DRAFT PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

District Seven

SR 56 Southbound C-D Road / Ramps to I-75/I-275

Project Development and Environment (PD&E) Study

Limits of Project: I-75 from south of the I-75/I-275 Apex to SR 56

Hillsborough and Pasco Counties, Florida

Financial Management Number: 430573-4-22-01

ETDM Number: 14330

Date: September 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

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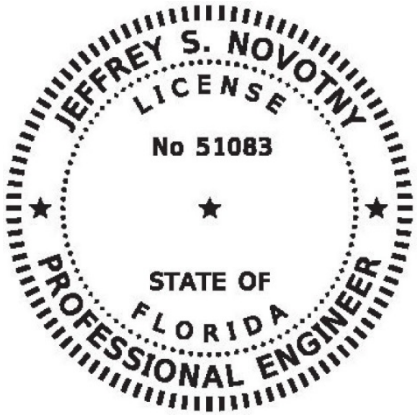
Prepared for:

Florida Department of Transportation
District Seven

This preliminary engineering report contains engineering information that fulfills the purpose and need for the SR 56 Southbound C-D Road / Ramps to I-75/I-275 Project Development & Environment Study along I-75 from south of the I-75/I-275 Apex to SR 56 in Hillsborough and Pasco Counties, Florida. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

I hereby certify that I am a registered professional engineer in the State of Florida practicing with American Consulting Engineers of Florida, LLC, and that I have prepared or approved the evaluation, findings, opinions, conclusions or technical advice for this project.



This item has been digitally signed and sealed by Jeffrey S. Novotny on the date adjacent to the seal.

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

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Jeffrey S. Novotny, P.E.
Florida PE #51083

September 2021

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List of Acronyms

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
BFE	Base Flood Elevation
C-D	Collector-Distributor
CFR	Code of Federal Register
CRAS	*Cultural Resource Assessment Survey*
CZ	Clear zone
DDHV	Directional Design Hour Volume
D-factor	Directional Design Factor
DHT	Design Hour Trucks
ERP	Environmental Resource Permit
ETAT	Environmental Technical Advisory Team
ETDM	Efficient Transportation Decision Making
FAR	Florida Administrative Register
FDACS-DPI	Florida Department of Agriculture and Consumer Services - Division of Plant Industry
FDEP	Florida Department of Environmental Protection
FDM	FDOT Design Manual
FDOT	Florida Department of Transportation (also "Department")
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FLUCCS	Florida Land Use, Cover and Forms Classification System
FPC	Floodplain Compensation
FT	Feet
FTO	Florida Transportation Online
FWC	Florida Fish and Wildlife Conservation Commission
FY	Fiscal Year
GIS	Geographic Information System
HART	Hillsborough Area Regional Transit Agency
HCS	Highway Capacity Software
ITS	Intelligent Transportation System
I-75 or I-275	Interstate 75 or Interstate 275
LHM	*Location Hydraulics Memorandum*
LOS	Level of Service
LRE	Long Range Estimates
LRTP	Long Range Transportation Plan
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
NAVD	North American Vertical Datum

NB	Northbound
NC	Normal Crown Superelevation
NEPA	National Environmental Policy Act of 1969
NHFN	National Highway Freight Network
NRCS	Natural Resources Conservation Service
NRE	*Natural Resources Evaluation*
OEM	Office of Environmental Management
OFW	Outstanding Florida Water
PC	Point of Curvature
pc/mi/ln	Passenger Car per Mile per Lane
PCPT	Pasco County Public Transportation
PD&E	Project Development and Environment
PHFS	Primary Highway Freight System
PSR	*Pond Siting Report*
PT	Point of Tangency
PTAR	*Project Traffic Analysis Report*
RC	Reverse Crown Superelevation
ROW	Right-of-Way
SB	Southbound
SDG	FDOT Structures Design Guidelines
SHPO	State Historic Preservation Officer
SHWT	Seasonal High Water Table
SIS	Strategic Intermodal System
SLD	Straight Line Diagram
SMF	Stormwater Management Facility(ies)
SR	State Road
STRAHNET	Strategic Highway Network
SWFWMD	Southwest Florida Water Management District
T24	Daily Truck Factor
TBRPM	Tampa Bay Regional Planning Model
TIP	Transportation Improvement Plan
TSM&O	Transportation System Management and Operations
USFWS	United States Fish and Wildlife Service
WBID	Water Body Identification
WPI	Work Program Item

Italicized acronyms in this report indicate report document prepared under this project.

SECTION 1 INTRODUCTION

1.1 PROJECT DESCRIPTION

This project consists of operational improvements on I-75/I-275 from south of County Line Road to SR 56 in Hillsborough and Pasco Counties, a distance of approximately 2.2 miles. See **Figure 1-1** for project location. This project consists of the construction of a southbound collector-distributor (C-D) road and the relocation of ramp connections to improve the southbound operations between the I-75/I-275 and I-75/SR 56 interchanges and eliminate undesirable weaving movements. This portion of I-75/I-275 is functionally classified by the Florida Department of Transportation (FDOT) as an urban principal arterial/interstate and is part of FDOT's Strategic Intermodal System (SIS).

1.2 PD&E STUDY PURPOSE

The objective of the PD&E study is to assist the FDOT's Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the necessary improvements for the southbound on-ramps from State Road (SR) 56 to Interstate 75 (I-75) and I-275 to safely and efficiently accommodate future travel demand. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives.

The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction). This project was screened through the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14330. An ETDM Programming Screen Summary Report was published on February 21, 2018, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. A Type 2 Categorical Exclusion will be prepared as part of this PD&E study.

1.3 PROJECT PURPOSE AND NEED

1.3.1 Purpose

The purpose of the project is to improve operations on southbound I-75 between SR 56 and the southbound off-ramp to I-275 (I-75/I-275 interchange).

1.3.2 Need

This project is needed to address the effect on operations by reducing the number of weaving vehicles in the project area.

