridge ID No. 920172) over Blanket Bay Slough was evaluated in accordance with 2020 FDOT and AASHTO criteria. The evaluation included an assessment of bridge width, bridge length, type of bridge, vertical and horizontal clearances, and load posting information. The evaluation also considered a condition assessment from the latest bridge inspection reports, which included the National Bridge Institute overall condition ratings, the Bridge Health Index, and Federal Highway Administration Sufficiency Ratings.

Bridge Inspection Reports, rating calculations and available bridge plans were reviewed to determine the existing condition. **Table 2-11** summarizes the location, sufficiency rating, health index and performance rating for the bridge in the study. The bridge typical was previously provided in **Figure 2-2** of this chapter.

There are five existing concrete box culverts within the study limits. These are summarized in **Table 2-12**.

Table 2-11: BRIDGE STRUCTURES

Bridge #	Description	Mile Post	Year Built	Vertical Clearance	Inspection Year	Sufficiency Rating	Health Index	Perf Rating
920172	Blanket Bay Slough	5.281-5.304	1999	Min. VC = 2.72 ft.	2023	83.5	93.62	Good

Table 2-12: BOX CULVERT SUMMARY

Box Culvert Milepost Location	Number of Barrels	Barrel Size	Culvert Length
10.025	1	8’ x 3’	85’
10.853	1	8’ x 3’	65’
16.090	2	6’ x 3’	86’
16.320	2	6’ x 3’	86’
17.9.64	2	8’ x 5’	65’

2.4 EXISTING ENVIRONMENTAL FEATURES

2.4.1 SOCIAL AND ECONOMIC

The S.R. 60 project corridor intersects two census block groups, which are considered the study area for the purposes of social analysis. The Environmental Screening Tool (EST) Sociocultural Data Report (SDR) was used to identify demographic data in the project area. The SDR uses the Census 2019-2023 American Community Survey (ACS) data and reflects the approximation of the population based on the clipping of the 500-foot project buffer area.

An analysis of race, age, language, and income was conducted for all areas within one-half mile of the S.R. 60 improvements project. That data is reported in **Table 2-13** through **2-16**. A review of potential impacts to demographics, community cohesion, safety, and community goals/quality of life issues is provided below.

Table 2-13: STUDY AREA CENSUS BLOCKS AND POVERTY LEVEL

Block Group	Tract	% Below Poverty Level
2	43802	39.7
3	43802	16.0

Table 2-14: COUNTY AND STUDY AREA CENSUS DATA FOR RACE AND ETHNICITY

	% Black or African American	% American Indian & Alaska Native	% Asian	% Native Hawaiian and Other Pacific Islander	% Other	% Two or More Races	% Hispanic or Latino	% White (Non-Hispanic)
Florida	16.9	0.6	3.2	0.1	N/A	2.5	27.4	76.7
Osceola County	15.6	0.9	3.4	0.3	N/A	3.1	56.1	28.2
Study Area	0	0	0	0	0.84	29.5	34.1	64.3

Table 2-15: BLOCK GROUPS LEVEL RACE AND ETHNICITY

Block Groups	Tract	% Black or African American	% American Indian & Alaska Native	% Asian	% Native Hawaiian and Other Pacific Islander	% Other	% Two or More Races	% Hispanic or Latino	% White (Non-Hispanic)
2	43802	0	0	0	0	0	49.7	51.4	50.3
3	43802	0	0	0	0	1.3	18.6	24.7	80.0

Table 2-16: STUDY AREA LIMITED ENGLISH PROFICIENCY

Block Groups	Tract	Speaks English Very Well	Speaks English Well	Speaks English Not Well	Speaks English Not at All	Speaks English Less than Very Well (% in Tract Block)
2	43802	261	0	113	0	12.9
3	43802	212	71	52	0	3.2
Totals		473	71	165	0	9.4

2.4.2 CULTURAL RESOURCES

The study area was evaluated for archaeological and historical potential. The full analysis is included in the Phase I Cultural Resource Assessment Survey (CRAS), in the project file.

The archaeological survey consisted of pedestrian survey and systematic subsurface testing. A total of 351 shovel tests were excavated within the archaeological APE, none of which contained artifacts or cultural features. An additional 52 shovel test locations were visited but unable to be excavated due to inundation or buried utilities and were documented as "no-dig" points. No artifacts were recovered, and no archaeological sites or occurrences were identified within the APE. No further archaeological survey is recommended.

The architectural history survey resulted in the identification and evaluation of five previously recorded resources (8OS01751, 8OS02519, 8OS03001, 8OS03274, and 8OS03484) and five newly recorded buildings (8OS03738–8OS03742) within the APE. One previously recorded building (8OS03484) was identified and evaluated as ineligible for listing in the NRHP by SHPO within the last 10 years. The building has not had substantial additions or alterations; therefore, an updated site form and evaluation was not completed for this resource.

Two previously recorded linear resources (8OS03001 and 8OS03274) were last evaluated by SHPO as having insufficient information to make an NRHP recommendation. There is insufficient information to make a recommendation of the resources as a whole, because only a small segment of each resource intersects the APE. However, it is recommended that both segments are non-contributing to their respective resources as they lack historical significance and engineering distinction. The remaining resources are recommended ineligible for the NRHP. No new or existing historic districts were identified during field survey. No further architectural history work is required.

Linear Resource 8OS03485 consists of a portion of Florida's Turnpike within Osceola County that was constructed circa 1964. Although documented in the FMSF as a historic resource, SHPO has determined that Florida's Turnpike is exempt from documentation as a historic linear resource and evaluation of the roadway for NRHP eligibility is neither necessary nor required.

Previously recorded cultural resources recorded within the project are summarized in **Table 2-17** below. Newly recorded resources are summarized in **Table 2-18**.

Table 2-17: PREVIOUSLY RECORDED CULTURAL RESOURCES

Resource Groups				
FMSF No.	**Name**	**Period of Significance**		**SHPO Evaluation**
8OS02514	Yeehaw Logging Tram	Unspecified		Ineligible for NRHP
8OS02519	Log Branch Canal II	1944-1953		Ineligible for NRHP
8OS03001	State Road 15	Twentieth-century American, 1900-present		Insufficient Information
8OS03274	State Road (SR) 60	Twentieth-century American, 1900-present		Insufficient Information
8OS03485	2640 E State Road 60	Twentieth-century American, 1900-present		Not Evaluated by SHPO
Historic Buildings				
FMSF No.	**Address**	**Year Built**	**Surveyor Evaluation**	**NRHP Eligibility Status**
8OS00099	Desert Inn	ca. 1924	Eligible	NRHP listed (January 1994)
8OS01751	Desert Inn Trailers	ca. 1940	Ineligible	Ineligible
8OS03484	2687 E State Road 60	ca. 1966	Ineligible	Ineligible

Table 2-18: NEWLY RECORDED CULTURAL RESOURCES

Newly Recorded Resources				
FMSF No.	**Address**	**Resource Type/Style**	**Year Built**	**NRHP Eligibility Status**
8OS03738	2648 E SR 60	Residence/Ranch	ca. 1959	Ineligible
8OS03739	2650 E SR 60	Residence/Ranch	ca. 1959	Ineligible
8OS03740	2702 E SR 60	Residence/Masonry Vernacular	ca. 1955	Ineligible
8OS03741	2701 E SR 60	Residence/Masonry Vernacular	ca. 1955	Ineligible
8OS03742	2855 E SR 60	Warehouse/Masonry Vernacular	ca. 1968	Ineligible

* Indicates the resource was not evaluated as a part of the current survey.

2.4.3 SECTION 4(F) POTENTIAL

Section 4(f) of the Department of Transportation Act of 1966 enhances the protection of publicly owned park and recreation lands, wildlife and waterfowl refuges, and historic sites during the planning and development of transportation facilities. The study area was evaluated for Section 4(f) resources and the determination of applicability of Section 4(f) is based upon a project's use of land from property being considered as a Section 4(f) resource.

Resources identified and evaluated for Section 4(f) potential include the following:

- The Florida National Scenic Trail (FNST) as the S.R. 60 Connector and the Three Lakes Access Road Connector are part of the FNST designated by the National Trails System Act of 1968 (Public Law 90-543) and supported by Florida Statute 260.012(6). The FNST is administered by the USDA Forest Service, Southern Region. The S.R. 60 Connector utilizes the existing roadway unpaved shoulders within FDOT owned ROW from the River Ranch Boulevard Trail in Polk County to Three Lakes Access Road. The total length of this connector is 5.3 miles with 4.7 miles located within the project limits. The S.R. 60 Connector is not part of the FDOT Shared-Use Nonmotorized Trail Network.

  The Three Lakes Access Road Connector shares the ROW of a dirt road owned by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (TIITF)/GFWFC. It is approximately 1.8 miles long traveling from S.R. 60, where it meets the S.R. 60 Connector, to the Three Lakes Wildlife Management Area. The primary function of the trail segments is recreational hiking.

  The S.R. 60 Connector and Three Lakes Access Road Connector occupy transportation ROW without limitation to any specific location within that ROW. FNST users currently utilize the shoulders of SR 60 and Three Lakes Access Road.

- Adams Ranch is a privately owned working ranch with large areas of improved pasture used for beef cattle and sod production. There are four Conservation Easements (CE) on

the ranch. CE#4 includes 8,897.34 acres and is bounded by SR 60 right-of-way (ROW), as shown in the attached map. CE#4 was granted to Board of Trustees of the Internal Improvement Trust Fund of the State of Florida on March 13, 2024, through the Rural and Family Lands Protection Program (RFLPP), which is administered by the Florida Department of Agriculture and Consumer Services (FDACS). The Deed of Conservation Easement is included in the Section 4(f) documentation. The deed states that the purpose of the easement (i) to effect the RFLPP pursuant to Florida Statutes; (ii) to assure that the Property will be retained forever in its condition as a working landscape; (iii) to preserve the Property as productive agricultural land that sustains for the long term both the economic and conservation values of the Property and its environs; and (iv) to provide a relatively natural habitat for fish, wildlife, plants, or similar ecosystems.

The primary purpose of the RFLPP easement does not include the management of the property as a wildlife or water fowl refuge and does not require or include a management plan for natural resources. Additionally, the deed does not grant general public access, and the land does not function as a public park or recreation area.

It should also be noted that the Adams Ranch lands along SR 60 to the east of CE#4 are part of a Florida Forever Board of Trustees project. However, the land has not been acquired. The 2025 Florida Forever Plan for Adams Ranch is included in the Section 4(f) documentation.

Section 4(f) does not apply because Adams Ranch is privately owned. The primary purpose of the RFLPP easement does not include the management of the property as a wildlife or water fowl refuge and does not require or include a management plan for natural resources. Additionally, the deed does not grant general public access, and the land does not function as a public park or recreation area. Therefore, Section 4(f) is not applicable.

- The Three Lakes Wildlife Management Area is owned by the Board of Trustees of the Internal Improvement TIITF and the Florida Fish and Wildlife Conservation Commission (FWC). The Three Lakes WMA is managed by the FWC for the conservation of imperiled and more common wildlife, for fish- and wildlife-based public outdoor recreation, and to conserve the important natural communities on site that provide habitat for a wide range of species. The Three Lakes WMA Management Plan published June 2020 clearly shows that the boundary of the WMA is north of SR 60 (see attached excerpt from page 126 of the plan). The Three Lakes Access Road, owned by TIITF, is an unpaved road from SR 60 to the Three Lakes WMA. The proposed improvements will require right-of-way (ROW) acquisition from the TIITF/GFWFC ROW to accommodate widening; however, access to the Three Lakes WMA will be maintained.

Section 4(f) is Not Applicable because the Three Lakes Access Road functions for transportation purposes and not a Section 4(f) use. There are no other protected 4(f) uses within the existing or proposed ROW. The road will continue to provide access to the WMA, and access to the WMA will be maintained during construction.

- The Deluca Preserve is privately owned by University of Florida (UF) Foundation, a 501(c)(3) nonprofit organization (Tax ID #59-0974739), and is managed for UF by the Institute of Food and Agricultural Sciences' (IFAS) Office of the Dean for Research. Deluca Preserve consists of approximately 27,000 acres of land with multiple uses including agriculture, education, and conservation. The entire preserve is in a Conservation Easement to Wetlands America Trust, Inc. (also known as Ducks Unlimited), which is a private non-profit organization. The Conservation Easement was designed to protect the conservation value of resources while enabling research and educational activities of this working landscape. The Conservation Easement does not grant general public access, and the land does not function as a public park or recreation area. The Conservation Easement notes that the property is on the Florida Forever Board of Trustee's (FFBOT) priority list (Pine Island Slough Project) but does not grant FFBOT any portion of the land. This information was confirmed via telephone call to Deluca Preserve's Land Manager. A telephone record is included in the Section 4(f) documentation.

  Section 4(f) does not apply to Deluca preserve because the preserve is privately owned and under private conservation easement and is also not open for public use.

2.4.4 NATURAL ENVIRONMENT

A Natural Resources Evaluation (NRE), in the project file, was prepared to identify the current natural environmental conditions within the study corridor. A desktop evaluation using available GIS data and a field evaluation of the Project Corridor and a 650-foot buffer beyond the existing R/W (Study Area) was conducted.

2.4.5 THREATENED AND ENDANGERED SPECIES

A review of readily available data from the USFWS, FWC, and Florida Natural Areas Inventory (FNAI) was conducted to determine whether a protected species occurs or has the potential to occur within the study limits. This included a review of designated critical habitat. Those threatened and endangered species with a moderate, high, observed potential are included in **Table 2-19**.

Table 2-19: LISTED WILDLIFE SPECIES POTENTIALLY OCCURRING

Common Name	Scientific Name	Federal Status	State Status	Occurrence Potential
Eastern Indigo Snake	*Drymarchon couperi*	Threatened	Threatened	Moderate
Gopher Tortoise	*Gopherus polyphemus*	N/A	Threatened	Moderate
Blue-Tailed Mole Skink	*Plestiodon egregious lividus*	Threatened	Threatened	Low
Audubon's Crested Caracara	*Caracara plancus audubonii*	Threatened	Threatened	High*
Florida Sandhill Crane	*Antigone canadensis pratensis*	N/A	Threatened	Moderate
Florida Scrub-Jay	*Aphelocoma coerulescens*	Threatened	Threatened	Low
Florida Burrowing Owl	*Athene cunicularia floridana*	N/A	Threatened	Low to Moderate
Eastern Black Rail	*Laterallus jamaicensis*	Threatened	Threatened	Moderate
Everglade Snail Kite	*Rostrhamus sociabilis plumbeus*	Endangered	Endangered	Moderate
Whooping Crane	*Grus americana*	Proposed Species/ Experimental	N/A	Low
Bald Eagle	*Haliaeetus leucocephalus*	Managed	Managed	Moderate
Florida Grasshopper Sparrow	*Ammodramus savannarum floridanus*	Endangered	Endangered	High*
Red-cockaded woodpecker	*Picoides borealis*	Threatened	Threatened	Low
Little Blue Heron	*Egretta caerulea*	N/A	Threatened	Low to Moderate
Wood Stork	*Mycteria americana*	Threatened	Threatened	Moderate
Tricolored Bat	*Perimyotis subflavus*	Proposed for Listing	Managed	Moderate
Florida Bonneted Bat	*Eumops floridanus*	Endangered	Endangered	Moderate
Florida Black Bear	*Ursus americanus*	N/A	Managed	Low to Moderate
Florida Panther	*Felis concolor coryi*	Endangered	Endangered	Moderate
Southeastern Beach Mouse	*Peromyscus polionotus niveiventris*	Threatened	Threatened	Low
West Indian Manatee	*Trichecus manatus*	Threatened	Threatened	Low
Monarch Butterfly	*Danaus plexippus*	Candidate	N/A	Moderate
Ashe's Savory	*Calamintha ashei*	N/A	Threatened	Low
Many-Flowered Grass-Pink	*Calapogon multiflorus*	N/A	Threatened	Low

Table 2-19 (Cont.): LISTED WILDLIFE SPECIES POTENTIALLY OCCURRING

Common Name	Scientific Name	Federal Status	State Status	Occurrence Potential
Chapman's Sedge	*Carex chapmannii*	N/A	Threatened	Low
Pygmy Fringe-Tree	*Chionanthus pygmaeus*	Endangered	Endangered	Low
Sand Butterfly Pea	*Centrosema arenicola*	N/A	Endangered	Low
Florida Perforate Cladonia	*Cladonia perforate*	Endangered	Endangered	Low
Scrub Pigeon-Wing	*Clitoria fragrans*	Endangered	Endangered	Low
Cutthroat grass	*Coleotaenia abscissa*	N/A	Endangered	Low
Piedmont Jointgrass	*Coelorachis tuberculosa*	N/A	Threatened	Low
Short-leaved Rosemary	*Conradina brevifolia*	Endangered	Endangered	Low
Large-Flowered Rosemary	*Conradina grandiflora*	N/A	Threatened	Low
Avon Park Harebells	*Crotalaria avonensis*	Endangered	Endangered	Low
Scrub Mint	*Dicerandra frutescens*	Endangered	Endangered	Low
Scrub Buckwheat	*Erigonum floridanum*	Threatened	Endangered	Low
Coastal Vervain	*Glandularia maritima*	N/A	Endangered	Low
Florida Hartwrightia	*Hartwrightia floridana*	N/A	Threatened	Low
Highland's Scrub Hypericum	*Hypericum cumulicola*	Endangered	Endangered	Low
Edison's Ascyrum	*Hypericum edisonianum*	N/A	Endangered	Low
Nodding Pinweed	*Lechea cernua*	N/A	Threatened	Low
Scrub Blazing Star	*Liatris ohlingerae*	Endangered	Endangered	Low
Florida Spiny-pod	*Matelea floridana*	N/A	Endangered	Low
Celestial Lily	*Nemastylis floridana*	N/A	Endangered	Low
Florida Beargrass	*Nolina atopocarpa*	N/A	Threatened	Low
Papery Whitlow-Wort	*Paronychia chartacea*	Threatened	Threatened	Low
Yellow Fringeless Orchid	*Platanthera integra*	N/A	Endangered	Low
Lewton's Polygala	*Polygala lewtonii*	Endangered	Endangered	Low
Wireweed	*Polygonella basiramia*	Endangered	Endangered	Low
Sandlace	*Polygonella myriophylla*	Endangered	Endangered	Low
Giant Orchid	*Pteroglossaspis ecristata*	N/A	Threatened	Low
Florida Willow	*Salix floridana*	N/A	Endangered	Low
Scrub Bluestem	*Schizachyrium niveum*	N/A	Endangered	Low
Carter's Warea	*Warea carteri*	Endangered	Endangered	Low
Florida Ziziphus	*Ziziphus celata*	Endangered	Endangered	Low

***** Species Observed

Review results determined that portions of the study area are located within areas mapped by the USFWS as Florida Bonneted Bat Critical Habitat. Additionally, suitable habitat for the Eastern black rail, Audubon's crested caracara, Florida grasshopper sparrow, wood stork, Florida scrub-jay, Everglade snail kite, Florida bonneted bat, Florida panther and Eastern indigo snake was identified within the project area.

2.4.6 WETLANDS AND SURFACE WATERS

The jurisdictional extent of wetland and other surface water (OSW) systems within the study corridor was approximated through a desktop GIS analysis, the review of aerial photography, National Wetland Inventory (NWI) data, U.S. Geological Survey Topographic Maps, soils maps, land use maps, and ground-truthing activities. The wetland limits were identified in general accordance with the U.S. Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain region, the State of Florida's Delineation of the Landward Extend of Wetlands and Surface Waters (Chapters 62-340, Florida Administrative Code (FAC)). To the extent wetland boundaries differed between federal and state methods, the more landward extent was used to define that wetland system's boundary.

OSWs observed within the project corridor are limited to permitted surface water collection features associated with the existing roadway. The dominant vegetation in this herbaceous community consists of maidencane (*Panicum Hemitomon*), arrowhead (Sagittaria lancifolia) and pennywort (Hydrocotyle umbellata). These jurisdictional surface waters are part of the roadside drainage system and appear to be routinely maintained. Their proximity to the road and continued disturbance from routine maintenance activities limit their functional habitat value

The project is within the SJRWMD Southern St. Johns River mitigation basin and eleven mitigation bank service areas (Bullfrog Bay, Collany, Hatchineha Ranch, Lake Istokpoga, Lake Washington, Lake X Ranch, Luckly L, Mary A Ranch, Reedy Creek, Southport Ranch, and Twin Oaks). In addition, there are three RCI-NHD24Flowline intersects (USCG D8) (two canals/ditches and one stream/river) within the project limits.

2.4.7 ESSENTIAL FISH HABITAT

There is no Essential Fish Habitat (EFH) within the project corridor. No further involvement is needed.

2.4.8 NOISE

A Noise Study Report was prepared for this project. The Noise Study Report identified noise sensitive sites within and adjacent to the project limits. Existing land uses were initially reviewed in GIS and then subsequently verified in the field. Current land use for the area surrounding this project is predominantly undeveloped land or farmland, with a few residential (Activity Category B) areas.

Noise levels were modeled at a total of four receptor sites within the project study area. Of those four total receptors, three noise receptors represented single-family residences, and one noise receptor represented a multi-family residence. All residential sites were modeled as Activity Category B. Activity Category G land uses include undeveloped lands that are not permitted. There

is no NAC level for this activity category. Additional detail regarding the existing noise conditions is available in the NSR located in the project file.

2.4.9 CONTAMINATION SITES

A Contamination Screening Evaluation Report (CSER) was prepared for this study. Based on the results of the CSER, 26 potential contamination sites and three pond locations in the study area were assigned Contamination Risk Ratings (CRRs). The CRR system was developed by FDOT and incorporates four levels of risk: No, Low, Medium and High. Eight of the 26 facilities identified were categorized as Medium risk with the remaining sites categorized as Low risk.

The locations of the potential contamination sites are depicted in **Figure 2-9**.

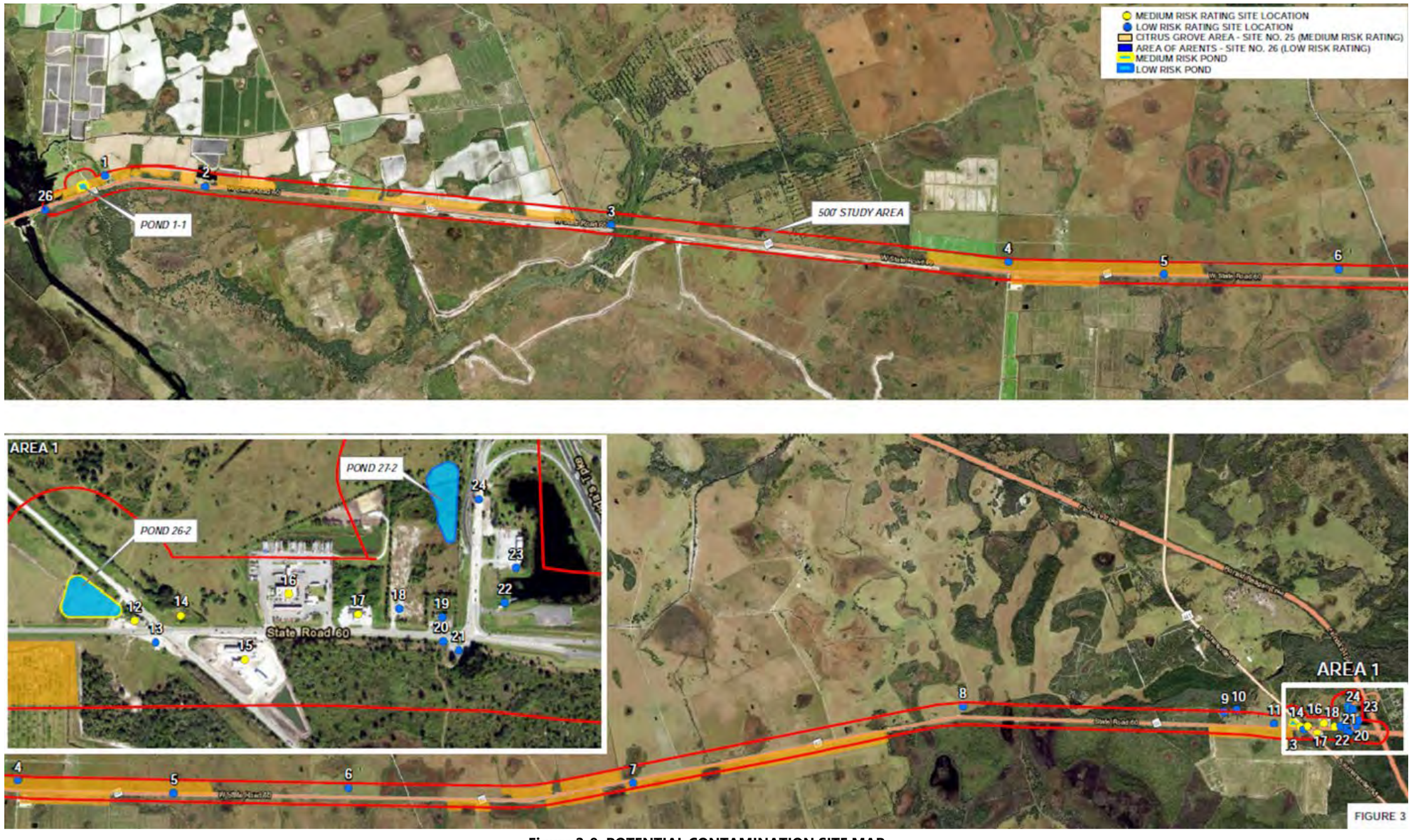


Figure 2-9: POTENTIAL CONTAMINATION SITE MAP

3.0 FUTURE CONDITIONS

This section provides information about the projected future conditions of the study area including future traffic, land-use and other programmed projects.

3.1 PROJECT TRAFFIC

Future forecasted traffic volumes were developed based on procedures outlined in the 2024 FDOT Project Traffic Forecasting Handbook using the Central Florida Regional Planning Model (CFRPM) version 7.0 (v7.0). The project traffic volumes were developed for the opening year (2030) and design year (2050), and their analysis results are summarized in the PTAR.

Development of traffic projections for the study corridor involved the following:

- Review of 2045 CFRPM under both No Build and Build scenarios
- Population and employment data was compared to the 2045 CFRPM data and was determined that the model land use data adequately represented the anticipated development in the study area.
- Development of growth rates based on the latest Bureau of Economics & Business Research [BEBR] low, medium, and high population estimates, which relied on other factors such as the future development intensity along the study corridor, existing traffic patterns, and engineering judgement to decide reasonable future growth rates
- Review of Previous/Ongoing Studies: Yeehaw Junction Interchange Modification Report (IMR)
- Annual growth rates were calculated using the existing 2025 AADT and the 2045 model-based AADT volumes. This approach ensures consistency with the 2050 AADT projections used in the Yeehaw Junction IMR.

Figure 3-1 shows the future build geometry for the S.R. 60 Corridor. Existing and Future AADT is provided in **Figure 3-2**. Future year turning movements are shown in **Figure 3-3** and **Figure 3-4**.

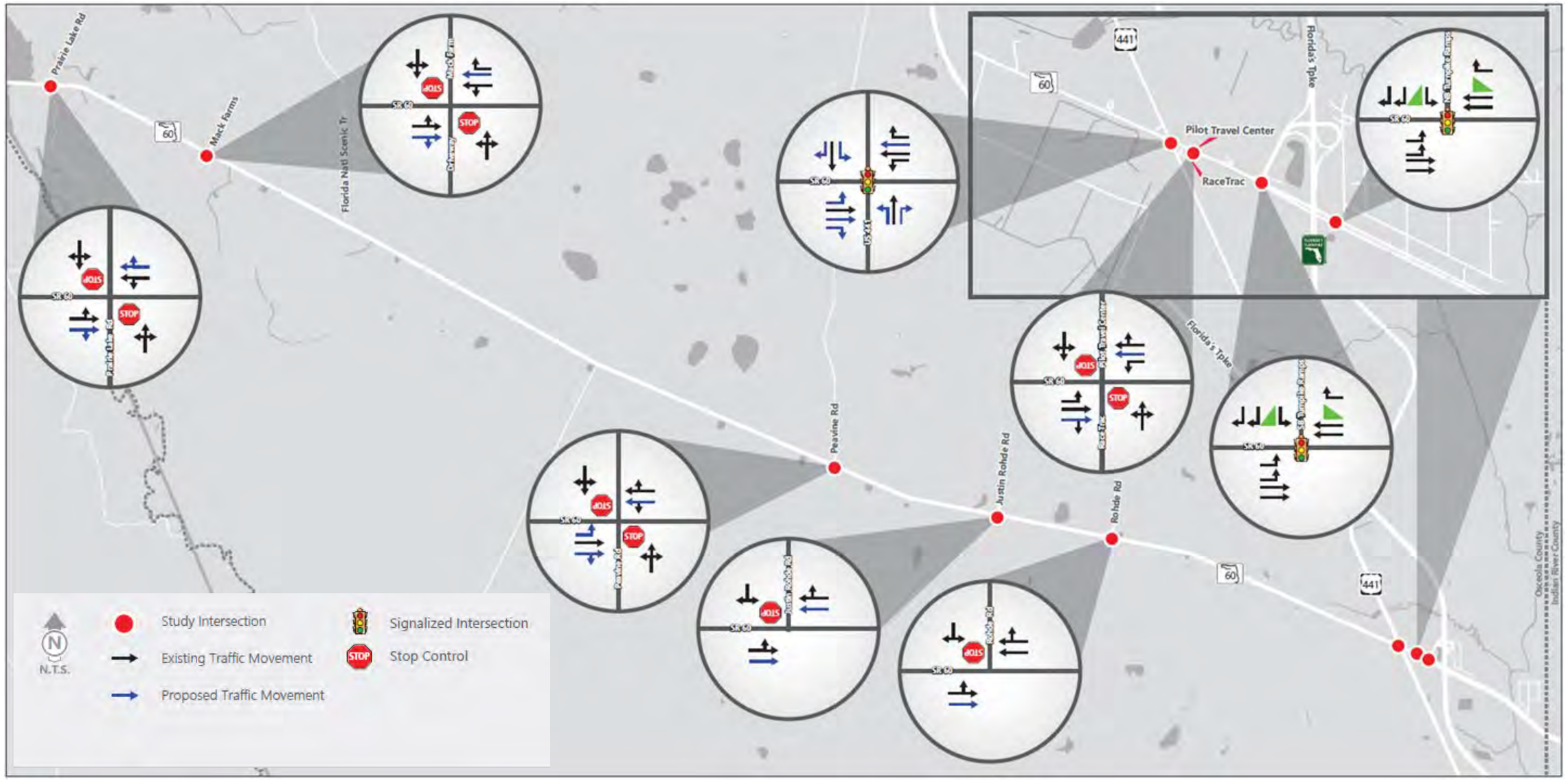


Figure 3-1: FUTURE BUILD GEOMETRY

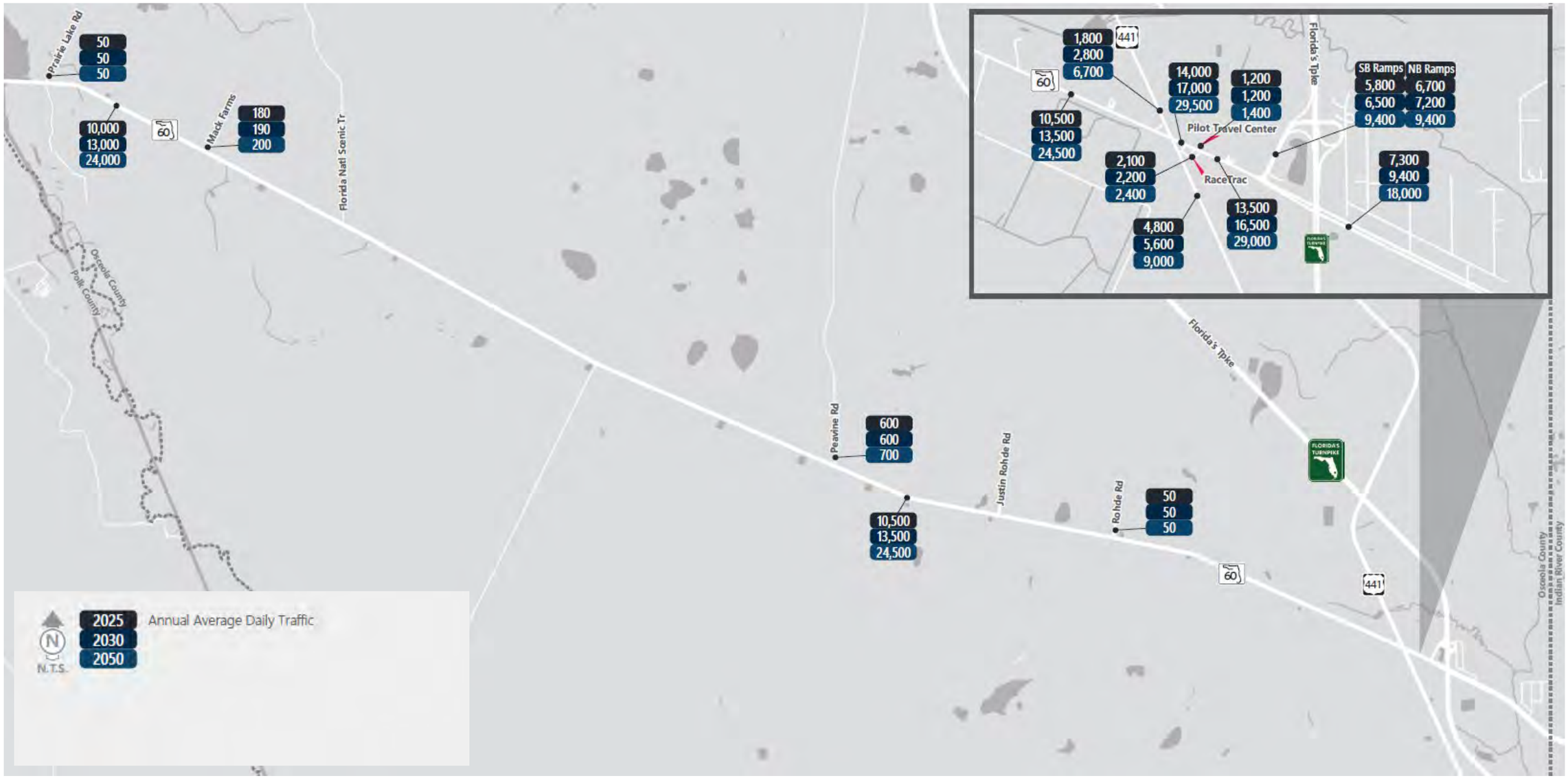


Figure 3-2: EXISTING AND FUTURE AADT

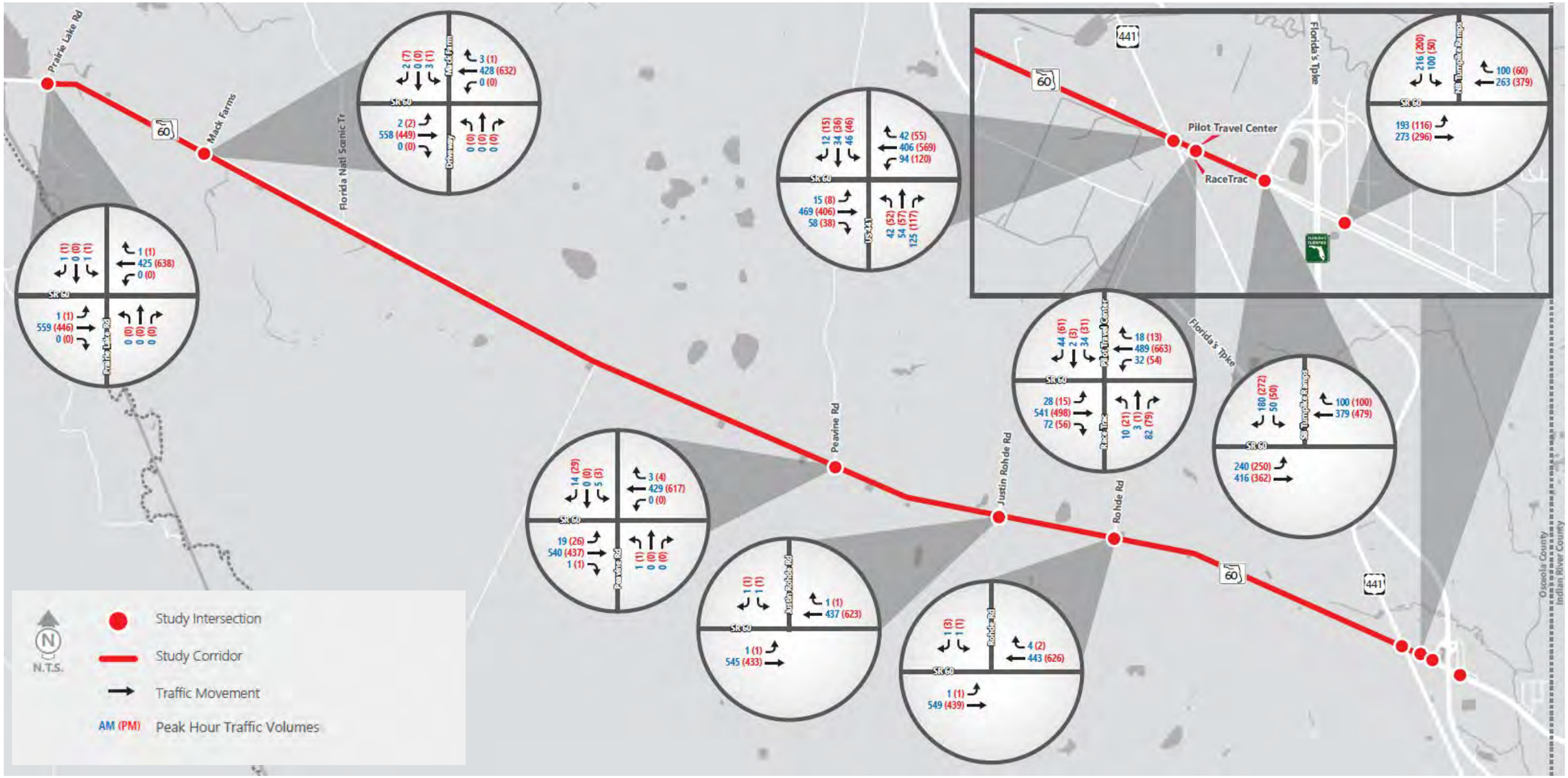


Figure 3-3: FUTURE YEAR 2030 TURNING VOLUMES

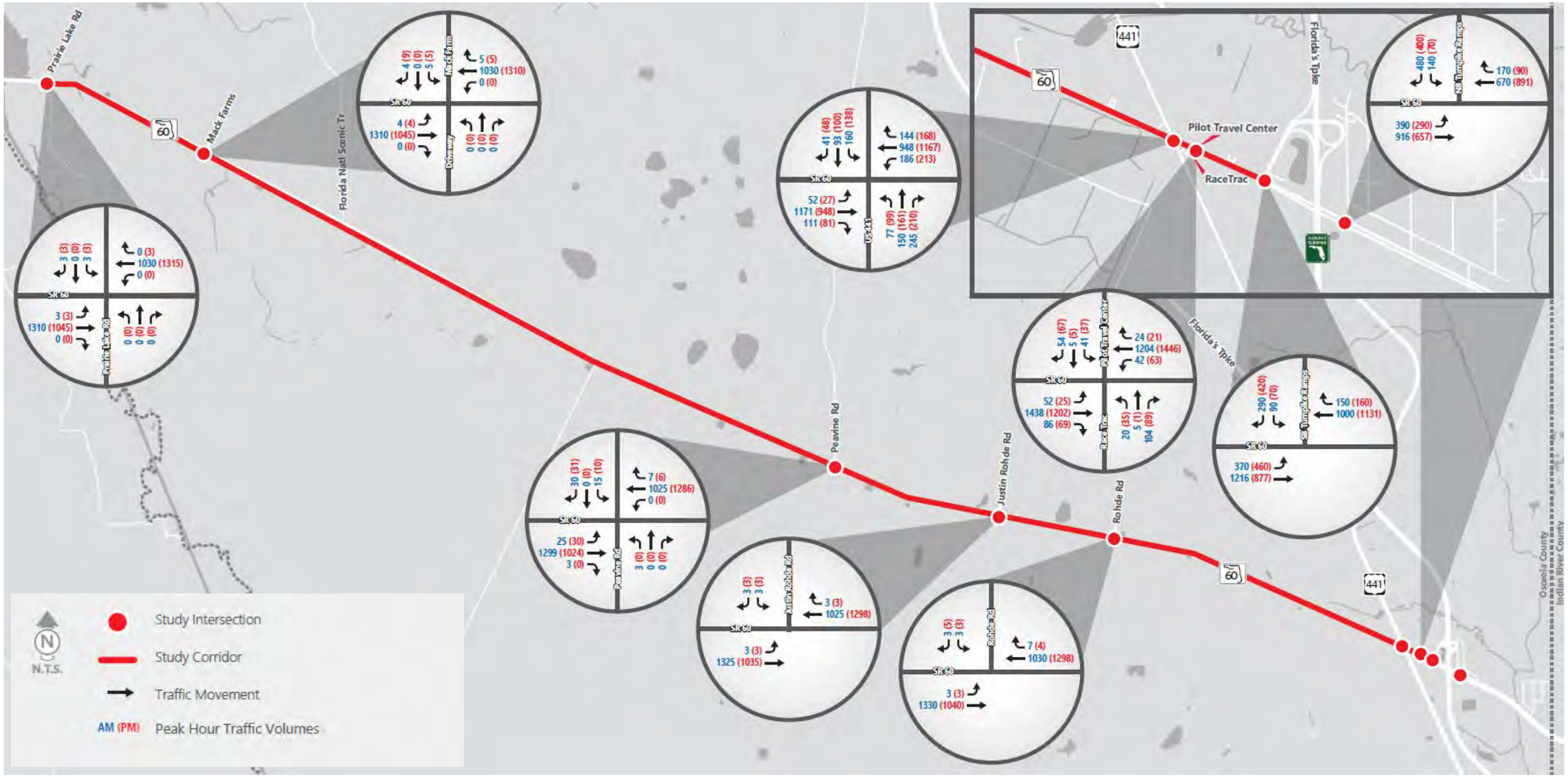


Figure 3-4: FUTURE YEAR 2050 TURNING VOLUMES

3.2 CONTEXT CLASSIFICATION

The future S.R. 60 section within and adjacent to this project will serve as an effective Rural Principal Arterial-Other to facilitate mobility and access to abutting land uses in the area. The S.R. 60 facility future context classifications will remain C2 (Rural) from Prairie Lake Road to 0.4 miles east of Kenansville Road and C3 (Suburban Residential) from 0.4 miles east of Kenansville Road to Florida's Turnpike.

3.3 FUTURE LAND USE

The anticipated future land uses in the study area are consistent with the existing land uses. The adopted Osceola County Comprehensive Plan 2040 Future Land Use Map (FLUM) classifies the portion of S.R. 60 contained within the project study area.

Osceola County future major land uses include Agriculture (94.0%), Commercial (0.82%), Conservation (0.62%), Mixed Use – General (1.28%), Transportation/Utilities (2.94%), and Water (0.23%). Future land use designation for the year 2040 expects that S.R. 60 will primarily be located through rural lands. There are small portions of the roadway located through commercial and mixed use lands. The Osceola County 2040 future land use maps are included in **Appendix G**. The project is anticipated to support Osceola County future land use plans.

4.0 DESIGN CONTROLS & CRITERIA

Design controls and criteria must be established prior to the formulation of design alternatives to ensure an adequate, safe, functional, and operational roadway. These criteria are needed to develop typical sections, horizontal and vertical alignments, and other design features such as drainage, aesthetics, landscaping, and multimodal roadways. In addition, the consideration of the facility's Context Classification strives to ensure that "state roadways are supportive of safe and comfortable travel for their anticipated users".

Several design standards and manuals were evaluated to lay out the applicable design criteria for this PD&E study. The design criteria is based on the parameters outlines in the current edition (as of July 2025) of these publications:

- FDOT FDM, 2024
- FDOT Structures Manual, AASHTO - LRFD Bridge Design Specifications (9th edition), 2020
- FDOT Manual of Uniform Minimum Standards for Design, 2016
- FDOT Standard Specifications for Road and Bridge Construction, 2022
- FDOT Standard Plans for Road and Bridge Construction, 2023-2024
- FDOT Utility Accommodation Manual, FDOT, 2017
- FDOT Drainage Manual, 2024
- FDOT Highway Safety Manual, 2015
- Manual of Uniform Traffic Control Devices (MUTCD), FHWA, 2023
- Roadside Design Guide, AASHTO, 2011

The design controls and standards used to develop the typical sections, horizontal and vertical alignment requirements, and other design features are further discussed in the following section.

4.1 DESIGN CONTROLS

4.1.1 CONTEXT CLASSIFICATION AND TARGET SPEED

During the alternatives analysis phase, the existing context classifications were reviewed based on future land use. No changes in context classification are proposed. The roadway segments were also evaluated for target design speeds based on classification and the roadway's SIS designation, recommending Target Speeds for Segment 1 to be increased to 65 mph.

The design controls that were used in the S.R. 60 build alternative development are shown in **Table 4-1** and **Table 4-2** for Segments 1 and 2, respectively.

4.2 DESIGN CRITERIA

4.2.1 ROADWAY DESIGN CRITERIA

The roadway design criteria used in the S.R. 60 build alternative development is also summarized in **Table 4-1** for Segment 1 and **Table 4-2** for Segment 2.

Table 4-1: SEGMENT 1 ROADWAY DESIGN CONTROLS AND CRITERIA (MP 0.000 to MP 19.303)

Design Element	Criteria	Source
Functional Classification	Rural Principle Arterial Other	Straight Line Diagram
Context Classification	C2-Rural	FDOT SIS GIS App
SIS Highway	Yes	Straight Line Diagram
Access Classification	3	Straight Line Diagram
Design Speed	65 mph (SIS Minimum)	2025 FDM 201.5.1; Table 201.5.1
Clear Zone	36-ft (Travel Lanes), 24-ft (Auxiliary Lanes)	2025 FDM 215.2.3; Table 215.2.1
Number of travel lanes	4	PTAR
Travel Lane Width	12-ft	2025 FDM 210.2; Table 210.2.1
Median Width	40-ft	2025 FDM 210.3.1; Table 210.3.1
Border Width	40-ft	2025 FDM 210.7; Table 210.7.1
Standard Pavement Cross Slope	0.02	2025 FDM 210.2.4; Figure 210.2.1
Max. Algebraic Diff. in Cross Slope between adjacent through lanes	0.04	2025 FDM 210.2.4
Max. Algebraic Diff. in Cross Slope between a through lane and auxiliary lane	0.05	2025 FDM 210.2.4 Table 210.2.2
Standard Outside Shoulder Width	12-ft (Full Width), 5-ft (Paved)	2025 FDM 210.4; Table 210.4.1,Note 1 (> 10% trucks)
Standard Inside Shoulder Width	8-ft (Full Width), 4-ft (Paved)	2025 FDM 210.4; Table 210.4.1
Shoulder Cross Slope (inside)	5% or 6%	2025 FDM 210.4.1
Shoulder Cross Slope (outside)	6%	2025 FDM 210.4.1
Front Slope	1:6 (0-5-ft Fill) 1:6 to Clearzone then 1:4 (5-10-ft Fill) 1:6 to Clearzone then 1:3 (10-20-ft Fill) 1:2 with guardrail (>20-ft Fill)	2025FDM 215.2; Table 215.2.3
Back Slope	1:4 or 1:3	2025 FDM 215.2; Table 215.2.3
Min. Ditch Bottom Width	5-ft	2025 FDM 215.2.7.1
Horizontal Geometry		
Max. Deflection w/o curve	0°45'00"	2025 FDM 210.8.1
Horizontal Curvature Length	975-ft (Desirable), 400-ft (Minimum)	2025 FDM 210.8.2; Table 210.8.1
Superelevation	10% (Maximum)	2025 FDM 210.9
Superelevation Transition Slope Rates	1:250	2025 FDM 210.9; Table 210.9.3
Minimum Superelevation Transition Length	100-ft	2025 FDM 210.9; Table 210.9.3
Standard Decel Length for Turn Lanes	460-ft	2025 FDM 212; Exhibit 212-1
Vertical Geometry		
Max. Grade	3%	2025 FDM 210.10.1; Table 210.10.1
Max Change in Grade without a Vertical Curve	0.3 (65 mph)	2025 FDM 210.10.1; Table 210.10.2
Minimum Base Course clearance from water	3-ft	2025 FDM 210.10.3
Min. Stopping Sight Distance	645-ft (2% or less Grade)	2025 FDM 210.11.1; Table 210.11.1
Vertical Curve K Value (Sag)	157	2025 FDM 210.10.2; Table 210.10.3
Vertical Curve K Value (Crest)	313	2025 FDM 210.10.2; Table 210.10.3
Minimum Vertical Curve Length (Sag)	350	2025 FDM 210.10.2; Table 210.10.4
Minimum Vertical Curve Length (Crest)	450	2025 FDM 210.10.2; Table 210.10.4

Table 4-2: SEGMENT 2 ROADWAY DESIGN CONTROLS AND CRITERIA (MP 19.303 to MP 20.220)

Design Element	Criteria	Source
Functional Classification	Rural Principle Arterial Other	Straight Line Diagram
Context Classification	C3R-Suburban Residential	FDOT SIS GIS App
SIS Highway	Yes	Straight Line Diagram
Access Classification	3	Straight Line Diagram
Design Speed	45 mph (45 mph SIS Minimum)	2025 FDM 201.5.1; Table 201.5.1
Clear Zone	24-ft (Travel Lanes), 14-ft (Auxiliary Lanes)	2025 FDM 215.2.3; Table 215.2.1
Number of travel lanes	4	PTAR
Travel Lane Width	11-ft minimum, 12' desired	2025 FDM 210.2; Table 210.2.1
Median Width	22-ft	2025 FDM 210.3.1; Table 210.3.1
Border Width	14-ft	2025 FDM 210.7; Table 210.7.1
Standard Pavement Cross Slope	0.02	2025 FDM 210.2.4; Figure 210.2.1
Max. Algebraic Diff. in Cross Slope between adjacent through lanes	0.04	2025 FDM 210.2.4
Max. Algebraic Diff. in Cross Slope between a through lane and auxiliary lane	0.05	2025 FDM 210.2.4 Table 210.2.2
Front Slope	1:6 (0-5-ft Fill) 1:6 to Clear zone then 1:4 (5-10-ft Fill) 1:6 to Clear zone then 1:3 (10-20-ft Fill) 1:2 with guardrail (>20-ft Fill)	2025FDM 215.2; Table 215.2.3
Back Slope	1:4 or 1:3	2025 FDM 215.2; Table 215.2.3
Min. Ditch Bottom Width	5-ft	2025 FDM 215.2.7.1
Horizontal Geometry		
Max. Deflection w/o curve	1º0'00"	2025 FDM 210.8.1
Horizontal Curvature Length	675-ft (Desirable), 400-ft (Minimum)	2025 FDM 210.8.2; Table 210.8.1
Superelevation	5% (Maximum)	2025 FDM 210.9
Superelevation Transition Slope Rates	1:200	2025 FDM 210.9; Table 210.9.3
Minimum Superelevation Transition Length	75-ft	2025 FDM 210.9; Table 210.9.3
Standard Deceleration Length for Turn Lanes	185-ft	2025 FDM 212; Exhibit 212-1
Vertical Geometry		
Max. Grade	4% (Truck Volume ≥ 10%)	2025 FDM 210.10.1; Table 210.10.1, Note 1
Max Change in Grade without a Vertical Curve	0.7 (45 mph)	2025 FDM 210.10.1; Table 210.10.2
Minimum Base Course clearance from water	3-ft	2025 FDM 210.10.3
Min. Stopping Sight Distance	400-ft downgrade, 331-ft upgrade (6%)	2025 FDM 210.11.1; Table 210.11.1
Vertical Curve K Value (Sag)	79	2025 FDM 210.10.2; Table 210.10.3
Vertical Curve K Value (Crest)	98	2025 FDM 210.10.2; Table 210.10.3
Minimum Vertical Curve Length (Sag)	135	2025 FDM 210.10.2; Table 210.10.4
Minimum Vertical Curve Length (Crest)	135	2025 FDM 210.10.2; Table 210.10.4

4.2.2 BRIDGE DESIGN CRITERIA

4.2.2.1 SPECIFICATIONS AND DESIGN MANUALS

Design of the Blanket Bay Slough bridge replacement requires reference to the following for design criteria:

- FDOT Structures Manual, January 2025 including Structures Design Guidelines (SDG), Structures Detailing Manual (SDM), and subsequent design bulletins as applicable.
- FDOT Standard Plans for Road and Bridge Construction, FY 2025-2026
- FDOT Standard Specifications for Road and Bridge Construction, FY 2025-2026
- FDOT Basis of Estimates Manual, 2025 Edition
- AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, 9th Edition

4.2.2.2 TYPICAL SECTION CRITERIA

The typical section widths recommended for use in designing the replacement bridges are summarized in **Table 4-3**.

Table 4-3: DESIGN CRITERIA FOR STRUCTURES

Design Element	Criteria	Source
Number of travel lanes (in each direction)	2	Selected by study
Lane Width	12-ft	FDM 260.2
Cross Slope	0.02	FDM 260.4
Outside shoulder width	10-ft	FDM Figure 260.1.1
Inside shoulder width	6-ft	FDM Figure 260.1.1
Median width	40-ft	FDM 260.5

A Bridge Development Report (BDR) and Bridge Hydraulic Report (BHR) will be prepared in the design phase to provide recommendations for bridge structure configuration including minimum bridge length, span lengths, vertical clearance, superstructure requirements, and pile depths due to anticipated scour.

4.2.3 DRAINAGE DESIGN CRITERIA

The Conceptual Drainage Design Report for the project outlines the specific drainage design criteria (water quality, water quantity, and detention/retention pond configuration) and is located in the project file.

Stormwater management design criteria required by both WMDs are uniquely different in regard to water quality treatment and water quantity attenuation. **Table 4-4** itemizes each WMD's water quality and quantity design criteria. All basins influenced by the study area are open basins.

There are no aquatic preserves in the project area. Kissimmee River is classified as an Outstanding Florida Water (OFW). Lake Kissimmee is also classified as impaired. For discharges to these

waterbodies, 50% additional treatment volume and permanent pool volume will be provided in stormwater management facilities with anticipated direct discharge.

Table 4-4: WATER MANAGEMENT DESIGN CRITERIA

SFWMD	SJRWMD
Dry Retention: 50% of the first inch or 50% of 2.5 inches over impervious area Wet Detention: 1-inch or 2.5-inches over new impervious	Dry Retention: One-inch or 1.75-inches over new impervious, 72-hour recovery Wet Detention: 1-inch or 2.5-inches over new impervious
Open Basin: 25-year/72-storm	Open Basin: 25-year/24-hour storm

4.2.3.1 PRESUMPTIVE WATER QUALITY

All FDOT projects must comply with the prevailing statewide regulations, including Chapter 62-330 of the Florida Administrative Code (F.A.C.). The project lies within the jurisdiction of the SJRWMD and the SFWMD.

The required volume of runoff to be treated from a site is determined by the type of treatment system used, i.e. wet detention, detention with effluent filtration, on-line retention or off-line retention treatment systems. Wet detention shall treat one inch of runoff from the contributing area. On-line and off-line retention systems shall treat the runoff from the first one-inch of rainfall or, for projects with drainage areas less than 100 acres, the first one-half inch of runoff. Further, if a project discharges directly into an OFW, 50% additional treatment volume will also be required. It is anticipated that some of the proposed stormwater management sites for this project will discharge into the Kissimmee River OFW.

4.2.3.2 WATER QUANTITY

The SFWMD and SJRWMD Applicant's Handbook Volume II (Applicant's Handbook) states that reasonable assurance must be provided that the proposed construction, alteration, operation, maintenance, removal or abandonment of the works will:

- Not cause adverse water quantity impacts to receiving waters and adjacent lands;
- Not cause adverse flooding to on-site of off-site property;
- Not cause adverse impacts to existing surface water storage and conveyance capabilities; and
- Not adversely impact the maintenance of surface or ground water levels or surface water flows established pursuant to Section 373.042, Florida Statue (F.S.).

For projects located within an open drainage basin, the allowable discharge is:

- The historic discharge, which is the peak rate at which runoff leaves a parcel of land by gravity under existing site conditions, or the legally allowable discharge at the time of permit application; or

- Amounts determined in previous District permit actions relevant to the project.

If SFWMD is determined to be the responsible agency, the design storms below must be analyzed.

