Draft Preliminary Engineering Report

US 301 (SR 41)

From Fowler Avenue to SR 56

Project Development & Environment (PD&E) Study

Florida Department of Transportation

District 7

Work Program Item Segment No. 255796-1

ETDM Project No. 14194

Hillsborough and Pasco Counties, Florida

July 2023

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Prepared for:

Florida Department of Transportation
District Seven

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District Seven is conducting a Project Development and Environment (PD&E) study along US Highway 301 (US 301)/State Road 41 (SR 41) in Hillsborough and Pasco Counties to evaluate alternative roadway improvements along the corridor. The study limits are from Fowler Avenue/SR 582 in Hillsborough County to SR 56 in Pasco County, a distance of approximately 13.1 miles. The study involves widening this section of US 301 from a two-lane undivided roadway to a four-lane divided roadway and includes pedestrian and bicycle accommodations. This study also includes intersection improvements and access management recommendations. The proposed improvements are anticipated to increase safety along this segment of US 301 for all users and enhance the functionality of this important regional freight route.

The PD&E study objectives include the following: determine proposed typical sections and develop preliminary conceptual design plans for the proposed improvements, while minimizing impacts to the environment; consider agency and public comments; and ensure project compliance with all applicable federal and state laws. Federal funds are not planned to be used for the project, so this study is being conducted in accordance with the FDOT PD&E Manual, Part 1, Chapter 10, which addresses non-federal projects. A State Environmental Impact Report (SEIR) is being prepared as the environmental document for this study. The proposed improvements will include construction of stormwater management facility (SMF) and floodplain compensation (FPC) sites.

This Preliminary Engineering Report (PER) was prepared to document the costs and impacts of widening this portion of US 301 from a two-lane undivided roadway to a four-lane divided roadway. This PER documents the decision-making process that was utilized to determine the location and conceptual design of the recommended improvements. This document includes summaries of the existing corridor conditions, future year traffic volumes and traffic operations, preliminary design criteria, alternatives analysis, mitigation issues, and preliminary construction costs. This document also includes a summary of the public involvement program that was conducted to obtain project stakeholder input.

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SECTION 1 INTRODUCTION

1.1 PD&E STUDY PURPOSE

The objective of this Project Development and Environment (PD&E) study is to assist the Florida Department of Transportation (FDOT) District Seven in reaching a decision on the type, location, and conceptual design of the proposed improvements for the widening of US 301 (SR 41) from Fowler Avenue to State Road (SR) 56, including stormwater management facilities (SMFs) and floodplain compensation (FPC) sites. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including proposed typical sections, preliminary horizontal alignments, and intersection enhancement alternatives.

Federal funds are not planned to be used for the project, so this study is being conducted in accordance with the FDOT PD&E Manual, Part 1, Chapter 10, which addresses non-federal projects. The PD&E study satisfies all applicable requirements for a state funded project, and a State Environmental Impact Report (SEIR) is the environmental document for the project. This project was screened through the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14194. The ETDM Final Programming Screen Summary Report was published on April 21, 2015, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources.

1.2 PROJECT PURPOSE AND NEED

The purpose of this project is to provide additional roadway capacity and improve safety on this portion of US 301 in unincorporated Hillsborough and Pasco Counties. US 301 is a major north-south roadway near the City of Temple Terrace at the southern project limit in Hillsborough County, and the City of Zephyrhills at the northern project limit in Pasco County. This roadway extends from the Sarasota-Bradenton-Venice Metropolitan Statistical Area to the Georgia state line northwest of Jacksonville, thus providing a regional route between the Tampa Bay area and Jacksonville/I-95 corridor. US 301 serves both regional and local travel and connects residential centers in the Temple Terrace and Zephyrhills areas with employment centers in the Tampa area. It provides regional connectivity with I-75, I-4, SR 56, SR 54, and SR 52. US 301 has been designated by both Hillsborough and Pasco Counties' Emergency Management as an emergency evacuation route. In addition to increasing capacity, this project will add or enhance the multimodal facilities in this corridor.

The proposed widening of this portion of US 301 is expected to have positive mobility impacts. The Hillsborough Transportation Planning Organization's (TPO) It's Time Hillsborough 2045 Long Range Transportation Plan (LRTP) socioeconomic projections (November 2019) contain both population and employment projections. These projections show Hillsborough County's population increasing from 1,292,800 to 2,006,200 (a 55% increase) between 2015 and 2045. Employment is projected to increase from 830,800 to 1,705,400 (a 105% increase) between 2015 and 2045, mostly within the urban service area. The Pasco Metropolitan Planning Organization's (MPO) Mobility 2045 LRTP (March 2020) also documents socioeconomic projections. These projections show Pasco County's population increasing from 487,588 to 795,600 (a 63% increase) between 2015 and 2045. Employment is projected to increase

from 157,500 to 266,592 (a 69% increase) between 2015 and 2045. Based on projected population and employment growth, the existing study corridor would experience failing levels of service in the future.

US 301 is a truck route that provides north-south access within eastern Hillsborough and Pasco Counties and connections to the surrounding Tampa Bay area. The daily truck percentage for this roadway ranges between 10.6% and 11.4%. There is no existing bus service within the study corridor; however, the Tampa Bay Area Regional Transportation Authority (TBARTA) Regional Transit Development Plan (adopted June 2020) shows future Regional Commuter Express Bus Service north of the project from SR 56 to Zephyrhills.

Safety within the US 301 corridor is also projected to improve with an increase in capacity and a corresponding reduction in congestion, as well as with the provision of a median, thereby reducing potential vehicle conflicts.

1.3 PROJECT DESCRIPTION

The proposed action involves widening US 301 from the existing two-lane undivided roadway to a four-lane divided roadway and includes pedestrian and bicycle accommodations. The project is located in both Hillsborough and Pasco Counties and is approximately 13.1 miles long. A project location map is provided in **Figure 1-1**.

The widening of the Hillsborough County portion of the study corridor (from north of Fowler Avenue to the County line) is not identified in the Hillsborough TPO's 2045 LRTP. The widening of the Pasco County portion of the study corridor (from the County line to SR 56) is not identified in the Pasco MPO's 2045 LRTP Cost Feasible Plan but is identified in the 2045 Needs Plan.

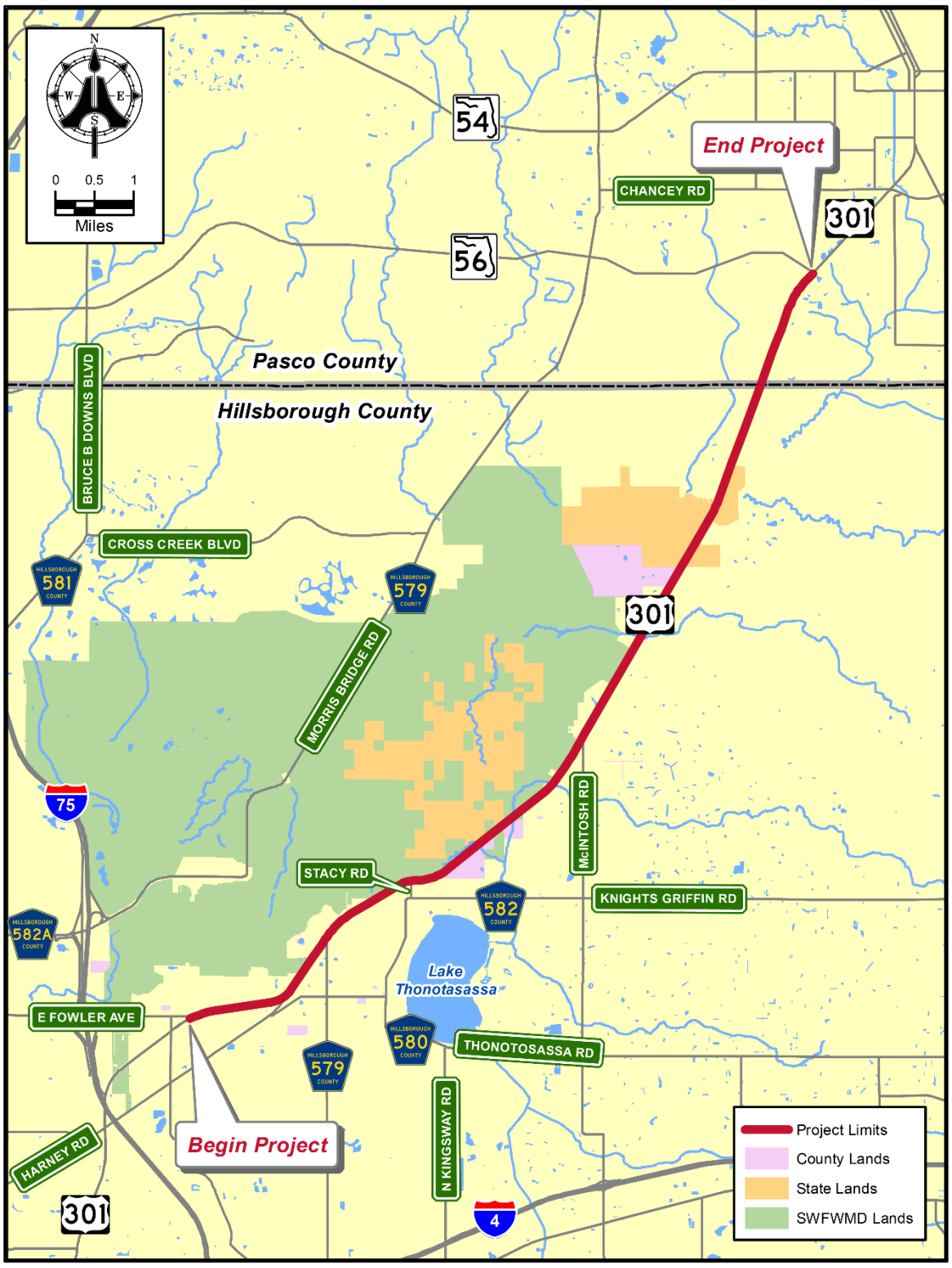

Figure 1-1 Project Location Map

1.4 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

1.4.1 Existing Facility

The existing US 301 roadway has a two-lane undivided rural typical section from Fowler Avenue to SR 56. The roadway is functionally classified by FDOT as an Urban Other Principal Arterial from Fowler Avenue to just north of CR 579 (Mango Road) and from the County line to SR 56. The remaining portion of the project is classified as a Rural Other Principal Arterial. The posted speed limits within the study corridor are 50 mph (mph) from Fowler Avenue to Jackson Road, 55 miles per hour from Jackson Road to Flint Creek, 60 mph from Flint Creek to Rapid River Boulevard, and 55 mph from Rapid River Boulevard to SR 56.

The existing typical section consists of one 12-foot travel lane and a 5-foot paved outside shoulder in each direction, along with a 2.2-mile, variable width, shared-use path (known as the Old Fort King Trail) located on the east side of US 301 beginning just north of Stacy Road. The shared use path crosses US 301 at two locations. Drainage is collected in roadside ditches and swales and is ultimately conveyed to the Hillsborough River. The existing right-of-way (ROW) width ranges from 100 feet to 200 feet. The existing typical section is illustrated in **Figure 1-2**.

There are also eight structures located within the study corridor. Five of the structures are roadway bridges or bridge culverts located over rivers/streams/creeks including Flint Creek, Flint Creek Relief, Holloman's Branch, Two Holes Branch and the Hillsborough River. The Old Fort King Trail also has three pedestrian bridges over Flint Creek, Flint Creek Relief and Holloman's Branch.

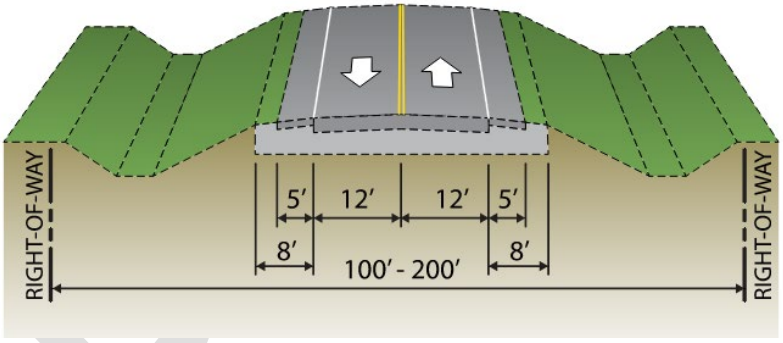

Figure 1-2 Existing Roadway Typical Section

1.4.2 Proposed Improvements

The proposed Build Alternative is composed of two typical sections. An urban typical section with a target/design speed of 45 mph is proposed from Fowler Avenue to Stacy Road. This typical section has two 11-foot travel lanes in each direction, a 30-foot raised median including 4-foot paved inside shoulders, and 7-foot buffered bike lanes in each direction. This typical section also includes a 6-foot sidewalk on the east side of the roadway and a 12-foot shared use path on the west side of the roadway, as illustrated in **Figure 1-3**. The proposed typical section ROW width varies from 151 feet to 200 feet.

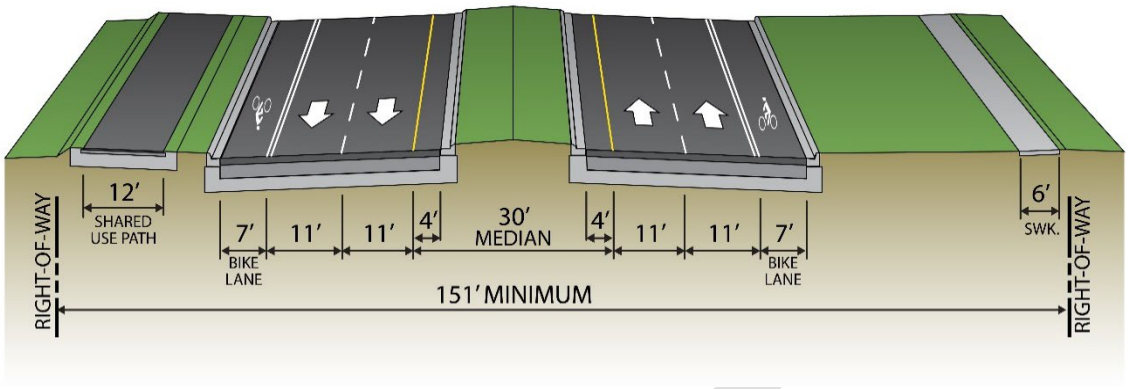

Figure 1-3 Proposed Urban Typical Section
Fowler Ave to Stacy Road

A suburban typical section with a target/design speed of 55 mph is proposed from Stacy Road to SR 56. This typical section has two 12-foot travel lanes in each direction, a 30-ft raised median including 4-foot paved inside shoulders, and 10-foot outside shoulders (5-foot paved). This typical section also includes a 6-foot sidewalk on the east side of the roadway and a 12-foot shared use path on the west side of the roadway, as illustrated in **Figure 1-4**. The proposed typical section ROW width varies from 192 feet to 230 feet. Wherever possible, pavement savings will be achieved by converting the existing two-lane roadway to southbound only operation. The proposed typical section package is provided in **Appendix B.**

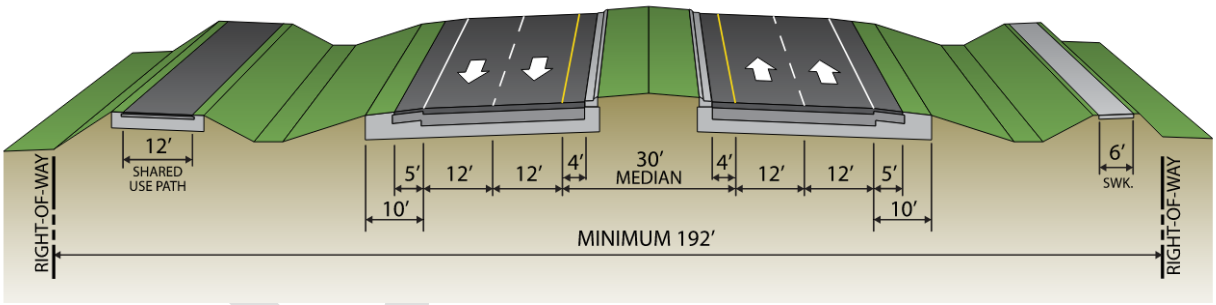

Figure 1-4 Proposed Suburban Typical Section
Stacy Road to SR 56

1.5 COMMITMENTS

To be determined prior to completion of the PD&E study.

1.6 LISTING OF TECHNICAL DOCUMENTS

The technical documents prepared in support of this study are listed below in **Table 1-1**. The technical documents can be accessed online at the following website address:

https://active.fdotd7studies.com/us301/fowler-to-sr56/

Table 1-1 Technical Documents

Technical Document
Public Hearing Transcript
Advance Notification Package
Public Involvement Plan
Comments and Coordination Report
Design Traffic Technical Memorandum
Location Hydraulic Report
Preliminary Stormwater Management Facility Report
State Environmental Impact Report
Conceptual Stage Relocation Plan
Contamination Screening Evaluation Report
Cultural Resource Assessment Survey
Cultural Resource Assessment Survey Addendum Technical Memorandum
Natural Resources Evaluation
Noise Study Report
Water Quality Impact Evaluation

SECTION 2 EXISTING CONDITIONS

2.1 ROADWAY

The US 301 roadway is a two-lane undivided roadway from north of Fowler Avenue to SR 56. The existing typical section consists of two 12-foot travel lanes (one in each direction) and 5-foot paved outside shoulders. The existing roadway typical section is depicted in **Figure 2-1**. Stormwater runoff is collected in roadside ditches and swales and is ultimately conveyed to the Hillsborough River. There are also eight structures within the study corridor. Five of the structures are roadway bridges or bridge culverts, and the other three are pedestrian bridges that are located on the Old Fort King Trail.

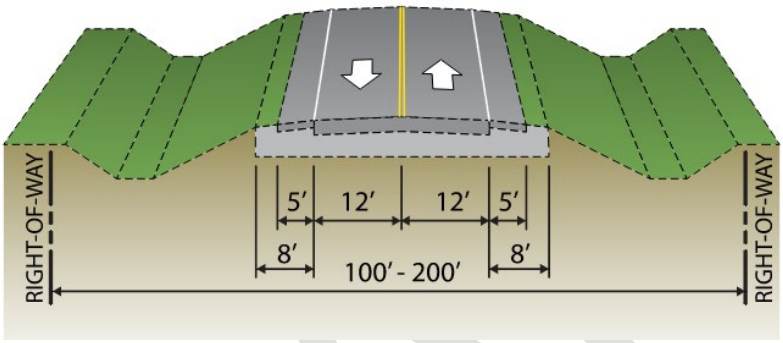

Figure 2-1 Existing Roadway Typical Section

2.2 RIGHT-OF-WAY

The existing ROW information was obtained from FDOT right-of-way maps and property appraiser maps from Hillsborough and Pasco Counties. The existing ROW width ranges from 100 feet to 200 feet, as depicted in the concept plans included in **Appendix A**.

2.3 ROADWAY CLASSIFICATION AND CONTEXT CLASSIFICATION

The portions of US 301 from Fowler Avenue to just south of Stacy Road and from the Hillsborough/Pasco County line to SR 56 are functionally classified as Urban Principal Arterial Other, while the portion from just south of Stacy Road to the Hillsborough/Pasco County line is functionally classified as Rural Principal Arterial Other. The existing context classifications for the study corridor are summarized in **Table 2-1**.

Table 2-1 Existing Context Classification

From			To			Context Classification
Roadway No.	Milepost No.	Location	Roadway No.	Milepost No.	Location	
10260000	4.597	Fowler Avenue	10260000	5.947	Harney Road	C3R (Suburban Residential)
10210000	0.000	Harney Road	10210000	2.153	Stacy Road	C3C (Suburban Commercial)
10210000	2.153	Stacy Road	10210000	5.080	South of McIntosh Road	C1 (Natural)
10210000	5.080	South of McIntosh Road	10210000	7.541	North of Model Dairy Road	C2 (Rural)
10210000	7.541	North of Model Dairy Road	10210000	8.587	South of the Hillsborough River	C1 (Natural)
10210000	8.587	South of the Hillsborough River	10210000	10.145	Hillsborough/Pasco County Line	C2 (Rural)
14050000	0.000	Hillsborough/Pasco County Line	14050000	1.612	SR 56	C2 (Rural)

2.4 ADJACENT LAND USE

The predominant land uses in the portion of US 301 from Fowler Avenue to CR 579 include single family residential, mobile home communities, commercial, and light industrial. The predominant land uses from CR 579 to Stacy Road are commercial and light industrial. John B. Sargeant Wilderness Park is located on the west side of US 301 both south and north of Stacy Road. The predominant land uses from north of Stacy Road to SR 56 consist of Hillsborough River State Park, isolated single family residential, and undeveloped land. The Hillsborough County Public Works Countywide Construction facility is also located on the east side of US 301 north of Stacy Road.

2.5 ACCESS MANAGEMENT CLASSIFICATION

Although the study corridor is a two-lane undivided roadway, the existing access management classification is Access Class 3. The spacing standards for Access Class 3 are as follows:

- Directional median opening - 1,320 feet
- Full median opening - 2,640 feet
- Signalized intersection - 2,640 feet
- Driveway connection - 660 feet

2.6 DESIGN AND POSTED SPEEDS

US 301 has an existing design speed of 65 mph. The posted speeds are summarized in **Table 2-2**.

Table 2-2 Existing Posted Speed Limits

From			To			Posted Speed
Roadway No.	Milepost No.	Location	Roadway No.	Milepost No.	Location	
10260000	4.597	Fowler Avenue	10260000	5.244	0.13 Miles South of Jackson Road	50 mph
10260000	5.244	0.13 Miles South of Jackson Road	10210000	3.099	0.06 miles South of Flint Creek Bridge	55 mph
10210000	3.099	0.06 miles South of Flint Creek Bridge	14050000	0.714	0.25 Miles North of Rapid River Boulevard	60 mph
14050000	0.714	0.25 Miles North of Rapid River Boulevard	14050000	1.612	SR 56	55 mph

2.7 VERTICAL AND HORIZONTAL ALIGNMENT

There are nine horizontal curves within the project limits. The degree of horizontal curvature ranges from 0° 30' 00" to 3° 00' 00". The existing horizontal alignment is summarized in **Table 2-3**. The topography of the project area consists of rolling terrain and roadway elevations range from a low of 37 feet to a high of 68 feet based on the North American Vertical Datum of 1988 (NAVD 88).

Table 2-3 Existing Horizontal Alignment

Baseline PI Station	Bearing		Degree of Curvature	Radius (ft)	Length (ft)
	Back	Ahead			
345+37.07	N 52° 39' 59" E	N 81° 31' 19" E	1° 00' 00"	5,729.58	2,885.56
406+39.79	N 81° 31' 19" E	N 34° 26' 29.72" E	3° 00' 00"	1,909.86	1,569.35
470+47.65	N 34° 26' 29.72" E	N 59° 26' 29.72" E	1° 00' 00"	5,729.58	2,500.00
524+13.63	N 59° 26' 29.72" E	N 88° 51' 32.26" E	2° 50' 00"	2,022.20	1,038.26
542+21.19	N 88° 51' 32.26" E	N 51° 34' 32.26" E	1° 50' 00"	3,125.22	2,033.64
640+53.42	N 51° 34' 32.26" E	N 37° 56' 58.06" E	1° 03' 21.34"	5,426.10	1,290.44
657+18.08	N 37° 56' 58.06" E	N 30° 03' 28.33" E	0° 30' 00"	11,459.16	1,578.32
860+51.62	N 30° 03' 28.33" E	N 20° 15' 40.52" E	2° 30' 00"	2,291.83	391.86
1015+46.89	N 20° 15' 40.52" E	N 42° 39' 01.10" E	0° 58' 30"	5,876.49	2,296.31

2.8 PEDESTRIAN ACCOMMODATION

A sidewalk is located on the east side of US 301 from Fowler Avenue to just south of Tom Folsom Road. A sidewalk is located on the west side of US 301 from Fowler Avenue to Bradley Road. A small discontinuous piece of sidewalk also exists on the west side of US 301 in front of the CC&D Systems facility. There are existing marked crosswalks on the south and west legs of the Fowler Avenue

intersection, as well as on the north, east, and west legs of the E. Fowler Avenue/Rockhill Road intersection. Marked crosswalks also currently exist on the west leg of the Tom Folsom Road intersection and on all four legs of the SR 56 intersection.

The Old Fort King Trail extends from John B. Sargeant Wilderness Park to Dead River Road. The portion of the trail that runs parallel to US 301 is approximately 2.2 miles in length and the width of the trail varies from 12 feet to 22 feet. The trail starts on the west side of US 301 and crosses US 301 approximately 640 feet north of the entrance to the park. The trail then continues on the east side of US 301 until it crosses back over US 301 approximately 935 feet north of the Cherry Tree Lane intersection. There are marked crosswalks at both locations where the trail crosses US 301. In addition, there are trail crossing warning signs at both locations with pedestrian/bicyclist activated flashing beacons.

2.9 BICYCLE FACILITIES

Designated bicycle lanes are provided on US 301 from Fowler Avenue to Bradley Road. The width of these lanes varies from five feet to seven feet.

2.10 TRANSIT FACILITIES

There is no existing transit service provided within the study corridor and therefore, there are no transit facilities.

2.11 PAVEMENT CONDITIONS

According to the FDOT Pavement Condition Report (dated 2/22/2023), the US 301 pavement has cracking values that range from 4.5 to 8.5 throughout the study corridor. In addition, the ride values range from 7.3 to 7.9. The portion of US 301 from approximately 0.60 miles south of McIntosh Road to the Hillsborough/Pasco County line has a cracking value of 4.5 and is considered to be deficient.

2.12 TRAFFIC VOLUMES AND OPERATIONAL CONDITIONS

A traffic count program was conducted during the months of June and July in 2015. Seventy-two (72) hour bi-directional volume counts were conducted at 15 locations (including the cross streets) during the period from June 9th through June 11th. The 2015 Annual Average Daily Traffic (AADT) volumes were calculated by multiplying the 72-hour count data by seasonal and axle adjustment factors obtained from the Florida Traffic Online website. **Figure 2-2** illustrates the 2015 AADT volumes for the study corridor. The 2015 AADT volumes on US 301 range from 11,600 vehicles per day (vpd) to 18,400 vpd. The existing daily truck percentages range between 10.6% and 11.4%.

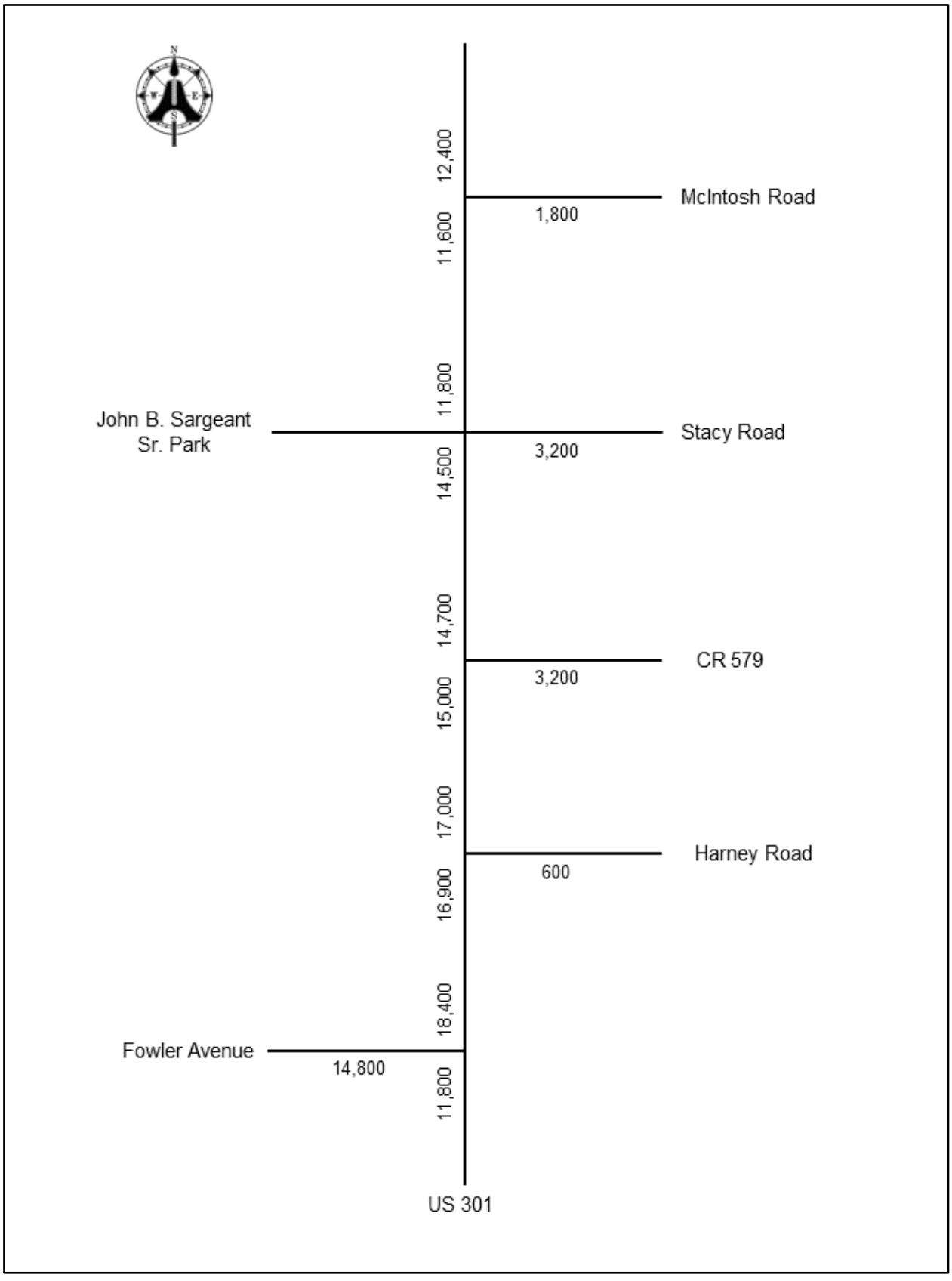

Figure 2-2 Existing (2015) AADT Volumes

Eight-hour manual turning movement counts were conducted at the following five study intersections:

- Fowler Avenue
- Harney Road
- CR 579
- Stacy Road
- McIntosh Road

The Fowler Avenue intersection is a signalized intersection while the other four intersections are unsignalized. The Stacy Road intersection is a four-legged intersection and the other four intersections are T-intersections. Although Stacy Road is a four-legged intersection, the west leg serves as the entrance to John B. Sargeant Wilderness Park. The manual turning movement counts were conducted between June 30th and July 2nd within the hours of 6:00 a.m. to 9:00 a.m. and 2:00 p.m. to 7:00 p.m.

Heavy vehicles (i.e., trucks and buses), bicyclists, and pedestrians were counted in addition to passenger vehicles. **Figure 2-3** illustrates the 2015 a.m. and p.m. peak hour volumes for the study corridor. Pedestrian and bicycle crossing volumes at these intersections were extremely low. There were a total of six pedestrians and nine bicyclists crossing these five intersections. Transit service is not currently provided within the study corridor.

The study corridor was subdivided into five roadway segments and these segments were analyzed using the *Highway Capacity Manual* software (HCS). **Table 2-4** summarizes the results of the two-lane highway segment analyses. This table includes the peak hour volumes, percentage of the free flow speeds, percent "time-spent-following" and levels of service for both travel directions. The percentage of the free flow speed represents the ability of vehicles to travel at or near the posted speed limit while the percent time-spent-following represents the average percentage of the time that vehicles must travel in platoons behind slower vehicles due to the inability to pass. **Table 2-4** indicates that all five roadway segments were operating at Level of Service E (LOS E) in the peak travel direction during both peak hours.

Unsignalized and signalized intersection analyses were also conducted using the HCS. **Table 2-5** summarizes the peak hour intersection analysis results. This table includes volume-to-capacity ratios, average vehicle delays and levels of service. All of the unsignalized northbound and southbound US 301 left-turn movements were operating at LOS B or better during both peak hours. In the a.m. peak hour, the following stop-controlled cross street movements were operating at LOS F:

- Westbound left-turn movement at the CR 579 intersection
- Westbound left-turn, through and right-turn movements at the Stacy Road intersection

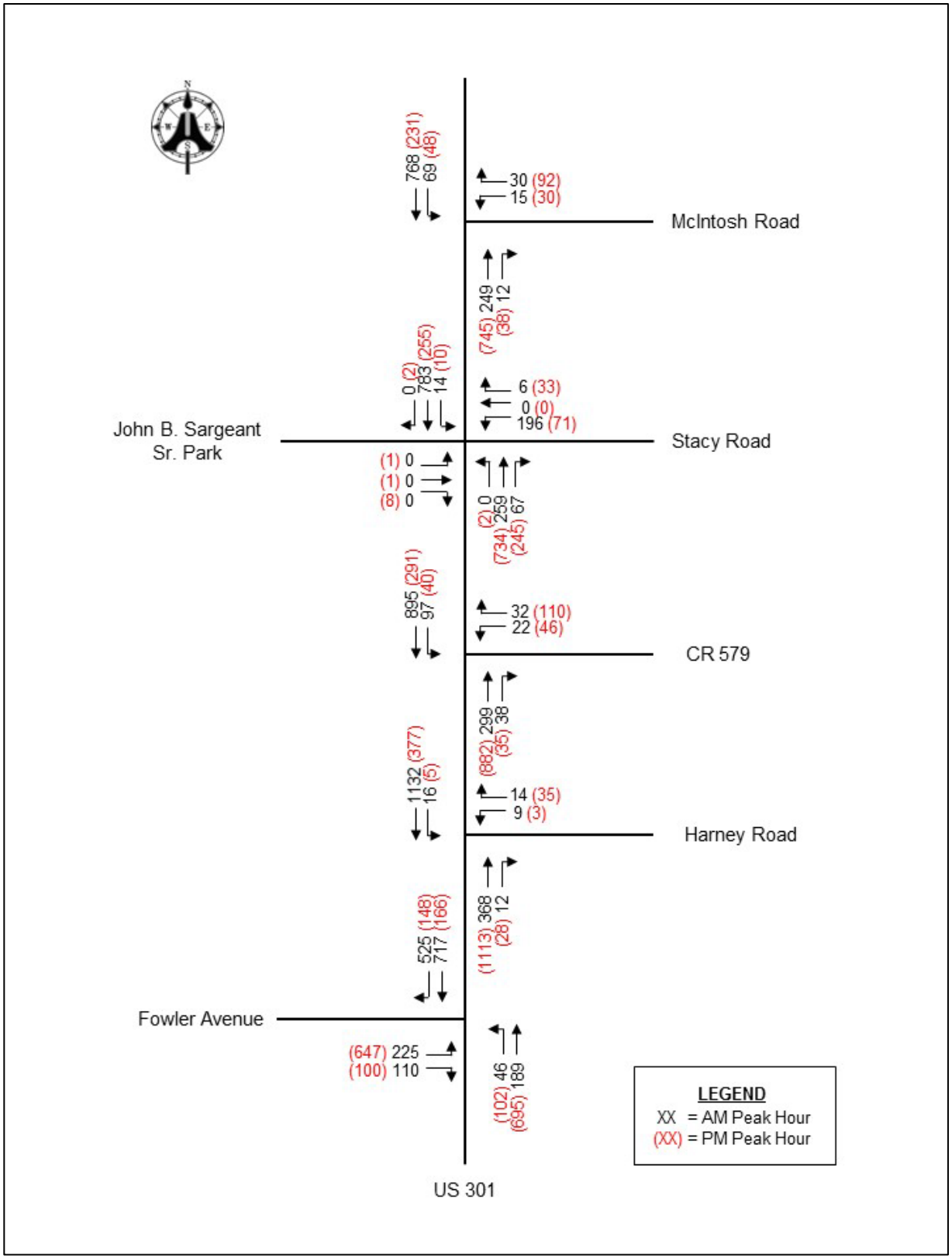

Figure 2-3 Existing (2015) Peak Hour Volumes

Table 2-4 Existing (2015) Peak Hour Roadway Segment Operations

Roadway Segment	Direction	AM Peak Hour				PM Peak Hour			
		Volume	PFFS[1]	PTSF[2]	LOS[3]	Volume	PFFS[1]	PTSF[2]	LOS[3]
Between Fowler Avenue and Harney Road	NB	397	71.3%	61.9%	E	1242	70.7%	90.6%	E
	SB	1192	70.0%	91.6%	E	347	72.3%	56.5%	E
Between Harney Road and CR 579	NB	360	73.5%	60.2%	E	1033	71.2%	93.7%	E
	SB	1033	70.4%	94.4%	E	360	74.4%	59.1%	E
Between CR 579 and Stacy Road	NB	329	76.3%	55.8%	D	986	74.0%	87.5%	E
	SB	986	74.0%	88.6%	E	329	77.2%	54.1%	D
Between Stacy Road and McIntosh Road	NB	263	81.8%	48.6%	C	775	79.4%	83.8%	E
	SB	790	78.6%	85.6%	E	263	82.6%	47.3%	C
Between McIntosh Road and SR 56	NB	279	80.9%	50.0%	C	837	78.6%	85.0%	E
	SB	837	78.0%	84.8%	E	279	81.6%	48.5%	C

[1] Percent Free Flow Speed
[2] Percent Time-Spent-Following
[3] Level of Service

Table 2-5 Existing (2015) Peak Hour Intersection Operations

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C[1]	Delay[2]	LOS[3]	V/C[1]	Delay[2]	LOS[3]
Fowler Avenue (Signalized)	NB	LT	0.40	43.3	D	0.20	15.1	B
	NB	TH	0.26	12.1	B	0.87	28.9	C
	SB	TH	0.91	32.4	C	0.21	12.1	B
	EB	LT	0.50	24.2	C	1.29	173.6	F
	EB	RT	0.28	22.1	C	0.23	21.1	C
	Overall Intersection		N/A	27.5	C	N/A	80.7	F
Harney Road (Unsignalized)	SB	LT	0.02	8.3	A	0.01	11.9	B
	WB	LT/RT	0.15	30.1	D	0.22	29.2	D
CR 579 (Unsignalized)	SB	LT	0.10	8.5	A	0.07	10.9	B
	WB	LT	0.27	57.4	F	0.37	44.7	E
	WB	RT	0.06	10.8	B	0.42	25.8	D
Stacy Road (Unsignalized)	NB	LT	0.00	0.0	A	0.00	7.8	A
	SB	LT	0.01	8.1	A	0.02	10.9	B
	WB	LT/TH/RT	1.59	349.0	F	0.57	44.0	E
	EB	LT/TH/RT	0.00	0.0	A	0.03	14.3	B
McIntosh Road (Unsignalized)	SB	LT	0.07	8.1	A	0.07	10.2	B
	WB	LT/RT	0.16	18.3	C	0.49	29.4	D

[1] Volume-to-Capacity Ratio
[2] Average Delay (in seconds/vehicle)
[3] Level of Service

All of the other stop-controlled cross street movements were operating at LOS D or better during the a.m. peak hour. In the p.m. peak hour, all of the stop-controlled cross street movements were operating at LOS E or better. All of the signal controlled movements at the Fowler Avenue intersection were operating at LOS D or better during the a.m. peak hour. In the p.m. peak hour, one movement (the eastbound left-turn) was operating at LOS F, while all of the other movements were operating at LOS C or better. It should be noted that the intersection geometry that was analyzed at the Fowler Avenue intersection reflected the geometry that was present in 2015 when the traffic counts were conducted. Since that time, this intersection has been improved as part of the US 301 widening project from south of the Tampa Bypass Canal to north of Fowler Avenue.

2.13 INTERSECTION LAYOUT AND TRAFFIC CONTROL

The five primary intersections in the study corridor consist of the following:

- Fowler Avenue
- Harney Road
- CR 579
- Stacy Road
- McIntosh Road

The Fowler Avenue intersection is a signalized T-intersection with Fowler Avenue being on the west side of US 301. The Harney Road, CR 579 and McIntosh Road intersections are unsignalized T-intersections and these cross streets are on the east side of US 301. Stacy Road is an unsignalized four-legged intersection. Stacy Road is on the east side of US 301 and the entrance to John B. Sargeant Wilderness Park is on the west side. The intersection lane geometries are illustrated in **Figure 2-4.** The SR 56 signalized intersection is not included in this PD&E study.

2.14 RAILROAD CROSSINGS

There are no railroad crossings within the study corridor.

2.15 CRASH DATA AND SAFETY ANALYSIS

Crash data from the FDOT Crash Analysis Reporting System (CARS) database was obtained for the five-year period from January 1, 2015, through December 31, 2019. This historic crash data was analyzed to identify the characteristics of the crashes that occurred within the study corridor. A total of 464 crashes occurred during this five-year time period and these crashes resulted in 16 fatalities and 338 injuries. **Table 2-6** summarizes the number of crashes, fatalities, and injuries that occurred during each of the five years. Approximately 51.5% of the total crashes involved fatalities and injuries.