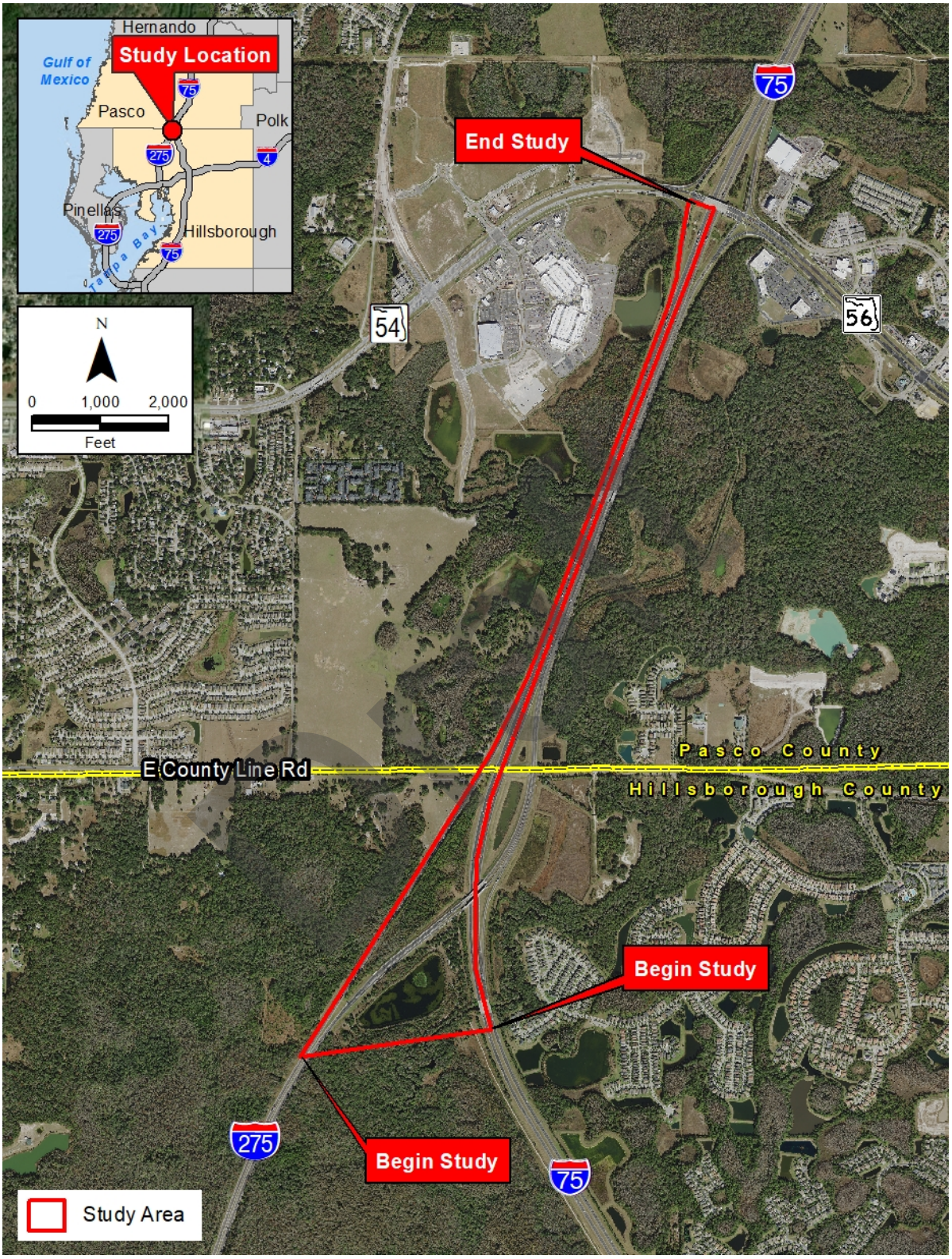


Figure 1-1 Project Location Map

1.3.3 Roadway Capacity/Deficiencies

I-75 currently operates at an acceptable level of service (LOS) C. It is expected that by 2040 the study segment of I-75 will operate at an unacceptable LOS F.

1.3.4 Safety

The distribution of crash types on this segment of I-75 between 2014 and 2018 show that rear end crashes make up 35% of the crashes and sideswipe crashes make up 20%. These crash types are indicative of an inadequate weaving segment.

1.4 COMMITMENTS

As documented in the *Natural Resources Evaluation (NRE)* report, the FDOT has made three commitments as part of this project.

1. The FDOT will incorporate the most current US Fish and Wildlife Service (USFWS) guideline Standard Protection Measures for the Eastern Indigo Snake during construction.
2. Surveys to update locations of active osprey and bald eagle nest sites will be conducted during the permitting phase of the project, and permits will be acquired if there are unavoidable impacts during construction. Coordination with USFWS and Florida Fish and Wildlife Conservation Commission (FWC) will take place as necessary.
3. Plant surveys should be conducted prior to construction during the appropriate survey season. If protected species are located, coordination with the Florida Department of Agriculture and Consumer Services - Division of Plant Industry (FDACS-DPI) will be initiated to determine requirements.

1.5 DESCRIPTION OF PREFERRED ALTERNATIVE

The Preferred Alternative includes operational improvements to construct a southbound C-D Road adjacent to and parallel to southbound I-75. The southbound C-D Road will eliminate the existing weave between the southbound on-ramp from SR 56 and the I-75/I-275 diverge. The traffic from the southbound on-ramp is proposed to remain separated from southbound I-75 lanes until downstream from the I-75/I-275 diverge in a C-D Road. The C-D Road will be split into separate ramps that will merge to I-75 and I-275. **Figure 1-2** shows a simplified schematic of the differences between the existing traffic routing for southbound I-75 and SR 56 on-ramps to I-275 and I-75 and the elimination of the existing weave zone with the Preferred Alternative through the addition of the C-D Road.

The southbound C-D Road will be barrier-separated from southbound I-75 and include three travel lanes with shoulders on the inside and outside. A new bridge will carry the C-D Road over Cypress Creek adjacent to the existing I-75 bridge over the same creek (Bridge No. 140061). The proposed typical section for the C-D Road is shown adjacent to the existing southbound I-75 lanes in **Figure 1-3**.