- Open Basins
    - 25-year, 72-hour storm using SFWMD rainfall map

If SJRWMD is determined to be the responsible agency, the design storms below must be analyzed. All storms will use an antecedent moisture condition II. Allowable 24-hour storm rainfall depths and distributions are discussed in Section 35.1 of the SJRWMD Applicant's Handbook. Section 35.2 of the handbook provides the allowable rainfall depths and distributions for the 96-hour storm.

- Open Basins
    - Mean annual 24-hour storm for systems serving both of the following:
        - New construction area greater than 50% impervious (excluding waterbodies)
        - Projects for the construction of new developments that exceed the thresholds in paragraphs 62-330.020(2)(b) or (c), F.A.C. o 25-year, 24-hour storm

The FDOT and the statewide ERP program have several criteria which will impact the amount of ROW required for stormwater treatment. Some of these FDOT criteria are:

- A minimum of 20-foot horizontal distance for pond maintenance between Normal Pool Level (NPL) and adjacent easement or ROW line.
- A minimum of 15-foot within this pond maintenance area shall be at a slope of 1:8 of flatter.
- A 1-foot minimum freeboard is required between the maximum design pond stage and inside maintenance berm top of bank.
- Fences should only be installed when a documented maintenance need for restricted access has been demonstrated.

FDOT requirements will also be met for these proposed stormwater ponds. Open basins shall meet stage and attenuation requirements for the critical duration (1-hr through 24-hour) up to and including the 100-year frequency. Closed basins shall meet stage and attenuation requirements for the critical duration (1-hour through 10-day), up to and including the 100-year frequency. Closed basins must also ensure that the post developed volume of runoff does not exceed the pre-development volume of runoff for these events.

The design of stormwater management systems for Department projects will comply with the water quality, rate, and quantity requirements of Section 334.044(15), Florida Statues (F.S.), Chapter 14-86, Florida Administrative Code (F.A.C.), Rules of the Department of Transportation, only in basins closed during storms up to and including the 100-year storm event, or areas subject to historical flooding.

4.2.3.3 FLOODPLAIN COMPENSATION

The current effective FIRMs for Osceola County, dated 2013, indicate multiple areas of encroachment into Special Flood Hazard Zone A, and one area of encroachment into Zone AE. As required by the applicable water management districts, the project must avoid any net loss of flood storage volume within the 100-year floodplain. Given the proposed roadway improvements and the ultimate typical section, all designated floodplain areas located within the project ROW are anticipated to be impacted. Consequently, floodplain compensation will be necessary to offset the loss of storage volume.

5.0 ALTERNATIVES ANALYSIS

The objective of this alternatives analysis for S.R. 60 is to identify technically and environmentally sound alternatives that meet the existing and future capacity/travel demand and improve safety. Alternatives considered include the No-Build Alternative and the Build Alternative. **Table 5-4** at the end of this section presents the summary of project impacts and costs. For the purpose of the alternatives analysis the project is split into two primary roadway segments:

- Segment 1: From Prairie Lake Road to Kenansville Road
- Segment 2: From Kenansville Road to Florida's Turnpike

5.1 NO-BUILD ALTERNATIVE

The No-Build Alternative assumes no improvements to S.R. 60 within the study area other than currently programmed improvements and routine maintenance. The No-Build Alternative offers advantages such as no project cost, no ROW acquisition, no impacts to the natural or social environment, and no traffic disruption due to construction activities. Although the disadvantages of the No-Build Alternative include not meeting the purpose and need of the project, offering no future capacity, operational, or safety improvements, it was considered as a viable alternative throughout the study process and served as the basis of comparison for the Build Alternative.

5.2 TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS ALTERNATIVE

The goal of TSM&O is to maximize safety and efficiency of existing infrastructure. TSM&O utilizes strategies that focus on safety and operational improvements that have the potential to delay, assist or replace larger-scale projects such as roadway widening.

Based on traffic analysis provided in the PTAR, a stand-alone TSM&O alternative will not meet the purpose and need of this project. TSM&O strategies will be further evaluated during the design phase of this project.

5.3 MULTIMODAL ALTERNATIVE

The goal of a Multimodal Alternative would be to provide improvements to accommodate multiple modes of transportation. These may include walking, biking, and transit. There are no existing or future planned multimodal improvements identified by MetroPlan within the project limits. Within Segment 1, pedestrians and bicycles may utilize the proposed paved shoulders. Within Segment 2, buffered bicycle lanes and sidewalks are provided.

5.4 BUILD ALTERNATIVE

The Build Alternative widens S.R. 60 to a four-lane roadway. The engineering analysis included the evaluation of design speed, lane widths, horizontal geometry, profile grade elevation, median type width, border width, and stormwater drainage concepts.

5.4.1 PRELIMINARY CONCEPT EVALUATION

Two preliminary concepts were evaluated to determine an alignment to carry forward for detailed analysis as the Build Alternative. Within Segment 1 a rural high speed typical section with a total width of 266 feet was developed. Within Segment 2 an urban typical section with a total width of 132 feet was developed. The typical sections used are consistent with the Build Alternative Typical Section 1 shown in **Figure 5-1** and Typical Section 4 shown in **Figure 5-4**. The following alignment concepts were evaluated:

- Segment 1:
    - A northern shift alignment (North Concept) that held the existing southern ROW line and limited proposed acquisition to the north side
    - A southern shift alignment (South Concept) that held the northern ROW and proposed acquisition on the south side of the existing S.R. 60
- Segment 2:
    - Both concepts were identical, balancing ROW acquisition to the north and south and tying to the existing four-lane condition approaching Florida's Turnpike

The initial screening considered ROW impacts, construction cost, utility relocations and environmental impacts. **Table 5-1** summarizes the initial screening results. Based on this analysis, the North Concept was carried forward for detailed analysis as the Build Alternative.

Table 5-1: PRELIMINARY CONCEPT SCREENING MATRIX

Evaluation Factors	North Concept	South Concept
PROJECT GOALS (PURPOSE AND NEED)		
Meets Future Traffic Demand	Yes	Yes
Enhanced Roadway Safety	Yes	Yes
ENVIRONMENT		
Species/Habitat (Potential Interactions)*	Low	High
Potential Contamination Sites*	Low	Low
Wetlands and Other Surface Water (OSW) Impacts (acres)*	52.4	48.0
Conservation Lands*	Medium	High
Floodplains (acres)*	217.9	184.6
Farmlands*	High	High
UTILITIES		
Utility Conflicts/Relocations*	Low	High
RIGHT-OF-WAY (ROW)		
Number of Business Relocations	0	0
Number of Residential Relocations	5	2
Total Number of Parcels	50	38
Right of Way Acquisition (acres)	400	407
PROJECT COST		
Estimated ROW Cost	$90.6 M	$295.0 M
Estimated Construction Cost	$273.2 M	$268.5 M
Total Cost**	$363.8 M	$563.5 M

*Based on desktop screening

**Does not include Design or Construction Engineering Inspection (CEI) Costs

5.4.1 Build Alternative

Within Segment 1 the Build Alternative widens S.R. 60 from the existing two-lane rural roadway to a four-lane divided roadway. The typical section generally includes a 40-foot grassed median,12-foot (five-foot paved) outside shoulders, eight-foot (four-foot paved) inside shoulders, and roadside stormwater treatment swales. The existing bridge over Blanket Bay Slough (ID# 920172) will be replaced with dual bridge structures. Each bridge will accommodate two 12-foot travel lanes with 10-foot outside shoulders and six-foot inside shoulders, one bridge for eastbound traffic and the other for westbound traffic. Additionally, during detailed analysis, a reduced typical section was developed within Segment 1 from the begin project through the first major curve, approximately 1.32 miles. This typical section improves safety by facilitating a reduced roadway superelevation through the curve, provides a transition between this project and the proposed Build Alternative from the 2017 PD&E Study located west of the project, reduces ROW impacts and reduces wetland impacts. This reduced typical section utilizes roadside ditches

and a stormwater treatment pond. The typical sections for Segment 1 are shown in **Figure 5-1** through **Figure 5-3**.

Within Segment 2 the Build Alternative widens S.R 60 from the existing two-lane rural roadway to a four-lane divided roadway. The typical section includes curb and gutter, a 22-foot raised grass median, 12-foot travel lanes, and seven-foot buffered bike lanes. This segment also includes six-foot sidewalks, and a closed drainage conveyance system with stormwater treatment ponds. The typical section for Segment 2 is shown in **Figure 5-4**.

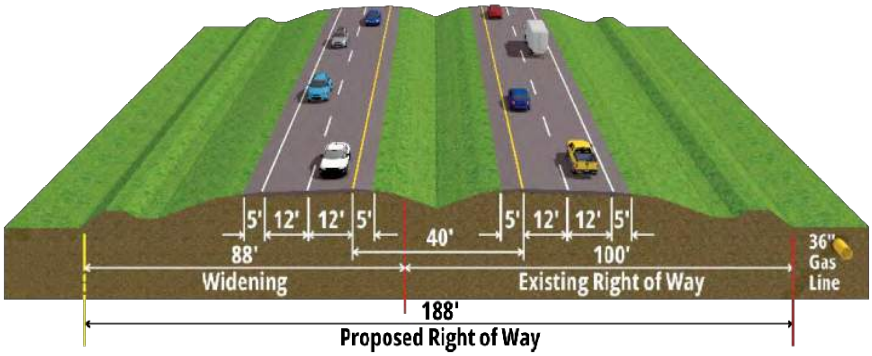


Figure 5-1: S.R. 60 BUILD TYPICAL SECTION 1
(WEST OF PRAIRIE LAKE ROAD TO EAST OF PRAIRIE LAKE ROAD)

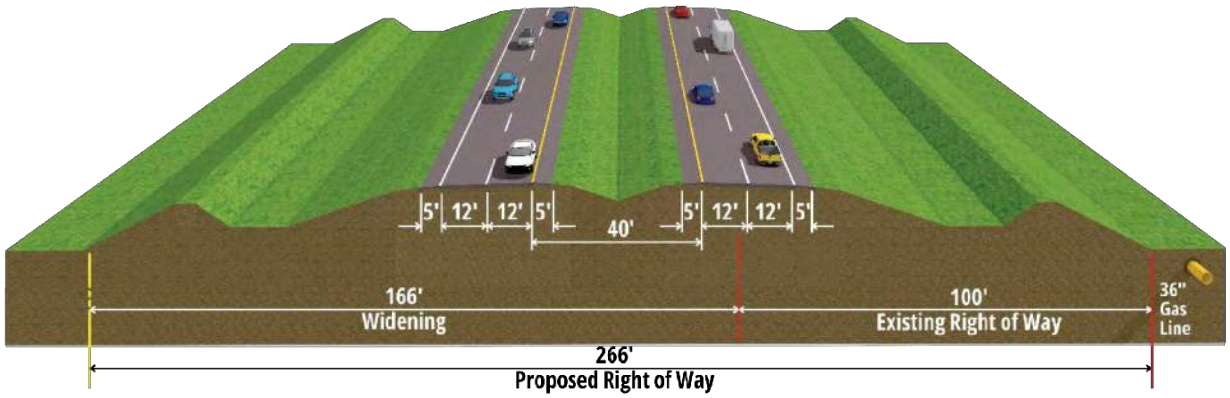


Figure 5-2: S.R. 60 BUILD TYPICAL SECTION 2
(EAST OF PRAIRIE LAKE ROAD TO WEST OF KENANSVILLE ROAD)

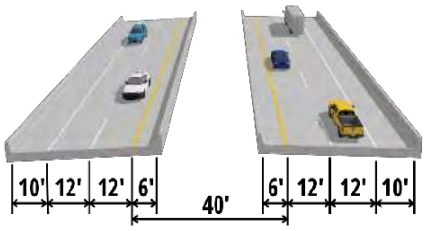


Figure 5-3: S.R. 60 BUILD TYPICAL SECTION 3
(BLANKET BAY SLOUGH BRIDGES)

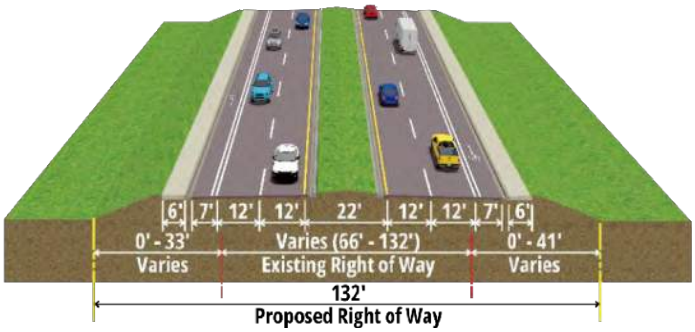


Figure 5-4: S.R. 60 BUILD TYPICAL SECTION 4
(WEST OF KENANSVILLE ROAD TO FLORIDA'S TURNPIKE)

The Build Alternative is detailed in the Concept plans provided in **Appendix A.**

5.4.2 TRAFFIC AND SAFETY ANALYSIS

Based on analysis documented in the PTAR, the Build Alternative will result in operational improvements when compared to No-Build. The Level of Service (LOS) for each roadway segment in the Existing Year (2025), Opening Year (2030), and Design Year (2050) are listed in **Table 5-2** below:

Table 5-2: EXISTING AND FORECAST LOS

Roadway/Segment	Existing Year (2025)	Opening Year (2030)		Design Year (2050)	
		No-Build	Build	No-Build	Build
Segment 1	LOS B	LOS C	LOS A	LOS F	LOS B
Segment 2	LOS B	LOS C	LOS A	LOS F	LOS B

The Level of Service (LOS) for each intersection in the Existing Year (2025), Opening Year (2030), and Design Year (2050) are listed in **Table 5-3** below:

Table 5-3: INTERSECTION LOS SUMMARY

Intersection with S.R. 60	Control Type	Target LOS	Existing 2025 AM Peak Hour		Existing 2025 PM Peak Hour		Build 2030 AM Peak Hour		Build 2030 PM Peak Hour		Build 2050 AM Peak Hour		Build 2050 PM Peak Hour	
			Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
Prairie Lake Road	TWSC	C	0.0/9.9	A/A	0.0/11.2	A/B	8.2/11.6	A/B	8.9/13.1	A/B	10.6/20.7	B/C	12.2/25.5	A/D
Mack Farms	TWSC	C	7.9/17.0	A/C	8.4/12.7	A/B	8.8/14.9	A/B	9.7/12.4	A/B	12.1/33.2	B/D	14.6/25.5	B/D
Peavine Road	TWSC	C	8.2/16.7	A/C	8.4/12.2	A/B	8.9/11.6	A/B	9.8/12.2	A/B	12.4/23.6	B/C	15.1/30.1	C/D
Justin Rohde Road	TWSC	C	0.0/0.0	A/A	0.0/0.0	A/A	8.2/11.2	A/B	8.8/12.3	A/B	10.5/34.5	B/D	12.1/21.6	B/C
Rohde Road	TWSC	C	0.0/0.0	A/A	0.0/11.3	A/B	8.3/11.3	A/B	8.8/11.4	A/B	10.6/34.9	B/D	12.1/19.9	B/C
US 441	Signal	C	28.0	C	24.8	C	17.6	B	15.0	B	32.7	C	28.8	C
Race Trac/ Pilot Travel Center	TWSC	C	8.8/16.1	A/C	9.3/19.8	A/C	9.8/38.0	A/E	10.0/57.0	A/F	18.8/>300.0	C/F	17.1/>300.0	C/F
Florida's Turnpike Ramps (Southbound)	Signal	C	35.1	D	45.0	D	15.5	B	17.0	B	18.0	B	21.3	C
Florida's Turnpike Ramps (Northbound)	Signal	C					21.6	C	17.7	B	22.3	C	18.9	B

5.4.3 SAFETY ANALYSIS

Based on analysis documented in the PTAR, in the Design Year (2050), the Build Alternative is predicted to reduce the total number of crashes by 13 percent, from 158 to 138. Fatal and injury crashes are predicted to be reduced by 19 percent when compared to the No-Build Alternative. Over a 20-year period, the Build Alternative is expected to result in approximately 483 fewer total crashes—a 28.8% reduction compared to the No Build Alternative. The Build Alternative is expected to result in approximately 106 fewer fatal/serious injury crashes – a 42.6% reduction compared the No Build Alternative. This reduction is primarily attributed to the construction of a four-lane roadway with a raised median. Historical crash data revealed a high frequency of head-on fatal/severe injury crashes caused by drivers entering the opposing lane to overtake slower vehicles; the proposed median would significantly reduce this type of conflict. The addition of dedicated left-turn lanes at stop-controlled intersections under the Build Alternative is expected to mitigate rear-end crashes associated with vehicles decelerating to turn onto side streets. Additional details regarding the safety analysis are documented in the PTAR located in the project file.

5.4.4 DRAINAGE

5.4.4.1 POND ALTERNATIVE

A Conceptual Drainage Design Report (CDDR) was prepared for this project and is located in the project file. Based on the analysis documented in the CDDR, the project was delineated into 27 mainline subbasins. The existing drainage divides were determined using one-foot contours generated from LiDAR data from NOAA Coastal Service Center's Digital Coast Data Access Viewer and the USGS topographic quad maps. The project limits span over six primary drainage basins and discharge into two Hydrologic Unit Code (HUC) Basins. Lake Kissimmee, Blanket Bay Slough and Skeeter Slough drain into the Kissimmee River (HUC 03090101). Lokosee ditches, unnamed ditch near Yeehaw Junction, and unnamed tributary to Cow Log Branch drain into the Upper St. Johns (HUC 03080101). All basins within the project limits are open basins.

Linear retention swales on either side of the roadway are used for stormwater treatment for 24 of the 27 basins. The basin located at the western end of the project in Segment 1 and the two basins located in Segment 2 will utilize offsite, wet detention ponds.

The linear retention swales are sized to provide sufficient treatment and attenuation volume. Runoff from the travel lanes sheet flows directly to the linear retention swales located on both sides of the roadway. Runoff from the inside shoulders is collected in the depressed median and conveyed to the linear treatment swales via ditch bottom inlets and pipes. Outfall systems then discharge runoff from the linear treatment swales to outfall locations, which are typically near the existing cross drains.

For the three basins that use offsite, wet detention ponds, considerations for pond sites included floodplain, wetland, and utility impacts among others. **Figure 5-5** provides an overview of the build pond sites and the limits of the areas where linear facilities are identified as Build stormwater management alternative.

Basin 1 at the beginning of the project will not use linear retention for stormwater requirements. Three pond alternatives were identified for Basin 1. One of the potential pond locations was identified north of S.R. 60 and the other two alternatives were located on the south side of the roadway. Preliminary pond sizing calculations show that a site of approximately 3.7 acres would be necessary for stormwater needs. This includes 50% additional treatment volume for discharge into an OFW. Pond 1-1 is the build pond alternative due to proximity to the outfall and avoidance of potential conflicts with the 36" gas main for drainage systems into and out of the proposed pond.

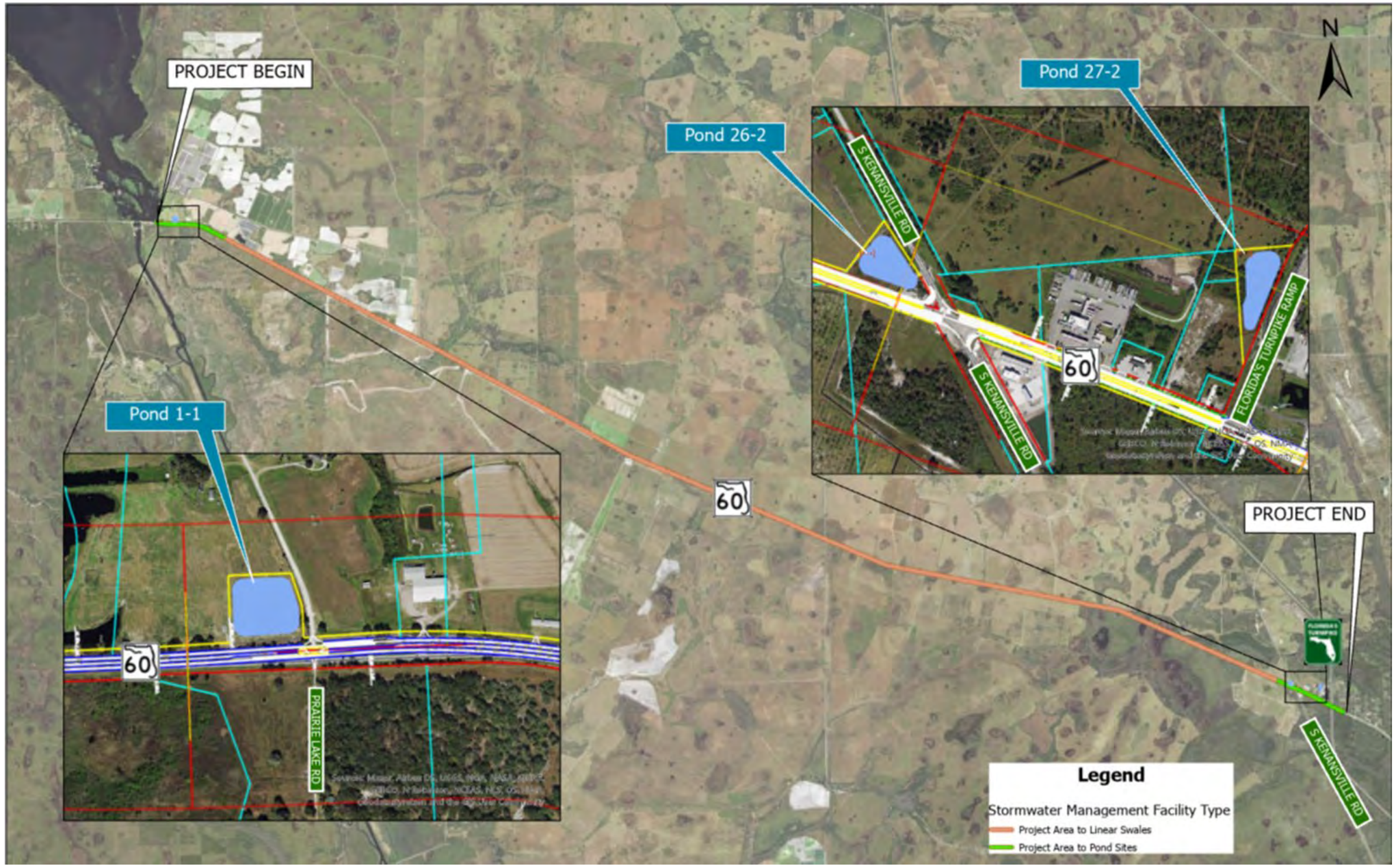


Figure 5-5: PREFERRED STORMWATER MANAGEMENT FACILITY ALTERNATIVES

Basins 2 through 25 are all proposed to use linear retention to meet stormwater requirements for the project. Calculations for these linear facilities were set up to ensure that sufficient treatment volume and attenuation volume will be provided in the proposed typical section. Basins 2 through 10 fall within waterbodies that drain into either Kissimmee River or Blanket Bay Slough. These basins are classified as impaired waterbodies. Basins within impaired waterbodies must perform a pre- and post-condition nutrient loading analysis to verify that there is no increase in nutrient loading in the post-condition. An additional 50% of treatment volume for discharges to impaired waterbodies will not be required per an agreement between SFWMD and FDOT (letter provided in appendices of Conceptual Drainage Design Report for reference). Basins 11 to 26A fall outside of impaired waterbodies. Therefore, these basins do not require nutrient loading analysis to be completed.

Due to the amount of agricultural land immediately adjacent to S.R. 60 throughout the project, there are several areas along the project with existing irrigation ditches/canals parallel or near the roadway. These irrigation ditches generally are flat and provide drainage to the surrounding agricultural fields. The flow pattern for the irrigation ditches is difficult to confirm due to the lack of information on possible pipes connecting irrigation ditches on private property. Based on the information available, the irrigation ditches within Basins 2 through 6 drain to the northwest. There is a main irrigation ditch about 2,500 feet north of S.R. 60 that flows from the east to west and eventually into Lake Kissimmee. Irrigation ditches within Basins 8 through 10 also drain northwest, but discharge into the Blanket Bay Slough which drains back south under S.R. 60. Based on the information available, the irrigation ditches within Basins 11, 12 and a portion of 13 drain to the northwest towards Blanket Bay Slough. The remaining portion of the irrigation ditch in Basin 13, as well as Basins 18 and 19 drain south into the S.R. 60 ROW. Basin 20 also has an irrigation ditch and it drains westerly and then turns north and drains into the Lokosee Ditches waterbody. Several irrigation ditches will be impacted in the proposed condition due to the additional ROW required.

Basin 26 is split into two sub-basins with Basin 26A falling within the rural typical section using linear retention ponds and Basin 26B falling within the urban typical section that will collect and convey runoff to an offsite stormwater pond. The stormwater pond was sized for just the area within the urban section of roadway from Station 1029+85 to the intersection of Kenansville Road. For sizing purposes, it was assumed that a wet pond would be used with 1-foot of treatment volume and 3-feet of maximum pond depth. Two pond alternatives were sited for Basin 26B, both located on the north side west of the existing outfall ditch that connects S.R. 60 and Kenansville Road due to land on the south side of S.R. 60 being designated as conservation. Pond 26-2 is the build pond alternative due to proximity to the outfall and acquisition of the parcel would provide space for future intersection improvements to be constructed at S.R. 60 and Kenansville Road.

Limits for Basin 27 are from Kenansville Road to the bridge over Florida's Turnpike (SR 91). This area currently drains toward the existing cross drain just east of the SR 91 on and off ramps. About 30 acres of offsite area from the south also drains toward the crossing. This cross drain flows into the north roadside ditch. Based on existing RRR plans for S.R. 60, there is an existing inlet just east of the cross drain that collects this runoff and conveys it into the existing FDOT stormwater pond within the infield of SR 91 and its ramps. Due to Basin 27 already being routed to an existing stormwater pond, it would be recommended that an allowable portion of the basin continue to

be sent to the existing pond in the infield and the remaining basin be routed to the proposed new stormwater pond. The existing pond outfalls in the northwest corner of the site under the ramps and into a ditch along the west side of the southbound off ramp. This ditch continues north along SR 91 and eventually drains into the Cow Log Branch. As was the case in Basin 26B, land on the south side of the roadway is designated as conservation. This eliminated pond sites from consideration on the south side, and resulted in both pond alternatives for this basin being sited on the north side of S.R. 60 along the ramp to Florida's Turnpike. Pond 27-2 is the build pond site alternative due to proximity to the outfall and being located within a parcel along the limited access ROW for the SR 91 ramps.

Additional detail with regard to stormwater management alternatives, criteria, and comparisons is available in the Conceptual Drainage Design Report (CDDR). Similarly, drainage maps and sizing calculations for alternatives are provided within the CDDR.

5.5 COMPARATIVE ALTERNATIVES EVALUATION

The No-Build and Build Alternatives were evaluated based on the ability to meet the purpose and need, environmental impacts and cost. A summary of the findings is shown in **Table 5-4.**

5.5.1 PURPOSE AND NEED

The Build Alternative meets the purpose and need by accommodating future travel demand and improving safety. The No-Build Alternative does not address future travel demand and safety.

5.5.2 POTENTIAL SOCIOCULTURAL/ECONOMIC IMPACTS

No changes to population or demographic characteristics of the study area are anticipated from the implementation of the Build Alternative. The project will not further divide neighborhoods or create social isolation. No community facilities will be impacted. The project will improve mobility by providing additional transportation capacity. The improved mobility will provide economic benefits related to the movement of freight and services and travel to and from employment centers. The project supports the surrounding land uses designated by Osceola County's Comprehensive Plan. The project will convert approximately 194.3 acres of agricultural land-use to non-agricultural land uses. The project will improve mobility in the area by providing additional transportation capacity and improving emergency evacuation. The project will result in acquisition of 392 acres and four potential residential relocations.

5.5.3 POTENTIAL CULTURAL RESOURCES AND RECREATIONAL IMPACTS

5.5.3.1 SECTION 4(F)

Two existing recreational trails that are part of the Florida National Scenic Trail (Three Lakes Access Road Trail Connector and Three Lakes Wildlife Management Area Trail) are located along existing SR 60 right of way without limitation to location and utilize the existing roadway shoulders. The project will maintain continuity of these trails. These qualify for the exception for trails, paths, bikeways, and sidewalks listed in *23 CFR 774.13(f)(3)*. The approved exception/exemption determination form is located in the project file.

The project will impact 0.26 acres of a parcel that is owned by Florida Department of Environmental Protection and utilized as an access road to Three Lakes Wildlife Management Area. The project design will maintain access to this dirt road as part of the design and during construction. Section 4(f) is not applicable because the Three Lakes Access Road functions for transportation purposes and not a Section 4(f) use. Section 4(f) was determined not to be applicable to this property. The approved determination of applicability (not applicable) is located in the project file.

The project will impact 3.22 acres of the Deluca Preserve. The Deluca Preserve is privately owned and managed. The Conservation Easement was designed to protect the conservation value of resources while enabling research and educational activities of this working landscape. The Conservation Easement does not grant general public access, and the land does not function as a public park or recreation area. Section 4(f) is not applicable because the Deluca Preserve is privately owned and under private conservation easement. The approved determination of applicability (not applicable) is located in the project file.

The project will impact 15.32 acres of Adams Ranch Rural and Family Lands Protection Program (RFLPP) Conservation Easement No 4. Adams Ranch is a privately owned working ranch with a RFLPP Conservation Easement held by the Florida Department of Agriculture. The primary purpose of the RFLPP easement does not include management of the property for recreational use or as a wildlife or waterfowl refuge, nor does it include a management plan for natural resources. Section 4(f) is not applicable because Adams Ranch is privately owned and the RFLPP easement does not include the management of the property as a wildlife or waterfowl refuge. The approved determination of applicability (not applicable) is located in the project file.

5.5.3.2 POTENTIAL HISTORIC/ARCHAEOLOGICAL IMPACTS

A Cultural Resource Assessment Survey was completed for this project. No NRHP-eligible or listed historical or archaeological resources are located within the project limits.

5.5.4 POTENTIAL NATURAL RESOURCES IMPACTS

5.5.4.1 WETLANDS AND OTHER SURFACE WATERS

The proposed project will result in 53.14 and 9.02 acres of direct and secondary impacts to wetlands, respectively. The estimated Uniform Mitigation Assessment Method (UMAM) functional loss that would result from the project is 31.59 units resulting from anticipated wetland impacts. Other Surface Water (OSW) impacts for the Build Alternative total 19.9 acres.

There are no aquatic preserves in the project area. Kissimmee River, which is located just outside the project limits on the west end of the project, is an Outstanding Florida Water. Any direct discharge to the Kissimmee River will receive additional treatment as part of the project permitting.

The project area is within the Biscayne Bay Aquifer Sole Source Aquifer Streamflow and Recharge Source Zones. Coordination with the Environmental Protection Agency (EPA) was completed on July 8, 2025. The design of the stormwater management facilities will comply with the standards set forth in the FDOT Drainage Manual and required as part of project permitting.

5.5.4.2 FLOODPLAINS

A Location Hydraulics Report (LHR) was prepared for this project which identified potential impacts and design considerations for floodplains. Based on analysis documented in the Location Hydraulics Report (LHR) the Build Alternative will result in approximately 122.58 acre-feet of floodplain impacts. Compensation for these floodplain impacts will be met with cup-for-cup compensation, but locations have not been sited/identified as part of this study.

FEMA has a zone AE Floodplain designated for the area directly upstream and downstream of the bridge over Lake Kissimmee. Being zone AE, this floodplain does have a base flood elevation (BFE) which has been determined to be 54-feet. Comparison of the mapped floodplain area to the existing LiDAR contours revealed the mapped floodplain encompasses land area above 54-feet. Within Basin 1, a revised floodplain area has been shown that follows the contour for elevation 54-feet. The PD&E Study for S.R. 60 from CR 630 to East of the Kissimmee River Bridge (FPID 433856-1) stated that through coordination with SFWMD it was determined that the Kissimmee River Revitalization Project would cause an increase of approximately 1.5-feet to the current maximum stages. Per correspondence from SFWMD, a peak stage of 55.7-feet is assumed once the Kissimmee River Revitalization Project is completed.

Zone A FEMA floodplains are present through many of the remaining basins (Basin 2 through 25). Due to being designated as zone A, there are no BFE's associated with these floodplains.

5.5.4.3 THREATENED & ENDANGERED SPECIES

A Natural Resources Evaluation (NRE) was completed for this project. The NRE evaluated this project for impacts to federally protected species and designated critical habitat. Florida Bonneted Bat Critical Habitat is present within the project area. Suitable habitat for Eastern black rail, Audubon's crested caracara, Florida bonneted bat, snail kite, and Eastern indigo snake was identified within the project area and could be potentially affected. Consultation with USFWS including species specific surveys will be conducted during the design phase to assign a determination of effect for these species. This project is not likely to adversely affect any other federally listed, state listed or managed and protected species

The effects determinations for the other protected species with the potential to occur within the Build Alternative are included in the Natural Resources Evaluation (NRE) report, located in the project file.

5.5.5 POTENTIAL PHYSICAL RESOURCES IMPACTS

5.5.5.1 NOISE

A Noise Study Report (NSR) was completed for this project. Based on the noise analysis performed, no feasible and reasonable solutions are available to mitigate the noise impacts to the 11 noise sensitive sites identified as impacted. Additional details regarding the noise analysis is included in the NSR, located in the project file.

5.5.5.2 POTENTIAL CONTAMINATION SITES

A Contamination Screening Evaluation Report CSER) was completed for this project. Based on the CSER, ten medium risk sites are located within the project area. Impacts associated with potentially contaminated sites include strip takes of right-of-way and a pond site located on historic agricultural property. Level II assessments are recommended during the design phase for these medium risk sites. Additional detail regarding potential contamination sites is included in the CSER, located in the project file.

5.5.5.3 POTENTIAL UTILITY IMPACTS

A Utilities Assessment Package (UAP) was prepared for this project. Key utilities within the project corridor include an overhead power transmission line along the north side of SR 60, and a 36" natural gas pipeline that primarily runs adjacent to the south side of SR 60. Project design efforts will seek to avoid or minimize impacts to existing utilities.

Additional details regarding the potential for utility impacts is included in the UAP, located in the project file.

5.5.6 EVALUATION MATRIX

The Build and No-Build Alternatives were evaluated based on the ability of each to meet the project's purpose and need, environmental impacts and cost. The No-Build Alternative, which preserves the mainline in its current condition, served as the base condition against which the Build Alternative was compared. **Table 5-4** summarizes the evaluation of the alternatives.

Table 5-4: ALTERNATIVE EVALUATION SUMMARY

Evaluation Factors	No-Build Alternative	Build Alternative
PROJECT GOALS (PURPOSE AND NEED)		
Meets Future Traffic Demand	No	Yes
Enhances Roadway Safety	No	Yes
ANTICIPATED RIGHT-OF-WAY (ROW) IMPACTS		
Potential Number of Parcels Impacted		
Residential	0	0
Commercial	0	4
Agricultural	0	47
Potential Relocations		
Residential	0	4
Commercial	0	0
Agricultural	0	0
Potential (ROW) Acquisition (acres)		
Residential	0	0
Commercial	0	3.8
Agricultural	0	397.9
Prime and Unique Farmlands (acres)	0	194.3
Conservation Lands (acres)	0	16.9
ANTICIPATED CULTURAL RESOURCE IMPACTS		
Potential 4(f) Impacts (High/Med/Low/None)	None	None
Potential Historic Resource Impacts (High/Med/Low/None)	None	None
Potential Archaeological Resource Impacts (High/Med/Low/None)	None	None
ANTICIPATED NATURAL RESOURCE IMPACTS		
Potential Wetland Impacts (acres)	0	62.2
Potential Floodplain Impacts (acre-feet)	0	122.8
Potential Threatened and Endangered Species Impacts (High/Med/Low)	None	Medium
ANTICIPATED PHYSICAL RESOURCE IMPACTS		
Potential Noise Impacts (Impacted Residences)	0	11
Potential Contamination Impacts (Number of Med/High)	None	8
Potential Utility Impacts (High/Med/Low)	None	Low
PRELIMINARY COST ESTIMATES		
Design	$0	$15.0 M
ROW	$0	$86.6 M
Mitigation	$0	$16.4 M
CEI	$0	$27.3 M
Construction	$0	$272.8 M
TOTAL PRELIMINARY COST	$0	$418.1 M

*ROW amounts are subject to change.

5.6 SELECTION OF THE PREFERRED ALTERNATIVE

While an analysis of the evaluation factors provided in the evaluation matrix in **Table 5-4** demonstrates there are no direct impacts associated with the No-Build Alternative, the No-Build Alternative does not meet future capacity needs nor does it increase safety along S.R. 60. With expected increases in traffic volumes, the safety conditions will further decline without improvements to support the increased traffic.

The Build Alternative will meet the project's purpose and need by adding capacity to S.R. 60 thereby accommodating future travel demand. Widening S.R. 60 and constructing medians will improve safety by reducing cross-over and left-turn crashes. Additionally, public input supports the Build Alternative. Based on the results of this analysis, the Build Alternative was selected as the Preferred Alternative for the S.R. 60 PD&E Study.

6.0 AGENCY COORDINATION & PUBLIC INVOLVEMENT

The purpose of the S.R. 60 outreach program is to:

- Share project information with the individuals who work and live in this area;
- Listen to ideas and concerns; and
- Incorporate this input into the study process.

This Section provides information on how the agency coordination and public and stakeholder engagement are being conducted for the S.R. 60 PD&E Study from Prairie Lake Road to Florida's Turnpike.

6.1 AGENCY COORDINATION

An Advanced Notification (AN) Package was developed and sent to the Florida State Clearinghouse on July 1, 2024, for distribution to the appropriate federal and state agencies for review. Additionally, the AN was distributed to local government, non-state agencies and tribal nations. A copy of the Advance Notification Package is available on the ETDM website.

Through the ETDM process (project #14563), FDOT informed the ETAT (Environmental Technical Advisory Team), which includes representatives from numerous federal, state, and local agencies, of the project and its scope through a Programming Screen that began on August 1, 2024. Comments were provided by the ETAT on the project's purpose and need and their findings of the Degree of Effect (DOE) per resource area. After completion of the screening, a Summary Report was published on November 26, 2024, which included FDOT's responses to comments as well as recommendations of Degree of Effect.

6.2 PUBLIC INVOLVEMENT

A Public Involvement Plan (PIP), prepared under separate cover, was created and approved on June 3, 2025, for the S.R. 60 PD&E Study. The PIP outlines the community outreach efforts and the approaches used throughout this project. These approaches are used to engage the general public, public officials, the media, and government agencies in the project's process.

As an added outreach measure, letters were mailed to each property owner with potential ROW impacts within the study limits to offer opportunity for discussion of the study concepts and solicit property owner comments. Based on responses, virtual meetings were provided to allow for early consideration and documentation of concerns. Individual meetings were held with four of the 20 property owners which represented approximately 54 percent of the total impacted area along S.R. 60. Property owners generally expressed support for the widening of S.R. 60 based on the growth in traffic and safety concerns. Key concerns included access management and most quested additional information regarding the FDOT ROW acquisition process. Meeting summaries are documented in the project file.

Table 6-1 provides a list of meetings and presentations to various agencies and properties conducted to date for the project. Additionally, the proposed schedule for the Public Hearing is included. A summary of public involvement activities is included in **Table 6-1** below.

Table 6-1: PUBLIC INVOLVEMENT ACTIVITIES

Meeting	Date	Audience	Location
Public Kickoff Newsletter	May 22, 2025	Osceola County elected officials, agency stakeholders, and property owners	Mass broadcasts (mass email blasts) and Letter Mailing
Osceola County	July 2, 2025 (Virtual)	Osceola County	Microsoft Teams Meeting (4 p.m.)
White Creek Holdings LLC	July 9, 2025 (Virtual)	Property owner	Microsoft Teams Meeting (10 a.m.)
Metroplan Orlando	July 22, 2025 (Virtual)	Agency stakeholder	Microsoft Teams Meeting (10 a.m.)
Arnold H Mack Revocable Trust	August 5, 2025 (Virtual)	Property owner	Microsoft Teams Meeting (10:30 a.m.)
Adams Ranch Trust	August 5, 2025 (Virtual)	Property owner	Microsoft Teams Meeting (2 p.m.)
Bexley Ranch Land Trust	August 5, 2025 (Virtual)	Property owner	Microsoft Teams Meeting (3:30 p.m.)
Public Meeting (virtual)	October 14, 2025 (Virtual)	Osceola County elected officials, agency stakeholders, and property owners	Westgate River Ranch Resort & Rodeo, 3200 River Ranch Boulevard, River Ranch, FL 33867; Public Documents on-site at Kenansville Branch Library, 1154 South Canoe Creek Road, Kenansville, FL 34739 Wednesday, Friday, and Saturday from 10 a.m. to 6 p.m., and on the project website, https://www.cflroads.com/project/452574-1.
Public Meeting (in-person)	October 15, 2025 (in-person)	Osceola County elected officials, agency stakeholders, and property owners	Online: https://www.cflroads.com/project/452574-1. (Update link when available)

To notify the public of the project kickoff, e-mails and notification letters were sent to elected and appointed officials, agencies, stakeholders, and property owners along the project limits as identified in the PIP and Osceola County Property Appraiser website.

The kickoff newsletter included information about the PD&E study such as the project limits, the purpose and need, a tentative schedule for public involvement as well as funding for future project phases and solicited public comments.

6.3 PUBLIC HEARING

A Public Hearing is scheduled to be held October 14, 2025 (virtual), and October 15, 2025 (in-person). Project documents will be available for viewing by the public at the Kenansville Branch Library, 1154 South Canoe Creek Road, Kenansville, FL 34739, from 10 a.m. to 6 p.m on Wednesdays, Fridays, and Saturdays, beginning Friday, September 19, 2025, until Wednesday, October 29, 2025, and on the project website at https://www.cflroads.com/project/452574-1.

This section is to be updated once the Public Hearing Meeting is held.

7.0 PREFERRED ALTERNATIVE

This section discusses the results of the preliminary engineering analysis and environmental evaluation conducted for the Preferred Alternative. The Preferred Alternative involves widening and/or reconstructing the existing undivided two-lane roadway to a four-lane divided highway. Within Segment 1 (from Prairie Lake Road to Kenansville Road), the Preferred Alternative consists of a four-lane rural divided highway with paved shoulders, a grassed median, and roadside swales. The design speed for Segment 1 is 65 mph and will be posted at 65 mph. The alignment for Segment 1 includes a shift of the existing alignment to the north while holding the existing southern ROW. Additionally, the Preferred Alternative will correct the existing deficient horizontal curve geometry. The preferred alternative will also replace the Blanket Bay Slough Bridge (Bridge ID No. 920172) with dual bridge structures. The new bridges will provide two travel lanes for each direction of traffic and has both inside and outside shoulders. Within Segment 2 (from Kenansville Road to Florida's Turnpike), the Preferred Alternative consists of an urban divided four-lane roadway with curb and gutter, buffered bicycle lanes, sidewalks, and a closed drainage conveyance system. The design speed for Segment 2 is 45 mph and will be posted at 45 mph. Segment 2 utilizes a "best fit" alignment to minimize impacts to the adjacent commercial properties. For more details, refer to the concept plans in **Appendix A**.

7.1 TYPICAL SECTIONS

The Preferred Alternative has three typical sections within Segment 1. Typical Section 1 begins west of Prairie Lake Road and ends after Curve 1 which is located approximately 0.74 miles east of Prairie Lake Road. It has two 12-foot-wide travel lanes in each direction, 12-foot wide (five-foot paved) outside shoulders, eight-foot (four-foot paved) inside shoulders, a 40-foot depressed grassed median, and open ditches for stormwater conveyance to a proposed pond. Typical Section 2 begins at the end of Curve 1 and ends approximately 0.30 miles west of the Kenansville Road intersection. It has the same roadway elements as Typical Section 1 with the exception of the ditch, which has been replaced with a 15-foot wide swale to provide stormwater treatment and conveyance. Typical Section 3 consists of the new bridge structures at Blanket Bay Slough. Each structure has two 12-foot travel lanes, six-foot inside shoulders, 10-foot outside shoulders, and 36-inch single slope traffic railing on the inside and outside shoulder points.

Within Segment 2, the Preferred Alternative utilizes Typical Section 4. It begins just west of Kenansville Road and ends at Florida's Turnpike. The roadway typical includes two 12-foot wide travel lanes in each direction, seven-foot buffered bike lanes, curb and gutter, and a 22-foot-wide raised grassed median. A portion of Segment 2 also includes six-foot wide sidewalk adjacent to curb.

The typical sections for the Preferred Alternative are shown in **Figure 7-1** through **7-4**. The Typical Section Package is included in **Appendix B**.

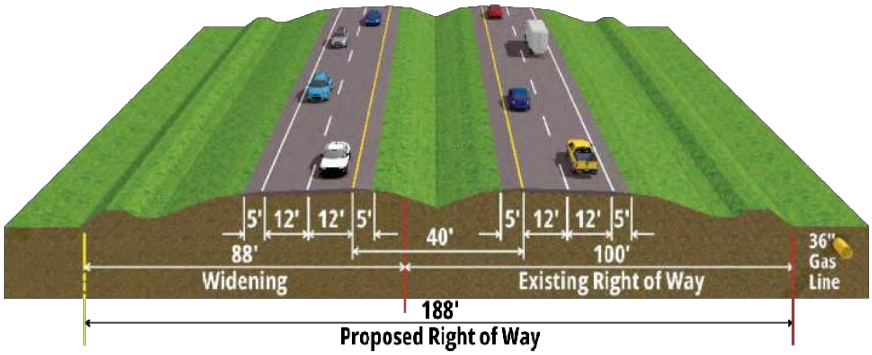


Figure 7-1: S.R. 60 PREFERRED TYPICAL SECTION 1
(WEST OF PRAIRIE LAKE ROAD TO EAST OF PRAIRIE LAKE ROAD)

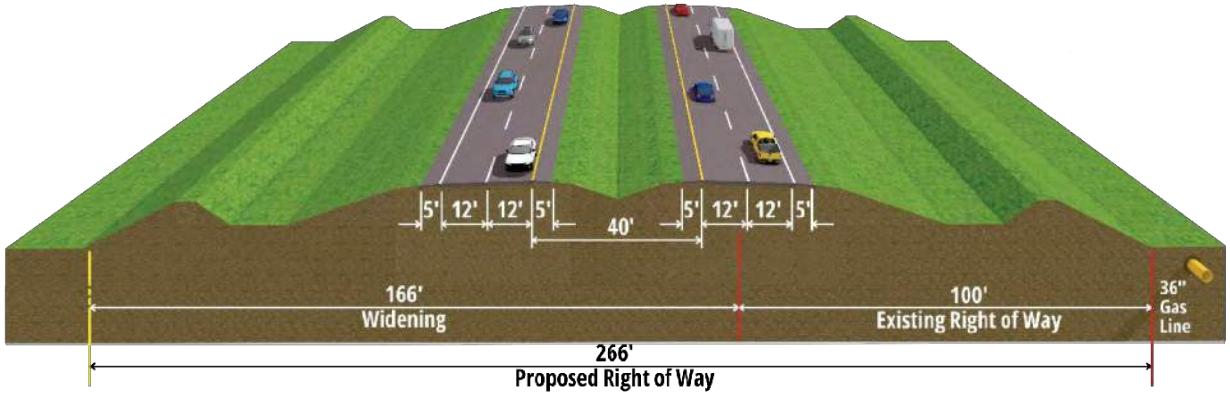


Figure 7-2: S.R. 60 PREFERRED TYPICAL SECTION 2
(EAST OF PRAIRIE LAKE ROAD TO WEST OF KENANSVILLE ROAD)

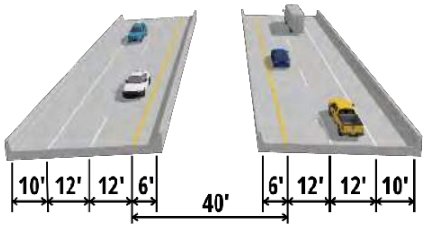


Figure 7-3: S.R. 60 PREFERRED TYPICAL SECTION 3
(BLANKET BAY SLOUGH BRIDGES)

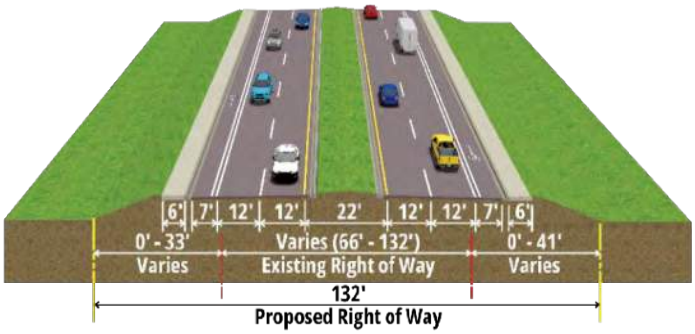


Figure 7-4: S.R. 60 PREFERRED TYPICAL SECTION 4
(WEST OF KENANSVILLE ROAD TO FLORIDA'S TURNPIKE)

7.2 ACCESS MANAGEMENT

Within the project limits, S.R. 60 is categorized as an Access Class 3. The PD&E recommendations do not change the access management classification. The proposed median openings are detailed in **Table 7-1** and are illustrated in the concept plans for the Preferred Alternative in **Appendix A**. The proposed access management improvements seek to improve safety throughout the corridor; however, there are six proposed median openings that do not meet spacing requirements for Access Class 3. The locations of reduced spacing are described below:

- The distance between proposed full median openings at Kissimmee River Locks and Prairie Lake Road is 2,290 feet (a 13% variance from the 2,640-foot standard). Prairie Lake Road is a primary local road and serves both headquarters and agricultural operations for large farming operations.
- The full median opening locations at Stations 1452+50 and 1476+00 are 2,370 feet apart (a 10% variance from standard). The first of these two locations provides access to Bexley Ranch and PEC Minerals properties to the north and Florida Power and Light (FPL) property to the south. The second location provides access to Adams Ranch to the north and FPL to the south.
- The third location is a 2% variance between Mae Bass Road full median opening and a proposed full median opening at Station 1905+00.
- The distance between the existing signals at Kenansville Road and Florida's Turnpike ramps is 2,100 feet representing a 20% variance. These signals will remain in the proposed condition.
- A proposed directional median opening located at Station 2046+50 is located 1,125 feet east of Kenansville Road and 975 feet west of Florida's Turnpike ramps, representing 26% and 15% variances from the required 1,320 criteria. The median opening will serve eastbound left turns into the Pilot gas station.

Table 7-1: PREFERRED ALTERNATIVE MEDIAN LOCATIONS

Location	Station	MP	Type	Spacing Distance to Full				Spacing Distance to Next Opening				Connectivity	
				West		East		West		East		North	South
				Distance	Variance	Distance	Variance	Distance	Variance	Distance	Variance		
Kissimmee River Locks	1014+00	0.264	Full	NA	NA	2,290	-13%	NA	NA	2,290	NA	NA	Kissimmee River Locks
Prairie Lakes Road	1036+90	0.698	Full	2,290	-13%	6,750	NA	2,290	NA	6,750	NA	Hyatt Farms	FPL
Station 1104+40	1104+40	1.976	Full	6,750	NA	4,360	NA	6,750	NA	4,360	NA	Spacing	
Mack Farms	1148+00	2.802	Full	4,360	NA	5,280	NA	4,360	NA	5,280	NA	Mack Farms	FPL
Station 1200+80	1200+80	3.802	Full	5,280	NA	5,670	NA	5,280	NA	5,670	NA	Spacing	
Three Lakes	1257+50	4.876	Full	5,670	NA	5,000	NA	5,670	NA	5,000	NA	Three Lakes/Hyatt Farms/ PEC Minerals/ Bexley Ranch	FPL
Station 1307+50	1307+50	5.823	Full	5,000	NA	8,425	NA	5,000	NA	8,425	NA	Bexley Ranch / PEC Minerals	FPL
Station 1391+75	1391+75	7.419	Full	8,425	NA	6,065	NA	8,425	NA	6,065	NA	Spacing	
Station 1452+50	1452+40	8.567	Full	6,065	NA	2,370	-10%	6,065	NA	2,370	NA	Bexley Ranch / PEC Minerals	FPL
Station 1476+00	1476+10	9.016	Full	2,370	-10%	7,990	NA	2,370	NA	7,990	NA	Adams Ranch	FPL
Station 1556+.00	1556+00	10.529	Full	7,990	NA	7,250	NA	7,990	NA	7,250	NA		
Peavine Road	1628+50	11.903	Full	7,250	NA	6,450	NA	7,250	NA	6,450	NA	Adams Ranch / John Rohde LLC	FPL
Station 1693+00	1693+00	13.124	Full	6,450	NA	5,950	NA	6,450	NA	5,950	NA	John Rohde LLC	UF Foundation
Justin Rhode Rd	1752+50	14.251	Full	5,950	NA	7,000	NA	5,950	NA	7,000	NA	Henry Rohde	UF Foundation
Rhode Rd	1822+50	15.577	Full	7,000	NA	5,650	NA	7,000	NA	5,650	NA	Lisa Ann Rohde Harris	UF Foundation
Mae Bass Road	1879+00	16.647	Full	5,650	NA	2,600	-2%	5,650	NA	2,600	NA	Leroy Rohde / Osceola SR 60 LLC	UF Foundation
Station 1905+00	1905+00	17.139	Full	2,600	-2%	8,825	NA	2,600	NA	8,825	NA		
Station 1993+25	1993+25	18.811	Full	8,825	NA	2,750	NA	8,825	NA	2,750	NA	36 Bar Ranch / U-Turn for White Creek Holdings	U-Turns for 2 residences / UF Foundation
Fleet Masters	2020+75	19.332	Full	2,750	NA	1,450	NA	2,750	NA	1,450	NA	Fleet Masters Towing (Large Truck Towing)	UF Foundation
Kenansville Road	2035+25	19.606	Full	1,450	-45%	2,100	-20%	1,450	NA	1,125	-15%		
Pilot	2046+50	19.819	D - NB	1,125	-15%	975	-26%	1,125	-15%	975	-26%	Pilot	
Turnpike	2056+25	20.004	Full	2,100	-20%	NA	NA	975	-26%	NA	NA		

7.3 RIGHT OF WAY

The existing ROW width along the project corridor in Segment 1 is typically 100 feet. The project will require the acquisition of additional ROW to the north for the proposed alignment shift. The Preferred Alternative spans the length of the project corridor with the widening ranging between approximately 88 to 166 feet beyond the existing 100-foot ROW. Segment 2 has a minimum existing ROW width of 66 feet and proposed a "best fit" centered widening of approximately 33 feet to the north and 41 feet to the south. Preferred stormwater Ponds 1-1, 26-2 and 27-2 are each located north of the existing alignment and require ROW acquisition. The Preferred Alternative will require the acquisition of a total of 401.7 acres of additional ROW.

The Preferred Alternative is anticipated to result in four residential relocations. The relocations are all located on the north side of S.R. 60 west of Kenansville Road between Station 1998+00 and Sation 2002+00. A Conceptual Stage Relocation Plan was prepared for this project and is located in the project file.

7.4 HORIZONTAL AND VERTICAL GEOMETRY

In Segment 1, the Preferred Alternative uses a northern shift in Segment 1 to realign the roadway and a centered widening in Segment 2. The new alignment has larger horizontal curve radii requiring less superelevation compared to the existing horizontal curvature and addresses the deficient/undesirable existing curve lengths noted in Chapter 2. The horizontal curvature is summarized in **Table 7-2** and is detailed in the concept plans provided in **Appendix A**.

Information on existing vertical geometry is limited to SLD's and data from old plans. The vertical alignment will be refined as the project continues into design. For the purpose of construction estimation and establishing ROW needs, the seasonal high water table is estimated to be at or near existing ground adjacent to the existing ROW for S.R. 60. Minimum clearances to ditch bottoms for stormwater treatment swales or conveyance ditches in Segment 1 were assumptions on which vertical alignment and ROW widths were based. With site-specific geotechnical investigations during design, the vertical alignment may be adjusted.