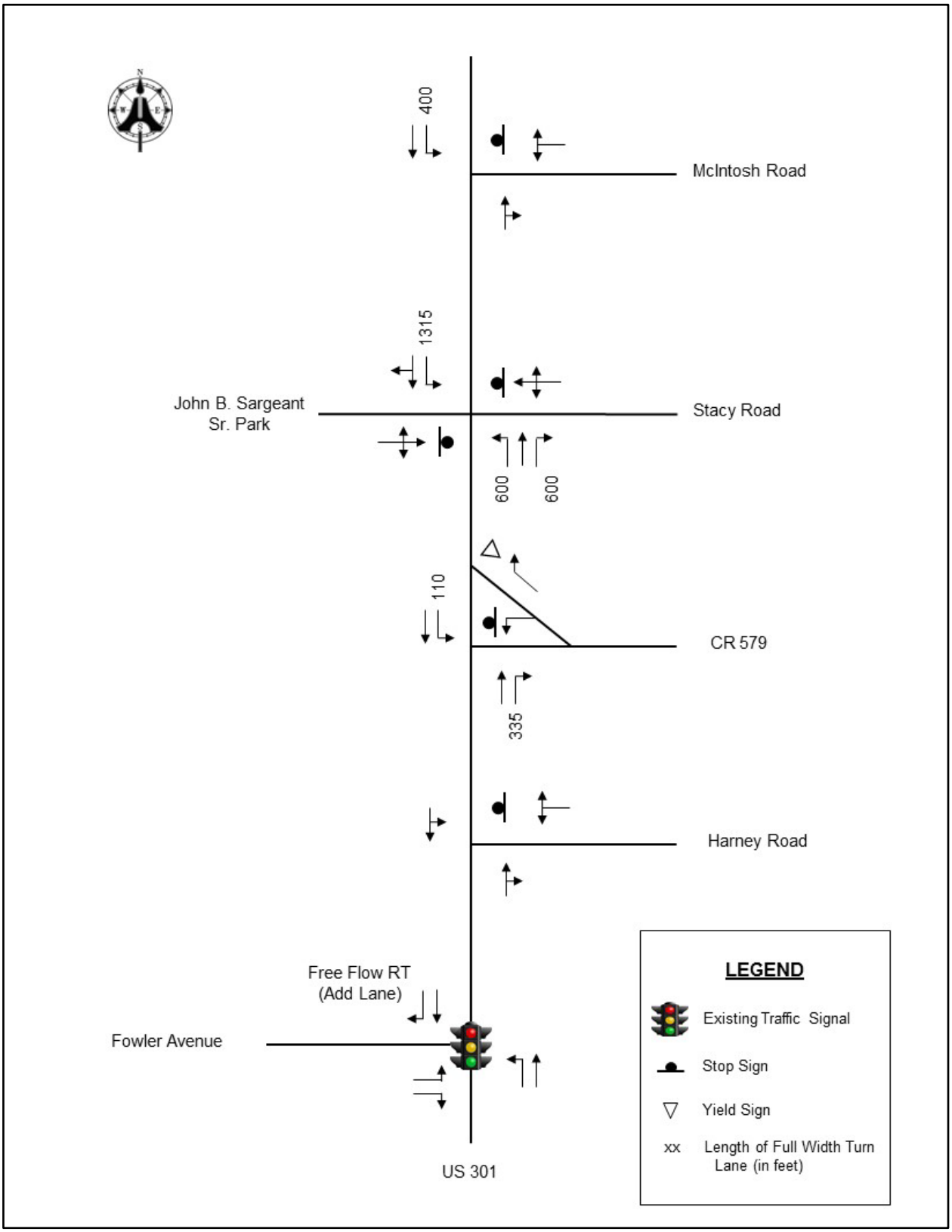

Figure 2-4 Existing (2015) Intersection Lane Configurations

Table 2-6 Total Number of Crashes, Fatalities, and Injuries (2015-2019)

Year	No. of Crashes	No. of Fatality Crashes	No. of Injury Only Crashes	No. of Property Damage Only Crashes	No. of Fatalities	No. of Injuries
2015	101	2	39	60	2	57
2016	92	2	51	39	5	85
2017	63	3	33	27	3	47
2018	95	1	52	42	1	69
2019	113	4	52	57	5	80
Total	**464**	**12**	**227**	**225**	**16**	**338**

Table 2-7 summarizes the lighting, weather, and roadway surface conditions that were present at the time of the crashes. A review of this table indicates that a majority of the crashes occurred during daylight hours (approximately 64.7%), clear or cloudy conditions (approximately 91.4%) and on dry pavement conditions (approximately 87.1%); therefore, a majority of the crashes were not influenced by poor visibility and/or slippery roadway surface conditions. However, there were 92 crashes (approximately 19.8% of the total) that occurred during dark unlighted conditions.

Table 2-7 Crash Conditions (2015-2019)

Lighting Condition	No. of Crashes	% of Total Crashes
Daylight	300	64.66%
Dark - Not Lighted	92	19.83%
Dark - Lighted	32	6.90%
Dusk	22	4.74%
Dawn	17	3.66%
Other	1	0.22%
Total	**464**	**100.00%**
Weather Condition	**No. of Crashes**	**% of Total Crashes**
Clear	338	72.84%
Cloudy	86	18.53%
Rain	36	7.76%
Fog	4	0.86%
Total	**464**	**100.00%**
Road Surface Condition	**No. of Crashes**	**% of Total Crashes**
Dry	404	87.07%
Wet	60	12.93%
Total	**464**	**100.00%**

The types of crashes that occurred on US 301 are summarized in **Table 2-8**. Approximately 36.2% of the crashes involved rear-end crashes (168) and approximately 24.6% involved angle, left-turn or right-turn crashes (114). These types of crashes are typically associated with intersections. Seventy-seven crashes (approximately 16.6%) involved roadway departure crashes. These included vehicles hitting fixed objects adjacent to the travel lanes (44 crashes), rollover crashes (23) and vehicles running into ditches (10). Twenty-five crashes (approximately 5.4%) involved sideswipe crashes and 24 crashes (approximately 5.2%) involved head-on crashes. These crashes were likely influenced by the undivided nature of the roadway.

Table 2-8 Crash Types (2015-2019)

Crash Type	No. of Crashes	% of Total Crashes
Rear-End	168	36.21%
Angle/Left-Turn/Right-Turn	114	24.57%
Hit Fixed Object (1)	44	9.48%
Head-On	24	5.17%
Rollover	23	4.96%
Sideswipe	25	5.39%
Hit Animal	8	1.72%
Ran into Ditch	10	2.16%
U-Turn	2	0.43%
Shifting Cargo	5	1.08%
Hit Pedestrian	5	1.08%
Fire/Explosion	1	0.22%
Unknown	5	1.08%
Other	30	6.47%
Total	**464**	**100.00%**

(1) Includes utility poles, sign supports, fences, trees, guardrail, and mailboxes.

There were also five reported pedestrian crashes, and these occurred at the following locations:

- 1,320 feet north of the Stacy Road intersection (a fatality in 2015)
- 102 feet north of the Ranch Oaks Estates Entrance (in 2016)
- 259 feet south of the Franklin Road intersection (in 2016)
- 201 feet north of Elyssa Lane (in 2018)
- 1,188 feet north of Model Dairy Road (a fatality in 2019)

Four of the five pedestrian crashes occurred during dark unlighted conditions, while the fifth occurred at dawn. **Figure 2-9** summarizes the locations of the crashes that occurred within the study corridor. The four highest crash locations are Fowler Avenue (50 crashes), Harney Road (49 crashes), Jackson Road (31 crashes) and Ohio Avenue (28 crashes). These four intersections accounted for approximately 34.1% of the total crashes. It should be noted that for the purpose of this study, any crash that occurred

within 300 feet of a specific intersection was assumed to be influenced by the intersection. **Figure 2-9** also indicates that approximately 39.0% of the total crashes occurred at non-intersection locations.

Table 2-9 Crash Locations (2015-2019)

Location (1)	No. of Crashes	% of Total Crashes
Fowler Avenue	50	10.78%
Harney Road	49	10.56%
Jackson Road	31	6.68%
Ohio Avenue	28	6.03%
E. Fowler Avenue/Rockhill Road	16	3.45%
McIntosh Road	15	3.23%
Stacy Road	14	3.02%
Elyssa Lane	8	1.72%
CR 579 (Mango Road)	7	1.51%
SR 56	7	1.51%
Bradley Road	7	1.51%
Ranch Oaks Estates Entrance	6	1.29%
Tampa Machinery Auction Entrance	5	1.08%
Franklin Road	5	1.08%
Lankshaw Drive	5	1.08%
Cherry Tree Lane	5	1.08%
St. Francis Lane	4	0.86%
Dead River Road	4	0.86%
Tom Folsom Road	3	0.65%
Florence Avenue	3	0.65%
Model Dairy Road	2	0.43%
Ranch Road	2	0.43%
Avery Road	2	0.43%
Rapid River Boulevard	2	0.43%
Palm Tree Drive	1	0.22%
Hillsborough/Pasco County Line	1	0.22%
WP Lane	1	0.22%
Subtotal	**283**	**60.99%**
Other Unnamed Locations	181	39.01%
Total	**464**	**100.00%**

(1) Within 300 feet of the specific location

Table 2-10 summarizes the US 301 roadway segment crash rates that were calculated based on the 2015 AADT volumes. The crash rates range from approximately 0.50 crashes per million vehicle-miles of travel (VMT) to 2.42 crashes per million VMT **Table 2-10** also contains the statewide average crash

rates for suburban and rural two-lane undivided roadways. Two of the five roadway segments analyzed have 2015 crash rates that exceed the statewide average.

Table 2-10 Roadway Segment Crash Rates (2015-2019)

Milepost		Length (in miles)	Classification	Total No. of Crashes	Crash Rate (crashes per million vehicle-miles)	
From	To				Actual	Statewide Average
4.654	5.811	1.157	15-Suburban 2-3 Lanes Undivided	18	2.415	1.233
5.925	5.947	0.773	15-Suburban 2-3 Lanes Undivided	5	1.108	1.233
0.000	0.751					
0.865	2.096	1.231	15-Suburban 2-3 Lanes Undivided	11	1.677	1.233
2.210	5.039	2.829	18-Rural 2-3 Lanes Undivided	6	0.497	0.778
5.096 (Hillsborough Co.)	10.145 (Hillsborough Co.)	6.655	18-Rural 2-3 Lanes Undivided	19	0.631	0.778
0.000 (Pasco Co.)	1.606 (Pasco Co.)					

**Note: One crash did not have a milepost or intersection location noted in the raw crash data and therefore was not included in the crash rate calculations.*

Table 2-11 summarizes the US 301 intersection crash rates that were calculated based on the 2015 AADT volumes. The crash rates range from approximately 0.19 crashes per million entering vehicles to 2.54 crashes per million entering vehicles. **Table 2-11** also contains the statewide average crash rates for suburban and rural intersections on two-lane undivided roadways. Four of the five study intersections analyzed have 2015 crash rates that exceed the statewide average.

A Road Safety Audit (RSA) was conducted for the portion of US 301 from Stacy Road to the Hillsborough/Pasco County line in May 2017. Two key observations were made during the RSA field review. There were a significant number of vehicles traveling in excess of the posted speed limits and sight distance was limited from multiple cross street approaches. The following suggestions were made to improve safety within the study corridor:

- Provide advance street name signs at major intersections;
- Double up on speed limit signs;
- Provide intersection lighting
- Provide “bright sticks” on regulatory signs
- Coordinate with law enforcement to conduct targeting speeding enforcement
- Provide Safety Edge along US 301
- Trim vegetation to improve the visibility of signs and increase sight distance

Table 2-11 Intersection Crash Rates (2015-2019)

Intersection	Classification	Total No. of Crashes	Crash Rate (crashes per million entering vehicles)	
			Actual	Statewide Average
Fowler Avenue	15-Suburban 2-3 Lanes 2 Way Undivided 3-Legs	20	2.435	0.192
Harney Road	15-Suburban 2-3 Lanes 2 Way Undivided 3-Legs	16	2.541	0.192
CR 579	15-Suburban 2-3 Lanes 2 Way Undivided 3-Legs	2	0.333	0.192
Stacy Road	18-Rural 2-3 Lanes 2 Way Undivided 4-Legs	1	0.186	0.219
McIntosh Road	18-Rural 2-3 Lanes 2 Way Undivided 3-Legs	2	0.425	0.178

**Note: One crash did not have a milepost or intersection location noted in the raw crash data and therefore was not included in the crash rate calculations.*

2.16 DRAINAGE

The topography of the project area consists of rolling terrain and roadway elevations range from a low of 37 feet to a high of 68 feet based on the 1988 NAVD. There are 33 existing cross drains, four existing bridges and one existing bridge culvert within the study corridor that facilitate the conveyance of offsite and onsite stormwater runoff to the Hillsborough River. This river is listed as a "Special Water" Outstanding Florida Water. The sizes and types of the cross drains and the sizes of the bridges were verified using information from the FDOT Straight Line Diagrams (SLDs), US 301 as-built construction plans, one-foot LiDAR contours, as well as field reviews. **Table 2-12** summarizes the existing cross drain and bridge information. Four cross drains that were identified on the SLD's could not be located during field reviews and therefore, the sizes and types could not be verified.

Table 2-12 Existing Cross Drains, Bridges, and Bridge Culverts

Structure No.	FDOT Milepost	Station	Description
CD-1	5.162	1371+80	Single 18" RCP
CD-2	5.400	1384+30	Single 18" RCP
CD-3	5.693	1399+80	Single 18" RCP
CD-4	0.422	1435+10	Single 30" RCP
CD-5	0.656	1447+90	Single 30" RCP
CD-6	1.066	1469+10	Single 30" RCP

Table 2-12 Existing Cross Drains, Bridges, and Bridge Culverts (continued)

Structure No.	FDOT Milepost	Station	Description
CD-7	1.844	1509+80	Single 30” RCP
CD-8	2.453	1542+50	N/A
CD-9	2.784	1559+70	Single 30” RCP
CD-10	2.960	1568+70	Single 15” RCP
Bridge-1 (#100951)	3.159-3.177	1580+00	96’ Bridge
CD-11	3.351	1589+80	Single 15” RCP
CD-12	3.541	1599+80	Single 15” RCP
Bridge-2 (#100052)	3.727-3.737	1609+60	40’ Bridge
CD-13	3.919	1619+80	Single 15” RCP
CD-14	4.089	1628+80	Single 15” RCP
CD-15	4.176	1633+40	Single 30” RCP
Bridge-3 (#100053)	4.403-4.421	1645+50	96’ Bridge
CD-16	4.932	1673+50	Single 4’x2’ CBC
CD-17	5.863	1722+60	Single 10’x6’ CBC
CD-18	5.940	1726+60	Single 9’x6’ CBC
CD-19	6.302	1745+70	Single 6’x4’ CBC
Bridge Culvert-1 (#100504)	6.559-6.566	1759+70	36’ Bridge
CD-20	6.659	1763+75	Single 6’x4’ CBC
CD-21	7.109	1788+20	Single 4’x3’ CBC
CD-22	7.393	1803+20	Single 4’x3’ CBC
CD-23	7.595	1812+80	Single 30” RCP
CD-24	7.724	1820+60	Single 4’x3’ CBC
CD-25	7.899	1829+80	Single 30” RCP
CD-26	8.320	1853+20	Single 4’x3’ CBC
Bridge-4 (#100434)	8.539-8.624	1865+00	450’ Bridge
CD-27	8.631	1868+70	Single 15” RCP
CD-28	8.712	1872+70	Single 15” RCP
CD-29	8.798	1877+20	Single 15” RCP
CD-30	9.330	1905+30	Single 30” RCP
CD-31	9.532	1915+90	Single 30” RCP
CD-32	9.911	1935+95	Single 30” RCP
CD-33	1.146	2010+00	Single 4’x3’ CBC

There are 13 existing drainage basins within the project limits and the locations of these basins are summarized in **Table 2-13**. A more detailed discussion of each basin is documented in the *US 301*

Preliminary Stormwater Management Facility Report (dated May 2023). There are four portions of US 301 that have been permitted by the Southwest Florida Water Management District (SWFWMD) and these consist of the following:

- **Permit No. 32128** – This permit covers the widening (i.e., four-laning) of US 301 from south of the Tampa Bypass Canal to north of Fowler Avenue.
- **Permit No. 27321** – This permit covers the left- and right-turn lanes on US 301 at the Langshaw Drive intersection. This permit does not provide treatment or attenuation for the increased impervious area.
- **Permit No. 20875** - This permit covers the left-turn lane on southbound US 301 at the McIntosh Road intersection. This permit does not provide treatment or attenuation for the increased impervious area.
- **Permit No. 27103** – This permit covers the left- and right-turn lanes on US 301 at the southern and northern ends of Rapid River Boulevard. This permit provides treatment and attenuation for the increased impervious area via a dry retention swale located on the west side of US 301 (between Station 1963+50 and Station 2010+00) within the existing roadway right-of-way.

Table 2-13 Existing Drainage Basins

Basin	Begin Station	End Station
Basin 1	1360+00	1387+00
Basin 2	1387+00	1416+00
Basin 3	1416+00	1455+50
Basin 4	1455+50	1492+00
Basin 5	1492+00	1580+00
Basin 6	1580+00	1645+50
Basin 7	1645+50	1695+00
Basin 8	1695+00	1760+00
Basin 9	1760+00	1788+00
Basin 10	1788+00	1829+80
Basin 11	1829+80	1866+00
Basin 12	1866+00	1936+00
Basin 13	1936+00	2010+00

Based on a review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the Hillsborough River and Tampa Bypass Canal Stormwater Management Master Plan and the New River/Upper Hillsborough River Watershed Model, a majority of the project area is located within Zone AE of the 100-year floodplain. Zone AE is defined as an area that has a 1% probability of flooding every year and an area where predicted flood water elevations have been established. There are five federally regulated floodways within the study corridor limits and these are located at Flint Creek, Flint Creek Relief, Hollomans Branch, Two Holes Branch, and the Hillsborough River.

The FDOT District Seven Maintenance offices were contacted to discuss any flooding history and/or maintenance concerns within the study corridor. The Tampa Operations staff which covers Hillsborough County maintenance indicated there are a few known areas of historical flooding on the west side of US 301 between Fowler Avenue and CR 579 which occurred in January of 1998 and during Hurricane Frances in 2004. The Pasco portion of the study corridor is located at the headwater of the Hillsborough River and is predominantly wet. Although this area can remain wet for extended periods of time, the Brooksville Operations staff which covers Pasco County maintenance indicated they had not received a significant number of public complaints regarding drainage concerns or pavement conditions.

2.17 SOILS AND GEOTECHNICAL DATA

The Soil Survey of Hillsborough County, Florida (dated 1989) and the Soil Survey of Pasco County, Florida (dated 1982) published by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS) were reviewed for the project vicinity. The USDA Soil Survey Geographic (SSURGO) database was also obtained from the SWFWMD and was compared to the NRCS soil surveys. No discrepancies in the data were identified. The soil survey maps for the project vicinity are included in **Appendix C**, along with tables summarizing the USDA NRCS soil survey data.

There are 27 different soil types located within the Hillsborough County portion of the study corridor and 11 different soil types located within the Pasco County portion of the study corridor. The predominant soil classifications are Hydrologic Soil Groups (HSG) A, A/D, B/D and C/D. If a soil is assigned to a dual HSG, the first letter is for drained areas while the second letter is for un-drained areas. Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. Group C and Group D soils have high runoff potential and low infiltration rates when thoroughly wetted. The groundwater depth varies from 0-1-foot to greater than 6 feet along the study corridor.

2.18 UTILITIES

The existing utility agencies/owners (UAO's) within the study corridor were identified based on a January 2015 Sunshine State One Call of Florida. The 11 existing utilities and associated contact information is summarized in **Table 2-14**.

Table 2-14 Utility Companies and Facilities

Utility Company	Facilities
Bright House Networks Mr. Randy Lyle 813-684-6100 randy.lyle@mybrighthouse.com	Overhead and underground fiber optic cables on the west side of US 301 from Fowler Avenue to north of Palm Tree Drive (in the vicinity of the Rivers Edge Pet Resort). Overhead fiber optic cables on the east side of US 301 north and south of Jackson Road (overhead) and underground fiber optic cables between CR 579 and the cell tower located to the south of Earthscapes Landscaping.
Comcast Mr. Liam McKenna 407-849-3610 liam.mckenna@cable.comcast.com	Overhead fiber optic cables and coaxial cables on the west side of US 301 from McIntosh Road to Avery Road and underground fiber optic cables and coaxial cables on the east side of US 301 from Avery Road to Campground Road.

Utility Company	Facilities
Duke Energy Ms. Sharon Dear 407-905-3321 sharon.dear@duke-energy.com	A proposed 230-kilovolt (kV) line will replace the existing 115-kV line built in 1952. The existing line is located west of US 301 and crosses US 301 just north of Palm Tree Drive. At this point, the line runs parallel to US 301 on the east side until it reaches Stacy Road.
Florida Gas Transmission Mr. Joe Sanchez 407-838-7171 joseph.e.sanchez@energytransfer.com	A 14-inch pipeline crosses US 301 in the vicinity of Fowler Avenue and runs parallel to US 301 on the east side until approximately 0.4 miles south of Stacy Road. A 16-inch pipeline approaches US 301 from the west just north of Ohio Avenue and runs parallel to US 301 on the west side for approximately 0.15 miles. This pipeline crosses US 301 just north of Langshaw Drive and runs parallel to US 301 on the east side until it reaches Stacy Road.
Hillsborough County Public Utilities Mr. Ryan Curll 813-272-5977 CurllR@hillsboroughcounty.org	Six-inch and eight-inch Ductile Iron Pipes (DIP) are located on the west side of US 301 from Fowler Avenue to Jackson Road. There is also a six-inch DIP on the east side of US 301 that extends from approximately 850 feet south of Jackson Road to Jackson Road.
Hillsborough County Traffic Services Mr. George Aubel aubelg@hillsboroughcounty.org	No utilities within the study corridor.
Pasco County Utilities Mr. Martin Ramirez 727-847-8145 mramirez@pascocountyfl.net	There is a 12-inch PVC water main on the west side of US 301 from the southern end of Rapid River Boulevard to north of SR 56 and an eight 8-inch PVC force main on the east side of US 301 from the northern end of Rapid River Boulevard to north of SR 56. There are also two 10-inch PVC water mains that cross US 301. One of these crosses US 301 on the south side of the southern end of Rapid River Boulevard while the other one crosses US 301 on the north side of the northern end of Rapid River Boulevard.
Tampa Electric Mr. Jason Cooper 813-275-3037 csadmin@tecoenergy.com	There is a 13.2 kV overhead electric line on the east side of US 301 that extends throughout the Hillsborough County portion of the study corridor and a 69 kV overhead electric line that crosses US 301 at the Hillsborough/Pasco County line.
TECO Peoples Gas Mr. Frank Kistner 813-275-3731 fjkistner@tecoenergy.com	Gas lines are on both sides of US 301 and extend from the Hillsborough/Pasco County line northward to Chancey Road.
Verizon Mr. Mike Little 813-957-5005 michael.e.little@verizon.net	Underground telephone cable and fiber optic cable on the west side of US 301 from Fowler Avenue to Stacy Road. Overhead and underground telephone cable on the east side of US 301 throughout the entire study corridor.
Withlacoochee River Electric Cooperative Mr. Corey Littlefield 352-588-5115 rlittlefield@wrec.net	Overhead electric transmission line on the west side of US 301 that extends from the Hillsborough/Pasco County line to just north of the northern end of Rapid River Boulevard.

2.19 LIGHTING

There is existing overhead street lighting along both sides of US 301 from the beginning of the project to Bradley Road. The remainder of the project corridor is unlit.

2.20 SIGNS

There are four overhead cantilever signs within the study corridor. These cantilever signs are located in advance of the two US 301 crossings of the Old Fort King Trail and also include flashing beacons. These signs denote "Trail Crossing Prepare To Stop When Flashing." The other roadway signs within the study corridor consist primarily of street signs, speed limit signs, "No Parking on Right of Way" signs, warning/advisory signs (e.g., No Passing Zone, Curve Ahead) and recreational area guide signs (e.g., Hillsborough River State Park, Fort Foster Florida Heritage).

2.21 AESTHETIC FEATURES

US 301 crosses over the Hillsborough River, and there is a limited view of this river from the roadway. The Fort Foster State Historic Site is located on the east side of US 301 approximately 560 feet from the centerline of the roadway; however, the fort is not visible from the roadway due to the presence of roadside vegetation. There are no manmade aesthetic features within the study corridor.

2.22 BRIDGES AND STRUCTURES

There are five existing bridges on the US 301 mainline. Four of these are conventional bridges, and one is a bridge culvert. These bridges are all maintained by FDOT District Seven.

The existing bridge over Flint Creek (Bridge No. 100951) is a hollow core, prestressed flat slab bridge that is transversely post tensioned and was built in 1972. In 2006, the bridge received a vertical face retrofit which replaced the original post and beam rails with a vertical face barrier. The bridge is 96 feet long and consists of three equal spans. The clear width is 40 feet. The bridge has a sufficiency rating of 92.0 and a health index of 94.92. A typical section that is representative of this existing bridge is graphically depicted in **Figure 2-5**.

The existing bridge over Flint Creek Relief (Bridge No. 100052) is a reinforced flat slab bridge that was built in 1972. In 2006, the bridge received a three-beam retrofit which replaced the original post and beam rails with three-beam guardrails. The bridge is 50 feet long and consists of two equal spans. The clear width is 40 feet. The bridge has a sufficiency rating of 91.1 and a health index of 97.48. A typical section that is representative of this existing bridge is graphically depicted in **Figure 2-5**.

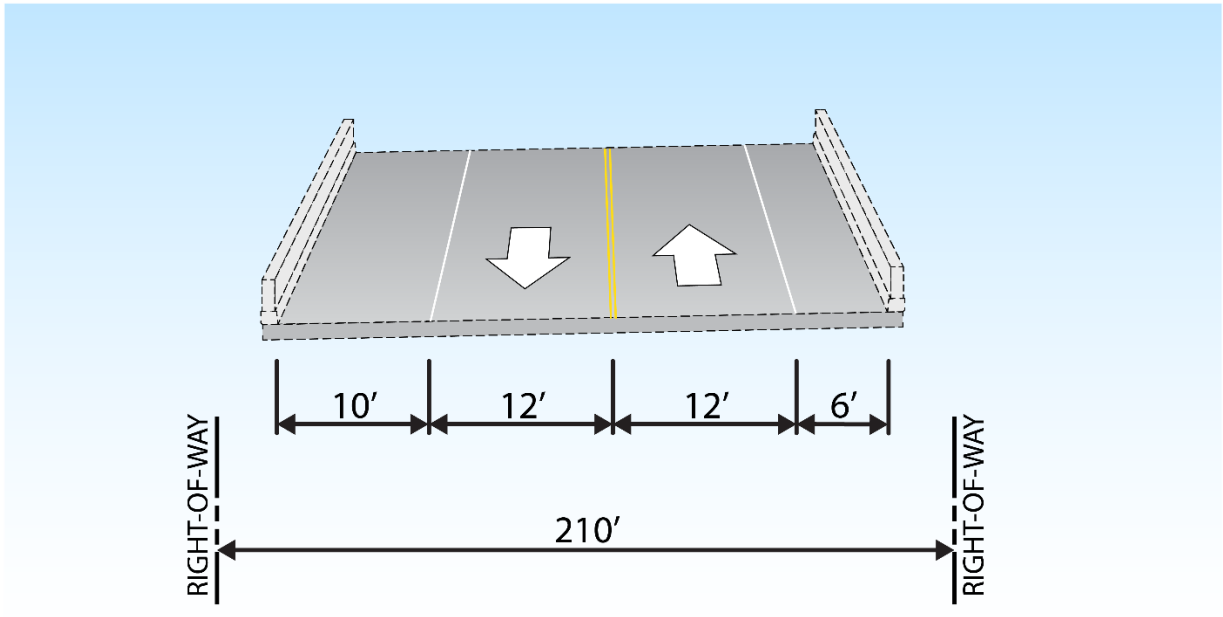

Figure 2-5 Existing Bridge Over Flint Creek and Flint Creek Relief

The existing bridge over Hollomans Branch (Bridge No. 100053) is a hollow core, prestressed flat slab bridge that is transversely post tensioned and was built in 1972. In 2006, the bridge received a vertical face retrofit which replaced the original post and beam rails with a vertical face barrier. The bridge is 96 feet long and consists of three equal spans. The clear width is 40 feet. The bridge has a sufficiency rating of 91.1 and a health index of 98.05. A typical section that is representative of this existing bridge is graphically depicted in **Figure 2-6**.

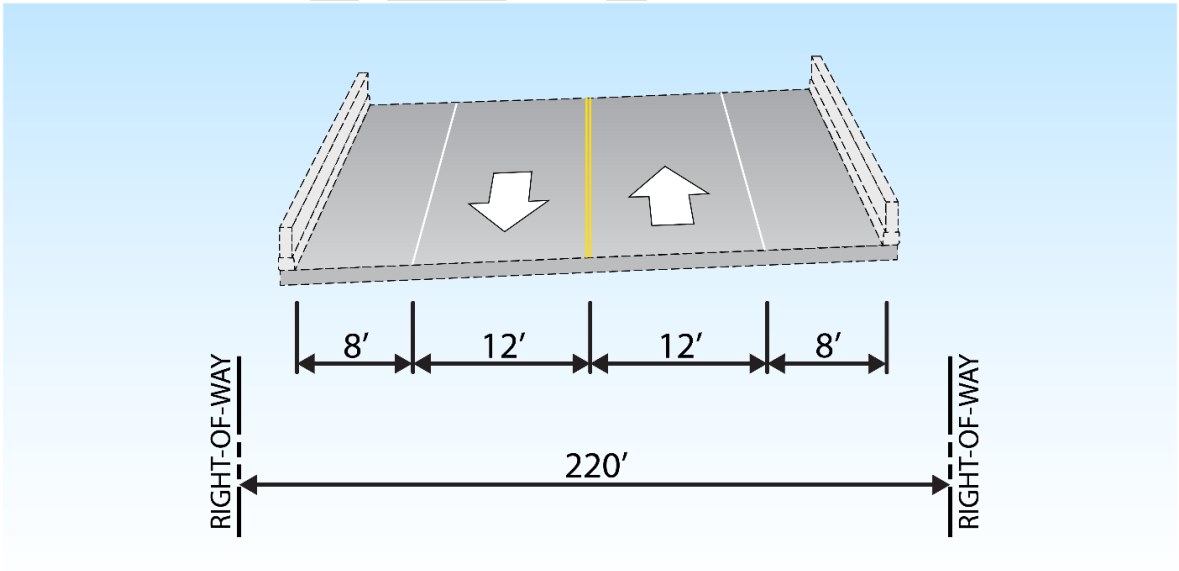

Figure 2-6 Existing Bridge Over Hollomans Branch

The existing bridge culvert over Two Holes Branch (Bridge No. 100504) is a four-barrel box culvert (CBC) that was built in 1985. The CBC is 85 feet long and consists of four barrels that are 8 feet wide and 5 feet high. The bridge culvert has a sufficiency rating of 92.1 and a health index of 35.62. This culvert has minor deterioration and minor channel damage and requires minimal rehabilitation work.

The existing bridge over the Hillsborough River (Bridge No. 100434) is a low-level AASHTO beam bridge that was built in 1985. The bridge is 450 feet long and consists of six equal spans. The clear width is 47.5 feet. The typical section consists of two 12-foot travel lanes, 10-foot inside and outside shoulders and New Jersey barriers. The bridge has a sufficiency rating of 93.1 and a health index of 91.33. **Figure 2-7** depicts the existing typical section for the Hillsborough River bridge.

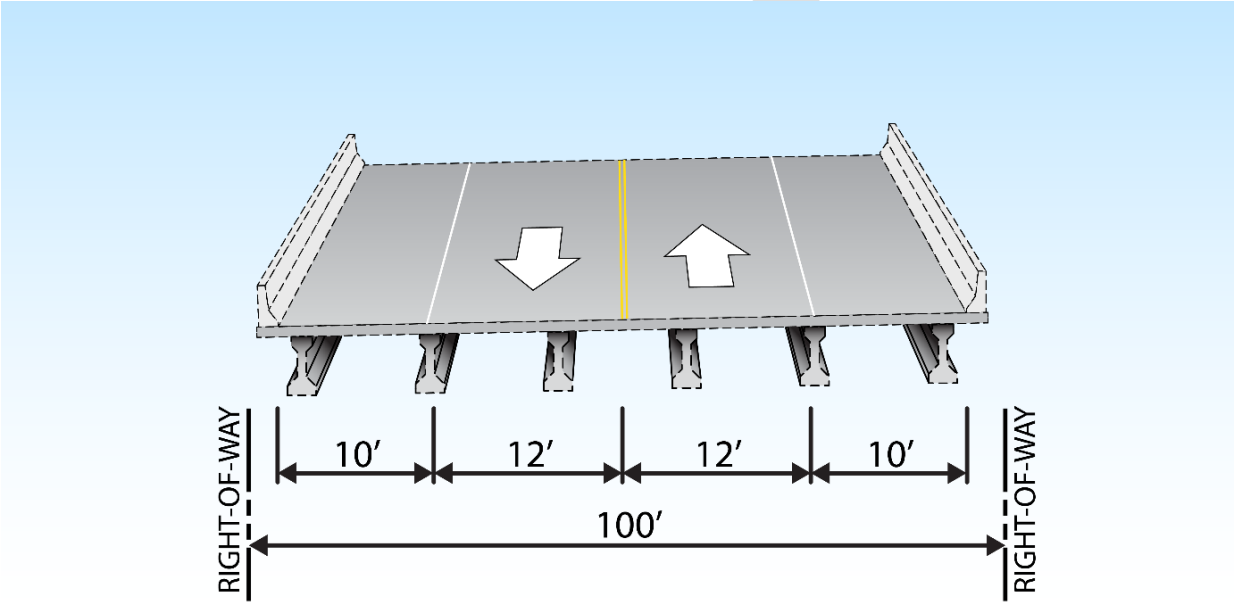

Figure 2-7 Existing Bridge Over Hillsborough River

The bridges over Flint Creek and the Hillsborough River meet the criteria of advance approval of bridges (33 CFR § 115.70), and a formal Coast Guard Bridge Permit will not be required for these crossings. (*This needs to be verified*.)

There are also three single-span, wooden truss pedestrian bridges on the Old Fort King Trail. These bridges cross over Flint Creek, Flint Creek Relief, and Hollomans Branch and are maintained by Hillsborough County. The construction date of these bridges is unknown; however, all three bridges have significant deck deterioration and are classified as structurally deficient. Pedestrians and bicyclists are not currently allowed to utilize these bridges due to the extent of the deterioration.

SECTION 3 PROJECT DESIGN CONTROLS AND CRITERIA

3.1 FUTURE CONTEXT CLASSIFICATION

With one exception, the future context classifications for the study corridor are the same as the existing context classifications discussed in **Section 2.3**. The portion of US 301 from the Hillsborough/Pasco County line (Milepost 0.000) to SR 56 (Milepost 1.612) has some development underway and more future development is expected to occur. Consequently, the future context classification for this portion of the study corridor was determined to be C3R (Suburban Residential). The context classifications were documented in a memorandum dated May 5, 2022, and are included in **Appendix D**. This context classification memorandum updated the previous classifications that were established for the US 301 study corridor in July 2018.

3.2 DESIGN CONTROLS AND CRITERIA

The preliminary design criteria that was initially used to establish the proposed improvements for the US 301 study corridor are listed in **Table 3-1** and adhered to the 2020 *FDOT Design Manual* (FDM). The design criteria in **Table 3-1** were established based on the July 2018 context classifications. The revised design criteria that was subsequently used to modify the proposed improvements are listed in **Table 3-2** and are consistent with the 2023 FDM. The design criteria in **Table 3-2** were established based on the May 2022 context classifications.

Table 3-1 Initial Design Criteria

Design Element				Fowler Avenue to Harney Road	Harney Road to Palm Tree Drive	Palm Tree Drive to Hillsborough Co Line		Hillsborough Co Line to SR 56	Source
						Palm Tree Drive to Stacy Road	*Stacy Road to Hillsborough Co Line*		
Typical Section	Context Classification			C3R - Suburban	C3C - Suburban	C1 - Natural	C1 - Natural	C2 - Rural	FDOT D7
	Design Speed			55 mph			65 mph		Table 201.5.1
	Lane Widths			12 ft			12 ft		Table 210.2.1
	Minimum Median Width			30 ft			40 ft		Table 210.3.1
	Shoulder Width	Outside	Full	10 ft			10 ft		Table 210.4.1
			Paved	5 ft			5 ft		Table 210.4.1
		Inside	Full	4 ft			8 ft		Table 210.4.1
			Paved	4 ft			0 ft		Table 210.4.1
	Border Width			40 ft			40 ft		Table 210.7.1
	Recoverable Terrain			30 ft			36 ft		Table 215.2.1
	Sidewalk Width			6 ft			N/A		Table 222.1.1
Horizontal	Min. Stopping Sight Distance			495 ft			645 ft		Table 210.11.1
	Max. Deflection Without Curve			0° 45' 00"			0° 45' 00"		Ch. 210.8.1
	Length of Curve	Desirable		825 ft			975 ft		Table 210.8.1
		Minimum		400 ft			400 ft		Table 210.8.1
	Max. Superelevation			0.05			10%		Table 210.9.1
	Max. Curvature (e = NC)			9,949 ft			13,164 ft		Table 210.9.1
	Max. Curvature (e maxC1, C2 = 0.10; e maxC3 = 0.05)			2,751 ft			1,348 ft		Table 210.9.1
Vertical	Max. Grade (Flat Terrain)			0.05			3%		Table 210.10.1
	Max. Change in Grade without Vertical Curve			0.005			0.30%		Table 210.10.2
	Base Course Clearance Above Water Elevation			3 ft			3 ft		Ch. 210.10.3 (2)
	Crest Curve	K Value		185			313		Table 210.10.3
		Min. Length		350 ft			450 ft		Table 210.10.4
	Sag Curve	K Value		115			157		Table 210.10.3
		Min. Length		250 ft			350 ft		Table 210.10.4
Shared Use Path	Design Speed			18 mph					Ch. 224.9
	Paved Width			12 ft					Ch. 224.4
	Max. Grade (Flat Terrain)			5%					Ch. 224.6
	Horizontal Clearance			4 ft					Ch. 224.7
	Max. Curvature (Cross Slope = +2%)			74 ft					Table 224.10.1
	Max. Curvature (Cross Slope = -2%)			86 ft					Table 224.10.1
	Min. Separation from Shoulder Break			5 ft					Ch. 224.12

Table 3-2 Revised Design Criteria

Design Element				Fowler Avenue to Harney Road	Harney Road to Stacy Road	Stacy Road to Hillsborough Co Line	Hillsborough Co Line to SR 56	Source
Typical Section	Context Classification			C3R - Suburban	C3C - Suburban	C1 - Natural & C2 - Rural	C3R - Suburban	FDOT D7
	Design Speed			45 mph		55 mph		Table 201.5.1
	Lane Widths			11 ft		12 ft		Table 210.2.1
	Minimum Median Width			22 ft		40 ft		Table 210.3.1
	Shoulder Width	Outside	Full	N/A		10 ft		Table 210.4.1
			Paved	N/A		5 ft		Table 210.4.1
		Inside	Full	N/A		8 ft		Table 210.4.1
			Paved	N/A		4 ft		Table 210.4.1
	Border Width			14 ft		40 ft		Table 210.7.1
	Recoverable Terrain			24 ft		30 ft		Table 215.2.1
	Min. Sidewalk Width			Roadway (6 ft)/Bridge (N/A)		Roadway (5 ft)/Bridge (5 ft>100 ft/6 ft)		Table 222.1.1 & Ch. 260.2.2
Horizontal	Min. Stopping Sight Distance			360 ft		495 ft		Table 210.11.1
	Max. Deflection Without Curve			1° 00' 00"		0° 45' 00"		Ch. 210.8.1
	Length of Curve	Desirable		675 ft		825 ft		Table 210.8.1
		Minimum		694 ft		N/A		Table 210.8.1
	Max. Superelevation			5%		10%		Table 210.9.1
	Max. Curvature (e = NC)			2,865 ft		22,918 ft		Table 210.9.1
	Min. Curvature (e = NC)			2,083 ft		11,459 ft		Table 210.9.1
Vertical	Max. Grade (Flat Terrain)			6%		4%/5%		Table 210.10.1
	Max. Change in Grade without Vertical Curve			0.7%		0.5%		Table 210.10.2
	Base Course Clearance Above Water Elevation			3 ft		3 ft		Ch. 210.10.3 (2)
	Crest Curve	K Value		61		114		Table 210.10.3
		Min. Length		135 ft		350 ft		Table 210.10.4
	Sag Curve	K Value		79		115		Table 210.10.3
		Min. Length		135 ft		250 ft		Table 210.10.4
Shared Use Path	Design Speed			18 mph				Ch. 224.9
	Paved Width			12 ft				Ch. 224.4
	Max. Grade (Flat Terrain)			5%				Ch. 224.6
	Horizontal Clearance			4 ft				Ch. 224.7
	Max. Curvature (Cross Slope = +2%)			74 ft				Table 224.10.1
	Max. Curvature (Cross Slope = -2%)			86 ft				Table 224.10.1
	Min. Separation from Shoulder Break			5 ft				Ch. 224.12

SECTION 4 ALTERNATIVES ANALYSIS

4.1 PREVIOUS PLANNING STUDIES

There were no previously completed planning studies that supported the development of this PD&E study. FDOT District Seven conducted a PD&E study for the portion of US 301 from SR 56 to SR 39 (Paul Buchman Highway) in Pasco County. This PD&E study was completed in 2017. Coordination with this study occurred on multiple occasions to ensure consistency with respect to the future year traffic projections and the roadway geometry at the match line of the two studies.

4.2 NO-BUILD (NO-ACTION) ALTERNATIVE

The No-Action Alternative assumes that US 301 will remain as a two-lane undivided roadway through the design year, with only routine maintenance being performed during this period. The traffic analysis conducted for the No-Action Alternative indicates that US 301 is projected to operate at LOS F in the year 2040 without the proposed widening. This is below the acceptable LOS D standard for this facility.

The following summarizes the advantages and disadvantages associated with the No-Action Alternative:

Advantages of the No-Action Alternative

- No additional right-of-way needed
- No residential or business relocations
- No design, right-of-way acquisition or construction costs
- No delays to motorists or inconvenience to property owners during construction
- Minimal impacts to the natural, physical, and social environment

Disadvantages of the No-Action Alternative

- Does not satisfy the purpose and need for the project
- No additional pedestrian or bicycle facilities provided in the corridor
- Increased potential for future crashes to occur due to increased congestion in the corridor
- Increased travel times and user costs due to increased congestion in the corridor
- Increased evacuation times and emergency vehicle response times
- Increased vehicle emissions (pollutants) due to increased congestion in the corridor

The No-Action Alternative will remain a viable alternative throughout this PD&E study.

4.3 TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS ALTERNATIVES (TSM&O)

Transportation Systems Management and Operations (TSM&O) Alternatives are designed to maximize the efficiency of the existing facility through operational improvements and/or travel demand management. The TSM&O improvements generally include intersection improvements (i.e., changes in traffic signal phasing and timings, providing additional turn lanes, lengthening existing turn lanes), access management improvements (i.e., closing or modifying existing median openings) and/or advanced traffic monitoring systems. The additional roadway capacity required to accommodate the design year traffic volumes on US 301 at an acceptable level of service cannot be provided through the implementation of these types of improvements; however, the TSM&O strategy of access management is included as a component of the Build Alternative.