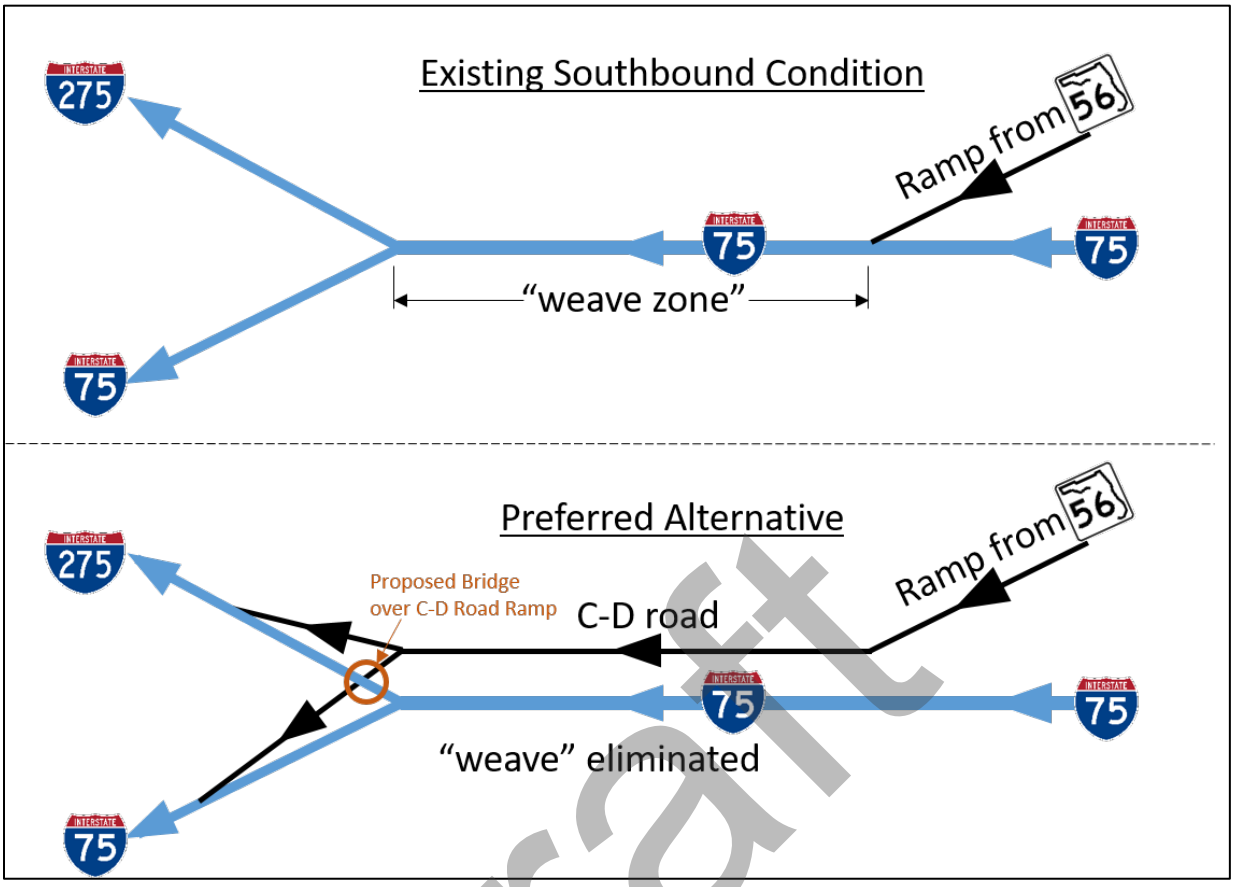


Figure 1-2 Existing and Proposed Traffic Routing for I-75, I-275 & SR 56 Ramp

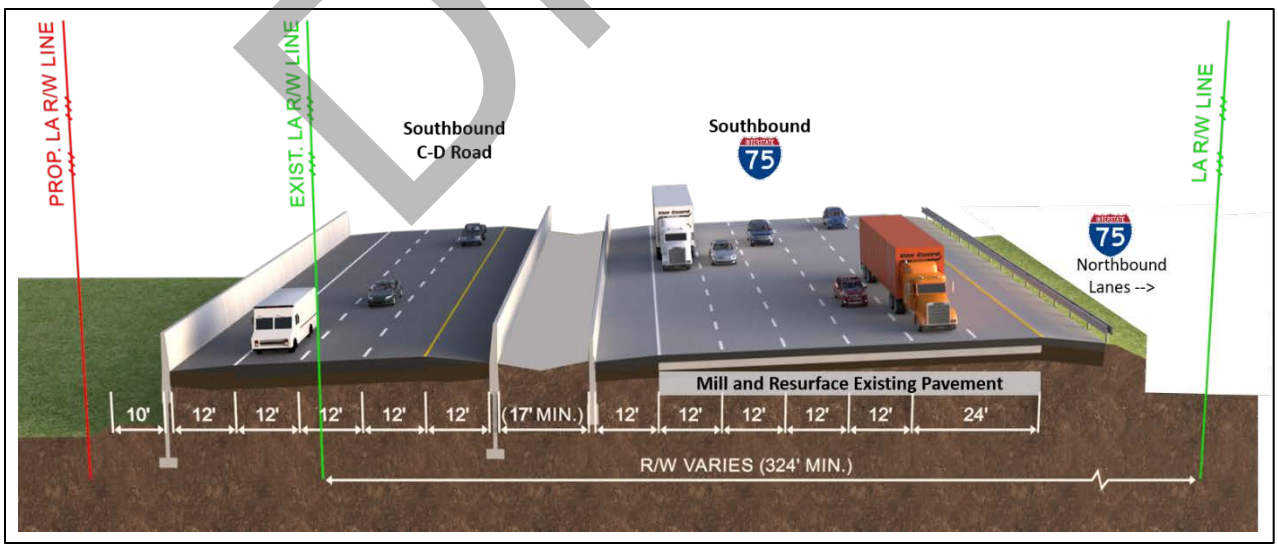


Figure 1-3 Graphically Enhanced Typical Section of Preferred Alternative

(Looking North along I-75 between I-75/I-275 Apex and SR 56 On-Ramp)

The diverge point of the I-75/I-275 apex was shifted slightly south of the existing diverge point so the I-275 southbound lanes will pass under a different span of the County Line Road bridge (Bridge No 100492) to the east of the existing crossing location. The C-D Road split to the ramp to I-275 and the ramp to I-75 will be located under the bridge span which I-275 currently passes though on this same bridge. The three C-D Road lanes will diverge to a two lane ramp to I-75 and a two-lane ramp to I-275. The southbound I-275 lanes will crossover the C-D Road ramp to I-75 on a new bridge. South of this new bridge, the ramp to I-75 will narrow to a single lane prior to crossing under the existing bridges carrying northbound I-275 and its off ramp to SR 56 (Bridge Nos. 100411 and 100833 respectively). **Figure 1-4** shows the C-D Road diverge point and new bridge carrying southbound I-275 over the C-D Road ramp to I-75.

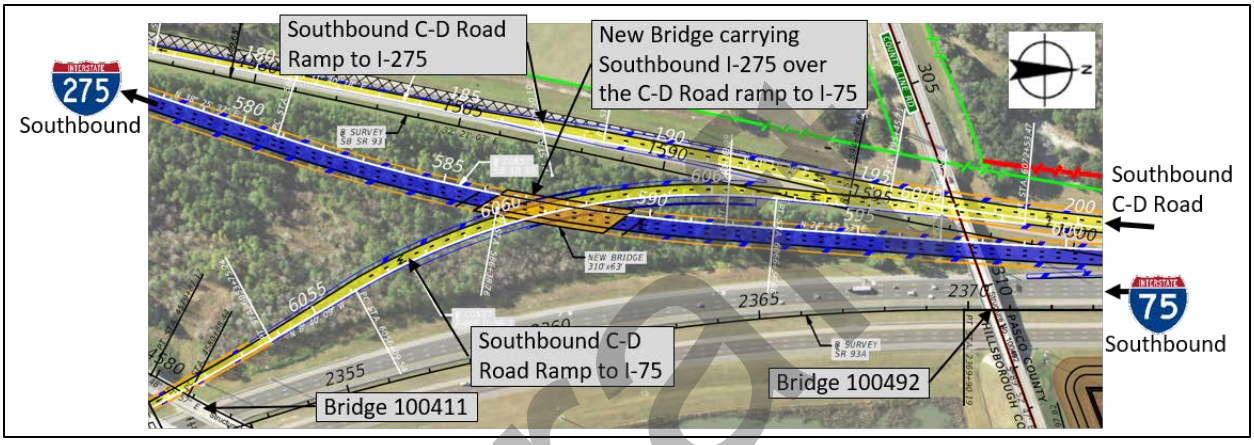


Figure 1-4 Preferred Alternative–C-D Road Diverge & New I-275 Bridge over C-D Road Ramp

(Figure 1-4 is not to scale and compressed to fit on page)

North of the C-D Road diverge point, a new bridge over Cypress Creek to be built adjacent to Bridge No. 140061 to carry the C-D Road. **Figure 1-5** shows the new proposed bridge carrying the southbound C-D Road over Cypress Creek.

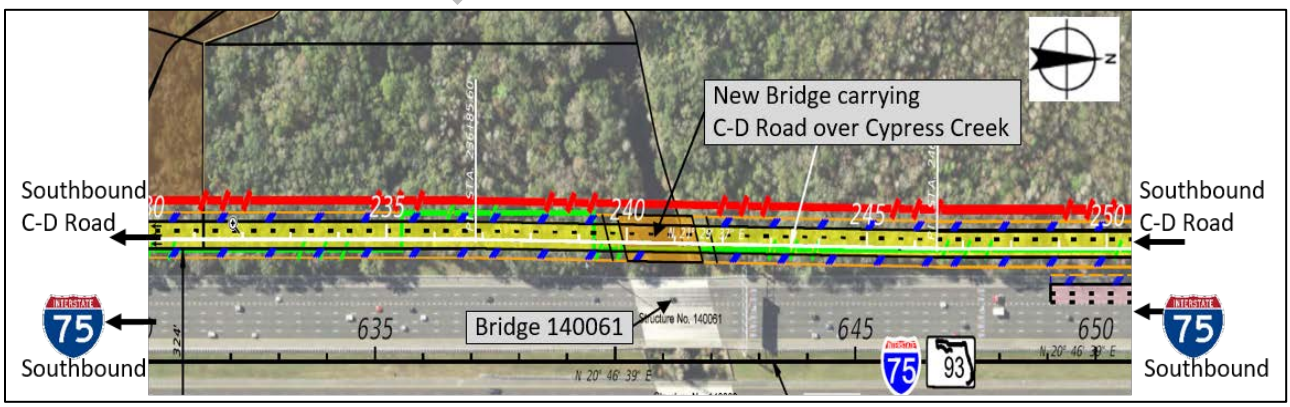


Figure 1-5 Preferred Alternative–New C-D Road Bridge over Cypress Creek

(Figure 1-5 is not to scale and compressed to fit on page)

Approximately 8.1 acres of additional right of way (ROW) is required for constructing the C-D Road and 10.7 acres of additional ROW is required for constructing the proposed floodplain compensation (FPC) sites. No additional ROW is required for the stormwater management facilities (SMF) as they can be located within the existing ROW footprint or through expansion of existing SMFs. No business or residential relocations will be required.