Table 7-2: PREFERRED ALTERNATIVE HORIZONTAL ALIGNMENT

Curve	PI* Station	Delta	Degree of curve	Tangent (feet)	Length (feet)	Radius (feet)	PC** Station	PT*** Station	Superelevation Rate
Curve 1	1026+11.19	01°49'46" (LT.)	00°10'25''	526.92	1,053.75	33,000.00	1020+84.27	1031+38.02	NC
Curve 2	1058+08.71	31°24'46'' (RT.)	00°55'27"	1,743.49	3,399.20	6,200.00	1040+65.22	1074+64.42	0.035
Curve 3	1087+69.53	04°04'47" (LT.)	00°14'57"	819.21	1,637.73	23,000.00	1079+50.32	1095+88.05	NC
Curve 4	1279+22.80	01°16'18" (RT.)	00°07'10"	532.69	1,065.34	48,000.00	1273+90.11	1284+55.45	NC
Curve 5	1452+36.66	05°33'56" (LT.)	00°14'57"	1,117.97	2,234.18	23,000.00	1441+18.68	1463+52.87	NC
Curve 6	1683+31.43	12°04'11'' (LT.)	00°29'54"	1,215.78	2,422.56	11,500.00	1671+15.65	1695+38.21	RC
Curve 7	1803+77.02	00°50'47'' (LT.)	00°04'46''	531.90	1,063.78	72,000.00	1798+45.12	1809+08.90	NC
Curve 8	1876+15.83	15°05'56'' (RT.)	00°29'54''	1,524.10	3,030.53	11,500.00	1860+91.74	1891+22.27	RC
Curve 9	1906+68.90	01°17'17'' (LT.)	00°07'10''	539.56	1,079.07	48,000.00	1901+29.34	1912+08.42	NC
Curve 10	2003+54.83	02°42'32'' (RT.)	00°14'57''	543.81	1,087.41	23,000.00	1998+11.02	2008+98.43	NC
Curve 11	2020+48.73	02°49'09'' (LT.)	00°28'39''	295.28	590.45	12,000.00	2017+53.44	2023+43.89	NC
Curve 12	2041+11.90	01°57'03'' (RT.)	00°17'11''	340.54	681.00	20,000.00	2037+71.36	2044+52.37	NC
Curve 13	2053+66.41	01°45'30'' (RT.)	00°15'38''	337.58	675.10	22,000.00	2050+28.84	2057+03.93	NC
Curve 14	2064+03.57	01°13'32'' (LT.)	00°10'53''	337.99	675.94	31,600.00	2060+65.58	2067+41.52	NC

* Point of Intersection, ** Point of Curvature, *** Point of Tangency

7.5 DESIGN VARIATIONS AND DESIGN EXCEPTIONS

There are no design exceptions anticipated for this project. Design variations are anticipated for border width and pedestrian facilities as detailed in the Typical Section Package in **Appendix B**.

7.6 MULTIMODAL ACCOMMODATIONS

There are no existing or future planned multimodal improvements identified by MetroPlan within the project limits. Within Segment 1, pedestrians and bicycles may utilize the proposed paved shoulders. Within Segment 2, buffered bicycle lanes and sidewalks are provided.

7.7 INTERSECTION/ INTERCHANGE CONCEPTS AND SIGNAL ANALYSIS

The signalized intersection at Kenansville Road was designed based on the projected traffic and analysis provided in the PTAR. The signalized intersection at Florida's Turnpike ramp was coordinated with and designed based on concept plans developed by Florida's Turnpike (423374-2) as part of the PD&E study.

7.8 TOLLED PROJECTS

S.R. 60 from Prairie Lake Road to Florida's Turnpike is not a tolled facility. Florida's Turnpike at the end of the project limits is a tolled facility but no improvements to the Turnpike are proposed as part of the Preferred Alternative.

7.9 INTELLIGENT TRANSPORTATION SYSTEM AND TSM&O STRATEGIES

Traffic analysis provided in the PTAR indicated that TSM&O strategies alone would not be enough to fulfill the purpose and need of this project. TSM&O strategies will be further evaluated during the design phase for this project.

7.10 LANDSCAPE

Landscaping opportunities throughout the study area will be reviewed and finalized in the design phase for this project.

7.11 LIGHTING

Within the study limits, conventional street lighting is present along the Segment 2 signalized intersections at S.R. 60/Kenansville Road and S.R. 60/Florida's Turnpike and at a few additional locations on the project corridor. The existing lighting will be maintained as part of this project. Any necessary updates necessary to meet FDOT lighting criteria will be further evaluated during the design phase for this project.

7.12 WILDLIFE CROSSINGS

To minimize impacts to wildlife habitat and support ecological connectivity, the project will evaluate the use of wildlife crossings where feasible during the design phase. This evaluation will

consider habitat suitability, species occurrence data, and landscape connectivity within and adjacent to the project corridor.

7.13 PERMITS

The following agency permits are anticipated for this project:

- USACE 404 Individual Permit
- FDEP National Pollutant Discharge Elimination System (NPDES) Construction Generic Permit
- SJRWMD/SFWMD Individual Environmental Resource Permit (ERP)

The proposed project would require permits from state regulatory agencies for impacts to wetlands, and water quality protection.

The S.R. 60 project corridor falls under the jurisdiction of two WMDs. The portion of the S.R. 60 Preferred Alternative west of Peavine Trail falls within the SFWMD and the portion of the of the S.R. 60 Preferred Alternative east of Peavine Trail falls within the SJRWMD. The project will propose direct impacts to 53.14 acres of wetlands (24.05 acres within SFWMD jurisdiction and 29.09 acres within SJRWMD jurisdiction) and secondary impacts to 9.02 acres of wetlands (4.51 acres within SFWMD jurisdiction and 4.51 acres within SJRWMD jurisdiction) and will require an individual permit from both WMDs.

A 404 Individual Permit for the proposed S.R. 60 widening project will also be necessary. This project will involve the dredge and fill impacts to approximately 53.14 acres of wetlands. A NPDES permit will be required from the FDEP.

7.14 DRAINAGE AND STORMWATER MANAGEMENT FACILITIES

Stormwater runoff will be directly treated and attenuated per regulatory requirements. All basins within the project limits are open basins. Linear retention will be utilized for the majority of the project. The volume provided in these linear facilities was checked to ensure that sufficient treatment and attenuation volume can be provided within the proposed ROW. A few basins will not utilize linear treatment and instead use offsite, wet detention ponds. Ponds have been sized and sites evaluated for these basins.

Under the Preferred Alternative, the beginning portion of the project will have a rural typical section but will not use linear retention for stormwater. This section of roadway will instead have minimal roadside ditches with an inlet system within the ditch to collect and convey runoff. Basin 1 includes the area draining west into Lake Kissimmee (classified as an impaired waterbody). Additional treatment volume will not be required for basins within an impaired waterbody. However, a pre- and post- condition nutrient loading analysis will be required to ensure no increase in the nutrient load discharge. Pond 1-1 is the preferred pond alternative for Basin 1 and is located on the north side of the roadway, just west of Prairie Lake Road. At this location there are no adverse impacts anticipated to the floodplain or adjacent properties with increases in stage due to these modifications. Overhead electric lines are present on the pond site and would likely need to be relocated to construct this pond. Pond 1-1 is the preferred pond due to proximity to

the outfall and avoidance of potential conflicts with the 36" gas main for drainage systems into and out of the proposed pond.

Most of the project will utilize linear retention on either side of the roadway for stormwater requirements. Runoff from the median will be conveyed in a ditch and collected in ditch bottom inlets and piped under the roadway to the linear retention pond on either side of the roadway. The linear retention systems will be sized to provide sufficient treatment and attenuation volume for the basins. Outfall systems will discharge runoff from the linear treatment systems to the existing outfall location, which is typically near the existing cross drains. Basins 2 through 26A are all proposed to use linear retention to meet stormwater requirements for the project. Basins 2 through 10 are classified as impaired waterbodies a they fall within waterbodies that drain into either Kissimmee River or Blanket Bay Slough. Basins 11 to 26A fall outside of impaired waterbodies.

The end of the project will use an urban typical section that will have a closed system to collect runoff along the curb and gutter and this system will be piped to two separate offsite stormwater ponds, Pond 26-2 and Pond 27-2. Basin 26 is broken up into two sub-basins, as a portion of the basin is proposed to use linear retention and the portion within the urban typical section is proposed to use an offsite stormwater pond. Pond 26-2, the preferred pond alternative for Basin 26B, is located on a single parcel between S.R. 60 and Kenansville Road. It is not anticipated that the presence of groundwater monitoring would eliminate this site as an alternative. An existing overhead line does currently cross over the proposed pond location and would need to be relocated. Pond 26-2 is the preferred pond due to proximity to the outfall and acquisition of the parcel would provide space for future intersection improvements to be constructed at S.R. 60 and Kenansville Road. Basin 27 falls between Kenansville Road and the bridge over Florida's Turnpike. Pond 27-2, the preferred pond alternative for Basin 27, is located on a parcel that is landlocked along the Florida's Turnpike ramp ROW. Pond 27-2 is the preferred pond site alternative due to proximity to the outfall and being located within a parcel along the limited access ROW for the Florida's Turnpike ramps.

Offsite drainage conditions for all basins will be maintained and routed to existing cross drains and outfalls. Unless unavoidable, these offsite basins will not be co-mingled with the onsite runoff from S.R. 60.

Table 7-3 lists the ponds identified as preferred ponds for this PD&E Study including the preferred size for each pond. Details of the design approach, criteria for site selection, per basin pond options, and pond selection methodology can be found in the Conceptual Drainage Design Report located in the project file. Pond sizes and locations will be finalized during the design phase of this project.

Table 7-3: PREFERRED PONDS

Basins	Pond ID	Pond Size (acres)
1	Pond 1-1	3.70
26B	Pond 26-2	1.71
27	Pond 27-2	2.06
	TOTAL	7.47

7.15 FLOODPLAIN ANALYSIS

FIRMs published by FEMA were reviewed to assess potential floodplain involvement within the project limits. The current effective FIRMs for Osceola County, dated 2013, indicate multiple areas of encroachment into Special Flood Hazard Zone A, and one area of encroachment into Zone AE. Refer to **Appendix D** for the FEMA FIRM panels within the project limits.

As required by the applicable water management districts, the project must avoid any net loss of flood storage volume within the 100-year floodplain. Given the proposed roadway improvements and the ultimate typical section, all designated floodplain areas located within the project ROW are anticipated to be impacted. Floodplain compensation will be necessary to offset the loss of storage volume.

Fifteen locations have been identified with will impact the FEMA floodplain. These locations are summarized in **Table 7-4**. Most of these encroachments are considered transverse, however there are some locations of longitudinal encroachments. These longitudinal impacts are due to impacts to existing irrigation ditches and low areas that run parallel to S.R. 60. Many of these irrigation ditches are to be impacted due to the widening of the roadway. It is anticipated that many of these would be reconstructed by the property owner outside of the proposed ROW to maintain patterns of their existing agricultural facilities. Most of the surrounding project area is used for agriculture or is undeveloped. Some of the underdeveloped areas are conservation areas. Due to the characteristics of the surrounding area, the floodplain encroachments are considered minimal. There is floodplain involvement, but these encroachments will not impact human life or transportation facilities. Mitigation to these impacts can be resolved with minimal efforts.

Floodplain A is the only location that is within Zone AE. All other floodplains areas are within Zone A and therefore do not have a base flood elevation identified. To estimate impacts to the floodplain, preliminary cross sections were created using available LiDAR data and an approximate proposed typical section. The sections were drawn at each end of a floodplain area and every 500-feet in between. A floodplain elevation was then drawn in the cross section, using either the base flood elevation provided for Zone AE or an approximate elevation of the Zone A floodplain areas using the LiDAR data. Fill impacts were then drawn within each cross section for areas of proposed fill below the approximated floodplain elevation. Volumes of impacts for each floodplain area were calculated using the average end-area method.

The floodplain impacts shown will need to be mitigated by using floodplain compensation sites. Floodplain compensation sites have not been identified as part of this PD&E Study, as only the estimated volume of floodplain compensation has been quantified. Compensation sites will need

to ensure that there is sufficient fill below the floodplain elevation and above seasonal high water table that can be excavated out to provide and offset to fill added as part of this project.

Table 7-4: ESTIMATED FLOODPLAIN IMPACTS AREAS

Floodplain	Flood Zone	Base Flood Elevation (ft)	Floodplain Encroachment Volume (Acre-feet)
A	AE	54	11.14
B	A	-	2.47
C	A	-	5.93
D	A	-	12.34
E	A	-	10.57
F	A	-	2.04
G	A	-	15.65
H	A	-	0.10
I	A	-	28.23
J	A	-	7.66
K	A	-	2.76
L	A	-	6.98
M	A	-	10.10
N	A	-	6.77
O	A	-	0.05
		TOTAL	122.78

7.16 BRIDGE AND STRUCTURE ANALYSIS

The preferred alternative will replace the Blanket Bay Slough Bridge (Bridge ID No. 920172) with dual bridge structures at the existing location. The new bridges will provide two travel lanes for each direction of traffic and have both inside and outside shoulders. Each new bridge structure has two 12-foot travel lanes, 6-foot inside shoulders, 10-foot outside shoulders, and 36-inch single slope traffic railing on the inside and outside shoulder points.

A Bridge Development Report (BDR) and Bridge Hydraulic Report (BHR) will be prepared in the design phase to provide recommendations for bridge structure configuration including minimum bridge length, span lengths, vertical clearance, superstructure requirements, and pile depths due to anticipated scour.

7.17 TRANSPORTATION MANAGEMENT PLAN

A Transportation Management Plan (TMP) is required for minimizing activity-related traffic delays and crashes. All TMPs share the common goal of congestion relief during the construction phase by managing traffic flow and balancing traffic demand with highway capacity through the project area. The project will be able to adhere to the FDOT Design Manual and Standard Plans. Anticipated phasing of the construction includes the following:

- Phase I consists of construction of the proposed westbound travel lanes, preferred ponds, westbound linear treatment, and Blanket Bay Slough dual bridges. Traffic will be

maintained on the existing S.R. 60 travel lanes. The overhead electric lines in conflict with the proposed eastbound lanes will need to be relocated during this phase (prior to Phase III) to avoid time delays for the later phases.

- Phase II includes construction of a temporary diversion to switch westbound traffic from the existing S.R. 60 to the newly constructed westbound lanes. Eastbound traffic will still be maintained on existing S.R. 60.
- Phase III constructs the new eastbound lanes located between the newly constructed westbound lanes and existing roadbed. Median openings can also be constructed at this time. Traffic will be maintained the same as in Phase II.
- Phase IV constructs a temporary diversion to switch eastbound lanes to newly constructed eastbound S.R. 60.
- The final phase includes removal of the existing S.R. 60 roadbed and bridge over Blanket Bay Slough. Construction of the eastbound linear treatment swales and any cleanup work remaining, including removal of any temporary pavement, application of the friction course layer, and final striping.

7.18 CONSTRUCTABILITY

The widening of S.R. 60 is anticipated to have few constructability issues. Temporary lane closures will be required, particularly when constructing temporary diversions. Constructability will be further evaluated in the design phase for the following key:

- Explore Restricted Crossing U-Turn (RCUT) installations for all minor street crossings to enhance safety. If RCUT installation is not an option, it is recommended to add median acceleration lanes or asphalt bulb outs to facilitate U-turns and crossing points for larger trucks.
- Consider offset left turns to improve visibility whenever possible and specifically at Stations 1044+00, 1058+50, 1693+00, and 1879+00 where visibility could be compromised due to roadway curvature.
- Ensure electric distribution line relocation timing is considered when determining construction phasing. Overhead electric lines are currently located in the approximate area of proposed eastbound lanes, and the relocation may not be completed prior to beginning of construction if relocating to the north inside new ROW due to terrain conditions and length of relocation.

7.19 CONSTRUCTION IMPACTS

Traffic on S.R. 60 eastbound and westbound will be affected due to construction. Short term noise and vibration impacts may be generated by heavy equipment and construction activities such as pile driving and vibratory compaction of embankments. Adherence to FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate most of the potential impacts.

Water quality impacts resulting from erosion and sedimentation will be controlled in accordance with FDOT Standard Specifications for Road and Bridge Construction and using BMPs. Erosion and sedimentation will be treated in accordance with the FDEP's National Pollutant Discharge Elimination System (NPDES) permit and the Storm Water Pollution Prevention Plan (SWPPP).

Maintenance of traffic and sequence of construction will be planned and scheduled to minimize traffic delays during construction. Lane closure analysis will be required to determine appropriate times to close lanes to minimize traffic delays. Signs will be used as appropriate to provide sufficient notice of road closures and other pertinent information to the traveling public. The local news media will be notified in advance of road closures and other construction-related activities which could inconvenience the community so that pedestrians, motorists, and property owners can plan travel routes in advance. Access to all businesses and residence will be maintained to the extent practicable through controlled construction scheduling.

7.20 SPECIAL FEATURES

Currently there are no special features associated with this project.

7.21 UTILITIES

This is a preliminary evaluation of potential utility conflicts within the project corridor based on the proposed improvements under the Preferred Alternative. Additional conflicts may be identified during the final design. To advance utility coordination efforts beyond the study phase, Subsurface Utility Engineering (SUE) is required to provide verified vertical and horizontal (vvh) information relative to underground utilities. Obtaining vvh information will guide the design phase to ensure that informed and intelligent decisions are made to reduce potential utility relocations.

Based on the information provided in the Utility Assessment Package, utilities within the corridor that are in conflict with the project are as follows:

- Florida Southeast Connection – 36" Gas Main Crossing
- PRECO – 75 Power Poles
- Frontier – Buried & Overhead Telephone
- PRECO – 80 Power Poles
- PRECO – 48 Power Poles
- Charter – Overhead Television
- PRECO – 11 Power Poles
- Charter, CenturyLink, Crown Castle – Buried & Overhead Communications Lines
- Osceola County – 16 Light Poles and Conduit
- Osceola County – ITS Infrastructure
- AT&T – Buried Fiber
- Osceola County – Overhead Message Board

Table 2-9 provides a list of the Utility Agency Owner's (UAO) that potentially occur in the project area, the limits of each utility within the project area, and the potential impacts of each utility.

Utility companies have not provided potential adjustment cost data; therefore, the cost of utility relocations will be provided when received. If utilities are in FDOT ROW by permit, the cost for relocation is as the expense of the utility owner.

7.22 COST ESTIMATES

A construction cost estimate for the Preferred Alternative was developed using FDOT's Long Range Estimates (LRE) system (**Appendix E**). The estimate includes major items such as roadway design, construction, utility relocations, construction engineering and inspection, and ROW. The LRE is included in **Table 7-5**.

Table 7-5: SUMMARY OF ESTIMATED PROJECT COSTS

ESTIMATED PROJECT COSTS		
Item	**No-Build**	**Build**
Design	$0.0 M	$15.0 M
ROW	$0.0 M	$86.6 M
Mitigation	$0.0 M	$16.4 M
CEI	$0.0 M	$27.3 M
Construction	$0.0 M	$272.8 M
TOTAL ESTIMATED PROJECT COST	**$0.0 M**	**$418.1 M**

7.23 SUMMARY OF ENVIRONMENTAL IMPACTS

7.23.1 SOCIAL AND ECONOMIC

7.23.1.1 FUTURE LAND USE

The Preferred Alternative is consistent with Future Land Use based on the Osceola County Comprehensive Plan. Osceola County future land use designation expects that S.R. 60 will primarily be located through rural lands, with small portions of the roadway located through commercial and mixed-use lands. Osceola County Future Land Use is discussed in further detail in **Chapter 3** of this report.

7.23.1.2 AESTHETIC FEATURES

The proposed project is anticipated to result in minimal involvement with aesthetic resources since the project is not expected to affect vistas or viewsheds in the surrounding community.

7.23.1.3 FARMLANDS

The Preferred Alternative impacts approximately 194.3 acres of Prime and Unique Farmlands. The Farmland Conversion Impact Rating for Corridor Type Projects form (NRCS-CPA-106) is included in the project file.

7.23.2 CULTURAL RESOURCES

7.23.2.1 ARCHAEOLOGICAL AND HISTORIC SITES

The study area was evaluated for archaeological and historical potential. A Phase I CRAS was completed for this project and received SHPO concurrence on September 5, 2025. The full analysis is included in the CRAS located in the project file. Based on the CRAS, the Preferred Alternative will not impact any NRHP eligible resources.

7.23.2.2 SECTION 4(F) POTENTIAL

Determinations of applicability and/or exception/exemptions were prepared for each resource discussed in Section 2.4.3 and approved by the FDOT Office of Environmental Management. Additional details about each resource are contained in the determinations of applicability and in the Type 2 Categorical Exclusion (CE), located in the project file. Section 4(f) was determined to be not applicable for the properties and the trail resources were determined to qualify for an exception/exemption.

7.23.3 WETLANDS

A Natural Resource Evaluation (NRE) was prepared for this project. Based on the NRE, the proposed project will result in 53.14 and 9.02 acres of direct and secondary impacts to wetlands, respectively. The estimated total direct and secondary impacts within the Kissimmee River Basin are 24.05 acres and 4.51 acres, respectively. The estimated total direct and secondary impacts within the Upper St. Johns River Basin are 29.09 acres and 4.51 acres, respectively.

Mitigation to offset the 53.14 acres of impact associated with the clearing and construction of the Preferred Alternative will be required. Compensatory mitigation will be required to offset an estimated 30.96 units (18.91 herbaceous and 12.05 forested) of functional loss resulting from direct impacts and 0.63 units (0.38 herbaceous and 0.25 forested) of functional loss resulting from secondary wetland impacts. Mitigation available for this project involves the purchase of mitigation credits from an approved in-basin wetland mitigation bank in accordance with Chapter 373.4137, F.S. Wetland impacts resulting from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Compensatory mitigation for this project will be completed through the use of mitigation banks. The proposed project will have no significant short-term or long-term adverse impacts to wetlands because any unavoidable impacts to wetlands will be mitigated to achieve no net loss of wetlands. The estimated Uniform Mitigation Assessment Method (UMAM) functional loss that would result from the project is 31.59 units resulting from anticipated wetland impacts.

Indirect and secondary effects are those impacts that are reasonably certain to occur later in time because of the proposed project. They may occur outside of the area directly affected by the proposed project. Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the project study area. The proposed improvements will primarily occur adjacent to the existing S.R. 60 R/W. Therefore, it is anticipated that the proposed improvements will incur limited secondary impacts, but will not result in adverse cumulative

impacts, since the improvements are primarily limited to areas adjacent to the existing R/W and wetland mitigation is proposed within the impacted basins. Proposed secondary impacts are assessed as a 25-foot buffer from the Preferred Alternative where proposed wetland impacts occur

Cumulative impacts are not anticipated to result from the proposed project since the proposed mitigation will be completed in the same basin as the impacts or adjacent basin(s) (using the state and federal Proximity Factors). The proposed mitigation is anticipated to sufficiently offset requisite direct wetland impacts, and secondary impacts that may result from the proposed project.

A more detailed description of potential project impacts to natural resources is provided within the NRE located in the project file.

7.23.4 PROTECTED SPECIES AND HABITAT

A NRE was prepared for this project and evaluated potential impacts to federally listed, state listed, and other protected species with the potential to occur within the project limits.

The effects determination for the relevant species are summarized in **Table 7-6**. The full evaluation and details of the effects determination for each species may be found in the NRE located in the project file.

Review results determined that portions of the Preferred Alternative are located within areas mapped by the USFWS as Florida Bonneted Bat Critical Habitat.

Due to the presence of both designated critical habitat and suitable habitat for multiple protected species, additional consultation with the USFWS will be required to develop species-specific surveys. Starting these surveys during the future design phase will allow for additional coordination with USFWS for survey design and appropriate preparation for each survey, as well as initiation of each survey during the optimal time of year. Deferring surveys to the future design phase will allow them to be conducted closer to the time of construction, providing more accurate and up-to-date information on species activity while also ensuring consistency with the final design and potential impact areas.

Table 7-6: LISTED WILDLIFE SPECIES EFFECTS DETERMINATION

Common Name	Scientific Name	Federal Status	State Status	Effects Determination
Eastern Indigo Snake	*Drymarchon couperi*	Threatened	Threatened	May Affect, Not No Likely to Adversely Affect
Gopher Tortoise	*Gopherus polyphemus*	N/A	Threatened	No Adverse Effect Anticipated
Blue-Tailed Mole Skink	*Plestiodon egregious lividus*	Threatened	Threatened	No Effect

Table 7-6 (Cont.): LISTED WILDLIFE SPECIES EFFECTS DETERMINATION

Common Name	Scientific Name	Federal Status	State Status	Effects Determination
Audubon's Crested Caracara	*Caracara plancus audubonii*	Threatened	Threatened	May Affect
Florida Sandhill Crane	*Antigone canadensis pratensis*	N/A	Threatened	No Adverse Effect Anticipated
Florida Scrub-Jay	*Aphelocoma coerulescens*	Threatened	Threatened	May Affect, Not Likely to Adversely Affect
Florida Burrowing Owl	*Athene cunicularia floridana*	N/A	Threatened	No Adverse Effect Anticipated
Eastern Black Rail	*Laterallus jamaicensis*	Threatened	Threatened	May Affect
Everglade Snail Kite	*Rostrhamus sociabilis plumbeus*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Whooping Crane	*Grus americana*	Proposed Species/ Experimental	N/A	No Consultation Required**
Bald Eagle	*Haliaeetus leucocephalus*	Managed	Managed	Impacts Are Not Anticipated
Florida Grasshopper Sparrow	*Ammodramus savannarum floridanus*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Red-cockaded woodpecker	*Picoides borealis*	Threatened	Threatened	No Effect
Little Blue Heron	*Egretta caerulea*	N/A	Threatened	No Adverse Effect Anticipated
Wood Stork	*Mycteria americana*	Threatened	Threatened	May Affect, Not Likely to Adversely Affect
Tricolored Bat	*Perimyotis subflavus*	Proposed for Listing	Managed	NA*
Florida Bonneted Bat	*Eumops floridanus*	Endangered	Endangered	May Affect

Table 7-6 (Cont.): LISTED WILDLIFE SPECIES EFFECTS DETERMINATION

Common Name	Scientific Name	Federal Status	State Status	Effects Determination
Florida Black Bear	*Ursus americanus*	N/A	Managed	Impacts Are Not Anticipated
Florida Panther	*Felis concolor coryi*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Southeastern Beach Mouse	*Peromyscus polionotus niveiventris*	Threatened	Threatened	No Effect
West Indian Manatee	*Trichecus manatus*	Threatened	Threatened	No Effect
Monarch Butterfly	*Danaus plexippus*	Candidate	N/A	NA*
Ashe's Savory	*Calamintha ashei*	N/A	Threatened	No Adverse Effect Anticipated
Many-Flowered Grass-Pink	*Calapogon multiflorus*	N/A	Threatened	No Adverse Effect Anticipated
Chapman's Sedge	*Carex chapmannii*	N/A	Threatened	No Effect Anticipated
Pygmy Fringe-Tree	*Chionanthus pygmaeus*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Sand Butterfly Pea	*Centrosema arenicola*	N/A	Endangered	No Effect Anticipated
Florida Perforate Cladonia	*Cladonia perforate*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Scrub Pigeon-Wing	*Clitoria fragrans*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Cutthroat grass	*Coleotaenia abscissa*	N/A	Endangered	No Adverse Effect Anticipated
Piedmont Jointgrass	*Coelorachis tuberculosa*	N/A	Threatened	No Adverse Effect Anticipated

Table 7-6 (Cont.): LISTED WILDLIFE SPECIES EFFECTS DETERMINATION

Common Name	Scientific Name	Federal Status	State Status	Effects Determination
Short-leaved Rosemary	*Conradina brevifolia*	Endangered	Endangered	No Effect
Large-Flowered Rosemary	*Conradina grandiflora*	N/A	Threatened	No Adverse Effect Anticipated
Avon Park Harebells	*Crotalaria avonensis*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Scrub Mint	*Dicerandra frutescens*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Scrub Buckwheat	*Erigonum floridanum*	Threatened	Endangered	May Affect, Not Likely to Adversely Affect
Coastal Vervain	*Glandularia maritima*	N/A	Endangered	No Effect Anticipated
Florida Hartwrightia	*Hartwrightia floridana*	N/A	Threatened	No Adverse Effect Anticipated
Highland's Scrub Hypericum	*Hypericum cumulicola*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Edison's Ascyrum	*Hypericum edisonianum*	N/A	Endangered	No Adverse Effect Anticipated
Nodding Pinweed	*Lechea cernua*	N/A	Threatened	No Adverse Effect Anticipated
Scrub Blazing Star	*Liatris ohlingerae*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect

Table 7-6 (Cont.): LISTED WILDLIFE SPECIES EFFECTS DETERMINATION

Common Name	Scientific Name	Federal Status	State Status	Effects Determination
Florida Spiny-pod	*Matelea floridana*	N/A	Endangered	No Adverse Effect Anticipated
Celestial Lily	*Nemastylis floridana*	N/A	Endangered	No Adverse Effect Anticipated
Florida Beargrass	*Nolina atopocarpa*	N/A	Threatened	No Adverse Effect Anticipated
Papery Whitlow-Wort	*Paronychia chartacea*	Threatened	Threatened	May Affect, Not Likely to Adversely Affect
Yellow Fringeless Orchid	*Platanthera integra*	N/A	Endangered	No Adverse Effect Anticipated
Lewton's Polygala	*Polygala lewtonii*	Endangered	Endangered	No Effect
Wireweed	*Polygonella basiramia*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect
Sandlace	*Polygonella myriophylla*	Endangered	Endangered	No Effect
Giant Orchid	*Pteroglossaspis ecristata*	N/A	Threatened	No Adverse Effect Anticipated
Florida Willow	*Salix floridana*	N/A	Endangered	No Adverse Effect Anticipated
Scrub Bluestem	*Schizachyrium niveum*	N/A	Endangered	No Adverse Effect Anticipated
Carter's Warea	*Warea carteri*	Endangered	Endangered	No Effect
Florida Ziziphus	*Ziziphus celata*	Endangered	Endangered	May Affect, Not Likely to Adversely Affect

***** Effect Determinations are typically not applicable (NA) to species proposed for listing.

* *No consultation is required if Whooping Cranes are not on federal lands.

7.23.5 AIR AND NOISE

7.23.5.1 AIR

The project is not expected to create adverse impacts on air quality because the project area is in attainment for all National Ambient Air Quality Standards (NAAQS) and because the project is expected to improve the LOS and reduce delay and congestion on all facilities within the study area.

Construction activities may cause short-term air quality impacts in the form of dust from earthwork and unpaved roads. These impacts will be minimized by adherence to applicable state regulations and to applicable FDOT Standard Specifications for Road and Bridge Construction.

7.23.5.2 NOISE

A Noise Study Report (NSR) was prepared for this project. Based on the analysis, traffic noise levels under the design year 2050 Build Alternative condition will meet or exceed the Noise Abatement Criteria (NAC) at four receptor sites and will have no substantial increases of 15 dBA or more. The locations of the modeled receptors and the location of the impacted receptors for the Build Alternative are shown in the figures included in the NSR. Two noise barriers were evaluated for the impacted receptor sites. One noise barrier was considered not feasible because it could not achieve the FDOT feasibility criteria of a minimum of five-dBA or greater reduction at two receptor sites. The other noise barrier was able to meet the FDOT feasibility criteria, however, it was not considered cost reasonable; therefore, it is not recommended for further consideration. Based on the noise analysis performed to date, there are no feasible or reasonable traffic noise abatement solutions available to mitigate the four noise impacts that would occur as a result of this proposed project; therefore, no traffic noise abatement is proposed for this project.

Additional details regarding the evaluation of noise impacts may be found in the NSR located in the project file.

7.23.6 CONTAMINATION

A Contamination Screening Evaluation Report (CSER) was prepared for this project. Based on the findings of the CSER, Level II ICAs or construction support are recommended for the eight Medium Risk sites and two Medium Risk pond sites for this project. The primary contamination concerns are agricultural land uses (Site Nos. 1, 2, and 26) through this area. For Site Nos. 12 and 14-17, contamination may be a concern if right of way acquisition or dewatering is to occur. Pond 1-1 is in an agricultural area and will need Level II sampling and potentially construction support, and Pond 26-2 will need construction support if dewatering is proposed. Any contamination source identified will be assessed to determine the need for remediation during construction. Impacts to potential Contamination Sites within the Preferred Alternative are included in the CSER report.

8.0 APPENDIX

Appendix A – CONCEPT PLANS

CONTRACT PLANS COMPONENTS

ROADWAY CONCEPT PLANS

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

ROADWAY PLANS

FINANCIAL PROJECT ID 452574-1-22-01

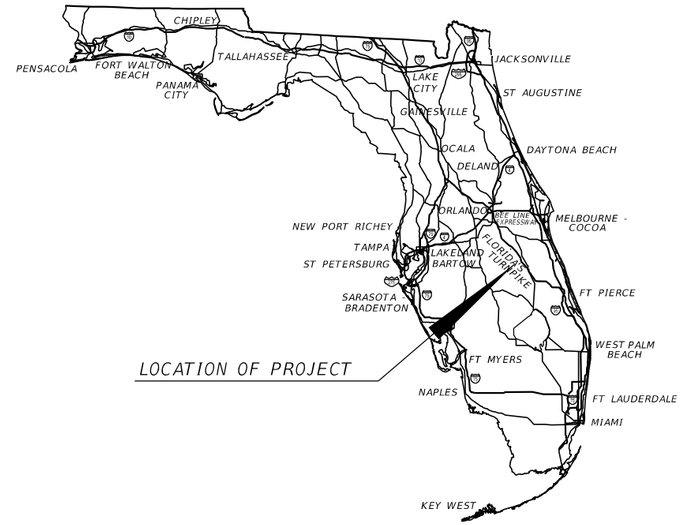
(FEDERAL FUNDS)

OSCEOLA COUNTY (92070)

STATE ROAD NO. 60

SR 60 PD&E STUDY

FROM PRAIRIE LAKE ROAD TO FLORIDA TURNPIKE



PROJECT LOCATION URL:	https://tinyurl.com/2dph44v9
PROJECT LIMITS:	MP 0.113 TO MP 20.220
EXCEPTIONS:	NONE
BRIDGE LIMITS:	MP 5.281 TO MP 5.304
RAILROAD CROSSING:	NONE

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEYSHEET
2-5	PROJECT LAYOUT
6-42	SR 60 CONCEPT PLANS

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2025-26 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: http://www.fdot.gov/design/standardplans

APPLICABLE IRs: IR - -

Standard Plans for Bridge Construction are included in the Structures Plans Component

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, FY 2025-26 Standard Specifications for Road and Bridge Construction at the following website: http://www.fdot.gov/programmanagement/Implemented/SpecBooks

ROADWAY PLANS ENGINEER OF RECORD:

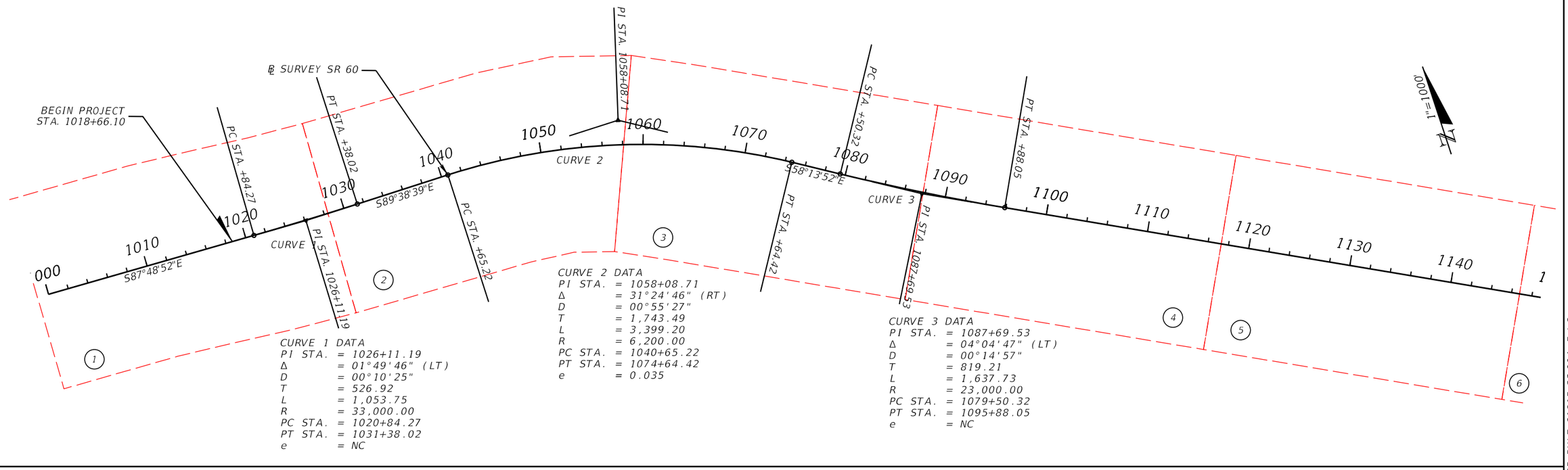
WILLIAM P. WOODBERY, P.E.
P.E. LICENSE NUMBER 87269
VOLKERT, INC.
1836 HERMITAGE BLVD., SUITE 200
TALLAHASSEE, FL 32308

CONTRACT NO.: CAW47
VENDOR NO.: 63-0247014001

FDOT PROJECT MANAGER:

MARIA SERRANO-ACOSTA

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
		1



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PT STA. = 1031+38.02
e = NC

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PC STA. = 1040+65.22
PT STA. = 1074+64.42
e = 0.035

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PT STA. = 1095+88.05
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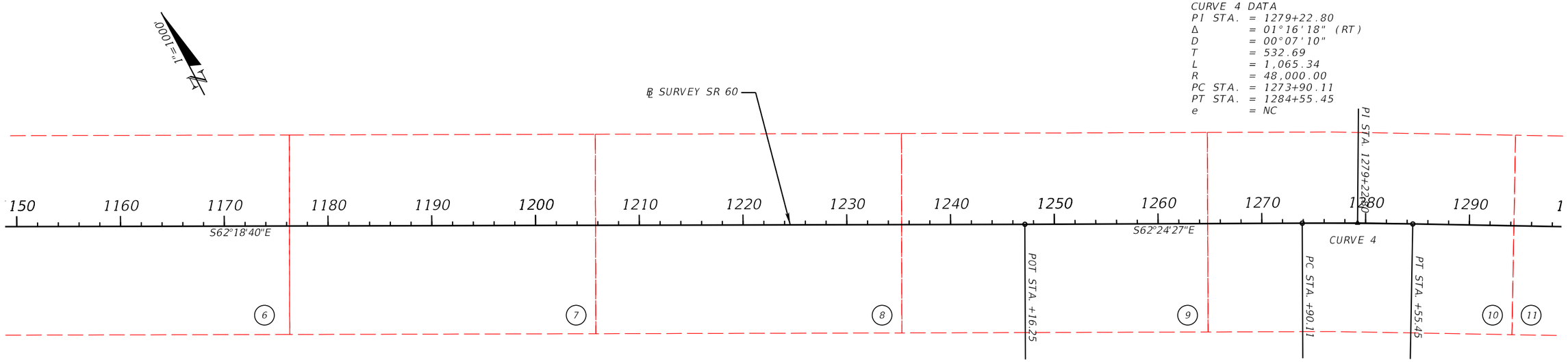

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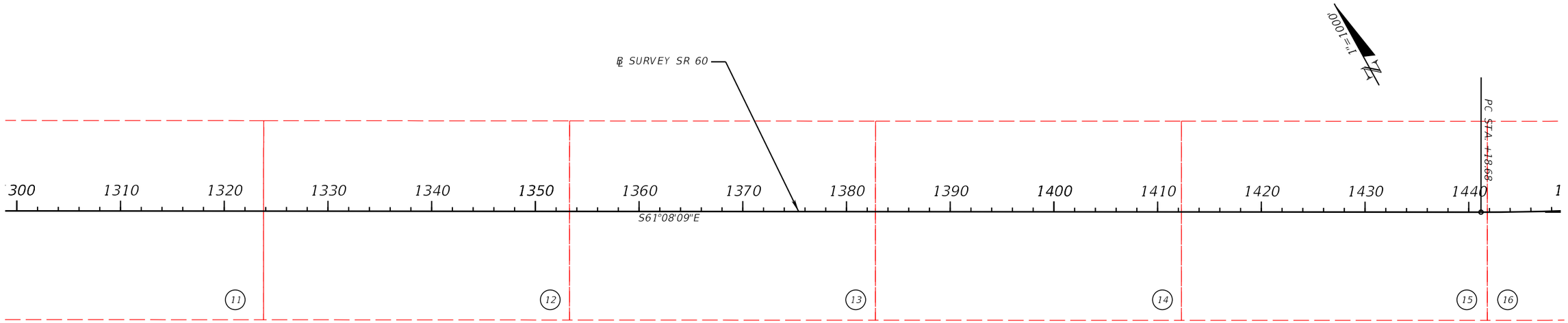
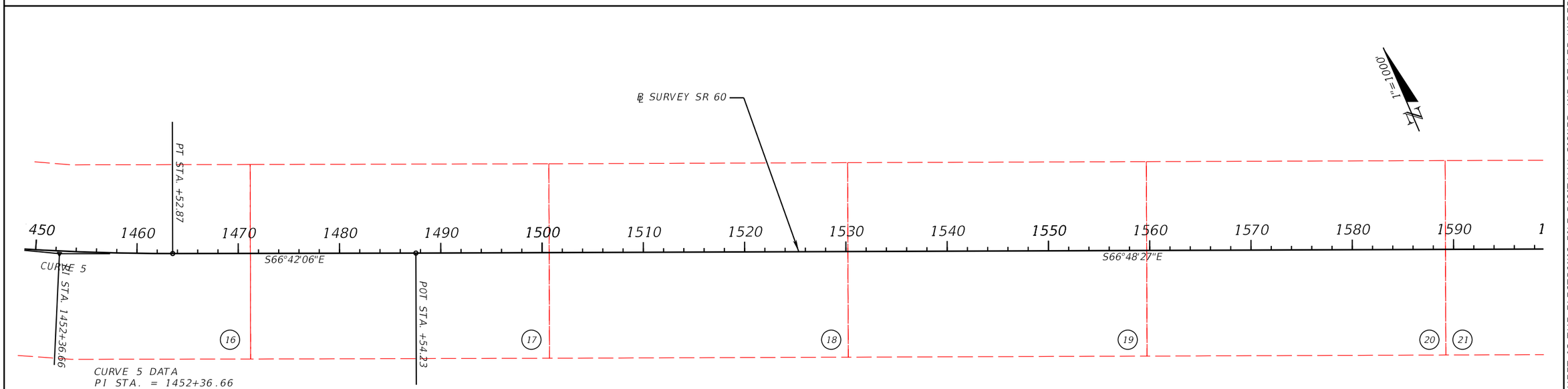
PT STA. = 1284+55.45
e = NC

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PROJECT LAYOUT (1)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	WILLIAM P. WOODBERY, P.E. LICENSE NUMBER: 87269 VOLKERT, INC. 1836 HERMITAGE BLVD, SUITE 200 TALLAHASSEE, FL 32308	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		2
					SR 60	OSCEOLA	452574-1-22-01		





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PT STA. = 1463+52.87
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REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PROJECT LAYOUT (2)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	WILLIAM P. WOODBERY, P.E. LICENSE NUMBER: 87269 VOLKERT, INC. 1836 HERMITAGE BLVD, SUITE 200 TALLAHASSEE, FL 32308	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		3
					SR 60	OSCEOLA	452574-1-22-01		

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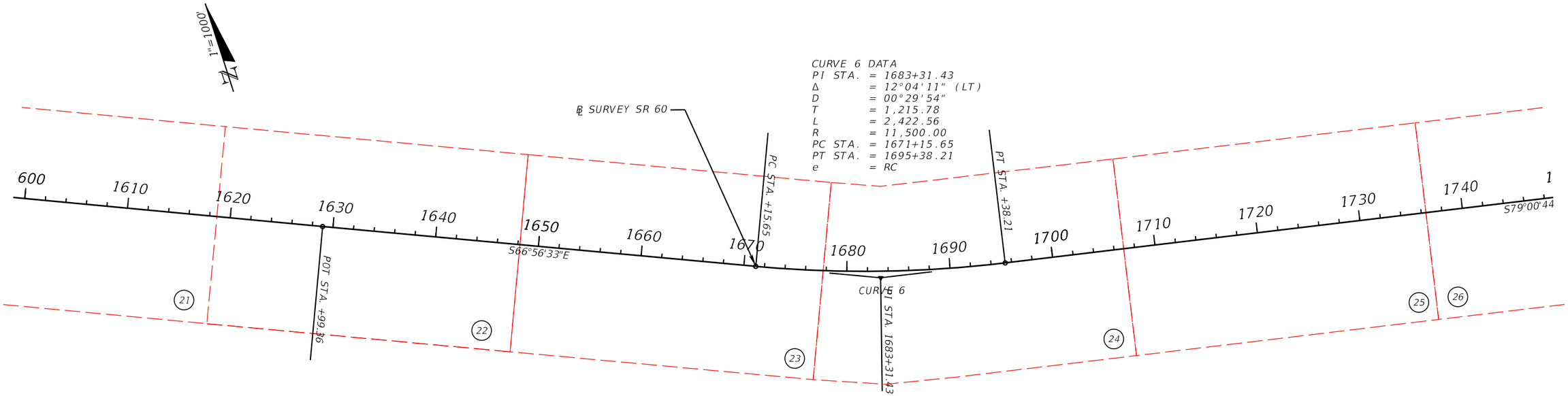

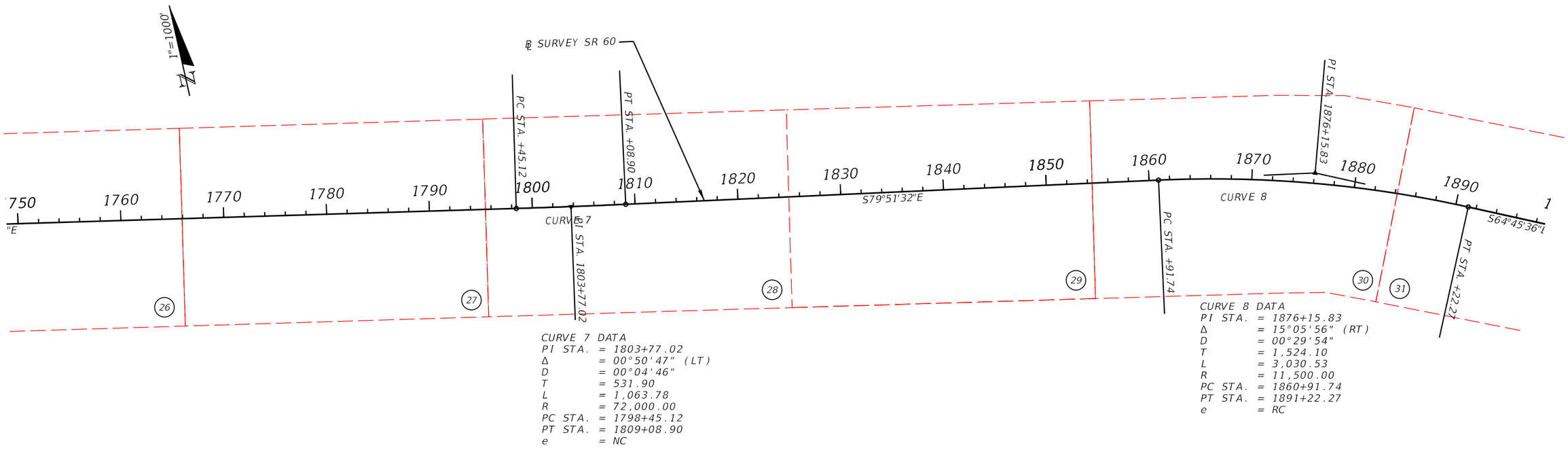

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PT STA. = 1809+08.90
e = NC

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T = 1,524.10
L = 3,030.53
R = 11,500.00
PC STA. = 1860+91.74
PT STA. = 1891+22.27
e = RC

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PROJECT LAYOUT (3)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	WILLIAM P. WOODBERY, P.E. LICENSE NUMBER: 87269 VOLKERT, INC. 1836 HERMITAGE BLVD, SUITE 200 TALLAHASSEE, FL 32308	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		4
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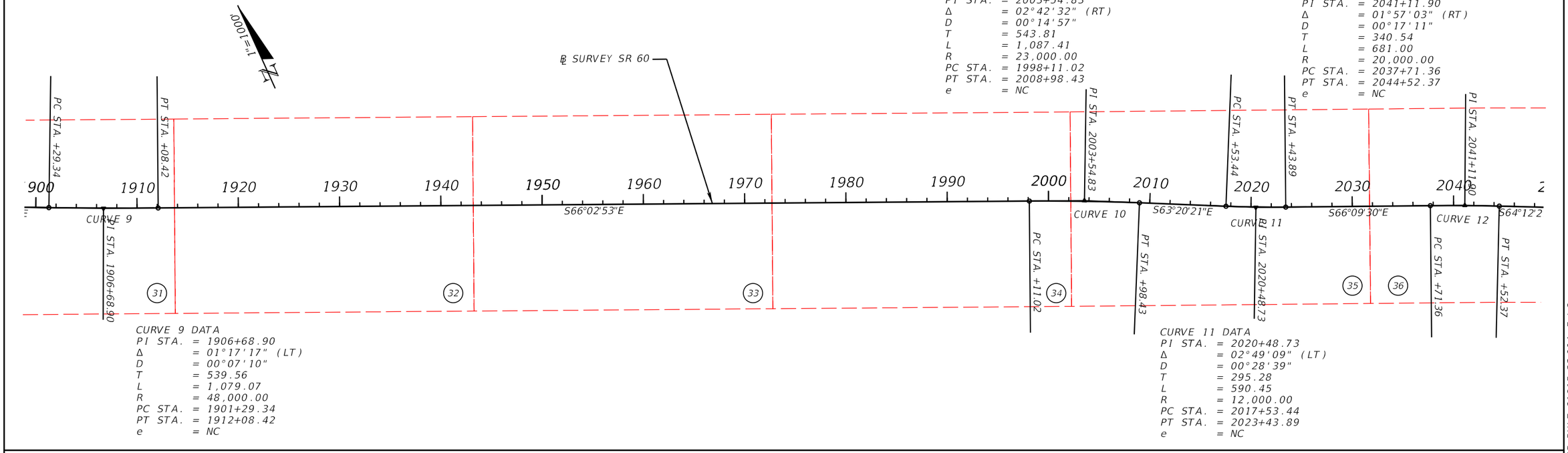

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PT STA. = 1912+08.42
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R = 23,000.00
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PT STA. = 2008+98.43
e = NC

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PT STA. = 2023+43.89
e = NC

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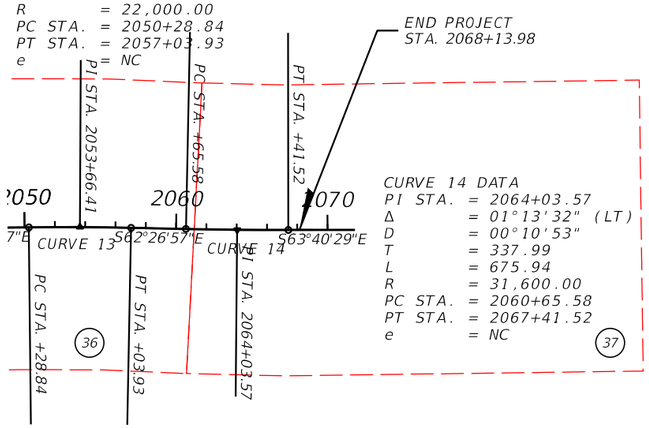
PT STA. = 2044+52.37
e = NC



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PT STA. = 2057+03.93
e = NC

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R = 31,600.00
PC STA. = 2060+65.58
PT STA. = 2067+41.52
e = NC

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PROJECT LAYOUT (4)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	WILLIAM P. WOODBERY, P.E. LICENSE NUMBER: 87269 VOLKERT, INC. 1836 HERMITAGE BLVD, SUITE 200 TALLAHASSEE, FL 32308	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		5
					SR 60	OSCEOLA	452574-1-22-01		

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LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

* NOTE:
EXISTING RIGHT OF WAY LINES SHOWN ARE PRELIMINARY AND ARE BASED ON INFORMATION FROM EXISTING MAPS TO THE EXTENT AVAILABLE. OSCEOLA COUNTY PARCEL LINES ARE APPROXIMATE AND HAVE BEEN ADJUSTED WHERE CONFLICTING WITH RIGHT OF WAY AVAILABLE DATA.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (1)

SHEET NO. 6

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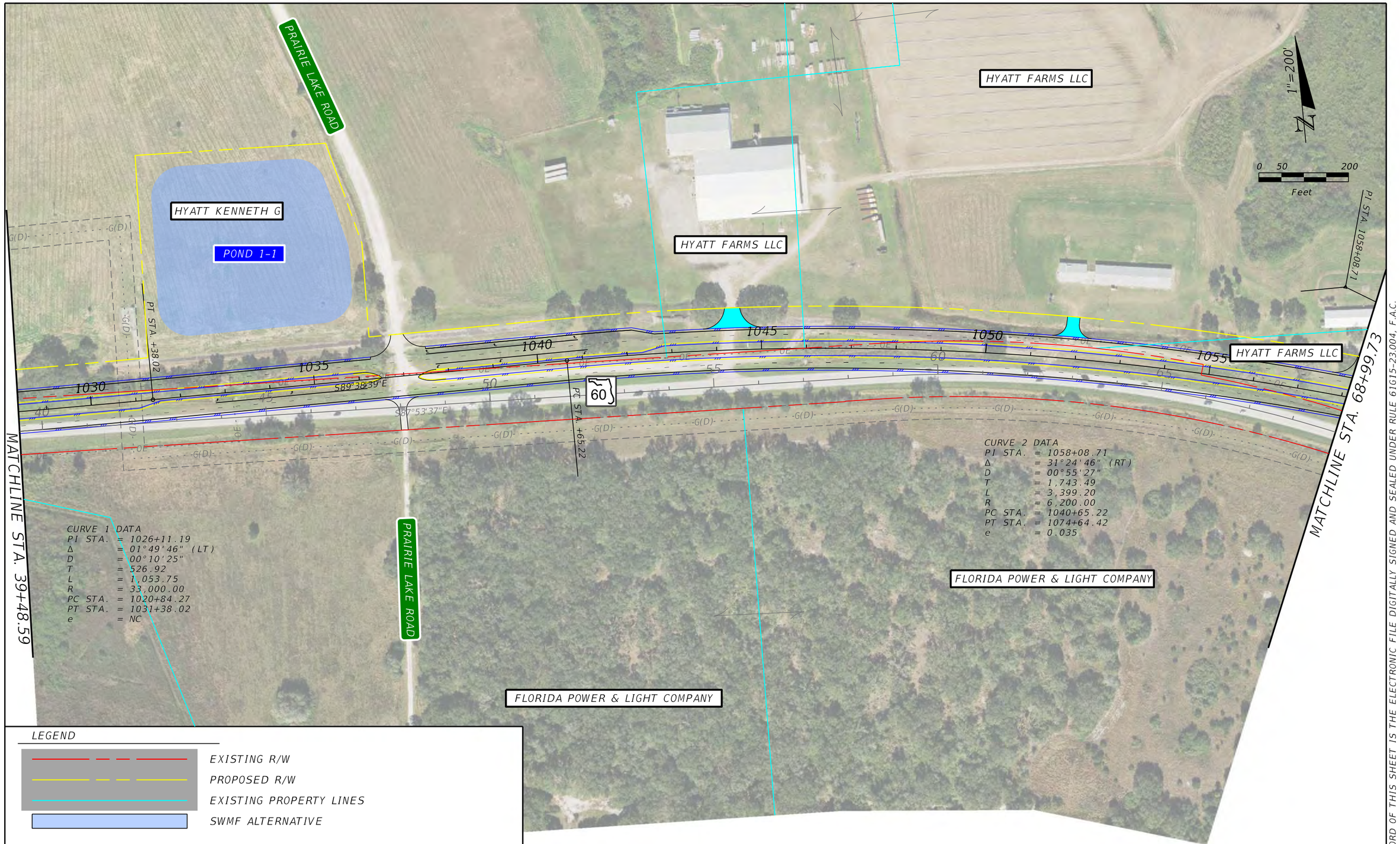

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PC STA. = 1020+84.27
PT STA. = 1031+38.02
e = NC

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L = 3,399.20
R = 6,200.00
PC STA. = 1040+65.22
PT STA. = 1074+64.42
e = 0.035

LEGEND

- EXISTING R/W
- PROPOSED R/W
- EXISTING PROPERTY LINES
- SWMF ALTERNATIVE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (2)

SHEET NO. 7

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HYATT FARMS LLC

HYATT FARMS LLC

MATCHLINE STA. 68+99.73

MATCHLINE STA. 98+50.04

1" = 200'

0 50 200

Feet

1060 1065 1070 1075 1080 1085

70 75 80 85 90 95

S58°13'52"E

PC STA. +50.32

PT STA. +64.42

60

CURVE 2 DATA
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R = 6,200.00
PC STA. = 1040+65.22
PT STA. = 1074+64.42
e = 0.035