4.4 FUTURE CONDITIONS

The future year traffic forecasting and traffic analysis results conducted during this PD&E study are fully documented in the US 301 Design Traffic Technical Memorandum (January 2016) prepared under separate cover. The future year traffic forecasting was accomplished with the use of the Year 2040 Cost-Affordable Tampa Bay Regional Planning Model (TBRPM), Version 8.0. Several highway network coding revisions were made to the TBRPM to more accurately represent the study corridor. **Figure 4-1** provides a graphical summary of the 2040 AADT volumes for the study corridor. The 2040 AADT volumes were projected to range between 27,800 vpd and 49,300 vpd. The 2040 peak hour intersection volumes were subsequently derived using the 2040 AADT volumes, along with a K-factor equal to 9.0%, a D-factor equal to 65.0%, and the existing peak hour turning movement percentages. The 2040 a.m. and p.m. peak hour intersection volumes are graphically illustrated in **Figure 4 2**.

No-Build Alternative

Table 4-1 summarizes the results of the 2040 No-Build Alternative two-lane highway segment analyses. All five roadway segments are projected to operate at LOS F in both travel directions during both peak hours. **Table 4-2** summarizes the results of the 2040 No-Build Alternative intersection analyses. With two exceptions, all of the northbound and southbound US 301 left-turn movements at the unsignalized intersections are projected to operate at LOS D or better during both peak hours. The following US 301 left-turn movements are projected to operate at LOS F during the p.m. peak hour:

- Southbound left-turn movement at the CR 579 intersection
- Southbound left-turn movement at the McIntosh Road intersection

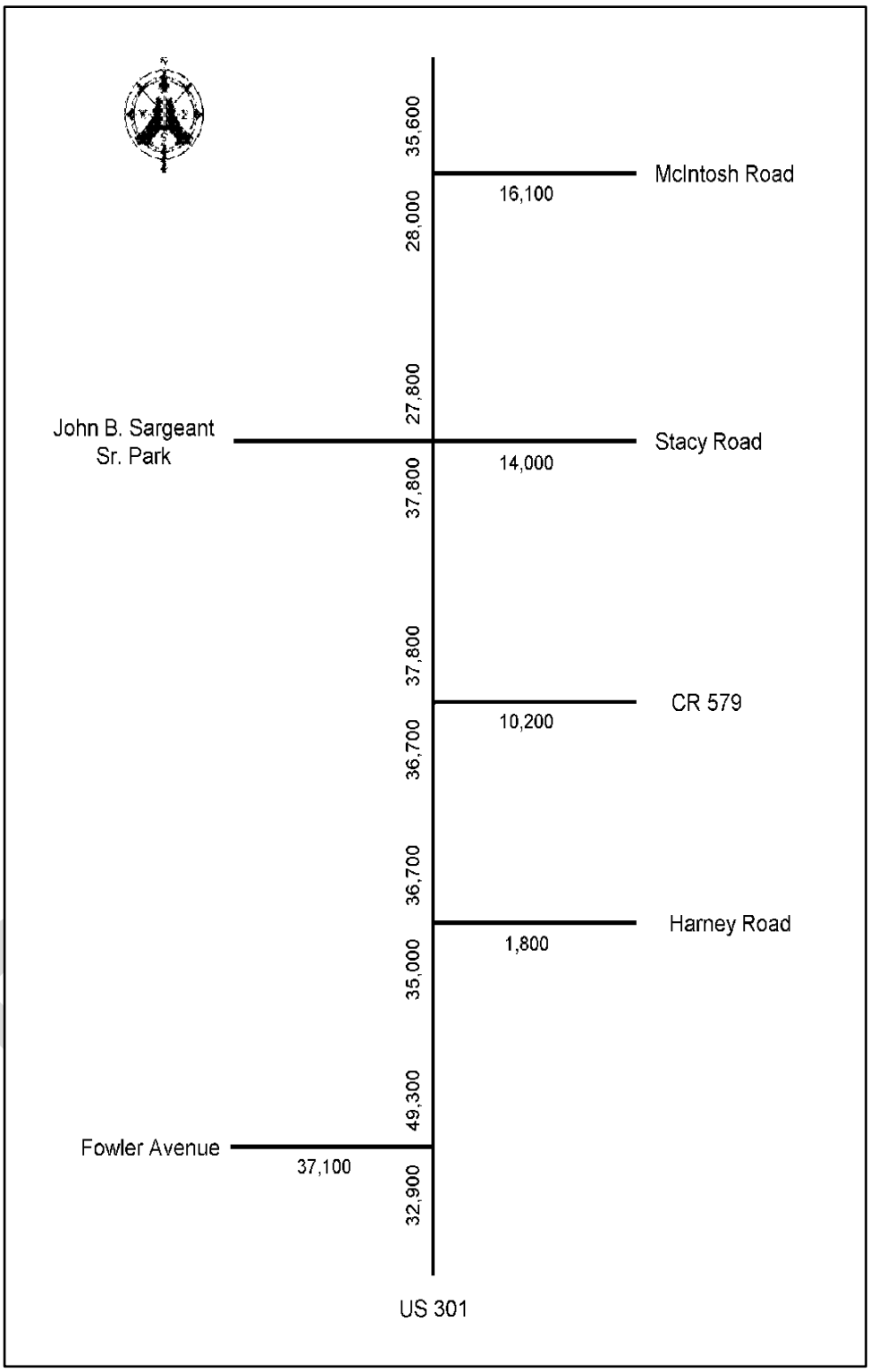

Figure 4-1 Design Year (2040) AADT Volumes

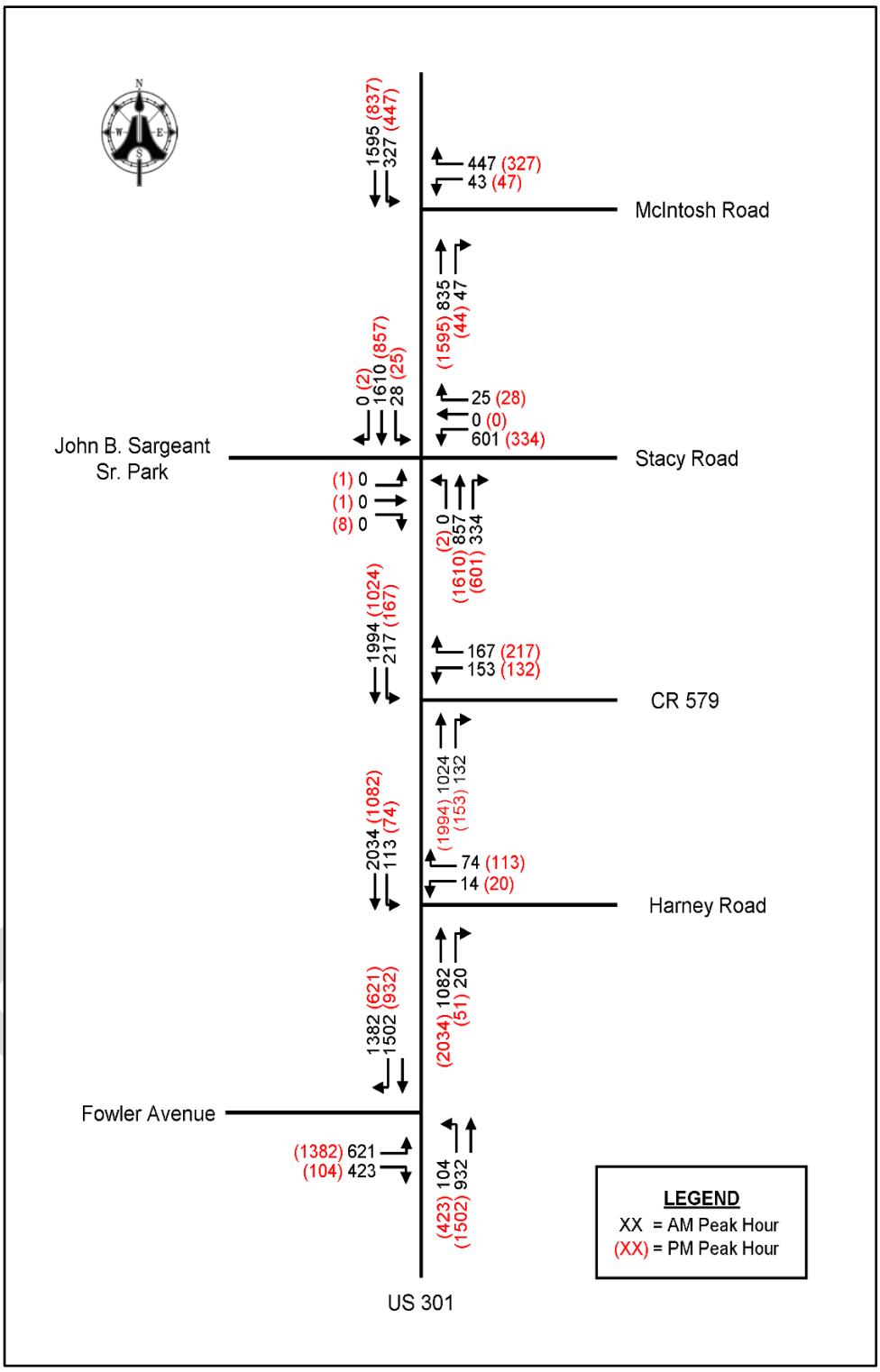

Figure 4-2 Design Year (2040) Peak Hour Volumes

Table 4-1 Design Year (2040) Peak Hour Roadway Segment Operations - No-Build Alternative

Roadway Segment	Direction	AM Peak Hour				PM Peak Hour			
		Volume	PFFS[1]	PTSF[2]	LOS[3]	Volume	PFFS[1]	PTSF[2]	LOS[3]
Between Fowler Avenue and Harney Road	NB	1328	38.1%	94.0%	F	2466	38.1%	100.0%	F
	SB	2466	38.1%	100.0%	F	1328	38.1%	94.0%	F
Between Harney Road and CR 579	NB	1156	45.5%	92.2%	F	2147	44.8%	100.0%	F
	SB	2147	44.8%	100.0%	F	1156	45.5%	92.2%	F
Between CR 579 and Stacy Road	NB	1191	45.3%	92.7%	F	2212	45.2%	100.0%	F
	SB	2211	45.3%	100.0%	F	1195	45.2%	92.8%	F
Between Stacy Road and McIntosh Road	NB	882	62.5%	85.7%	F	1639	62.1%	98.4%	F
	SB	1638	62.2%	98.4%	F	884	62.5%	85.7%	F
Between McIntosh Road and SR 56	NB	1282	52.5%	93.5%	F	1922	52.4%	100.0%	F
	SB	1922	52.4%	100.0%	F	1282	52.5%	93.5%	F

[1] Percent Free Flow Speed

[2] Percent Time-Spent-Following

[3] Level of Service

Table 4-2 Design Year (2040) Peak Hour Intersection Operations - No-Build Alternative

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C[1]	Delay[2]	LOS[3]	V/C[1]	Delay[2]	LOS[3]
Fowler Avenue (Signalized)	NB	LT	0.51	27.3	C	1.12	122.9	F
	NB	TH	0.46	10.6	B	0.87	31.8	C
	SB	TH	0.99	49.0	D	0.99	72.3	E
	EB	LT	0.90	55.5	E	1.14	116.5	F
	EB	RT	0.96	67.7	E	0.13	14.5	B
	Overall Intersection		**N/A**	**41.7**	**D**	**N/A**	**75.0**	**E**
Harney Road (Unsignalized)	SB	LT	0.21	13.0	B	0.36	30.4	D
	WB	LT/RT	4.13	1753.0	F	7.53	3336.0	F
CR 579 (Unsignalized)	SB	LT	0.43	16.6	C	0.87	81.5	F
	WB	LT	83.00	40445.0	F	143.00	70945.0	F
	WB	RT	0.76	56.7	F	3.92	1454.0	F
Stacy Road (Unsignalized)	NB	LT	0.00	0.0	A	0.00	9.9	A
	SB	LT	0.06	12.3	B	0.14	26.5	D
	WB	LT/TH/RT	56.67	25657.0	F	35.73	16289.0	F
	EB	LT/TH/RT	0.00	0.0	A	0.42	236.7	F
McIntosh Road (Unsignalized)	SB	LT	0.50	15.1	C	1.42	233.8	F
	WB	LT/RT	12.95	5564.0	F	*	**	F

[1] Volume-to-Capacity Ratio

[2] Average Delay (in seconds/vehicle)

[3] Level of Service

* Theoretically, the capacity for this movement is equal to zero. Therefore, the v/c ratio is infinite.
** No estimate of delay is provided since the v/c ratio is infinite.

In addition, with the exception of the eastbound movements at the Stacy Road intersection during the a.m. peak hour (i.e., the movements exiting John B. Sargeant Sr. Memorial Wilderness Park), all of the stop-controlled US 301 cross street movements are projected to operate at LOS F during both peak hours. **Table 4-2** also indicates that all of the signal controlled movements at the Fowler Avenue intersection are projected to operate at LOS E or better during the a.m. peak hour. In the p.m. peak hour, only two movements are projected to operate at LOS F. These two movements are the northbound US 301 left-turn movement and the eastbound Fowler Avenue left-turn movement. This signalized intersection is projected to operate at LOS D overall during the a.m. peak hour and at LOS E overall during the p.m. peak hour.

Build Alternative

Table 4-3 summarizes the results of the 2040 Build Alternative multilane highway segment analyses. All five roadway segments are projected to operate at LOS C or better in the peak travel direction during both peak hours. LOS B or better operations are projected for all five roadway segments in the off-peak travel direction during both peak hours.

Table 4-3 Design Year (2040) Peak Hour Roadway Segment Operations - Build Alternative

Roadway Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume	Density[(1)]	LOS[(2)]	Volume	Density[(1)]	LOS[(2)]
Between Fowler Avenue and Harney Road	NB	1328	13.4	B	2466	25.0	C
	SB	2466	25.0	C	1328	13.4	B
Between Harney Road and CR 579	NB	1156	11.7	B	2147	21.7	C
	SB	2147	21.7	C	1156	11.7	B
Between CR 579 and Stacy Road	NB	1191	12.1	B	2212	22.4	C
	SB	2211	22.4	C	1195	12.1	B
Between Stacy Road and McIntosh Road	NB	882	8.2	A	1639	15.2	B
	SB	1638	15.2	B	884	8.2	A
Between McIntosh Road and SR 56	NB	1282	11.9	B	1922	17.8	B
	SB	1922	17.8	B	1282	11.9	B

(1) Average Density (in passenger cars/mile/lane)

(2) Level of Service

Table 4-4 summarizes the results of the 2040 Build Alternative intersection analyses. In the a.m. peak hour, all of the northbound and southbound US 301 left-turn movements are projected to operate at LOS C or better. In the p.m. peak hour, there are two US 301 left-turn movements that are projected to operate at LOS F and these are as follows:

- Southbound left-turn at the CR 579 intersection
- Southbound left-turn at the McIntosh Road intersection

Table 4-4 Design Year (2040) Peak Hour Intersection Operations - Build Alternative

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C[1]	Delay[2]	LOS[3]	V/C[1]	Delay[2]	LOS[3]
Fowler Avenue (Signalized)	NB	LT	0.51	27.3	C	1.12	122.9	F
	NB	TH	0.46	10.6	B	0.87	31.8	C
	SB	TH	0.99	49.0	D	0.99	72.3	E
	EB	LT	0.90	55.5	E	1.14	116.5	F
	EB	RT	0.96	67.7	E	0.13	14.5	B
	Overall Intersection		**N/A**	**41.7**	**D**	**N/A**	**75.0**	**E**
Harney Road (Unsignalized)	SB	LT	0.22	13.2	B	0.38	31.7	D
	WB	LT/RT	0.35	25.0	C	0.89	101.7	F
CR 579 (Unsignalized)	SB	LT	0.44	17.0	C	0.90	89.9	F
	WB	LT	3.02	1068.0	F	6.81	2978.0	F
	WB	RT	0.41	18.7	C	1.00	102.0	F
Stacy Road (Unsignalized)	NB	LT	0.00	0.0	A	0.00	9.9	A
	SB	LT	0.06	12.4	B	0.14	27.3	D
	WB	LT	4.53	1652.0	F	5.04	1934.0	F
	WB	TH/RT	0.04	11.3	B	0.09	16.2	C
	EB	LT/TH/RT	0.00	0.0	A	0.05	24.9	C
McIntosh Road (Unsignalized)	SB	LT	0.51	15.5	C	1.45	250.7	F
	WB	LT	0.79	176.5	F	*	**	F
	WB	RT	0.84	36.0	E	1.06	102.0	F

[1] Volume-to-Capacity Ratio
[2] Average Delay (in seconds/vehicle)
[3] Level of Service
* Theoretically, the capacity for this movement is equal to zero. Therefore, the v/c ratio is infinite.
**No estimate of delay is provided since the v/c ratio is infinite.

Although both of these movements are projected to operate at LOS F, only the southbound left-turn at McIntosh Road is projected to operate overcapacity (i.e., with a v/c ratio greater than 1.00). In addition, a majority of the stop-controlled cross street movements are projected to operate at LOS F during one or both peak hours. These include the following:

- Westbound left-turn and right-turn from Harney Road (p.m. peak hour only)
- Westbound left-turn from CR 579 (both peak hours)
- Westbound right-turn from CR 579 (p.m. peak hour only)
- Westbound left-turn from Stacy Road (both peak hours)
- Westbound left-turn from McIntosh Road (both peak hours)
- Westbound right-turn from McIntosh Road (p.m. peak hour only)

These results suggest that traffic signals may be warranted at one or more of these intersections at some time in the future.

Table 4-4 also indicates that all of the signal controlled movements at the Fowler Avenue intersection are projected to operate at LOS E or better during the a.m. peak hour. In the p.m. peak hour, only two movements are projected to operate at LOS F. These two movements are the northbound US 301 left-turn movement and the eastbound Fowler Avenue left-turn movement. This signalized intersection is projected to operate at LOS D overall during the a.m. peak hour and at LOS E overall during the p.m. peak hour.

Given the severe overcapacity conditions projected to occur at the CR 579, Stacy Road and McIntosh Road unsignalized intersections in the year 2040, signalized intersection analyses were also conducted for these locations with the Build Alternative. These analyses were conducted to determine whether acceptable levels of service could be achieved at these three intersections in the year 2040 with the implementation of traffic signals.

Table 4-5 summarizes the results of the 2040 peak hour signalized intersection analyses conducted for the CR 579, Stacy Road, and McIntosh Road intersections. **Table 4-5** indicates that acceptable operations are projected to occur at all three of these intersections with the implementation of traffic signals. In the a.m. peak hour, all of the individual movements are projected to operate at LOS D or better. In the p.m. peak hour, there are a few individual movements that are projected to operate at LOS E or LOS F; however, none of the movements are projected to have v/c ratios greater than 1.00. In addition, all three intersections are projected to operate at LOS D or better overall during both peak hours. The Stacy Road intersection analysis results summarized in **Table4-5** include the provision of dual left-turn lanes on the westbound Stacy Road approach.

In October 2019, additional traffic analyses were conducted for the four existing unsignalized intersections using the Capacity Analysis for Planning of Junctions (CAP-X) spreadsheet associated with Stage 1 of the FDOT's Intersection Control Evaluation (ICE) process. The following six alternative intersection configurations/control strategies were analyzed for the Harney Road, CR 579, and McIntosh Road intersections:

- Two-way stop control intersection
- Unsignalized restricted crossing U-turn (RCUT) intersection
- Signalized RCUT intersection
- Conventional signalized intersection
- Continuous green-T signalized intersection
- Two-lane roundabout

Since the Stacy Road intersection is a four-legged intersection, the continuous green-T signalized intersection alternative was not applicable for this location. The CAP-X analysis was conducted using the 2040 a.m. and p.m. peak hour volumes that were previously documented in the January 2016 *US 301 Design Traffic Technical Memorandum* and the analysis results were documented in a *Design Year (2040) Peak Hour Intersection Analysis Technical Memorandum* dated December 5, 2019. Since the CAP-X analysis identified more than one potentially viable intersection improvement concept/control strategy for each of these four intersections, more detailed peak hour traffic analyses were conducted using the HCS and SIDRA software. All of the intersection improvement concepts/control strategies that

were initially analyzed using the CAP-X spreadsheet were also analyzed using the HCS and SIDRA software to provide a full comparison of the estimated 2040 peak hour vehicle delays and levels of service.

Table 4-5 Design Year (2040) Peak Hour Intersection Operations - Build Alternative

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C[1]	Delay[2]	LOS[3]	V/C[1]	Delay[2]	LOS[3]
CR 579 (Signalized)	NB	TH	0.76	28.7	C	0.97	39.4	D
	NB	RT	0.76	29.0	C	1.00	46.2	D
	SB	LT	0.52	19.0	B	0.92	90.1	F
	SB	TH	0.90	18.6	B	0.41	4.4	A
	WB	LT	0.66	48.0	D	0.87	91.0	F
	WB	TRT	0.38	27.3	C	0.86	72.5	E
	Overall Intersection		**N/A**	**23.5**	**C**	**N/A**	**37.7**	**D**
Stacy Road (Signalized)	NB	LT	0.02	53.8	D	0.01	20.6	C
	NB	TH	0.55	19.8	B	0.90	29.1	C
	NB	RT	0.48	18.9	B	0.75	24.1	C
	SB	LR	0.13	28.4	C	0.30	55.6	E
	SB	TH	0.99	54.2	D	0.46	15.9	B
	SB	RT	0.99	54.2	D	0.46	15.9	B
	WB	LT	0.89	53.8	D	0.63	48.1	D
	WB	TH/RT	0.08	34.3	C	0.12	42.6	D
	EB	LT/TH/RT	0.02	45.6	D	0.08	50.9	D
	Overall Intersection		**N/A**	**41.8**	**D**	**N/A**	**27.2**	**C**
McIntosh Road (Signalized)	NB	TH	0.61	25.5	C	0.99	56.1	E
	NB	RT	0.61	25.5	C	0.99	58.0	E
	SB	LT	0.69	20.7	C	1.00	79.5	E
	SB	TH	0.75	13.5	B	0.33	3.7	A
	WB	LT	0.14	37.1	D	0.35	52.5	D
	WB	RT	0.85	42.8	D	0.70	38.6	D
	Overall Intersection		**N/A**	**21.7**	**C**	**N/A**	**44.6**	**D**

[1] Volume-to-Capacity Ratio

[2] Average Delay (in seconds/vehicle)

[3] Level of Service

The *Design Year (2040) Peak Hour Intersection Analysis Technical Memorandum* includes the results of the 2040 a.m. and p.m. peak hour HCS and SIDRA analyses. All of the intersection control strategies that involve some type of signalization are projected to provide sufficient capacity for all individual movements. In addition, with one exception (i.e., the westbound left-turn movement at the Stacy Road intersection), all of the individual movements are projected to operate at LOS D or better with some type of signal control.

Although the continuous green-T intersection is projected to result in acceptable operations during both peak hours, it does not promote speed management within the corridor and would require the installation of pedestrian signals to allow for the safe crossing of US 301 by pedestrians and bicyclists. Consequently, it was eliminated from any further detailed evaluation.

The results of the signalized intersection analyses indicate the cross street vehicle delays at the existing unsignalized intersections are projected to improve significantly with the implementation of traffic signal control; however, this does not imply that traffic signals should be (or will be) installed at these intersections when US 301 is widened to a four-lane divided roadway. The decision to install a traffic signal at one or more of the existing unsignalized intersections (or recommended median opening locations) will be made prior to or during the final design phase of the project and will be based on the results of traffic signal warrant studies to be conducted in the future.

Due to the time lapse in the analysis, the opening year and design year AADT volumes previously documented in the January 2016 *US 301 Design Traffic Technical Memorandum* were updated for use with the Typical Section Package. The revised opening year and design year were established to be 2025 and 2045, respectively. The methodology that was used to derive the 2025 and 2045 AADT volumes, as well as the results of this methodology, are documented in a technical memorandum dated January 8, 2021. It was also decided the 2040 peak hour intersection volumes and traffic analyses documented in the January 2016 *US 301 Design Traffic Technical Memorandum* were not to be updated to the year 2045. However, it is recommended that both the existing and future year traffic volumes be updated during the early portion of the final design phase of this project.

In March 2023, additional traffic analyses were conducted for the existing unsignalized T- intersection at the Hillsborough River State Park (HRSP) public entrance/exit. The initial analyses were conducted using the CAP-X spreadsheet. The following five alternative intersection configurations/control strategies were analyzed for this intersection:

- Two-way stop control intersection
- Unsignalized RCUT intersection
- Conventional signalized intersection
- Continuous green-T signalized intersection
- Two-lane roundabout

Since the CAP-X analysis identified more than one potentially viable intersection improvement concept/control strategy for this intersection, more detailed peak hour traffic analyses were conducted using the HCS and SIDRA software. All of the intersection improvement concepts/control strategies that were initially analyzed using the CAP-X spreadsheet were also analyzed using the HCS and SIDRA software. Both weekday and weekend peak hour analyses were conducted for this intersection. The detailed analysis results indicate the left-turn and right-turn exiting volumes are projected to operate overcapacity during the weekend peak hour in the year 2040 if this intersection were to remain as an unsignalized intersection. All of the other improvement concepts/control strategies analyzed are projected to provide LOS C or better operations. The results of these additional traffic analyses were

documented in a *Design Year (2040) Peak Hour Intersection Analysis Technical Memorandum Addendum* dated May 8, 2023.

4.5 INITIAL BUILD ALTERNATIVES

Two Build Alternatives were initially developed for the portion of the project from north of Fowler Avenue to Stacy Road to determine the impacts of widening the roadway to either the west side or the east side of the existing ROW. The initial suburban typical section developed for these alternatives included 12-foot travel lanes, a 30-foot raised median with 4-foot inside paved shoulders, 7-foot outside paved shoulders, 5-foot sidewalks on both sides, and an open drainage system.

Both the west-side and east-side widening alternatives resulted in impacts to existing businesses and residences; however, the east-side widening alternative also resulted in impacts to the existing 14-inch and 16-inch underground gas pipelines owned and operated by FGT. Widening the roadway to the east side would require the FGT gas pipelines be relocated away from their current locations, resulting in additional proposed right-of-way and construction costs. For this reason, the east-side widening alternative was eliminated from further consideration. Typical sections of the west-side and east-side widening alternatives from Fowler Avenue to Stacy Road are shown in **Figure 4-3** and **Figure 4-4**, respectively.

A single Build Alternative was initially developed for the portion of the project from Stacy Road to SR 56. The initial rural typical section developed within these limits included 12-foot travel lanes, a 40-foot depressed median with 8-foot inside unpaved shoulders, 7-foot outside paved shoulders, a 12-foot shared use path on the west side, a 5-foot sidewalk on the east side, and an open drainage system. This alternative utilizes the existing roadway pavement, where possible, by converting the existing roadway to southbound only operation and constructing two new northbound lanes, resulting in roadway widening to the east side of the existing ROW. Within the limits of HRSP, the proposed roadway was shifted to a centered alignment with full reconstruction at the request of the Florida Department of Environmental Protection (FDEP), as discussed in **Section 5.1** of this report. A typical section of the widening alternative from Stacy Road to SR 56 is shown in **Figure 4-5**.

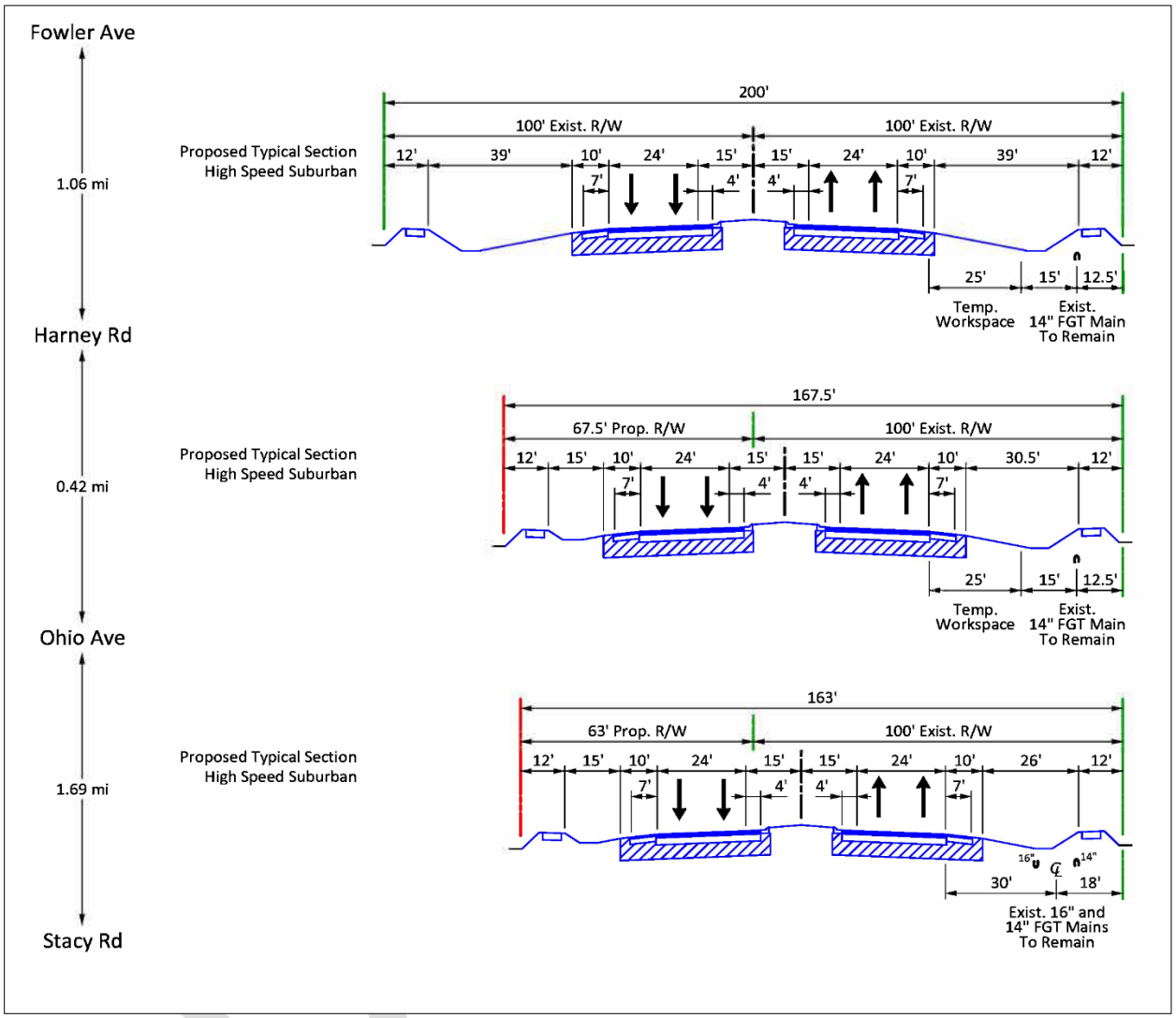

Figure 4-3 West-Side Widening Alternative from Fowler Avenue to Stacy Road

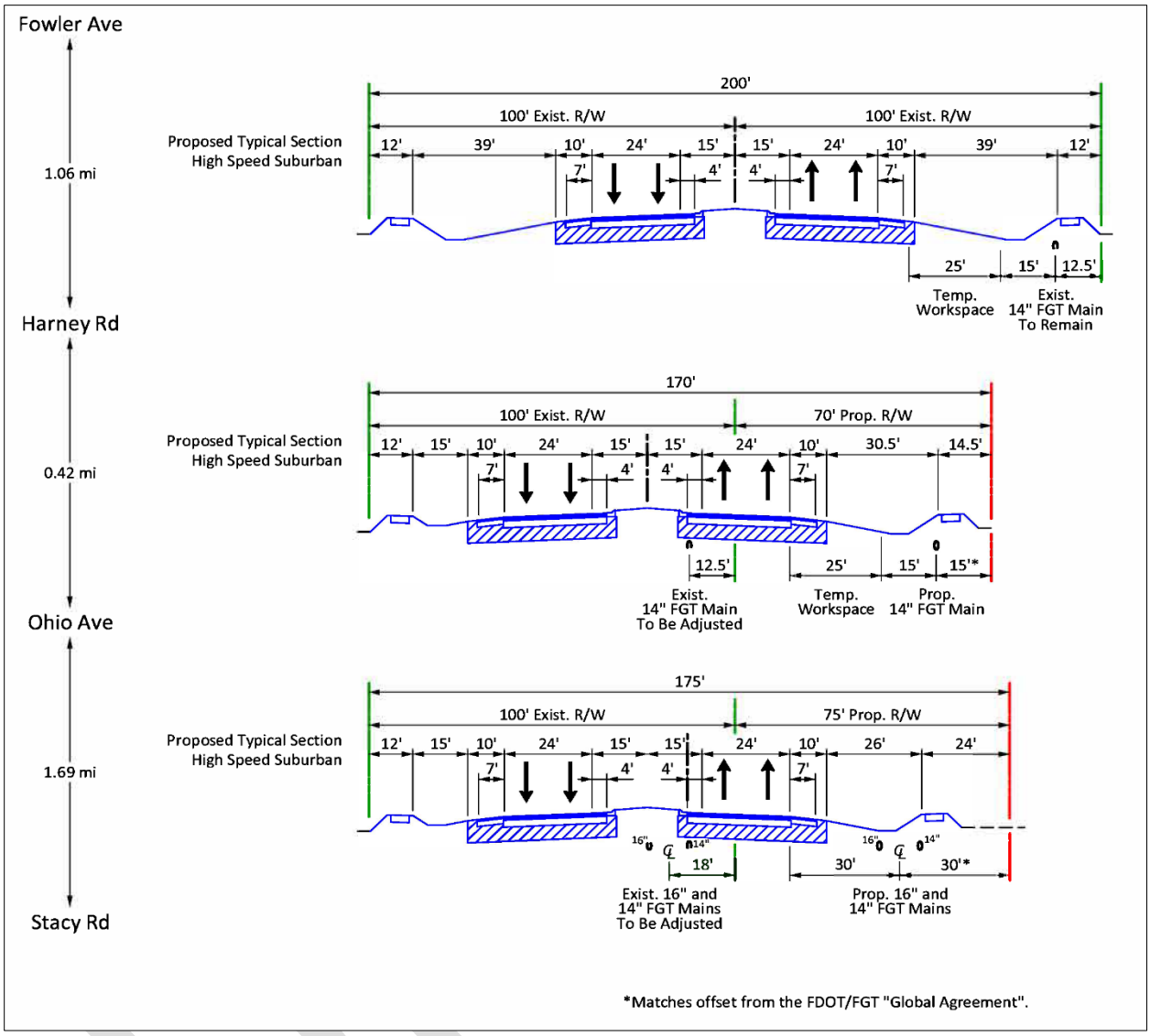

Figure 4-4 East-Side Widening Alternative from Fowler Avenue to Stacy Road

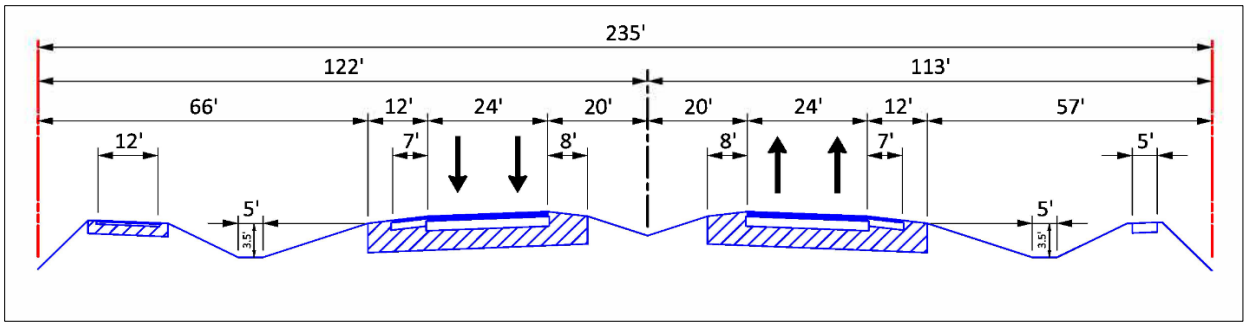

Figure 4-5 Widening Alternative from Stacy Road to SR 56

Following the development of the initial Build Alternative, a Value Engineering (VE) study was conducted. The VE study resulted in the following approved recommendations:

- Reduce, eliminate, or combine ponds, and reduce floodplain compensation to reduce construction cost and right-of-way cost.
- Eliminate friction course within the median crossover areas. In these locations, construct structural course finished grade to be flush with adjacent friction course.
- Construct new shared use path bridges rather than relocate the existing wooden bridges.
- Include lighting at intersections only, rather than throughout the entire project (subject to Design-phase concurrence by the District Traffic Operations Engineer).
- Eliminate the sidewalk in the rural area north of Stacy Road; however, construct the earthwork, as necessary, to accommodate a future sidewalk.

The signed VE study decision matrix is included in **Appendix E**.

4.6 INITIAL ALTERNATIVES COMPARATIVE EVALUATION

The initial Build Alternative was evaluated for potential effects to the natural and physical environments and compared to the "No-Build" or "No-Action" Alternative. The initial Build Alternative and the No-Build Alternative were also assessed for their compatibility with the evacuation, mobility, and safety needs of the corridor. This comparative analysis is shown in **Table 4-6**. The initial construction costs were estimated using FDOT's Long Range Estimate (LRE) tool.

4.7 INITIAL PREFERRED ALTERNATIVE SELECTION

The Build Alternative will provide additional capacity to meet the evacuation and mobility needs of the corridor while also enhancing safety conditions. The No-Action alternative does not provide additional capacity or safety enhancement. Therefore, the Build Alternative was selected as the Preferred Alternative. The initial Preferred Alternative consisted of a suburban typical section with west-side widening from Fowler Avenue to Stacy Road and a rural typical section utilizing pavement savings from Stacy Road to SR 56.

Table 4-6 Initial Alternatives Evaluation Matrix

Evaluation Criteria	No-Build Alternative	Build Alternative
Potential Relocations		
Number of business/residential	0	11/16
Potential Right-of-Way Impacts		
Roadway improvements (acres)	0	135.3
Stormwater facilities (acres)	0	105.6
Potential Environmental Effects		
Archaeological/Historic sites	0	30/10
Public lands (acres)	0	27.8
Noise sensitive sites	0	94
Floodplains (acre-feet)	0	134.5
Wetlands (acres)	0	31.1
Surface waters (acres)	0	38.8
Threatened and endangered species (potential)	None	Medium
Contamination sites (low/medium/high)	None	29/4/0
Estimated Costs (in millions)		
Design (10% of the construction cost)	$0	$13.6 M
Wetland mitigation cost	$0	TBD
Right-of-way cost	$0	$36.3 M
Construction cost	$0	$136.0 M
Construction Engineering & Inspection (10% of the construction cost)	$0	$13.6 M
Preliminary Estimate of Total Project Cost	**$0**	**$199.5 M**

1 Right-of-way cost estimates were prepared in July 2020.
2 Construction costs were prepared in January 2022 using the FDOT LRE system.

4.8 REVISED BUILD ALTERNATIVE

Based on public comments provided, it was determined that revisions needed to be made to the initial roadway improvement concepts. These revisions were needed to reduce the right-of-way impacts to residences, businesses, and conservation lands.

The revised Build Alternative for the portion of the project from Fowler Avenue to Stacy Road includes two 11-foot travel lanes in each direction, a 30-foot raised median including 4-foot paved inside shoulders, 7-foot buffered bike lanes, curb and gutter (both inside and outside), and a closed drainage system. This typical section also includes a 6-foot sidewalk on the east side of the roadway and a 12-foot shared use path on the west side of the roadway. The proposed design speed/target speed for this urban typical section is 45 mph.

The revised Build Alternative for the portion of the project from Stacy Road to SR 56 includes two 12-foot travel lanes in each direction, a 30-foot raised median including 4-foot paved inside shoulders, 10-foot outside shoulders (5 feet paved), curb and gutter on the inside, and an open drainage system. This typical section also includes a 6-foot sidewalk on the east side of the roadway and a 12-foot shared use path on the west side of the roadway. The proposed design speed/target speed for this suburban typical section is 55 mph.

4.9 REVISED ALTERNATIVES COMPARATIVE EVALUATION

The revised Build Alternative was evaluated for potential effects to the natural and physical environments and compared to the "No-Build" or "No-Action" Alternative. The revised Build Alternative and the No-Build Alternative were also assessed for their compatibility with the evacuation, mobility, and safety needs of the corridor. This comparative analysis is shown in **Table 4-7**. The revised construction costs were estimated using FDOT's LRE tool and these are included in **Appendix F**.

Table 4-7 Revised Alternatives Evaluation Matrix

Evaluation Criteria	No-Build Alternative	Build Alternative
Potential Relocations		
Number of business/residential	0	9/11
Potential Right-of-Way Impacts		
Roadway improvements (acres)	0	85.1
Stormwater facilities (acres)	0	97.1
Potential Environmental Effects		
Archaeological/Historic sites	22/55	22/55
Public lands (acres)	0	18.9
Noise sensitive sites	32	67
Floodplains (acre-feet)	0	123.3
Wetlands (acres)	0	16.6
Surface waters (acres)	0	33.7
Threatened and endangered species (potential)	None	Low
Contamination sites (low/medium/high)	0	31/4/0
Estimated Costs (in millions)		
Design (10% of the construction cost)	$0	$22.6M
Wetland mitigation cost	$0	$2.9 M
Right-of-way cost	$0	$41.8 M
Construction cost	$0	$226.5 M
Construction Engineering & Inspection (10% of the construction cost)	$0	$22.6 M
Preliminary Estimate of Total Project Cost	**$0**	**$316.4 M**

1 Right-of-way cost estimates were prepared in June 2023.
2 Construction costs were prepared in July 2023 using the FDOT LRE system.