The conceptual plans for the Preferred Alternative are shown in **Appendix A** and the preliminary estimated project costs are shown in **Table 1-1**.

Table 1-1 Preliminary Estimated Project Costs of the Preferred Alternative by County

Estimated Costs Present Day Costs in $ Million Rounded to the Nearest 0.1 Million $	Pasco County Segment 430573-2	Hillsborough County Segment 430573-3	Total Project
Construction of Roadway, Bridges and Ponds	$39.0	$23.8	$62.8
Right of Way for I-75 Roadway Widening	$0.8	$0	$0.8
Right of Way for Stormwater Ponds and Floodplain Compensation Site	$1.0	$0	$1.0
Wetlands Mitigation (5.82 acres)	$1.5	$0	$1.5
Design and Construction Inspection (20% of construction)	$7.8	$4.8	$12.6
Total Project Estimated Costs	**$50.1**	**$28.6**	**$78.7**

[1]*Construction cost based on Long Range Estimate (LRE) system prepared March 2021*

The design for the Preferred Alternative will be developed as one project but segmented by county for funding purposes. Both county segments will be constructed as one combined construction project. WPI Segment 430573-2 is set aside as the Pasco County segment (from County Line Road to SR 56) and WPI Segment 430573-3 is set aside as the Hillsborough County segment (from south of County Line Road to County Line Road).

SECTION 2 EXISTING CONDITIONS

2.1 ROADWAY CLASSIFICATION

The straight line diagrams (SLD) for I-75 and I-275 which indicate the roadway classifications are included in **Appendix B**.

2.1.1 Roadway Functional Classification

Existing I-75 and I-275 within the study limits are both functionally classified as Urban Principal Arterial Interstate. The Federal Highway Adminstration (FHWA) Urban Boundary Map for Hillsborough and Pasco Counties is shown on **Figure 2-1.** These maps show the study limits is within the urban area boundary.

2.1.2 Context Classification and Access Management Classification

The FDOT's Context Classification system does not apply to interstate facilities as they are limited access facilities. I-75 and I-275 are Access Class 1 being limited access facilities. The project area included in an existing FHWA urbanized boundary are considered Area Type 2 which provides for an applicable interchange spacing of 2 miles.

2.1.3 Roadway Classification – Emergency Evacuation, Military and Freight Routes

As interstate highways, both I-75 and I-275 are classified as emergency evacuation routes. I-75 and I-275 are included on the state's SIS. Additionally, interstate highways are also routes on the Strategic Highway Network (STRAHNET) which is a designation given to roads that provide "defense access, continuity and emergency capabilities for movements of personnel and equipment in both peace and war" according to the US Department of Defense.

I-75 is on the National Highway Freight Network (NHFN) as a Primary Highway Freight System (PHFS) Route which is a network of highways identified as the most critical highway portions of US freight transportation system determined by measurable and objective national data. I-275 is on the NHFN as a portion of Other Interstate Portions not on the PHFS.

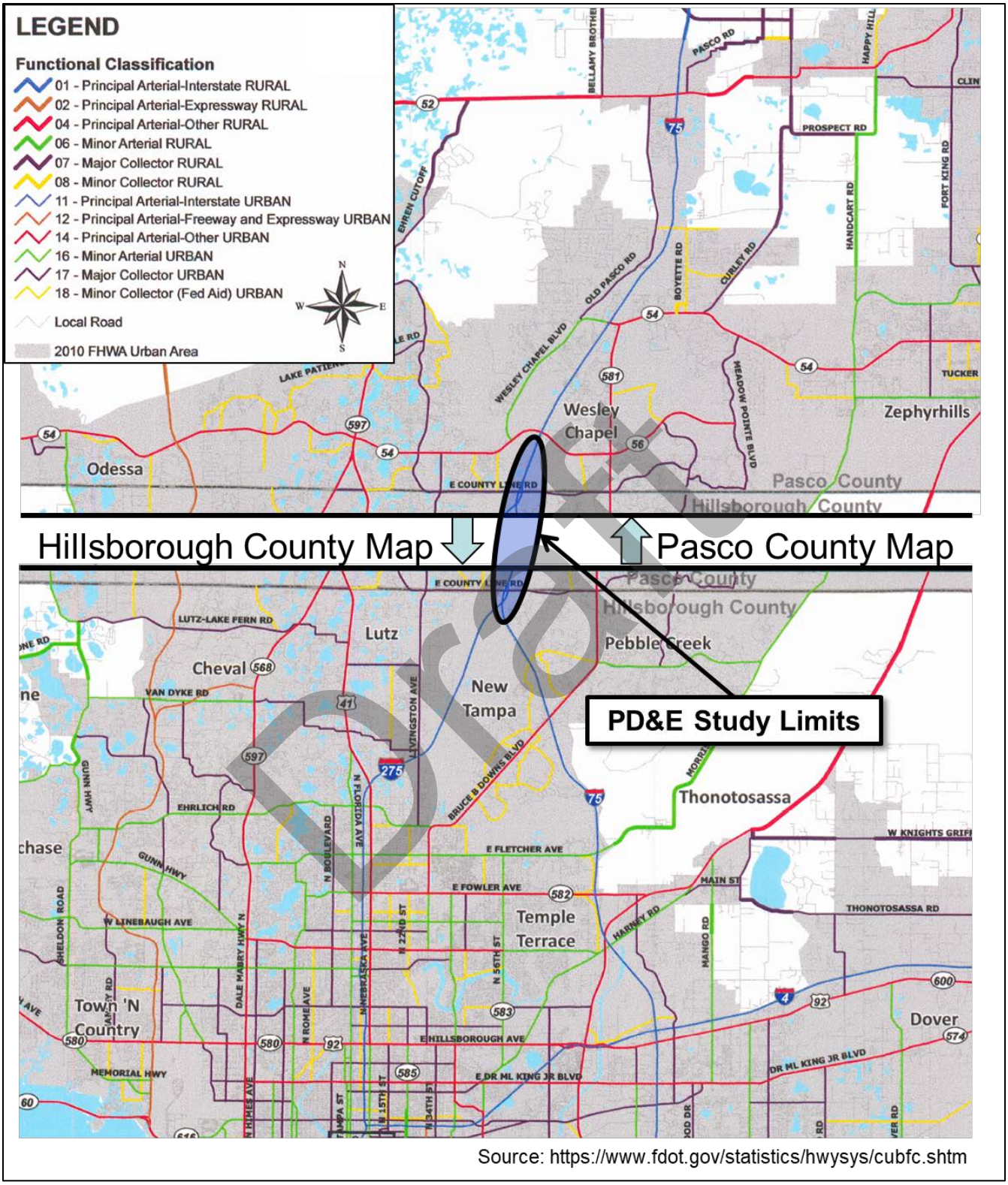


Figure 2-1 FHWA Urban Boundary Map

2.2 INTERSTATE CONNECTIONS AND EXISTING LANE GEOMETRY

Southbound I-75 consists of four through lanes north of SR 56. At the connection of the SR 56 southbound on-ramp to I-75, there are six lanes of traffic, two that are added from the SR 56 ramp. The six lanes of traffic separate to four lanes that continue southbound on I-75, which merges to three lanes immediately south of the diverge and three lanes that exit to southbound I-275 - the fourth lane from the inside is a choice-lane such that the driver has the choice to either continue onto southbound I-75 or onto southbound I-275. For vehicles entering I-75 from SR 56 to proceed on southbound I-75, they must weave with the southbound I-75 vehicles that are exiting onto southbound I-275. **Figure 2-2** shows a simplified schematic of the existing and traffic routes for southbound I-75 and SR 56 ramp to I-275 and I-75 and the existing weave zone.