CURVE 3 DATA
PI STA. = 1087+69.53
Δ = 04°04'47" (LT)
D = 00°14'57"
T = 819.21
L = 1,637.73
R = 23,000.00
PC STA. = 1079+50.32
PT STA. = 1095+88.05
e = NC

FLORIDA POWER & LIGHT COMPANY

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (3)

SHEET NO. 8

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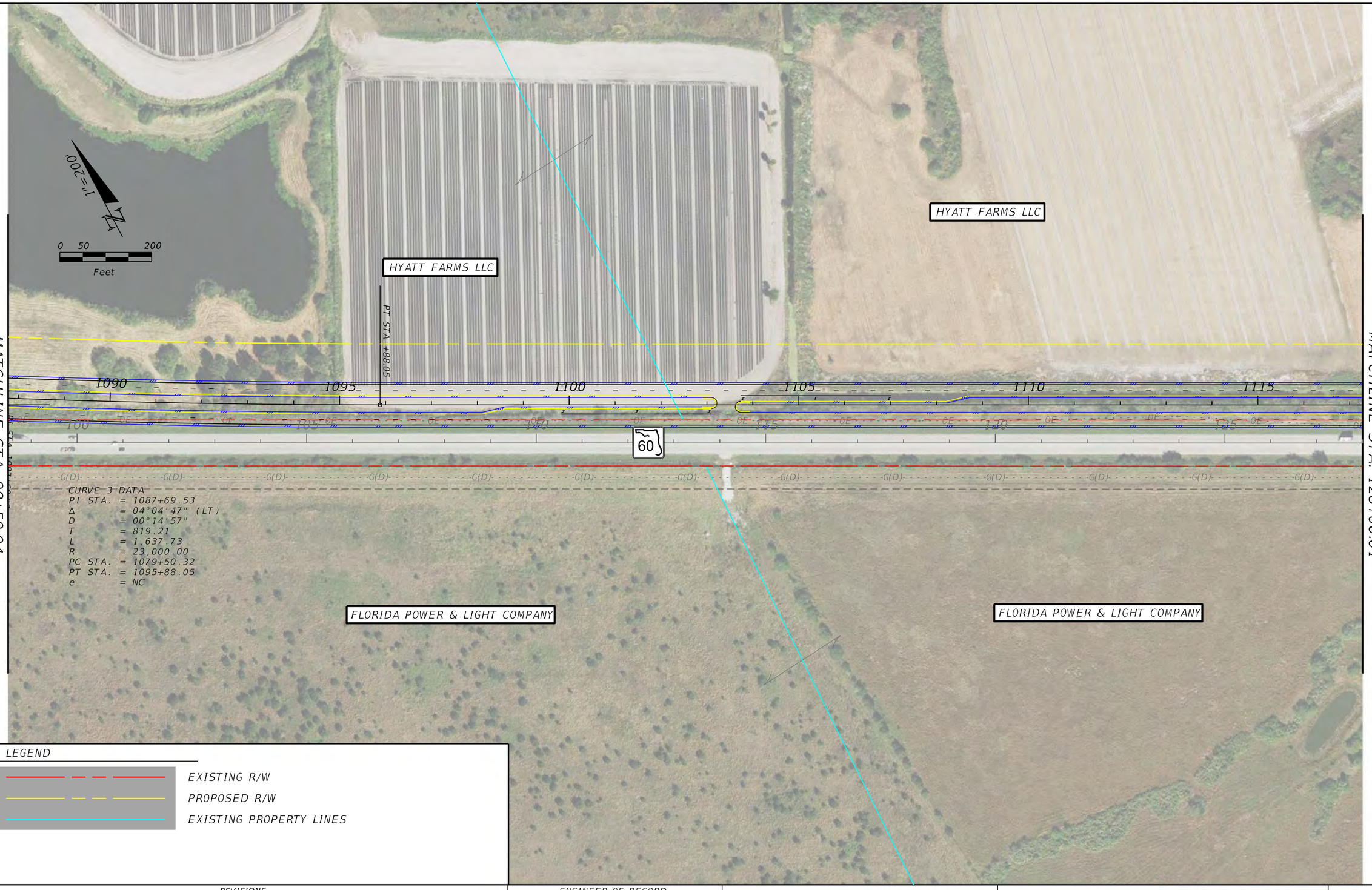

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (4)

SHEET NO. 9

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LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (5)

SHEET NO. 10

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MATCHLINE STA. 157+50.00

MATCHLINE STA. 187+00.00

ARNOLD H MACK REV TRUST THE

ARNOLD H MACK REV TRUST THE

ARNOLD H MACK REV TRUST THE

FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

1" = 200'

0 50 200

Feet

1150 1155 1160 1165 1170 1175

S62°18'40"E

S62°18'40"E

60

-G(D)-

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (6)

SHEET NO. 11

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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MATCHLINE STA. 187+00.00

MATCHLINE STA. 216+50.00

ARNOLD H MACK REV TRUST THE

ARNOLD H MACK REV TRUST THE

FLORIDA POWER & LIGHT COMPANY

1" = 200'

0 50 200

Feet

1180 1185 1190 1195 1200 1205

60

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (7)

SHEET NO. 12

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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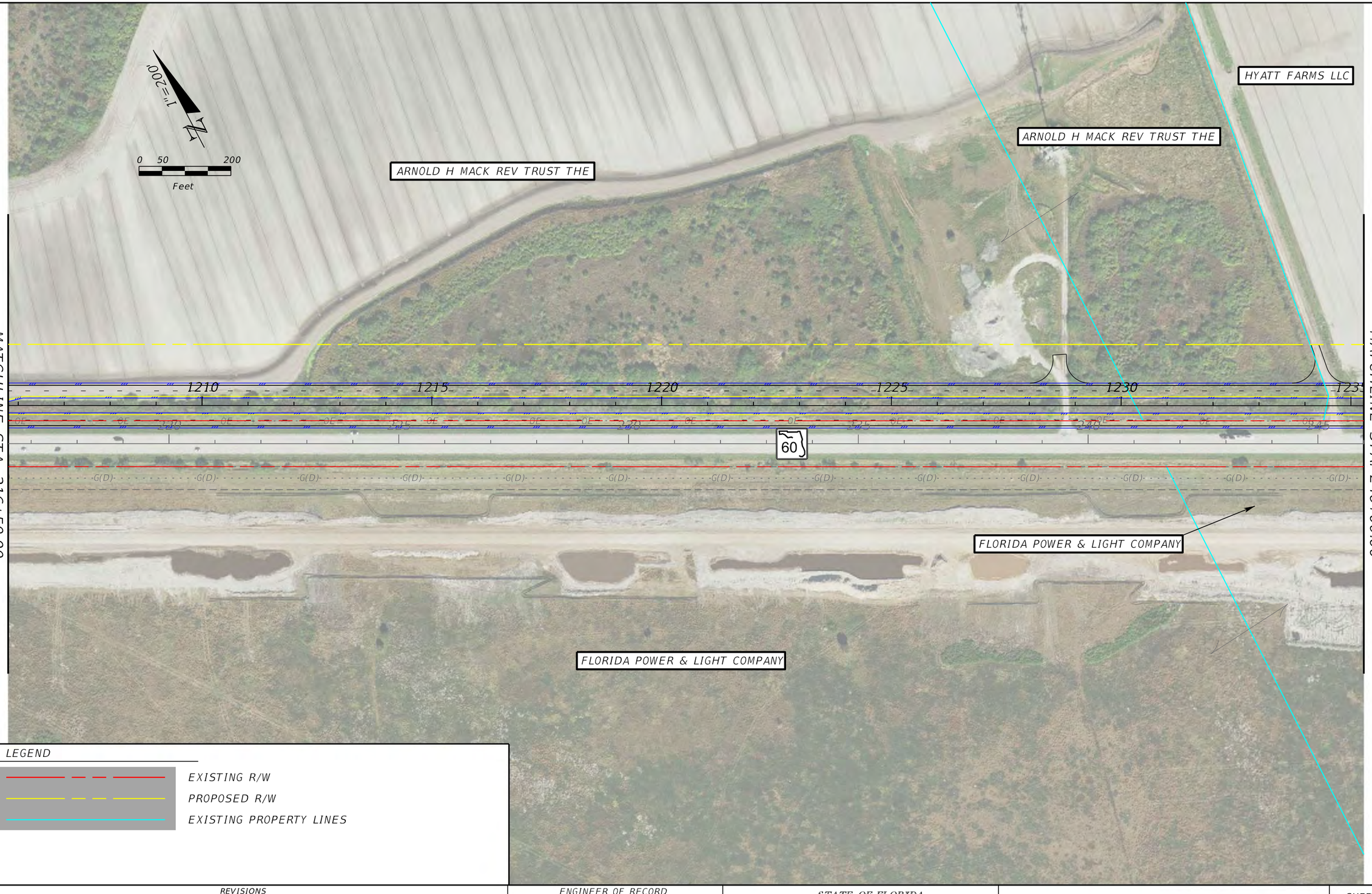

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (8)

SHEET NO. 13

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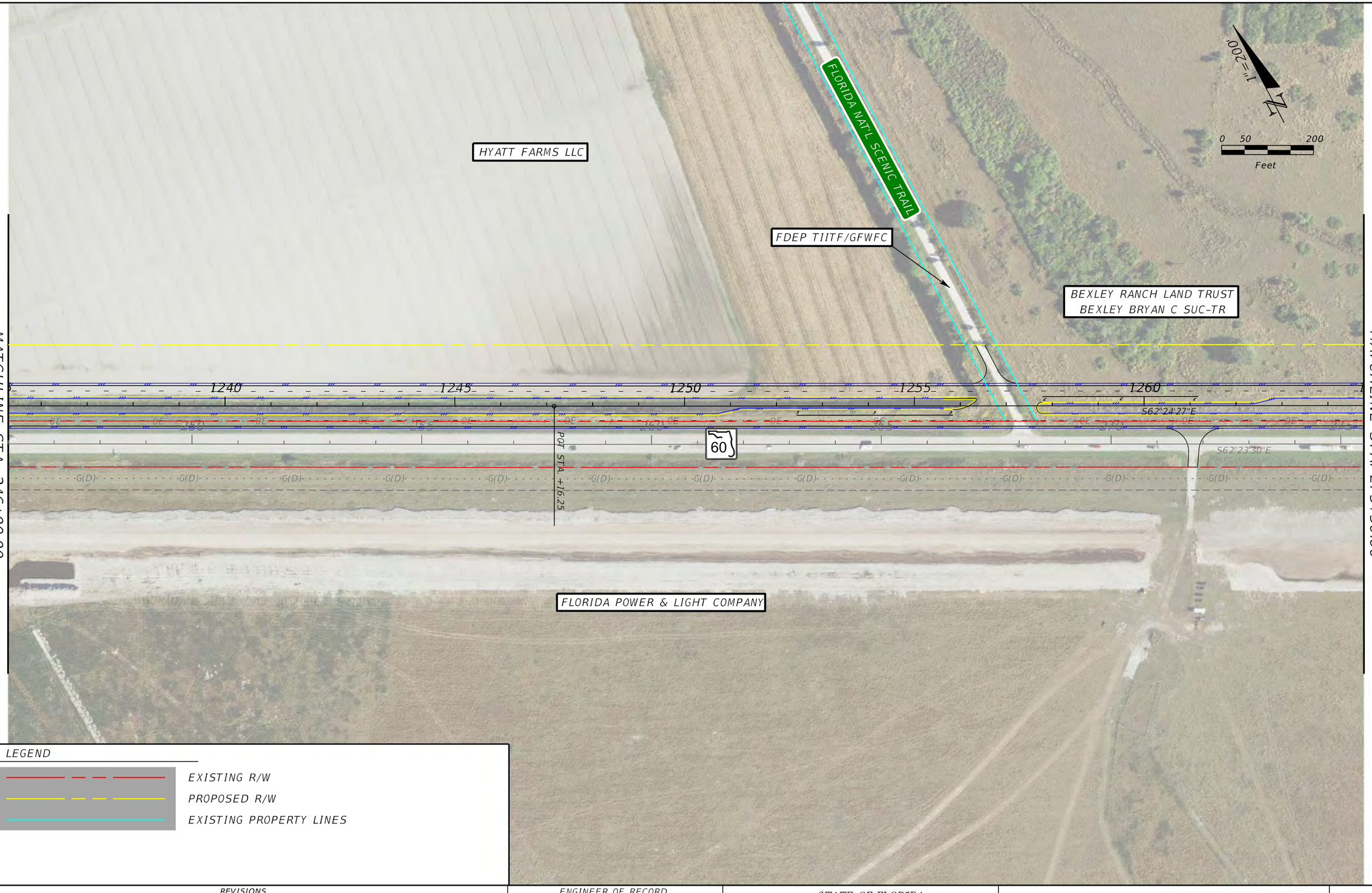
will.cheung 8/27/2025 5:50:09 PM



LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SR 60 CONCEPT PLANS (9)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	WILLIAM P. WOODBERY, P.E. LICENSE NUMBER: 87269 VOLKERT, INC. 1836 HERMITAGE BLVD, SUITE 200 TALLAHASSEE, FL 32308	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		14
					SR 60	OSCEOLA	452574-1-22-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -09 [SHEET]
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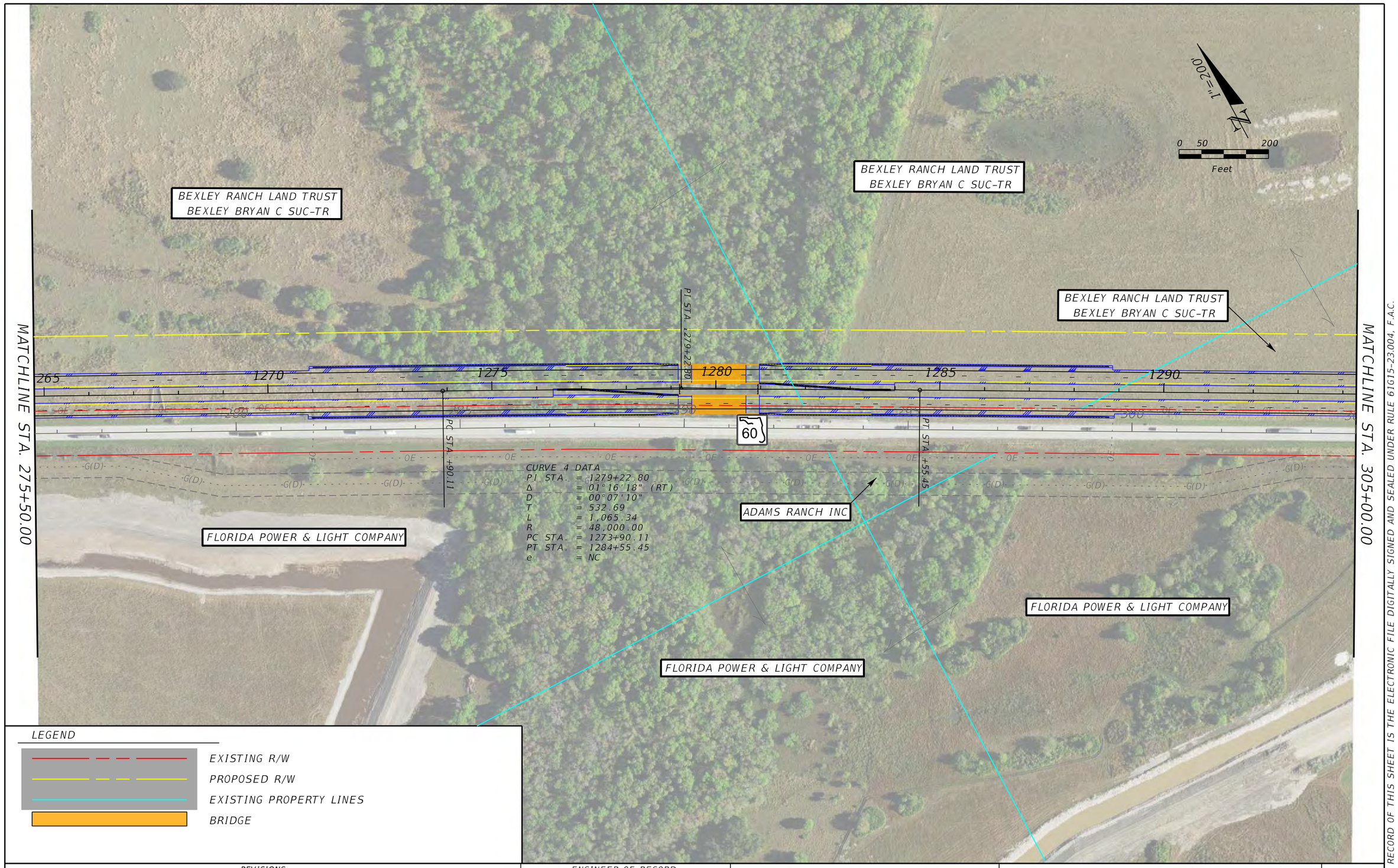

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (10)

SHEET NO. 15

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -10 [SHEET]
will.cheung 8/27/2025 5:50:36 PM

BEXLEY RANCH LAND TRUST
BEXLEY BRYAN C SUC-TR

BEXLEY RANCH LAND TRUST
BEXLEY BRYAN C SUC-TR

1"=200'

0 50 200
Feet

MATCHLINE STA. 305+00.00

MATCHLINE STA. 334+50.00

1295 1300 1305 1310 1315 1320

60

FLORIDA POWER & LIGHT COMPANY

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (11)

SHEET NO.
16

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will.cheung 8/27/2025 5:50:50 PM

BEXLEY RANCH LAND TRUST
BEXLEY BRYAN C SUC-TR

BEXLEY RANCH LAND TRUST
BEXLEY BRYAN C SUC-TR

1"=200'

0 50 200
Feet

MATCHLINE STA. 334+50.00

1325 1330 1335 1340 1345 1350

335 340 345 350 355 360

S61°08'30"E

60

-G(D)-

FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

MATCHLINE STA. 364+00.00

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (12)

SHEET NO. 17

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -12 [SHEET]
will.cheung 8/27/2025 5:51:03 PM

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (13)

SHEET NO. 18

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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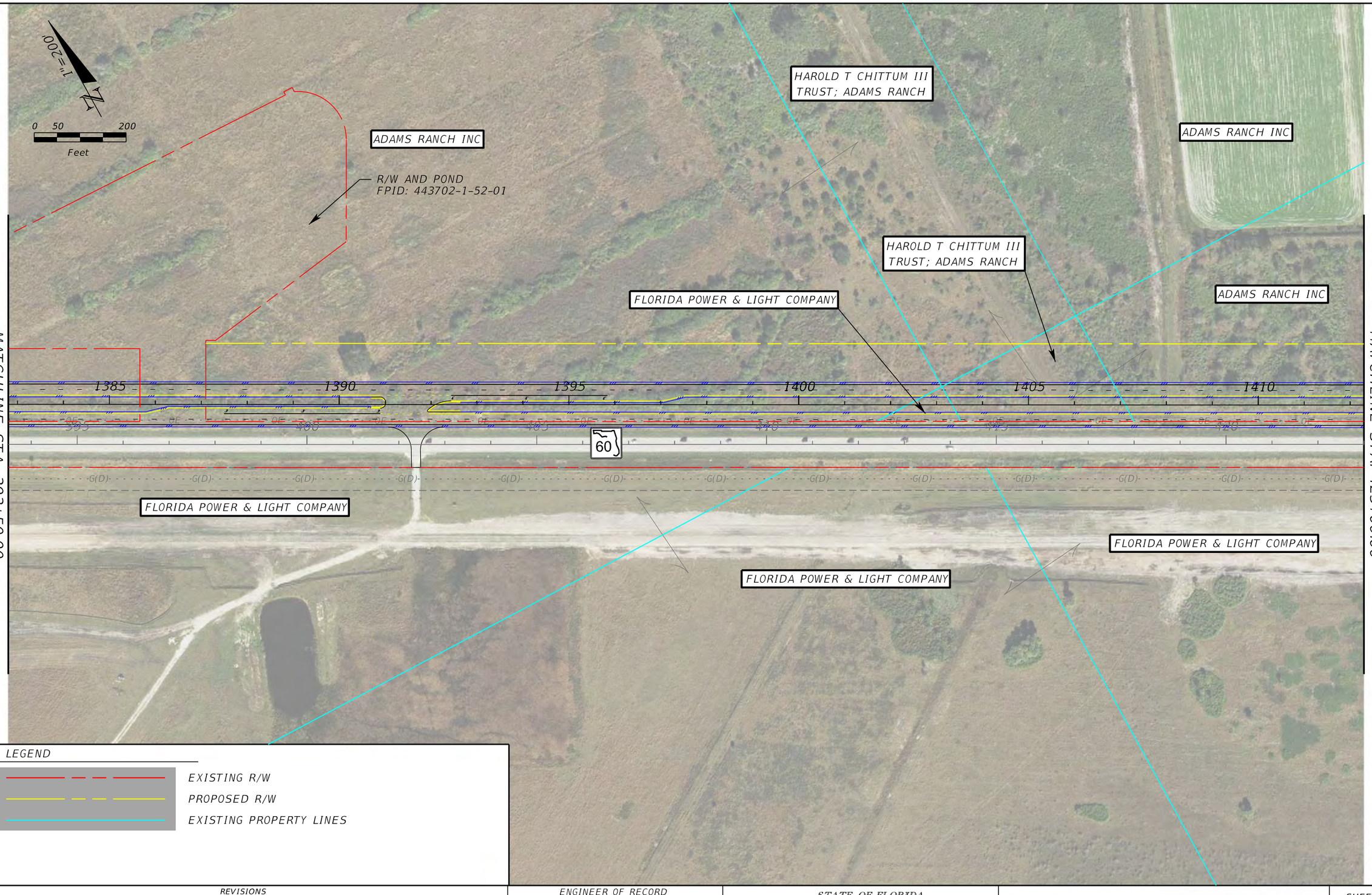

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (14)

SHEET NO. 19

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -14 [SHEET]
will.cheung 8/27/2025 5:51:29 PM

ADAMS RANCH INC

ADAMS RANCH INC

FLORIDA POWER & LIMITED COMPANY

1" = 200'

0 50 200

Feet

MATCHLINE STA. 423+00.00

MATCHLINE STA. 452+50.00

PC STA. +18.68

1415 1420 1425 1430 1435 1440

S61°10'40"E

60

-G(D)-

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (15)

SHEET NO. 20

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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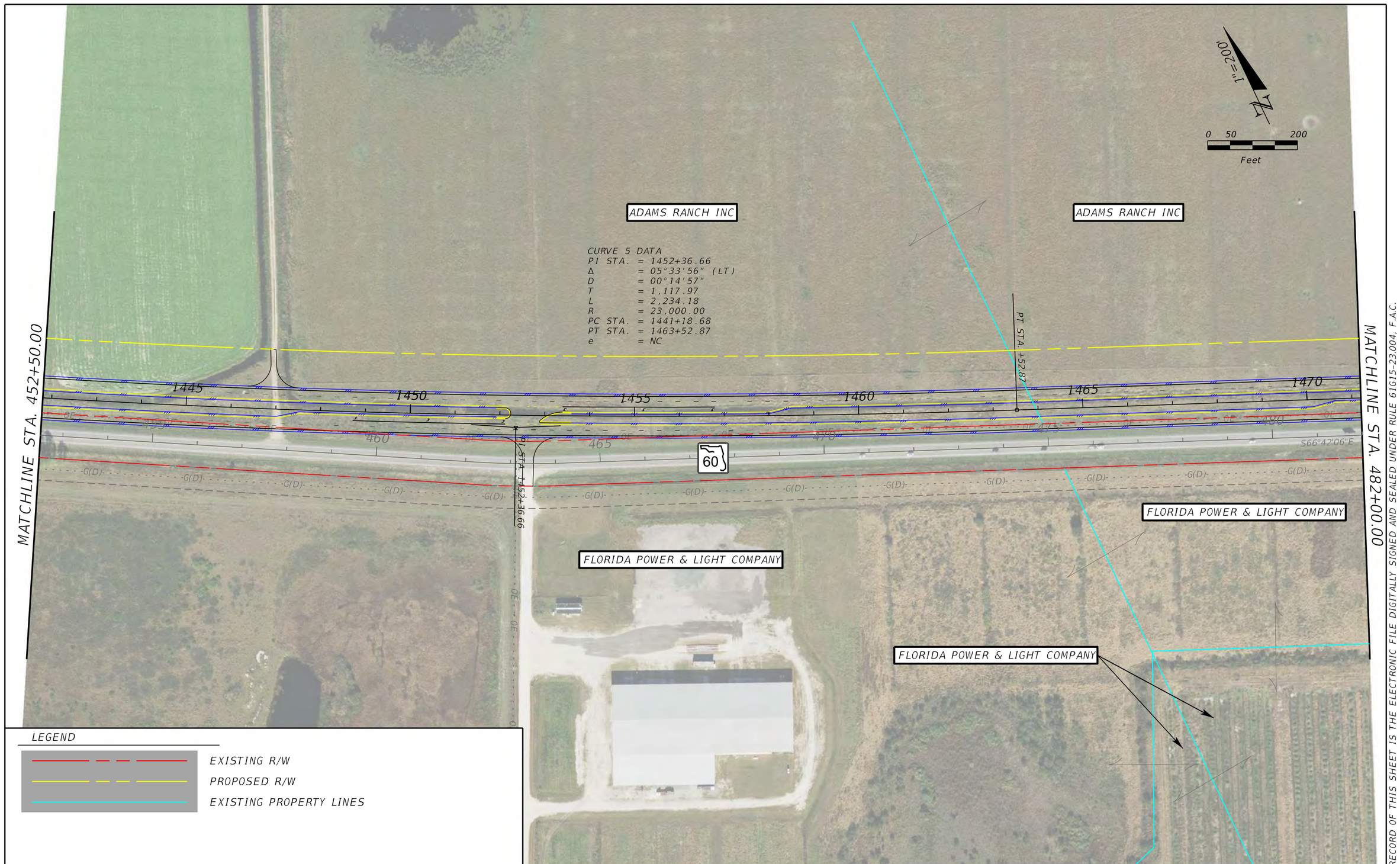

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (16)

SHEET NO. 21

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -16 [SHEET]
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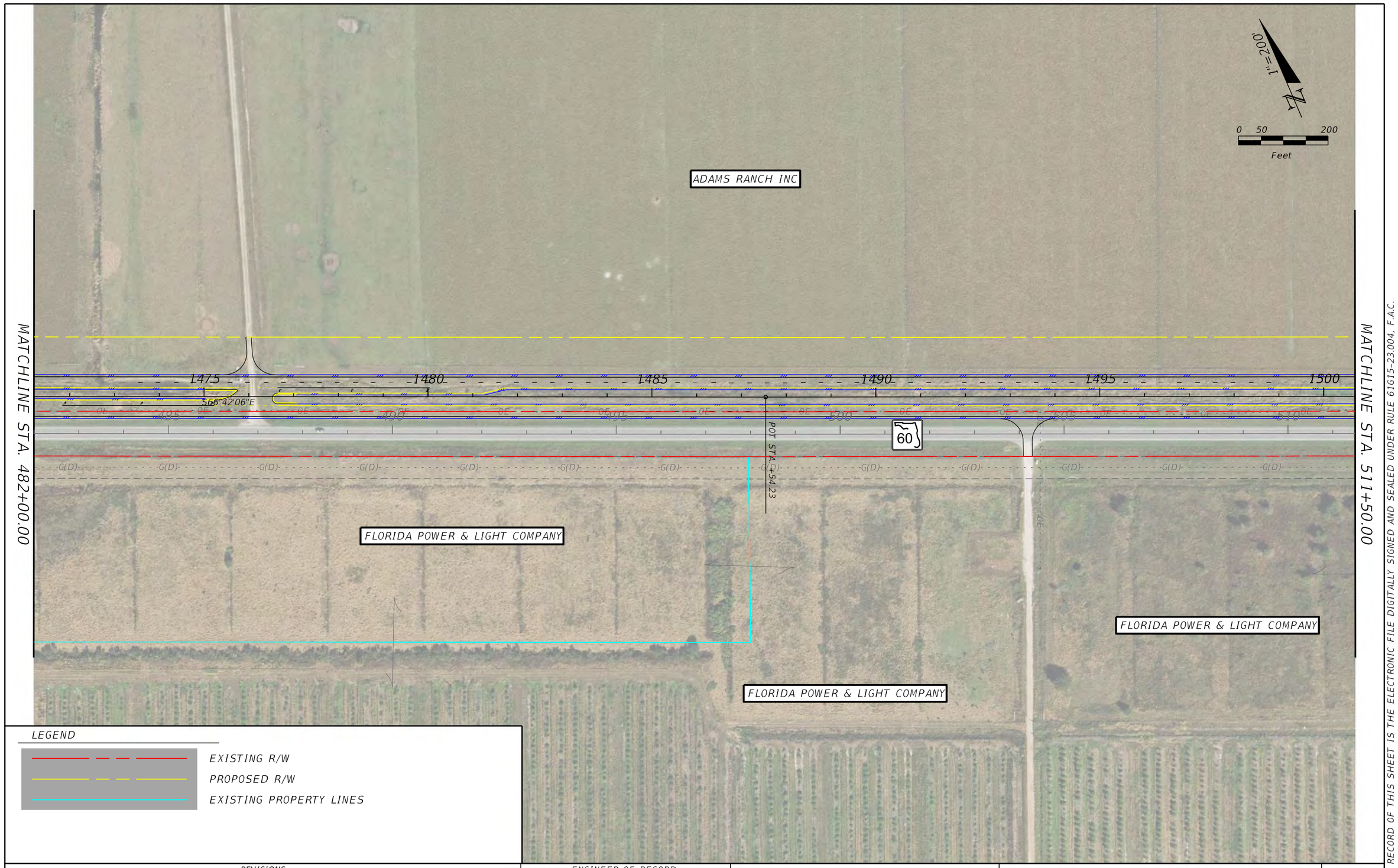

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (17)

SHEET NO. 22

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -17 [SHEET]
will.cheung 8/27/2025 5:52:08 PM

MATCHLINE STA. 511+50.00

MATCHLINE STA. 541+00.00

1" = 200'

0 50 200

Feet

ADAMS RANCH INC

ADAMS RANCH INC

ADAMS RANCH INC

ADAMS RANCH INC

FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

1505 1510 1515 1520 1525 153

60

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (18)

SHEET NO. 23

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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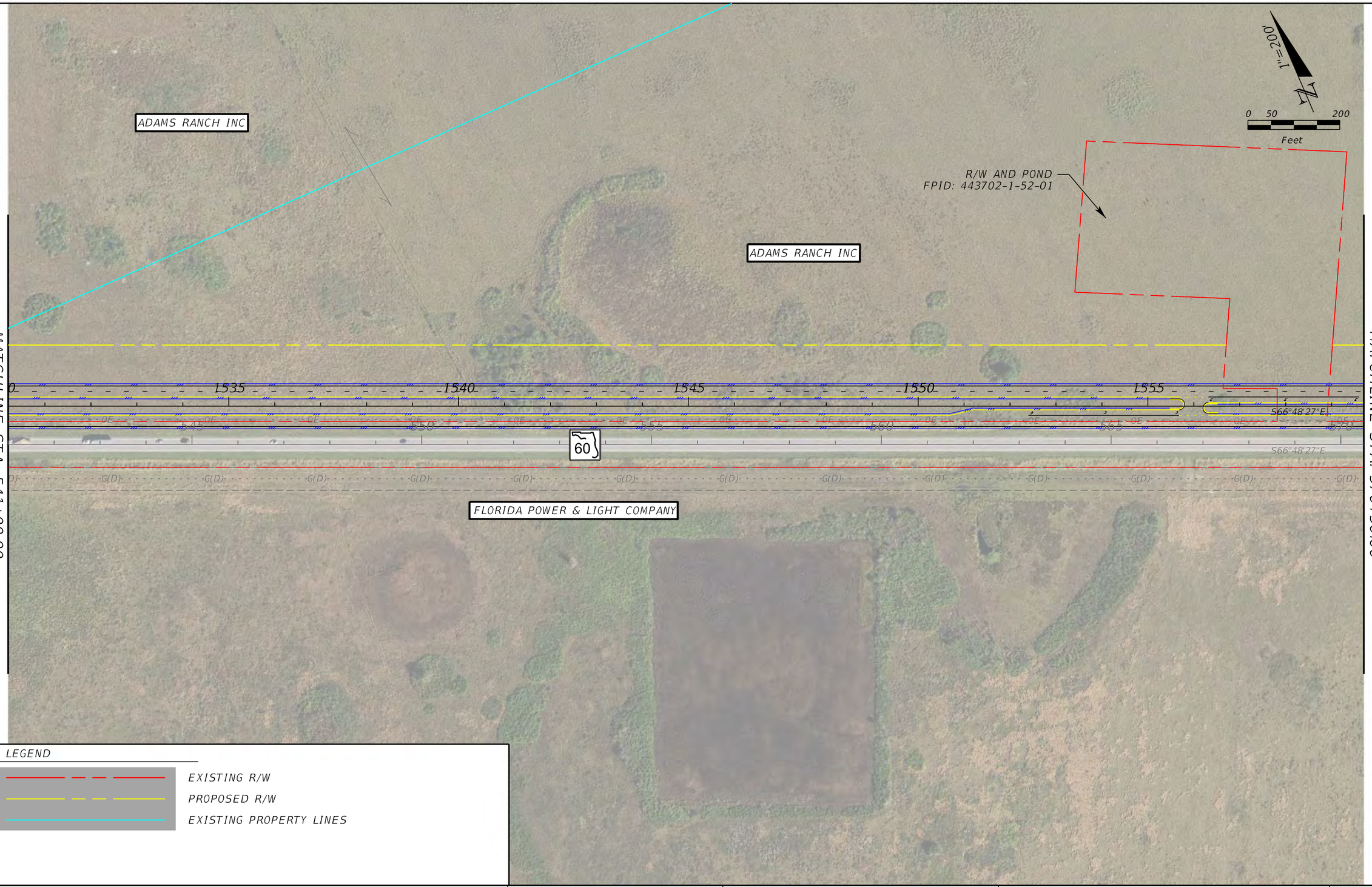

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (19)

SHEET NO. 24

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -19 [SHEET]
will.cheung 8/27/2025 5:52:36 PM

MATCHLINE STA. 570+50.00

MATCHLINE STA. 600+00.00

1"=200'

0 50 200

Feet

ADAMS RANCH INC

ADAMS RANCH INC

1560 1565 1570 1575 1580 1585

60

FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (20)

SHEET NO. 25

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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will.cheung 8/27/2025 5:52:49 PM

MATCHLINE STA. 600+00.00

MATCHLINE STA. 629+50.00

1" = 200'

0 50 200

Feet

ADAMS RANCH INC

FLORIDA POWER & LIGHT COMPANY

1590 1595 1600 1605 1610 1615

60

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (21)

SHEET NO. 26

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -21 [SHEET]
will.cheung 8/27/2025 5:53:02 PM

MATCHLINE STA. 629+50.00

MATCHLINE STA. 659+00.00

PEAVINE RD

ADAMS RANCH INC

JOHN ROHDE LLC

JOHN ROHDE LLC

1620 1625 1630 1635 1640 1645

60

POT STA. +99.36

FLORIDA POWER & LIGHT COMPANY

UNIVERSITY OF FLORIDA FOUNDATION INC

UNIVERSITY OF FLORIDA FOUNDATION INC

1"=200'

0 50 200

Feet

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (22)

SHEET NO. 27

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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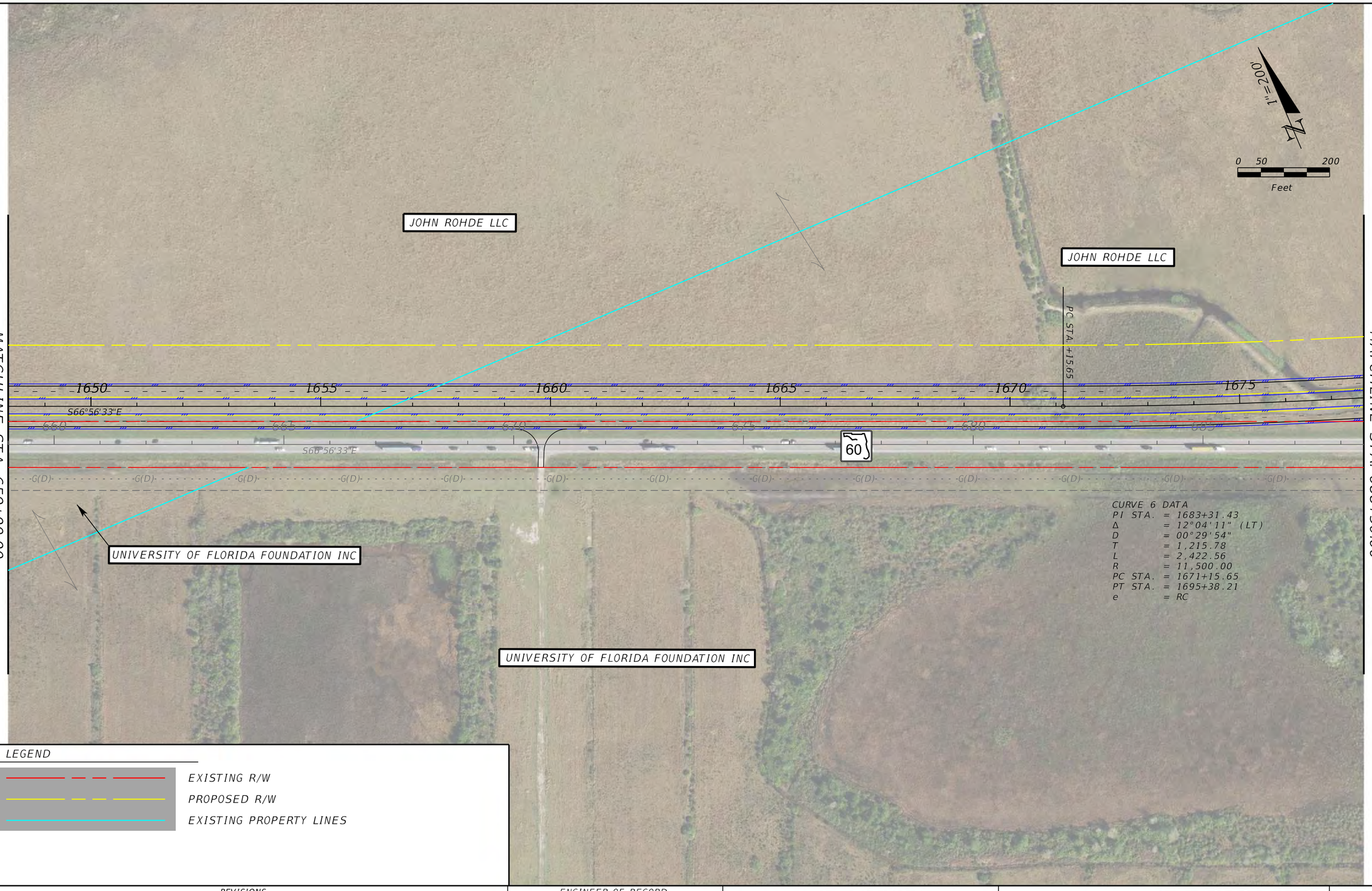

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (23)

SHEET NO. 28

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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will.cheung 8/27/2025 5:53:29 PM

CURVE 6 DATA
PI STA. = 1683+31.43
Δ = 12°04'11" (LT)
D = 00°29'54"
T = 1,215.78
L = 2,422.56
R = 11,500.00
PC STA. = 1671+15.65
PT STA. = 1695+38.21
e = RC

JOHN ROHDE LLC

JOHN ROHDE LLC

HENRY ROHDE LLC

UNIVERSITY OF FLORIDA FOUNDATION INC

UNIVERSITY OF FLORIDA FOUNDATION INC

MATCHLINE STA. 688+50.00

MATCHLINE STA. 718+00.00

PT STA. 1683+31.43

PT STA. 1695+38.21

1"=200'

0 50 200
Feet

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (24)

SHEET NO. 29

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -24 [SHEET]
will.cheung 8/27/2025 5:53:43 PM

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (25)

SHEET NO. 30

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -25 [SHEET]
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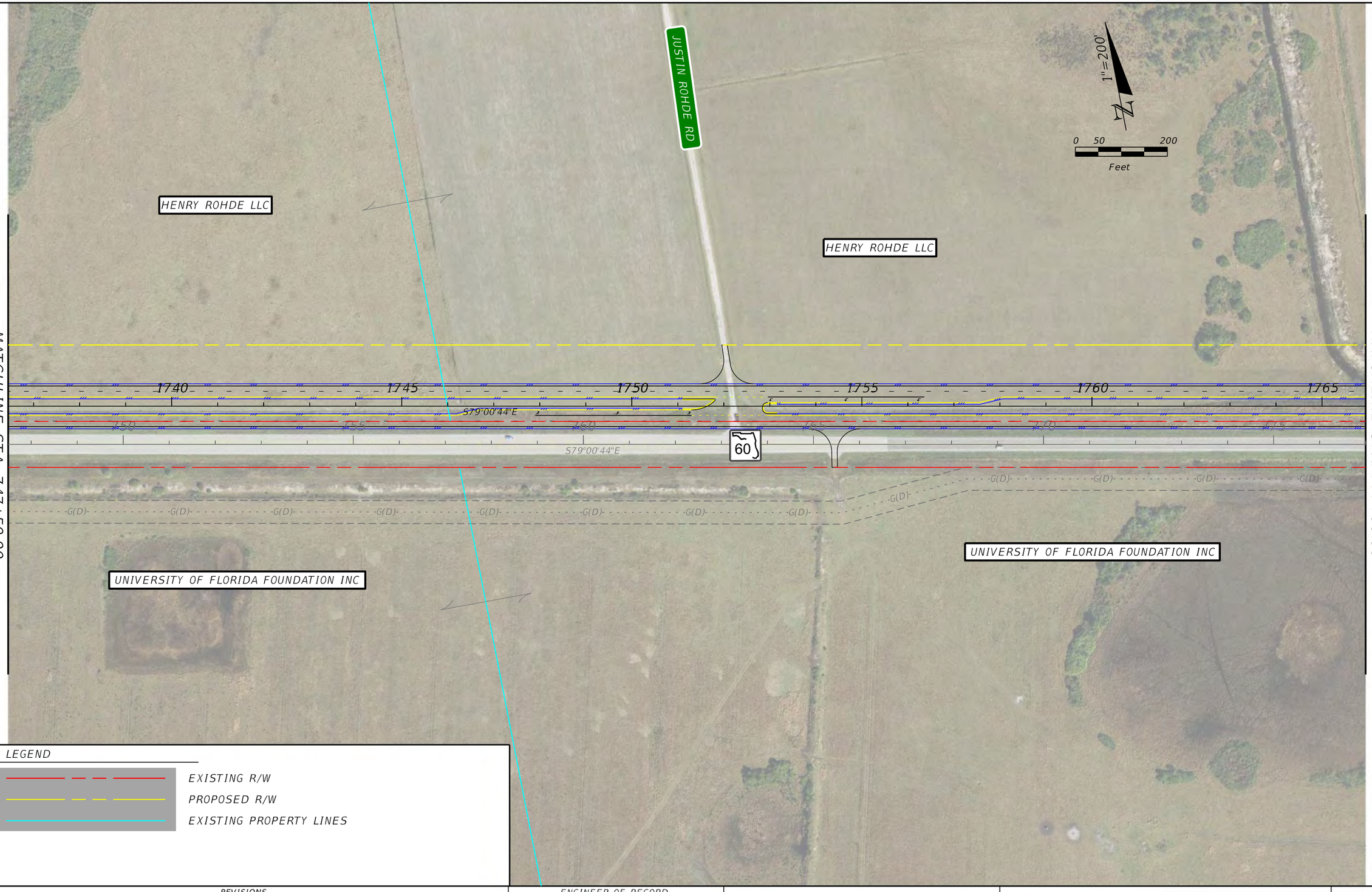


LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

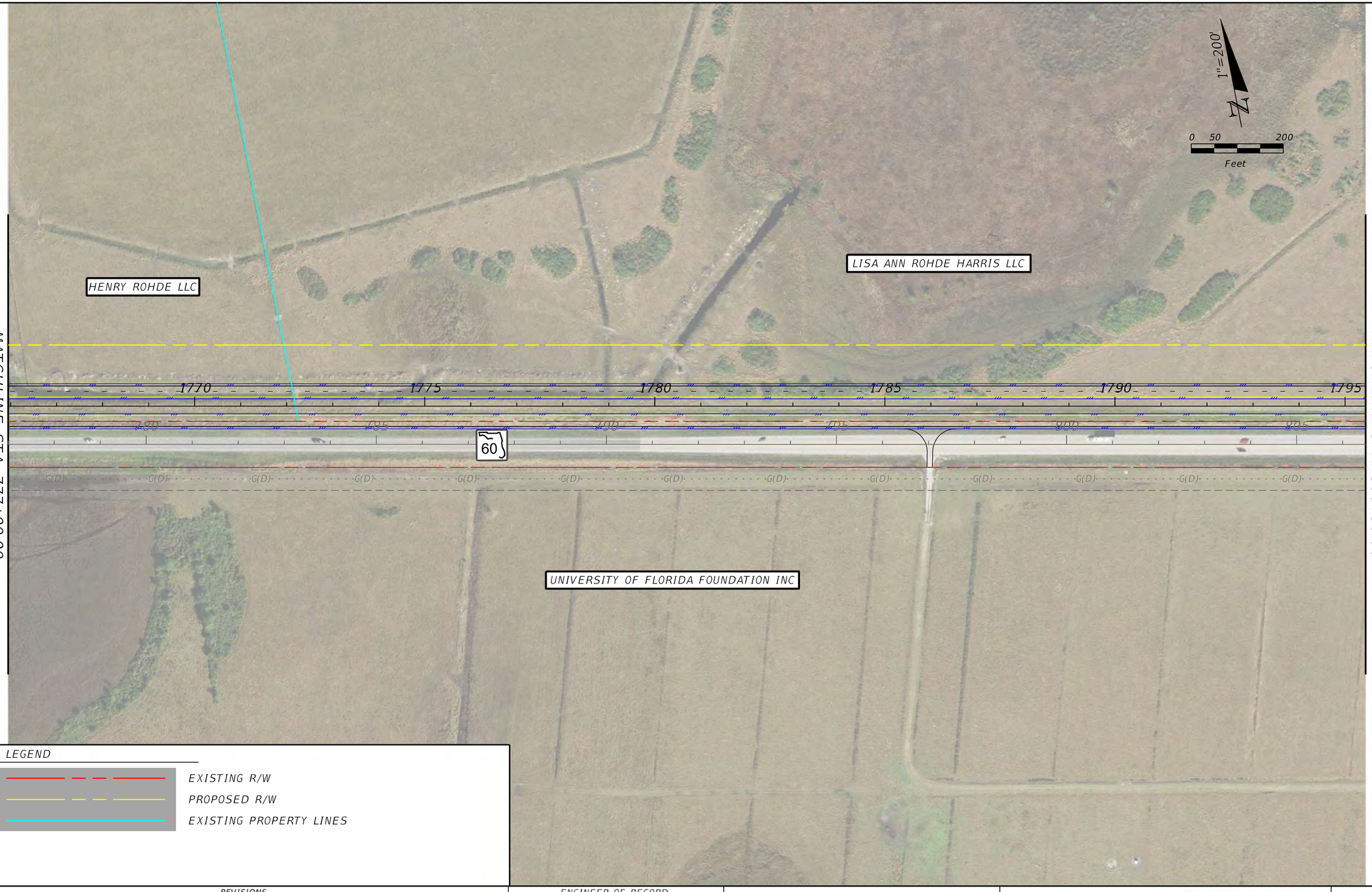
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (26)

SHEET NO. 31

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -26 [SHEET]
will.cheung 8/27/2025 5:54:11 PM



LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (27)

SHEET NO. 32

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -27 [SHEET]
will.cheung 8/27/2025 5:54:24 PM

1"=200'

0 50 200

Feet

CURVE 7 DATA
PI STA. = 1803+77.02
Δ = 00°50'47" (LT)
D = 00°04'46"
T = 531.90
L = 1,063.78
R = 72,000.00
PC STA. = 1798+45.12
PT STA. = 1809+08.90
e = NC

LISA ANN ROHDE HARRIS LLC

LISA ANN ROHDE HARRIS LLC

ROHDE RD

PC STA. +45.12

PT STA. +08.90

PT STA. 1803+77.02

1800 1805 1810 1815 1820

810 815 820 825 830 835

60

-G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)- -G(D)-

UNIVERSITY OF FLORIDA FOUNDATION INC

UNIVERSITY OF FLORIDA FOUNDATION INC

MATCHLINE STA. 806+50.00

MATCHLINE STA. 836+00.00

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (28)

SHEET NO. 33

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -28 [SHEET]
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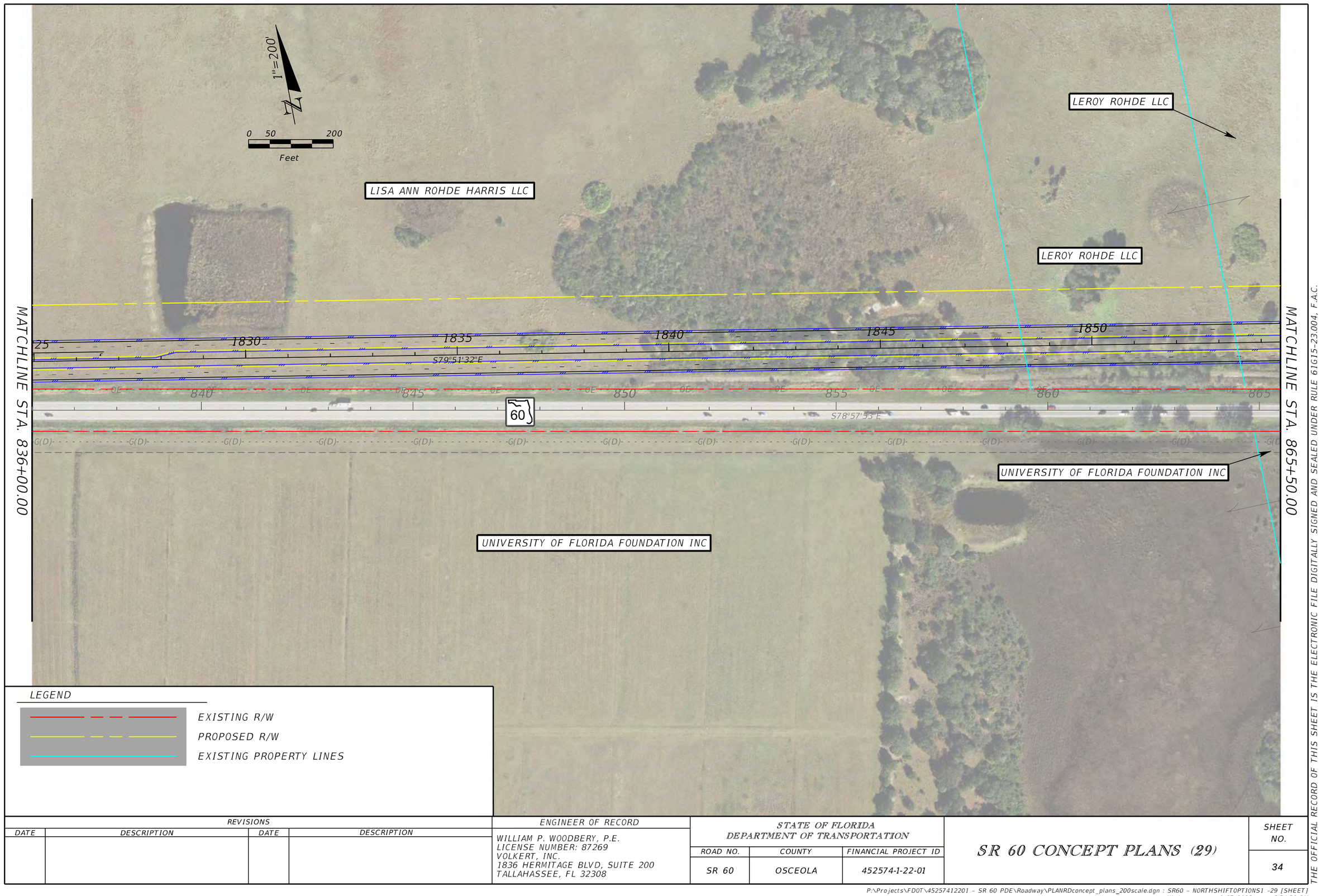

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (29)

SHEET NO. 34

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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will.cheung 8/27/2025 5:54:56 PM

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (30)

SHEET NO. 35

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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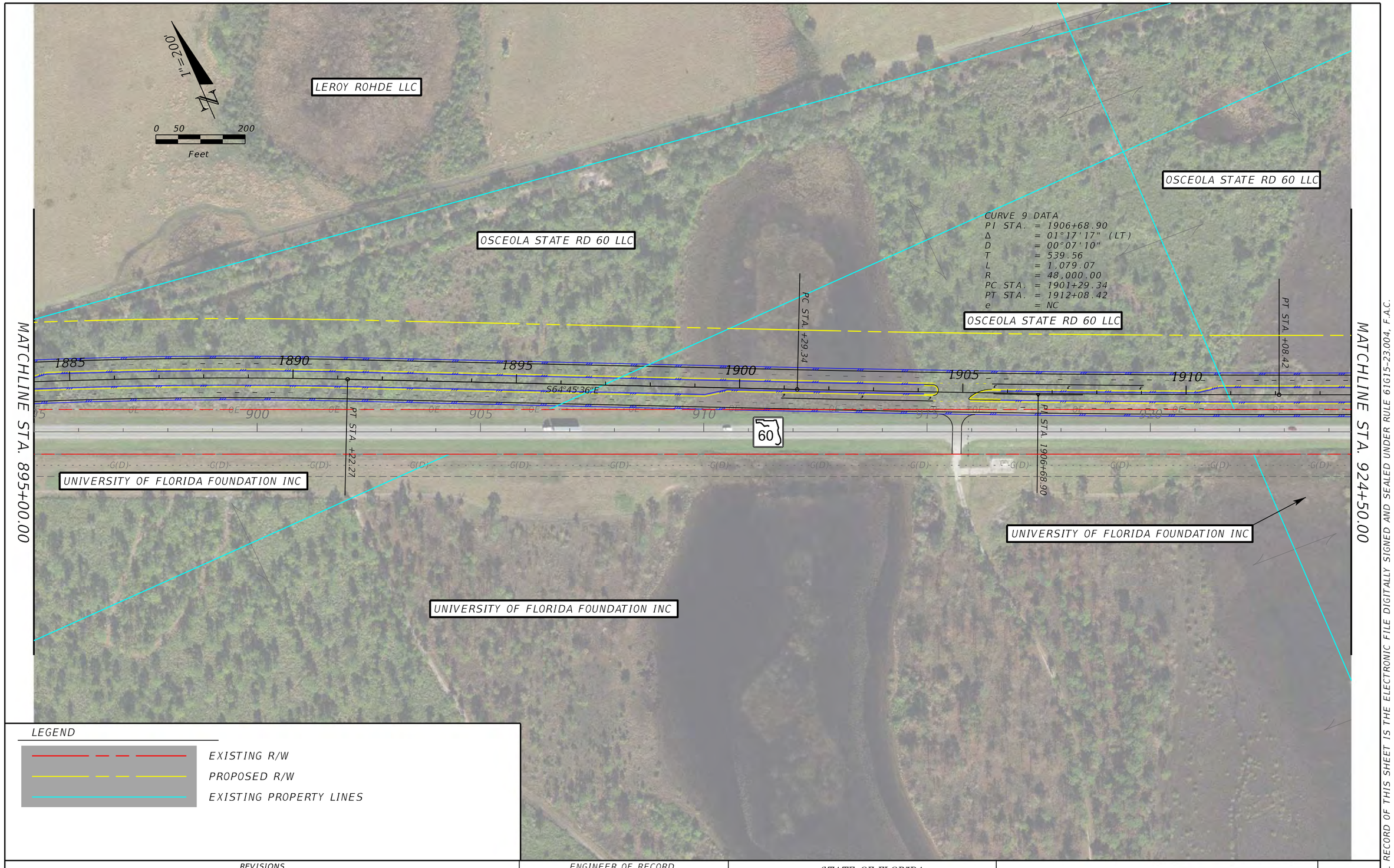

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (31)

SHEET NO. 36

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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will.cheung 8/27/2025 5:55:24 PM

MATCHLINE STA. 924+50.00

MATCHLINE STA. 954+00.00

1" = 200'

0 50 200

Feet

OSCEOLA STATE RD 60 LLC

LEROY ROHDE LLC

UNIVERSITY OF FLORIDA FOUNDATION INC

1915 1920 1925 1930 1935 1940

60

S66°02'53"