4.10 REVISED PREFERRED ALTERNATIVE SELECTION

The revised Build Alternative will provide additional capacity to meet the evacuation and mobility needs of the corridor while also enhancing safety conditions. The No-Action Alternative does not provide additional capacity or safety enhancement. Therefore, the revised Build Alternative was selected as the Preferred Alternative. The Preferred Alternative consists of an urban typical section from Fowler Avenue to Stacy Road and a suburban typical section utilizing pavement savings from Stacy Road to SR 56. Design details and typical sections of the Preferred Alternative are included in **Section 6.0** of this report.

SECTION 5 AGENCY COORDINATION & PUBLIC INVOLVEMENT

5.1 AGENCY COORDINATION

At the beginning of the project, numerous agencies with a potential interest in the project were identified. The agency mailing list contained representatives from the ETAT, including federal and state government, as well as state permitting agencies. On August 21, 2015, a meeting was held with the FDEP to discuss the preliminary right-of-way requirements. In addition, the proposed improvements to US 301 will require the acquisition of right-of-way from state owned lands (e.g., Hillsborough River State Park) and will result in impacts to the Hillsborough River. The FDEP's preference is to split right-of-way acquisition from both sides of US 301 to lessen the impact to Hillsborough River State Park on the west side of US 301 and the historic Civilian Conservation Corps (CCC) structures and Fort Foster on the east side of US 301.

On October 27, 2016, a meeting was held with Hillsborough County staff to discuss the project. The County expressed interest in a shared use path that would connect the southern terminus of the Old Fort King Trail at John B. Sargeant Wilderness Park to the planned Tampa Bypass Canal Trail located to the south of the study corridor. In addition, Hillsborough County also expressed interest in a northern extension of the Old Fort King Trail into Pasco County. A meeting with Pasco County was held on November 7, 2016, to discuss the project. Pasco County also expressed interest in a northern extension of the Old Fort King Trail into Pasco County. On December 15, 2016, a meeting was held with the City of Zephyrhills to discuss the project. The City recommended that the Zephyrhills Municipal Airport be added to the list of stakeholders since they have plans to develop property that will utilize the US 301 corridor.

A second meeting with FDEP occurred on January 20, 2017, at the Hillsborough River State Park Recreation Hall. Items discussed included moving the shared use path to the park (west) side of US 301 as well as providing a traffic device/lighting system and crosswalk near Fort Foster to stop traffic when passenger trams are crossing US 301. FDEP indicated they would like the speed limit lowered around Hillsborough River State Park and Fort Foster and did not want any retention ponds constructed on park property. In addition, FDEP indicated they wanted a left-in/left-out directional median opening at the main park entrance/exit.

5.2 PUBLIC INVOLVEMENT

A Public Involvement Plan (PIP) was prepared to identify stakeholders, agencies, and other interested parties that would be included in the project mailing list. The PIP also documented numerous public outreach techniques including a project website, newsletters, small group meetings and a public hearing. A Comments and Coordination Report will be prepared at the end of the PD&E study to document the results of the PIP.

The first Public Hearing was held on March 24, 2022 at the FDOT District Seven headquarters. A Public Hearing debriefing was subsequently held on April 12, 2022 to discuss the public comments. The majority of the attendees who support the widening of US 301 were concerned with safety at the key study intersections and future traffic noise levels. Multiple individuals expressed a desire for traffic signals to be installed at one or more of the following intersections:

- Jackson Road
- Harney Road
- Langshaw Drive
- CR 579
- Palm Tree Drive
- Stacy Road
- McIntosh Road
- Hillsborough River State Park Public Entrance

Based on the public input, a decision was made to install traffic signals at the Harney Road, Stacy Road and McIntosh Road intersections under an FDOT safety improvement project. The public also expressed some concerns about the potential roundabouts that were included in the improvement concept graphics that were displayed at the Public Hearing. Based on these concerns, it was decided that the roundabout options would be eliminated.

The majority of the people who oppose the project were primarily concerned with impacts to conservation lands and wildlife. There were also persons who did not support the widening of US 301 due to the amount of residential/business relocations that would result from the widening. As a result, it was decided that revisions would be made to the proposed improvements. These revisions included reducing the design speeds/target speeds, thereby reducing the width of the roadway typical sections, maintaining the existing horizontal alignment, and reducing the impacts to HRSP, where possible.

(This section will be updated after the 2nd Public Hearing)

SECTION 6 DESIGN FEATURES OF THE PREFERRED ALTERNATIVE

Based on the evaluation of the alternatives described in **SECTION 4** (Alternatives Analysis) of this report, The Build Alternative is the Preferred Alternative. Concept plans illustrating the Preferred Alternative are provided in **Appendix A**.

6.1 ENGINEERING DETAILS OF THE PREFERRED ALTERNATIVE

6.1.1 Roadway Typical Sections

The Preferred Alternative is composed of two roadway typical sections. A four-lane divided urban typical section with a target/design speed of 45 mph is proposed from Fowler Avenue to Stacy Road. This typical section has two 11-foot travel lanes in each direction, a 30-foot raised median including 4-foot paved inside shoulders, and 7-foot buffered bike lanes in each direction. This typical section also includes a 6-foot sidewalk on the east side of the roadway and a 12-foot shared use path on the west side of the roadway to accommodate pedestrians and bicyclists. The proposed typical section ROW width varies from 151 feet to 200 feet. This roadway typical section is depicted in **Figure 6-1**.

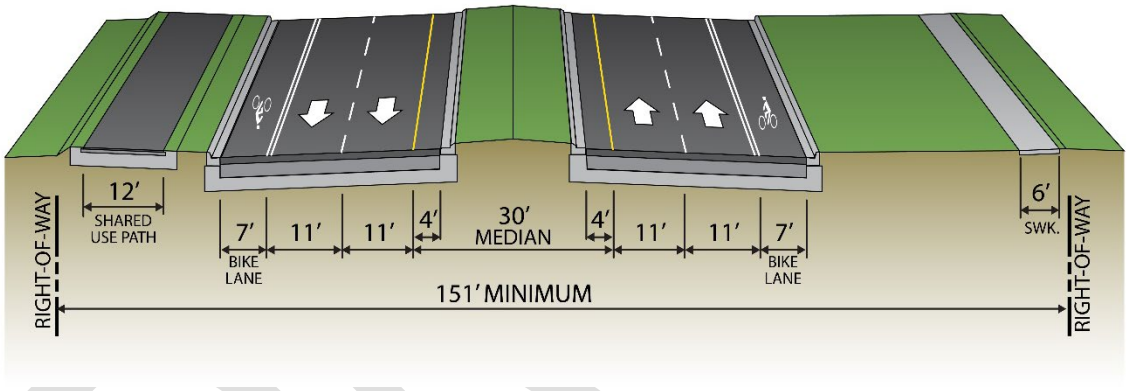

Figure 6-1 Preferred Alternative Typical Section from Fowler Avenue to Stacy Road

The second roadway typical section is a four-lane divided suburban typical section with a target/design speed of 55 mph. This typical section is proposed from Stacy Road to SR 56 and consists of two 12-foot travel lanes in each direction, a 30-ft raised median including 4-foot paved inside shoulders, and 10-foot outside shoulders (5-foot paved). This typical section also includes a 6-foot sidewalk on the east side of the roadway and a 12-foot shared use path on the west side of the roadway. The proposed typical section ROW width varies from 192 feet to 230 feet. Wherever possible, pavement savings will be achieved by converting the existing two-lane roadway to southbound only operation. This roadway typical section is depicted in **Figure 6-2**.

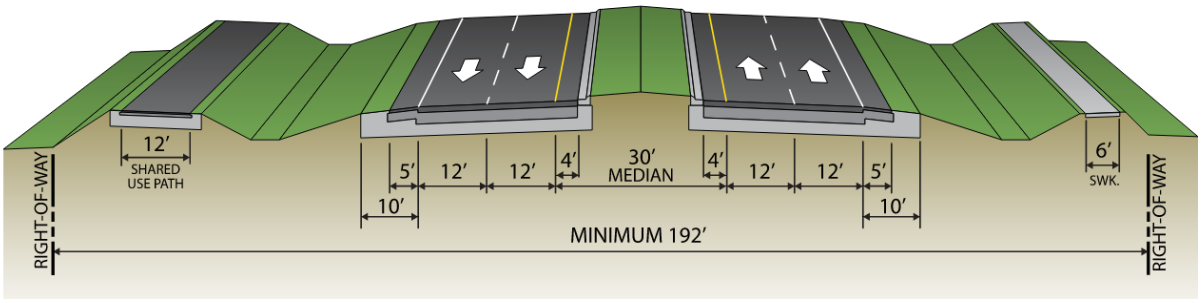

Figure 6-2 Preferred Alternative Typical Section from Stacy Road to SR 56

6.1.2 Bridges and Structures

Based on the good condition and structural capacity of the four conventional bridges, it is recommended that they remain in service to carry southbound traffic over Flint Creek, Flint Creek Relief, Hollomans Branch, and the Hillsborough River. The proposed structures that will parallel the existing bridges will have similar superstructure depths and span arrangements to maintain vertical clearance, profile, and channel hydraulics. The existing bridge culvert conveying Two Holes Branch will be replaced with separate northbound, southbound and shared use path bridges due to the low existing health index of 35.62.

Flint Creek

At the Flint Creek crossing, the existing bridge (Bridge No. 100951) would carry southbound traffic while a new structure would carry northbound traffic. The recommended new structure is 116 feet long. The typical section consists of two 12-foot lanes, a 6-foot inside shoulder, a 10-foot outside shoulder and a 6-foot sidewalk. Single slope traffic railings (36 inches wide) and a pedestrian/bicycle bullet railing would also be provided. The total width of this new bridge is 49 feet-8 inches. The shared use path bridge would have a 12-foot clear width and bridge pedestrian/bicycle railing on both sides, resulting in an overall width of 13 feet-7 inches. This proposed bridge typical section is illustrated in **Figure 6-3**.

Flint Creek Relief

At the Flint Creek Relief crossing, the existing bridge (Bridge No. 100052) would carry southbound traffic while a new structure would carry northbound traffic. The recommended new structure is 70 feet long with two equal spans. The typical section consists of two 12-foot lanes, a 6-foot inside shoulder, a 10-foot outside shoulder and a 6-foot sidewalk. Single slope traffic railings (36 inches wide) and a pedestrian/bicycle bullet railing would also be provided. The total width of this new bridge is 49 feet-8 inches. The shared use path bridge would have a 12-foot clear width and bridge pedestrian/bicycle railing on both sides, resulting in an overall width of 13 feet-7 inches. This proposed bridge typical section is illustrated in **Figure 6-3**.

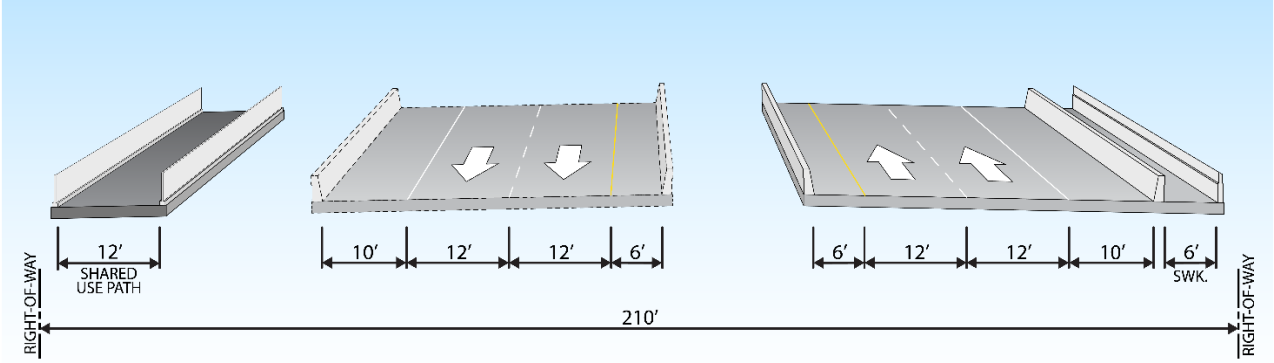

Figure 6-3 Preferred Alternative Typical Section Flint Creek and Flint Creek Relief Bridges

Hollomans Branch

At the Hollomans Branch crossing, the existing bridge (Bridge No. 100053) would carry southbound traffic while a new structure would carry northbound traffic. The recommended new structure is 96 feet long with three equal spans. The typical section consists of two 12-foot lanes, a 6-foot inside shoulder, a 10-foot outside shoulder and a 6-foot sidewalk. Single slope traffic railings (36 inches wide) and a pedestrian/bicycle bullet railing would also be provided. The total width of this new bridge is 49 feet-8 inches. The shared use path bridge would have a 12-foot clear width and bridge pedestrian/bicycle railing on both sides, resulting in an overall width of 13 feet-7 inches. This proposed bridge typical section is illustrated in **Figure 6-3.**

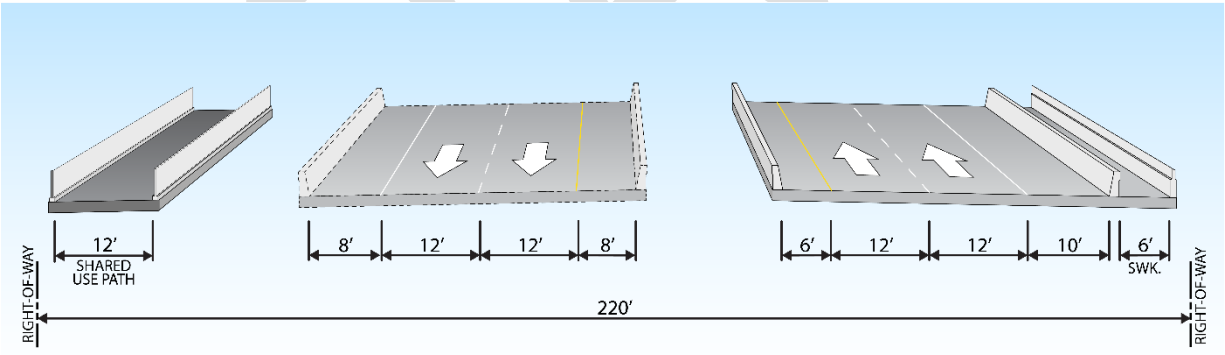

Figure 6-4 Preferred Alternative Typical Section Hollomans Branch Bridge

Two Holes Branch

Due to the low health index, the existing bridge culvert (Bridge No. 100504) at Two Holes Branch will need to be replaced with three separate bridges. Single slope traffic railings (36 inches wide) and a pedestrian/bicycle bullet railing would also be provided. The typical section for the northbound and southbound bridges would consist of two 12-foot travel lanes. The northbound bridge will include a 6-foot inside shoulder, a 10-foot outside shoulder, and a 6-foot sidewalk. The southbound bridge includes 8-foot inside and outside shoulders. The total width of the northbound bridge is 49 feet-8 inches, and

the new southbound bridge is 42 feet-8 inches. A new bridge will be constructed to the outside of the southbound bridge to allow for a 12-foot shared use path. This proposed bridge typical will reflect that illustrated in **Figure 6-3**; however, ther is no existing bridge at this location, so the southbound bridge will require new construction.

Hillsborough River

The existing bridge over the Hillsborough River (Bridge No. 100434) will be used to carry southbound traffic and the proposed 12-foot shared use path. The west overhang would be removed and the bridge would be widened by 16 feet-10 inches, resulting in a total width of 59 feet-8.5 inches. This overall width will accommodate two 12-foot travel lanes, two 10-foot shoulders, the 12-foot shared use path, a 36-inch single slope traffic railing, a pedestrian/bicycle bullet railing, and the existing New Jersey traffic barrier.

A new structure will be required to carry northbound traffic. The recommended structure would be 450 feet long and have the same span configuration and vertical clearance as the existing bridge to maintain the navigable waterway. The typical section would consist of two 12-foot travel lanes, a 6-foot inside shoulder, a 10-foot outside shoulder, a 6-foot sidewalk, 36-inch single-slope barriers, and a pedestrian/bicycle bullet railing. The total width of this new bridge is 49 feet-8 inches. This proposed bridge typical section is illustrated in **Figure 6-5**.

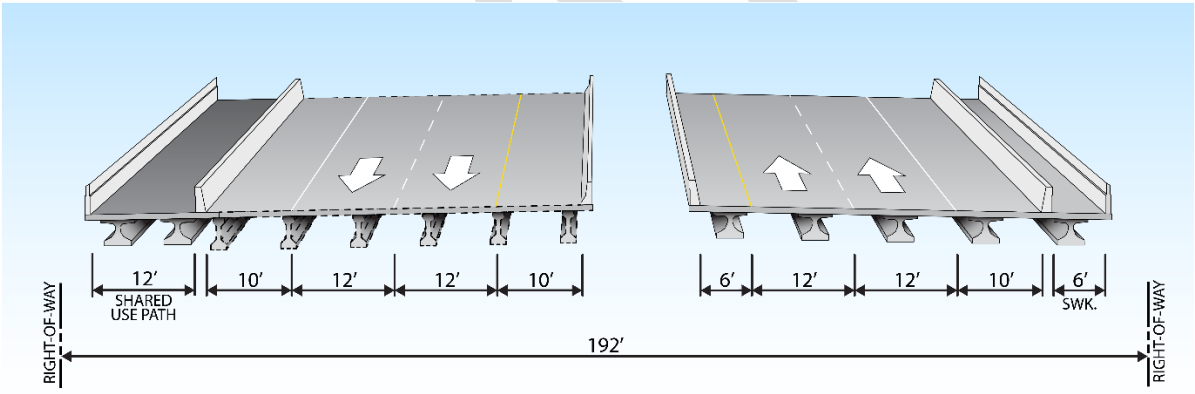

Figure 6-5 Preferred Alternative Typical Section Hillsbororugh River Bridge

Due to the vertical clearance beneath the bridges, it is feasible to provide a wildlife shelf at both ends of the existing and proposed Hillsborough River bridges. This could be accomplished by removing portions of the existing sand cement riprap, reworking the sloped embankment into a shelf, and protecting the new embankment shape with sand cement riprap.

The Preferred Alternative roadway widening includes the construction of a new two-lane roadway on the east side of the existing roadway (for northbound traffic) in the area between the Flint Creek crossing and the Hollomans Branch crossing. This will require the removal of the three existing wooden pedestrian/bicycle bridges.

6.1.3 Right-of-Way and Relocations

The Preferred Alternative will require 85.10 acres of additional ROW for the roadway widening and will impact 73 parcels. An additional 97.07 acres of ROW will be required for the proposed offsite stormwater management facilities and floodplain compensation sites (including access easements). The additional ROW will result in eleven potential residential relocations and nine potential business relocations. A conceptual stage relocation plan was prepared under separate cover. The proposed ROW requirements for the Preferred Alternative, as well as the potential residential and business relocations, are identified on the concept plans provided in **Appendix A**.

6.1.4 Horizontal and Vertical Geometry

The horizontal alignment for the Preferred Alternative contains eight horizontal curves within the study corridor. The horizontal alignment is summarized in **Table 6-1**. The Preferred Alternative also incorporates some pavement savings. The existing roadway is utilized as the future southbound roadway in two areas. The first area starts approximately 2,500 feet north of Stacy Road and ends approximately 300 feet north of the northern end of the bridge over Hollomans Branch. The second area starts at the Hillsborough River

River State Park public entrance and ends approximately 750 feet south of the SR 56 intersection. Plan sheets illustrating the Preferred Alternative alignment are provided in **Appendix A**. The Preferred Alternative profile elevation of the proposed travel lanes will be increased above the existing profile, as necessary, to meet FDOT base clearance requirements. This increase in elevation is accommodated within the proposed ROW footprint of the Preferred Alternative.

Table 6-1 Proposed Horizontal Alignment

Baseline PI Station	Bearing		Degree of Curvature	Radius (ft)	Length (ft)
	Back	Ahead			
1347+64.11	N 56° 46' 20.13" E	N 81° 31' 19.00" E	0° 59' 40.01”	5,761.58	2,488.79
1406+64.72	N 81° 31' 19.00" E	N 34° 26' 29.72" E	2° 59' 59.20”	1,910.00	1,569.46
1470+66.88	N 34° 26' 29.72" E	N 59° 26' 29.72" E	0° 59' 39.38”	5,762.58	2,514.40
1522+78.07	N 59° 26' 29.72" E	N 87° 48' 31.17" E	2° 00' 00”	2,864.79	1,418.35
1542+71.78	N 87° 48' 31.17" E	N 51° 34' 32.26" E	2° 00' 00”	2,864.79	1,811.65
1647+85.33	N 51° 34' 32.26" E	N 30° 03' 28.33" E	0° 44' 04.42"	7,800.00	2,929.33
1815+67.42	N 30° 03' 28.33" E	N 29° 34' 38.14" E	N/A	N/A	15,334.88
1845+47.83	N 29° 34' 38.14" E	N 30° 03' 28.33" E	N/A	N/A	2,980.41
1859+14.41	N 30° 03' 28.33" E	N 30° 03' 28.33" E	N/A	N/A	1,366.58
1861+14.90	N 30° 03' 28.33" E	N 20° 15' 40.52" E	2° 26' 56.88”	2,339.43	400.00
1949+96.47	N 20° 15' 40.52" E	N 20° 25’ 13.47” E	N/A	N/A	8,682.05
1967+96.48	N 20° 25’ 13.47” E	N 20° 15’ 40.52” E	N/A	N/A	1,800.01
2004+49.56	N 20° 15’ 40.52” E	N 20° 15’ 40.52” E	N/A	N/A	3,653.09
2016+06.03	N 20° 15' 40.52" E	N 42° 39' 01.10" E	0° 58' 49.82”	5,843.49	2,283.42

6.1.5 Bicycle and Pedestrian Accommodations

The Preferred Alternative includes a six-foot sidewalk on the east side of US 301 from Tom Folsom Road to SR 56 and a 12-foot shared use path on the west side of US 301 from Bradley Road to SR 56.

6.1.6 Multi-Modal Accommodations

There are no bus bays/pullouts, ramp bypass lanes, or exclusive transit lanes included in the Preferred Alternative. There is no existing or proposed transit service in the corridor and therefore, there is no impact to transit routes. There are no existing railroad lines that are parallel to or cross US 301 within the study corridor. Therefore, there are no railroad impacts.

6.1.7 Access Management

An access management plan was developed for the Preferred Alternative for the portion of the study corridor from Bradley Road to SR 56 using Access Class 3 with restrictive median openings to control access. The access management plan is summarized in **Table 6-2** and includes 15 full median openings and 10 directional median openings within the construction limits. **Table 6-2** also summarizes the full median opening and directional median opening spacings. The median openings are also graphically illustrated on the Preferred Alternative concept plans provided in **Appendix A**. The proposed median openings were presented to the adjacent property owners during the second Public Hearing held on August 1, 2023.

Table 6-2 Preferred Alternative Access Management Plan

Connection	Centerline Station	Proposed Median Opening Type	Directional Openings		Full Openings	
			Proposed Directional Spacing (ft)	Distance Compared to Rule 14-97 (%)	Proposed Full Spacing (ft)	Distance Compared to Rule 14-97 (%)
Fowler Avenue (LT)	1341+55.75	Full (Signalized)				
					1,024	**39%**
Rockhill Road (LT) / Fowler Avenue (RT)	1351+80.00	Full				
			461	**35%**		
Tom Folsom Road (LT)	1356+40.69	Dual Directional				
BEGIN CONSTRUCTION	***1359+88.79***		843	**64%**	3,122	118%
Bradley Road (LT)	1364+83.64	NB Directional				
			1,819	138%		
Jackson Road (LT) / Jackson Road (RT)	1383+02.19	Full				
			1,498	113%		
Tampa Machinery Auction (LT)	1398+00.15	NB Directional			2,536	**96%**
			1,038	**79%**		
Harney Road (RT)	1408+38.22	Full				
			1,618	123%		
Ohio Avenue (LT) / Ohio Avenue (RT)	1424+55.74	Dual Directional			2,719	103%
			1,102	**83%**		
Langshaw Drive (LT)	1435+57.63	Full				
Florence Avenue (RT)	1440+69.46	No Opening			1,982	**75%**
CR 579 (RT)	1455+39.43	Full				
Palm Tree Drive (LT)	1459+09.51	No Opening	2,456	186%		
US 301 Industrial Park (LT)	1479+95.14	Dual Directional			7,066	268%
			2,546	193%		
Orbital Paintball (RT)	1505+40.75	Dual Directional				
			2,065	156%		
John B. Sargeant Park Entrance (LT) / Stacy Road (RT)	1526+05.83	Full				
					3,656	139%
Hillsborough County Public Works (RT)	1562+62.27	Full				
			3,138	238%		
U-Turn Location	1594+00.00	SB Directional			6,901	261%
			3,763	285%		
Franklin Road (RT)	1631+63.00	Full				
			2,337	177%		
U-Turn Location	1655+00.00	NB Directional			4,660	176%
			2,323	176%		
McIntosh Road (RT)	1678+22.54	Full				
			2,274	172%		
Avery Road (LT)	1700+96.33	NB Directional			3,238	123%
			964	**73%**		
St. Francis Lane (RT)	1710+60.61	Full				
			3,439	261%		
U-Turn Location	1745+00.00	SB Directional			5,514	209%
			2,074	157%		
Dead River Road (LT)	1765+74.20	Full				
			2,726	206%		
Muddy Water Trail (LT)	1793+00.00	Dual Directional				
Model Dairy Road (LT)	1814+68.63	No Opening	3,209	243%	7,695	291%
Hillsborough River State Park (LT)	1825+09.24	Dual Directional				
			1,760	133%		
Hillsborough River State Park (LT) / Ranch Road (RT)	1842+69.51	Full				
					9,930	376%
U-Turn Location	1942+00.00	Full				
					3,154	119%
Rapid River Boulevard (RT)	1973+53.90	Full				
					3,037	115%
Rapid River Boulevard (RT)	2003+90.77	Full				
Action Auctioneers (RT)	2016+22.25	No Opening			2,974	113%
END CONSTRUCTION	***2027+01.44***					
Proposed SR 56 (LT) / Festival Park (RT)	2033+65.24	Full				
					2,141	**81%**
Correctional Facility (LT) / Festival Park (RT)	2055+06.10	Full				

6.1.8 Intersection and Interchange Concepts

The intersection configurations are depicted on the Preferred Alternative concept plans provided in **Appendix A**. The existing traffic signals at Fowler Avenue and SR 56 are identified on the concept plans along with the three future traffic signals are currently being designed and installed at the Harney Road, Stacy Road and McIntosh Road intersections. Future traffic signals may potentially be installed at the CR 579 (Mango Road) intersection and the Hillsborough River State Park entrance and will be further evaluated in design. The 2040 peak hour traffic analysis results indicate the Fowler Avenue intersection is projected to operate at an acceptable level of service with the current geometry; therefore, no additional geometric improvements are depicted at this intersection.

6.1.9 Intelligent Transportation Systems/TSM&O Strategies

The Preferred Alternative does not include any Intelligent Transportation System facilities. The decision to include these types of facilities in the study corridor will be made during the final design phase of the project. The TSM&O strategy of access management is included as a component of the Preferred Alternative. FDOT is committed to installing traffic signals at the Harney Road, Stacy Road, and McIntosh Road intersections.

6.1.10 Utilities

Widening US 301 will require the relocation of some existing utilities located by permit within the existing FDOT ROW. FDOT coordination with potentially affected utility owners will continue throughout the future project design and construction phases. Project design efforts will seek to avoid or minimize impacts to existing utilities to the extent feasible within the roadway ROW. The utility agencies/owners known to operate facilities within the project corridor are summarized in **Table 6-3**.

Table 6-3 Utilities Companies and Facilities

Utility Company	Facilities
Bright House Networks Mr. Randy Lyle 813-684-6100 randy.lyle@mybrighthouse.com	Overhead and underground fiber optic cables on the west side of US 301 from Fowler Avenue to north of Palm Tree Drive (in the vicinity of the Rivers Edge Pet Resort). Overhead fiber optic cables on the east side of US 301 north and south of Jackson Road (overhead) and underground fiber optic cables between CR 579 and the cell tower located to the south of Earthscapes Landscaping.
Comcast Mr. Liam McKenna 407-849-3610 liam.mckenna@cable.comcast.com	Overhead fiber optic cables and coaxial cables on the west side of US 301 from McIntosh Road to Avery Road and underground fiber optic cables and coaxial cables on the east side of US 301 from Avery Road to Campground Road.
Duke Energy Ms. Sharon Dear 407-905-3321 sharon.dear@duke-energy.com	A proposed 230-kilovolt (kV) line will replace the existing 115-kV line built in 1952. The existing line is located west of US 301 and crosses US 301 just north of Palm Tree Drive. At this point, the line runs parallel to US 301 on the east side until it reaches Stacy Road.

Utility Company	Facilities
Florida Gas Transmission Mr. Joe Sanchez 407-838-7171 joseph.e.sanchez@energytransfer.com	A 14-inch pipeline crosses US 301 in the vicinity of Fowler Avenue and runs parallel to US 301 on the east side until approximately 0.4 miles south of Stacy Road. A 16-inch pipeline approaches US 301 from the west just north of Ohio Avenue and runs parallel to US 301 on the west side for approximately 0.15 miles. This pipeline crosses US 301 just north of Langshaw Drive and runs parallel to US 301 on the east side until it reaches Stacy Road.
Hillsborough County Public Utilities Mr. Ryan Curll 813-272-5977 CurllR@hillsboroughcounty.org	Six-inch and eight-inch Ductile Iron Pipes (DIP) are located on the west side of US 301 from Fowler Avenue to Jackson Road. There is also a six-inch DIP on the east side of US 301 that extends from approximately 850 feet south of Jackson Road to Jackson Road.
Hillsborough County Traffic Services Mr. George Aubel aubelg@hillsboroughcounty.org	No utilities within the study corridor.
Pasco County Utilities Mr. Martin Ramirez 727-847-8145 mramirez@pascocountyfl.net	There is a 12-inch PVC water main on the west side of US 301 from the southern end of Rapid River Boulevard to north of SR 56 and an eight 8-inch PVC force main on the east side of US 301 from the northern end of Rapid River Boulevard to north of SR 56. There are also two 10-inch PVC water mains that cross US 301. One of these crosses US 301 on the south side of the southern end of Rapid River Boulevard while the other one crosses US 301 on the north side of the northern end of Rapid River Boulevard.
Tampa Electric Mr. Jason Cooper 813-275-3037 csadmin@tecoenergy.com	There is a 13.2 kV overhead electric line on the east side of US 301 that extends throughout the Hillsborough County portion of the study corridor and a 69 kV overhead electric line that crosses US 301 at the Hillsborough/Pasco County line.
TECO Peoples Gas Mr. Frank Kistner 813-275-3731 fjkistner@tecoenergy.com	Gas lines are on both sides of US 301 and extend from the Hillsborough/Pasco County line northward to Chancey Road.
Verizon Mr. Mike Little 813-957-5005 michael.e.little@verizon.net	Underground telephone cable and fiber optic cable on the west side of US 301 from Fowler Avenue to Stacy Road. Overhead and underground telephone cable on the east side of US 301 throughout the entire study corridor.
Withlacoochee River Electric Cooperative Mr. Corey Littlefield 352-588-5115 rlittlefield@wrec.net	Overhead electric transmission line on the west side of US 301 that extends from the Hillsborough/Pasco County line to just north of the northern end of Rapid River Boulevard.

6.1.11 Drainage and Stormwater Management Facilities

The stormwater runoff within the study corridor will be collected and conveyed in both open and closed stormwater systems to the proposed offsite wet detention and dry detention stormwater management facilities. The stormwater management facilities will discharge at or near the same cross drains that carry the roadway runoff in the existing condition. The proposed stormwater management facilities

were sized to achieve the required water quality treatment and water quantity attenuation based on the assumption that runoff from offsite areas would be drained separately from the onsite roadway runoff. However, during the final design phase of this project, commingling of offsite and onsite runoff could be investigated for the potential to reduce the ROW requirements.

As discussed previously in **Section 2.16** of this report, there are a total of 13 roadway drainage basins within the study corridor. Basin 2 is a closed basin because the runoff from the surrounding area drains to an existing wetland that appears to have no outfall to the Hillsborough River. Consequently, Basin 2 was compensated for in the stormwater management facilities in Basins 1 and 3. Basin 10 is considered to be an open basin because the surrounding area drains to the Hillsborough River. This river is designated as an Outstanding Florida Water (OFW) and as a result, an additional 50% treatment volume is required. Basin 11 was compensated for in the stormwater management facilities in Basins 10 and 12. **Table 6-4** summarizes the recommended stormwater management facilities, including the locations, type (i.e., dry or wet), treatment and attenuation requirements, the amount of treatment and attenuation provided, and the ROW required. Approximately 38.69 acres of ROW is needed for the 11 resulting stormwater management facilities. Detailed stormwater management facility calculations are included in the US 301 *Preliminary Stormwater Management Facility Report* (dated June 2023) published under separate cover.

Table 6-4 Recommended Stormwater Management Facilities

SMF Name	From Station	To Station	Type (Dry/Wet)	Required Treatment and Attenuation (ac-ft)	Provided Treatment and Attenuation (ac-ft)	Pond ROW Area (ac) (including access easements)
1A	1360+00	1390+00	Wet	5.33	5.69	2.53
2			Basin 2 is compensated for in the stormwater management facilities in Basins 2 and 3.			
3A	1390+00	1455+50	Wet	4.85	6.78	3.85
4A	1455+50	1492+00	Dry	5.47	5.71	3.22
5B	1492+00	1580+00	Wet	8.20	8.71	3.31
6C	1580+00	1645+50	Wet	2.36	2.97	5.44
7A	1645+50	1695+00	Wet	3.28	4.07	2.53
8B	1695+00	1760+00	Wet	1.98	2.24	2.45
9C	1760+00	1788+00	Wet	1.01	1.14	1.77
10B	1788+00	1843+00	Wet	2.16	2.78	4.43
11			Basin 11 is compensated for in the stormwater management facilities in Basins 10 and 12.			
12A	1843+00	1936+00	Wet	5.17	5.66	3.72
13A	1936+00	2010+00	Wet	7.58	8.09	5.44
			Total	**47.39**	**53.84**	**38.69**

6.1.12 Floodplain Analysis

There are five federally regulated floodways within the study corridor limits and these are located at Flint Creek, Flint Creek Relief, Hollomans Branch, Two Holes Branch, and the Hillsborough River. A FEMA

"No Rise" certification will need to be obtained for each of these crossings during the final design phase of the project. The Preferred Alternative will impact the 100-year floodplain.

The impacts cannot be avoided since the floodplain extends both east and west of US 301 within the study corridor. The floodplain impacts will be mitigated using floodplain compensation sites or cut ditch sections on a "cup-for-cup" basis. The Floodplain Impact Areas (FIAs) were quantified based on the areas in which the Zone AE 100-year floodplain lies within the proposed ROW. Six FIAs were identified within the study corridor and these are summarized in **Table 6-5**.

Table 6-5 Summary of Floodplain Impact Areas (FIA)

FIA	From Station	To Station	Length of Impact (ft)	100-yr Flood Elevation	Impact Volume (ac-ft)
FIA - 1A	1397+00.00	1402+55.12	555	37.54	0.35
FIA - 1B	1398+13.90	1438+46.57	4,033	36.96	5.48
FIA - 1C	1425+83.65	1453+00.00	2,716	36.70	0.73
FIA - 2A	1507+68.32	1634+89.25	12,721	36.48	24.51
FIA - 2B	1644+24.97	1649+43.95	519	40.28	0.87
FIA - 2C	1655+00.00	1679+44.79	2,445	39.33	1.91
FIA - 3A	1714+59.82	1795+00.00	8,040	45.00	35.65
FIA - 3B	1797+42.66	1842+61.25	4,519	50.00	23.38
FIA - 3C	1843+58.09	1892+00.00	4,842	49.50	12.87
FIA - 4	1892+00.00	1913+00.00	2,100	52.28	1.39
FIA - 5	1921+54.72	1948+82.00	2,727	56.15	3.94
FIA - 6A	1949+31.85	1972+00.00	2,268	62.22	9.13
FIA - 6B	1973+20.00	1990+12.90	1,693	63.34	0.40
FIA - 6C	1993+86.00	2004+00.00	1,014	66.70	2.71
				TOTAL	**123.32**

The impact volumes were determined based on average end-area volumetric calculations utilizing the 100-year flood elevations estimated using the Hillsborough River and Tampa Bypass Canal Stormwater Management Plan Update No. 1 (August 2011) and the New River/Upper Hillsborough River Watershed Model (2014), as well as the existing ground elevations determined through the use of 1-foot LiDAR contours. The impact volumes are also summarized in **Table 6-5** and the detailed calculations are included in the *US 301 Preliminary Stormwater Management Facility Report* published under separate cover. Approximately 123.32 acre-feet of 100-year floodplain volume is impacted by the Preferred Alternative.

Seven floodplain compensation sites were also identified to mitigate the impacts to the 100-year floodplain volume. **Table 6-6** summarizes the required ROW (acres) for each of the recommended floodplain compensation sites. The total ROW required for the seven floodplain compensation sites (including access easements) is approximately 58.38 acres. More detailed information about these sites is provided in the *US 301 Preliminary Stormwater Management Facility Report* published under separate cover.

Table 6-6 Recommended Floodplain Compensation (FPC) Sites

Recommended FPC Sites	Right-of-Way Area (ac) (Including Access Easement)
FPC 1	5.45
FPC 2	7.51
FPC 3	3.55
FPC 5	25.47
FPC 6	2.15
FPC 7	5.66
FPC 8	8.59
Total	**58.38**

6.1.13 Transportation Management Plan

The proposed construction of the US 301 widening could be accomplished in three phases. The first phase would consist of constructing the proposed stormwater facilities, travel lanes, structures, and cross drain extensions outside of the existing roadway. The second phase would shift the traffic to the newly constructed lanes to enable the reconstruction and/or resurfacing of the existing travel lanes and completion of the cross drain and structures widening. The third phase would involve completing the median construction, the final roadway friction course, and the final pavement markings.

6.1.14 Special Features

There are no special features provided within the study corridor.

6.1.15 Design Variations and Design Exceptions

There are no design variations or exceptions required for the Preferred Alternative.

6.1.16 Cost Estimates

The project costs estimated for the Final Preferred Alternative are summarized in **Table 6-7**. Construction costs were prepared using the FDOT's LRE program and the detailed cost estimates are included in **Appendix F**.

Table 6-7 Project Cost Estimate

Project Phases	Cost
Design (10% of the Construction Cost)	$22.6 M
Wetland Mitigation Cost	$2.9 M
Right-of-Way Cost	$41.8 M
Construction Cost	$226.5 M
Construction Engineering & Inspection (10% of the total construction cost)	$22.6 M
Preliminary Estimate of Total Project Cost	**$316.4 M**

1 Wetland mitigation cost is based on mitigation bank credit cost and an estimate of wetland function and value loss associated with wetland impacts.
2 Right-of-way cost estimates were prepared in June 2023.
3 Construction costs were prepared in July 2023 using the FDOT LRE system.

6.2 SUMMARY OF ENVIRONMENTAL IMPACTS OF THE PREFERRED ALTERNATIVE

6.2.1 Section 4(f)

Section 4(f) does not apply because the environmental document being prepared for this project is a SEIR.

6.2.2 Cultural Resources

A Cultural Resource Assessment Survey (CRAS) (June 2017) was prepared under separate cover and was concurred with by the State Historic Preservation Officer (SHPO) on July 27, 2017. A CRAS Addendum Technical Memorandum (February 2022) was subsequently prepared under separate cover for the proposed stormwater management facilities and floodplain compensation sites. This document was concurred with by the SHPO on February 15, 2022. A CRAS Addendum Update and Historic Resource Structure Update (June 2023) was also prepared under separate cover due to changes in five of the proposed stormwater management facilities and floodplain compensation sites (i.e., stormwater management facilities 3A, 6C, 7A, 9C, and 10B). This update was concurred with by the SHPO on (*date to be provided once the approval has occurred*). These assessments concluded that no cultural resources will be adversely impacted by the Preferred Alternative. (*This statement to be verified based on receipt of SHPO approval.*)

6.2.3 Wetlands

A *Natural Resources Evaluation (NRE) Report* (March 2022) was prepared under separate cover to evaluate and document the effects of the Preferred Alternative on wetlands and surface waters and to identify the mitigation required to achieve no net loss of wetland function. This NRE Report identified 31.11 acres of wetland impacts and 38.81 acres of surface water impacts. The U.S. Fish and Wildlife Service (USFWS) concurred with the findings on May 19, 2022, and Florida Fish and Wildlife Conservation Commission (FWC) coordination was received on April 11, 2022, that agreed with the effect determinations and project implementation measures/commitments.

An *NRE Addendum* (June 2023) was prepared under separate cover to document the revised wetland and surface water impacts resulting from the revisions that were made to the Preferred Alternative. Construction of the revised Preferred Alternative is estimated to result in approximately 16.64 acres of wetland impacts and approximately 33.74 acres of surface water impacts.

Table 6-8 summarizes the estimated wetland and surface water impacts by habitat type, along with the reduction in impacts resulting from the revisions to the Preferred Alternative.

Functional loss was calculated for each wetland and surface water habitat type using the Uniform Mitigation Assessment Method (UMAM). The revised Preferred Alternative is estimated to result in a loss of 13.48 functional units. The geometric revisions that were made to the Preferred Alternative are estimated to result in a decrease in functional loss of 11.30 functional units (i.e., the previous functional loss was estimated to be 24.78 functional units). The UMAM data sheets for each habitat type are provided in the NRE Addendum. All UMAM scores and calculations, as well as preliminary wetland boundaries, are subject to revisions and approval by the regulatory agencies during the permitting process. The exact type of mitigation used to offset wetland impacts will be coordinated with the FDEP State 404 Program and the SWFWMD during the permitting phase of this project.