The mainline location of the southbound I-75/I-275 diverge ramp gore is at approximately station 2387+00 and the location of the SR 56 on-ramp gore is approximately station 670+00. Accounting for the station equation of approx. 2390+10=617+73, the distance between these ramp gores (or length of the "weave zone" is approximately 5,500 feet (1.04 miles).

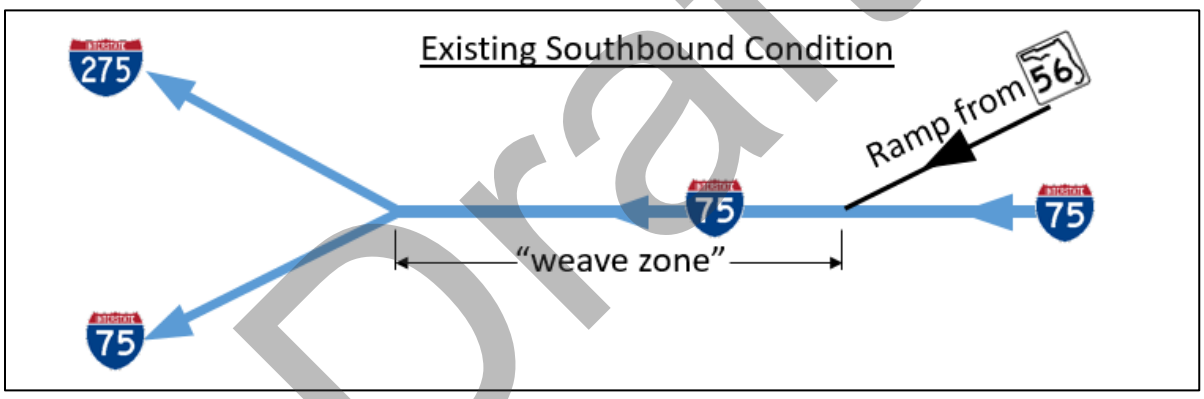


Figure 2-2 Existing Southbound Traffic Routes for I-75, I-275 & SR 56 On-Ramp

Figure 2-3 shows the overhead sign designation for southbound I-75 traffic to continue on southbound I-75 or southbound I-275. Note the "choice lane" as the fourth lane from the left. The existing lane geometry for southbound SR 56 on-ramp, I-75 southbound and the southbound system interchange is shown in **Figure 2-4**.

Figure 2-3 Southbound Diverge at I-75 and I-275 System Interchange

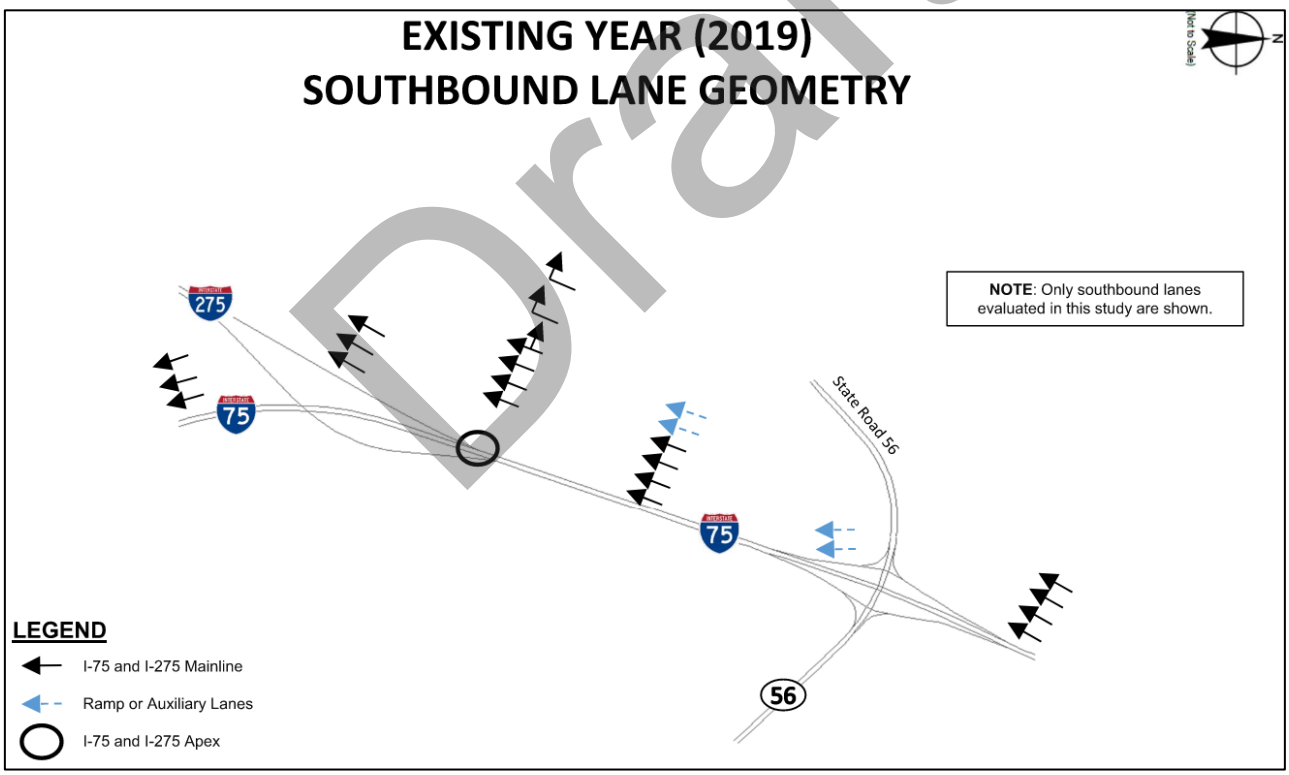


Figure 2-4 Existing Lane Geometry

2.3 TYPICAL SECTION AND DESIGN SPEEDS

Figure 2-5 shows the existing typical section of I-75 between the I-75/I-275 apex and the SR 56 on-ramp and the location of the choice lane. The posted speeds listed as miles per hour (mph) for I-75 and I-275 are both 70 mph. The speed limit for the southbound on-ramp from SR 56 is not posted.