LEGEND

EXISTING R/W

PROPOSED R/W

EXISTING PROPERTY LINES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (32)

SHEET NO. 37

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -32 [SHEET]
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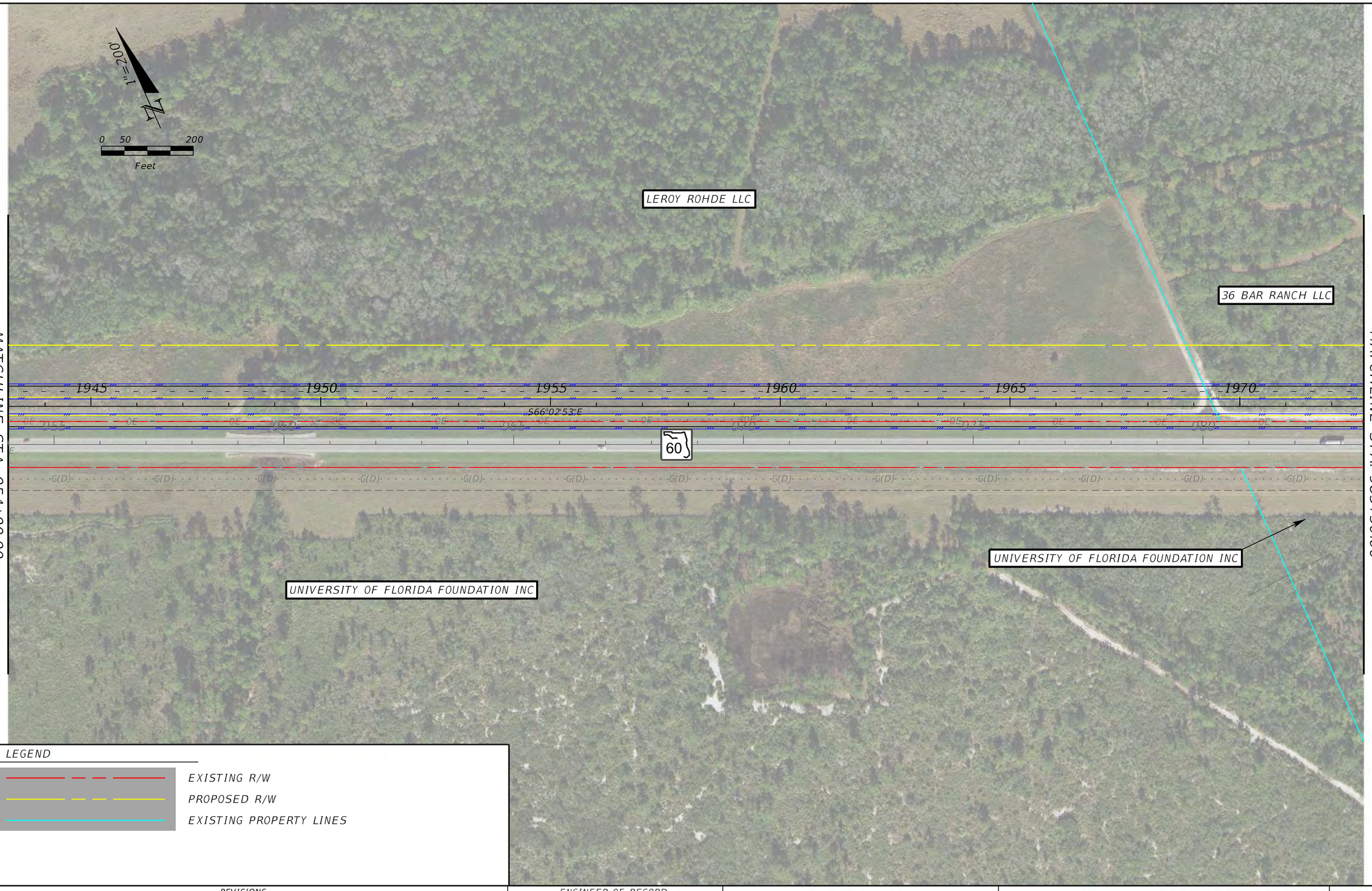

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (33)

SHEET NO. 38

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -33 [SHEET]
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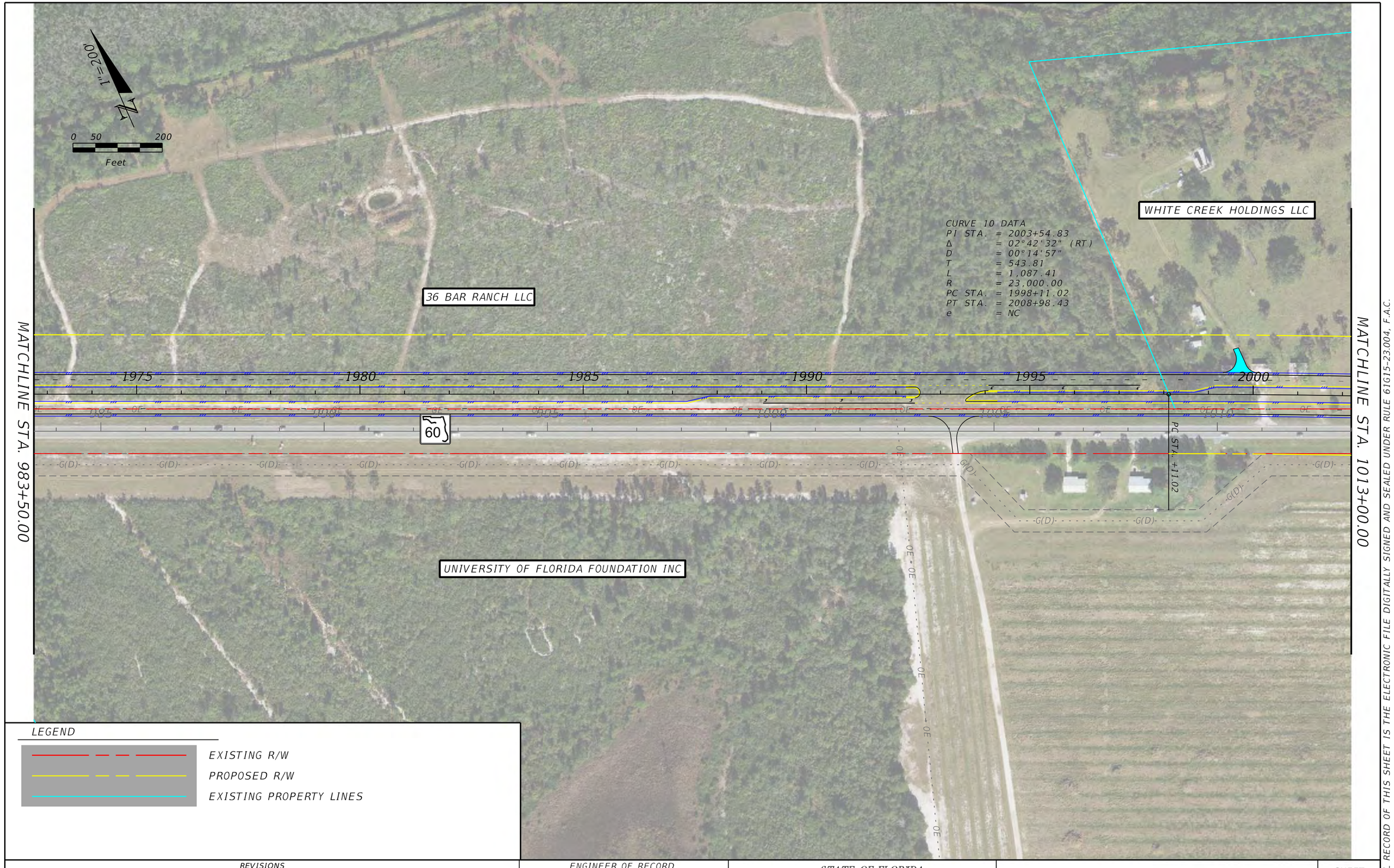

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (34)

SHEET NO. 39

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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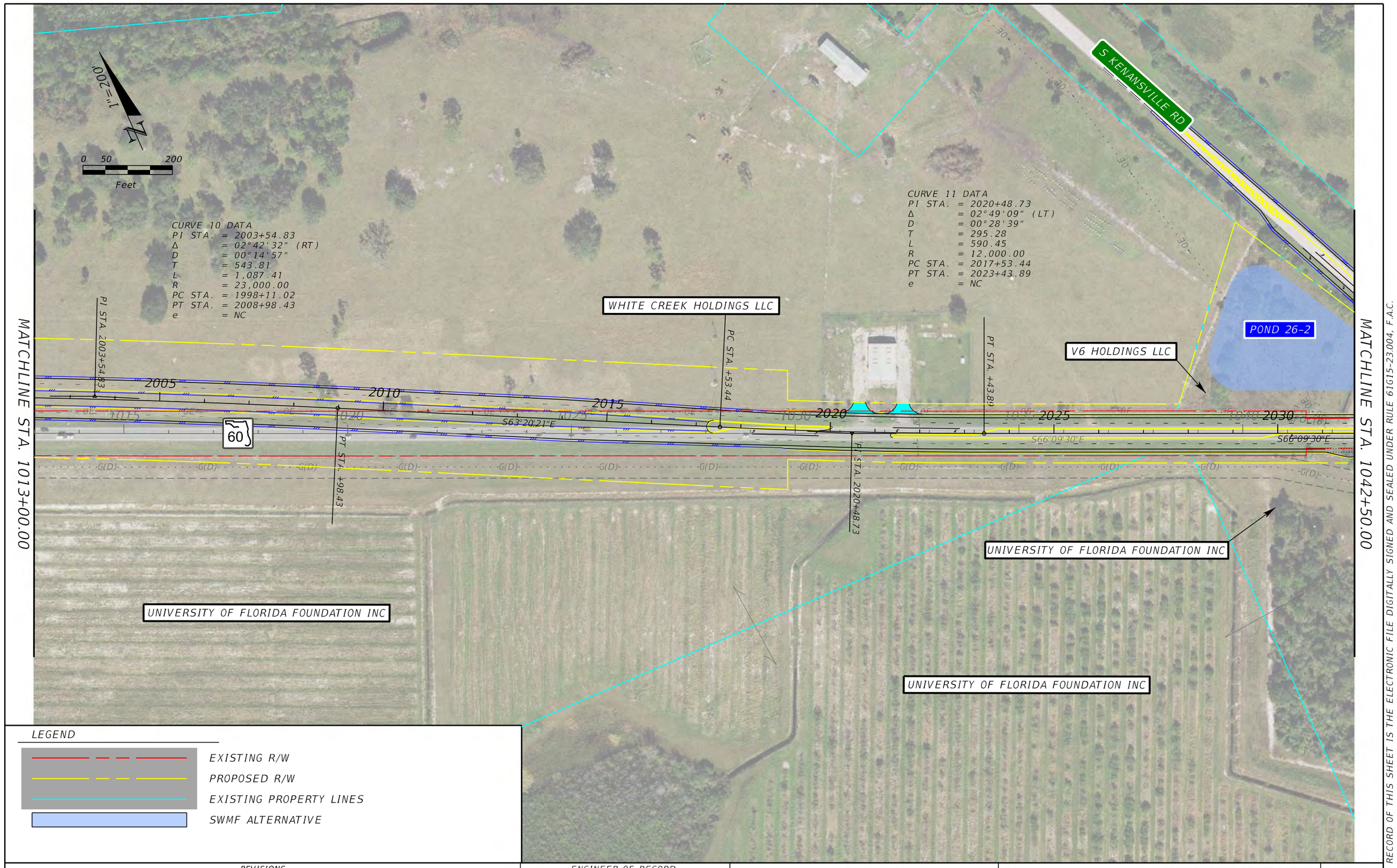

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (35)

SHEET NO. 40

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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will.cheung 8/27/2025 5:56:23 PM

1"=200'

0 50 200

Feet

CURVE 12 DATA
PI STA. = 2041+11.90
Δ = 01°57'03" (RT)
D = 00°17'11"
T = 340.54
L = 681.00
R = 20,000.00
PC STA. = 2037+71.36
PT STA. = 2044+52.37
e = NC

POND 27-2

WESTGATE RESORTS LTD

FLORIDA'S TURNPIKE RAMP

PILOT TRAVEL CENTERS LLC #096

PILOT TRAVEL CENTERS LLC #096

ALBERT J GEIGER GST EXEMPT TESTAMENTARY TRUST

ROBERT F & MARY K GARDNER LLC

AAO STORES LLC

V6 HOLDINGS LLC

RACE TRAC INC

UNIVERSITY OF FLORIDA FOUNDATION INC

UNIVERSITY OF FLORIDA FOUNDATION INC

441

S KENANSVILLE RD

60

MATCHLINE STA. 1042+50.00

MATCHLINE STA. 1072+00.00

PI STA. 2041+11.90

PC STA. +52.37

PC STA. +28.84

PI STA. 2053+66.47

PT STA. +03.93

PC STA. +65.58

S64°12'27"E

S63°40'44"E

S62°26'57"E

CURVE 13 DATA
Δ = 01°15'38" (RT)
D = 00°15'38"
T = 337.58
L = 675.00
R = 22,000.00
PC STA. = 2050+28.84
PT STA. = 2057+03.93
e = NC

LEGEND

EXISTING R/W
EXISTING LA R/W
PROPOSED R/W
PROPOSED BACK OF SIDEWALK
EXISTING PROPERTY LINES
SWMF ALTERNATIVE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (36)

SHEET NO. 41

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

P:\Projects\FDOT\45257412201 - SR 60 PDE\Roadway\PLANRDconcept_plans_200scale.dgn : SR60 - NORTHSHIFTOPTIONS1 -36 [SHEET]
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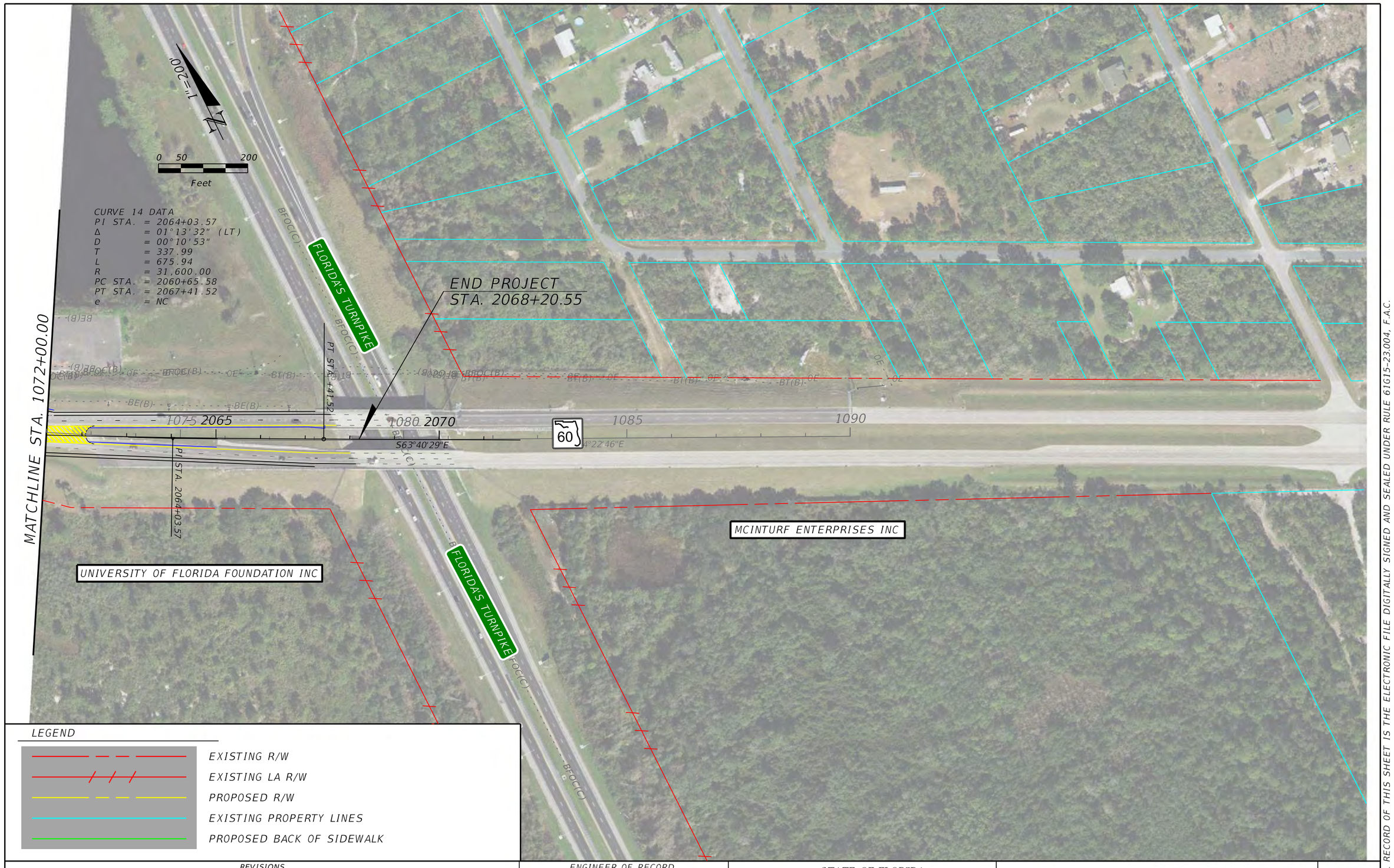

LEGEND

- EXISTING R/W
- EXISTING LA R/W
- PROPOSED R/W
- EXISTING PROPERTY LINES
- PROPOSED BACK OF SIDEWALK

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

WILLIAM P. WOODBERY, P.E.
LICENSE NUMBER: 87269
VOLKERT, INC.
1836 HERMITAGE BLVD, SUITE 200
TALLAHASSEE, FL 32308

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

SR 60 CONCEPT PLANS (37)

SHEET NO. 42

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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will.cheung 8/27/2025 5:56:54 PM

Appendix B – TYPICAL SECTION PACKAGE

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 452574-1-22-01

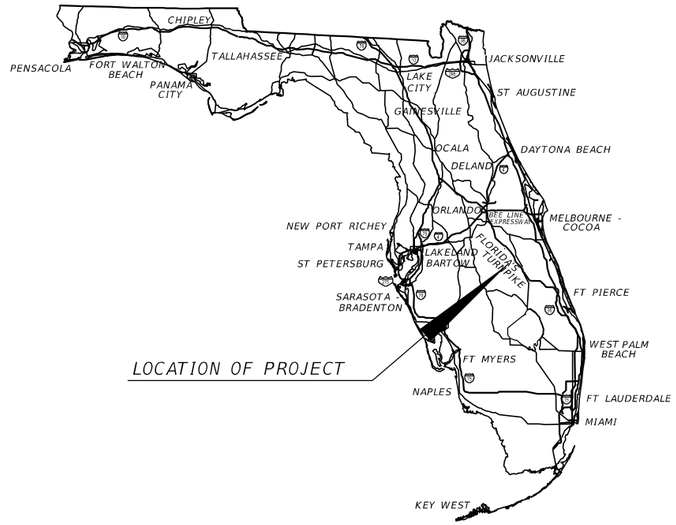
(FEDERAL FUNDS)

OSCEOLA COUNTY (92070)

STATE ROAD NO. 60

SR 60 PD&E STUDY
FROM PRAIRIE LAKE ROAD TO FLORIDA TURNPIKE

PROJECT LOCATION URL:	https://tinyurl.com/2dph44v9
PROJECT LIMITS:	BEGIN MP 0.113 – END MP 20.220
EXCEPTIONS:	NONE
BRIDGE LIMITS:	MP 5.281 TO MP 5.304
RAILROAD CROSSING:	NONE



FDOT DISTRICT DESIGN ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS
TARGET SPEED
DESIGN & POSTED SPEEDS

FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER

CONCURRING WITH:
TARGET SPEED
DESIGN & POSTED SPEEDS

FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER

CONCURRING WITH:
CONTEXT CLASSIFICATION
TARGET SPEED

FDOT DISTRICT STRUCTURES DESIGN ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

FHWA TRANSPORTATION ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

LOCAL TRANSPORTATION ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

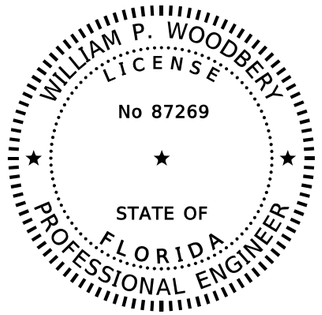
NOT USED

CONCURRING WITH:

NOT USED

CONCURRING WITH:

APPROVED BY:



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

WILLIAM P. WOODBERY, P.E.
P.E. LICENSE NUMBER 87269
VOLKERT, INC.
1836 HERMITAGE BLVD., SUITE 200
TALLAHASSEE, FL 32308

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

INDEX OF SHEETS

SHEET NO.
1

9/10/2025 11:30:27 AM will.cheung
P:\Projects\FDOT\452574122201 - SR 60 PDE\Roadway\TYPDRD01.dgn

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
(X)	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
( )	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

( )	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
(X)	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

(X) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
(X) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

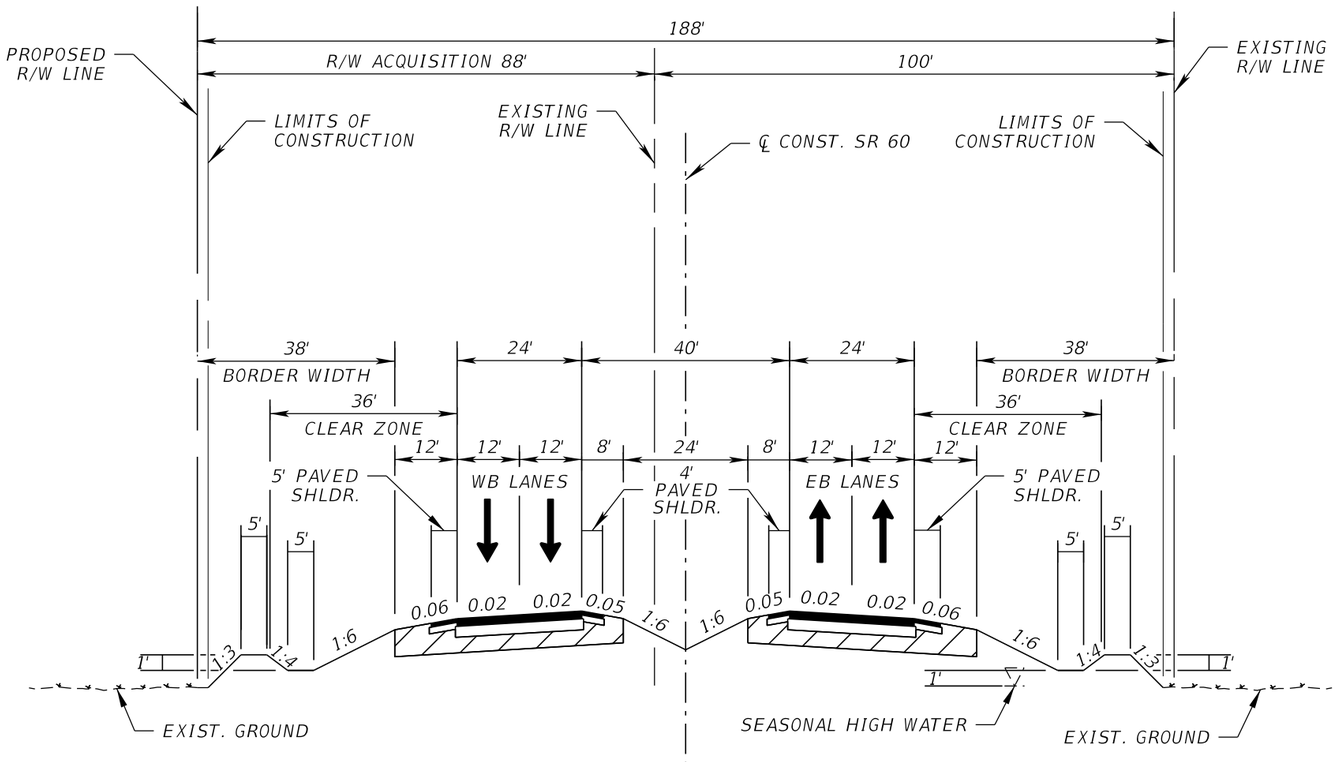
(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

VARIATION MEMO

1. BORDER WIDTH
2. PEDESTRIAN FACILITY

TYPICAL SECTION No. 1



TYPICAL SECTION 1

WEST OF PRAIRIE LAKE RD TO THE END OF CURVE 1

MP 0.113 TO MP 1.431

TRAFFIC DATA

CURRENT YEAR = 2025 AADT = 10,000
ESTIMATED OPENING YEAR = 2030 AADT = 13,000
ESTIMATED DESIGN YEAR = 2050 AADT = 24,000
K = 9.5% D = 57.0% T = 30.0% (24 HOUR)
DESIGN HOUR T = 27.0%
DESIGN SPEED = 65 MPH
TARGET SPEED = 65 MPH
POSTED SPEED = 65 MPH

FINANCIAL PROJECT ID	SHEET NO.
452574-1-22-01	2

9/10/2025 11:30:29 AM will.cheung
P:\Projects\FDOT\452574122O1 - SR 60 PDE\Roadway\TYPDRD01.dgn

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
(X)	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
( )	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

( )	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
(X)	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

CRITERIA

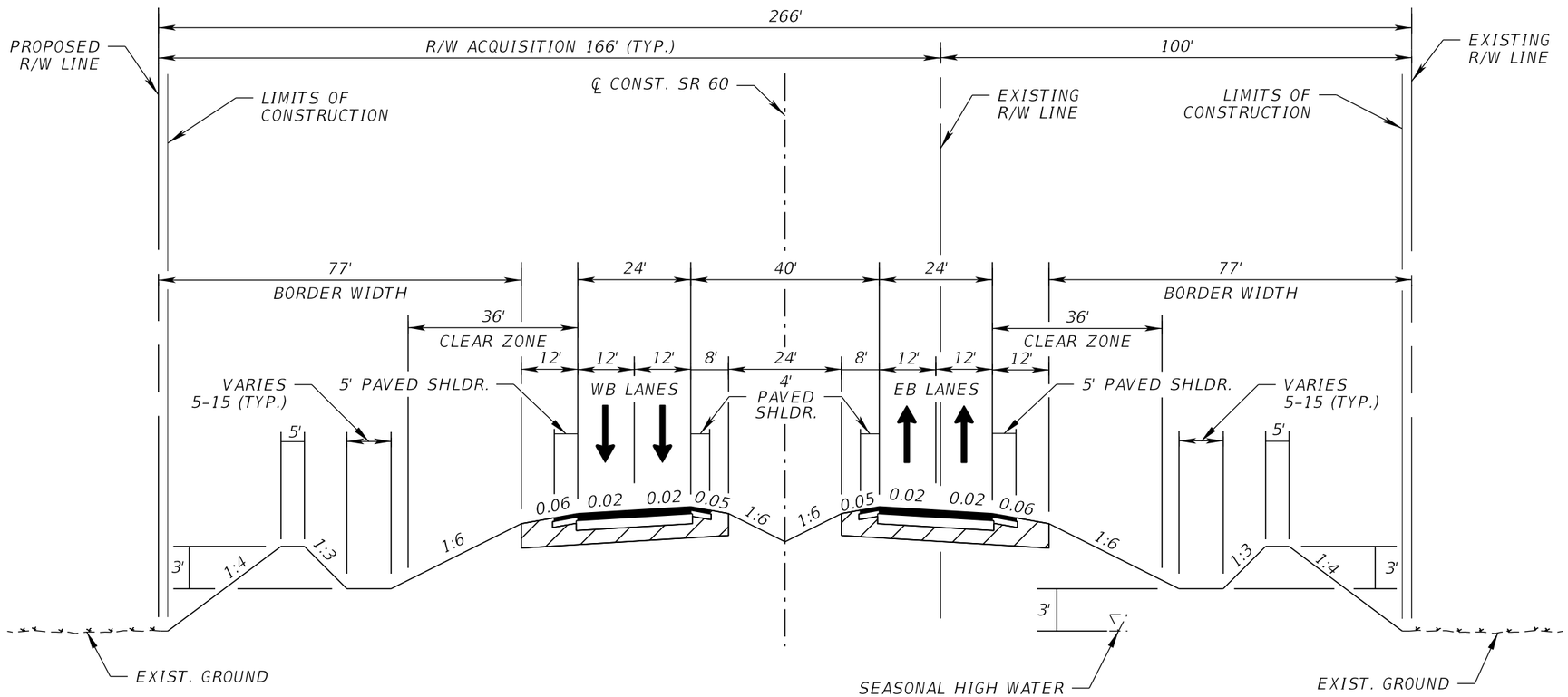
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

VARIATION MEMO

1. PEDESTRIAN FACILITY

TYPICAL SECTION No. 2



TRAFFIC DATA
MP 1.431 TO MP 5.281
MP 5.304 TO MP 11.895

CURRENT YEAR = 2025 AADT = 10,000
ESTIMATED OPENING YEAR = 2030 AADT = 13,000
ESTIMATED DESIGN YEAR = 2050 AADT = 24,000
K = 9.5% D = 57.0% T = 30.0% (24 HOUR)
DESIGN HOUR T = 27.0%
DESIGN SPEED = 65 MPH
TARGET SPEED = 65 MPH
POSTED SPEED= 65 MPH

TRAFFIC DATA
MP 11.895 TO MP 19.303

CURRENT YEAR = 2025 AADT = 10,500
ESTIMATED OPENING YEAR = 2030 AADT = 13,500
ESTIMATED DESIGN YEAR = 2050 AADT = 24,500
K = 9.5% D = 57.0% T = 30.0% (24 HOUR)
DESIGN HOUR T = 27.0%
DESIGN SPEED = 65 MPH
TARGET SPEED = 65 MPH
POSTED SPEED= 65 MPH

TYPICAL SECTION 2
END OF CURVE 1 TO US 441

MP 1.431 TO MP 5.281
MP 5.304 TO MP 19.303

FINANCIAL PROJECT ID	SHEET NO.
452574-1-22-01	3

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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P:\Projects\FDOT\452574122O1 - SR 60 PDE\Roadway\TYPDRD01.dgn

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
(X)	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
( )	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

( )	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
(X)	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

- (X) NATIONAL HIGHWAY SYSTEM
- (X) STRATEGIC INTERMODAL SYSTEM
- (X) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

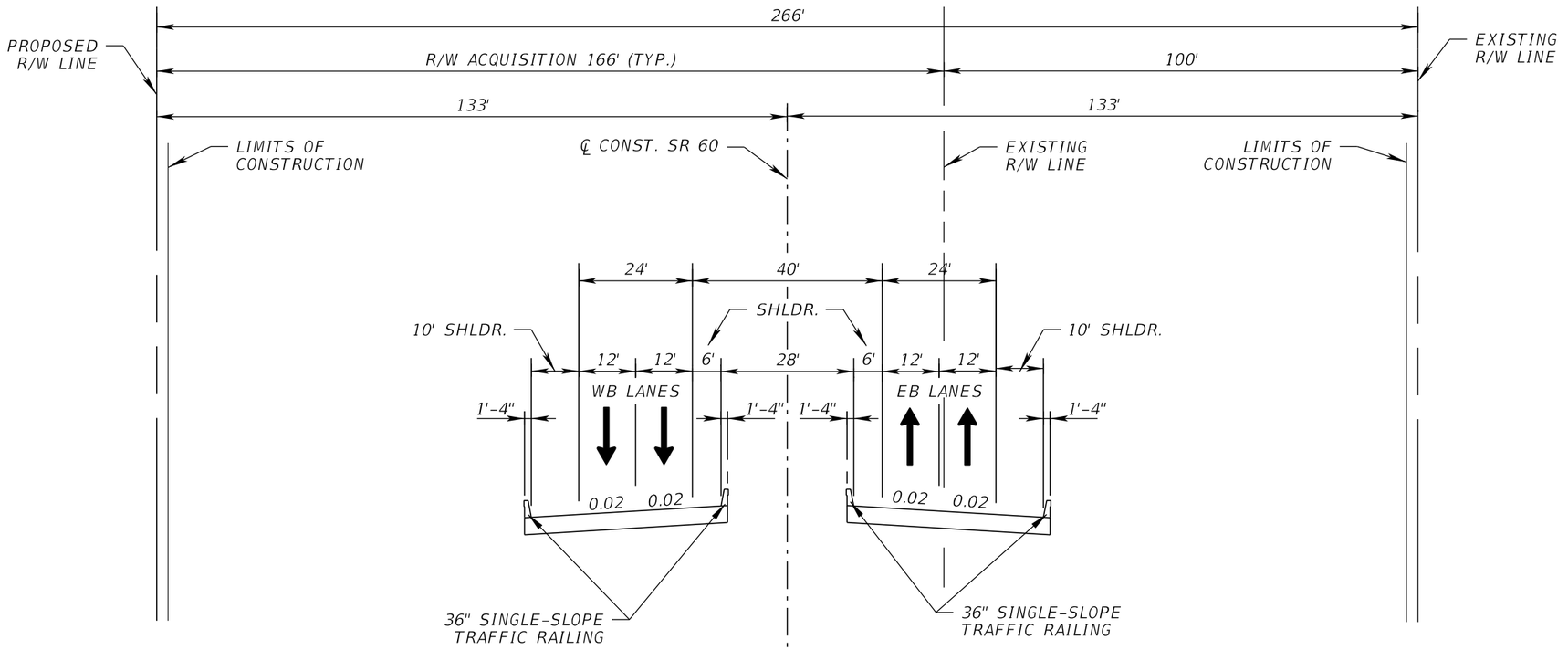
- ( ) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
- ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- ( ) 7 - BOTH MEDIAN TYPES

CRITERIA

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 3



TYPICAL SECTION 3
BRIDGES OVER BLANKET BAY SLOUGH

MP 5.281 TO MP 5.304

TRAFFIC DATA

CURRENT YEAR = 2025 AADT = 10,000
ESTIMATED OPENING YEAR = 2030 AADT = 13,000
ESTIMATED DESIGN YEAR = 2050 AADT = 24,000
K = 9.5% D = 57.0% T = 30.0% (24 HOUR)
DESIGN HOUR T = 27.0%
DESIGN SPEED = 65 MPH
TARGET SPEED = 65 MPH
POSTED SPEED= 65 MPH

FINANCIAL PROJECT ID	SHEET NO.
452574-1-22-01	4

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
(X)	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
( )	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

( )	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
(X)	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

(X)	NATIONAL HIGHWAY SYSTEM
(X)	STRATEGIC INTERMODAL SYSTEM
(X)	STATE HIGHWAY SYSTEM
( )	OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

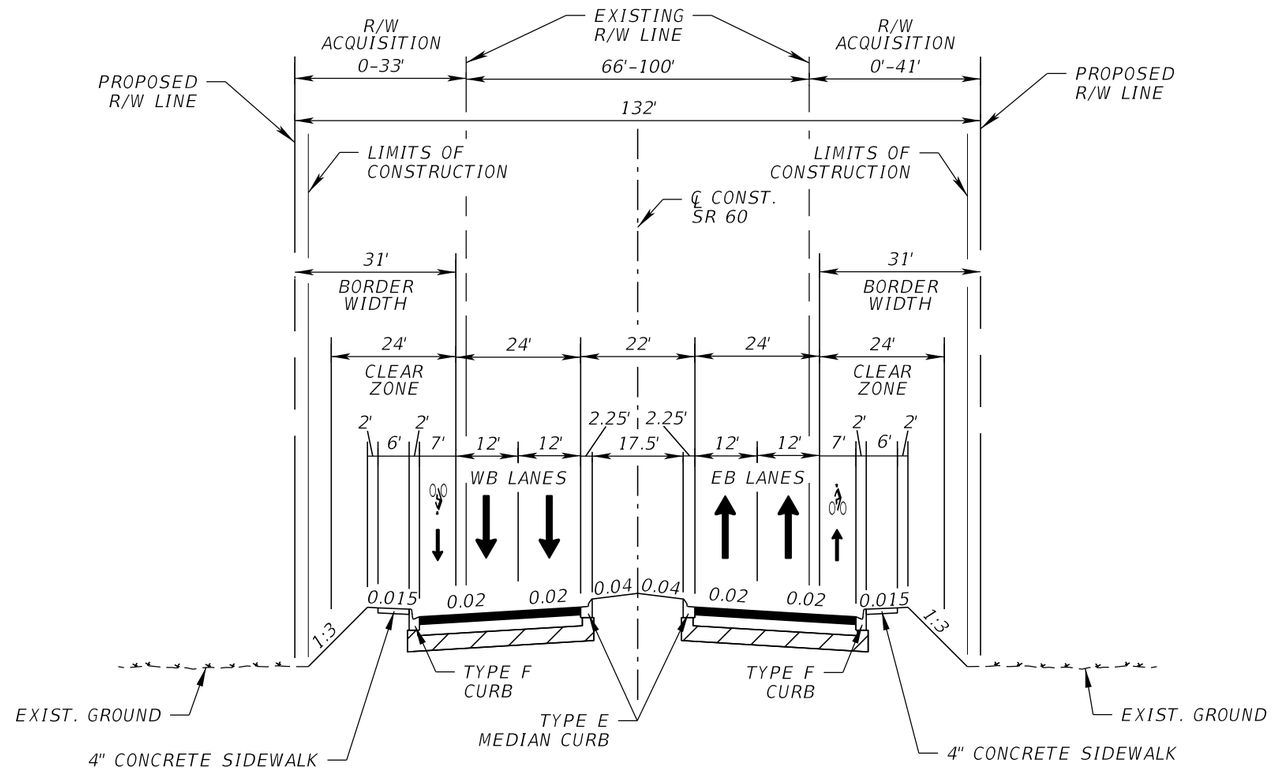
( )	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
(X)	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

(X)	NEW CONSTRUCTION / RECONSTRUCTION
( )	RESURFACING (LA FACILITIES)
( )	RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 4



TYPICAL SECTION 4
US 441 TO TURNPIKE

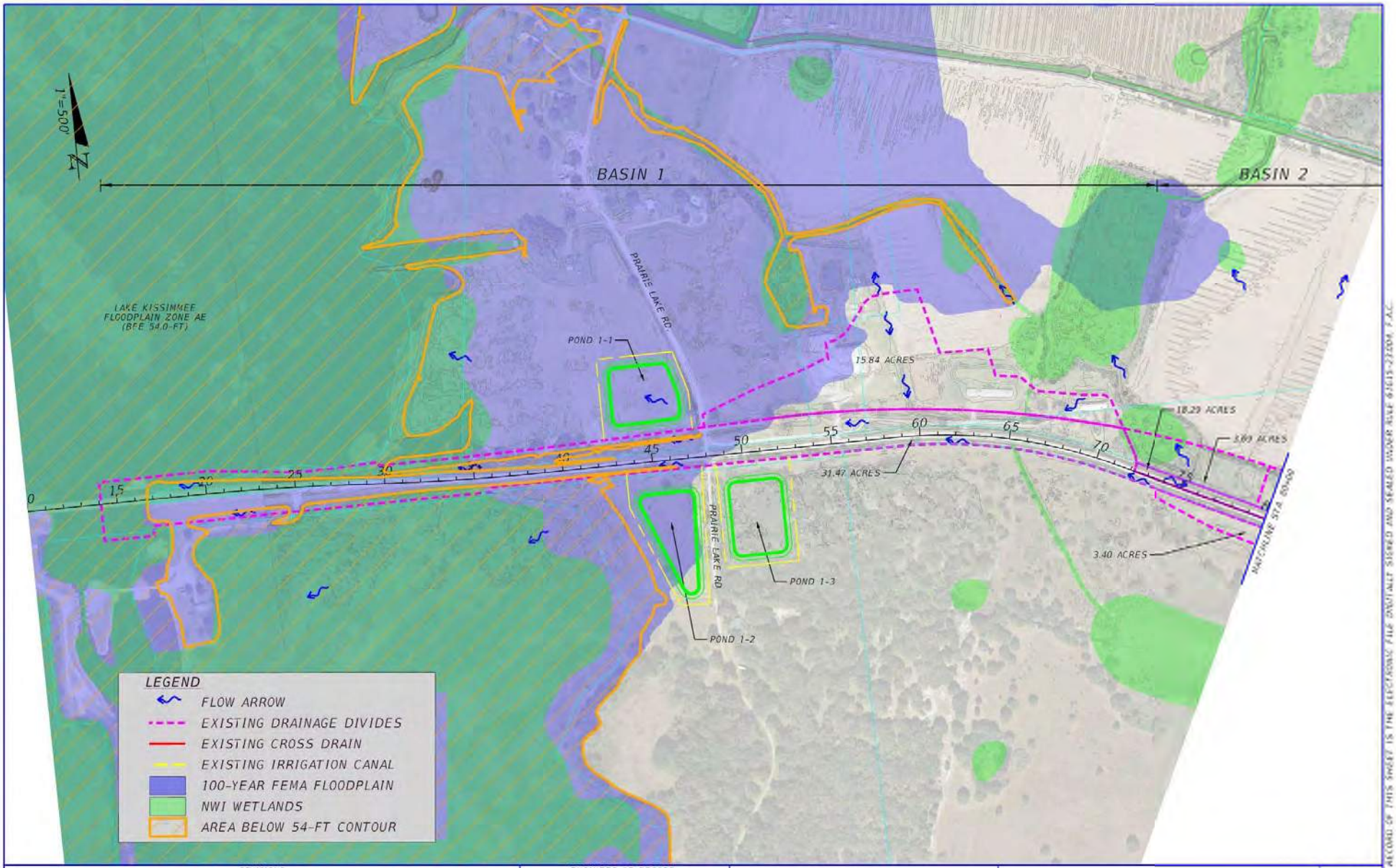
MP 19.303 TO MP 20.220

TRAFFIC DATA

CURRENT YEAR = 2025 AADT = 14,000
ESTIMATED OPENING YEAR = 2030 AADT = 17,000
ESTIMATED DESIGN YEAR = 2050 AADT = 29,500
K = 9.5% D = 57.0% T = 30.0% (24 HOUR)
DESIGN HOUR T = 27.0%
DESIGN SPEED = 45 MPH
TARGET SPEED = 45 MPH
POSTED SPEED = 45 MPH

FINANCIAL PROJECT ID	SHEET NO.
452574-1-22-01	5

Appendix C – DRAINAGE MAPS



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

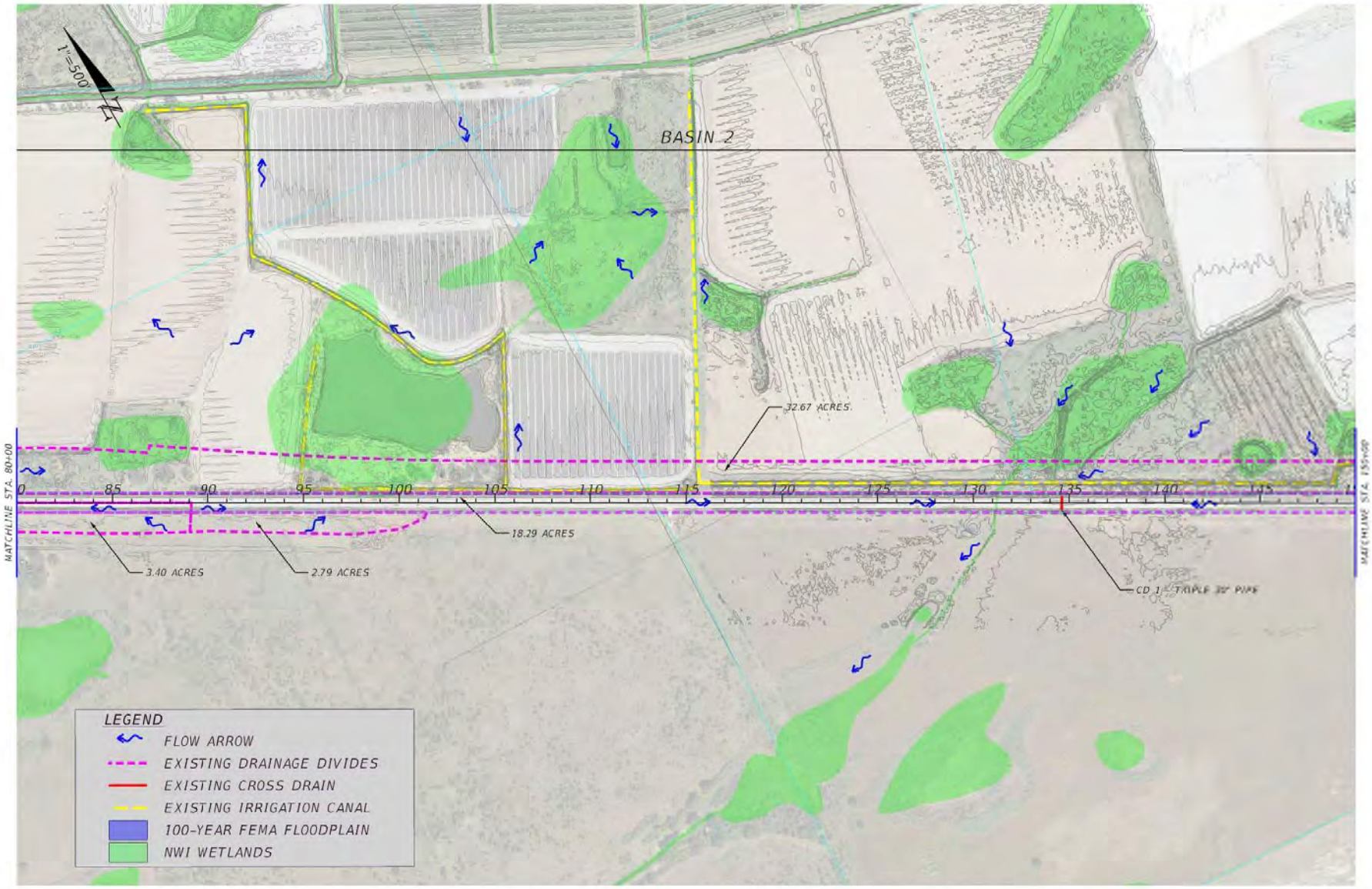
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

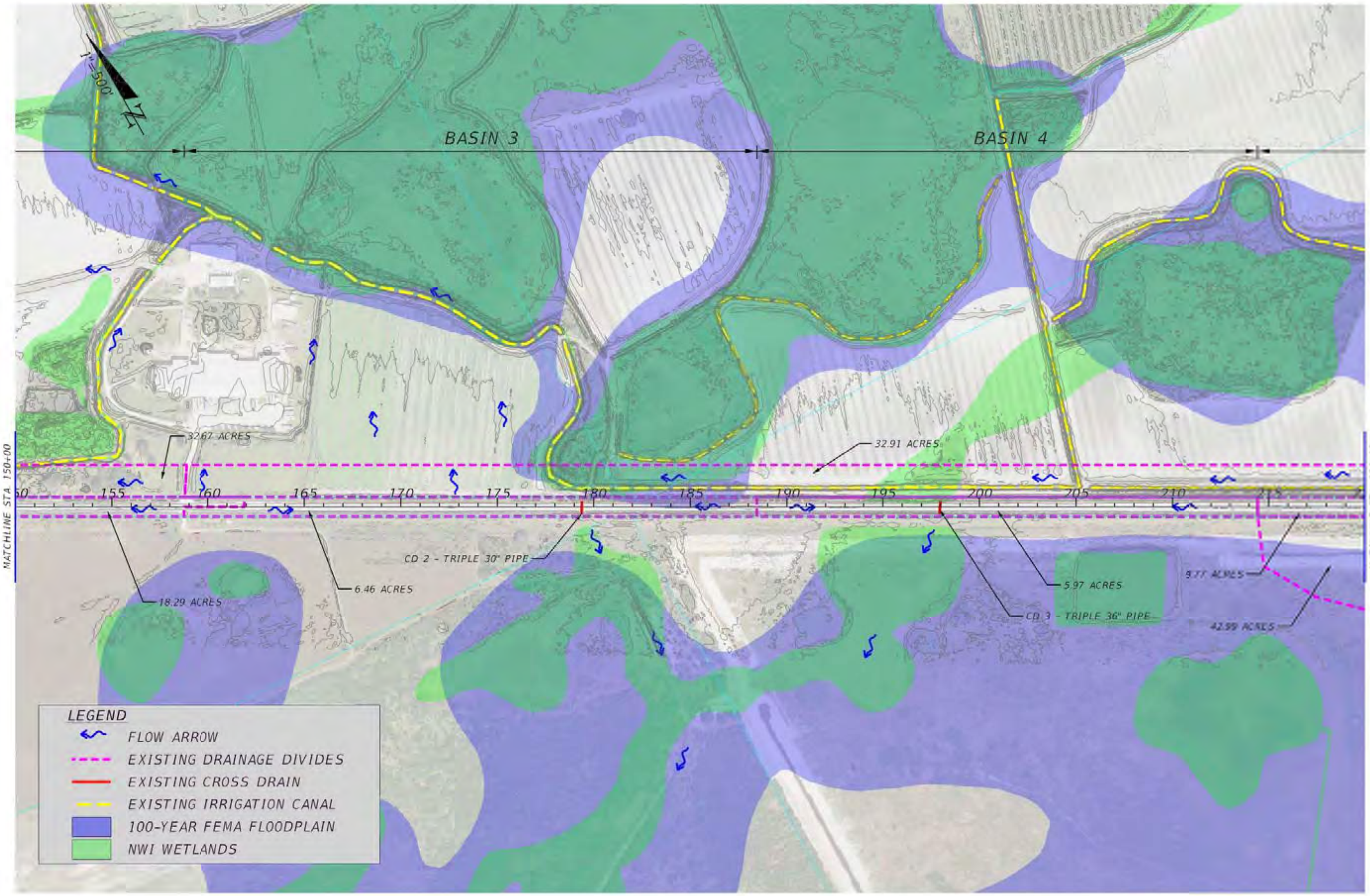
DRAINAGE MAP

SHEET NO. 1

THE DIGITAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ORIGINALLY SIGNED AND SEALED UNDER RULE 61G15-23.004 F.A.C.