Table 6-8 Wetland and Surface Water Impacts

FLUCFCS Code	FLUCFCS Description	Impact Acreage within Previous Preferred Alternative [(1)]	Impact Acreage within Revised Preferred Alternative	Reduction in Impact Acreage
Surface Waters				
510	Streams and Waterways	35.83	31.43	4.40
534	Reservoirs <10 acres	2.98	2.31	0.67
	Subtotal Surface Waters	**38.81**	**33.74**	**5.07**
Wetlands				
615	Stream and Lake Swamps	25.24	13.95	11.29
621	Cypress	2.45	1.75	0.70
630	Wetland Forested Mixed	0.66	0.30	0.36
641	Freshwater Marshes	2.26	0.32	1.94
644	Emergent Aquatic Vegetation	0.50	0.32	0.18
	Subtotal Wetlands	**31.11**	**16.64**	**14.47**
	Total	**69.92**	**50.38**	**19.54**

(1) Previously documented in the March 2022 NRE Report

6.2.4 Conservation Lands

An *NRE Report* (March 2022) was prepared under separate cover to evaluate and document the effects of the Preferred Alternative on public-owned conservation lands. This NRE Report identified 27.85 acres of impacts to conservation lands. Revisions to the initial Preferred Alternative were subsequently made to reduce the magnitude of these impacts. The Final Preferred Alternative is estimated to result in 18.92

acres of impacts to these lands. **Table 6-9** summarizes the estimated impacts to conservation lands by individual land management agency, along with the reduction in impacts resulting from the revisions to the Preferred Alternative. These revised impacts are also documented in the *NRE Addendum* (May 2023) published under separate cover.

Table 6-9 Public Conservation Lands Impacts

Land Management Agency	Impact Acreage within Previous Preferred Alternative (1)	Impact Acreage within Revised Preferred Alternative	Reduction in Impact Acreage
FDEP (TIITF)	21.84	15.28	6.56
SWFWMD	5.64	3.64	2.00
Hillsborough County (ELAPP)	0.37	0.00	0.37
Total	**27.85**	**18.92**	**8.93**

(1) Previously documented in the March 2022 NRE Report

6.2.5 Protected Species and Habitat

An *NRE Report* (March 2022) was prepared under separate cover to evaluate and document the effects of the Preferred Alternative on protected species within the study corridor. Site-specific data was obtained from literature reviews and multiple environmental databases. Environmental scientists familiar with Florida natural communities conducted field reviews of the study area in February of 2016. July and September of 2018, and March and April of 2021. The field reviews were conducted to verify and/or refine the preliminary habitat boundaries and classification codes that were initially established based on the in-office literature reviews, database analysis, and aerial photo interpretation. Based on the evaluations of the data collected, a list of protected plant and animal species with the potential to occur within or adjacent to the study corridor was compiled. The names of the species, their federal or state designation protection status, preferred habitat, and a ranking of their potential for occurrence is included in the *NRE Report*.

A determination of the anticipated project "effect" on each protected species was made based on their potential for occurrence within the project area, the future changes to their habitat quantity, quality, and availability due to the proposed improvements and how each species is expected to respond to the anticipated habitat changes. A summary of the "effect" determinations is provided in **Table 6-10**. This information is also documented in the *NRE Addendum* (May 2023) published under separate cover. There was only one effect determination change made between the date of the *NRE* and the *NRE Addendum.* The eastern indigo snake was revised from "*May affect, likely to adversely affect*" to "*May affect, not likely to adversely affect*".

The project study area was also evaluated for the occurrence of listed species critical habitat; however, no designated critical habitat for any federally listed species occurs within the study area. Indirect, secondary and cumulative impacts associated with the Preferred Alternative are not anticipated to be high since this project does not involve a new roadway on new alignment. In areas adjacent to the

proposed roadway widening, including stormwater treatment and floodplain compensation sites, secondary impacts resulting from increased amounts of nuisance/exotic vegetation are anticipated. Additionally, the increased number of travel lanes resulting from the widening of US 301 may provide an increased barrier to wildlife movement across US 301. As a result, native wildlife may be negatively impacted via increased habitat fragmentation, reduced gene flow and higher occurrences of wildlife/vehicle collisions, especially in those locations where natural or undeveloped lands border US 301 on both sides. However, there are multiple bridged stream and river crossings within the study corridor that provide habitat connectivity across US 301.

Table 6-10 Summary of Species Effects

Species (Determination)
Federally Listed (No effect): *Chaffseed, Florida Scrub-Jay, Loggerhead Sea Turtle, Pygmy Fringe-Tree, Florida Golden Aster, American Crocodile, Leatherback Sea Turtle, Hawksbill Sea Turtle, Whooping Crane, Eastern Black Rail* State Listed (No effect anticipated): *Pinewoods Bluestem, Auricled Spleenwort, Tampa Vervain, Pondspice, Celestial Lily, Plume Polypody, Giant Orchid, Toothed Maiden Fern, Broad-leaved Nodding-caps* Species of Concern: *N/A*
Federally Listed (May affect, not likely to adversely affect): *Brooksville Bellflower, Wood Stork, Eastern Indigo Snake* State Listed (No adverse effect anticipated): *Chapman's Sedge, Hand Fern, Gopher Tortoise, Short-tailed Snake, Florida Pine Snake, Florida Sandhill Crane, Little Blue Heron, Tricolored Heron, Roseate Spoonbill, Florida Burrowing Owl, Southeastern American Kestrel* Species of Concern: *Bald Eagle, Florida Black Bear*

Following the First Public Hearing, additional coordination meetings were held with the FDEP, SWFWMD, FWC, and Hillsborough County to discuss potential wildlife crossing opportunities. At the request of these agencies, roadkill and wildlife crossing surveys were conducted to assess potential opportunities/locations for wildlife crossing features within the study corridor. These surveys were conducted at the five existing bridges/bridge culverts over a six-month period from November 2022 through April 2023. A total of 943 species observations were made during the surveys. There were 754 live observations and 189 roadkill observations. The highest number of wildlife observations occurred at the Hillsborough River bridge crossing while the lowest number of wildlife observations occurred at the Two Holes Branch bridge culvert crossing. The *NRE Addendum* (May 2023) published under separate cover contains recommendations for wildlife crossing features that should be further evaluated during the design phase of this project. These recommendations include the following:

- Flint Creek Crossing - Retrofit the existing structure to provide wildlife shelves and include wildlife shelves on both sides of the proposed northbound bridge.
- Flint Creek Relief Crossing - Retrofit the existing structure to provide wildlife shelves and include wildlife shelves on both sides of the proposed northbound bridge.
- Hollomans Branch Crossing – This existing bridge includes wildlife shelves on both sides of the waterway. Therefore, the proposed northbound bridge should be constructed to match the horizontal and vertical clearances of the existing bridge while maintaining the natural embankment of the waterway.
- Two Holes Branch Crossing – Include wildlife shelves on both sides of the proposed northbound and southbound bridges.
- Hillsborough River Crossing - This existing bridge includes wildlife shelves on both sides of the waterway. Therefore, the proposed northbound bridge should be constructed to match the horizontal and vertical clearances of the existing bridge while maintaining the natural embankment of the waterway.

6.2.6 Essential Fish Habitat

The Preferred Alternative will have no involvement with Essential Fish Habitat since no habitat exists within the study corridor.

6.2.7 Highway Traffic Noise

A Noise Study Report (September 2021) was prepared under separate cover to document the traffic noise impacts of the Preferred Alternative. The initial Preferred Alternative was predicted to result in traffic noise levels ranging from 39.7 db(A) to 73.1 db(A). There were 94 noise sensitive sites that were predicted to experience future noise levels that approach, meet, or exceed the Noise Abatement Criteria (NAC) for their respective land use activity. An updated Noise Study Report (July 2023) was also prepared under separate cover to document the traffic noise impacts of the Final Preferred Alternative. The final Preferred Alternative was predicted to result in traffic noise levels ranging from 39.7 db(A) to 71.9 db(A). There were 67 noise sensitive sites that were predicted to experience future noise levels that approach, meet, or exceed the NAC for their respective land use activity. Noise barriers were evaluated as potential abatement measures for the 67 sites and barriers were determined to be cost-feasible and reasonable at the following three locations:

- On the west side of US 301 in the vicinity of the Ranch Oaks Estates residential community;
- On the west side of US 301 in the vicinity of the existing Kelley Lane cul-de-sac; and
- On the east side of US 301 in the vicinity of the Green Oaks Trailer Park and the Spanish Main RV Resort

6.2.8 Contamination

Level 1 contamination evaluations were conducted for this PD&E study and a *Contamination Screening Evaluation Report (CSER)* (September 2021) was prepared under separate cover. Based on a document and site review, 72 sites along the corridor were investigated for facilities or operations that may present the potential for finding petroleum contamination or hazardous materials, and therefore, could impact the Preferred Alternative. Thirty-seven of these sites were assigned a "No Risk" rating, thirty-one were assigned a "Low" risk rating, and four were assigned a "Medium" risk rating for potential contamination concerns. No sites were assigned a "High" risk rating. The four medium risk sites are as follows:

- 301 Petrol Inc. – An open/active retail fuel facility on the east side of US 301 between E. Fowler Avenue and Tom Folsom Road
- Arkla Terra property – A Superfund site on the west of US 301 north of Jackson Road
- Presco #66 (i.e., Citgo) - An open/active retail fuel facility on the east side of US 301 between Harney Road and Ohio Avenue
- The former Atlantic Coast Railroad on the east side of US 301 between Stacy Road and the Hillsborough/Pasco County line

An updated *CSER* (July 2023) was prepared under separate cover to document whether there have been any changes to the potential contamination sites. The findings documented in this updated report indicated that no changes have occurred.

APPENDICES

Appendix A	Preferred Alternative Concept Plans
Appendix B	Preferred Alternative Typical Section Package
Appendix C	NRCS Soils Maps and Tables
Appendix D	Context Classification Memorandum
Appendix E	Value Engineering Study Decision Matrix
Appendix F	Long Range Estimate July 2023

APPENDIX A

Preferred Alternative Concept Plans

PRELIMINARY

AERIAL FLIGHT DATE: 2020

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TEL: (813) 627-4144
FAX: (813) 664-1899 WWW.AIMENGR.COM

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EXISTING R/W LINE
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CSX TRANSPORTATION
SWFWMD LANDS
STATE LANDS
COUNTY LANDS
C POTENTIAL CONTAMINATION SITE
PROPOSED R/W LINE
EXISTING EASEMENT
EXISTING ROADWAY TO REMAIN
PROPOSED ROADWAY
PROPOSED STORMWATER MANAGEMENT FACILITY
PROPOSED SIDEWALK/ SHARED USE PATH
B R POTENTIAL RELOCATION
B = BUSINESS; R = RESIDENTIAL
PROPOSED BRIDGE
PROPOSED FLOODPLAIN COMPENSATION AREA
EXISTING TRAFFIC SIGNAL
FUTURE TRAFFIC SIGNAL

US 301 (SR 41) PD&E STUDY

FROM FOWLER AVENUE TO SR 56

COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

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CONCEPT PLANS

SHEET NO. 1

PRELIMINARY

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SMF 1A
(2.53 AC.)

N

0 50 200
Feet

Bradley Rd

Marlo Dr

Macedonia
M. B. Church

New
Faith
Temple

Jackson Rd

Hwy 301
Bus. Park

Lightspeed
Construction
Group

Elyssa Rd
PRIVATE ROAD

Dollar General
Market

On The
Move

301 41

1360 1365 1370 1375 1380 1385

N81°31'19"E

PT STA +86.79

Raku
Pottery &
Collectibles

14" FGT GM

Utility Trucks
& Equipment

O'Neil's
Express
Lube

Mid-Florida
Tree Service, Inc

Jackson Rd

Fowler Ave

TECO
Power
Substation

Parkers
Old Time
Auction

James St

Terrace
Crossings

Mark St

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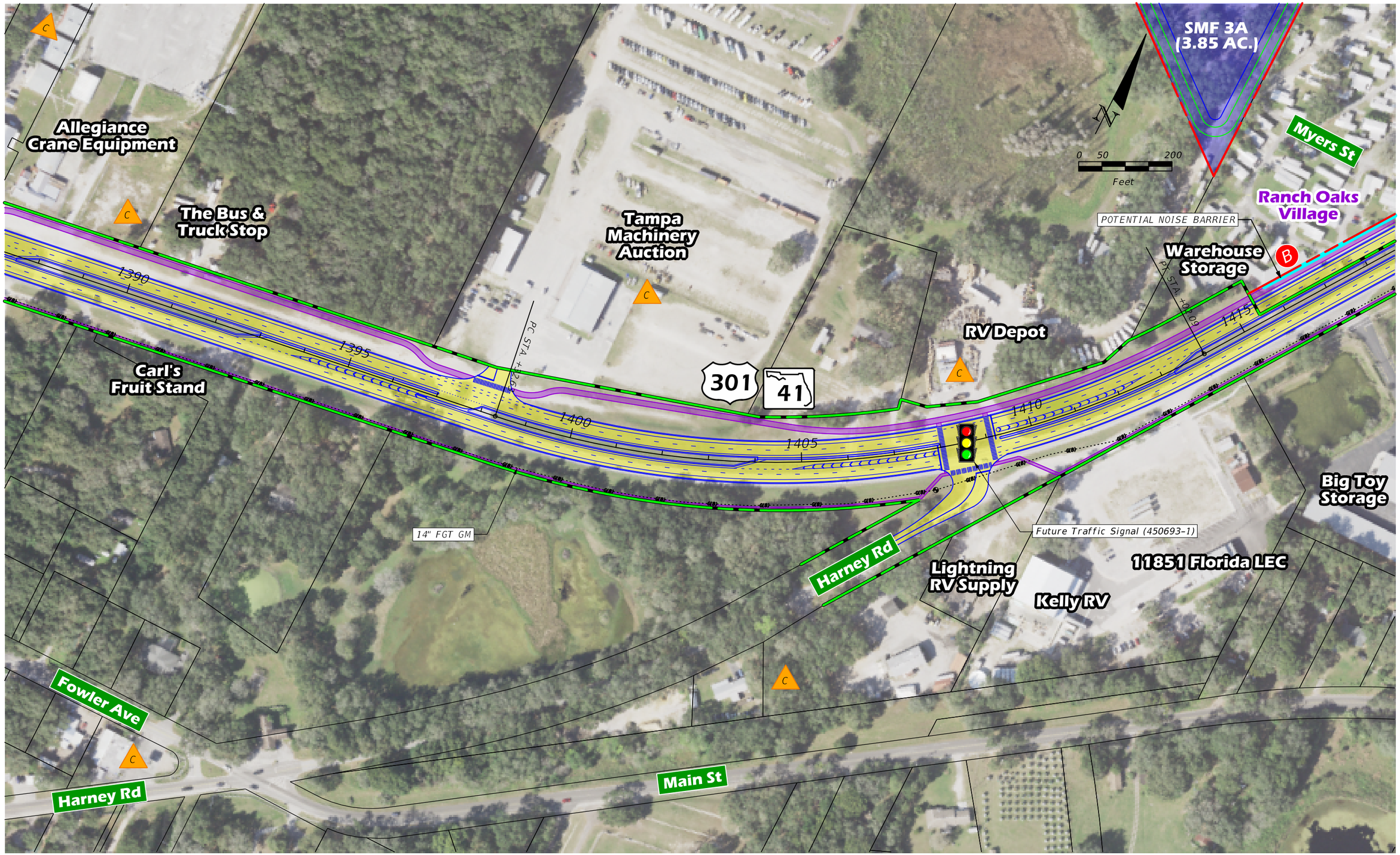

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SHEET NO. 3

PRELIMINARY

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SMF 3A
(3.85 AC.)

Ohio Ave

Myers St

Ranch Oaks
Village

POTENTIAL NOISE BARRIER

1420 1425 1430 1435 1440 1445

301 41

16" FGT GM

Langshire
Village

Elsmere Ct

Langshaw Dr

Anne Kenia Dr

Advance
Auto Parts

N34°26'30"E

0 50 200
Feet

Hinneni
Tires

Citgo

Mobile
Home
Rentals

POTENTIAL NOISE BARRIER

Green Oaks
Trailer Park

Florence Ave

Big Toy
Storage

Ohio Ave

Spanish Main
RV Resort

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- COUNTY LANDS
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SHEET NO. 4

PRELIMINARY

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Anne Kenia Dr

Shalimar Wood Dr

Floral Ln

Langshire Village

Palm Tree Dr

Kelly Ln

Kelly Ln

0 50 200

Feet

POTENTIAL NOISE BARRIER

SMF 4A (3.22 AC.)

301 41

R

R

1450

1455

1460

1465

1470

1475

STA +89.35

L&S Enterprises

14" FGT GM

16" FGT GM

Potential Traffic Signal to be Further Evaluated in Design (255796-2)

HILLSBOROUGH 579 COUNTY

Mango Rd

C

Southeastern Freight Lines

C

COPART

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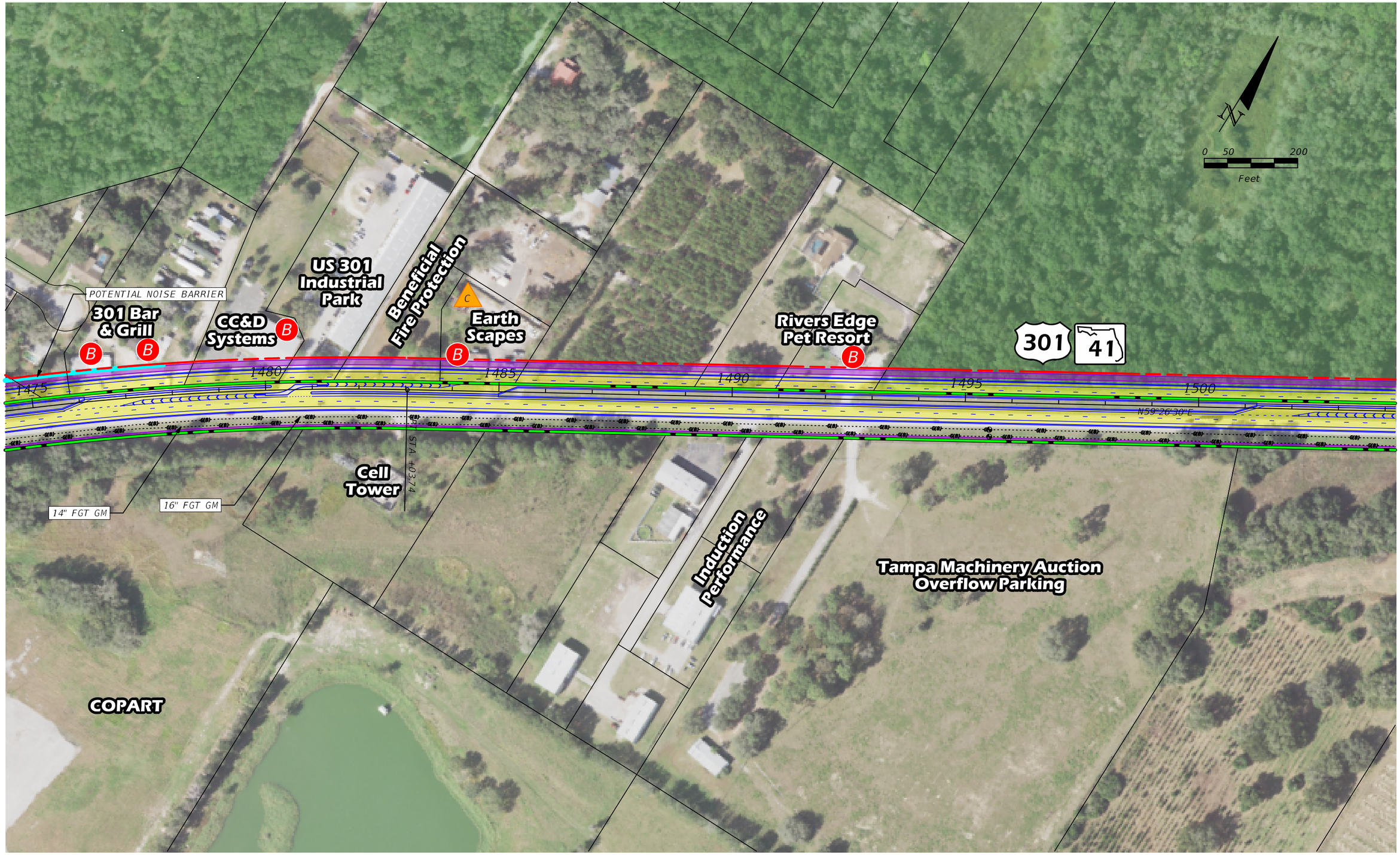

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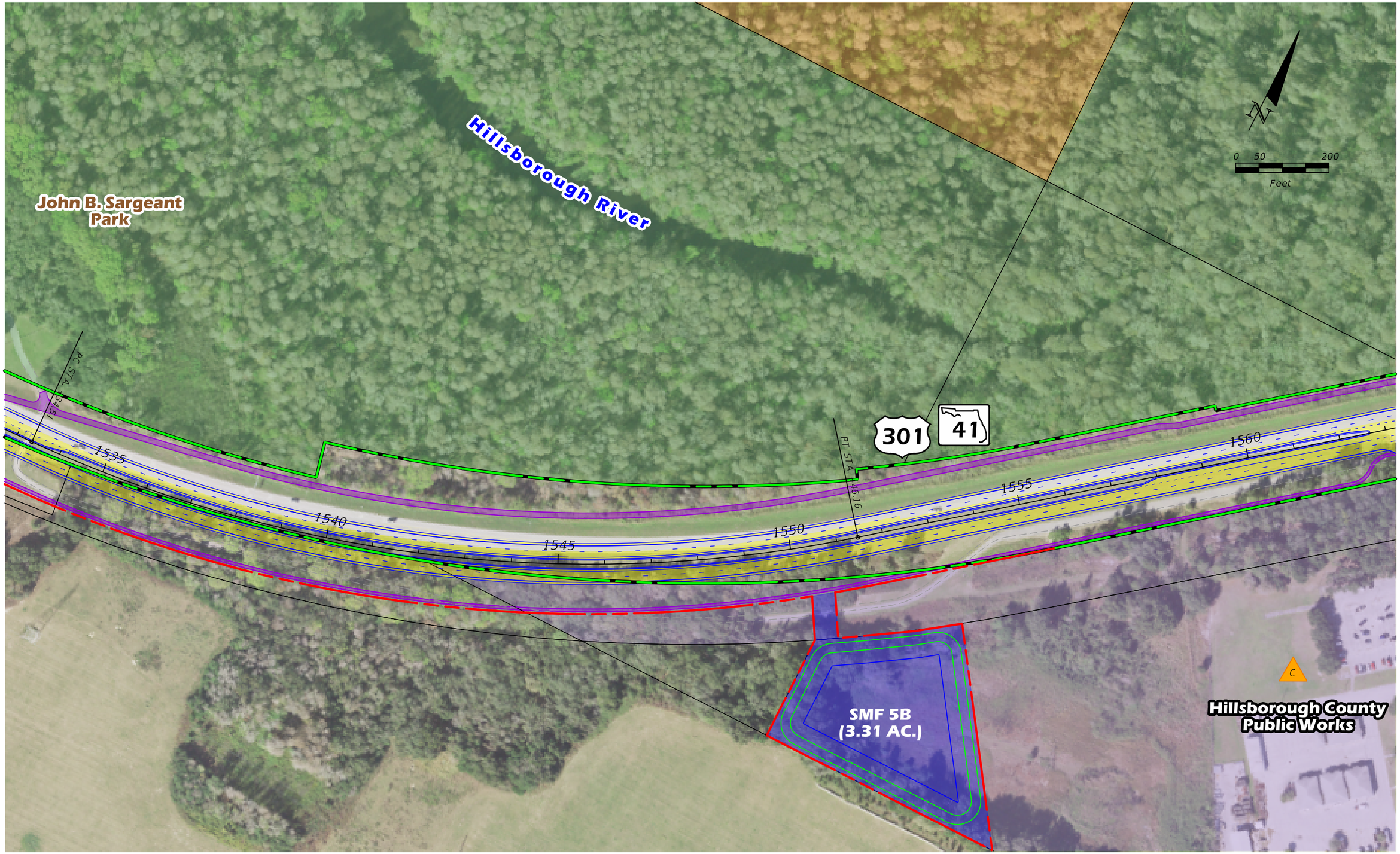

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WORK PROGRAM SEGMENT NO. 255796-1

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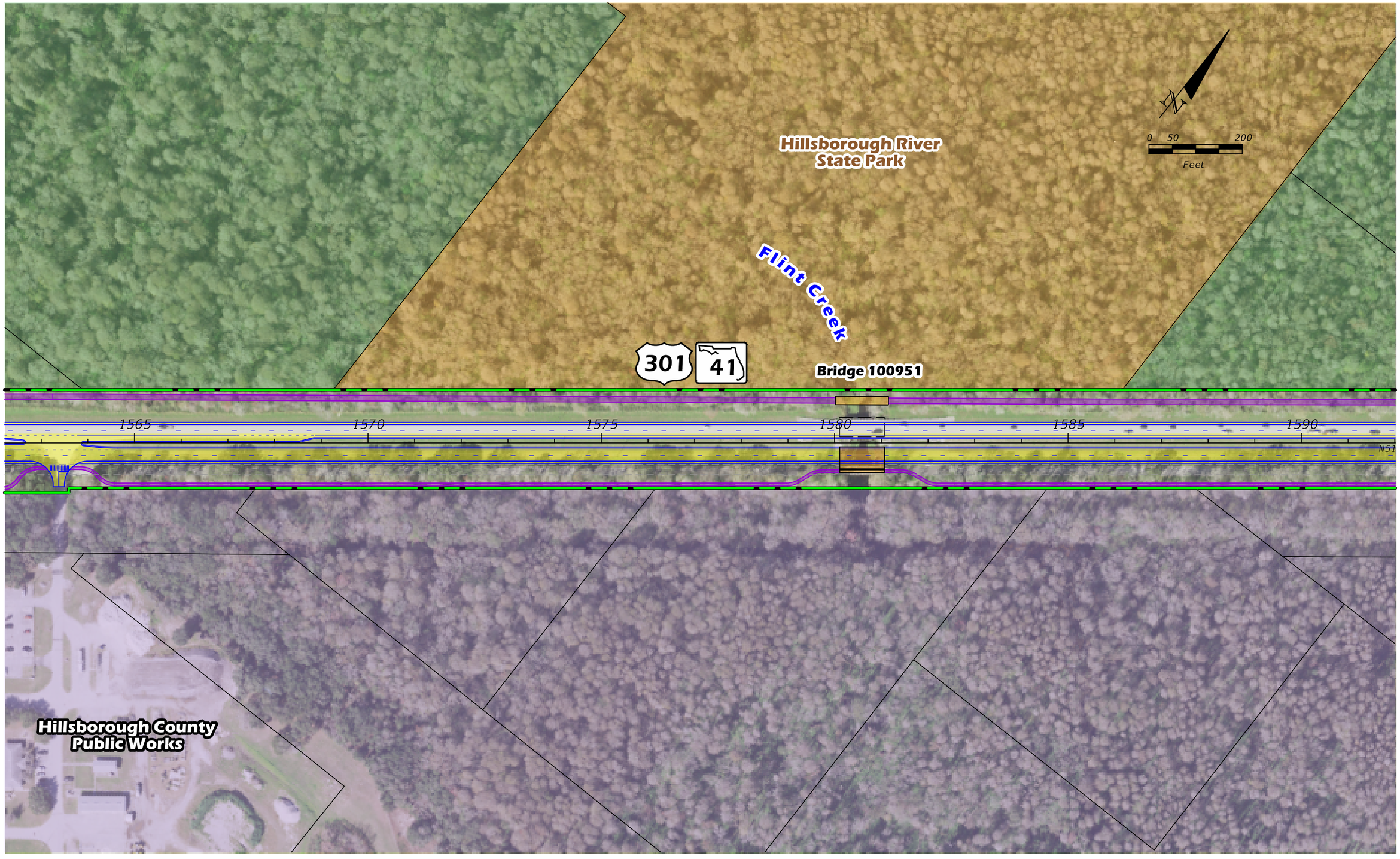

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PRELIMINARY

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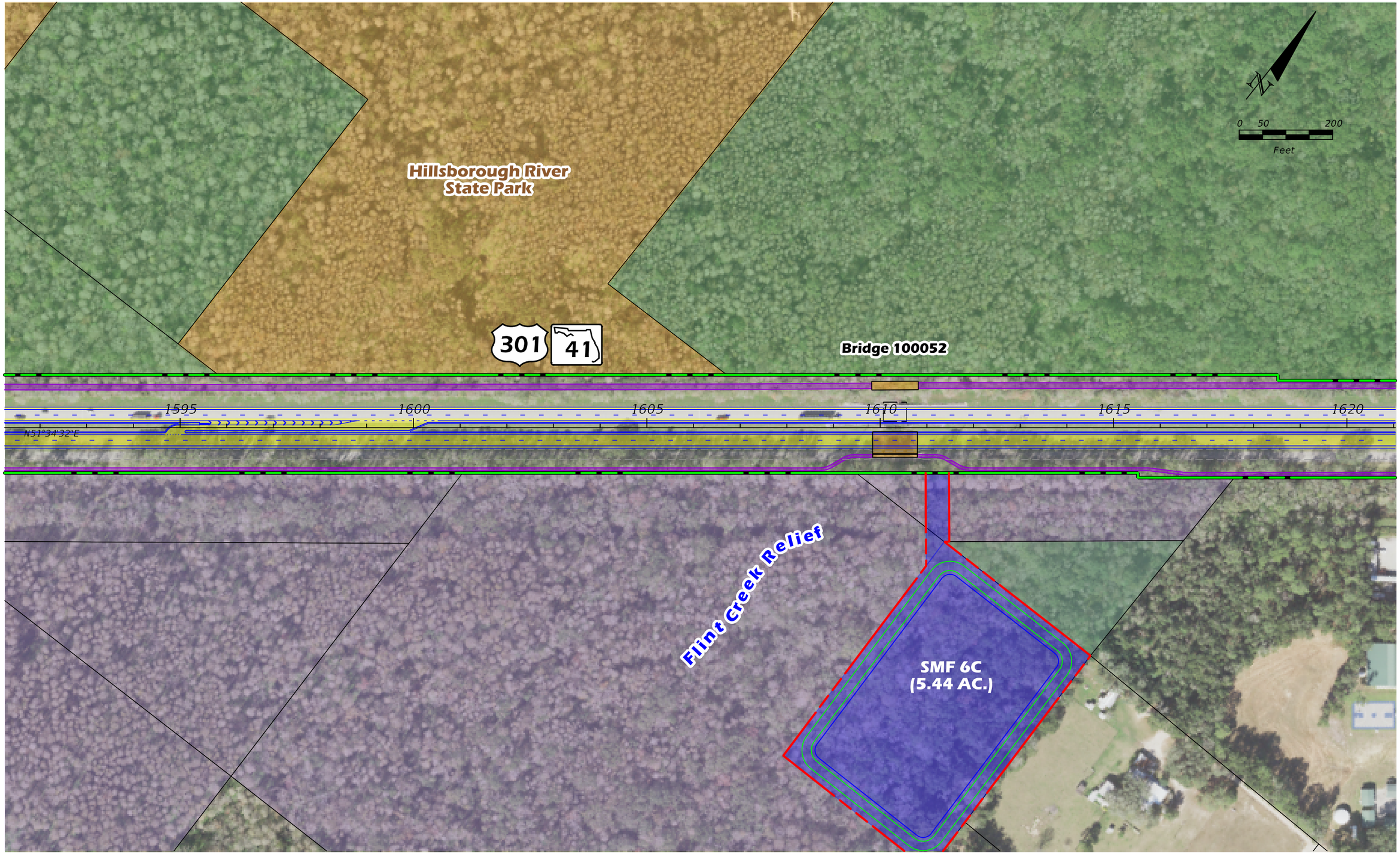

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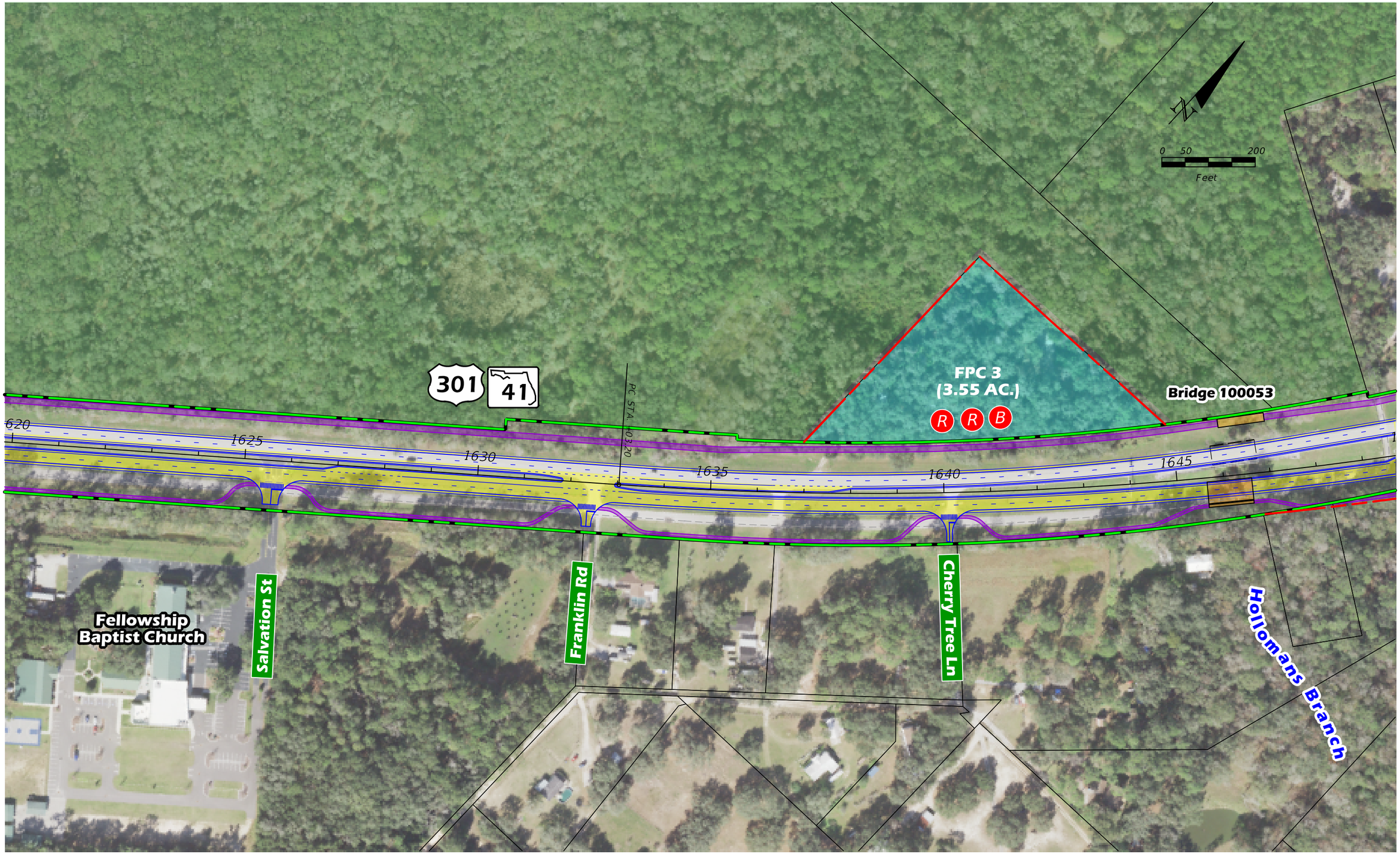

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PRELIMINARY

AERIAL FLIGHT DATE: 2020

AIM ENGINEERING & SURVEYING, INC.
201 E KENNEDY BLVD, SUITE 1800
TAMPA, FLORIDA 33602
TEL: (813) 627-4144
FAX: (813) 664-1899 WWW.AIMENGR.COM

1400 ℄ CONSTRUCTION
PROPERTY LINE
EXISTING R/W LINE
BY OTHERS
CSX TRANSPORTATION
SWFWMD LANDS
STATE LANDS
COUNTY LANDS
C POTENTIAL CONTAMINATION SITE
PROPOSED R/W LINE
EXISTING EASEMENT
EXISTING ROADWAY TO REMAIN
PROPOSED ROADWAY
PROPOSED STORMWATER MANAGEMENT FACILITY
PROPOSED SIDEWALK/ SHARED USE PATH
B R POTENTIAL RELOCATION
B = BUSINESS; R = RESIDENTIAL
PROPOSED BRIDGE
PROPOSED FLOODPLAIN COMPENSATION AREA
EXISTING TRAFFIC SIGNAL
FUTURE TRAFFIC SIGNAL

US 301 (SR 41) PD&E STUDY

FROM FOWLER AVENUE TO SR 56

COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

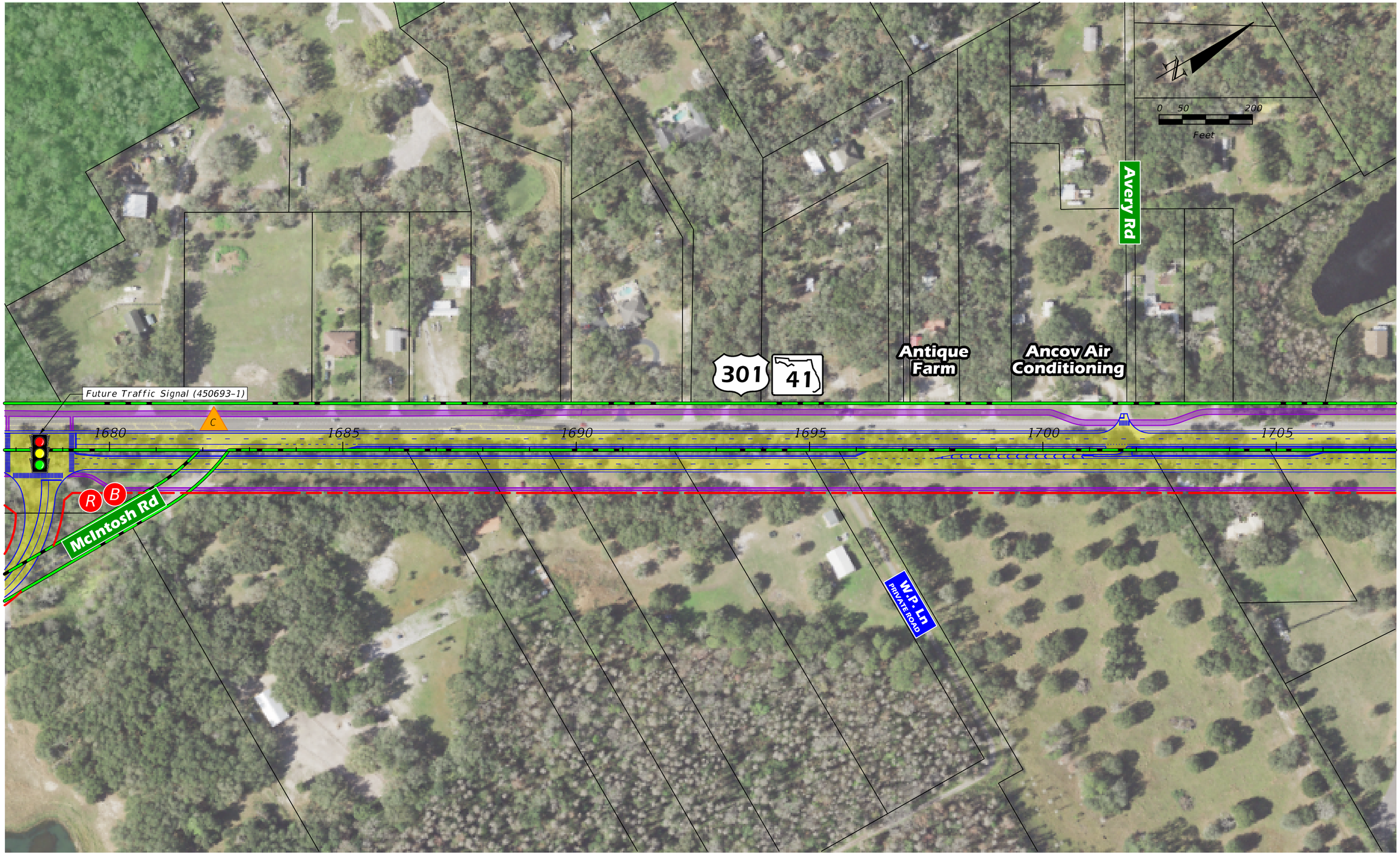
FDOT

CONCEPT PLANS

SHEET NO. 12

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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FDOT

CONCEPT PLANS

SHEET NO. 13

PRELIMINARY

AERIAL FLIGHT DATE: 2020

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WORK PROGRAM SEGMENT NO. 255796-1

FDOT

CONCEPT PLANS

SHEET NO. 14

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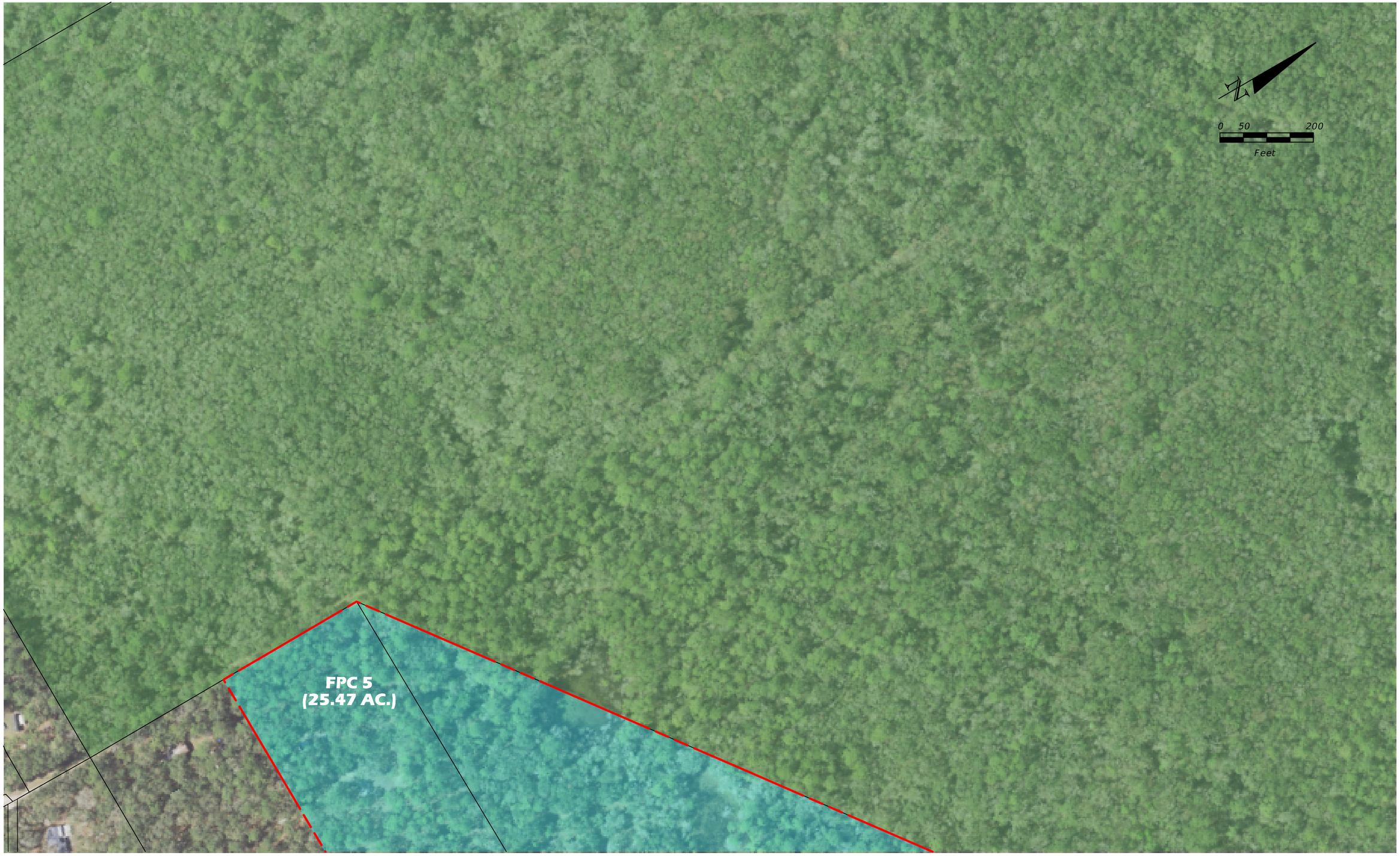
PRELIMINARY

AERIAL FLIGHT DATE: 2020



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US 301 (SR 41) PD&E STUDY

FROM FOWLER AVENUE TO SR 56

COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

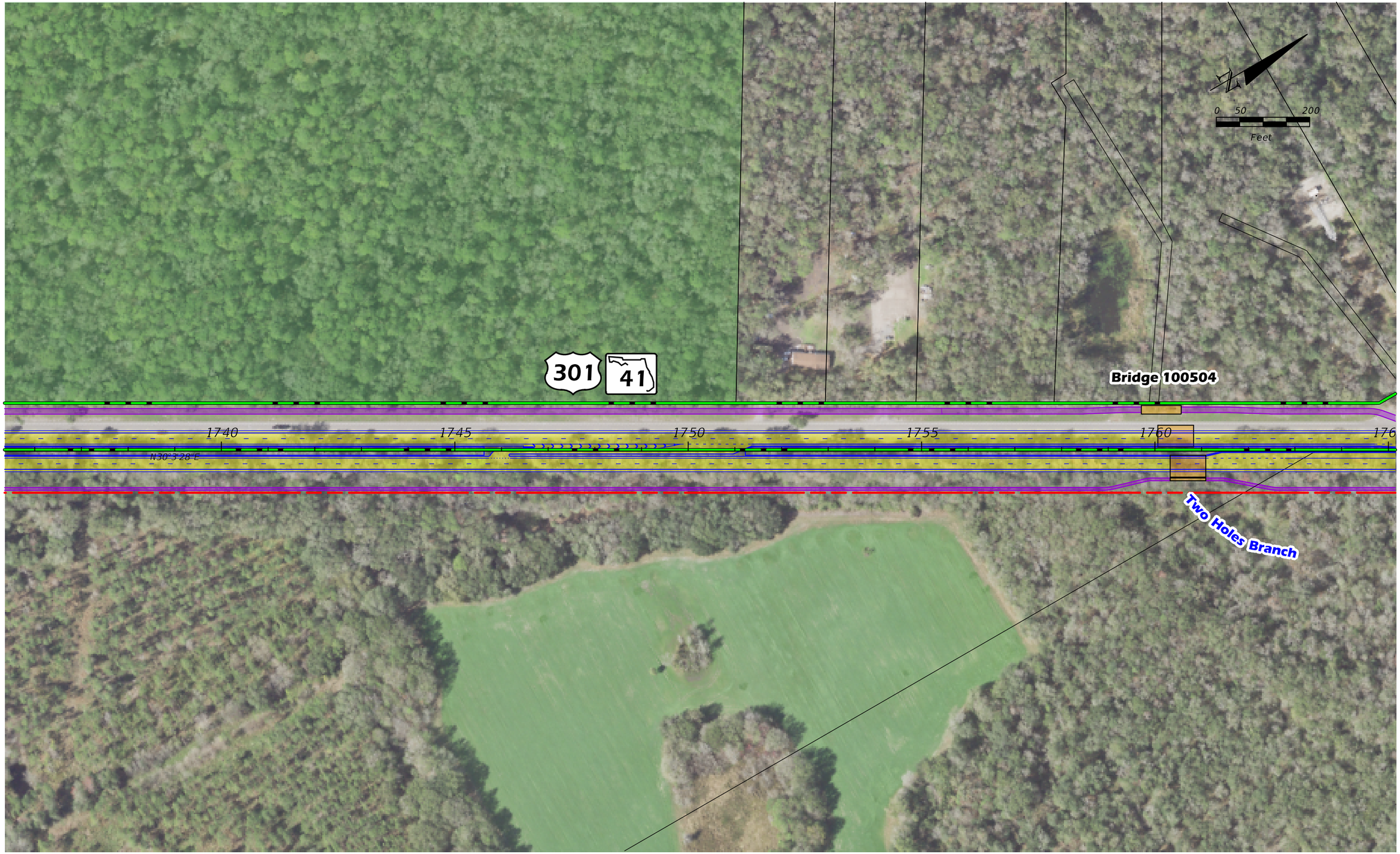
FDOT

CONCEPT PLANS

SHEET NO. 14A

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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FROM FOWLER AVENUE TO SR 56

COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

FDOT

CONCEPT PLANS

SHEET NO. 15

PRELIMINARY

AERIAL FLIGHT DATE: 2020

River Palm RV Resort

Dead River Rd

301 41

0 50 200
Feet

1765 1770 1775 1780 1785 1790

SMF 9C (1.77 AC.)