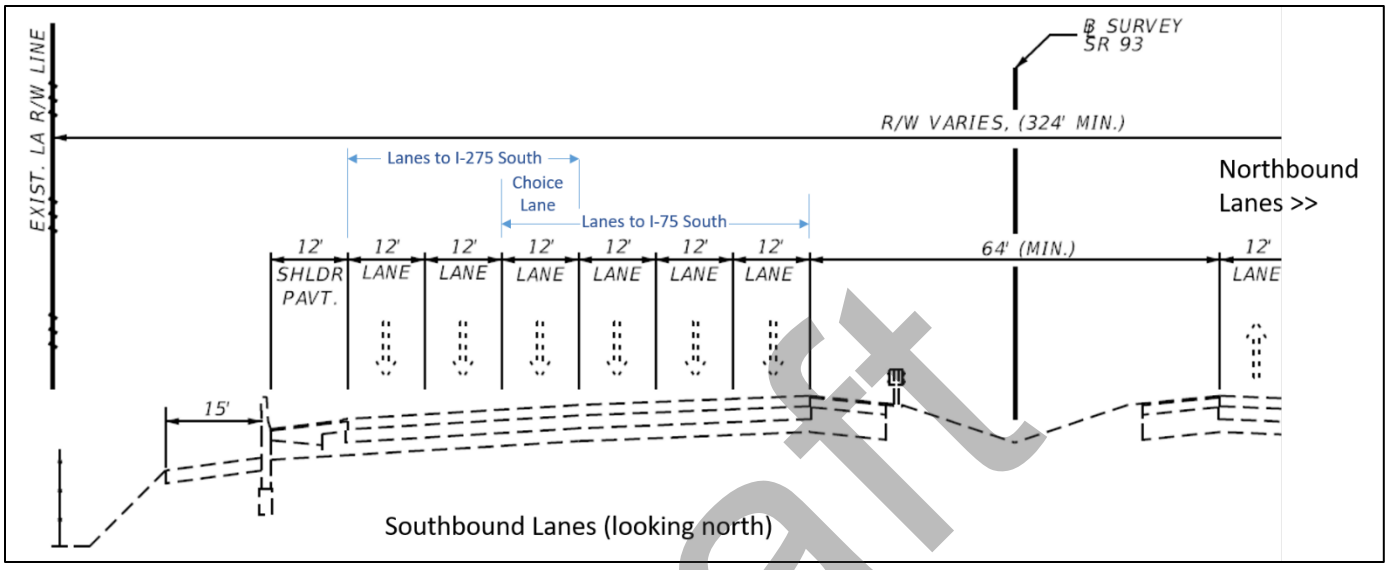


Figure 2-5 Existing I-75 Between I-75/I-275 Apex and SR 56 On-Ramp

2.4 PAVEMENT CONDITIONS

A flexible pavement condition survey was conducted by FDOT for the project corridor as reported February 2021. Each section of pavement was rated for cracking and ride on a 0-10 scale with 0 the worst and 10 the best. Any rating of 6.4 or less is considered deficient pavement. **Table 2-1** identifies the existing pavement condition ratings by segment. The existing pavement is generally in good condition. I-275 is projected to maintain a rating above deficient range through 2026. The I-75 pavement is projected to reach the deficient range by 2026.

Table 2-1 Pavement Condition Survey Results

Beginning Milepoint	Ending Milepoint	Most Recent Surveyed Year	Condition Category	Ratings	Year Finished Paving
Hillsborough County Segment I-75 (Roadway ID 10-075-000					
30.198 Fowler Ave/SR 582 (South of project limits)	39.854 County Line	2021	Cracking	7.5	2016
			Ride	8.4	
Hillsborough County Segment I-275 (Roadway ID 10-320-000)					
15.159 South of NB Off Ramp	16.021 County Line	2021	Cracking	9.0	2016
			Ride	8.0	
Pasco County Segment I-275/75 (Roadway Segment ID 14-140-000)					
0.260 End of I-275	0.812 Cypress Creek Bridge	2021	Cracking	10.0	2016
			Ride	8.4	
0.812 Cypress Creek Bridge	4.892 SR 54 (North of project limits)	2021	Cracking	7.5	2015
			Ride	8.4	
Pasco County Segment I-75 (Roadway Segment ID (14-075-000)					
0.000 County Line	0.260 End of I-275	2021	Cracking	10.0	2016
			Ride	8.3	

2.5 PEDESTRIAN AND BICYCLE ACCOMMODATIONS

There are no pedestrian or bicycle facilities along I-75 or I-275 within the study area.

2.6 TRANSIT FACILITIES

Neither the Hillsborough Area Regional Transit Authority (HART) nor Pasco County Public Transportation (PCPT) operate a fixed transit route along I-75 nor I-275 in the project area, nor utilize the SR 56 southbound ramp. There are no transit stops located within the study area

2.7 RIGHT-OF-WAY

The existing ROW varies in width throughout the study area. The concept plans in **Appendix A** show the existing ROW throughout the project limits with a green line and label the total existing ROW width. The existing right of way width along I-75 varies between 324 and 374 feet. The existing right of way width along I-275 is 300 feet. The right of way width increases for the apex of I-275 at I-75, consisting of a maximum width of 1186 feet.

2.8 HORIZONTAL ALIGNMENT

The existing horizontal alignment was obtained from baseline survey data obtained from FDOT's survey section. **Table 2-2** summarizes the existing horizontal curves within the study limits for I-75 and I-275 southbound. The existing alignment for I-75 has two curves degrees of curve of 1 degree 00 minutes (radius of 5730 feet) and 0 degrees 20 minutes (radius of 17,189 feet). Both existing curves

for I-75 meet design standards for up to 70 mph design speed with superelevation of 0.039 ft/ft and reverse crown. The existing alignment for I-275 southbound has two curves degrees of curve of 0 degrees 20 minutes (radii of 11,459 feet). Both existing curves for I-275 southbound meet design standards for up to 70 mph design speed with reverse crown (RC).

Table 2-2 Existing Horizontal Curves

Curve #	Curve Direction	Point of Inter-section (PI) Location	Degree of Curve	Curve Length (Ft)	Est. Design Speed (MPH)	Meet Criteria?
I-75						
1	Right	2345+86.60	1° 00'	5195	70	Yes, 0.039
2	Right	691+29.55	0° 20'	1953	70	Yes, RC
I-275 Southbound						
1	Right	1534+31.66	0° 30'	2713	70	Yes, RC
2	Left	1606+10.79	0° 30'	2314	70	Yes, RC

2.9 VERTICAL ALIGNMENT

During the future design phase, survey data would be collected where the vertical alignment may be determined and evaluated.

2.10 INTERSECTIONS AND SIGNALIZATION

There are no intersections along I-75 or I-275 within the study area.

2.11 CRASH DATA AND SAFETY ANALYSIS

The following was excerpted from the *Project Traffic Analysis Report (PTAR)* which contains additional information related to crash data within the entire project limits. The five-year crash analysis (2014 – 2018) for southbound I-75, southbound I-275 and southbound SR 56 on-ramp within the study area found 236 total crashes with an average of 47.2 crashes per year. **Table 2-3** shows the summary of crash data for the five-year period.

Table 2-3 Crash Summary for the Entire Project Area Southbound

	Year					Total
	2014	2015	2016	2017	2018	
No. of Fatal Crashes	1	0	0	0	0	1
No. of Injury Crashes	19	24	11	12	11	77
No. of Property Damage Only Crashes	37	25	32	41	23	158
Total Crashes	***57***	***49***	***43***	***53***	***34***	***236***
Wet weather crashes	23	21	6	6	12	68
Night-time crashes	23	16	17	19	11	86

Night-time crashes accounted for 36% of the total number of crashes. This number exceeds the statewide average of 24% from data published on page 33 in the Florida Highway Safety and Motor Vehicles *Traffic Crash Facts Annual Report 2018. Most of these crashes in dark conditions occurred in the Pasco County segment of I-75.*

As shown in **Table 2-4** the most prominent crash type recorded for this roadway is rear end (35%) with hit fixed object (23%) as the second most prominent crash type for the reported time period, and sideswipe (20) as the third most. These crash types could be attributed to congestion from vehicle weaving that is occurring in the study area. There were no pedestrian/bicycle crashes reported.

Table 2-4 Crash Type Summary for Southbound I-275

Crash Type	Year					Total	%
	2014	2015	2016	2017	2018		
Angle	0	1	0	2	0	3	1%
Rear End	17	12	18	27	8	82	35%
Sideswipe	9	11	12	8	7	47	20%
Left-Turn	0	0	0	0	1	1	0%
Head-On	1	0	0	0	0	1	0%
Run off-road	0	1	0	1	0	2	1%
Overturned/Rollover	3	0	0	0	0	3	1%
Hit Fixed Object	16	14	7	5	13	55	23%
Hit Non-Fixed Object	4	1	2	5	1	13	6%
Single Vehicle	6	9	4	4	2	25	11%
Other	1	0	0	1	2	4	2%
Total	***57***	***49***	***43***	***53***	***34***	***236***	***100%***

The crash data plotted for frequency of crash locations along southbound I-75 within Pasco County on **Figure 2-6** suggest that the higher crash locations (total crashes reported at 14, 25, 11 and 22 crashes) are situated near the SR 56 on-ramp gore area, and in several areas further south prior to County Line Road where I-75 and I-275 traffic diverge. This suggests the weave zone between the SR 56 on-ramp and the I-75/275 split may be contributing to the crash history.