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER: 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		2
					SR 60	OSCEOLA	452574-1-22-01		



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

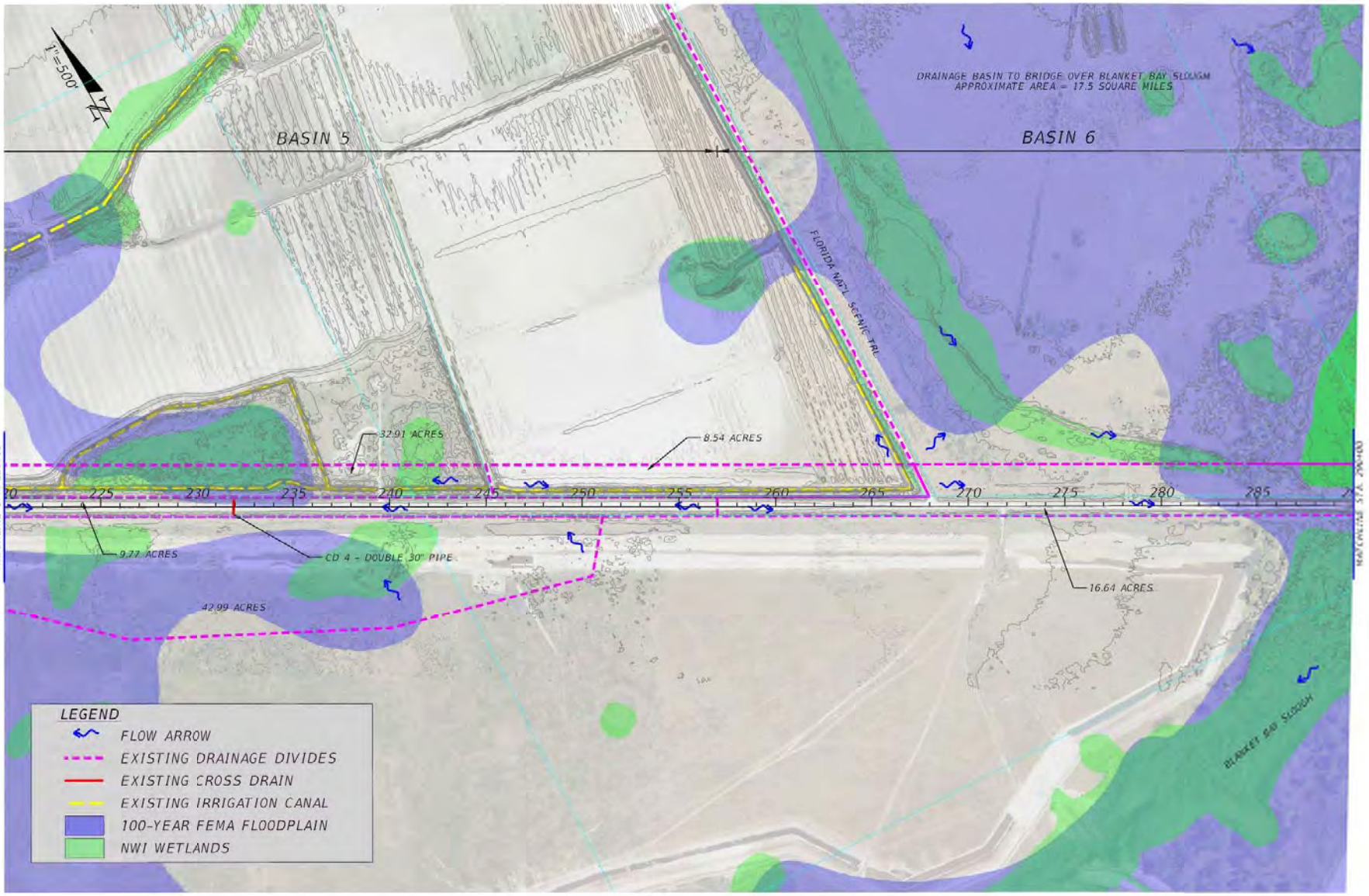
DANIEL P. SHULL, P.E.
LICENSE NUMBER 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

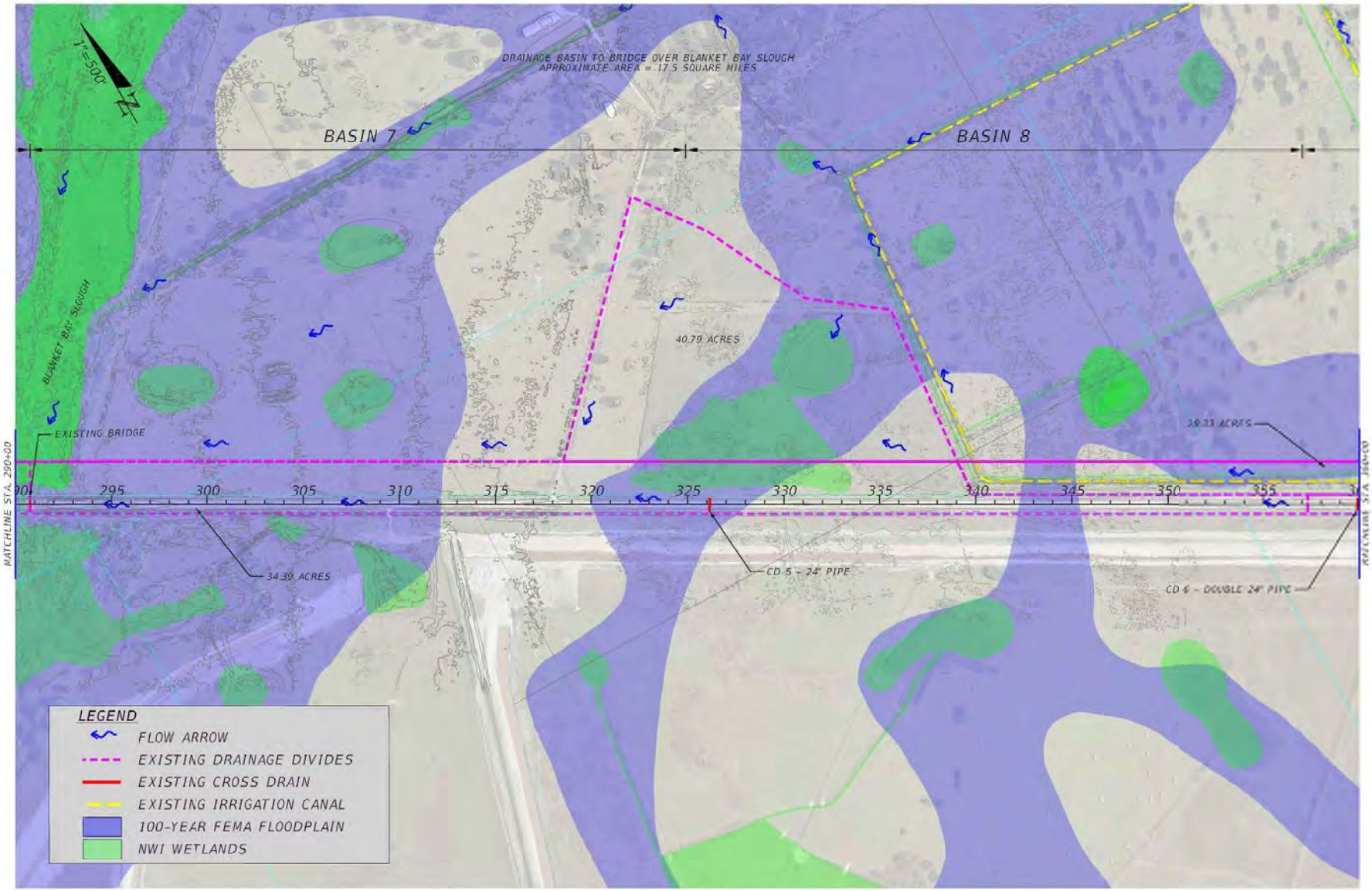
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

DRAINAGE MAP

SHEET NO. 3



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER: 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		4
					SR 60	OSCEOLA	452574 1-22-01		



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

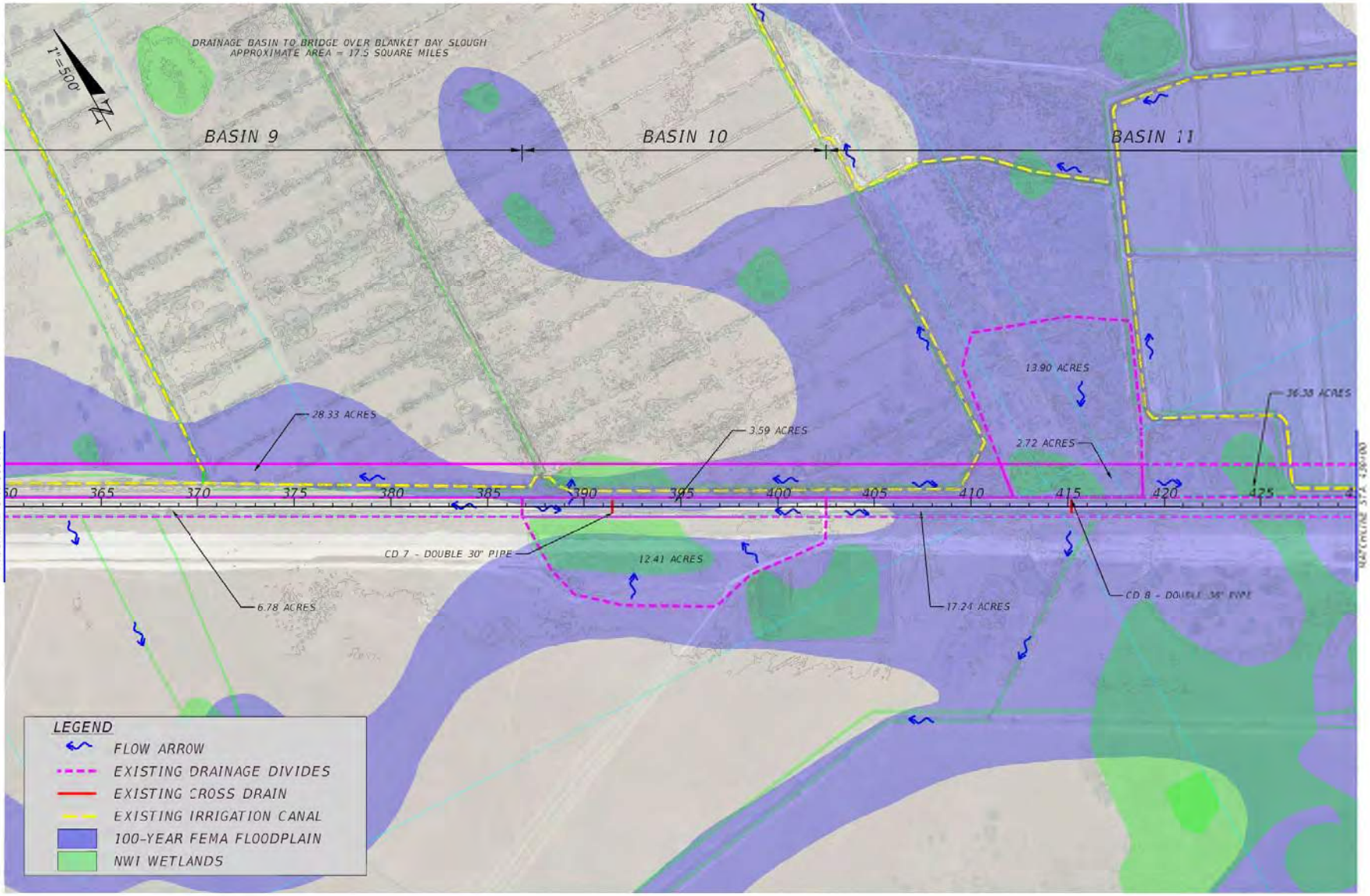
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

DRAINAGE MAP

SHEET NO. 5

THE DIGITAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ORIGINALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

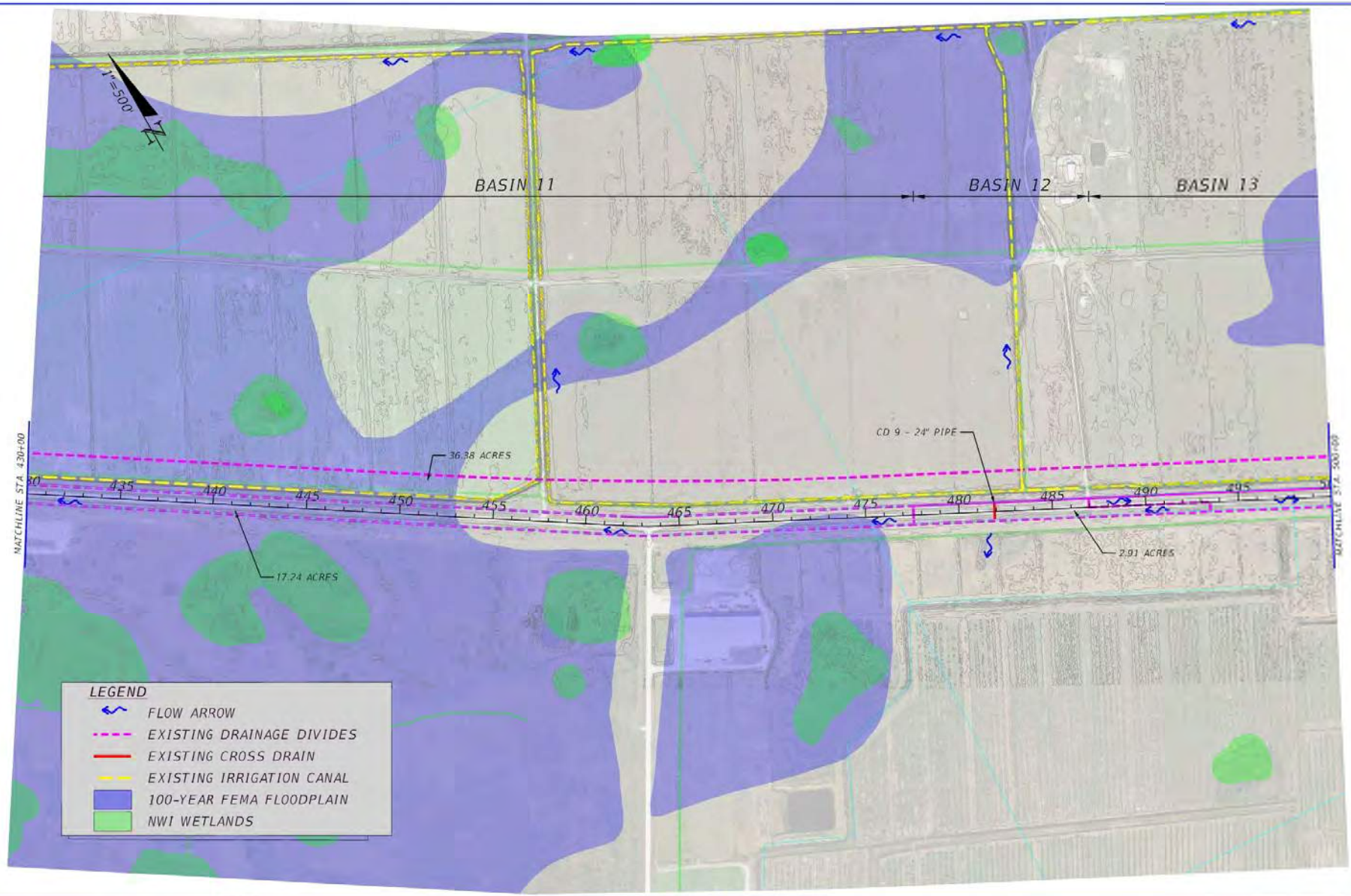
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

DRAINAGE MAP

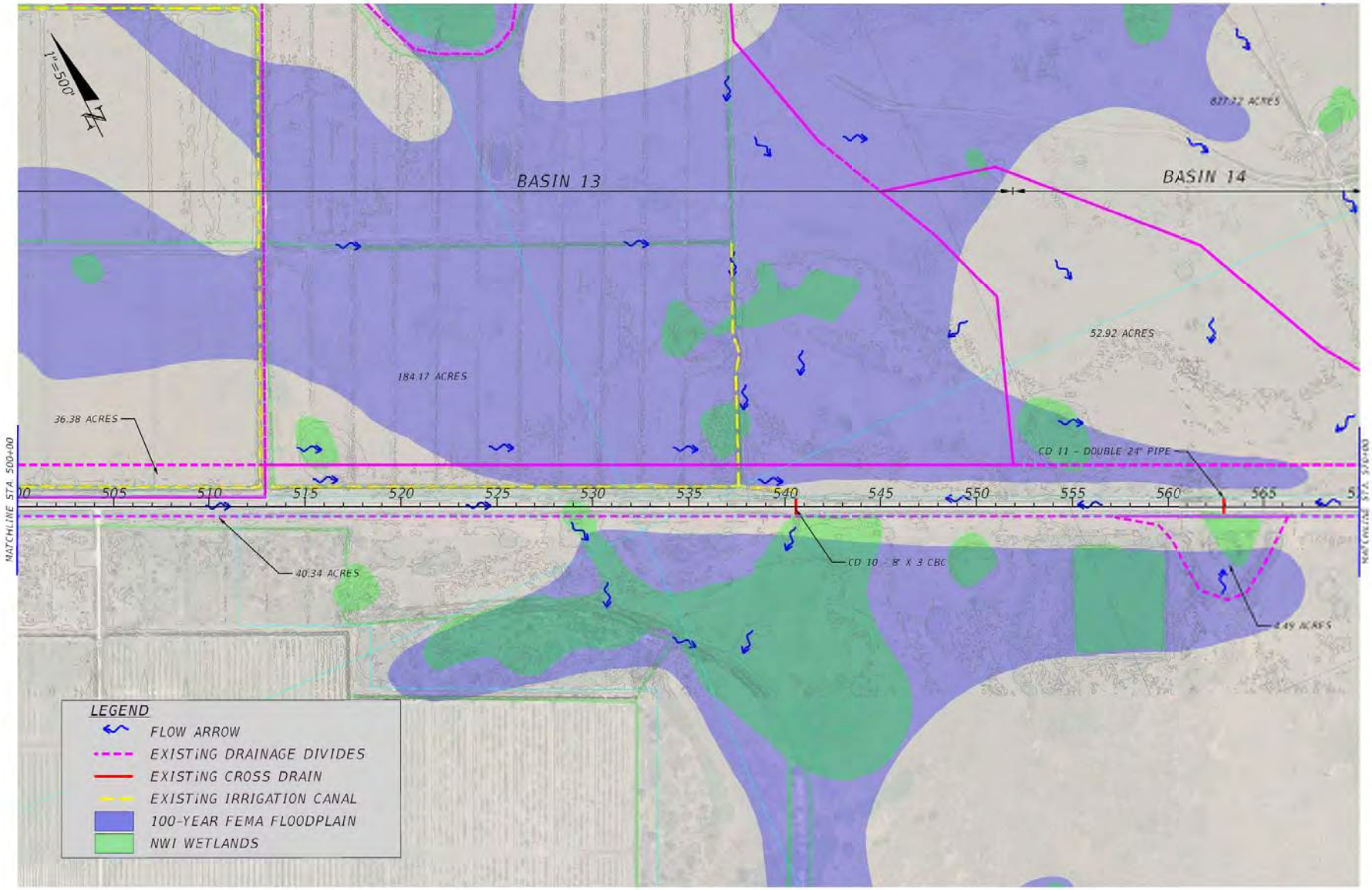
SHEET NO. 6

THE USE OF ANY RECORD OF THIS SHEET IS THE ELECTRONIC FILE ORIGINALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

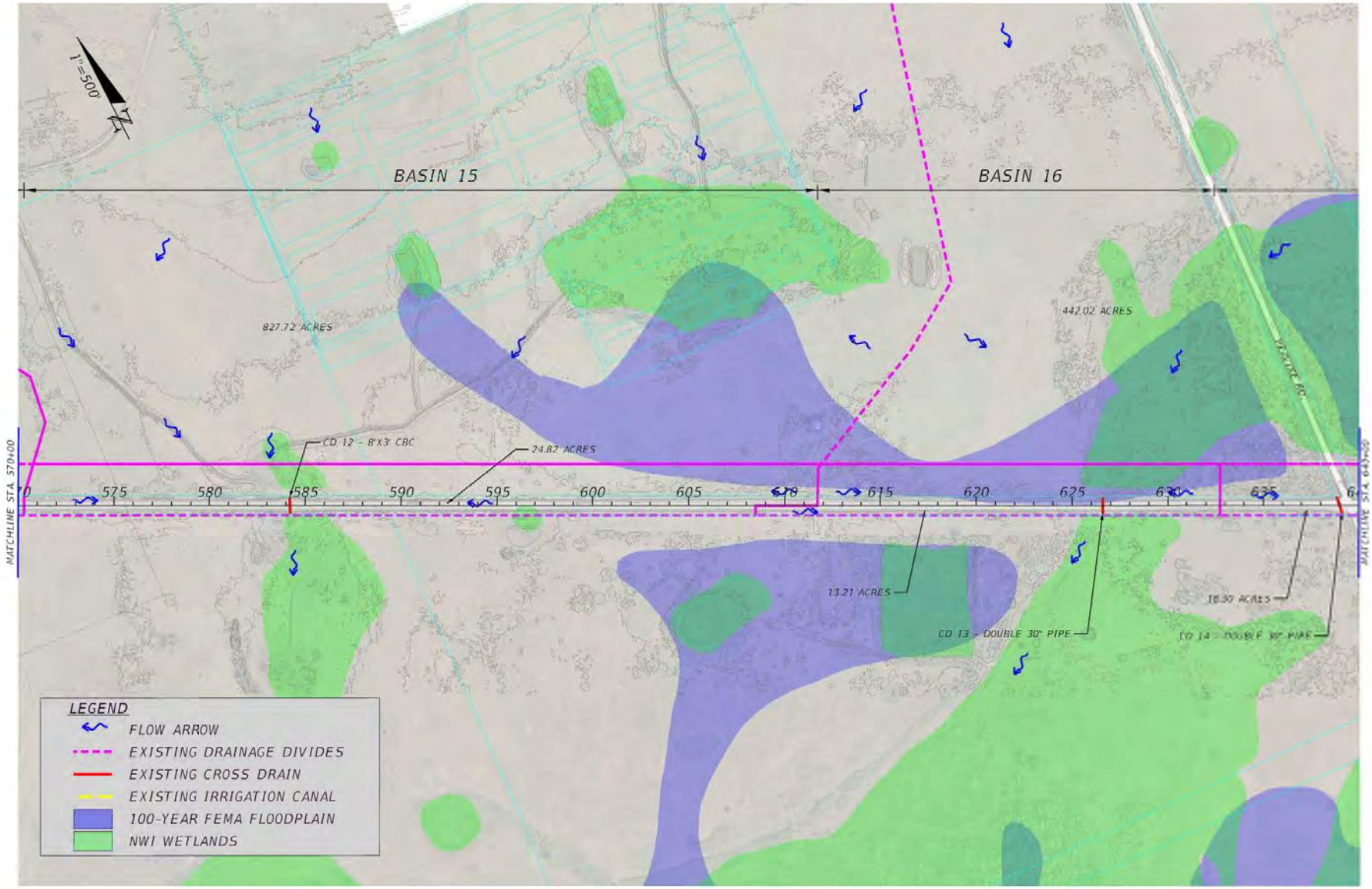


REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER: 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		7
					SR 60	OSCEOLA	452574-1-22-01		

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNATURE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER: 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		8
					SR 60	OSCEOLA	452574-1-22-01		



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

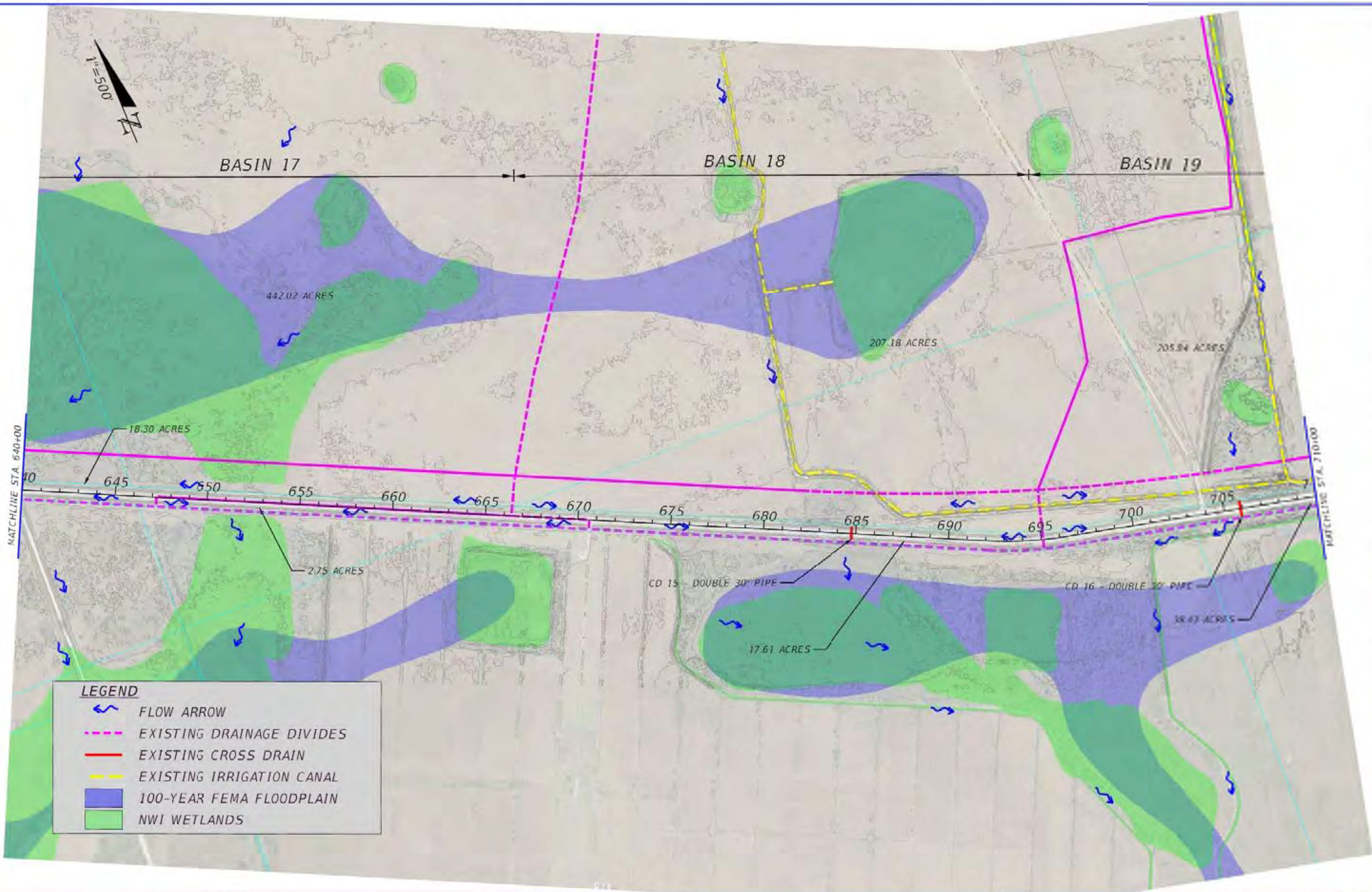
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574 1-22-01

DRAINAGE MAP

SHEET NO. 9

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ORIGINALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

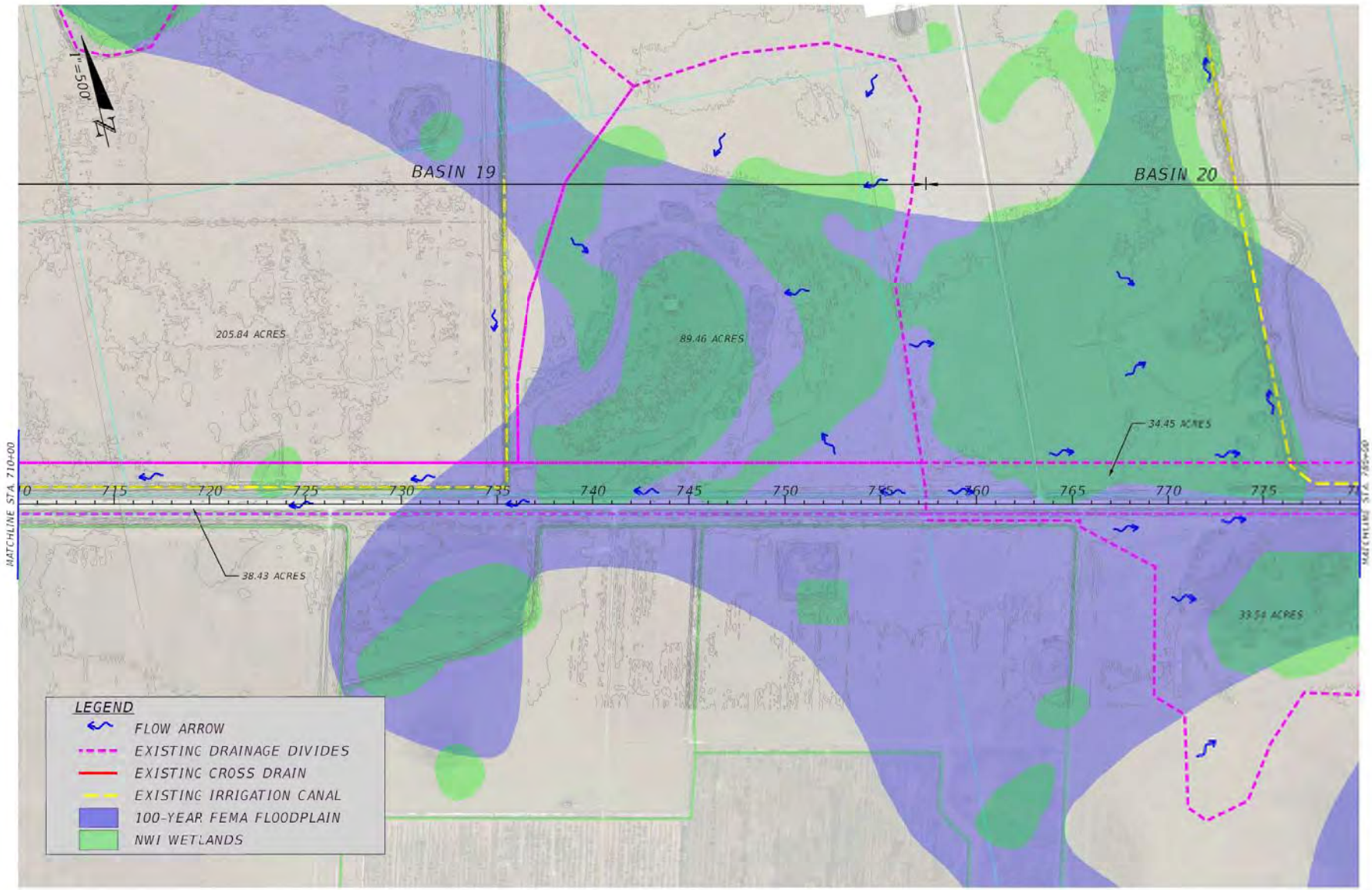
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

DRAINAGE MAP

SHEET NO. 10

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

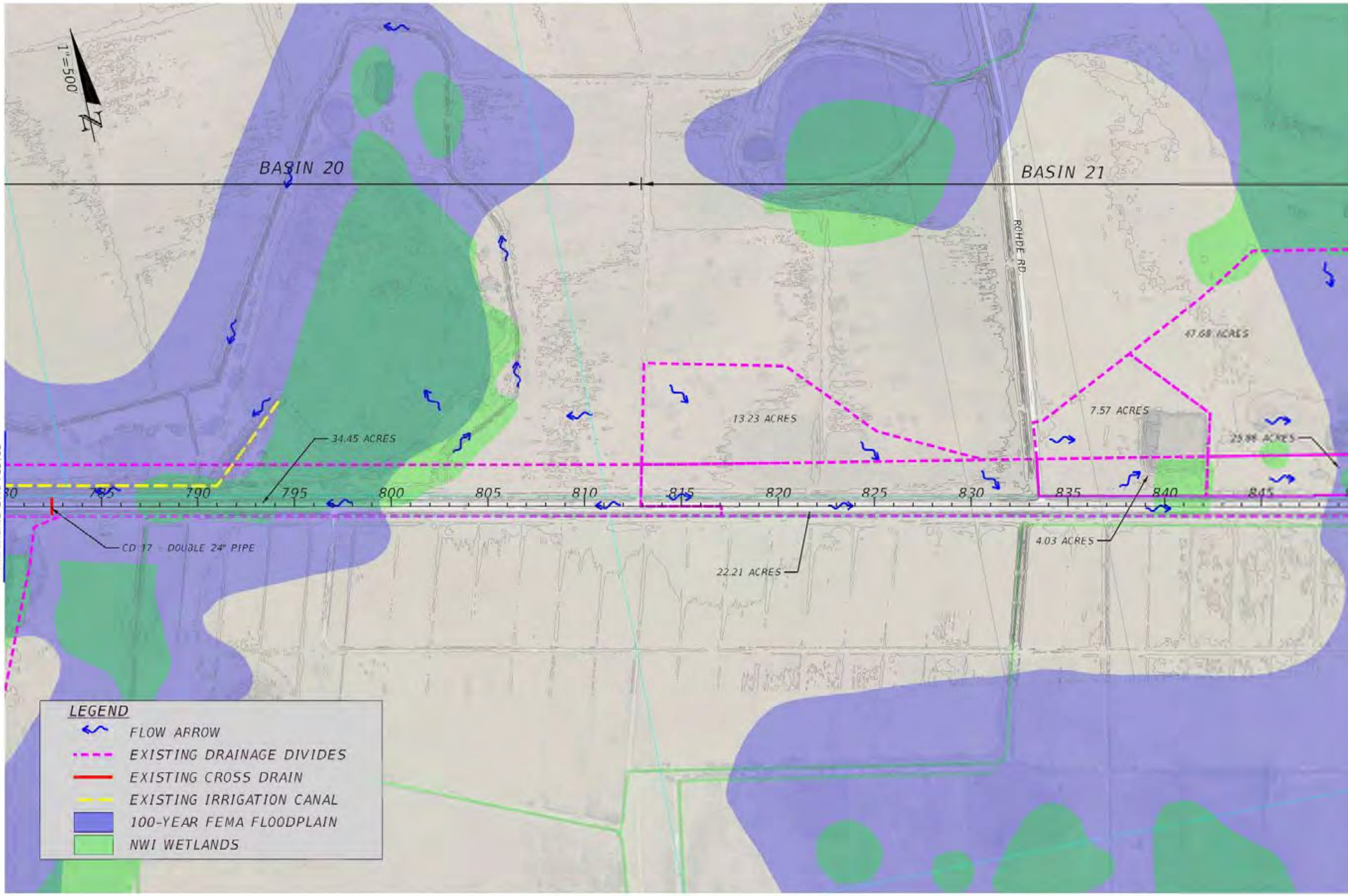
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

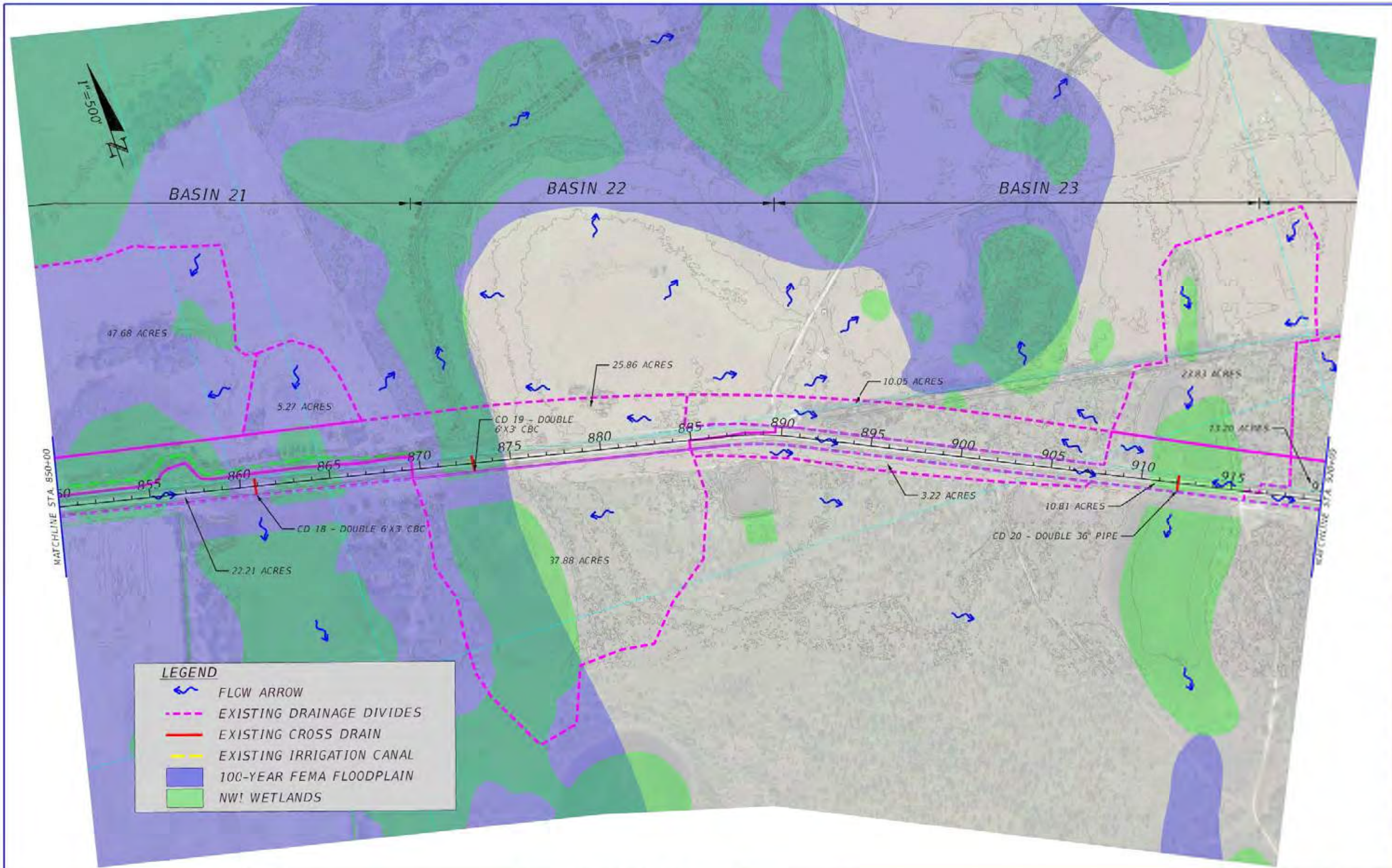
DRAINAGE MAP

SHEET NO. 11

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE ORIGINALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 60	OSCEOLA	452574-1-22-01		17



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

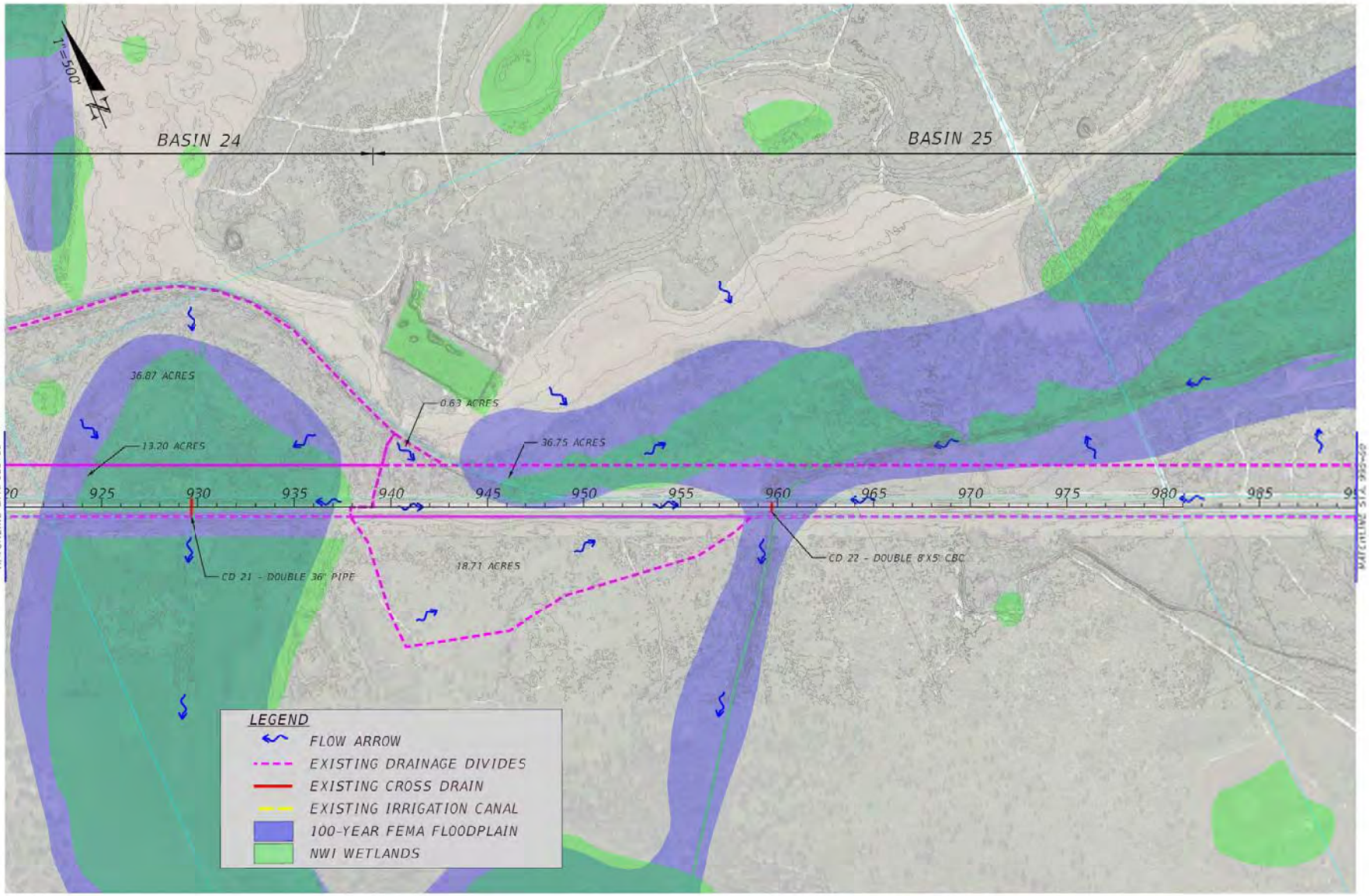
ENGINEER OF RECORD
DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

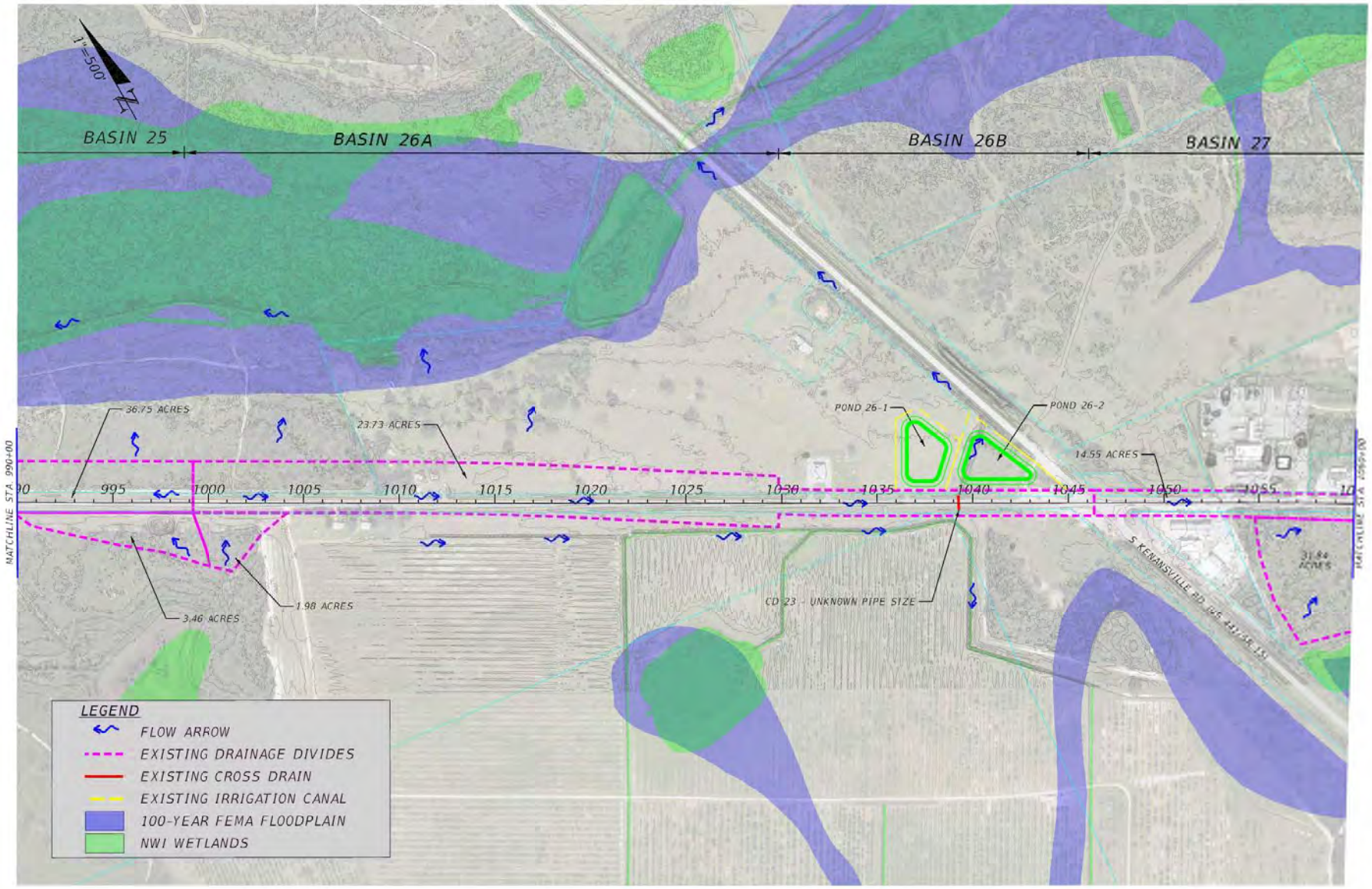
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

DRAINAGE MAP

SHEET NO. 13



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER: 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		14
					SR 60	OSCEOLA	452574-1-22-01		



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

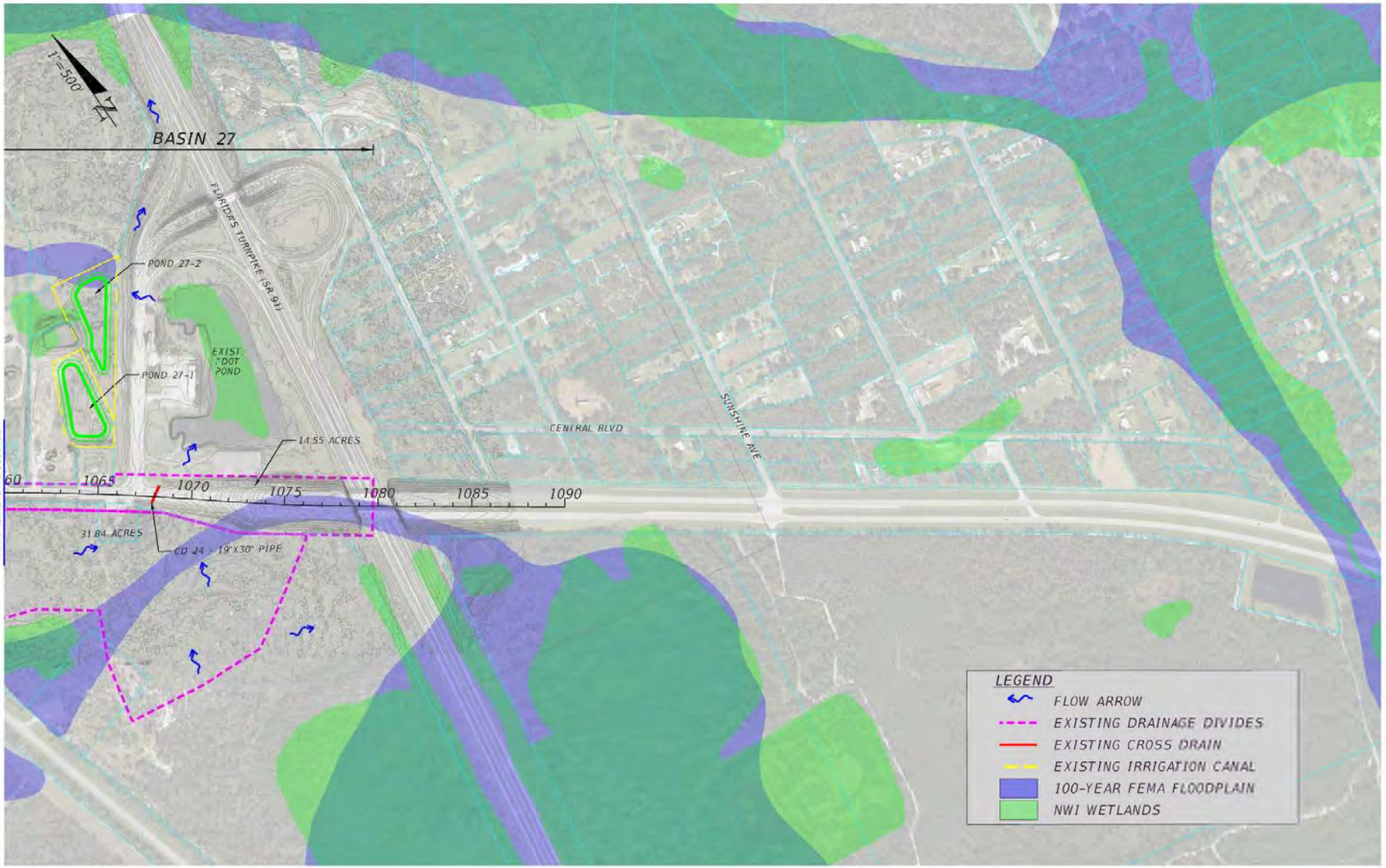
DANIEL P. SHULL, P.E.
LICENSE NUMBER: 86494
MOTT MACDONALD FLORIDA, LLC.
220 WEST GARDEN STREET, SUITE 700
PENSACOLA, FLORIDA 32502

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 60	OSCEOLA	452574-1-22-01

DRAINAGE MAP

SHEET NO. 15



REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	DANIEL P. SHULL, P.E. LICENSE NUMBER: 86494 MOTT MACDONALD FLORIDA, LLC. 220 WEST GARDEN STREET, SUITE 700 PENSACOLA, FLORIDA 32502	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		16
					SR 60	OSCEOLA	452574-1-22-01		

Appendix D – FIRM MAPS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Transverse Mercator State Plane Florida East FIPS 0901. The **horizontal datum** was NAD83 HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Osceola County Planning Office. Orthophotography was collected in late JANUARY 2008.

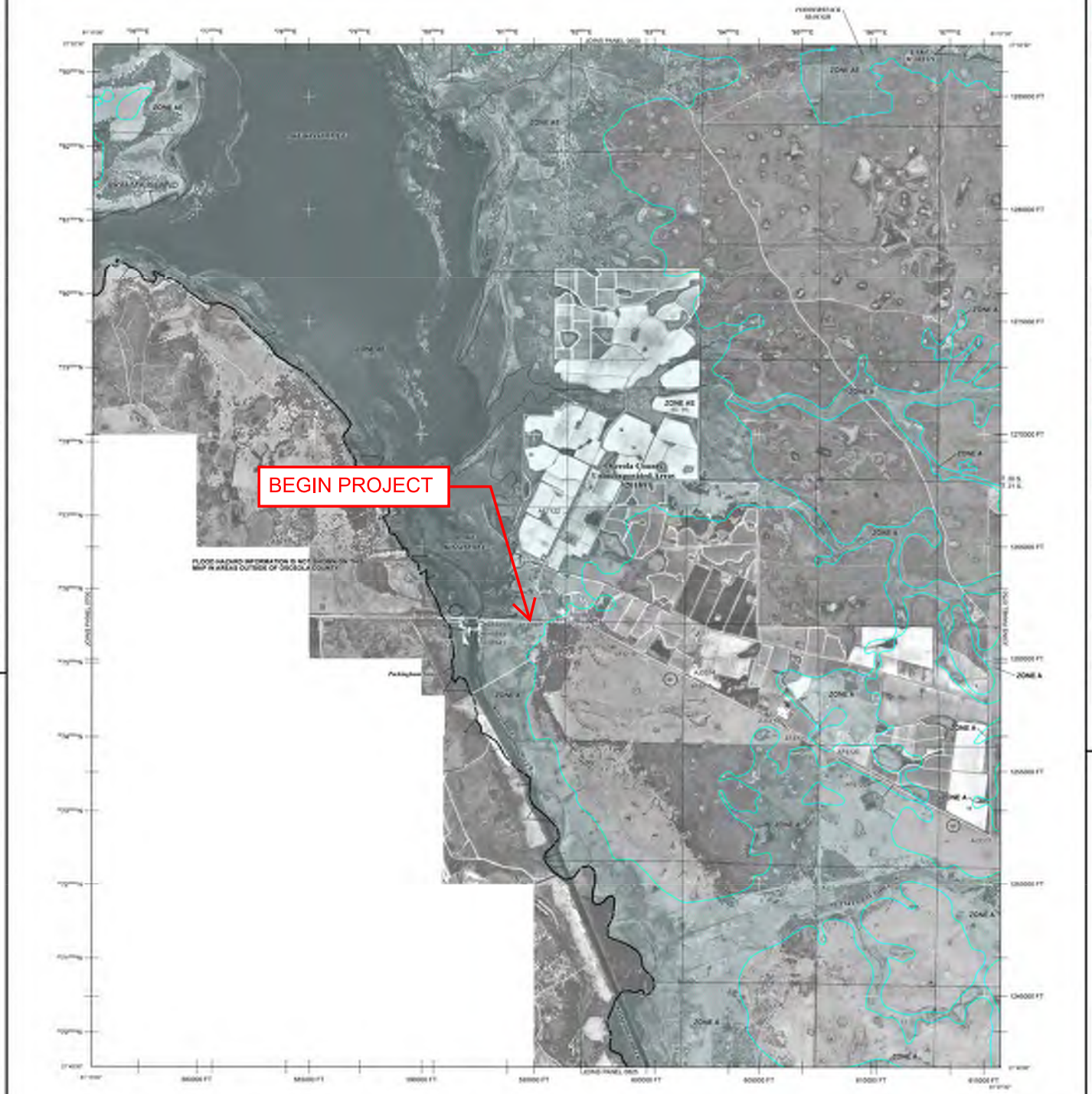
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Mapping Information Platform** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service website at http://www.msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.

ZONE AE — Base Flood Elevations determined.

ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 — Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988
Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT
5000000 FT
2000-foot ticks: Florida State Plane coordinate system, East zone (FIPSZONE = 0901), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
• BM 5
River Mile
MAP REPOSITORIES
Refer to Map Repositories list on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
JUNE 18, 2013 - To update corporate limits, change Base Flood Elevations, and Special Flood Hazard Areas, change Special Flood Hazard Areas, change zone designations, update roads and road names, incorporate previously issued Letters of Map Revision, and reflect updated topographic information.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'

NFIP
PANEL 0725G

FIRM

FLOOD INSURANCE RATE MAP
OSCEOLA COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 725 OF 900

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
OSCEOLA COUNTY	120189	0725	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12097C0725G
MAP REVISED
JUNE 18, 2013

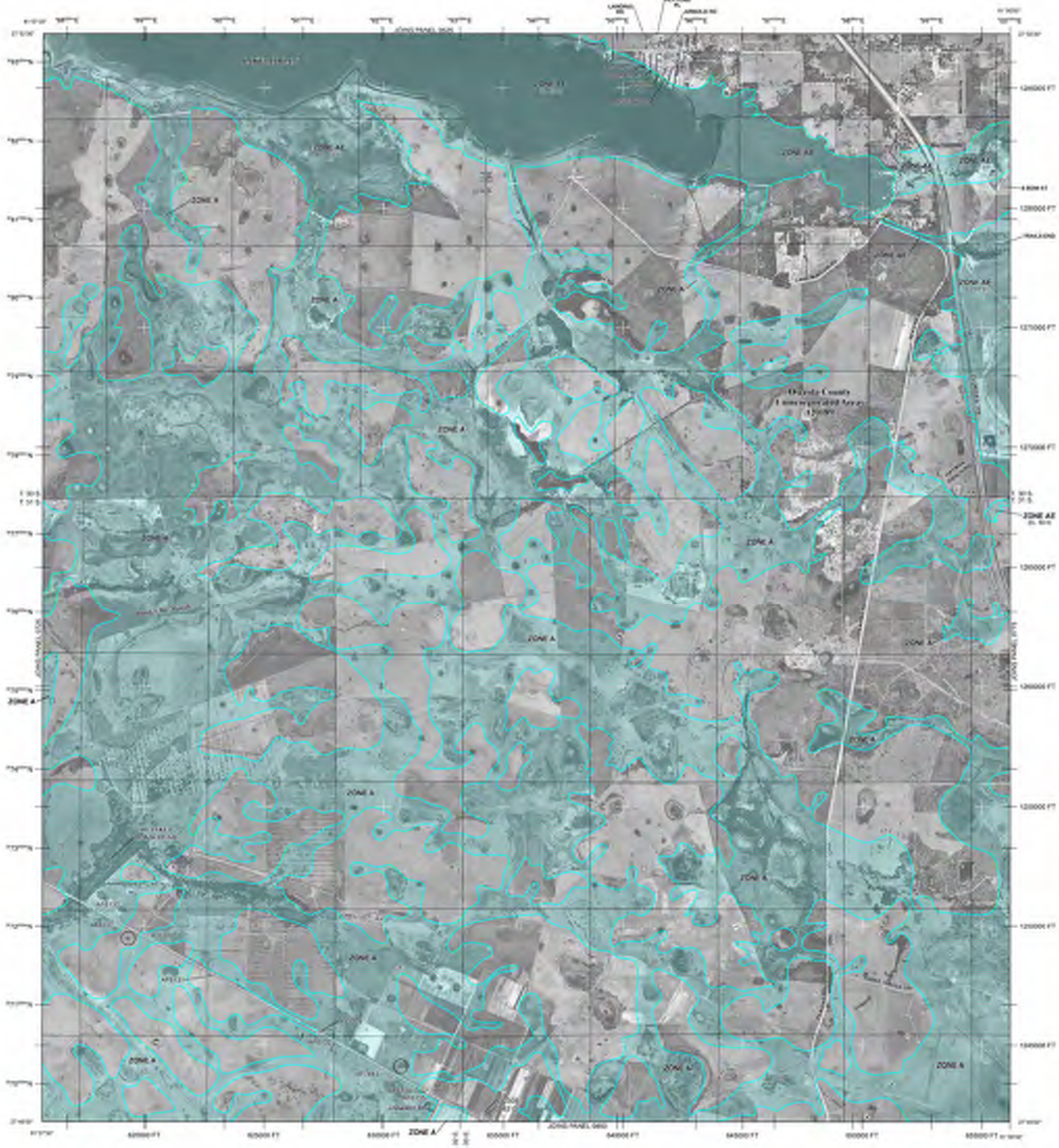
Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

NOTES TO USERS

NCS Information Services
NOAA, N/NGS12
National Geodetic Survey

LEGEND



MAP SCALE 1" = 2000'

PANEL 0750G

FIRM
FLOOD INSURANCE RATE MAP
OSCEOLA COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 750 OF 900

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

MAP NUMBER
12097C0750G

MAP REVISED
JUNE 18, 2013

Federal Emergency Management Agency

NOTES TO USERS

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Transverse Mercator State Plane Florida East FIPS 0901. The **horizontal datum** was NAD83 meters, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These **flood elevations** must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Osceola County Planning Office. Orthophotography was collected in late 2007 early 2008.