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COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

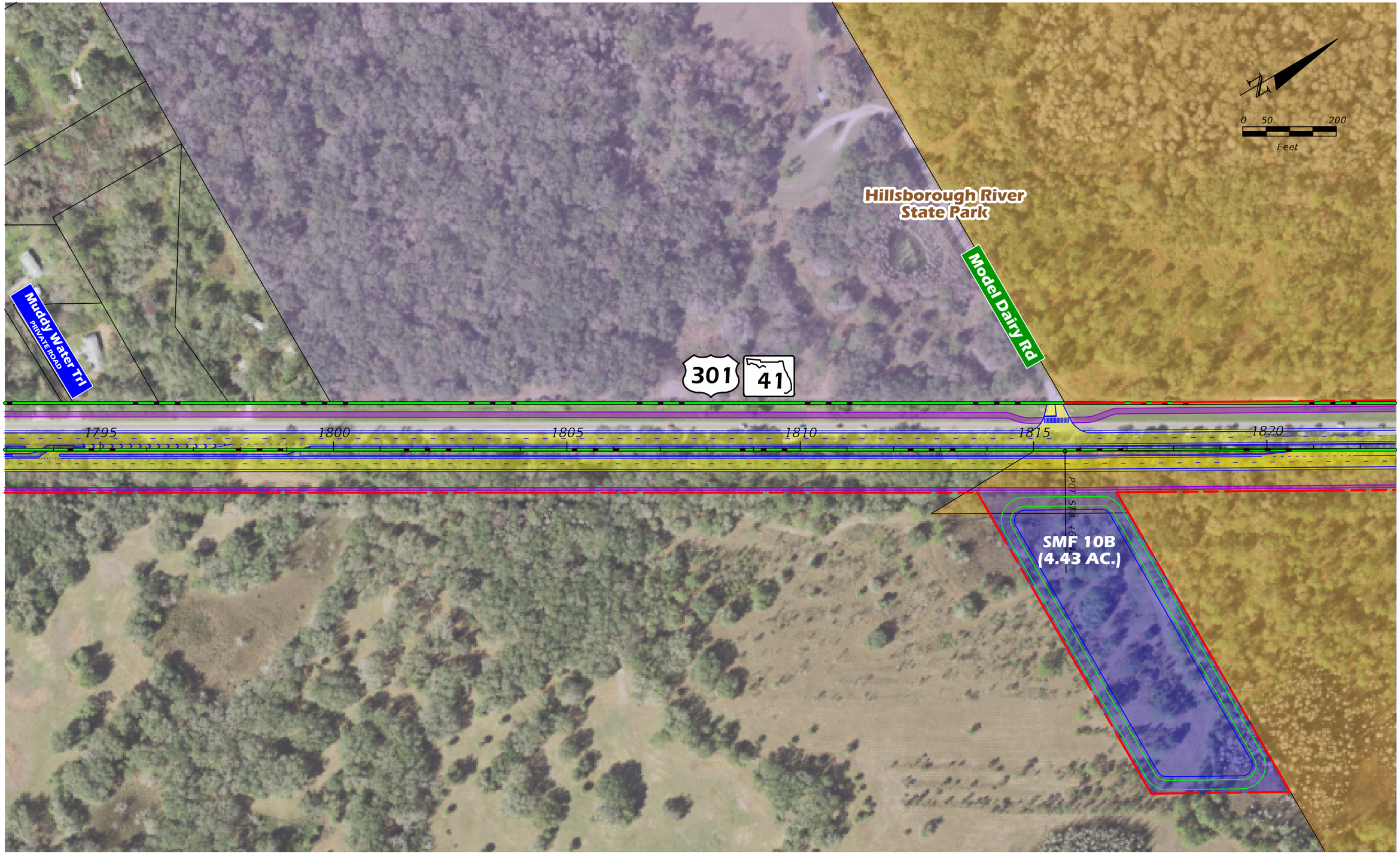
FDOT

CONCEPT PLANS

SHEET NO. 16

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

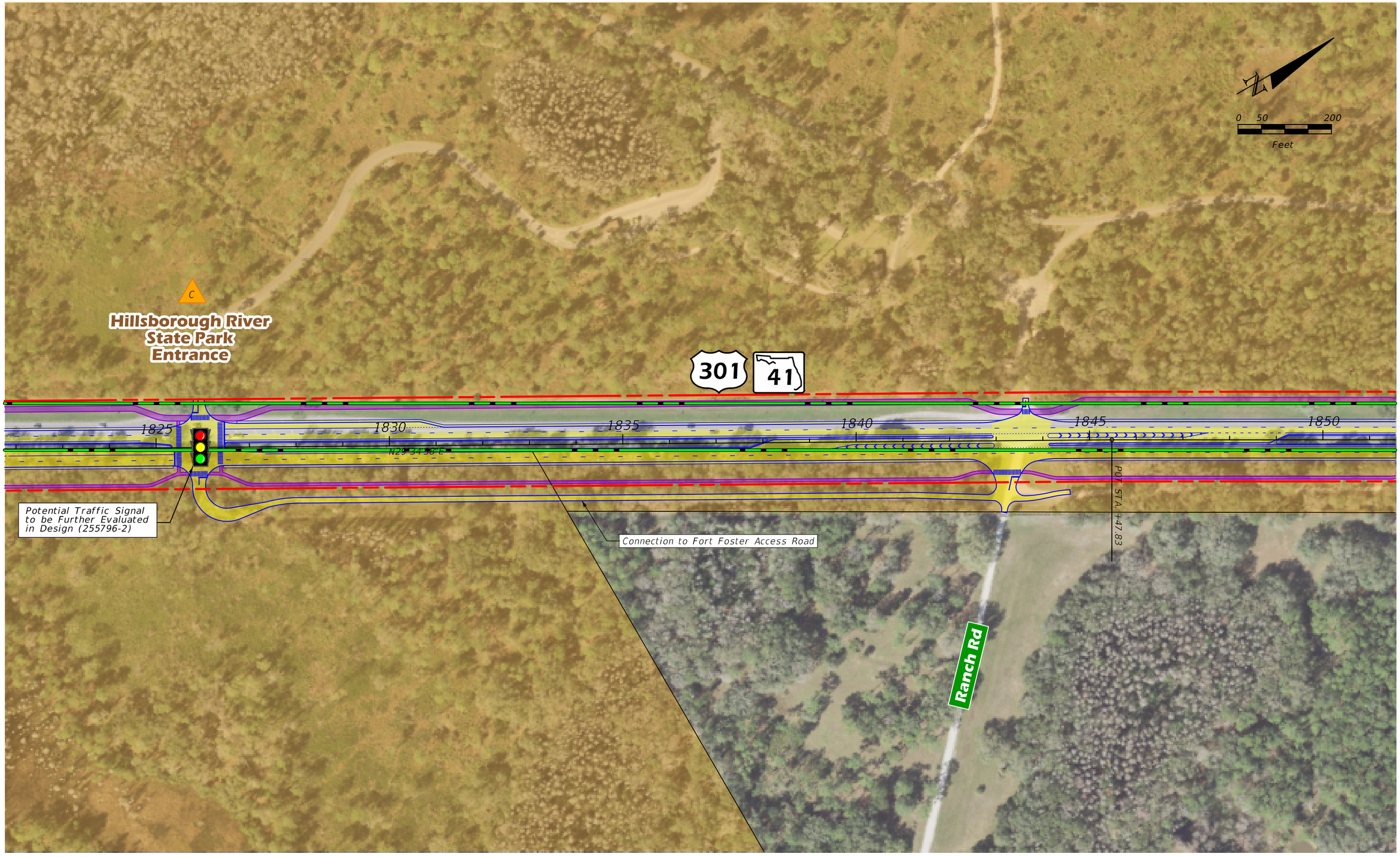
FDOT

CONCEPT PLANS

SHEET NO. 17

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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bmendoza

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US 301 (SR 41) PD&E STUDY

FROM FOWLER AVENUE TO SR 56

COUNTY: HILLSBOROUGH & PASCO

WORK PROGRAM SEGMENT NO. 255796-1

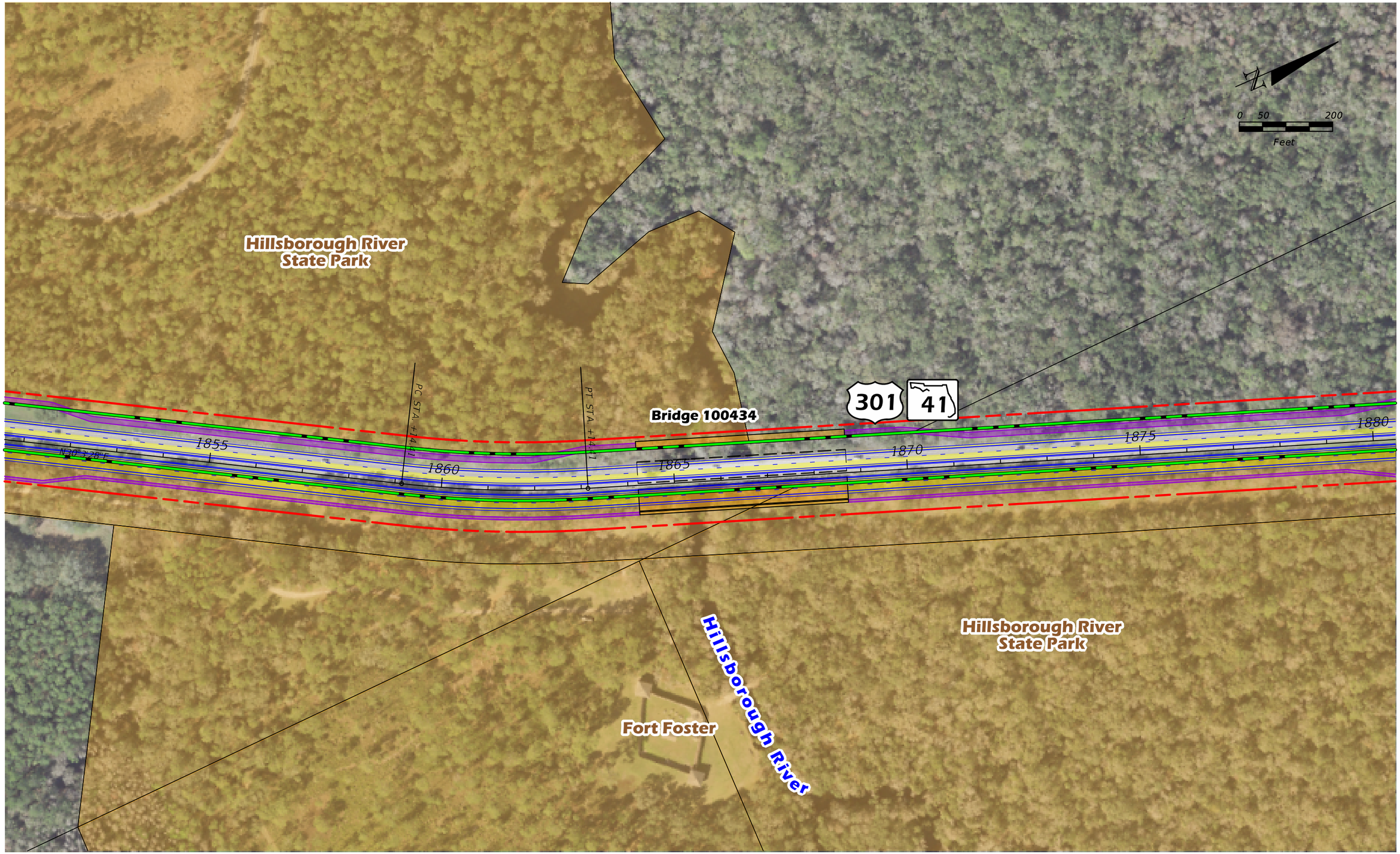
FDOT

CONCEPT PLANS

SHEET NO. 18

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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US 301 (SR 41) PD&E STUDY

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COUNTY: HILLSBOROUGH & PASCO

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FDOT

CONCEPT PLANS

SHEET NO. 19

PRELIMINARY

AERIAL FLIGHT DATE: 2020

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7/5/2023 4:00:04 PM bmendoza

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US 301 (SR 41) PD&E STUDY

FROM FOWLER AVENUE TO SR 56

COUNTY: HILLSBOROUGH & PASCO
WORK PROGRAM SEGMENT NO. 255796-1

FDOT

CONCEPT PLANS

SHEET NO. 20

PRELIMINARY

AERIAL FLIGHT DATE: 2020

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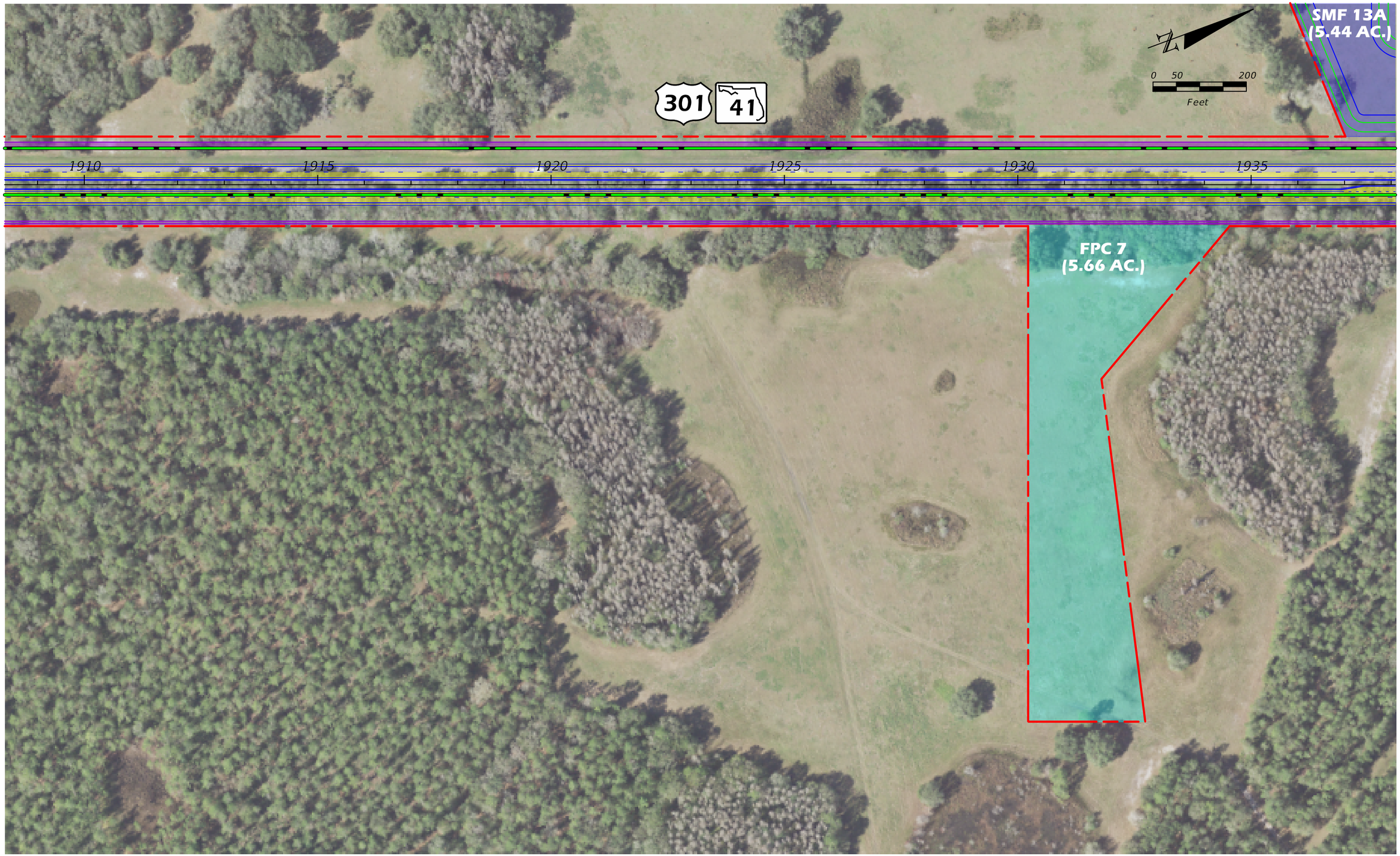
FDOT

CONCEPT PLANS

SHEET NO. 21

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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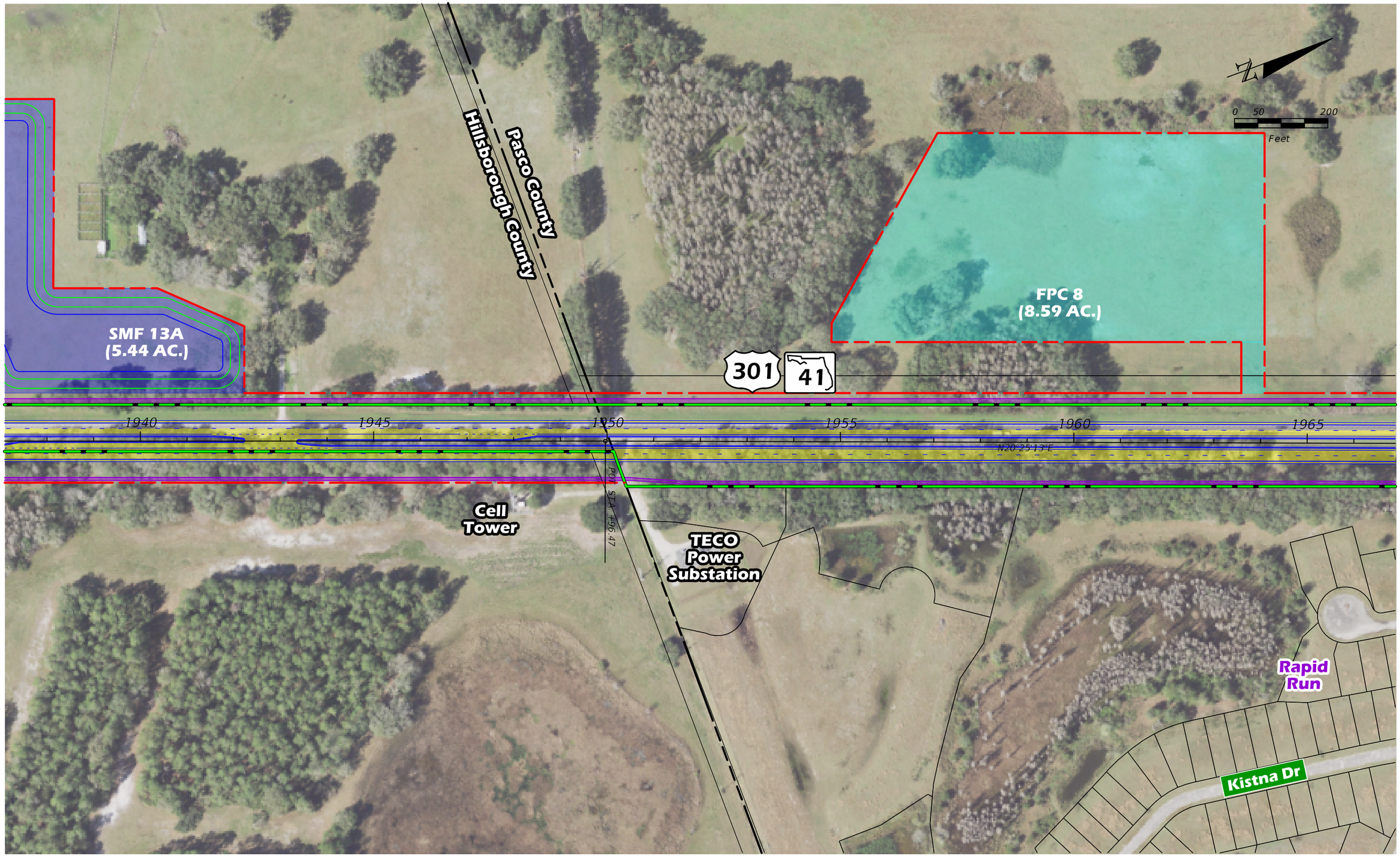
FDOT

CONCEPT PLANS

SHEET NO. 21A

PRELIMINARY

AERIAL FLIGHT DATE: 2020



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CONCEPT PLANS

SHEET NO. 22

PRELIMINARY

AERIAL FLIGHT DATE: 2020

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bmendoza

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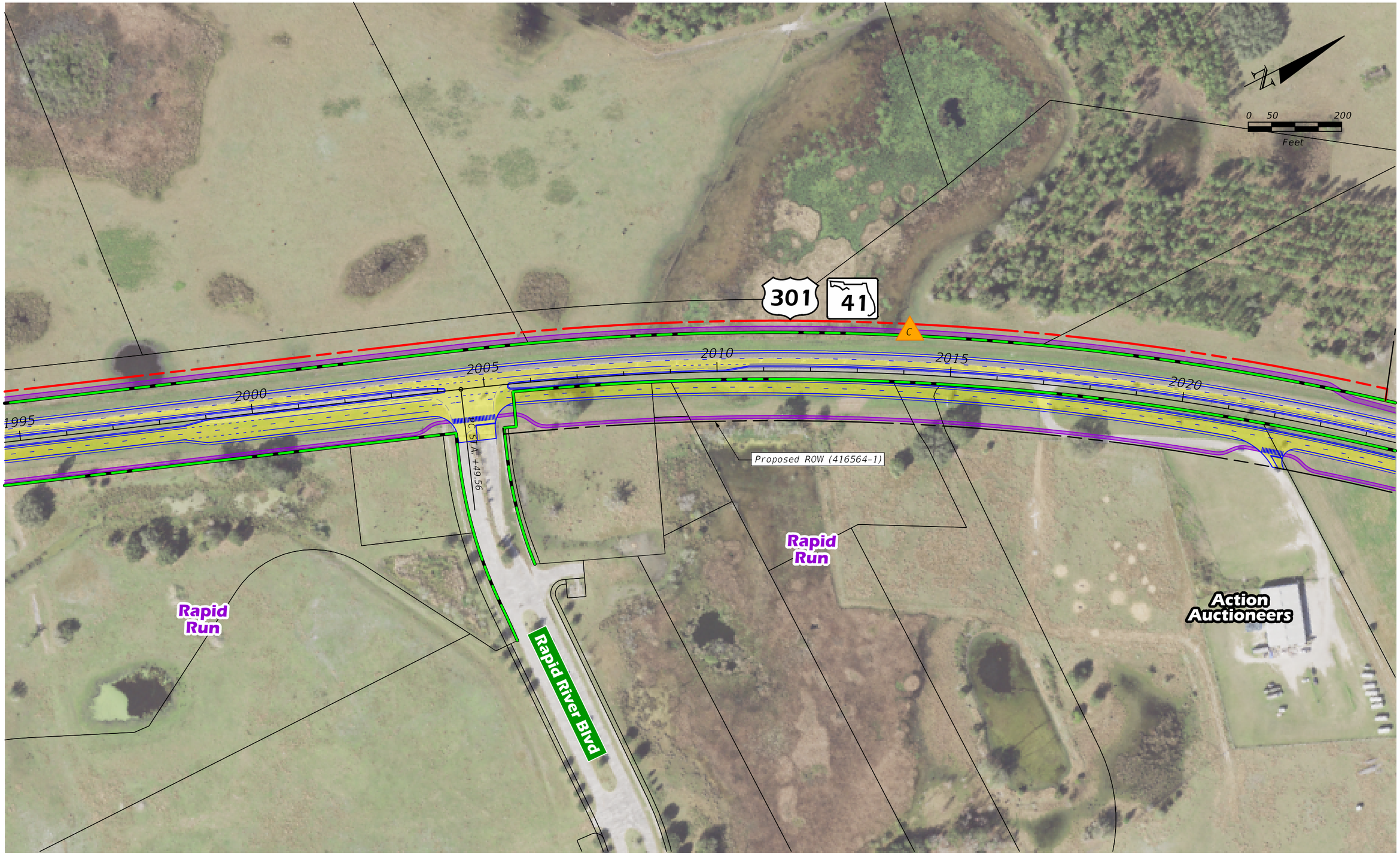

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SHEET NO. 24

PRELIMINARY

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FDOT

CONCEPT PLANS

SHEET NO. 25

APPENDIX B

Preferred Alternative Typical Section Package

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	(X)	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
- ( ) 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

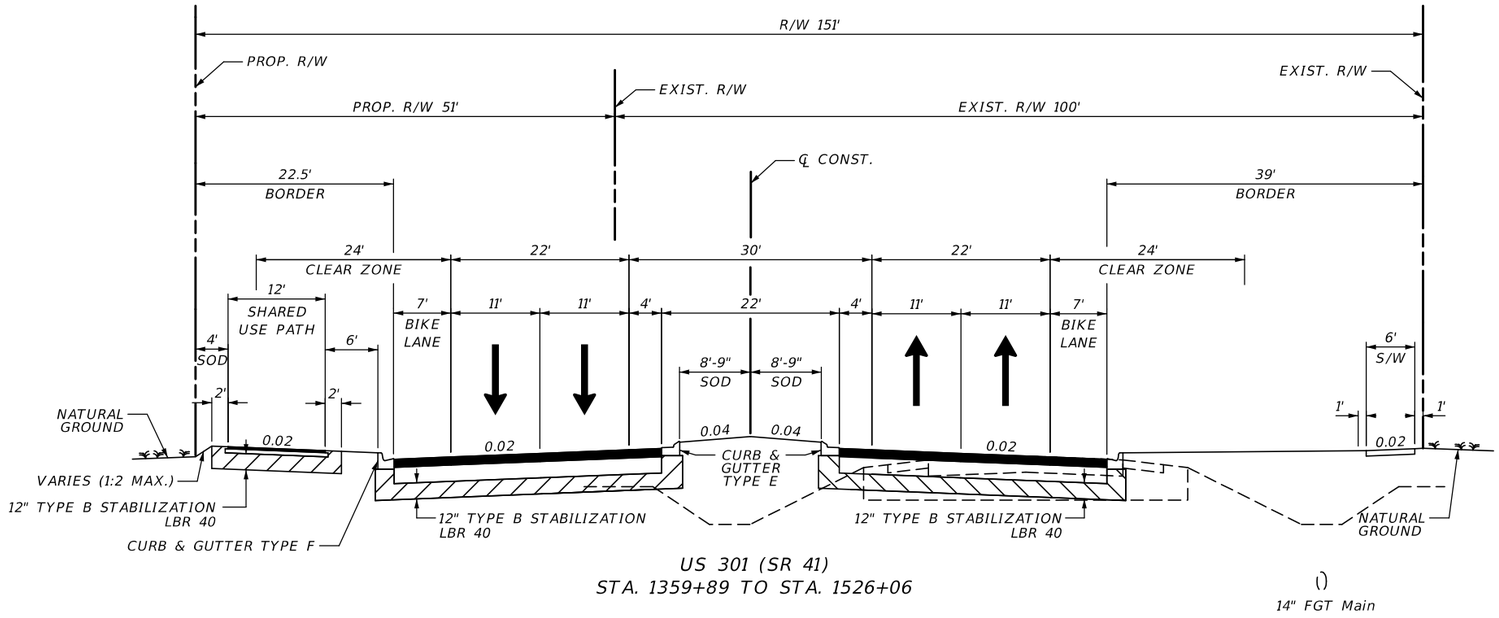
CRITERIA

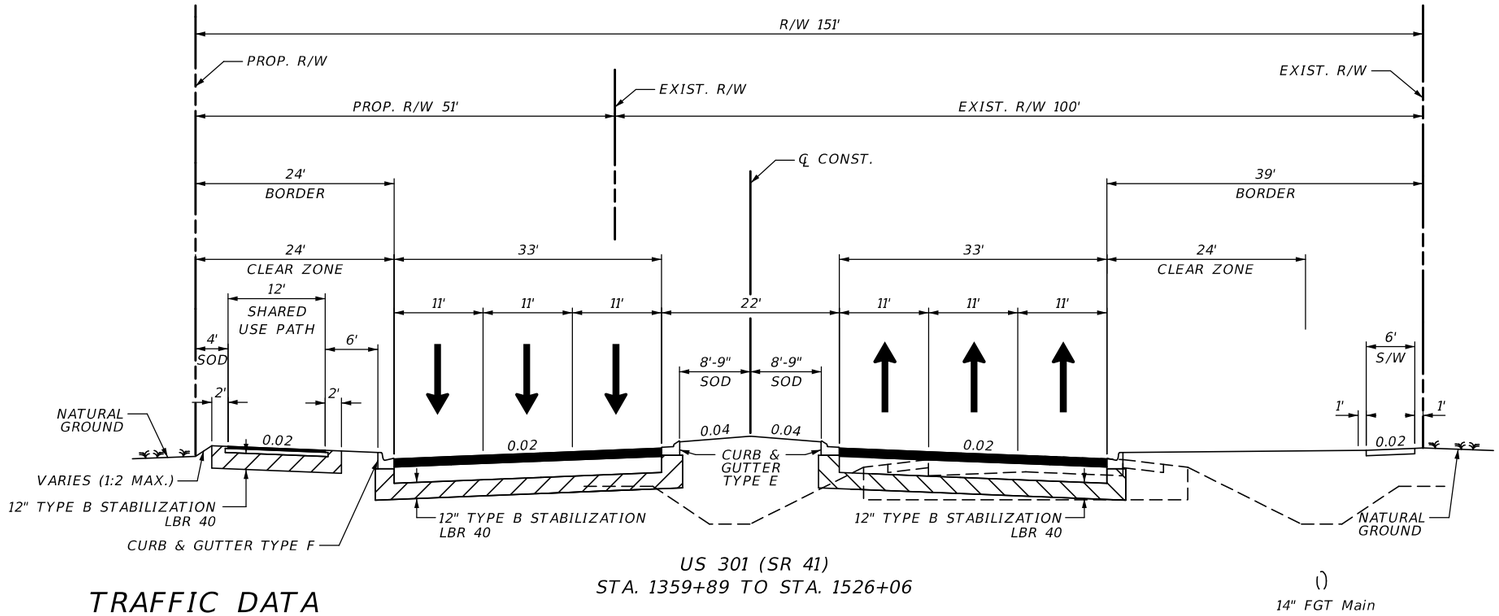
- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 01

North of Fowler Ave to Stacy Rd





TRAFFIC DATA

CURRENT YEAR = 2018 AADT = 20,000
ESTIMATED OPENING YEAR = 2025 AADT = 24,300 - 28,100
ESTIMATED DESIGN YEAR = 2045 AADT = 36,400 - 51,200
K = 9 % D = 65 % T = 10.6 % (24 HOUR)
DESIGN HOUR T = 5.3 %
DESIGN SPEED = 45 MPH
TARGET SPEED = 45 MPH
POSTED SPEED = 45 MPH

NOTE: CONTEXT CLASSIFICATION
10260000; C3R 4.596 TO 5.947
10210000; C3C 0.000 TO 2.153

NOT TO SCALE

FINANCIAL PROJECT ID	SHEET NO.
255796-1-22-01	2

$DATE$ $TIME$

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

(X)	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	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
( ) 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

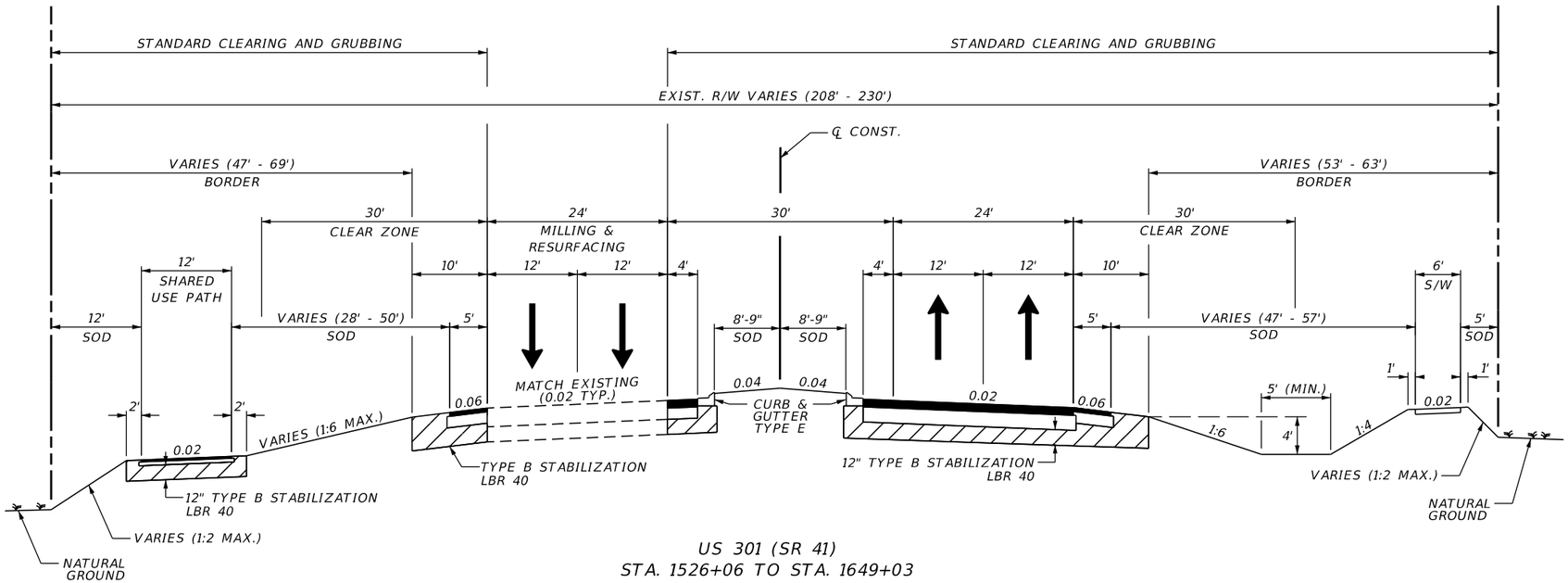
CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 02

Stacy Rd to South of McIntosh Rd



US 301 (SR 41)
STA. 1526+06 TO STA. 1649+03

TRAFFIC DATA

CURRENT YEAR = 2018 AADT = 13,200
ESTIMATED OPENING YEAR = 2025 AADT = 17,400
ESTIMATED DESIGN YEAR = 2045 AADT = 29,300
K = 9 % D = 65 % T = 11.4 % (24 HOUR)
DESIGN HOUR T = 5.7 %
DESIGN SPEED = 55 MPH
TARGET SPEED = 55 MPH
POSTED SPEED = 55 MPH

NOT TO SCALE

FINANCIAL PROJECT ID	SHEET NO.
255796-1-22-01	3

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

(X)	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	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
- ( ) 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

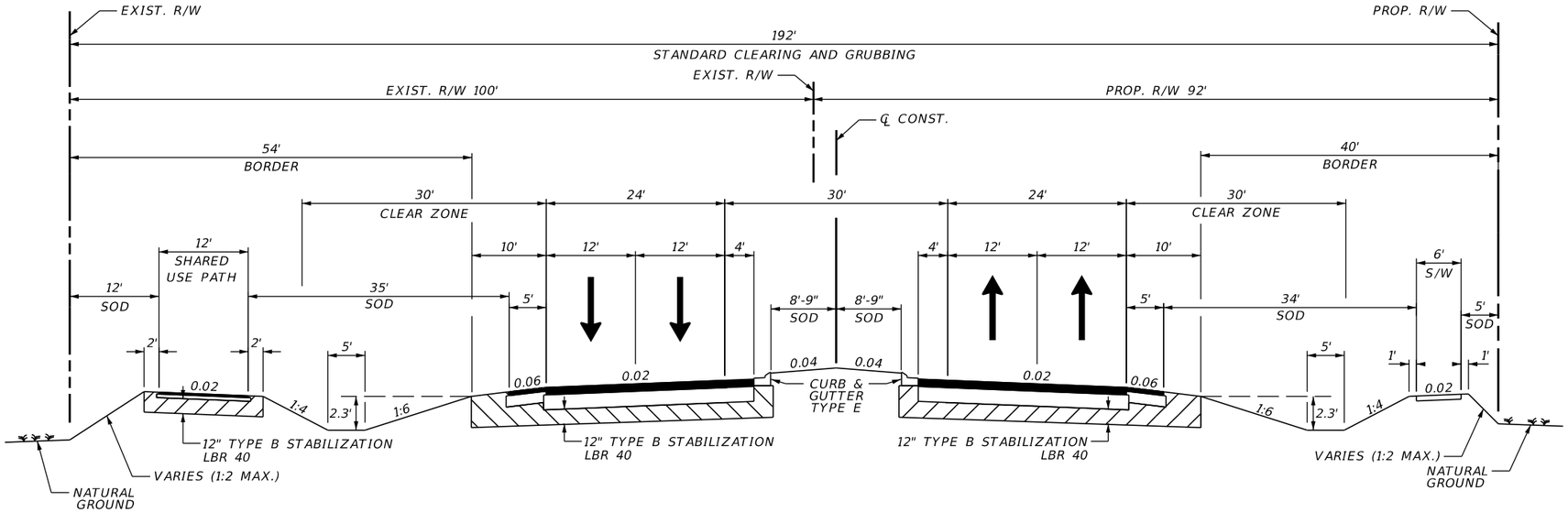
CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 03