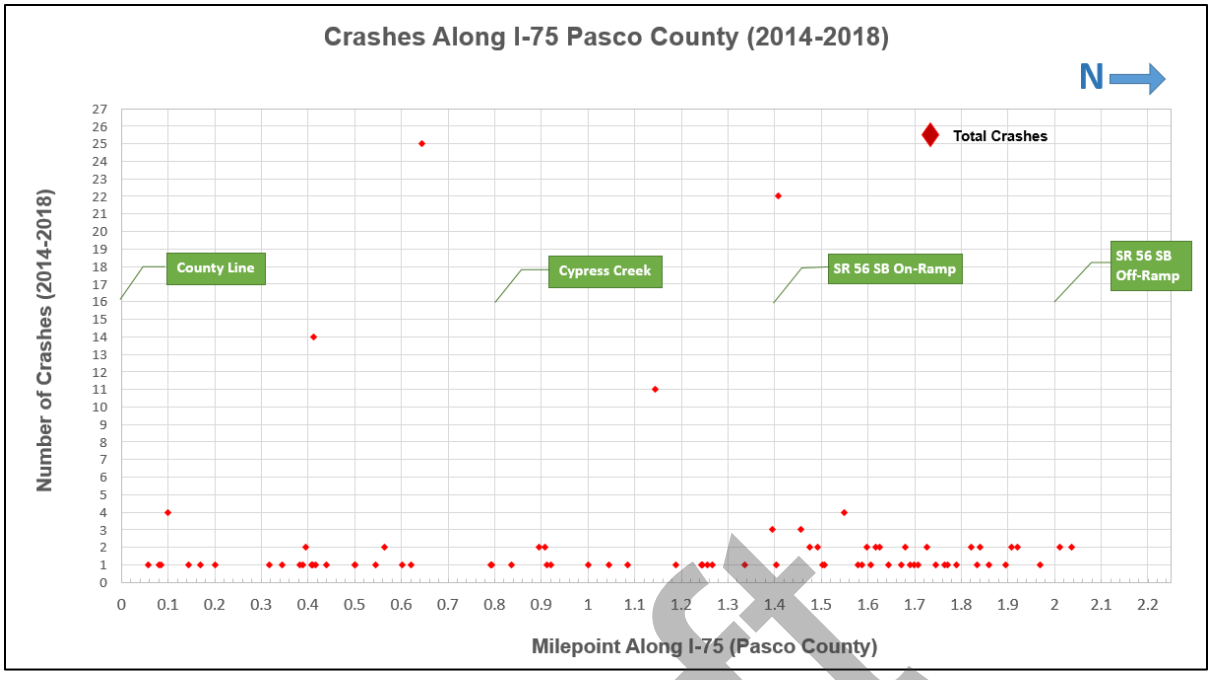


Figure 2-6 Crash Frequency by Location for Southbound I-75 (Pasco County)

2.12 EXISTING STRUCTURES

Figure 2-7 on the following page shows the existing bridge structures within the study limits. All structures were last inspected in 2019.

There are two existing I-75 bridge pairs over Cypress Creek within the study limits. These are shown in pink/violet shading on **Figure 2-7.** The first pair is the I-75 southbound and northbound lanes over Cypress Creek in Hillsborough County (Bridge Nos. 100412 and 100413, respectively). This bridge pair is approximately 0.6 miles south of County Line Road. The second bridge pair, located approximately 0.8 miles north of County Line Road, is the I-75 southbound and northbound lanes over Cypress Creek in Pasco County (Bridge Nos. 140061 and 140062, respectively). The Hillsborough County bridge pair was built in 1982 and widened in 2014 while the Pasco County bridge pair was built in 1963 and the southbound bridge was widened in 2007. According to the bridge inspection reports, both are in very good condition, as shown in **Table 2-5**.

Table 2-5 Existing I-75 Bridge Structure Information

Bridge Number	Roadway ID	Milepost	Sufficiency Rating	Health Index
100412	10075000	39.219	96	94.82
100413	10075000	39.216	96	96.85
140061	14140000	0.770	94	93.42
140062	14140000	0.782	93.5	89.66