This map reflects more detailed and up-to-date **stream** channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to more detailed stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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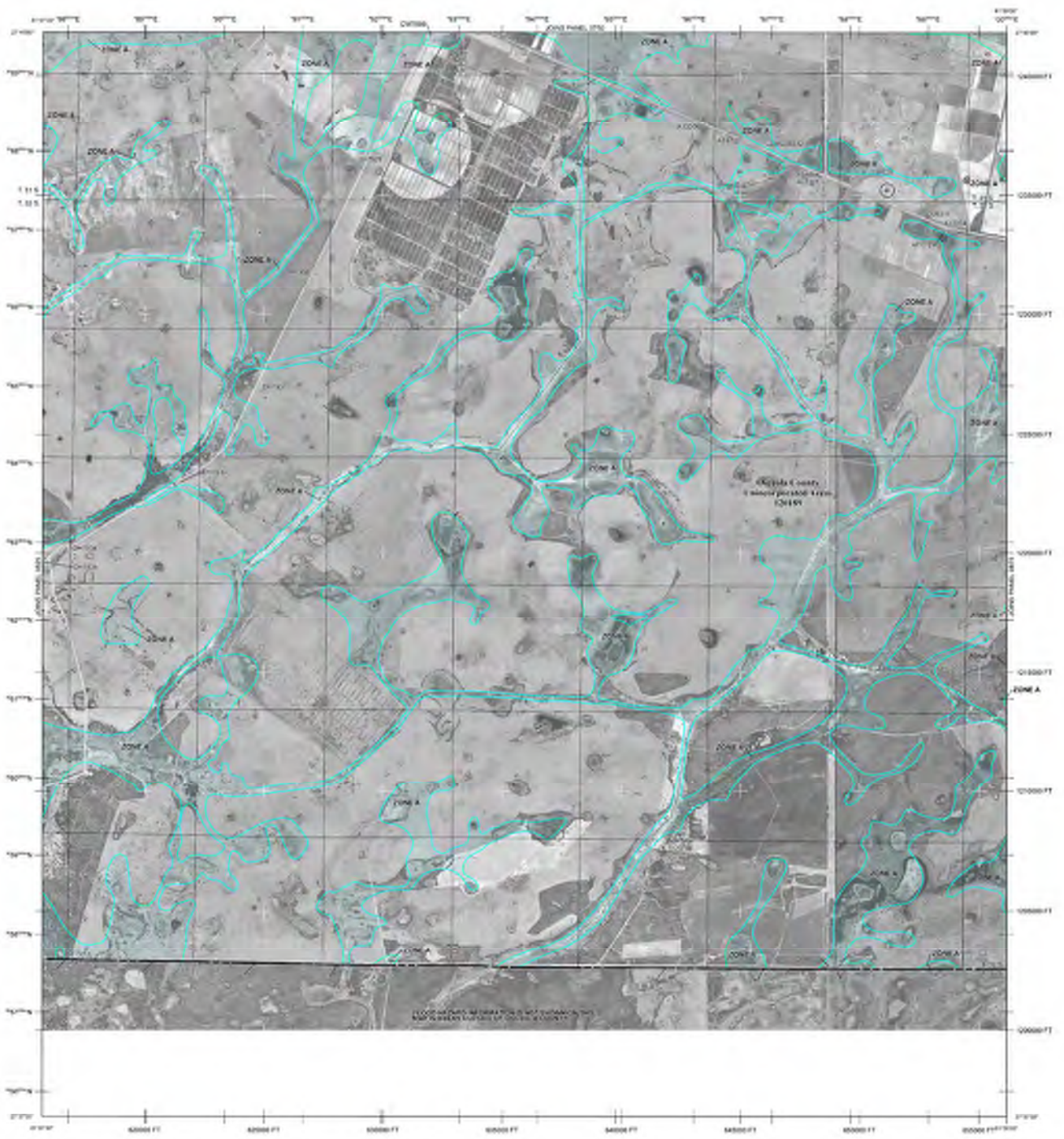
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the **FEMA Mapping Information Alliance** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service website at http://www.msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The "**profile base lines**" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AH** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 (EL 987) Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPSZONE = 0901), Transverse Mercator projection

Bench mark (see explanation in Notes to Users, section of this FIRM panel)

- 600000 FT
- 5000000 FT
- DX5510
- ▲ 951.5

River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
April 17, 2001

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
June 18, 2013 - To update corporate limits, change Base Flood Elevations, add floodplain boundaries, change floodway boundaries, change zone designations, update roads and road names, incorporate previously issued Letters of Map Revision, and reflect updated topographic information.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2,000'

NFIP
PANEL 0850G
NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
OSCEOLA COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 850 OF 900

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OSCEOLA COUNTY	120189	0850	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12097C0850G

MAP REVISED
JUNE 18, 2013

Federal Emergency Management Agency

NOTES TO USERS

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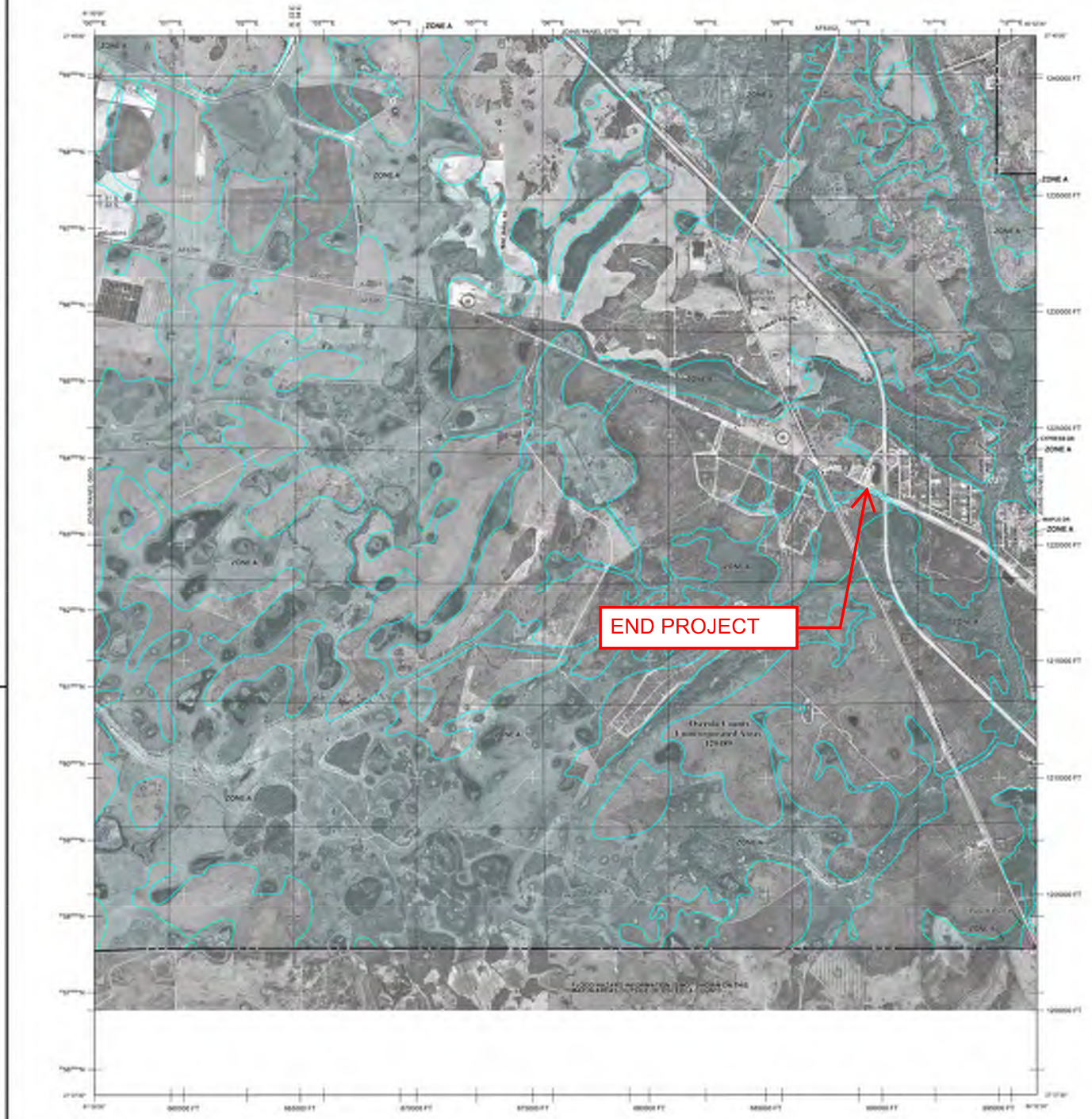

LEGEND

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FLOODWAY AREAS IN ZONE AE

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OTHER AREAS

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0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988
Cross section line
Transect line
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid values: Florida State Plane coordinate system, East zone (FIPSZONE = 0901), Transverse Mercator projection
Bench mark (see explanation in Notes to Users section of this FIRM panel)
River Mile
MAP REPOSITORIES
Refer to Map Repositories list on Map Index
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
JUNE 18, 2013 - To update corporate limits, change Base Flood Elevations, and Base Flood Elevations, change Special Flood Hazard Areas, change zone designations, revise roads and road names, incorporate previously issued Letters of Map Revision, and reflect updated topographic information.

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MAP SCALE 1" = 2000'

PANEL 0875G

FIRM

FLOOD INSURANCE RATE MAP

OSCEOLA COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 875 OF 900

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
OSCEOLA COUNTY	120189	0875	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12097C0875G

MAP REVISED
JUNE 18, 2013

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

Appendix E – LONG RANGE ESTIMATE

Date: 8/14/2025 11:13:50 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 452574-1-22-01 **Letting Date:** 01/2099

Description: SR 60 FROM PRAIRIE LAKE ROAD TO FLORIDA'S TURNPIKE

District: 05 **County:** 92 OSCEOLA **Market Area:** 08 **Units:** English
Contract Class: 4 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 21.050 MI

Project Manager: MSA

Version 7 Project Grand Total **$272,833,731.65**
Description: SR 60 North Concept 188.*Preferred alternative (Updated by KNVOLMG on 8/14/2025).

Sequence: 2 NDR - New Construction, Divided, Rural **Net Length:** 1.088 MI 5,742 LF

Description: Four lane divided with 40' median, 5'ditches, 12' travel lanes, 8' inside shoulders(4' paved), and 12' outside shoulders(5' paved). All drainage/erosion items were included under sequence 4.

Special Conditions: Gas line relocation not included in this estimate.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	94.00 / 94.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.000
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	24.79	AC	$10,350.00	$256,576.50

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	91,417.00	CY	$13.25	$1,211,275.25
	Comment: Roadway(including 5' ditches and berm)				

Earthwork Component Total $1,467,851.75

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4

Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	56,144.00	SY	$23.00	$1,291,312.00
285-709	OPTIONAL BASE,BASE GROUP 09	31,466.16	SY	$59.25	$1,864,369.98
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	5,052.96	TN	$165.00	$833,738.40
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,224.96	TN	$202.00	$247,441.92

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	5.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	N

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,807.20	SY	$23.00	$64,565.60
285-709	OPTIONAL BASE,BASE GROUP 09	1,573.31	SY	$59.25	$93,218.62
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	252.65	TN	$165.00	$41,687.25

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	440.00	EA	$4.94	$2,173.60
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.35	GM	$1,485.23	$6,460.75
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.17	GM	$599.10	$1,300.05
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	4.35	GM	$6,093.25	$26,505.64
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.17	GM	$1,637.98	$3,554.42
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	4.35	GM	$5,993.04	$26,069.72

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

	Roadway Component Total	$4,502,397.95

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	12.00 / 12.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ï¿½No. of Sides	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	6,801.08	SY	$42.25	$287,345.63
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	701.80	TN	$155.00	$108,779.00
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	255.20	TN	$202.00	$51,550.40
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	2.17	GM	$1,808.00	$3,923.36
570-1-1	PERFORMANCE TURF	3,406.92	SY	$6.20	$21,122.90
	Shoulder Component Total				$472,721.29

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	40.00
Performance Turf Width	32.00
Total Median Shoulder Width L/R	8.00 / 8.00
Paved Median Shoulder Width L/R	4.00 / 4.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ï¿½No. of Sides	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	5,525.08	SY	$42.25	$233,434.63
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	561.44	TN	$155.00	$87,023.20
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	204.16	TN	$202.00	$41,240.32
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	2.00	GM	$1,808.00	$3,616.00
570-1-1	PERFORMANCE TURF	20,416.00	SY	$6.20	$126,579.20
	Median Component Total				$491,893.35

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount

700-1-111	SINGLE COL GRND SIGN AS, F&I GM, <12 SF	3.00 EA	$565.00	$1,695.00
700-1-112	SINGLE COL GRND SIGN AS, F&I GM, 12-20	27.00 EA	$1,962.00	$52,974.00
700-2-114	MULTI- COLUMN SIGN, F&I GM, 30.1-50 SF	3.00 EA	$8,061.52	$24,184.56
700-2-115	MULTI- COLUMN SIGN, F&I GM, 50.1-100 SF	7.00 EA	$11,361.19	$79,528.33
	Signing Component Total			$158,381.89

Sequence 2 Total $7,093,246.23

Sequence: 3 NDU - New Construction, Divided, Urban **Net Length:** 0.925 MI 4,884 LF

Description: Four lane divided curb and gutter roadway with 22' median, 12'travel lanes, 7' buffered bike lanes and 6' sidewalk on each side. All drainage/erosion items were included under sequence 4.

Special Conditions: Gas Line relocation not included in this estimate.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	44.00 / 44.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.000
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	9.87	AC	$10,350.00	$102,154.50

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	48,527.00	CY	$13.25	$642,982.75
	Comment: Based off of the typical section.				
	Earthwork Component Total				$745,137.25

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	31.00 / 31.00
Structural Spread Rate	330
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	39,245.65	SY	$23.00	$902,649.95
285-709	OPTIONAL BASE,BASE GROUP 09	33,645.33	SY	$59.25	$1,993,485.80
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	5,551.48	TN	$180.00	$999,266.40
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	2,775.74	TN	$203.00	$563,475.22

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt

Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	375.00	EA	$4.94	$1,852.50
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.70	GM	$1,485.23	$5,495.35
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.85	GM	$599.10	$1,108.34
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	3.70	GM	$5,993.04	$22,174.25
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	3.70	GM	$6,252.22	$23,133.21
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.85	GM	$1,971.69	$3,647.63
	Roadway Component Total				$4,516,288.65

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	12.25 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	4.00 / 4.00
Sidewalk Width L/R	6.00 / 6.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,884.00	LF	$63.09	$308,131.56
520-1-10	CONCRETE CURB & GUTTER, TYPE F	4,884.00	LF	$63.09	$308,131.56
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	6,512.00	SY	$77.64	$505,591.68
570-1-1	PERFORMANCE TURF	4,341.33	SY	$6.20	$26,916.25

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
107-1	LITTER REMOVAL	23.54	AC	$50.00	$1,177.00
107-2	MOWING	23.54	AC	$70.00	$1,647.80
	Shoulder Component Total				$1,151,595.85

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	17.50

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount

520-1-7	CONCRETE CURB & GUTTER, TYPE E	9,768.00 LF	$56.30	$549,938.40
570-1-1	PERFORMANCE TURF	9,496.67 SY	$6.20	$58,879.35
	Median Component Total			$608,817.75

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	23,877.00 SY	$6.20	$148,037.40
	Drainage Component Total			$148,037.40

INTERSECTIONS COMPONENT

Intersection 1

Description	Value
Mainline No. of Left Turn Lanes	2
Mainline No. of Right Turn Lanes	2
Mainline Design Speed	45
Cross Street Thru Lanes	2
Cross Street No. of Left Turn Lanes	2
Cross Street No. of Right Turn Lanes	2
Cross Street Design Speed	45
T-Intersection?	N
Multiplier	1
Description	SR 60 at US 441

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.75 AC	$10,350.00	$28,462.50
120-1	REGULAR EXCAVATION	1,751.57 CY	$17.25	$30,214.58
160-4	TYPE B STABILIZATION	2,035.89 SY	$23.00	$46,825.47
160-4	TYPE B STABILIZATION	4,229.14 SY	$23.00	$97,270.22
285-709	OPTIONAL BASE,BASE GROUP 09	2,035.89 SY	$59.25	$120,626.48
285-709	OPTIONAL BASE,BASE GROUP 09	4,229.14 SY	$59.25	$250,576.54
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	697.81 TN	$155.00	$108,160.55
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	335.92 TN	$180.00	$60,465.60
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	348.90 TN	$203.00	$70,826.70
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	167.96 TN	$203.00	$34,095.88
520-1-7	CONCRETE CURB & GUTTER, TYPE E	202.84 LF	$56.30	$11,419.89
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,106.00 LF	$63.09	$69,777.54
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	670.00 LF	$100.78	$67,522.60
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	470.00 LF	$100.78	$47,366.60
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	614.44 SY	$77.64	$47,705.12
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	173.89 SY	$132.93	$23,115.20
570-1-1	PERFORMANCE TURF	614.44 SY	$6.20	$3,809.53

Intersection 2

Description	Value
Mainline No. of Left Turn Lanes	1
Mainline No. of Right Turn Lanes	1
Mainline Design Speed	45
Cross Street Thru Lanes	1
Cross Street No. of Left Turn Lanes	1
Cross Street No. of Right Turn Lanes	1
Cross Street Design Speed	45
T-Intersection?	Y
Multiplier	1
Description	SR 60 AT SB Turnpike off ramp

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.37	AC	$10,350.00	$14,179.50
120-1	REGULAR EXCAVATION	709.29	CY	$17.25	$12,235.25
160-4	TYPE B STABILIZATION	1,209.22	SY	$23.00	$27,812.06
160-4	TYPE B STABILIZATION	1,712.57	SY	$23.00	$39,389.11
285-709	OPTIONAL BASE,BASE GROUP 09	1,209.22	SY	$59.25	$71,646.28
285-709	OPTIONAL BASE,BASE GROUP 09	1,712.57	SY	$59.25	$101,469.77
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	282.57	TN	$155.00	$43,798.35
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	199.52	TN	$180.00	$35,913.60
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	99.76	TN	$203.00	$20,251.28
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	141.29	TN	$203.00	$28,681.87
520-1-7	CONCRETE CURB & GUTTER, TYPE E	101.42	LF	$56.30	$5,709.95
520-1-10	CONCRETE CURB & GUTTER, TYPE F	553.00	LF	$63.09	$34,888.77
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	335.00	LF	$100.78	$33,761.30
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	235.00	LF	$100.78	$23,683.30
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	307.22	SY	$77.64	$23,852.56
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	86.94	SY	$132.93	$11,556.93
570-1-1	PERFORMANCE TURF	307.22	SY	$6.20	$1,904.76
	Intersections Component Total				$1,648,975.66

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-111	SINGLE COL GRND SIGN AS, F&I GM, <12 SF	23.00	EA	$565.00	$12,995.00
700-1-112	SINGLE COL GRND SIGN AS, F&I GM, 12-20	2.00	EA	$1,962.00	$3,924.00
700-2-115	MULTI- COLUMN SIGN, F&I GM, 50.1-100 SF	2.00	EA	$11,361.19	$22,722.38
700-2-116	MULTI- COLUMN SIGN, F&I GM, 100.1-200 SF	2.00	EA	$22,523.92	$45,047.84
	Signing Component Total				$84,689.22

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Mast Arm
Multiplier	1
Description	SR 60 at US 441

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	$26.00	$19,500.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	$39.75	$9,937.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	$12,836.64	$12,836.64
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	16.00	EA	$1,855.84	$29,693.44
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	$6,925.25	$6,925.25
639-2-1	ELECTRICAL SERVICE WIRE, F&I	60.00	LF	$11.61	$696.60
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	4.00	EA	$80,409.13	$321,636.52
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00	AS	$1,747.37	$20,968.44
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	$1,000.69	$8,005.52
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	$704.50	$8,454.00
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	$1,587.03	$19,044.36
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	$377.97	$3,023.76
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	$50,144.82	$50,144.82
700-5-21	INTERNAL ILLUM SIGN, F&I OM, UP TO 12 SF	4.00	EA	$5,662.66	$22,650.64
	Signalizations Component Total				$533,517.49

Sequence 3 Total $9,437,059.27

Sequence: 4 NDR - New Construction, Divided, Rural **Net Length:** 17.859 MI 94,294 LF

Description: Four lane divided with 40' grassed median, 15' drainage swales, 12' travel lanes, 8' inside shoulders(4' paved), and 12' outside shoulders(5' paved)

Special Conditions: Gas line relocation not included in this estimate. This sequence includes all drainage, erosion control and pond EW for the entire project.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	133.00 / 133.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.000
Top of Structural Course For Begin Section	100.00
Top of Structural Course For End Section	100.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	575.82	AC	$10,350.00	$5,959,737.00

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-1	REGULAR EXCAVATION	91,637.00	CY	$17.25	$1,580,738.25
	Comment: Basin 1 Pond:8ft x 3.5acres x 43,560SF/acre x CY/27CF= 45,173 CY Basin 26B pond: 8ft x 1.8acres x 43,560SF/acre x CY/27CF = 23,232CY Basin 27 pond:8ft x 1.8ac x 43,560SF/acre x CY/27CF=23,332cy				
120-6	EMBANKMENT	4,774,187.00	CY	$13.25	$63,257,977.75
	Comment: Roadway(including 15' swales and berm)= 4,761,187CY. Pond Basin 1= 5,000CY Pond basin 26B= 4,000CY Pond basin 27= 4,333 CY				
	Earthwork Component Total				$70,798,453.00

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	330
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	921,985.15	SY	$23.00	$21,205,658.45
285-709	OPTIONAL BASE,BASE GROUP 09	516,730.77	SY	$59.25	$30,616,298.12

334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	82,978.66	TN	$165.00	$13,691,478.90
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	20,116.04	TN	$202.00	$4,063,440.08

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
536-8-112	GUARDRA CONN TO RIGID BA, F&I, N APPR 3	4.00	EA	$2,256.95	$9,027.80
536-8-113	GUARDRL TRANS CONN TO RIGID BA, F&I, TR	4.00	EA	$961.90	$3,847.60
536-85-20	GUARDRAIL END TREAT-TRAILING ANCHORAGE	4.00	EA	$1,442.78	$5,771.12

Turnouts/Crossovers Subcomponent

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	N

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	92,198.52	SY	$23.00	$2,120,565.96
285-709	OPTIONAL BASE,BASE GROUP 09	51,673.08	SY	$59.25	$3,061,629.99
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	8,297.87	TN	$165.00	$1,369,148.55

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-1-3	RAISED PAVMT MARK, TYPE B	7,233.00	EA	$4.94	$35,731.02
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	71.43	GM	$1,485.23	$106,089.98
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	35.72	GM	$599.10	$21,399.85
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	71.43	GM	$6,093.25	$435,240.85
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	35.72	GM	$1,637.98	$58,508.65
711-15-201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	71.43	GM	$5,993.04	$428,082.85

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00

Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	41.33	TN	$440.00	$18,185.20
536-1-1	GUARDRAIL- ROADWAY, GEN TL-3	1,200.00	LF	$24.48	$29,376.00
536-85-24	GUARDRAIL END TREATMENT-PARA APP TERM	4.00	EA	$3,236.52	$12,946.08
	Roadway Component Total				$77,292,427.05

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	12.00 / 12.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Paved Outside Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ï¿½No. of Sides	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	111,685.93	SY	$42.25	$4,718,730.54
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	11,524.81	TN	$155.00	$1,786,345.55
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	4,190.84	TN	$202.00	$846,549.68
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	35.72	GM	$1,808.00	$64,581.76
570-1-1	PERFORMANCE TURF	55,947.74	SY	$6.20	$346,875.99

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	60,000.00	LF	$3.50	$210,000.00
104-11	FLOATING TURBIDITY BARRIER	500.00	LF	$17.50	$8,750.00
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	8,000.00	LF	$10.00	$80,000.00
104-15	SOIL TRACKING PREVENTION DEVICE	6.00	EA	$4,020.00	$24,120.00
104-18	INLET PROTECTION SYSTEM	15.00	EA	$192.00	$2,880.00
107-1	LITTER REMOVAL	459.33	AC	$50.00	$22,966.50
107-2	MOWING	459.33	AC	$70.00	$32,153.10

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-6	TEMPORARY SLOPE DRAIN / RUNOFF CONT STR	16,000.00	LF	$57.25	$916,000.00
	Shoulder Component Total				$9,059,953.12

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	40.00
Performance Turf Width	32.00
Total Median Shoulder Width L/R	8.00 / 8.00
Paved Median Shoulder Width L/R	4.00 / 4.00
Structural Spread Rate	220
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ï¿½No. of Sides	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	90,731.72	SY	$42.25	$3,833,415.17
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	9,219.85	TN	$155.00	$1,429,076.75
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	3,352.67	TN	$202.00	$677,239.34
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	36.00	GM	$1,808.00	$65,088.00
570-1-1	PERFORMANCE TURF	335,267.33	SY	$6.20	$2,078,657.45
	Median Component Total				$8,083,476.71

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-551	INLETS, DT BOT, TYPE E, <10'	208.00	EA	$17,407.50	$3,620,760.00
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	816.00	LF	$222.35	$181,437.60
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	14,552.00	LF	$183.40	$2,668,836.80
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	2,000.00	LF	$305.77	$611,540.00
430-524-100	STRAIGHT CONC ENDW 24", SINGLE, 0 ROUND	6.00	EA	$10,302.52	$61,815.12
430-524-200	STRAIGHT CONC ENDW 24", DOUBLE, 0 ROUND	6.00	EA	$6,748.95	$40,493.70
430-530-200	STRAIGHT CONC ENDW 30", DOUBLE, 0 ROUND	12.00	EA	$8,356.38	$100,276.56
430-530-300	STRAIGHT CONC ENDW 30", TRI, 0 ROUND	4.00	EA	$16,865.59	$67,462.36
430-536-100	STRAIGHT CONC ENDW 36", SINGLE, 0 ROUND	2.00	EA	$8,790.94	$17,581.88
430-536-200	STRAIGHT CONC ENDW 36", DOUBLE, 0 ROUND	4.00	EA	$12,399.81	$49,599.24
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	78.00	EA	$3,353.05	$261,537.90
570-1-1	PERFORMANCE TURF	1,822,998.00	SY	$6.20	$11,302,587.60

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-311	INLETS, CURB, TYPE P-1, <10'	20.00	EA	$12,885.00	$257,700.00
425-1-321	INLETS, CURB, TYPE P-2, <10'	4.00	EA	$13,200.00	$52,800.00
425-1-549	INLETS, DT BOT, TYPE D, MODIFY	106.00	EA	$10,315.79	$1,093,473.74

425-2-41	MANHOLES, P-7, <10'	27.00	EA	$7,973.26	$215,278.02
425-2-61	MANHOLES, P-8, <10'	27.00	EA	$7,292.28	$196,891.56
430-174-118	PIPE CULV, OPT MATL, ROUND,18"SD	816.00	LF	$159.71	$130,323.36
430-175-118	PIPE CULV, OPT MATL, ROUND, 18"S/CD	14,504.00	LF	$169.12	$2,452,916.48
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	5,000.00	LF	$254.46	$1,272,300.00
430-175-224	PIPE CULV, OPT MATL, OTHER, 24"S/CD	152.00	LF	$350.80	$53,321.60
430-524-102	STRAIGHT CONC ENDW 24", SINGLE, 0 ELLIP	2.00	EA	$6,325.27	$12,650.54
430-982-125	MITERED END SECT, OPTIONAL RD, 18" CD	78.00	EA	$2,656.68	$207,221.04
430-982-133	MITERED END SECT, OPTIONAL RD, 30" CD	4.00	EA	$5,125.88	$20,503.52
430-984-125	MITERED END SECT, OPTIONAL RD, 18" SD	54.00	EA	$3,066.85	$165,609.90
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	54.00	EA	$3,353.05	$181,064.70
524-1-2	CONCRETE DITCH PAVT, NR, 4"	5,400.00	SY	$258.83	$1,397,682.00
530-3-4	RIPRAP, RUBBLE, F&I, DITCH LINING	432.00	TN	$228.64	$98,772.48
530-74	BEDDING STONE	311.00	TN	$159.56	$49,623.16

Box Culvert 10

Description	Value
Size	8 x 5
Length	85.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	87.10	CY	$2,120.00	$184,652.00
415-1-1	REINF STEEL- ROADWAY	10,330.50	LB	$2.00	$20,661.00

Box Culvert 12

Description	Value
Size	8 x 5
Length	65.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	71.50	CY	$2,120.00	$151,580.00
415-1-1	REINF STEEL- ROADWAY	8,296.50	LB	$2.00	$16,593.00

Box Culvert 18

Description	Value
Size	6 x 4
Length	86.00
Multiplier	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	132.28	CY	$2,120.00	$280,433.60
415-1-1	REINF STEEL- ROADWAY	20,547.20	LB	$2.00	$41,094.40

Box Culvert 19

Description	Value
Size	6 x 4
Length	86.00
Multiplier	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	132.28	CY	$2,120.00	$280,433.60
415-1-1	REINF STEEL- ROADWAY	20,547.20	LB	$2.00	$41,094.40

Box Culvert 22

Description	Value
Size	8 x 5
Length	65.00
Multiplier	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	143.00	CY	$2,120.00	$303,160.00
415-1-1	REINF STEEL- ROADWAY	16,593.00	LB	$2.00	$33,186.00

Drainage Component Total $28,194,948.86

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-111	SINGLE COL GRND SIGN AS, F&I GM, <12 SF	38.00	EA	$565.00	$21,470.00
700-1-112	SINGLE COL GRND SIGN AS, F&I GM, 12-20	455.00	EA	$1,962.00	$892,710.00
700-2-114	MULTI- COLUMN SIGN, F&I GM, 30.1-50 SF	38.00	EA	$8,061.52	$306,337.76
700-2-115	MULTI- COLUMN SIGN, F&I GM, 50.1-100 SF	114.00	EA	$11,361.19	$1,295,175.66

Signing Component Total $2,515,693.42

BRIDGES COMPONENT

Bridge 1

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	122.00
Width (LF)	42.67
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	5,734.00
Default Cost per SF	$135.00
Factored Cost per SF	$135.00
Final Cost per SF	**$159.32**
Basic Bridge Cost	**$702,774.90**
Description	SR 60 EB BRIDGE OVER BLANKET BAY SLOUGH

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	5,734.00	SF	$86.00	$493,124.00
400-2-10	CONC CLASS II, APPROACH SLABS	94.82	CY	$985.00	$93,397.70
415-1-9	REINF STEEL- APPROACH SLABS	16,593.50	LB	$2.00	$33,187.00
	Bridge 1 Total				$1,322,483.60

Bridge 2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	122.00
Width (LF)	42.67
Type	Low Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$135.00
Factored Cost per SF	$135.00
Final Cost per SF	**$159.32**
Basic Bridge Cost	**$702,774.90**
Description	WB SR 60 BRIDGE OVER BLANKET BAY SLOUGH. REMOVAL COST WAS INCLUDED IN THE EB BRIDGE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	94.82	CY	$985.00	$93,397.70
415-1-9	REINF STEEL- APPROACH SLABS	16,593.50	LB	$2.00	$33,187.00
	Bridge 2 Total				$829,359.60
	Bridges Component Total				$2,151,843.20

Sequence 4 Total $198,096,795.36

Date: 8/14/2025 11:13:51 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 452574-1-22-01 **Letting Date:** 01/2099

Description: SR 60 FROM PRAIRIE LAKE ROAD TO FLORIDA'S TURNPIKE

District: 05 **County:** 92 OSCEOLA **Market Area:** 08 **Units:** English
Contract Class: 4 **Lump Sum Project:** N **Design/Build:** N **Project Length:** 21.050 MI

Project Manager: MSA

Version 7 Project Grand Total **$272,833,731.65**
Description: SR 60 North Concept 188.*Preferred alternative (Updated by KNVOLMG on 8/14/2025).

Project Sequences Subtotal			**$214,627,100.86**
102-1	Maintenance of Traffic	10.00 %	$21,462,710.09
101-1	Mobilization	10.00 %	$23,608,981.10
Project Sequences Total			**$259,698,792.05**
Project Unknowns		5.00 %	$12,984,939.60
Justification for high %:	No Survey nor Geotechnical data.		
Design/Build		0.00 %	$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	$150,000.00	$150,000.00
Project Non-Bid Subtotal					**$150,000.00**
Version 7 Project Grand Total					**$272,833,731.65**

Appendix F – NRCS SOIL REPORT AND FARMLAND MAPS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Osceola County, Florida

June 11, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Osceola County, Florida
Survey Area Data: Version 22, Aug 22, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Adamsville sand, 0 to 2 percent slopes	35.3	0.4%
4	Arents, 0 to 5 percent slopes	26.6	0.3%
5	Basinger fine sand, 0 to 2 percent slopes	375.0	3.9%
6	Basinger fine sand, depressional, 0 to 1 percent slopes	401.5	4.1%
9	Cassia fine sand, 0 to 2 percent slopes	214.1	2.2%
10	Delray loamy fine sand, depressional	106.5	1.1%
11	EauGallie fine sand, 0 to 2 percent slopes	1,785.2	18.4%
12	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	15.7	0.2%
13	Gentry fine sand	12.2	0.1%
14	Holopaw fine sand, 0 to 2 percent slopes	42.4	0.4%
16	Immokalee fine sand, 0 to 2 percent slopes	537.2	5.5%
17	Kaliga muck, frequently ponded, 0 to 1 percent slopes	71.0	0.7%
18	Lokosee fine sand	12.4	0.1%
19	Malabar fine sand, 0 to 2 percent slopes	1,195.2	12.3%
20	Malabar fine sand, frequently ponded, 0 to 1 percent slopes	250.4	2.6%
22	Myakka fine sand, 0 to 2 percent slopes	778.2	8.0%
24	Narcoossee fine sand, 0 to 2 percent slopes	9.3	0.1%
26	Oldsmar fine sand, 0 to 2 percent slopes	81.2	0.8%
28	Paola sand, 0 to 5 percent slopes	12.2	0.1%
30	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	174.5	1.8%
32	Placid fine sand, frequently ponded, 0 to 1 percent slopes	35.9	0.4%
33	Placid variant fine sand	0.4	0.0%
34	Pomello fine sand, 0 to 5 percent slopes	31.1	0.3%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
36	Pompano fine sand, 0 to 2 percent slopes	30.7	0.3%
37	Pompano fine sand, frequently ponded, 0 to 1 percent slopes	149.3	1.5%
39	Riviera fine sand, frequently ponded, 0 to 1 percent slopes	41.1	0.4%
40	Samsula muck, frequently ponded, 0 to 1 percent slopes	50.0	0.5%
41	Satellite sand, 0 to 2 percent slopes	27.1	0.3%
42	Smyrna fine sand, 0 to 2 percent slopes	2,938.7	30.3%
43	St. Lucie fine sand, 0 to 5 percent slopes	23.3	0.2%
44	Tavares fine sand, 0 to 5 percent slopes	52.8	0.5%
47	Winder loamy fine sand	0.2	0.0%
99	Water	183.9	1.9%
Totals for Area of Interest		**9,705.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor

components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Osceola County, Florida

1—Adamsville sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2r8hb
Elevation: 10 to 100 feet
Mean annual precipitation: 44 to 56 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 290 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Adamsville and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adamsville

Setting

Landform: Knolls on flatwoods, rises on flatwoods
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, talf, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: sand
C1 - 4 to 33 inches: sand
C2 - 33 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)

Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Upland Hardwood Hammock (R155XY008FL), Upland Hardwood Hammock (R154XY008FL)
Hydric soil rating: No

Minor Components

Riviera
Percent of map unit: 4 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Narcoossee
Percent of map unit: 4 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

4—Arents, 0 to 5 percent slopes

Map Unit Setting
National map unit symbol: 1lt1y
Elevation: 20 to 130 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Arents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arents

Setting
Landform: Rises on marine terraces
Landform position (three-dimensional): Rise

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Altered marine deposits

Typical profile

C1 - 0 to 10 inches: gravelly sand
C2 - 10 to 32 inches: sand
C3 - 32 to 60 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

5—Basinger fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svym
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Basinger and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip

Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

Ag - 0 to 2 inches: fine sand
Eg - 2 to 18 inches: fine sand
Bh/E - 18 to 36 inches: fine sand
Cg - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 6 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

Placid

Percent of map unit: 4 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Pompano

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 1 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Anclote

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

6—Basinger fine sand, depressional, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2v16t
Elevation: 0 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 287 to 317 days
Farmland classification: Not prime farmland

Map Unit Composition

Basinger, depressional, and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger, Depressional

Setting

Landform: Depressions on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 8 inches: fine sand
E/Bh - 8 to 24 inches: fine sand
C - 24 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 50.02 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D

Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G154XB145FL)
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G154XB145FL), Freshwater Marshes and Ponds (R154XY010FL)
Hydric soil rating: Yes

Minor Components

Smyrna
Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA007FL - Moist Sandy Wet-Mesic Flatwoods
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Immokalee, hydric
Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F154XA007FL - Moist Sandy Wet-Mesic Flatwoods
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G154XB141FL)
Hydric soil rating: Yes

Floridana, hydric
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G154XB245FL)
Hydric soil rating: Yes

9—Cassia fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2tzx6

Elevation: 0 to 110 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Cassia and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cassia

Setting

Landform: Knolls on flatwoods on marine terraces, rises on flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 26 inches: fine sand
Bh - 26 to 42 inches: fine sand
C - 42 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Minor Components

Myakka

Percent of map unit: 7 percent

Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pomello

Percent of map unit: 6 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope, interfluve, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Satellite

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Jonathan

Percent of map unit: 3 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

10—Delray loamy fine sand, depressional

Map Unit Setting

National map unit symbol: 1lt24
Elevation: 10 to 100 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Delray, depressional, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Delray, Depressional

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 14 inches: loamy fine sand
E - 14 to 44 inches: fine sand
Btg - 44 to 62 inches: fine sandy loam
BCg - 62 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps

Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Floridana
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Holopaw
Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Kaliga
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

11—EauGallie fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2svz1
Elevation: 10 to 130 feet
Mean annual precipitation: 42 to 68 inches

Mean annual air temperature: 66 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Eaugallie and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eaugallie

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 23 inches: fine sand
Bh - 23 to 47 inches: fine sand
Bw - 47 to 55 inches: fine sand
Btg - 55 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Minor Components

Myakka

Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear

Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Farmton

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Malabar

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

12—Floridana fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sm53
Elevation: 0 to 90 feet
Mean annual precipitation: 42 to 64 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Floridana and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Floridana

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 19 inches: fine sand
Eg - 19 to 25 inches: fine sand
Btg - 25 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps

Forage suitability group: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Tequesta
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL), Freshwater Marshes and Ponds (R156BY010FL)
Hydric soil rating: Yes

Anclote
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Riviera
Percent of map unit: 3 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Gator
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Felda
Percent of map unit: 2 percent

Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

13—Gentry fine sand

Map Unit Setting

National map unit symbol: 1lt27
Elevation: 10 to 100 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Gentry and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gentry

Setting

Landform: Flood plains on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy marine deposits

Typical profile

A - 0 to 24 inches: fine sand
Btg - 24 to 64 inches: fine sandy loam
Cg - 64 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Occasional
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY040FL - Sandy over Loamy Freshwater Floodplain Marshes and Swamps
Forage suitability group: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Minor Components

Floridana

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Delray

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Pineda

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Riviera

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Kaliga

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Nittaw

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Winder

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear, concave
Across-slope shape: Linear
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
Other vegetative classification: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Hydric soil rating: Yes

14—Holopaw fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2vbpd
Elevation: 0 to 130 feet
Mean annual precipitation: 4 to 62 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Holopaw and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holopaw

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
Eg - 6 to 42 inches: fine sand
Btg - 42 to 60 inches: fine sandy loam
Cg - 60 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D

Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Basinger
Percent of map unit: 6 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Oldsmar
Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Cypress lake
Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Riviera
Percent of map unit: 2 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

16—Immokalee fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3lk
Elevation: 0 to 130 feet
Mean annual precipitation: 42 to 68 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Immokalee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Immokalee

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 35 inches: fine sand
Bh - 35 to 54 inches: fine sand
BC - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks

Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Minor Components

Basinger
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Pomello
Percent of map unit: 2 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Wabasso
Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Placid
Percent of map unit: 1 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Jenada
Percent of map unit: 1 percent

Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Slough (R155XY011FL)
Hydric soil rating: Yes

17—Kaliga muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzw6
Elevation: 0 to 130 feet
Mean annual precipitation: 44 to 55 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Kaliga and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kaliga

Setting

Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Herbaceous organic material over loamy marine deposits

Typical profile

Oa - 0 to 25 inches: muck
C1 - 25 to 35 inches: fine sandy loam
C2 - 35 to 60 inches: sandy clay loam
C3 - 60 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very high (about 15.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Samsula

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Chobee

Percent of map unit: 4 percent
Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Tequesta

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL), Freshwater Marshes and Ponds (R156BY010FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 4 percent
Landform: Depressions on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf

Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

18—Lokosee fine sand

Map Unit Setting

National map unit symbol: 1lt2d
Elevation: 20 to 100 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Lokosee and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lokosee

Setting

Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 27 inches: fine sand
Bw - 27 to 35 inches: fine sand
Bh - 35 to 43 inches: fine sand
E' - 43 to 49 inches: fine sand
B'tg - 49 to 57 inches: sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Wetland Hardwood Hammock (R155XY012FL)
Hydric soil rating: No

Minor Components

Riviera

Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Oldsmar

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Pineda

Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Eaugallie

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Holopaw

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

19—Malabar fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svz3
Elevation: 10 to 140 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Malabar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Malabar

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave

Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 17 inches: fine sand
Bw - 17 to 42 inches: fine sand
Btg - 42 to 59 inches: fine sandy loam
Cg - 59 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Valkaria

Percent of map unit: 5 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Oldsmar

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

20—Malabar fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2svz5
Elevation: 10 to 90 feet
Mean annual precipitation: 45 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Malabar and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Malabar

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 17 inches: fine sand
Bw - 17 to 42 inches: fine sand
Btg - 42 to 59 inches: fine sandy loam
Cg - 59 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Valkaria

Percent of map unit: 3 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Pineda

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps

Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 3 percent
Landform: Flats on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Delray

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

22—Myakka fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3lg
Elevation: 0 to 130 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Myakka and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear

Across-slope shape: Concave, linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 20 inches: fine sand
Bh - 20 to 36 inches: fine sand
C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Minor Components

Basinger

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Cassia

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Satellite

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

24—Narcoossee fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2v17r
Elevation: 0 to 180 feet
Mean annual precipitation: 44 to 56 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Narcoossee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Narcoossee

Setting

Landform: Knolls on marine terraces, ridges on marine terraces, rises on marine terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 22 inches: fine sand
Bh - 22 to 26 inches: fine sand
BC - 26 to 36 inches: fine sand
C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A
Ecological site: F154XA008FL - Moist Sandy Scrubby Flatwoods
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G154XB131FL)
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G154XB131FL), Upland Hardwood Hammock (R154XY008FL)
Hydric soil rating: No

Minor Components

Smyrna, non-hydric

Percent of map unit: 10 percent
Landform: Flats on marine terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Interfluve, tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA007FL - Moist Sandy Wet-Mesic Flatwoods
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G154XB131FL), Upland Hardwood Hammock (R154XY008FL)
Hydric soil rating: No

26—Oldsmar fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2sm4t
Elevation: 0 to 100 feet
Mean annual precipitation: 44 to 64 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Oldsmar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oldsmar

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 35 inches: fine sand
Bh - 35 to 50 inches: fine sand
Btg - 50 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks

Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Minor Components

Malabar
Percent of map unit: 5 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Nettles
Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Basinger
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Pineda
Percent of map unit: 2 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Cypress lake
Percent of map unit: 2 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear

Across-slope shape: Linear, concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

28—Paola sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tzwj
Elevation: 0 to 100 feet
Mean annual precipitation: 44 to 60 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Paola and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paola

Setting

Landform: Ridges on marine terraces, hills on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: sand
E - 6 to 55 inches: sand
B/E - 55 to 80 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 50.02 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands
Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Minor Components

Apopka

Percent of map unit: 6 percent
Landform: Knolls on marine terraces, ridges on marine terraces, hills on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Astatula

Percent of map unit: 5 percent
Landform: Knolls on marine terraces, ridges on marine terraces, hills on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Pomello

Percent of map unit: 4 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

30—Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svyp
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pineda and similar soils: 45 percent
Pineda, wet, and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pineda

Setting

Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 1 inches: fine sand
E - 1 to 5 inches: fine sand
Bw - 5 to 36 inches: fine sand
Btg/E - 36 to 54 inches: fine sandy loam
Cg - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: A/D
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Description of Pineda, Wet

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 1 inches: fine sand
E - 1 to 5 inches: fine sand
Bw - 5 to 36 inches: fine sand
Btg/E - 36 to 54 inches: fine sandy loam
Cg - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Felda

Percent of map unit: 6 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip

Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Valkaria

Percent of map unit: 2 percent
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Cypress lake

Percent of map unit: 2 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Brynwood

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

32—Placid fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzx9
Elevation: 0 to 160 feet
Mean annual precipitation: 44 to 61 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Placid and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Placid

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 24 inches: fine sand
Cg - 24 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps

Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Basinger
Percent of map unit: 7 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Myakka
Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Gentry
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Samsula
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

33—Placid variant fine sand

Map Unit Setting

National map unit symbol: 1lt2w
Elevation: 10 to 100 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Placid variant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Placid Variant

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A1 - 0 to 8 inches: fine sand
A2 - 8 to 17 inches: fine sand
C - 17 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Upland Hardwood Hammock (R155XY008FL)
Hydric soil rating: No

Minor Components

Ona

Percent of map unit: 4 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Adamsville

Percent of map unit: 4 percent
Landform: Flats on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Basinger

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

34—Pomello fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2v16y
Elevation: 0 to 180 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Pomello and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pomello

Setting

Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve, riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 47 inches: fine sand
Bh - 47 to 58 inches: fine sand
Bw - 58 to 65 inches: fine sand
C - 65 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A

Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Minor Components

Smyrna
Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Bulow
Percent of map unit: 1 percent
Landform: Ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY210FL - Deep Sandy over Loamy Maritime Forests
Other vegetative classification: Sandy over loamy soils on knolls and ridges of mesic uplands (G155XB211FL)
Hydric soil rating: No

Tavares
Percent of map unit: 1 percent
Landform: Flats on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G154XB121FL)
Hydric soil rating: No

36—Pompano fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2tzw3
Elevation: 0 to 100 feet
Mean annual precipitation: 44 to 65 inches

Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pompano and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pompano

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
C - 4 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Anclote

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear

Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Valkaria

Percent of map unit: 4 percent
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Immokalee

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Myakka

Percent of map unit: 3 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Riviera

Percent of map unit: 2 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear

Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

37—Pompano fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sm5f
Elevation: 0 to 160 feet
Mean annual precipitation: 38 to 64 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 340 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pompano and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pompano

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 12 inches: fine sand
C - 12 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w

Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Minor Components

Basinger
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Myakka
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Malabar
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Anclote
Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 1 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Adamsville

Percent of map unit: 1 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Upland Hardwood Hammock (R155XY008FL)
Hydric soil rating: No

39—Riviera fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzwl
Elevation: 0 to 80 feet
Mean annual precipitation: 44 to 64 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Riviera and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riviera

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 4 inches: fine sand

E - 4 to 36 inches: fine sand
Bt/E - 36 to 42 inches: fine sandy loam
Cg1 - 42 to 56 inches: fine sand
Cg2 - 56 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Minor Components

Chobee

Percent of map unit: 7 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R156BY010FL), Loamy and clayey soils on stream terraces, flood plains, or in depressions (G156BC345FL)
Hydric soil rating: Yes

Tequesta

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps

Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL), Freshwater Marshes and Ponds (R156BY010FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

40—Samsula muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzw9
Elevation: 0 to 250 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Samsula and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Samsula

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over sandy marine deposits

Typical profile

Oa1 - 0 to 24 inches: muck
Oa2 - 24 to 32 inches: muck
Cg1 - 32 to 35 inches: sand
Cg2 - 35 to 44 inches: sand
Cg3 - 44 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very high (about 13.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Kaliga

Percent of map unit: 3 percent
Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Hydric soil rating: Yes

Anclote

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Floridana

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Sanibel

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

41—Satellite sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svzb
Elevation: 0 to 200 feet
Mean annual precipitation: 44 to 61 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Satellite and similar soils: 85 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Satellite

Setting

Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: sand
C1 - 6 to 13 inches: sand
C2 - 13 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 to 50.02 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Minor Components

Myakka

Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Basinger

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Cassia

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Pompano

Percent of map unit: 1 percent
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

42—Smyrna fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svzh
Elevation: 0 to 130 feet

Mean annual precipitation: 38 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Smyrna and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Smyrna

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 13 inches: fine sand
Bh - 13 to 18 inches: fine sand
C/Bw - 18 to 49 inches: fine sand
C - 49 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Minor Components

Eaugallie

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf

Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Basinger

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 2 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Pomello

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

43—St. Lucie fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2twsr
Elevation: 20 to 110 feet
Mean annual precipitation: 44 to 61 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

St. lucie and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of St. Lucie

Setting

Landform: Dunes on marine terraces, knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy eolian deposits and/or marine deposits

Typical profile

A - 0 to 4 inches: fine sand
C - 4 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 50.02 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands

Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Minor Components

Paola

Percent of map unit: 6 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Pomello

Percent of map unit: 5 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

44—Tavares fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2sw00
Elevation: 0 to 130 feet

Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 66 to 77 degrees F
Frost-free period: 340 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Tavares and similar soils: 83 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tavares

Setting

Landform: Flats on marine terraces, knolls on marine terraces, ridges on marine terraces, hills on marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, side slope, tread, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Forage suitability group: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL), Longleaf Pine-Turkey Oak Hills (R155XY002FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Minor Components

Cassia

Percent of map unit: 5 percent
Landform: Knolls on marine terraces, rises on marine terraces

Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Pomello

Percent of map unit: 4 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Astatula

Percent of map unit: 3 percent
Landform: Knolls on marine terraces, ridges on marine terraces, hills on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Apopka

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, hills on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Longleaf Pine-Turkey Oak Hills (R155XY002FL)
Hydric soil rating: No

Adamsville

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands

Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Upland Hardwood Hammock (R155XY008FL)
Hydric soil rating: No

47—Winder loamy fine sand

Map Unit Setting

National map unit symbol: 1lt3b
Elevation: 20 to 100 feet
Mean annual precipitation: 44 to 52 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 342 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Winder and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Winder

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 3 inches: loamy fine sand
E - 3 to 14 inches: fine sand
Btg - 14 to 34 inches: sandy clay loam
BCg - 34 to 52 inches: fine sandy loam
Cg - 52 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F155XY140FL - Loamy and Clayey Flats and Hammocks
Forage suitability group: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Hydric soil rating: Yes

Minor Components

Gentry

Percent of map unit: 4 percent
Landform: Flood plains on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY040FL - Sandy over Loamy Freshwater Floodplain Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Riviera

Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Holopaw

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: R156BY150FL - Subaqueous Freshwater Lacustrine Habitats
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

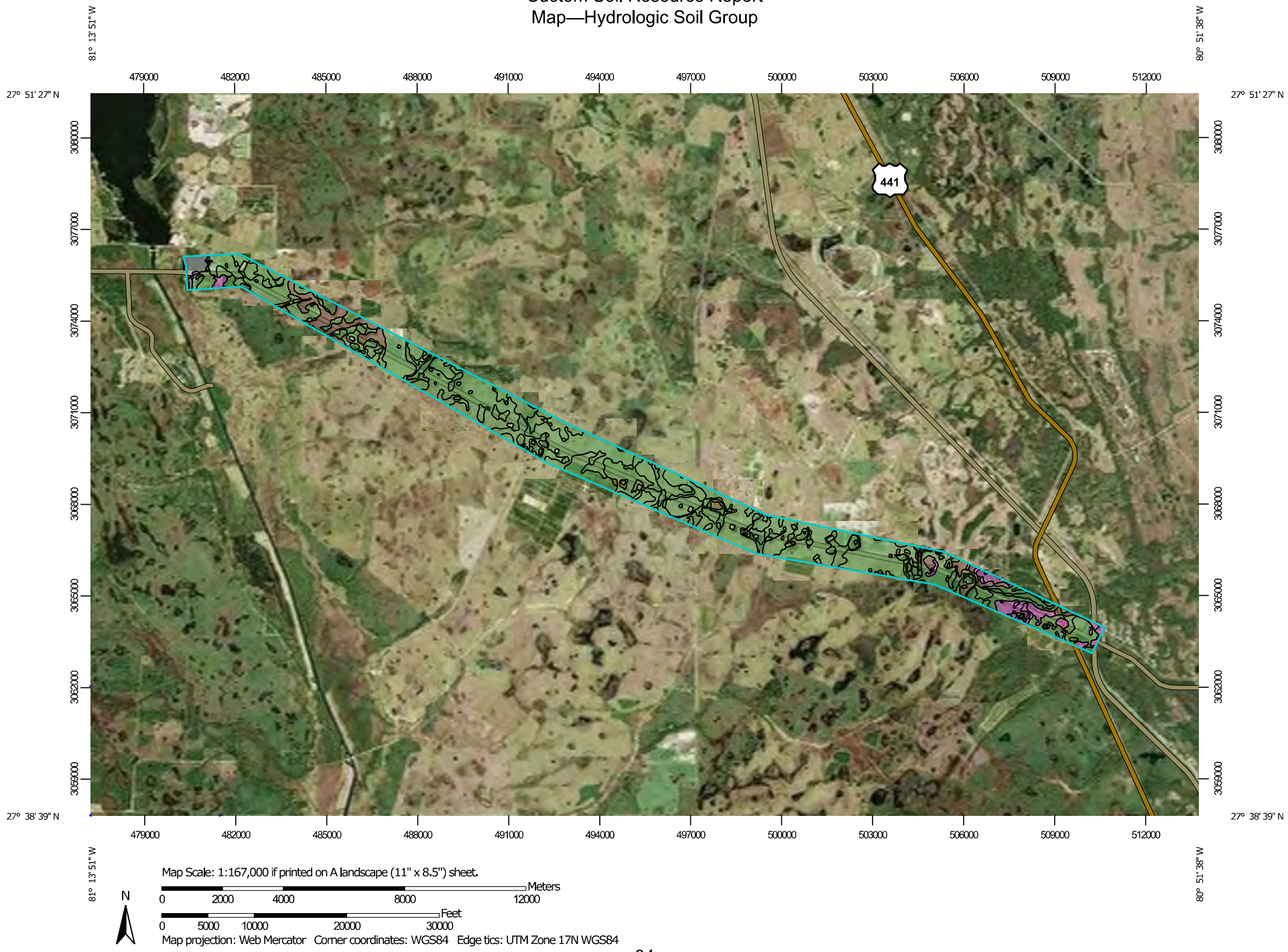
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Osceola County, Florida
Survey Area Data: Version 22, Aug 22, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Adamsville sand, 0 to 2 percent slopes	A	35.3	0.4%
4	Arents, 0 to 5 percent slopes	A	26.6	0.3%
5	Basinger fine sand, 0 to 2 percent slopes	A/D	375.0	3.9%
6	Basinger fine sand, depressional, 0 to 1 percent slopes	A/D	401.5	4.1%
9	Cassia fine sand, 0 to 2 percent slopes	A	214.1	2.2%
10	Delray loamy fine sand, depressional	A/D	106.5	1.1%
11	EauGallie fine sand, 0 to 2 percent slopes	A/D	1,785.2	18.4%
12	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	C/D	15.7	0.2%
13	Gentry fine sand	C/D	12.2	0.1%
14	Holopaw fine sand, 0 to 2 percent slopes	A/D	42.4	0.4%
16	Immokalee fine sand, 0 to 2 percent slopes	B/D	537.2	5.5%
17	Kaliga muck, frequently ponded, 0 to 1 percent slopes	C/D	71.0	0.7%
18	Lokosee fine sand	A/D	12.4	0.1%
19	Malabar fine sand, 0 to 2 percent slopes	A/D	1,195.2	12.3%
20	Malabar fine sand, frequently ponded, 0 to 1 percent slopes	A/D	250.4	2.6%
22	Myakka fine sand, 0 to 2 percent slopes	A/D	778.2	8.0%
24	Narcoossee fine sand, 0 to 2 percent slopes	A	9.3	0.1%
26	Oldsmar fine sand, 0 to 2 percent slopes	A/D	81.2	0.8%
28	Paola sand, 0 to 5 percent slopes	A	12.2	0.1%
30	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	A/D	174.5	1.8%
32	Placid fine sand, frequently ponded, 0 to 1 percent slopes	A/D	35.9	0.4%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
33	Placid variant fine sand	A/D	0.4	0.0%
34	Pomello fine sand, 0 to 5 percent slopes	A	31.1	0.3%
36	Pompano fine sand, 0 to 2 percent slopes	A/D	30.7	0.3%
37	Pompano fine sand, frequently ponded, 0 to 1 percent slopes	A/D	149.3	1.5%
39	Riviera fine sand, frequently ponded, 0 to 1 percent slopes	A/D	41.1	0.4%
40	Samsula muck, frequently ponded, 0 to 1 percent slopes	A/D	50.0	0.5%
41	Satellite sand, 0 to 2 percent slopes	A	27.1	0.3%
42	Smyrna fine sand, 0 to 2 percent slopes	A/D	2,938.7	30.3%
43	St. Lucie fine sand, 0 to 5 percent slopes	A	23.3	0.2%
44	Tavares fine sand, 0 to 5 percent slopes	A	52.8	0.5%
47	Winder loamy fine sand	C/D	0.2	0.0%
99	Water		183.9	1.9%
Totals for Area of Interest			**9,705.2**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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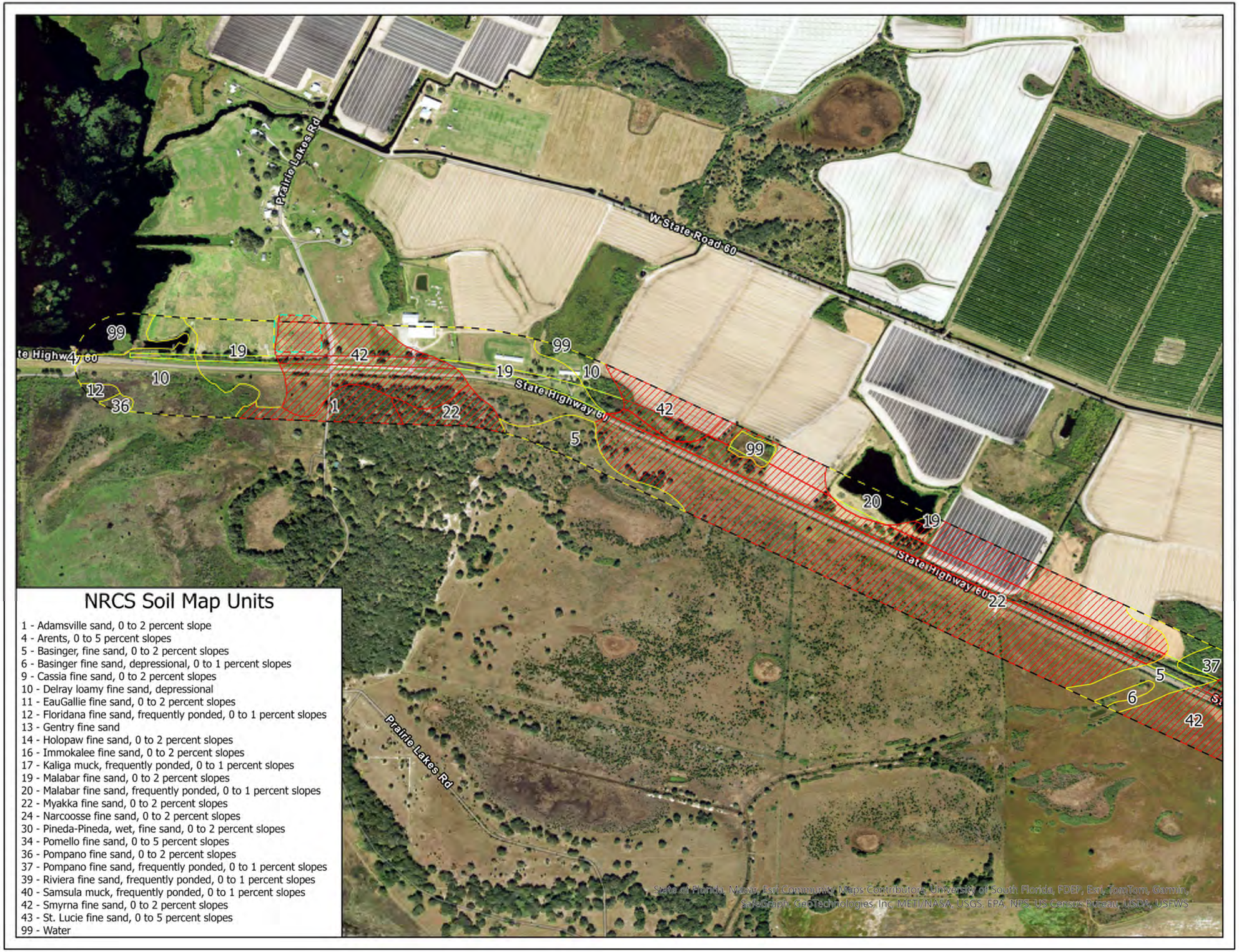


NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
9 - Cassia fine sand, 0 to 2 percent slopes
10 - Delray loamy fine sand, depressional
11 - EauGallie fine sand, 0 to 2 percent slopes
12 - Floridana fine sand, frequently ponded, 0 to 1 percent slopes
13 - Gentry fine sand
14 - Holopaw fine sand, 0 to 2 percent slopes
16 - Immokalee fine sand, 0 to 2 percent slopes
17 - Kaliga muck, frequently ponded, 0 to 1 percent slopes
19 - Malabar fine sand, 0 to 2 percent slopes
20 - Malabar fine sand, frequently ponded, 0 to 1 percent slopes
22 - Myakka fine sand, 0 to 2 percent slopes
24 - Narcoosse fine sand, 0 to 2 percent slopes
30 - Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes
34 - Pomello fine sand, 0 to 5 percent slopes
36 - Pompano fine sand, 0 to 2 percent slopes
37 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
39 - Riviera fine sand, frequently ponded, 0 to 1 percent slopes
40 - Samsula muck, frequently ponded, 0 to 1 percent slopes
42 - Smyrna fine sand, 0 to 2 percent slopes
43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 1 of 9)

- SR 60 Study Area (500 foot Buffer)
- Proposed Alternative and Ponds ROW
- NRCS Soil
- Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

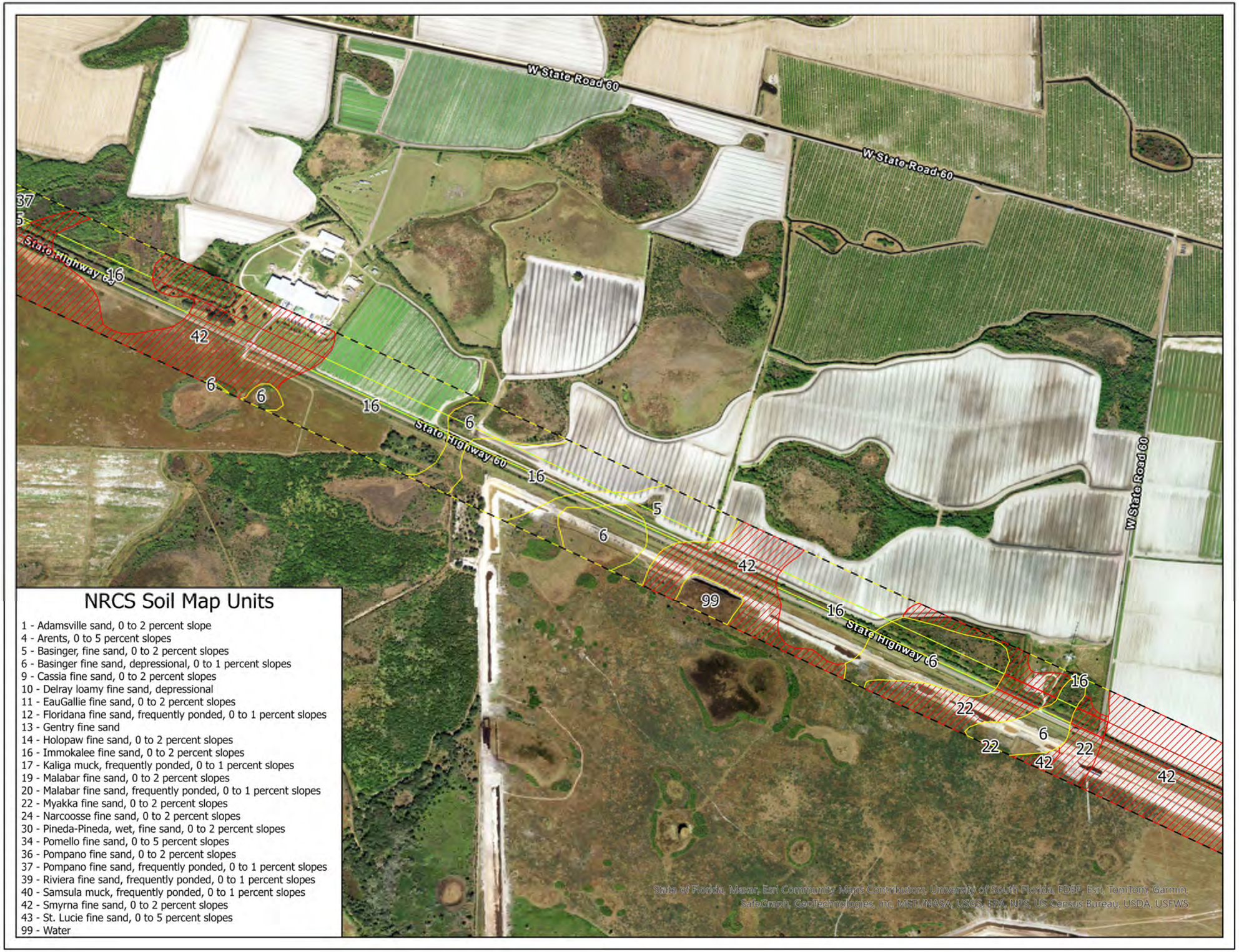
N

1 in = 0.18 mi when printed at 11x17"

0 0.09 0.18

Miles

FDOT



NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
9 - Cassia fine sand, 0 to 2 percent slopes
10 - Delray loamy fine sand, depressional
11 - EauGallie fine sand, 0 to 2 percent slopes
12 - Floridana fine sand, frequently ponded, 0 to 1 percent slopes
13 - Gentry fine sand
14 - Holopaw fine sand, 0 to 2 percent slopes
16 - Immokalee fine sand, 0 to 2 percent slopes
17 - Kaliga muck, frequently ponded, 0 to 1 percent slopes
19 - Malabar fine sand, 0 to 2 percent slopes
20 - Malabar fine sand, frequently ponded, 0 to 1 percent slopes
22 - Myakka fine sand, 0 to 2 percent slopes
24 - Narcoosse fine sand, 0 to 2 percent slopes
30 - Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes
34 - Pomello fine sand, 0 to 5 percent slopes
36 - Pompano fine sand, 0 to 2 percent slopes
37 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
39 - Riviera fine sand, frequently ponded, 0 to 1 percent slopes
40 - Samsula muck, frequently ponded, 0 to 1 percent slopes
42 - Smyrna fine sand, 0 to 2 percent slopes
43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 2 of 9)

- SR 60 Study Area (500 foot Buffer)
- Proposed Alternative and Ponds ROW
- NRCS Soil
- Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

1 in = 0.18 mi when printed at 11x17"

0 0.09 0.18

Miles

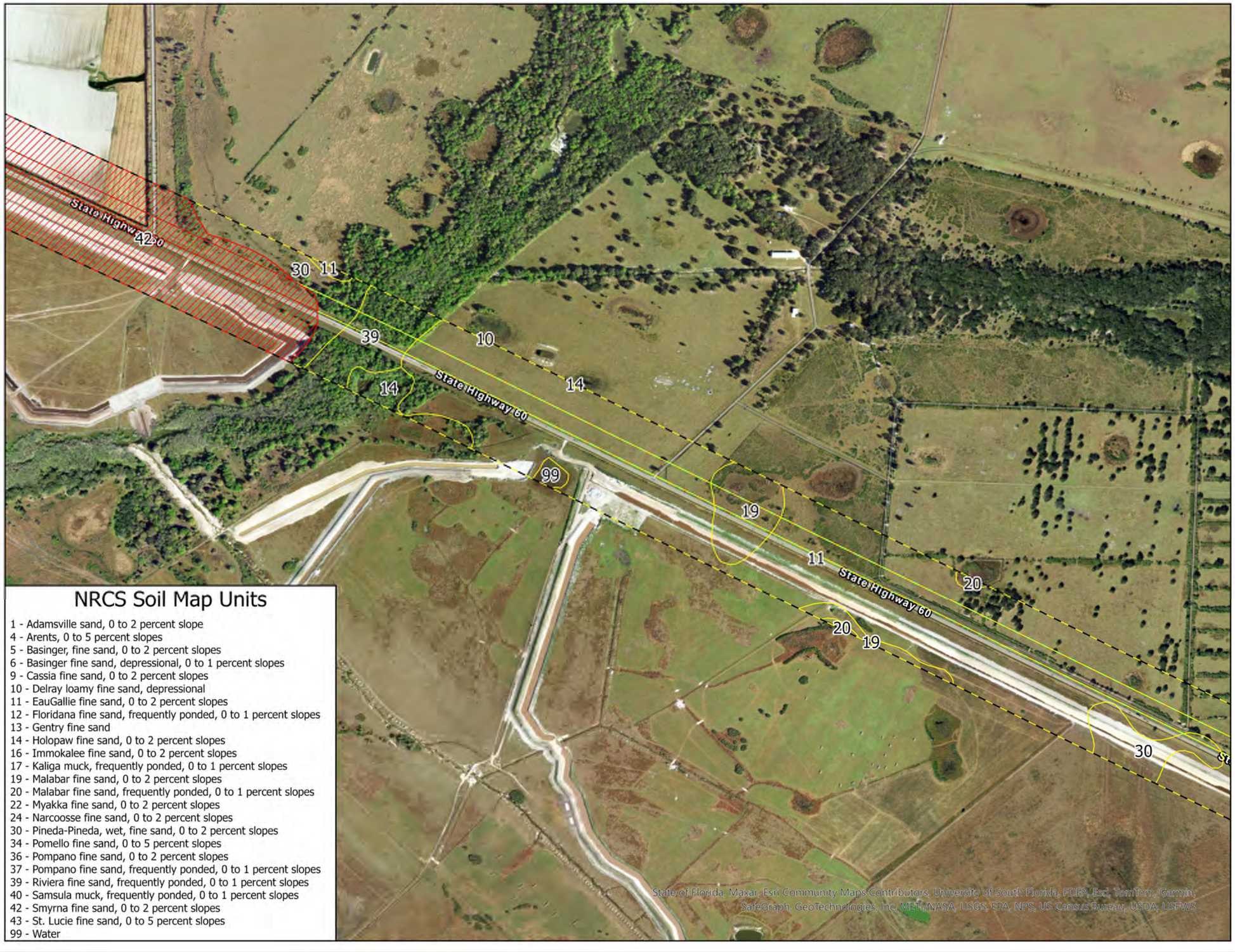
FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 3 of 9)



SR 60 Study Area (500 foot Buffer)
Proposed Alternative and Ponds ROW
NRCS Soil
Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

1 in = 0.18 mi when printed at 11x17"

0 0.09 0.18

Miles

NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
9 - Cassia fine sand, 0 to 2 percent slopes
10 - Delray loamy fine sand, depressional
11 - EauGallie fine sand, 0 to 2 percent slopes
12 - Floridana fine sand, frequently ponded, 0 to 1 percent slopes
13 - Gentry fine sand
14 - Holopaw fine sand, 0 to 2 percent slopes
16 - Immokalee fine sand, 0 to 2 percent slopes
17 - Kaliga muck, frequently ponded, 0 to 1 percent slopes
19 - Malabar fine sand, 0 to 2 percent slopes
20 - Malabar fine sand, frequently ponded, 0 to 1 percent slopes
22 - Myakka fine sand, 0 to 2 percent slopes
24 - Narcoosse fine sand, 0 to 2 percent slopes
30 - Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes
34 - Pomello fine sand, 0 to 5 percent slopes
36 - Pompano fine sand, 0 to 2 percent slopes
37 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
39 - Riviera fine sand, frequently ponded, 0 to 1 percent slopes
40 - Samsula muck, frequently ponded, 0 to 1 percent slopes
42 - Smyrna fine sand, 0 to 2 percent slopes
43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

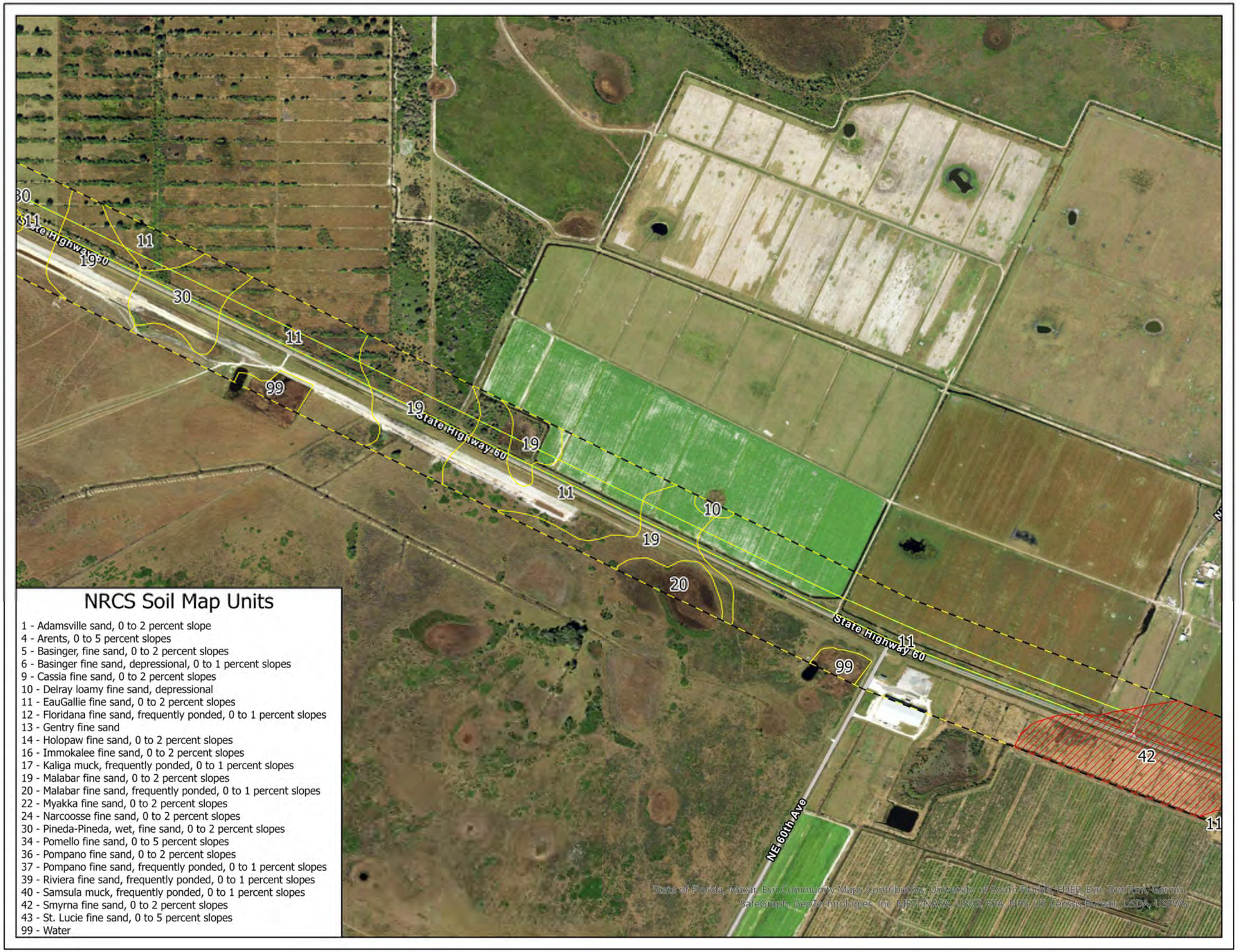
FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 4 of 9)



- SR 60 Study Area (500 foot Buffer)
- Proposed Alternative and Ponds ROW
- NRCS Soil
- Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

1 in = 0.18 mi when printed at 11x17"

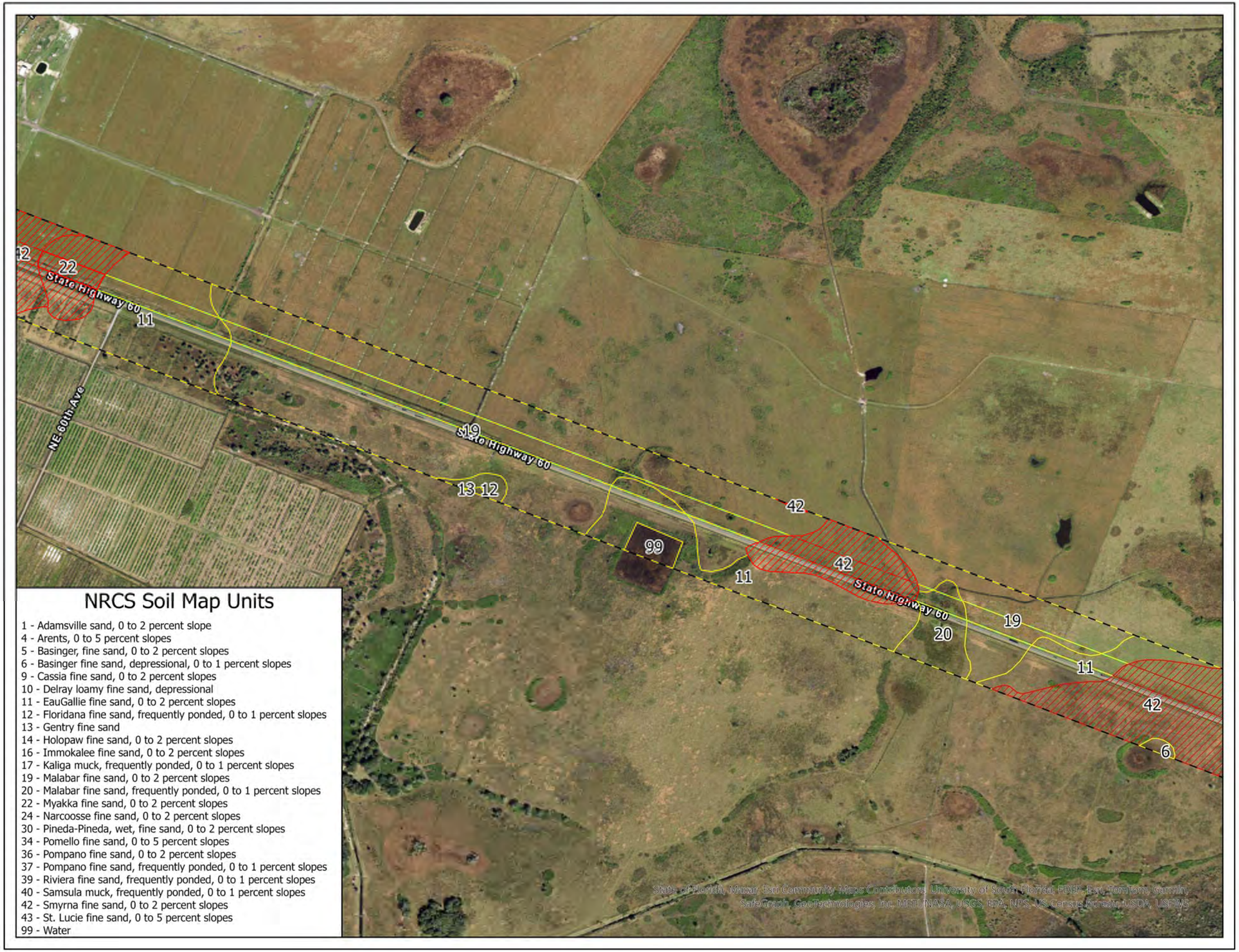
0 0.09 0.18

Miles

NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
9 - Cassia fine sand, 0 to 2 percent slopes
10 - Delray loamy fine sand, depressional
11 - EauGallie fine sand, 0 to 2 percent slopes
12 - Floridana fine sand, frequently ponded, 0 to 1 percent slopes
13 - Gentry fine sand
14 - Holopaw fine sand, 0 to 2 percent slopes
16 - Immokalee fine sand, 0 to 2 percent slopes
17 - Kaliga muck, frequently ponded, 0 to 1 percent slopes
19 - Malabar fine sand, 0 to 2 percent slopes
20 - Malabar fine sand, frequently ponded, 0 to 1 percent slopes
22 - Myakka fine sand, 0 to 2 percent slopes
24 - Narcoosse fine sand, 0 to 2 percent slopes
30 - Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes
34 - Pomello fine sand, 0 to 5 percent slopes
36 - Pompano fine sand, 0 to 2 percent slopes
37 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
39 - Riviera fine sand, frequently ponded, 0 to 1 percent slopes
40 - Samsula muck, frequently ponded, 0 to 1 percent slopes
42 - Smyrna fine sand, 0 to 2 percent slopes
43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

FDOT



NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
9 - Cassia fine sand, 0 to 2 percent slopes
10 - Delray loamy fine sand, depressional
11 - EauGallie fine sand, 0 to 2 percent slopes
12 - Floridana fine sand, frequently ponded, 0 to 1 percent slopes
13 - Gentry fine sand
14 - Holopaw fine sand, 0 to 2 percent slopes
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43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 5 of 9)

- SR 60 Study Area (500 foot Buffer)
- Proposed Alternative and Ponds ROW
- NRCS Soil
- Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

1 in = 0.18 mi when printed at 11x17"

0 0.09 0.18

Miles

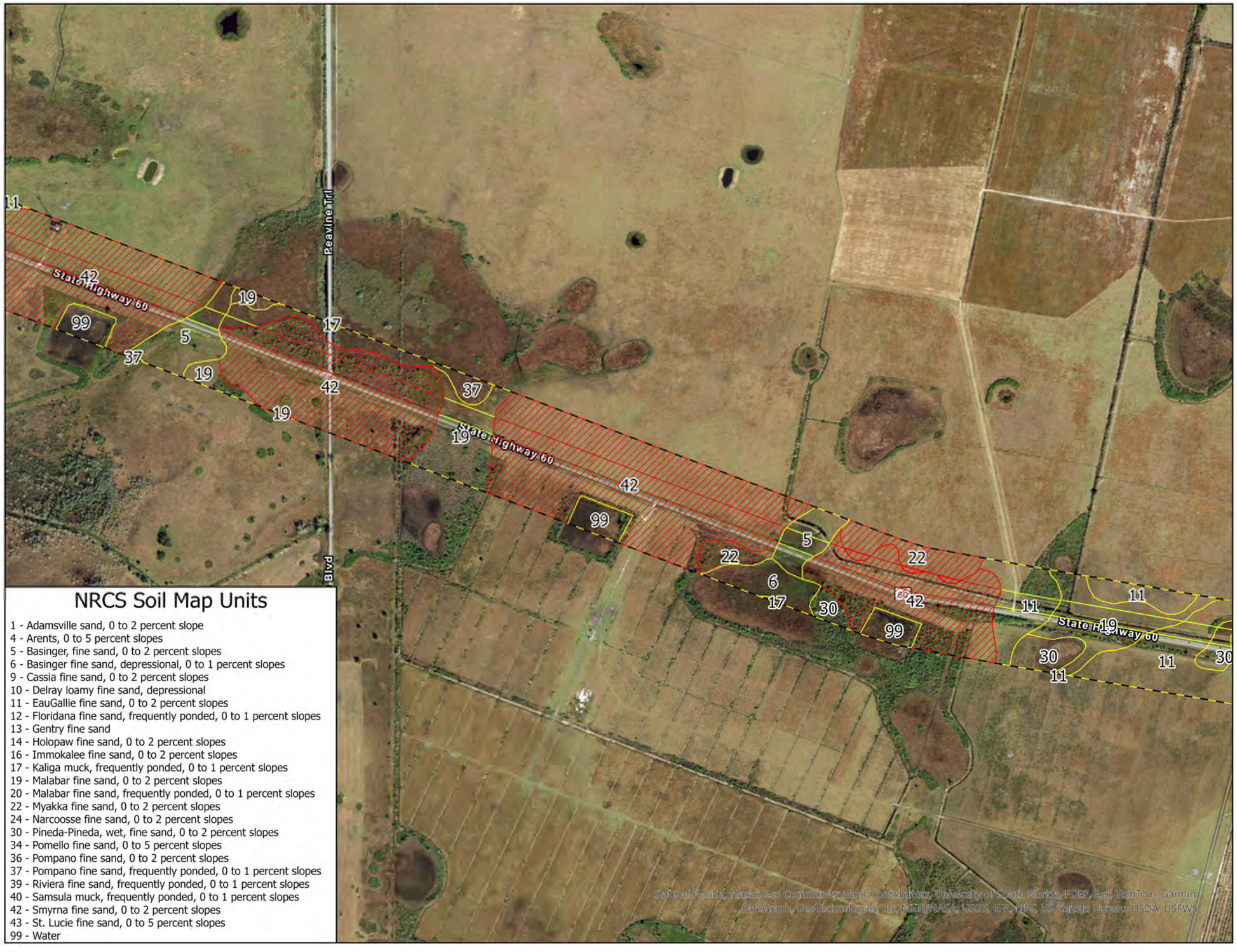
FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 6 of 9)



NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
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40 - Samsula muck, frequently ponded, 0 to 1 percent slopes
42 - Smyrna fine sand, 0 to 2 percent slopes
43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

SR 60 Study Area (500 foot Buffer)
Proposed Alternative and Ponds ROW
NRCS Soil
Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

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0 0.09 0.18

Miles

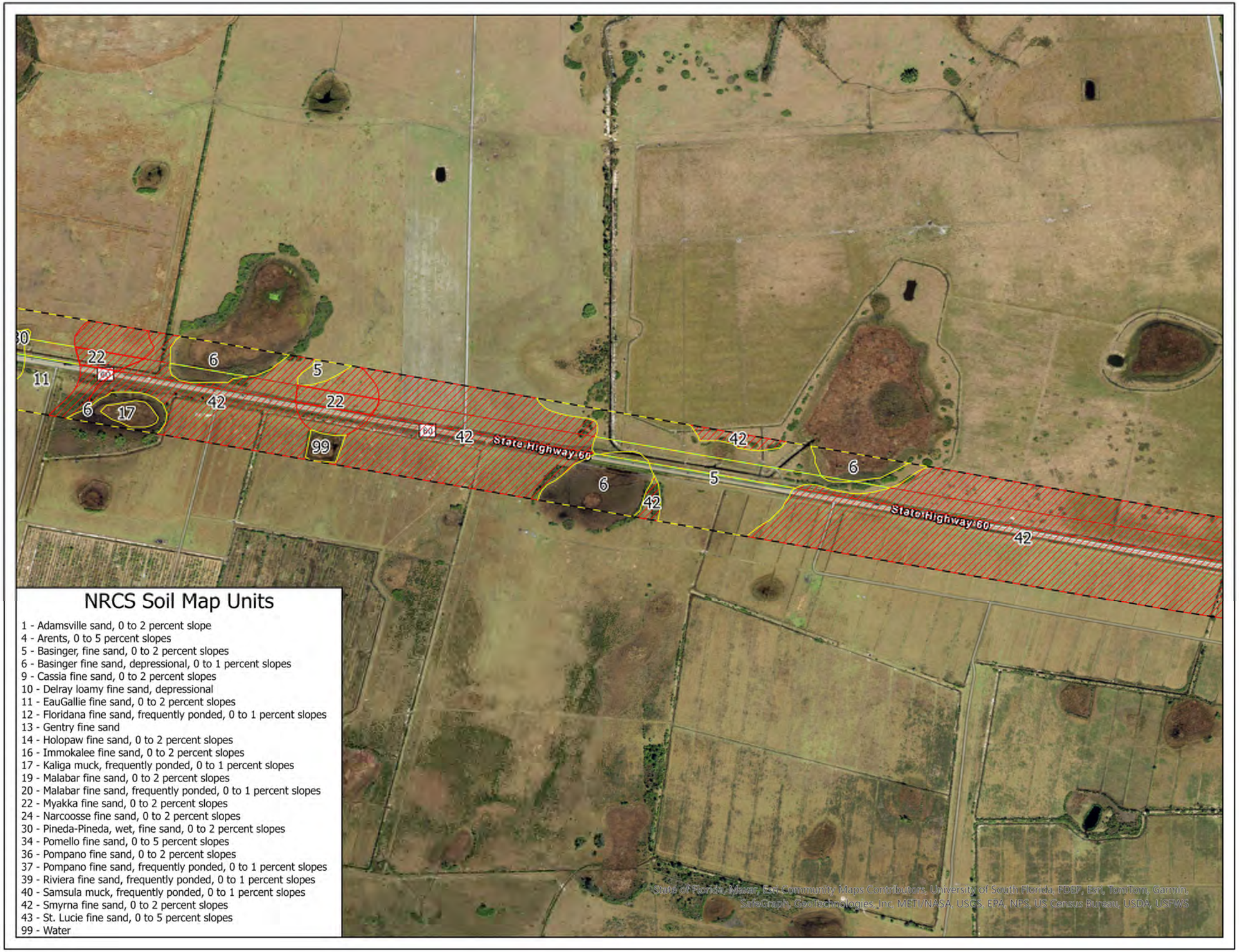
FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 7 of 9)



NRCS Soil Map Units

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4 - Arents, 0 to 5 percent slopes
5 - Basinger, fine sand, 0 to 2 percent slopes
6 - Basinger fine sand, depressional, 0 to 1 percent slopes
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40 - Samsula muck, frequently ponded, 0 to 1 percent slopes
42 - Smyrna fine sand, 0 to 2 percent slopes
43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

SR 60 Study Area (500 foot Buffer)
Proposed Alternative and Ponds ROW
NRCS Soil
Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

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0 0.09 0.18

Miles

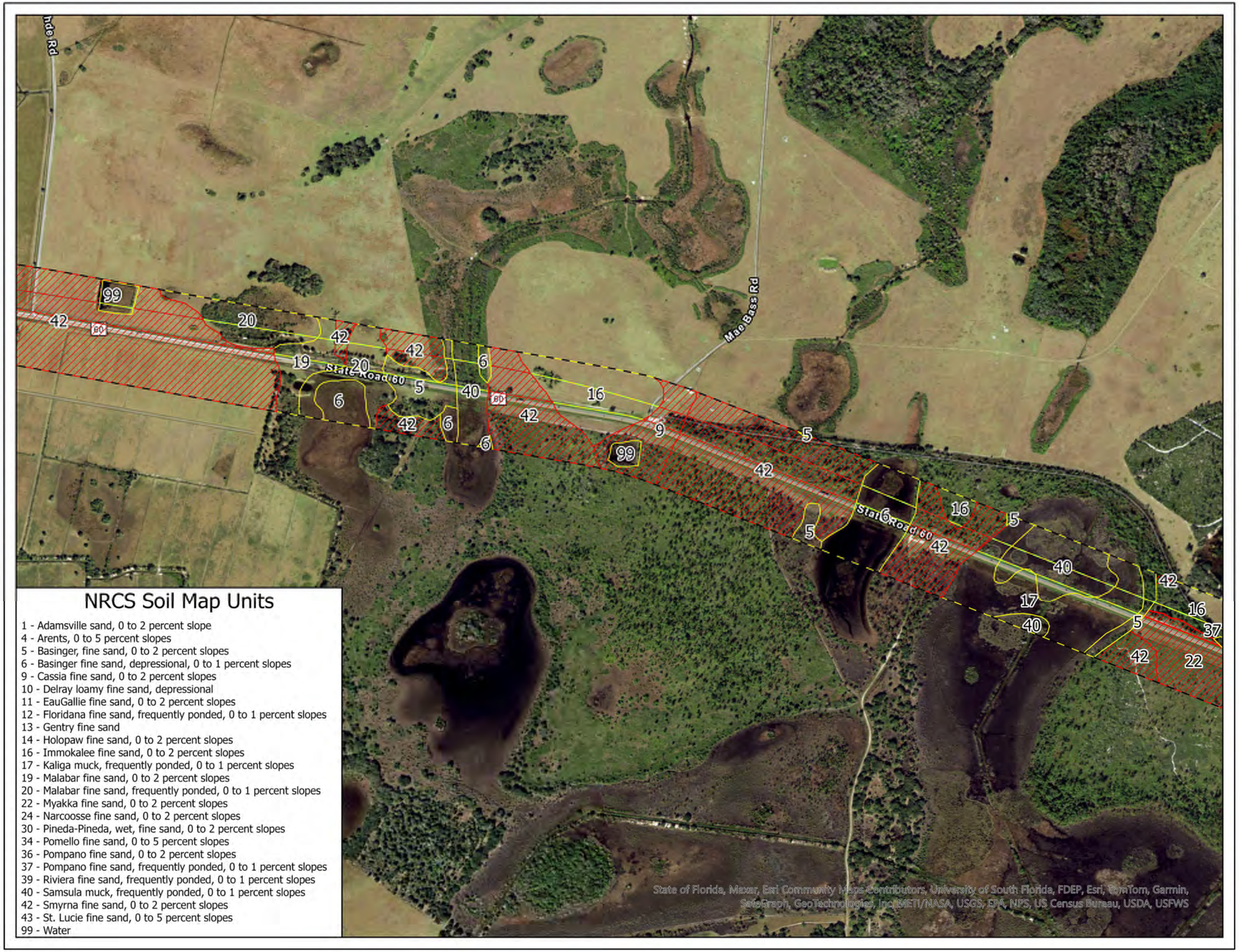
FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 8 of 9)



SR 60 Study Area (500 foot Buffer)
Proposed Alternative and Ponds ROW
NRCS Soil
Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

1 in = 0.18 mi when printed at 11x17"

0 0.09 0.18

Miles

NRCS Soil Map Units

1 - Adamsville sand, 0 to 2 percent slope
4 - Arents, 0 to 5 percent slopes
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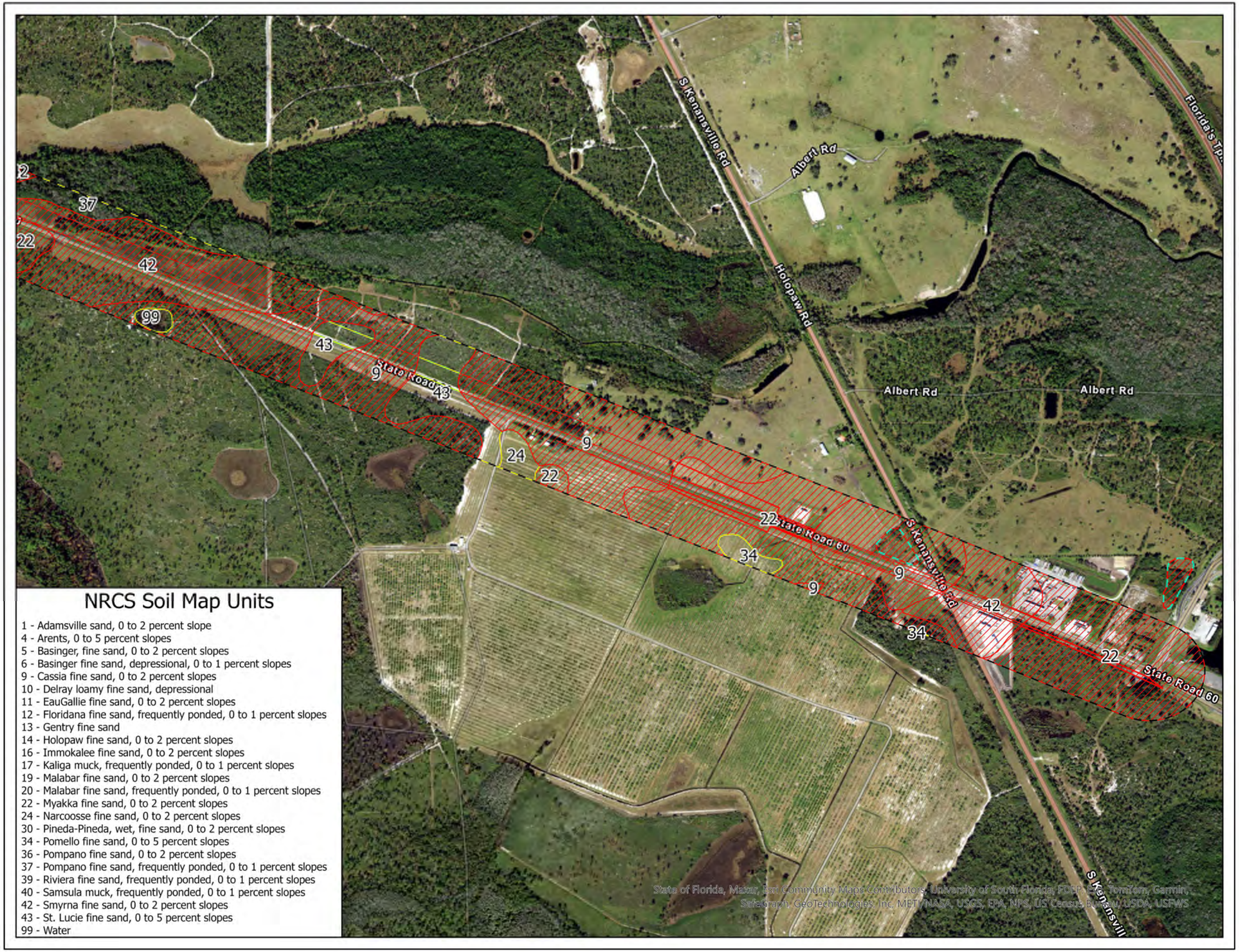
99 - Water

FDOT



NRCS Soil Map Units

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43 - St. Lucie fine sand, 0 to 5 percent slopes
99 - Water

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-9
Farmland Soils
(Part 9 of 9)

- SR 60 Study Area (500 foot Buffer)
- Proposed Alternative and Ponds ROW
- NRCS Soil
- Farmland of Unique Importance

Data Source: NRCS Osceola County Soil Survey
Spatial Reference: WGS 1984
Date: 6/19/2025

N

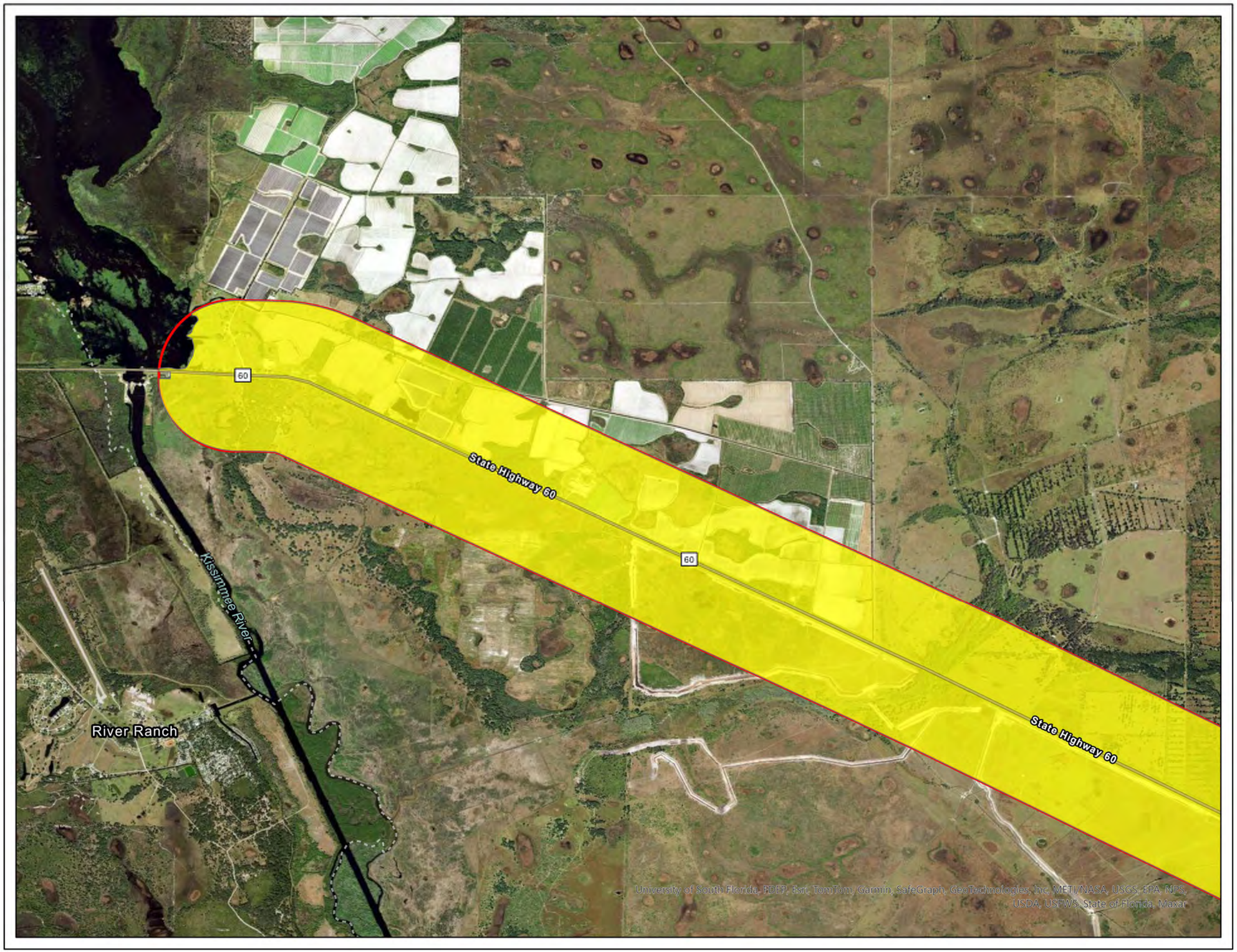
1 in = 0.18 mi when printed at 11x17"

0 0.09 0.18

Miles

FDOT

Appendix G – LAND USE MAPS



SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-4

Existing Land Use

(Part 1 of 3)

Osceola County Existing Land Use

- Agricultural
- Commercial
- Plan Commercial Development
- Plan Development
- Residential
- Rural
- Rural Settlement
- SR 60 Study Area (1/2 Mile Buffer)

Data Source: Osceola County Planning and Zoning GIS Data
Spatial Reference: WGS 1984
Date: 9/4/2025

N

1 in = 0.63 mi when printed at 11x17"

0 0.32 0.63

Miles

FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-4
Existing Land Use
(Part 2 of 3)

Osceola County Existing Land Use

- Agricultural
- Commercial
- Plan Commercial Development
- Plan Development
- Residential
- Rural
- Rural Settlement
- SR 60 Study Area (1/2 Mile Buffer)

Data Source: Osceola County Planning and Zoning GIS Data
Spatial Reference: WGS 1984
Date: 9/4/2025

N

1 in = 0.63 mi when printed at 11x17"

0 0.32 0.63

Miles

FDOT

SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 2-4
Existing Land Use
(Part 3 of 3)

Osceola County Existing Land Use

- Agricultural
- Commercial
- Plan Commercial Development
- Plan Development
- Residential
- Rural
- Rural Settlement
- SR 60 Study Area (1/2 Mile Buffer)

Data Source: Osceola County Planning and Zoning GIS Data
Spatial Reference: WGS 1984
Date: 9/4/2025

N

1 in = 0.63 mi when printed at 11x17"

0 0.32 0.63

Miles

FDOT

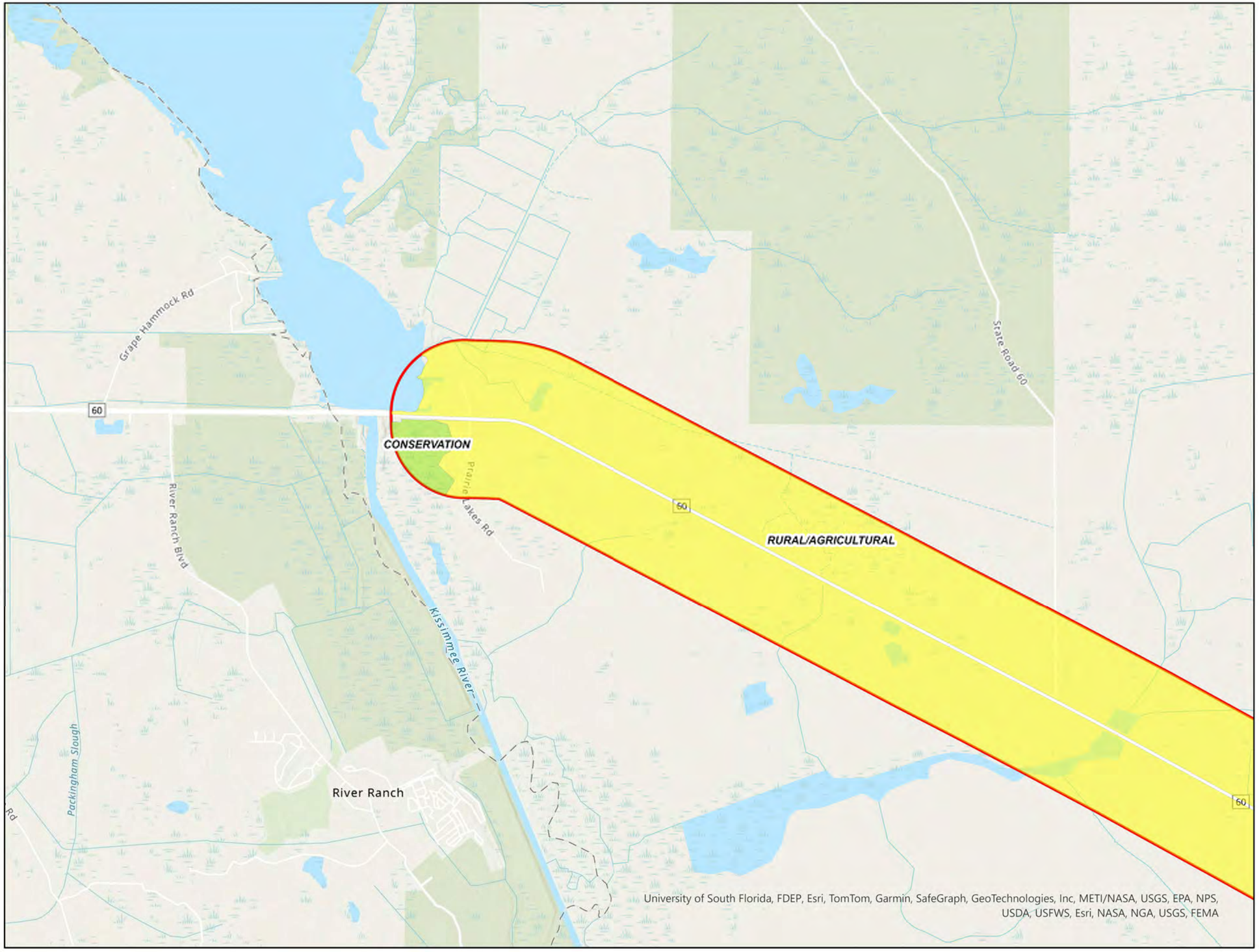
SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 3-2
Future Land Use

(Part 1 of 3)



Osceola County Future Land Use

- Commercial
- Conservation
- Mixed Use
- Rural Settlement
- Rural / Agricultural
- SR 60 Study Area (1/2 Mile Buffer)

Data Source: Osceola County Planning and Zoning GIS Data
Spatial Reference: WGS 1984
Date: 9/4/2025

N

1 in = 0.62 mi when printed at 11x17"

0 0.31 0.62

Miles

FDOT

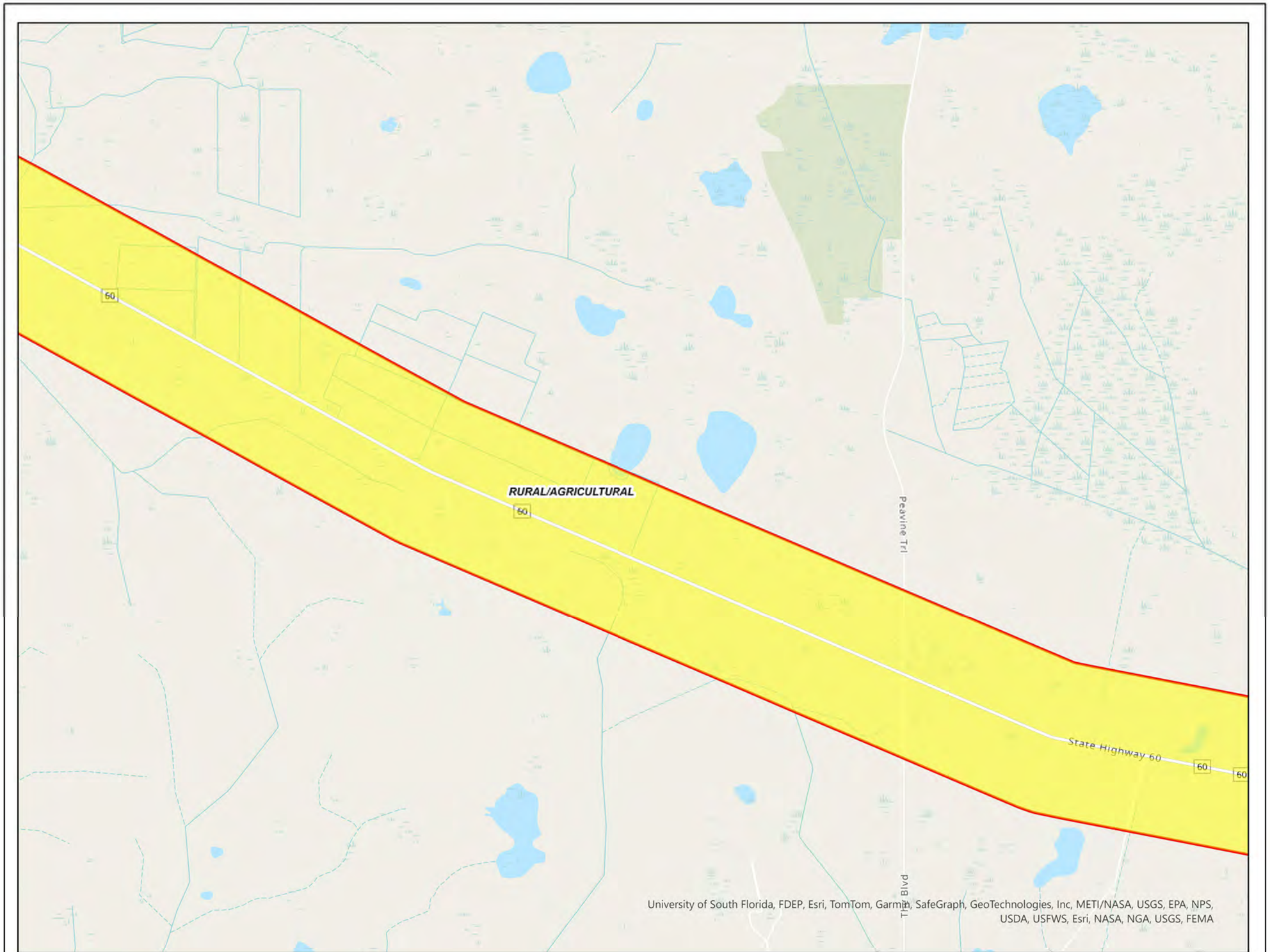
SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 3-2
Future Land Use

(Part 2 of 3)



Osceola County Future Land Use

- Commercial
- Conservation
- Mixed Use
- Rural Settlement
- Rural / Agricultural
- SR 60 Study Area (1/2 Mile Buffer)

Data Source: Osceola County Planning and Zoning GIS Data
Spatial Reference: WGS 1984
Date: 9/4/2025

N

1 in = 0.62 mi when printed at 11x17"

0 0.31 0.62

Miles

FDOT

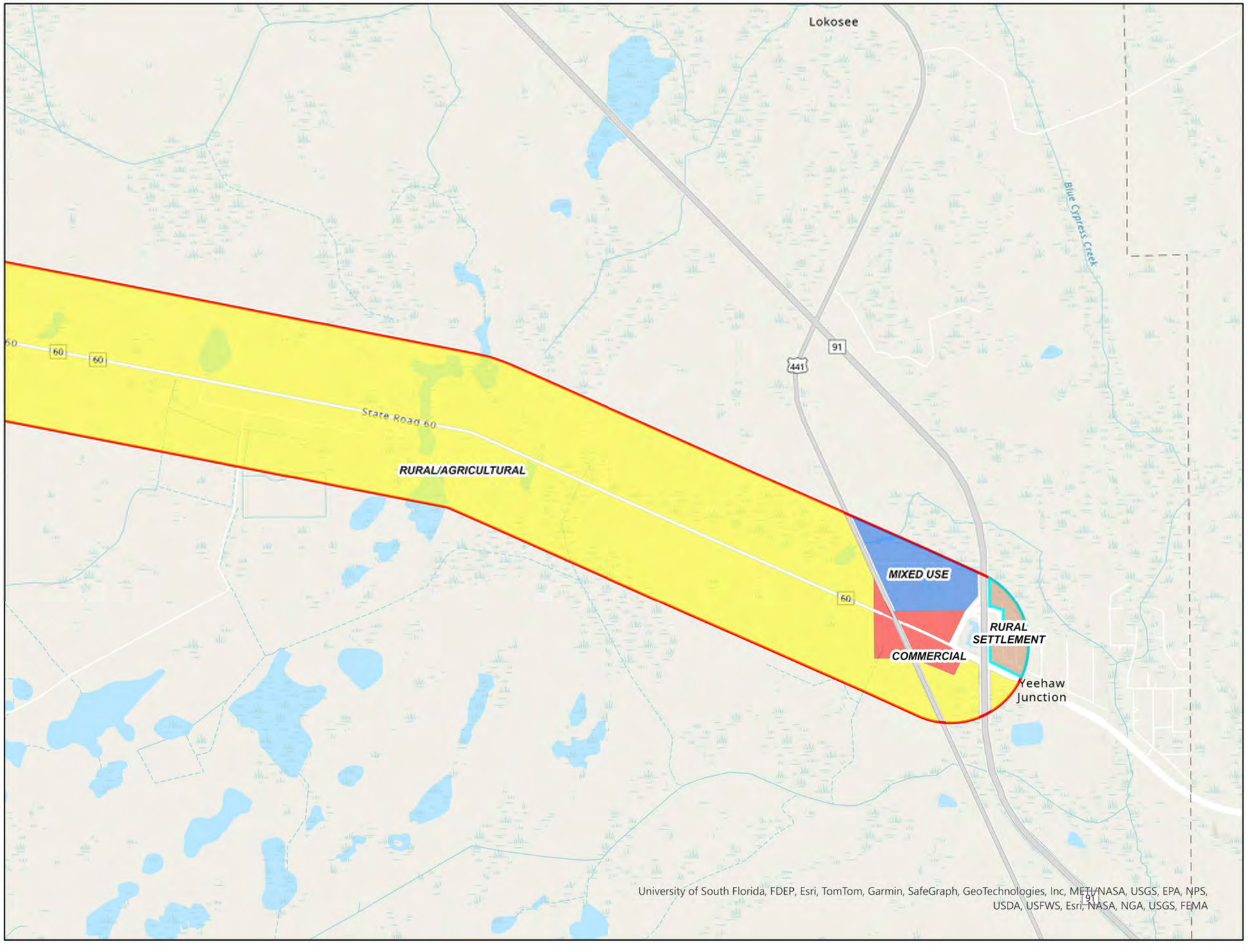
SR 60 from Prairie Lake Road to Florida's Turnpike

FM No. 452574-1-22-01

Osceola County, Florida

Figure 3-2
Future Land Use

(Part 2 of 3)



Osceola County Future Land Use

- Commercial
- Conservation
- Mixed Use
- Rural Settlement
- Rural / Agricultural
- SR 60 Study Area (1/2 Mile Buffer)

Data Source: Osceola County Planning and Zoning GIS Data
Spatial Reference: WGS 1984
Date: 9/4/2025

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Miles

FDOT