South of McIntosh Rd to
North of Model Dairy Rd



US 301 (SR 41)
STA. 1649+03 TO STA. 1819+97

TRAFFIC DATA

CURRENT YEAR = 2018 AADT = 13,200
ESTIMATED OPENING YEAR = 2025 AADT = 17,400 - 19,500
ESTIMATED DESIGN YEAR = 2045 AADT = 29,400 - 37,400
K = 9 % D = 65 % T = 11.4 % (24 HOUR)
DESIGN HOUR T = 5.7 %
DESIGN SPEED = 55 MPH
TARGET SPEED = 55 MPH
POSTED SPEED = 55 MPH

NOT TO SCALE

FINANCIAL PROJECT ID	SHEET NO.
255796-1-22-01	4

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2/2/2023 2:36:08 PM

PROJECT CONTROLS

CONTEXT CLASSIFICATION

(X)	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
( ) 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

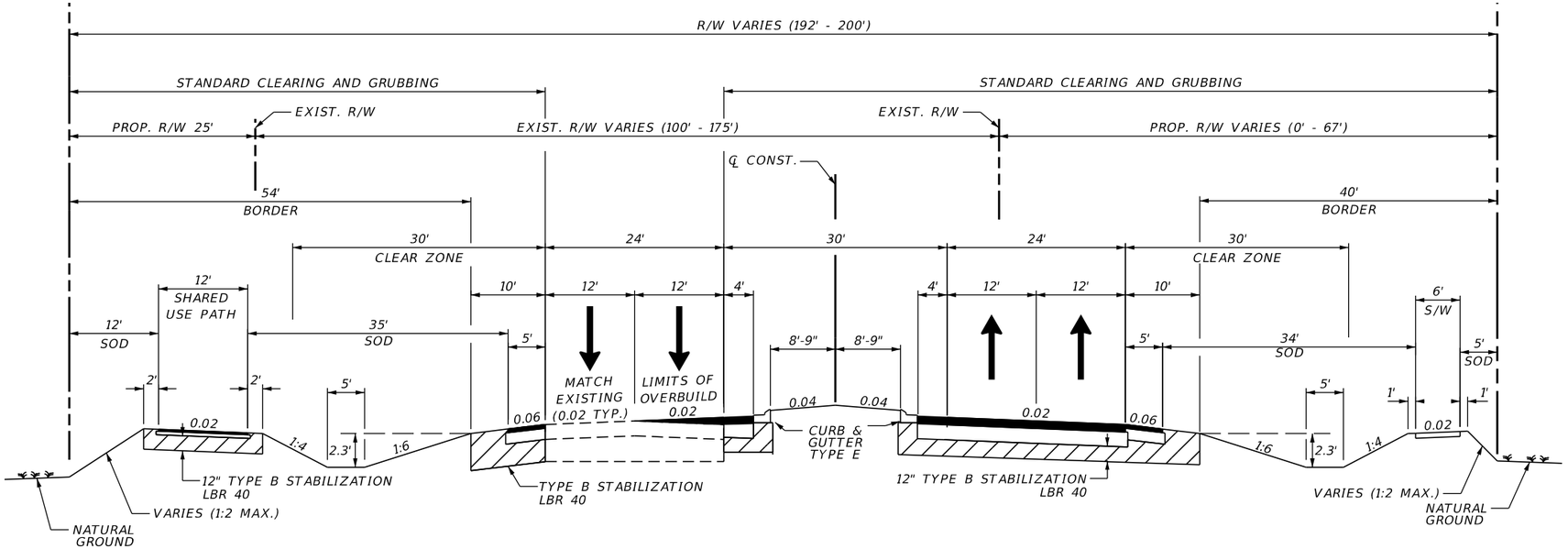
CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 04

North of Model Dairy Rd
to South of SR 56



US 301 (SR 41)
STA. 1819+97 TO STA. 2034+08

TRAFFIC DATA

CURRENT YEAR = 2018 AADT = 13,200
ESTIMATED OPENING YEAR = 2025 AADT = 19,500
ESTIMATED DESIGN YEAR = 2045 AADT = 37,400
K = 9 % D = 65 % T = 11.4 % (24 HOUR)
DESIGN HOUR T = 5.7 %
DESIGN SPEED = 55 MPH
TARGET SPEED = 55 MPH
POSTED SPEED = 55 MPH

NOT TO SCALE

NOTE: CONTEXT CLASSIFICATION
10210000; C1 0.876 TO 10.145
14050000; C2 0.000 TO 1.395

FINANCIAL PROJECT ID	SHEET NO.
255796-1-22-01	5

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APPENDIX C

NRCS Soils Maps and Tables

SOIL NAMES

Hillsborough County

3: Archbold Fine Sand

4: Arents, Nearly Level

5: Basinger, Holopaw, and Samsula Soils, Depressional

7: Candler Fine Sand, 0 to 5 Percent Slopes

8: Candler Fine Sand, 5 to 8 Percent Slopes

12: Chobee Sandy Loam, Frequently Flooded

15: Felda Fine Sand

16: Felda Fine Sand, Occasionally Flooded

19: Gainesville Loamy Fine Sand, 0 to 5 Percent Slopes

21: Immokalee Fine Sand

23: Kendrick Fine Sand, 2 to 5 Percent Slopes

25: Lake Fine Sand, 0 to 5 Percent Slopes

26: Lochloosa-Micanopy Fine Sands, 0 to 5 Percent Slopes

27: Malabar Fine Sand

29: Myakka Fine Sand, 0 to 2 Percent Slopes

33: Ona Fine Sand

35: Orlando Fine Sand, 0 to 5 Percent Slopes

37: Paisley Fine Sand, Depressional

43: Quartzipsamments, Nearly Level

46: St. Johns Fine Sand

47: Seffner Fine Sand

53: Taveres-Millhopper Fine Sands, 0 to 5 Percent Slopes

54: Taveres-Millhopper Fine Sands, 5 to 8 Percent Slopes

57: Wabasso Fine Sand

59: Winder Fine Sand

60: Winder Fine Sand, Frequently Flooded

61: Zolfo Fine Sand

99: Water

Pasco County

1: Wauchula Fine Sand, 0 to 5 Percent Slopes

2: Pomona Fine Sand

7: Sparr Fine Sand, 0 to 5 Percent Slopes

16: Zephyr Muck

18: Electra Varient Fine Sand, 0 to 5 Percent Slopes

21: Smyrna Fine Sand

23: Basinger Fine Sand, Depressional, 0 to 1 Percent Slopes

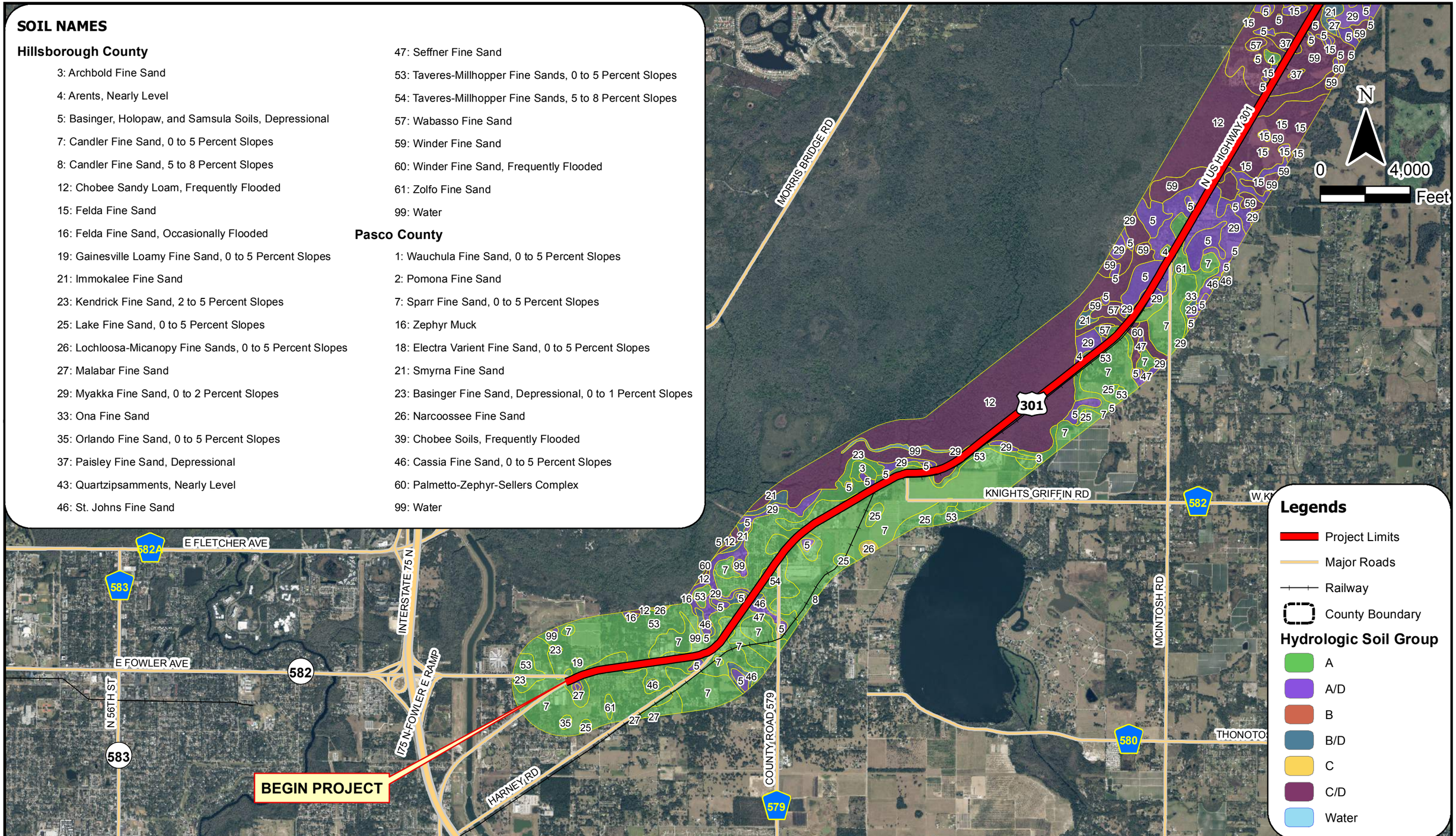
26: Narcoossee Fine Sand

39: Chobee Soils, Frequently Flooded

46: Cassia Fine Sand, 0 to 5 Percent Slopes

60: Palmetto-Zephyr-Sellers Complex

99: Water



Legends

- Project Limits
- Major Roads
- Railway
- County Boundary

Hydrologic Soil Group

- A
- A/D
- B
- B/D
- C
- C/D
- Water

FDOT Florida Department of Transportation
District 7

US 301 PD&E Study
from Fowler Avenue to Proposed SR 56
Hillsborough and Pasco Counties, Florida
Financial Project ID: 255796-1-22-01

NCRS SOILS MAP

EXHIBIT 3A

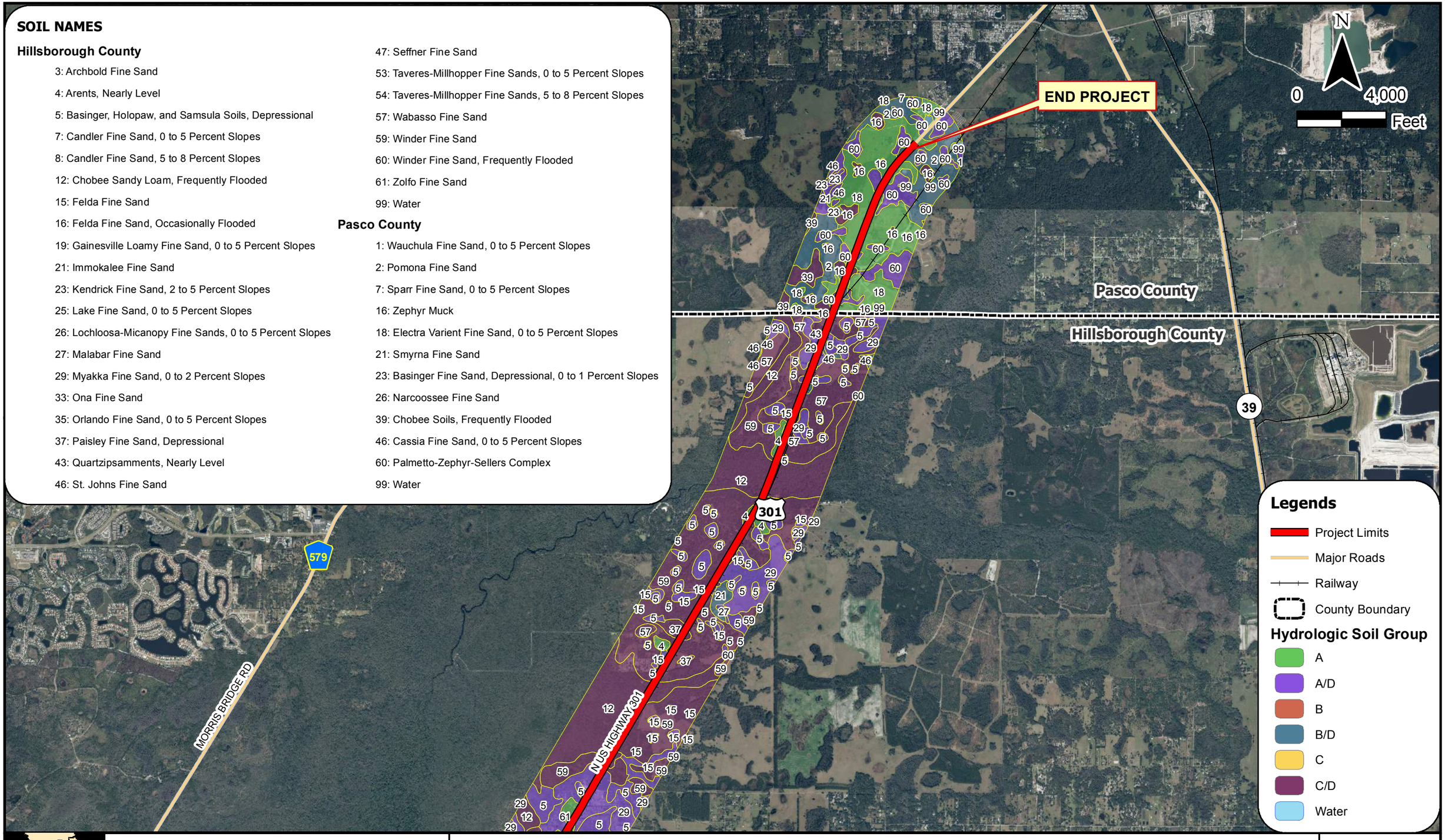
SOIL NAMES

Hillsborough County

- 3: Archbold Fine Sand
- 4: Arents, Nearly Level
- 5: Basinger, Holopaw, and Samsula Soils, Depressional
- 7: Candler Fine Sand, 0 to 5 Percent Slopes
- 8: Candler Fine Sand, 5 to 8 Percent Slopes
- 12: Chobee Sandy Loam, Frequently Flooded
- 15: Felda Fine Sand
- 16: Felda Fine Sand, Occasionally Flooded
- 19: Gainesville Loamy Fine Sand, 0 to 5 Percent Slopes
- 21: Immokalee Fine Sand
- 23: Kendrick Fine Sand, 2 to 5 Percent Slopes
- 25: Lake Fine Sand, 0 to 5 Percent Slopes
- 26: Lochloosa-Micanopy Fine Sands, 0 to 5 Percent Slopes
- 27: Malabar Fine Sand
- 29: Myakka Fine Sand, 0 to 2 Percent Slopes
- 33: Ona Fine Sand
- 35: Orlando Fine Sand, 0 to 5 Percent Slopes
- 37: Paisley Fine Sand, Depressional
- 43: Quartzipsamments, Nearly Level
- 46: St. Johns Fine Sand
- 47: Seffner Fine Sand
- 53: Taveres-Millhopper Fine Sands, 0 to 5 Percent Slopes
- 54: Taveres-Millhopper Fine Sands, 5 to 8 Percent Slopes
- 57: Wabasso Fine Sand
- 59: Winder Fine Sand
- 60: Winder Fine Sand, Frequently Flooded
- 61: Zolfo Fine Sand
- 99: Water

Pasco County

- 1: Wauchula Fine Sand, 0 to 5 Percent Slopes
- 2: Pomona Fine Sand
- 7: Sparr Fine Sand, 0 to 5 Percent Slopes
- 16: Zephyr Muck
- 18: Electra Varient Fine Sand, 0 to 5 Percent Slopes
- 21: Smyrna Fine Sand
- 23: Basinger Fine Sand, Depressional, 0 to 1 Percent Slopes
- 26: Narcoossee Fine Sand
- 39: Chobee Soils, Frequently Flooded
- 46: Cassia Fine Sand, 0 to 5 Percent Slopes
- 60: Palmetto-Zephyr-Sellers Complex
- 99: Water



Florida Department of Transportation
District 7

US 301 PD&E Study
from Fowler Avenue to Proposed SR 56
Hillsborough and Pasco Counties, Florida
Financial Project ID: 255796-1-22-01

NCRS SOILS MAP

EXHIBIT 3B

USDA NRCS Soil Survey Information: Hillsborough County

Soil No.	USDA Soil Name	Seasonal High Ground Water		HSG	Soil Classification		
		Depth* (feet)	Duration (months)		Depth (inches)	Unified	AASHTO
3	Archbold Fine Sand	3.5-6.0	Jun-Nov	A	0-4	SP	A-3
					4-80	SP, SP-SM	A-3
4	Arents	2.3	---	B	>6.6	SP	A-3
5	Basinger	+2.0-1.0	Jun-Feb	D	0-7	SP	A-3
					7-28	SP, SP-SM	A-3, A-2-4
					28-42	SP, SP-SM	A-3, A-2-4
					42-80	SP, SP-SM	A-3, A-2-4
5	Holopaw	+2.0-1.0	Jun-Apr	D	0-6	SP, SP-SM	A-3
					6-52	SP, SP-SM	A-3
					52-80	SM, SM-SC	A-2-4
5	Samsula	+2.0-1.0	Jan-Dec	D	0-34	PT	A-3
					34-80	SP-SM, SM, SP	A-3, A-2-4
7	Candler Fine Sand	> 6.0	---	A	0-6	SP, SP-SM	A-3
					6-72	SP, SP-SM	A-3
					74-80	SP-SM	A-3, A-2-4
8	Candler Fine Sand	> 6.0	---	A	0-6	SP, SP-SM	A-3
					6-74	SP, SP-SM	A-3
					74-80	SP-SM	A-3, A-2-4
12	Chobee Sandy Loam	0-1.0	Feb-Jun	B/D	0-15	SP-SM, SM	A-2-4
					15-60	SC	A-2-6, A-2-7, A-6, A-7
					60-80	SP-SM, SM, SC, SM-SC	A-2-4, A-2-6, A-6, A-7
15	Felda Fine Sand	0-1.0	Jul-Mar	B/D	0-22	SP, SP-SM	A-3
					22-45	SM, SM-SC, SC	A-2-4, A-2-6
					45-80	SP, SP-SM	A-3, A-2-4
16	Felda Fine Sand	0-1.0	Jul-Mar	B/D	0-22	SP, SP-SM	A-3
					22-38	SM, SM-SC, SC	A-2-4, A-2-6
					38-80	SP, SP-SM	A-3. A-2-4
19	Gainesville loamy Fine Sand	>6.0	---	A	0-80	SM	A-2-4
21	Immokalee Fine Sand	0-1.0	Jun-Nov	B/D	0-8	SP, SP-SM	A-3
					8-36	SP, SP-SM	A-3
					36-80	SP-SM, SM	A-3, A-2-4
23	Kendrick Fine Sand	>6.0	---	A	0-35	SP-SM, SM	A-3, A-2-4
					35-68	SC, SM-SC	A-2-6, A-2-4
					68-80	SC	A-2-6, A-6
25	Lake Fine Sand	> 6.0	---	A	60-80	SP-SM	A-3, A-2-4
26	Lochloosa Fine Sands	2.5-5.0	Jul-Oct	C	0-28	SP-SM, SM	A-2-4, A-3
					28-35	SM, SM-SC	A-2-4
					35-69	SC, SM-SC	A-2, A-4, A-6
					69-80	SC, SM-SC	A-2, A-4, A-6
26	Miconopy Fine Sand	1.5-2.5	Jul-Nov	C	0-15	SM, SP-SM	A-2-4
					15-25	SC	A-2, A-6, A-7

Soil No.	USDA Soil Name	Seasonal High Ground Water		HSG	Soil Classification		
		Depth* (feet)	Duration (months)		Depth (inches)	Unified	AASHTO
					25-59	CH	A-7
					59-80	CH, SC	A-7, A-6
27	Malabar Fine Sand	0-1.0	Jun-Nov	B/D	0-12	SP, SP-SM	A-3
					12-30	SP, SP-SM	A-3, A-2-4
					30-50	SP, SP-SM	A-3
					50-66	SC, SM-SC, SM	A-2, A-4, A-6
					66-80	SP-SM, SM	A-3, A-2-4
29	Myakka Fine Sand	0-1.0	Jun-Nov	B/D	0-20	SP, SP-SM	A-3
					20-30	SM, SP-SM	A-3, A-2-4
					30-80	SP, SP-SM	A-3
33	Ona Fine Sand	0-1.0	Jun-Nov	B/D	0-4	SP-SM, SP	A-3
					4-22	SP-SM, SM	A-3, A-2-4
					22-80	SP-SM, SP	A-3
35	Orlando Fine Sand	> 6.0	---	A	0-20	SP, SP-SM	A-3, A-2-4
					20-80	SP, SP-SM	A-3, A-2-4
37	Paisley Fine Sand	+2-1.0	Jun-Feb	D	0-4	SP-SM	A-2-4, A-3
					4-80	CH, CL	A-7
43	Quartzipsaments	> 6.6	---	A	>6.6	SP	A-3
46	St. Johns Fine Sand	0-1.0	Jun-Apr	B/D	0-12	SP, SP-SM	A-3
					12-29	SP, SP-SM	A-3
					29-46	SP-SM, SM	A-3, A-2-4
					46-80	SP, SP-SM	A-3
47	Seffner Fine Sand	1.5-3.5	Jun-Nov	C	0-13	SP-SM, SP	A-3, A-2-4
					13-21	SP-SM, SP	A-3, A-2-4
					21-80	SP-SM, SP	A-3, A-2-4
53	Tavares	3.5-6.0	Jun-Dec	A	0-6	SP, SP-SM	A-3
					6-80	SP, SP-SM	A-3
53	Millhopper	3.5-6.0	Aug-Feb	A	0-57	SP-SM, SM	A-3, A-2-4
					57-80	SM, SM-SC, SC	A-2-4. A-4
54	Tavares	3.5-6.0	Jun-Dec	A	0-3	SP, SP-S,M	A-3
					3-80	SP, SP-SM	A-3
54	Millhopper	3.5-6.0	Aug-Feb	A	0-54	SP-SM, SM	A-3, A-2-4
					54-68	SM	A-2-4
					68-80	SM, SM-SC, SC	A-2-4, A-4
57	Wabasso Fine Sand	0-1.0	Jun-Oct	B/D	0-29	SP, SP-SM	A-3
					29-38	SP, SP-SM	A-3
					38-60	SP, SP-SM	A-3
					60-80	SC, SM-SC	A-2-4, A-2-6
59	Winder Fine Sand	0-1.0	Jun-Dec	B/D	0-10	SP, SP-SM	A-3, A-2-4
					10-14	SM	A-2-4
					14-30	SC	A-2-4, A-2-6
					30-80	SM, SM-SC, SC	A-2-4
60	Winder Fine Sand	0-1.0	Jun-Dec	B/D	0-14	SP, SP-SM	A-3, A-2-4
					14-17	SM	A-2-4

Soil No.	USDA Soil Name	Seasonal High Ground Water		HSG	Soil Classification		
		Depth* (feet)	Duration (months)		Depth (inches)	Unified	AASHTO
					17-33	SM, SM-SC, SC, GM-GC	A-2-4, A-2-6, A-1-B
					33-80	SP, SP-SM, SM	A-3, A-2-4, A-1-B
61	Zolfo Fine Sand	2.0-3.5	Jun-Nov	C	0-3	SP-SM	A-3, A-2-4
					3-60	SP-SM, SM	A-3, A-2-4
					60-80	SP-SM, SM	A-3, A-2-4

Seasonal High Ground water table: Depth is referenced below existing grade, except where indicated as “+”.

USDA NRCS Soil Survey Information: Pasco County

Soil No.	USDA Soil Name	Seasonal High Ground Water		HSG	Soil Classification		
		Depth* (feet)	Duration (months)		Depth (inches)	Unified	AASHTO
1	Wauchula Fine Sand	0-1.0	Jun-Feb	B/D	0-8	SP-SM	A-3, A-2-4
					8-19	SP-SM, SM	A-3, A-2-4
					19-26	SP-SM, SM	A-3, A-2-4
					26-34	SP-SM, SM	A-3, A-2-4
					34-80	SM, SM-SC, SC	A-2-4, A-2-6, A-4, A-6
2	Pomona Fine Sand	0-1.0	Jul-Sep	B/D	0-6	SP, SP-SM	A-3, A-2-4
					6-22	SP, SP-SM, SM	A-3, A-2-4
					22-36	SP-SM, SM	A-3, A-2-4
					36-52	SP, SP-SM	A-3, A-2-4
					52-60	SC, SM-SC, SM	A-2-4, A-4, A-6
7	Sparr Fine Sand	1.5-3.5	Jul-Oct	C	0-6	SP-SM	A-3, A-2-4
					6-43	SP-SM	A-3, A-2-4,
					43-48	SM-SC, SC, SM	A-2
					48-59	SC, SC-SM	A-2, A-4, A-6
					59-80	SC, SM-SC, SM	A-2, A-4, A-6
16	Zephyr Muck	+2-1.0	Jun-Feb	D	13-0	Pt	A-8
					0-18	SP-SM, SM	A-3, A-2-4
					18-48	SM, SM-SC, SC	A-2-4, A-2-6
					48-67	SM, SM-SC, SC	A-2-4, A-4
18	Electra Varient Fine Sand	2.0-3.5	Jul-Oct	C	0-5	SP, SP-SM	A-3
					5-39	SP, SP-SM	A-3
					39-51	SP-SM, SM	A-3, A-2-4
					51-70	SP, SP-SM	A-3
					70-78	SM, SM-SC, SC	A-2-4, A-2-6
21	Smyrna Fine Sand	0-1.0	Jul-Oct	A/D	0-13	SP, SP-SM	A-3
					13-25	SM, SP-SM	A-3, A-2-4
					25-80	SP, SP-SM	A-3
23	Basinger Fine Sand	+2-1.0	Jun-Feb	A/D	0-10	SP	A-3
					10-30	SP, SP-SM	A-3, A-2-4
					30-80	SP, SP-SM	A-3, A-2-4
26	Narcoossee Fine Sand	2-3.5	Jun-Nov	C	0-3	SP-SM	A-3
					3-9	SP, SP-SM	A-3
					9-12	SP-SM, SM	A-3, A-2-4
					12-75	SP, SP-SM, SM	A-3
39	Chobee Soils	0-1.0	Jun-Feb	B/D	0-11	SP-SM, SM	A-2-4
					11-56	SC	A-2-6, A-2-7, A-6, A-7
					56-80	SP-SM, SM, SC, SM-SC	A-2-4, A-2-6, A-6, AA-7
46	Cassia Fine Sand	1.0-3.5	Jul-Jan	C	0-18	SP, SP-SM	A-3
					18-31	SP-SM, SM	A-3, A-2-4
					31-65	SP, SP-SM	A-3

Soil No.	USDA Soil Name	Seasonal High Ground Water		HSG	Soil Classification		
		Depth* (feet)	Duration (months)		Depth (inches)	Unified	AASHTO
60	Palmetto	+2-1.0	Jun-Feb	D	0-10	SP, SP-SM	A-3, A-2-4
					10-46	SP-SM	A-3, A-2-4
					46-80	SM, SM-SC, SC	A-2-4, A-4, A-6
60	Zephyr	+2-1.0	Jun-Feb	D	13-0	Pt	A-8
					0-18	SP-SM, SM	A-3, A-2-4
					18-48	SM, SM-SC, SC	A-2-4, A-2-6
					48-67	SM, SM-SC	A-2-4, A-4
60	Sellers	+2-0	Jun-Mar	B/D	0-5	SP-SM, SM	A-3, A-2-4
					5-28	SP-SM, SM	A-3, A-2-4
					28-80	SP-SM, SM	A-3, A-2-4

Seasonal High Ground water table: Depth is referenced below existing grade, except where indicated as “+”.

APPENDIX D

Context Classification Memorandum

Context Classification Memorandum

DATE: 5/5/2022

TO: Amber Russo

FROM: Brian L Shroyer, Multimodal Project Manager

COPIES: PLEMO File

SUBJECT: Context Classification Determination for Item Segment 255796-1 US 301 (SR 41) FROM FOWLER AVE TO SR 56

Context Classification Request	Context Classification Information
FPID Number	255796-1
Item Segment Description	US 301 (SR 41) FROM FOWLER AVE TO SR 56
County	Hillsborough
Roadway ID	10260000, 10210000, 14050000
Mileposts	4.597 to 5.947, 0.00 to 10.145, 0.00 to 1.395
Project Length	11.495
Work Mix	PD&E Study
Context Classification	
Existing	See Primary Measures Table
Future	See Future Context Classification notes
Comments	
Target Speed	
Proposed Speed	Target Speed is part of PD&E study

Primary Measures

Context Classification	Segment	Land Use	Roadway Connectivity		
			Intersection Density	Block Perimeter	Block Length
		Description	Intersections/ square mile	Feet	Feet
C3R	10260000, 4.596 to 5.947	Mostly residential	25	8518	1362
C3C	10210000, 0.00 to 2.153	Mostly Commercial	50	N/A	N/A
C1	10210000, 2.153 to 5.08	Natural lands	N/A	N/A	N/A
C2	10210000, 5.08 to 7.541	Rural, some residential	4.7	N/A	N/A
C1	10210000, 7.541 to 5.587	Natural lands	N/A	N/A	N/A
C2	10210000, 5.587 to 10.145	Rural, some residential	0.1	N/A	N/A
C2	14050000, 0.00 to 1.395	Rural, some residential	11.1	N/A	N/A

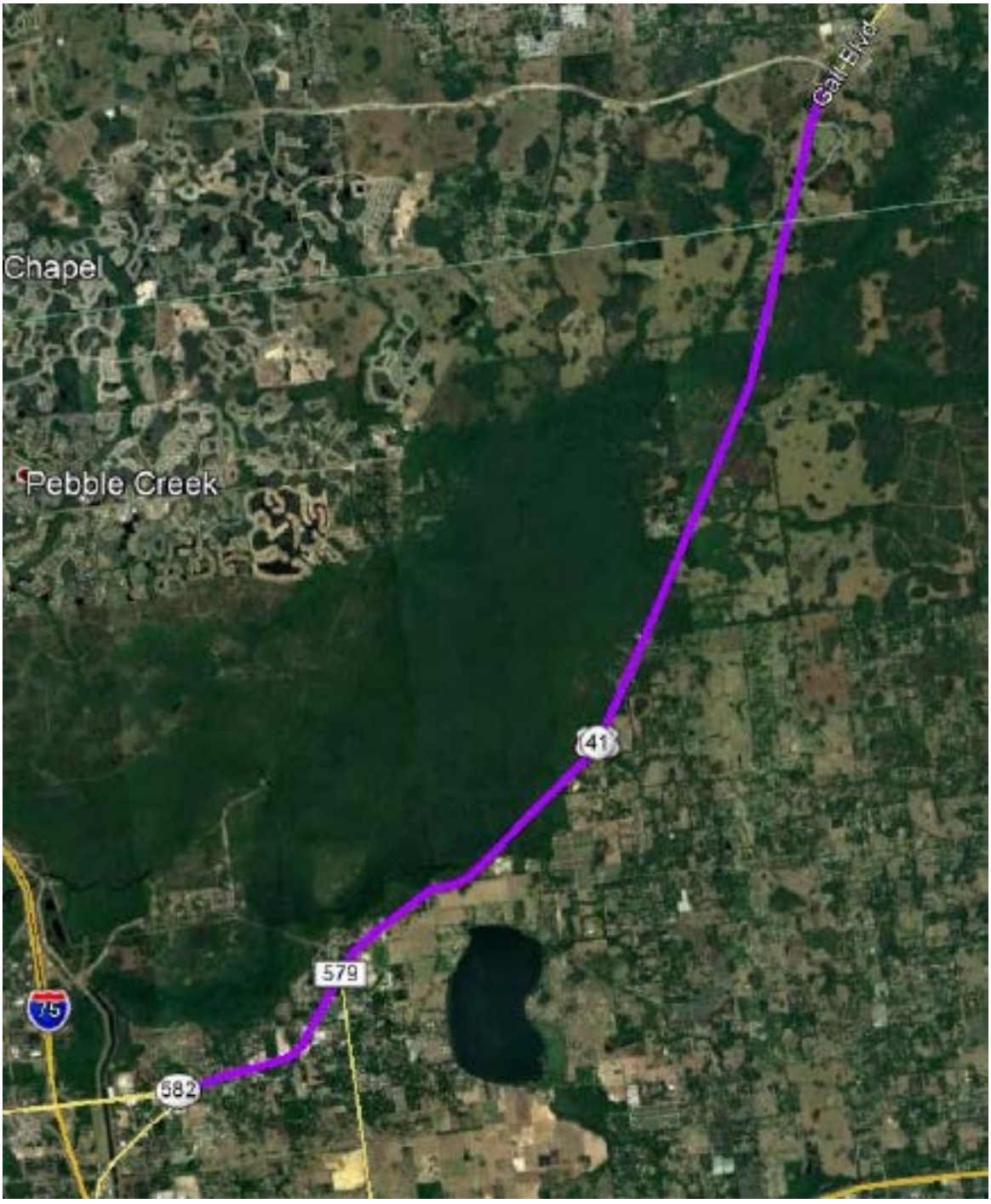
Future Context Classification

The section of US 301 from the Pasco County line to SR 56, 14050000 mp 0.00 to 1.395, has some development underway and future development expected. The Future CC for the PD&E should use C3R – Suburban Residential for this section. The other CC segments are not expected to change in the future.

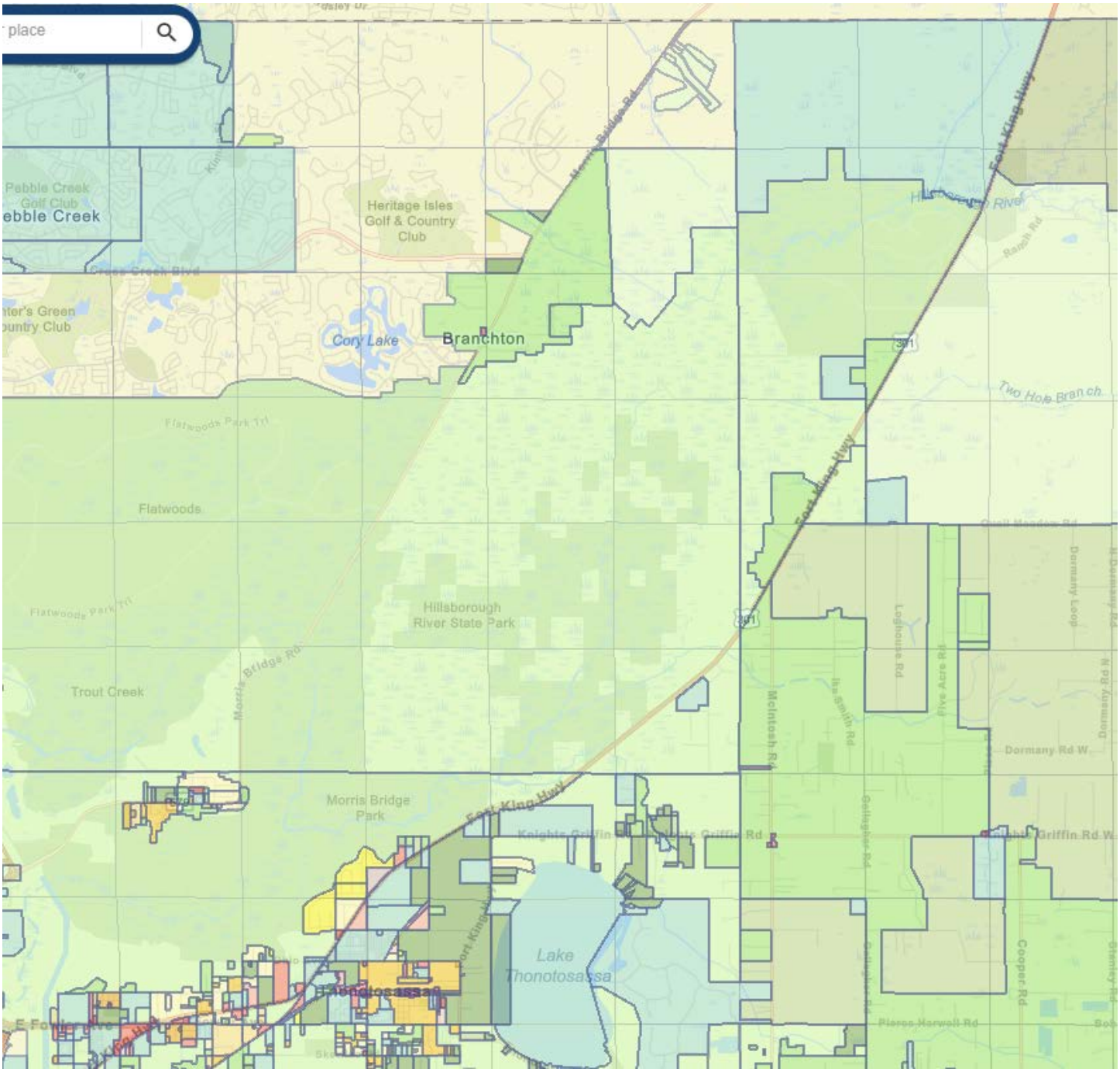
2022 FDOT Design Manual Design Criteria

DESIGN CONTROL	C1	C2	C3C/C3R
Allowable Design Speed Range (mph)	55-70	55-70	35-55
SIS Minimum Design Speed (mph)	65	65	50
Minimum Travel & Auxiliary Lane Width	12	12	35 mph: 10 ft 40-45 mph: 11 ft ≥ 50 mph: 12 ft
Two-Way Left Turn Lane	N/A	N/A	25-35 mph: 11 ft 40 mph: 12 ft
Median Width	High Speed Curbed 50-55, 30 ft Flush Shoulder, 40 ft	High Speed Curbed 50-55, 30 ft Flush Shoulder, 40 ft	Curbed & Flush 25-35 mph: 22 ft 40-45 mph: 22 ft High Speed Curbed 50-55, 30 ft
Sidewalk Width	5	5	6

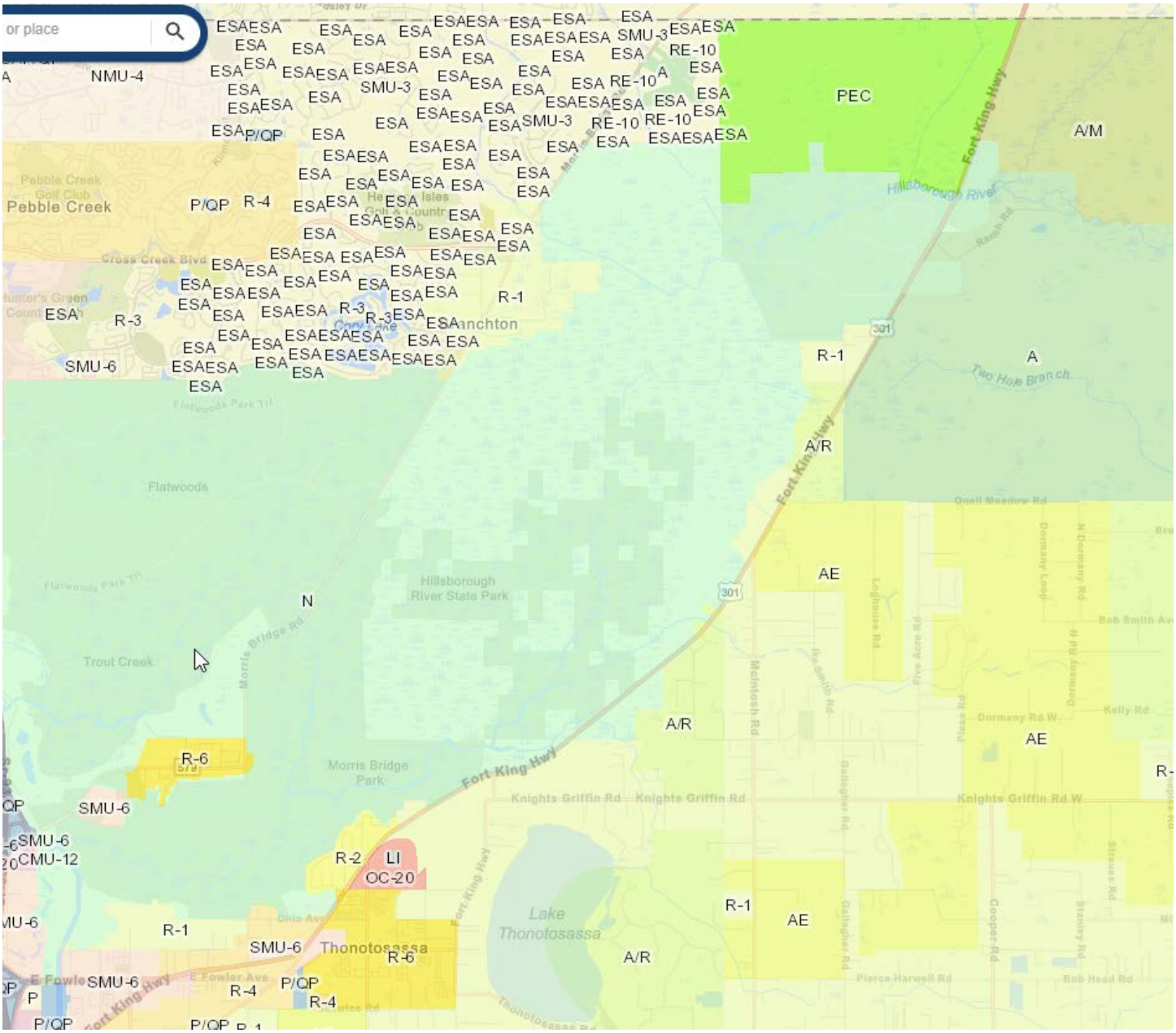
Project Map



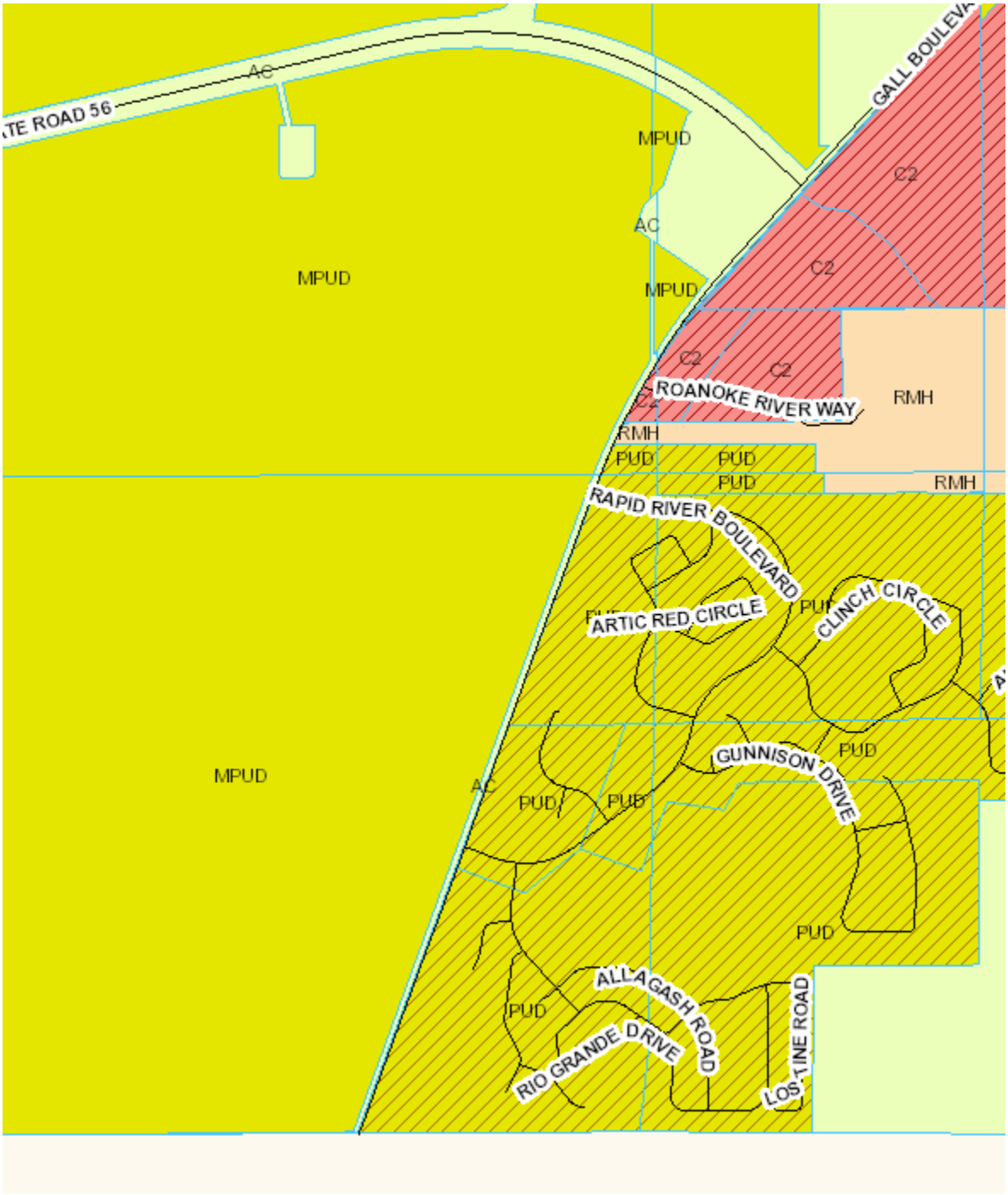
Existing Land Use



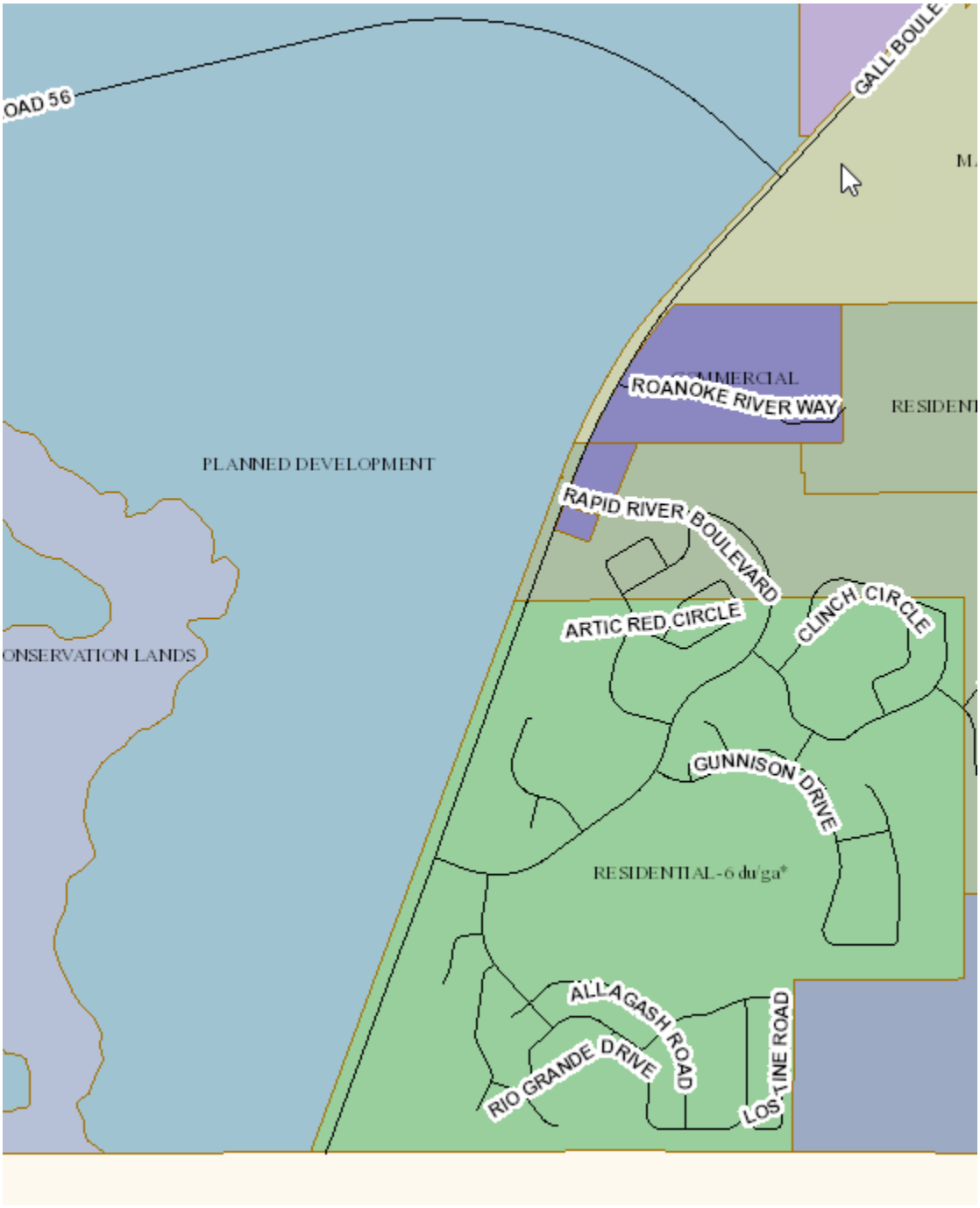
Future Land Use



Pasco Existing Land Use



Pasco Future Land Use



APPENDIX E

Value Engineering Study Decision Matrix

Value Engineering Study - Decision Matrix
US 301
from Tom Folsom Rd. to SR 56
Phase 0 Plans
FINANCIAL MANAGEMENT NUMBER: 255796-1-22-01
STUDY NUMBER: 18-007-01

Recommendations	Decision*	Comments**	Potential Cost Impact (-) VE Estimated Savings (+) Value Added
1. Reduce, eliminate or combine ponds, and reduce flood plain compensation to reduce construction cost and right of way cost.	Approved		(-) $681,887
2. In the areas of narrow whole take parcels, reduce right of way requirements by reducing the Proposed Border Width at Select Locations by Reducing Depth of Roadside Ditch from 3.5 feet to 1.5 feet.	Declined	Consider as a design refinement, while maintaining room for future six lane expansion.	(+) $37,905
3. Adjacent to the Hillsborough River Bridge approach embankment, reduce right of way requirements by reducing the proposed border width to the minimum required 40 feet.	Declined	This is the area of the bridge embankment. Consider as a design refinement, while maintaining room for future six lane expansion.	(-) $5,400
4. Within the limits of the State Park, reduce right of way requirements by reducing the Proposed Border Width at Select Locations by Reducing Depth of Roadside Ditch from 3.5 feet to 1.5 feet.	Declined	Consider as a design refinement, while maintaining room for future six lane expansion.	(+) $802,610
5. Reduce lane widths to 11 ft. rather than 12 ft.	Declined	Crash data supports leaving the lanes at 12 feet wide in high speed areas.	(-) $ 1,749,682
6. Review pavement design at turnouts, crossovers and turn lanes and element friction course entirely, rather than using FC 5.	Approved	Approved for the crossover areas only and not in the turn lanes. Construct structural course finished grade to be flush with adjacent friction course.	(-) $54,265
7. Construct new bridges rather than relocating the three existing wooden bridges.	Approved	None	(-) $2,136,573
8. Reduce the width of the path to 10 ft. minimum and increase the pavement thickness to 1 1/2" minimum	Declined	Use 1.5-inch pavement thickness per Pavement Design Manual	(-) $240,759
9. Reduce the lighting by using at the intersections only, rather than the entire project.	Approved	Approved subject to concurrence by the District Traffic Operations Engineer.	(-) $1,745,932

Recommendations	Decision*	Comments**	Potential Cost Impact (-) VE Estimated Savings (+) Value Added
10. Eliminate sidewalks in the rural area, rather than providing for the entire project.	Approved	Approved for the area north of Stacy Rd. only and subject to further evaluation of context during the design process. Also, construct the earthwork now to accommodate the future sidewalk in this area.	(-) $1,323,788

* Decision to accept, decline or accept with modifications

** Reason for declining or explanation of modification if required

RM

Richard Moss, Director of Transportation Development

Date 5/4/18

APPENDIX F

Final Long Range Estimate (LRE)

Date: 7/6/2023 2:53:39 PM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 255796-2-52-01 **Letting Date:** 09/2027

Description: US 301 FROM N OF TOM FOLSOM RD TO HILLSBOROUGH/PASCO CO LINE

District: 07 **County:** 10 HILLSBOROUGH **Market Area:** 08 **Units:** English
Contract Class: **Lump Sum Project:** N **Design/Build:** N **Project Length:** 11.152 MI

Project Manager: ZSP

Version 11 Project Grand Total **$209,477,731.81**
Description: Update for public hearing

Sequence: 1 NDU - New Construction, Divided, Urban **Net Length:** 3.147 MI / 16,617 LF

Description: Sequence 1: New divided urban typical section from Sta 1359+89 to Sta 1526+06. Includes two 12-ft travel lanes in each direction, a 30-ft median with type E curb & gutter and 4-ft inside paved shoulders, 7-ft outside bike lanes, a 12-ft shared use path (LT), and a 6-ft sidewalk (RT).

Special Conditions: Includes urban lighting and drainage ponds.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	75.50 / 75.50
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	3.147
Top of Structural Course For Begin Section	103.00
Top of Structural Course For End Section	103.00
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	57.60	AC	$49,434.50	$2,847,427.20
120-6	EMBANKMENT	177,128.27	CY	$31.91	$5,652,163.10
	Earthwork Component Total				$8,499,590.30

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	33.00 / 33.00
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	140,913.99	SY	$16.29	$2,295,488.90
285-709	OPTIONAL BASE,BASE GROUP 09	121,859.58	SY	$37.01	$4,510,023.06
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	20,106.83	TN	$161.19	$3,241,019.93
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	4,874.38	TN	$198.25	$966,345.84

Turnouts/Crossovers Subcomponent

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

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	14,091.40	SY	$16.29	$229,548.91
285-709	OPTIONAL BASE,BASE GROUP 09	12,185.96	SY	$37.01	$451,002.38
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,010.68	TN	$161.19	$324,101.51
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	487.44	TN	$198.25	$96,634.98

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	6
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	1,275.00	EA	$4.20	$5,355.00
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	18.88	GM	$1,192.26	$22,509.87
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	6.29	GM	$517.84	$3,257.21
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	18.88	GM	$4,781.65	$90,277.55
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	6.29	GM	$1,502.93	$9,453.43

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	12.00 / 0.00
Bike Path Structural Spread Rate	125
Noise Barrier Wall Length	2,000.00
Noise Barrier Wall Begin Height	16.00
Noise Barrier Wall End Height	16.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	29,541.72	SY	$16.29	$481,234.62

285-701	OPTIONAL BASE,BASE GROUP 01	22,156.29	SY	$24.29	$538,176.28
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,384.77	TN	$161.19	$223,211.08
534-72-101	SOUND/NOISE BARRIER-INC FOUNDATION, PERM	32,000.00	SF	$60.54	$1,937,280.00
	Roadway Component Total				$15,424,920.55

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	7.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	0.00 / 6.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	16,617.22	LF	$45.68	$759,074.61
520-1-10	CONCRETE CURB & GUTTER, TYPE F	16,617.22	LF	$45.68	$759,074.61
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	11,078.14	SY	$67.09	$743,232.41
570-1-1	PERFORMANCE TURF	18,463.57	SY	$2.72	$50,220.91

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	33,234.43	LF	$2.20	$73,115.75
104-11	FLOATING TURBIDITY BARRIER	786.80	LF	$11.77	$9,260.64
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	786.80	LF	$5.69	$4,476.89
104-15	SOIL TRACKING PREVENTION DEVICE	4.00	EA	$3,393.33	$13,573.32
104-18	INLET PROTECTION SYSTEM	161.00	EA	$123.68	$19,912.48
107-1	LITTER REMOVAL	80.10	AC	$40.90	$3,276.09
107-2	MOWING	80.10	AC	$68.68	$5,501.27
	Shoulder Component Total				$2,440,718.98

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	33,234.43	LF	$42.41	$1,409,472.18
570-1-1	PERFORMANCE TURF	9,859.55	SY	$2.72	$26,817.98
	Median Component Total				$1,436,290.16

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	114.00	EA	$8,457.75	$964,183.50
425-1-451	INLETS, CURB, TYPE J-5, <10'	32.00	EA	$12,818.48	$410,191.36
425-1-521	INLETS, DT BOT, TYPE C, <10'	16.00	EA	$5,447.38	$87,158.08
425-2-41	MANHOLES, P-7, <10'	16.00	EA	$6,685.48	$106,967.68
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	8,328.00	LF	$163.81	$1,364,209.68
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	744.00	LF	$253.51	$188,611.44
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	15,736.00	LF	$375.86	$5,914,532.96
570-1-1	PERFORMANCE TURF	956.75	SY	$2.72	$2,602.36

Retention Basin 1

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	SMF 1A (2.53 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	$49,434.50	$123,586.25
120-1	REGULAR EXCAVATION	24,200.00	CY	$28.80	$696,960.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	$7,974.09	$7,974.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	$9,975.86	$9,975.86
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	$715.27	$143,054.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	$28.66	$38,261.10
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	$4,751.93	$4,751.93
570-1-1	PERFORMANCE TURF	12,100.00	SY	$2.72	$32,912.00

Retention Basin 2

Description	Value
Size	2 AC
Multiplier	2
Depth	6.00
Description	SMF 3A (3.85 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.00	AC	$49,434.50	$197,738.00
120-1	REGULAR EXCAVATION	38,720.00	CY	$28.80	$1,115,136.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,055.01	$12,110.02
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$320.13	$35,854.56
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00

550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,360.00	LF	$28.66	$67,637.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	19,360.00	SY	$2.72	$52,659.20

Retention Basin 3

Description	Value
Size	1.5 AC
Multiplier	2
Depth	6.00
Description	SMF 4A (3.22 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.00	AC	$49,434.50	$148,303.50
120-1	REGULAR EXCAVATION	29,040.00	CY	$28.80	$836,352.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,055.01	$12,110.02
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$320.13	$35,854.56
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,050.00	LF	$28.66	$58,753.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	14,520.00	SY	$2.72	$39,494.40

Retention Basin 4

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	FPC 1 (5.45 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	$49,434.50	$247,172.50
120-1	REGULAR EXCAVATION	48,400.00	CY	$28.80	$1,393,920.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	$28.66	$53,307.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	24,200.00	SY	$2.72	$65,824.00
	Drainage Component Total				$15,456,759.56

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	76.00	AS	$445.39	$33,849.64
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	7.00	AS	$1,610.44	$11,273.08
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	7.00	AS	$7,295.68	$51,069.76
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	7.00	AS	$11,947.99	$83,635.93
	Signing Component Total				$179,828.41

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	CR 579

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	$16.30	$12,225.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	$29.82	$5,964.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	$8,968.02	$8,968.02
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	$7,185.93	$7,185.93
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	$1,031.67	$14,443.38
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	$3,623.43	$3,623.43
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	$7.97	$239.10
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00	EA	$13,192.19	$52,768.76
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00	AS	$1,262.88	$15,154.56
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	$748.35	$5,986.80
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	$318.00	$3,816.00
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	$1,167.63	$14,011.56
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	$293.44	$2,347.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	$40,580.57	$40,580.57
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	$251.98	$1,007.92
	Signalizations Component Total				$188,322.55

LIGHTING COMPONENT

Conventional Lighting Subcomponent

Description	Value
Spacing	MIN

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	16,617.22	LF	$16.30	$270,860.69

630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	3,298.27 LF	$29.82	$98,354.41
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	111.00 EA	$1,031.67	$114,515.37
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	60,690.60 LF	$3.18	$192,996.11
715-61-342	LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L	111.00 EA	$8,261.03	$916,974.33
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	111.00 EA	$680.65	$75,552.15
	Subcomponent Total			$1,669,253.06
	Lighting Component Total			$1,669,253.06
Sequence 1 Total				$45,295,683.57

Sequence: 2 NDS - New, Divided, Suburban (Urban In/Rural Out) **Net Length:** 8.029 MI 42,394 LF

Description: Sequence 2: New divided suburban typical section from Sta 1526+06 to Sta 1950+00.

Special Conditions: Includes two 12-ft travel lanes in each direction, a 30-ft median with 4-ft inside shoulders, 10-ft outside shoulders (5 ft paved), a 12-ft shared use path (LT), and a 6-ft sidewalk (RT).

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	115.00 / 115.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	8.029
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
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	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	223.84	AC	$49,434.50	$11,065,418.48
120-6	EMBANKMENT	765,996.57	CY	$31.91	$24,442,950.55
	Earthwork Component Total				$35,508,369.03

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
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	382,301.26	SY	$16.29	$6,227,687.53
285-709	OPTIONAL BASE,BASE GROUP 09	270,003.80	SY	$37.01	$9,992,840.64
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	43,524.69	TN	$161.19	$7,015,744.78
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	10,551.44	TN	$198.25	$2,091,822.98

Turnouts/Crossovers Subcomponent

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

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount

160-4	TYPE B STABILIZATION	38,230.13	SY	$16.29	$622,768.82
285-709	OPTIONAL BASE,BASE GROUP 09	27,000.38	SY	$37.01	$999,284.06
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	4,352.47	TN	$161.19	$701,574.64
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,055.14	TN	$198.25	$209,181.50

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	3,252.00	EA	$4.20	$13,658.40
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	32.12	GM	$1,192.26	$38,295.39
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	16.06	GM	$517.84	$8,316.51
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	32.12	GM	$5,518.73	$177,261.61
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	16.06	GM	$1,821.42	$29,252.01
	Roadway Component Total				$28,127,688.88

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
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	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ï¿½No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	50,213.55	SY	$63.21	$3,173,998.50
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,590.76	TN	$161.19	$417,604.60
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,884.19	TN	$198.25	$373,540.67
570-1-1	PERFORMANCE TURF	25,153.88	SY	$2.72	$68,418.55

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	110,224.86	LF	$2.20	$242,494.69
104-11	FLOATING TURBIDITY BARRIER	2,007.30	LF	$11.77	$23,625.92

104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	2,007.30	LF	$5.69	$11,421.54
104-15	SOIL TRACKING PREVENTION DEVICE	9.00	EA	$3,393.33	$30,539.97
104-18	INLET PROTECTION SYSTEM	65.00	EA	$123.68	$8,039.20
107-1	LITTER REMOVAL	143.96	AC	$40.90	$5,887.96
107-2	MOWING	143.96	AC	$68.68	$9,887.17
	Shoulder Component Total				$4,365,458.77

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	84,788.35	LF	$42.41	$3,595,873.92
570-1-1	PERFORMANCE TURF	25,153.88	SY	$2.72	$68,418.55
	Median Component Total				$3,664,292.47

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-551	INLETS, DT BOT, TYPE E, <10'	65.00	EA	$6,321.79	$410,916.35
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	3,344.00	LF	$163.81	$547,780.64
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	1,896.00	LF	$253.51	$480,654.96
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	65.00	EA	$2,273.72	$147,791.80
570-1-1	PERFORMANCE TURF	3,083.21	SY	$2.72	$8,386.33

Retention Basin 1

Description	Value
Size	1.5 AC
Multiplier	2
Depth	6.00
Description	SMF 5B (3.31 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.00	AC	$49,434.50	$148,303.50
120-1	REGULAR EXCAVATION	29,040.00	CY	$28.80	$836,352.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,055.01	$12,110.02
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$320.13	$35,854.56
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,050.00	LF	$28.66	$58,753.00

550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	14,520.00	SY	$2.72	$39,494.40

Retention Basin 2

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	SMF 6C (5.44 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	$49,434.50	$247,172.50
120-1	REGULAR EXCAVATION	48,400.00	CY	$28.80	$1,393,920.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	$28.66	$53,307.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	24,200.00	SY	$2.72	$65,824.00

Retention Basin 3

Description	Value
Size	2 AC
Multiplier	2
Depth	6.00
Description	SMF 12A (3.72 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.00	AC	$49,434.50	$197,738.00
120-1	REGULAR EXCAVATION	38,720.00	CY	$28.80	$1,115,136.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,055.01	$12,110.02
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$320.13	$35,854.56
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,360.00	LF	$28.66	$67,637.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	19,360.00	SY	$2.72	$52,659.20

Retention Basin 4

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	SMF 13A (5.44 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	$49,434.50	$247,172.50
120-1	REGULAR EXCAVATION	48,400.00	CY	$28.80	$1,393,920.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	$28.66	$53,307.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	24,200.00	SY	$2.72	$65,824.00

Retention Basin 5

Description	Value
Size	1.5 AC
Multiplier	2
Depth	6.00
Description	FPC 3 (3.55 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.00	AC	$49,434.50	$148,303.50
120-1	REGULAR EXCAVATION	29,040.00	CY	$28.80	$836,352.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,055.01	$12,110.02
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	112.00	LF	$320.13	$35,854.56
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,050.00	LF	$28.66	$58,753.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	14,520.00	SY	$2.72	$39,494.40

Retention Basin 6

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	FPC 6 (2.15 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	$49,434.50	$98,869.00
120-1	REGULAR EXCAVATION	19,360.00	CY	$28.80	$557,568.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	1.00	EA	$9,975.86	$9,975.86
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	$715.27	$143,054.00

550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	$28.66	$33,818.80
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	$4,751.93	$4,751.93
570-1-1	PERFORMANCE TURF	9,680.00	SY	$2.72	$26,329.60

Retention Basin 7

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	FPC 7 (5.66 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	$49,434.50	$247,172.50
120-1	REGULAR EXCAVATION	48,400.00	CY	$28.80	$1,393,920.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	$28.66	$53,307.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	24,200.00	SY	$2.72	$65,824.00

Retention Basin 8

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	SMF 7A (2.53 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	$49,434.50	$123,586.25
120-1	REGULAR EXCAVATION	24,200.00	CY	$28.80	$696,960.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	$7,974.09	$7,974.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	$9,975.86	$9,975.86
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	$715.27	$143,054.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	$28.66	$38,261.10
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	$4,751.93	$4,751.93
570-1-1	PERFORMANCE TURF	12,100.00	SY	$2.72	$32,912.00

Retention Basin 9

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00

Description	FPC 2 (7.51 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	$49,434.50	$247,172.50
120-1	REGULAR EXCAVATION	48,400.00	CY	$28.80	$1,393,920.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	$28.66	$53,307.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	24,200.00	SY	$2.72	$65,824.00

Retention Basin 10

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	SMF 8B (2.45 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	$49,434.50	$123,586.25
120-1	REGULAR EXCAVATION	24,200.00	CY	$28.80	$696,960.00
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	$7,974.09	$7,974.09
425-2-71	MANHOLES, J-7, <10'	1.00	EA	$9,975.86	$9,975.86
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	$715.27	$143,054.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00	LF	$28.66	$38,261.10
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	$4,751.93	$4,751.93
570-1-1	PERFORMANCE TURF	12,100.00	SY	$2.72	$32,912.00

Retention Basin 11

Description	Value
Size	20 AC
Multiplier	1
Depth	6.00
Description	FPC 5 (25.47 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	20.00	AC	$49,434.50	$988,690.00
120-1	REGULAR EXCAVATION	193,600.00	CY	$28.80	$5,575,680.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	3.00	EA	$6,055.01	$18,165.03
425-2-71	MANHOLES, J-7, <10'	3.00	EA	$9,975.86	$29,927.58
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	152.00	LF	$320.13	$48,659.76

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	600.00	LF	$715.27	$429,162.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	4,420.00	LF	$28.66	$126,677.20
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	6.00	EA	$4,751.93	$28,511.58
570-1-1	PERFORMANCE TURF	96,800.00	SY	$2.72	$263,296.00

Retention Basin 12

Description	Value
Size	2 AC
Multiplier	1
Depth	6.00
Description	SMF 9C (1.77 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00	AC	$49,434.50	$98,869.00
120-1	REGULAR EXCAVATION	19,360.00	CY	$28.80	$557,568.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	1.00	EA	$9,975.86	$9,975.86
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	$715.27	$143,054.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	$28.66	$33,818.80
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	$4,751.93	$4,751.93
570-1-1	PERFORMANCE TURF	9,680.00	SY	$2.72	$26,329.60

Retention Basin 13

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	SMF 10B (4.43 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00	AC	$49,434.50	$247,172.50
120-1	REGULAR EXCAVATION	48,400.00	CY	$28.80	$1,393,920.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	$6,055.01	$6,055.01
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$9,975.86	$19,951.72
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00	LF	$320.13	$17,927.28
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$715.27	$286,108.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00	LF	$28.66	$53,307.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	$4,751.93	$9,503.86
570-1-1	PERFORMANCE TURF	24,200.00	SY	$2.72	$65,824.00

Drainage Component Total $28,240,214.14

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	193.00	AS	$445.39	$85,960.27
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	17.00	AS	$1,610.44	$27,377.48
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	17.00	AS	$5,675.74	$96,487.58
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	17.00	AS	$7,295.68	$124,026.56
	Signing Component Total				$333,851.89

SIGNALIZATIONS COMPONENT

Signalization 1

Description	Value
Type	4 Lane Strain Pole
Multiplier	1
Description	Hillsborough River State Park

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	750.00	LF	$16.30	$12,225.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	200.00	LF	$29.82	$5,964.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	$8,968.02	$8,968.02
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	$7,185.93	$7,185.93
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	$1,031.67	$14,443.38
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	$3,623.43	$3,623.43
639-2-1	ELECTRICAL SERVICE WIRE, F&I	30.00	LF	$7.97	$239.10
641-2-16	PREST CNC POLE,F&I,TYP P-VI	4.00	EA	$13,192.19	$52,768.76
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	12.00	AS	$1,262.88	$15,154.56
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	8.00	AS	$748.35	$5,986.80
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	12.00	EA	$318.00	$3,816.00
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	12.00	AS	$1,167.63	$14,011.56
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	$293.44	$2,347.52
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	$40,580.57	$40,580.57
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	$251.98	$1,007.92
	Signalizations Component Total				$188,322.55

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description	Value
Multiplier (Number of Poles)	63

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	12,600.00	LF	$16.30	$205,380.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	63.00	EA	$1,031.67	$64,995.21
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	37,800.00	LF	$3.18	$120,204.00
715-61-442	LIGHT POLE CMPLT,STD,F&I, 45'MH,12'ARM L	63.00	EA	$10,571.93	$666,031.59
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	63.00	EA	$680.65	$42,880.95
	Subcomponent Total				$1,099,491.75
	Lighting Component Total				$1,099,491.75

BRIDGES COMPONENT

Bridge 100951

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	116.00
Width (LF)	13.60
Type	Low Level
Cost Factor	1.30
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$145.60
Final Cost per SF	**$161.94**
Basic Bridge Cost	**$229,698.56**
Description	FLINT CREEK SHARED USE PATH BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	30.22	CY	$625.27	$18,895.66
415-1-9	REINF STEEL- APPROACH SLABS	5,288.50	LB	$1.30	$6,875.05
	Bridge 100951 Total				$255,469.27

Bridge 100951

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	116.00
Width (LF)	49.70
Type	Low Level
Cost Factor	1.30
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$145.60
Final Cost per SF	**$161.94**
Basic Bridge Cost	**$839,413.12**
Description	FLINT CREEK NB BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	110.44	CY	$625.27	$69,054.82
415-1-9	REINF STEEL- APPROACH SLABS	19,327.00	LB	$1.30	$25,125.10
	Bridge 100951 Total				$933,593.04

Bridge 100052

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	70.00
Width (LF)	13.60
Type	Low Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$128.80
Final Cost per SF	**$155.87**
Basic Bridge Cost	**$122,617.60**
Description	FLINT CREEK RELIEF SHARED USE PATH BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	30.22	CY	$625.27	$18,895.66
415-1-9	REINF STEEL- APPROACH SLABS	5,288.50	LB	$1.30	$6,875.05
	Bridge 100052 Total				$148,388.31

Bridge 100052

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	70.00
Width (LF)	49.70
Type	Low Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$128.80
Final Cost per SF	**$155.87**
Basic Bridge Cost	**$448,095.20**
Description	FLINT CREEK RELIEF BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	110.44	CY	$625.27	$69,054.82
415-1-9	REINF STEEL- APPROACH SLABS	19,327.00	LB	$1.30	$25,125.10
	Bridge 100052 Total				$542,275.12

Bridge 100053

Description	Value

Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	96.00
Width (LF)	13.60
Type	Low Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$140.00
Final Cost per SF	**$159.74**
Basic Bridge Cost	**$182,784.00**
Description	HOLLOMANS BRANCH SHARED USE PATH BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	30.22	CY	$625.27	$18,895.66
415-1-9	REINF STEEL- APPROACH SLABS	5,288.50	LB	$1.30	$6,875.05
	Bridge 100053 Total				$208,554.71

Bridge 100053

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	96.00
Width (LF)	49.70
Type	Low Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$140.00
Final Cost per SF	**$159.74**
Basic Bridge Cost	**$667,968.00**
Description	HOLLOMANS BRANCH NB BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	110.44	CY	$625.27	$69,054.82
415-1-9	REINF STEEL- APPROACH SLABS	19,327.00	LB	$1.30	$25,125.10
	Bridge 100053 Total				$762,147.92

Bridge 100434

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	450.00
Width (LF)	15.90
Type	Medium Level
Cost Factor	1.30
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$130.00
Factored Cost per SF	$169.00

Final Cost per SF	**$173.21**
Basic Bridge Cost	**$1,209,195.00**
Description	HILLSBOROUGH RIVER SHARED USE PATH BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	35.33	CY	$625.27	$22,090.79
415-1-9	REINF STEEL- APPROACH SLABS	6,182.75	LB	$1.30	$8,037.58
	Bridge 100434 Total				$1,239,323.37

Bridge 100434

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	450.00
Width (LF)	49.70
Type	Medium Level
Cost Factor	1.30
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$130.00
Factored Cost per SF	$169.00
Final Cost per SF	**$173.21**
Basic Bridge Cost	**$3,779,685.00**
Description	HILLSBOROUGH RIVER NB BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	110.44	CY	$625.27	$69,054.82
415-1-9	REINF STEEL- APPROACH SLABS	19,327.00	LB	$1.30	$25,125.10
	Bridge 100434 Total				$3,873,864.92

Bridge 100504

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	75.00
Width (LF)	13.60
Type	Low Level
Cost Factor	1.20
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$134.40
Final Cost per SF	**$159.67**
Basic Bridge Cost	**$137,088.00**
Description	TWO HOLES BRANCH SHARED USE PATH BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	30.22	CY	$625.27	$18,895.66
415-1-9	REINF STEEL- APPROACH SLABS	5,288.50	LB	$1.30	$6,875.05

	Bridge 100504 Total	$162,858.71

Bridge 100504

Description	**Value**
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	75.00
Width (LF)	42.70
Type	Low Level
Cost Factor	1.20
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$134.40
Final Cost per SF	**$159.67**
Basic Bridge Cost	**$430,416.00**
Description	TWO HOLES BRANCH SB BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	94.89	CY	$625.27	$59,331.87
415-1-9	REINF STEEL- APPROACH SLABS	16,605.75	LB	$1.30	$21,587.48

	Bridge 100504 Total	$511,335.35

Bridge 100504

Description	**Value**
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	75.00
Width (LF)	49.70
Type	Low Level
Cost Factor	1.20
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	$112.00
Factored Cost per SF	$134.40
Final Cost per SF	**$159.67**
Basic Bridge Cost	**$500,976.00**
Description	TWO HOLES BRANCH NB BRIDGE

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	110.44	CY	$625.27	$69,054.82
415-1-9	REINF STEEL- APPROACH SLABS	19,327.00	LB	$1.30	$25,125.10

	Bridge 100504 Total	$595,155.92
	Bridges Component Total	$9,232,966.64

Sequence 2 Total	$110,760,656.12

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FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 255796-2-52-01 **Letting Date:** 09/2027

Description: US 301 FROM N OF TOM FOLSOM RD TO HILLSBOROUGH/PASCO CO LINE

District: 07 **County:** 10 HILLSBOROUGH **Market Area:** 08 **Units:** English
Contract Class: **Lump Sum Project:** N **Design/Build:** N **Project Length:** 11.152 MI

Project Manager: ZSP

Version 11 Project Grand Total **$209,477,731.81**
Description: Update for public hearing

Project Sequences Subtotal			**$156,056,339.69**
102-1	Maintenance of Traffic	8.00 %	$12,484,507.18
101-1	Mobilization	8.00 %	$13,483,267.75
Project Sequences Total			**$182,024,114.62**
Project Unknowns		15.00 %	$27,303,617.19
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 11 Project Grand Total					**$209,477,731.81**

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FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 255796-3-52-01 **Letting Date:** 10/2027

Description: US 301 from Hillsborough/Pasco CL to south of Proposed SR 56.

District: 07 **County:** 14 PASCO **Market Area:** 07 **Units:** English
Contract Class: **Lump Sum Project:** N **Design/Build:** N **Project Length:** 1.500 MI

Project Manager: Lilliam Escalera

Version 8 Project Grand Total **$16,986,401.99**
Description: Update for public hearing

Sequence: 1 NDS - New, Divided, Suburban (Urban In/Rural Out) **Net Length:** 1.465 MI 7,733 LF

Description: Sequence 1: New divided suburban typical section from Sta 1950+00 to Sta 2027+33.
Special Conditions: Includes two 12-ft travel lanes in each direction, a 30-ft median with 4-ft inside shoulders, 10-ft outside shoulders (5 ft paved), a 12-ft shared use path (LT), and a 6-ft sidewalk (RT).

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	115.00 / 115.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.464
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
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	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	40.84	AC	$29,991.53	$1,224,854.09
120-6	EMBANKMENT	139,671.07	CY	$21.66	$3,025,275.38
	Earthwork Component Total				$4,250,129.47

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
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	69,735.27 SY	$10.54	$735,009.75
285-709	OPTIONAL BASE,BASE GROUP 09	49,251.18 SY	$30.38	$1,496,250.85
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	7,939.30 TN	$145.23	$1,153,024.54
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	1,924.68 TN	$211.21	$406,511.66

Turnouts/Crossovers Subcomponent

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

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	6,973.53	SY	$10.54	$73,501.01
285-709	OPTIONAL BASE,BASE GROUP 09	4,925.12	SY	$30.38	$149,625.15
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	793.93	TN	$145.23	$115,302.45
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	192.47	TN	$211.21	$40,651.59

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	593.00	EA	$4.18	$2,478.74
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	5.86	GM	$1,175.27	$6,887.08
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.93	GM	$531.23	$1,556.50
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	5.86	GM	$5,479.11	$32,107.58
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.93	GM	$1,803.71	$5,284.87
	Roadway Component Total				$4,218,191.77

SHOULDER COMPONENT

User Input Data

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
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	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips ï¿½No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	9,159.41	SY	$22.51	$206,178.32
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	472.58	TN	$145.23	$68,632.79
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	343.69	TN	$211.21	$72,590.76
570-1-1	PERFORMANCE TURF	4,588.30	SY	$2.54	$11,654.28

Erosion Control

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	20,106.03	LF	$1.80	$36,190.85
104-11	FLOATING TURBIDITY BARRIER	366.15	LF	$12.47	$4,565.89
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	366.15	LF	$6.05	$2,215.21
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	$3,684.11	$7,368.22
104-18	INLET PROTECTION SYSTEM	12.00	EA	$149.06	$1,788.72
107-1	LITTER REMOVAL	26.26	AC	$38.26	$1,004.71
107-2	MOWING	26.26	AC	$66.49	$1,746.03
	Shoulder Component Total				$413,935.78

MEDIAN COMPONENT

User Input Data

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	15,466.18	LF	$38.22	$591,117.40
570-1-1	PERFORMANCE TURF	4,588.30	SY	$2.54	$11,654.28
	Median Component Total				$602,771.68

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-551	INLETS, DT BOT, TYPE E, <10'	12.00	EA	$5,546.80	$66,561.60
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	616.00	LF	$129.34	$79,673.44
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	352.00	LF	$180.50	$63,536.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	12.00	EA	$2,232.51	$26,790.12
570-1-1	PERFORMANCE TURF	562.41	SY	$2.54	$1,428.52

Retention Basin 1

Description	Value
Size	10 AC

Multiplier	1
Depth	6.00
Description	FPC 8 (8.59 AC)

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	10.00	AC	$29,991.53	$299,915.30
120-1	REGULAR EXCAVATION	96,800.00	CY	$17.52	$1,695,936.00
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	$6,367.96	$12,735.92
425-2-71	MANHOLES, J-7, <10'	2.00	EA	$8,555.66	$17,111.32
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	104.00	LF	$246.63	$25,649.52
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	$384.43	$153,772.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,780.00	LF	$23.35	$64,913.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	3.00	EA	$4,998.80	$14,996.40
570-1-1	PERFORMANCE TURF	48,400.00	SY	$2.54	$122,936.00
	Drainage Component Total				$2,645,955.14

SIGNING COMPONENT

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	36.00	AS	$418.05	$15,049.80
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	$1,504.34	$4,513.02
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00	AS	$5,924.04	$17,772.12
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	3.00	AS	$7,212.75	$21,638.25
	Signing Component Total				$58,973.19

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description	Value
Multiplier (Number of Poles)	19

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,800.00	LF	$17.67	$67,146.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	19.00	EA	$1,079.41	$20,508.79
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	11,400.00	LF	$3.86	$44,004.00
715-61-442	LIGHT POLE CMPLT,STD,F&I, 45'MH,12'ARM L	19.00	EA	$11,367.24	$215,977.56
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	19.00	EA	$744.56	$14,146.64
	Subcomponent Total				$361,782.99
	Lighting Component Total				$361,782.99

Sequence 1 Total	$12,551,740.02

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FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 255796-3-52-01 **Letting Date:** 10/2027

Description: US 301 from Hillsborough/Pasco CL to south of Proposed SR 56.

District: 07 **County:** 14 PASCO **Market Area:** 07 **Units:** English
Contract Class: **Lump Sum Project:** N **Design/Build:** N **Project Length:** 1.500 MI

Project Manager: Lilliam Escalera

Version 8 Project Grand Total **$16,986,401.99**
Description: Update for public hearing

Project Sequences Subtotal			**$12,551,740.02**
102-1	Maintenance of Traffic	8.00 %	$1,004,139.20
101-1	Mobilization	8.00 %	$1,084,470.34
Project Sequences Total			**$14,640,349.56**
Project Unknowns		15.00 %	$2,196,052.43
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 8 Project Grand Total					**$16,986,401.99**