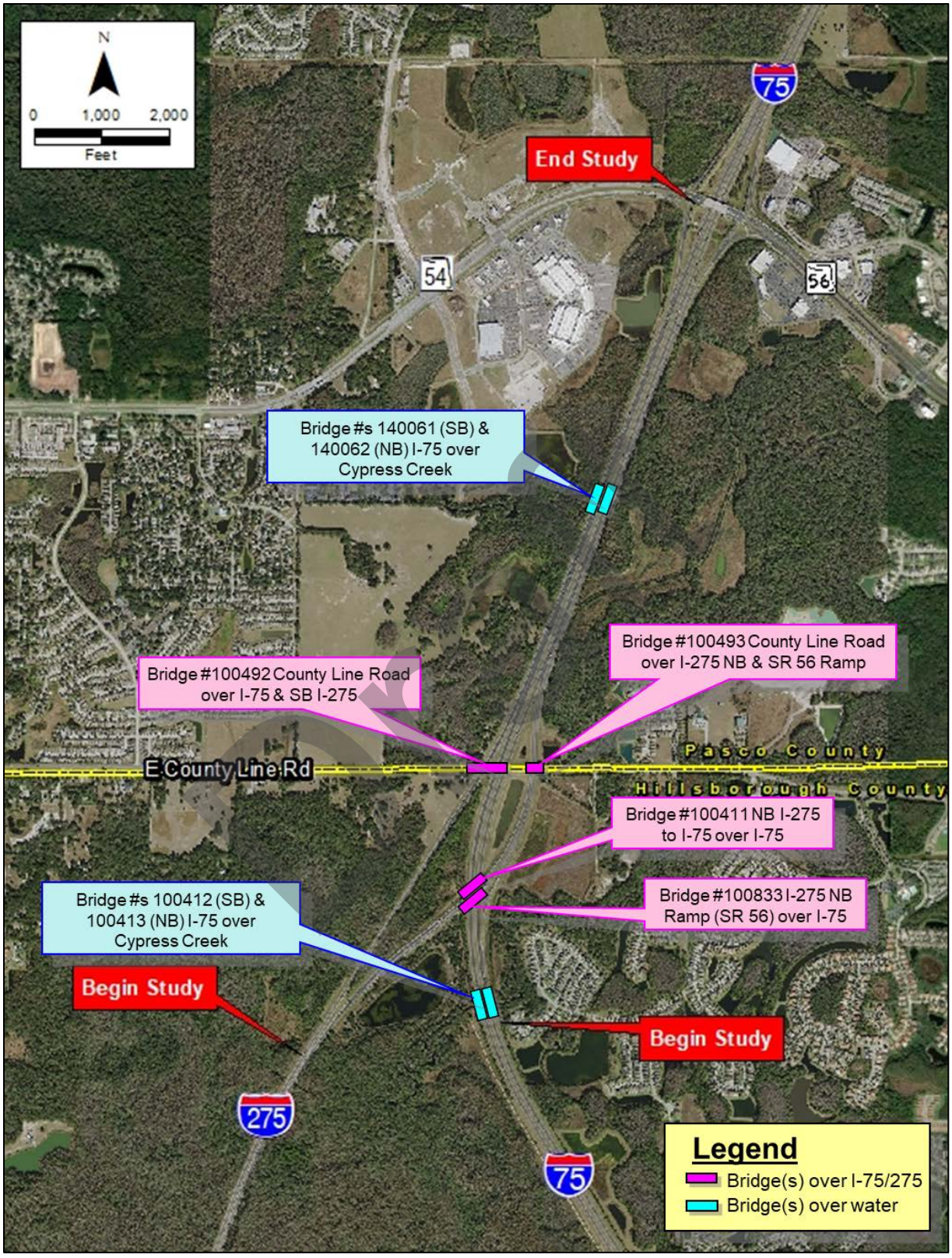


Figure 2-7 Existing Bridge Structure Locations

There are two bridges that carry County Line Road over I-75/I-275. Bridge No. 100492 spans over I-75 in both directions and southbound I-275, while Bridge No. 100493 spans over northbound I-275 and the northbound ramps to SR 56. Both bridges were constructed in 1985. Bridge 100493 is outside the project limits as it applies only to northbound traffic. Bridge No. 100411 carries northbound I-275 to I-75 over I-75 and was constructed in 1982. This bridge has been identified as functionally obsolete. Bridge No. 100833 carries the I-275 northbound off ramp to SR 56 over I-75 and was constructed in 2010. **Table 2-6** provides structure information for the three overpass bridges in the study limits.

Table 2-6 Existing Overpass Bridge Structure Information

Bridge Number	Carries	Over	Sufficiency Rating	Health Index
100492	County Line Rd	I-75 & SB I-275	86.2	99.93
100411	NB I-275	I-75	85.9	93.97
100833	NB I-275 off-ramp to SR 56	I-75	92	99.95

NB=northbound, SB=southbound

2.13 LIGHTING

There is existing high mast lighting along I-75 and I-275 within the project limits. The lighting is maintained by Pasco County and the power is supplied by Withlacoochee River Electric Cooperative. There are two existing load centers, one is located on the east side of I-75, south of SR 56 and one is located on the south side of SR 56, east of I-75.

2.14 UTILITIES, ITS AND RAILROADS

There are numerous utilities throughout the study corridor, as shown in **Table 2-7**, based on a One-Call design ticket on June 28, 2021. Coordination with utility owners is ongoing and additional information will be provided with the preparation of a *Utility Assessment Package* for this project.

Table 2-7 Existing Utilities in the Study Area

Utility Owner	Type of Facilities
CenturyLink	Fiber Optic Telephone
Florida Gas Transmission	Gas
Frontier	Cable, Fiber Optic
MCI	Fiber
Pasco County Utilities	Water, Sewer & Reclaimed Water
Spectrum	Cable, Fiber Optic
Tampa Electric	Electric Power
Tampa Water	Water
TECO Peoples Gas	Gas
Withlacoochee River Electric Cooperative	Electric Power
Unti Fiber LLC	Fiber

There are Intelligent Transportation System (ITS) facilities within the project limits. The existing ITS is located on the west side of I-75. There is a portable traffic monitoring site #140156 for traffic counting located on I-75 just to the south of SR 56 at Pasco County milepost 0.431. There is also a portable traffic monitoring site #14140021 for traffic counting located on the SR 56 southbound on ramp at milepost 0.156, which is located just north of the project limits.

There are no existing railroads within the project limits.

2.15 DRAINAGE AND FLOODPLAINS

A *Pond Siting Report (PSR)* was prepared for this project and it outlines the existing and proposed drainage conditions and is summarized in the following sections.

2.15.1 Regional Drainage Conveyance

At the regional level, stormwater within the project area is collected in wetlands that connect to Cypress Creek via natural weirs and cross drains. Cypress Creek is a tributary of the Hillsborough River, which is classified as an Outstanding Florida Water (OFW). The Cypress Creek floodplains lie just outside of the I-75 right of way on both the east and west sides for the entirety of the project. Refer to **Appendix B** for SLDs that depict the cross drains and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels that identify the flood zone and location of the floodplains. Within the project limits, the existing drainage system is comprised of four basins and includes a combination of inlets, pipes, ditches, and wet detention ponds that treat roadway runoff prior to discharge to the receiving waters. Generally, the runoff from I-75 and the I-75/I-275 interchange is conveyed via shoulder gutter to gutter inlets, after which pipes of varying size drain the runoff to one of five permitted wet detention ponds. Segments of median and side swales supplement the shoulder gutter drainage by collecting runoff in ditch bottom inlets and connecting to the gutter inlet pipe networks. South of County Line Road, two of the existing SMFs connect to a roadside ditch adjacent to the I-75 NB lanes and drain south to Cypress Creek. The other SMF drains west via 24" and 30" culverts to wetlands adjacent to the I-275 SB ramp. North of County Line Road, a pair of ponds interconnected by an 18" equalizer pipe outflow east via 48" pipe to adjacent wetland. The *PSR* provides additional details and characteristics of each drainage basin. See **Table 2-8** and **Figure 2-7** for cross drain and bridge locations. The bridges are further described in **Section 2.12**.

2.15.2 Drainage-Related Maintenance Issues

There are no drainage-related maintenance nor flooding concerns along I-75 as documented in the *PSR*.

2.15.3 Floodplains

A *Location Hydraulics Memorandum (LHM)* was prepared for this project detailing floodplain involvement. FEMA FIRM panels 12057C0070H, 12101C0417F, and 12101C0409F identify the flood zone information for the project area. The I-75 roadway and I-275 interchange south of County Line

Road, including the infield areas, are not within a floodplain. Other than the interchange, zone AE floodplains, ranging in elevation from 42-ft North American Vertical Datum (NAVD) to 53.8-ft NAVD, exist within the I-75 right of way or adjacent to it for the entirety of the project limits. The I-75 roadway is above the 100-year floodplain, and no history of flooding has been identified within the project limits. **Figure 2-8** shows the FEMA Floodplain Map for Hillsborough County and **Figure 2-9** shows the map for Pasco County within the study limits.

Table 2-8 Existing Cross Drains

Cross Drain No.	Mile Post	Approximate Station	Description
Hillsborough County Section			
CD-1	39.494		24" RCP
CD-2A	39.652		30" RCP
CD-2B	39.681		30" RCP
Pasco County Section			
CD-3	0.270		10' x 4' CBC
CD-4	1.032		10' x 10' CBC
CD-5A	1.605		4' x 4' CBC
CD-5B	1.610		54" RCP

Source: Straight Line Diagrams and Pond Siting Report
Note: CC denotes concrete culvert and CBC denotes concrete box culvert

2.15.4 Existing Environmental Permits

The drainage design for the project location was originally permitted as part of Southwest Florida Water Management District (SWFWMD) Environmental Resource Permit (ERP) No. 43024745, but has since been revised under SWFWMD ERP Nos. 43033020.002, 43033020.004, and 43033020.006. ERP No. 43033020.002 documents revisions to NB I-75 from south of the I-275 interchange to State Road 56, revisions to two previously permitted SMFs, and the addition of two SMFs. Information on the cross drains, bridges, existing drainage conditions, and details regarding SMF I, SMF J1-1, SMF J1-2, and SMF J2 were retrieved from this permit. ERP No. 43033020.004 permitted revisions to SB I-75 from Bruce B. Downs Boulevard to State Road 56 and segments of the I-275 SB and NB ramps at the interchange. Supplementary information about the existing drainage conditions of I-75 was gathered from this permit. ERP No. 43033020.006 includes revisions to the I-275 ramps at the interchange and to the existing SMF within the infield between the NB and SB ramps. This permit provides further details about the existing drainage within the interchange and information about SMF 800A. Modifications to permitted facilities may require changes to the control device and elevation in order to meet SWFWMD criteria.

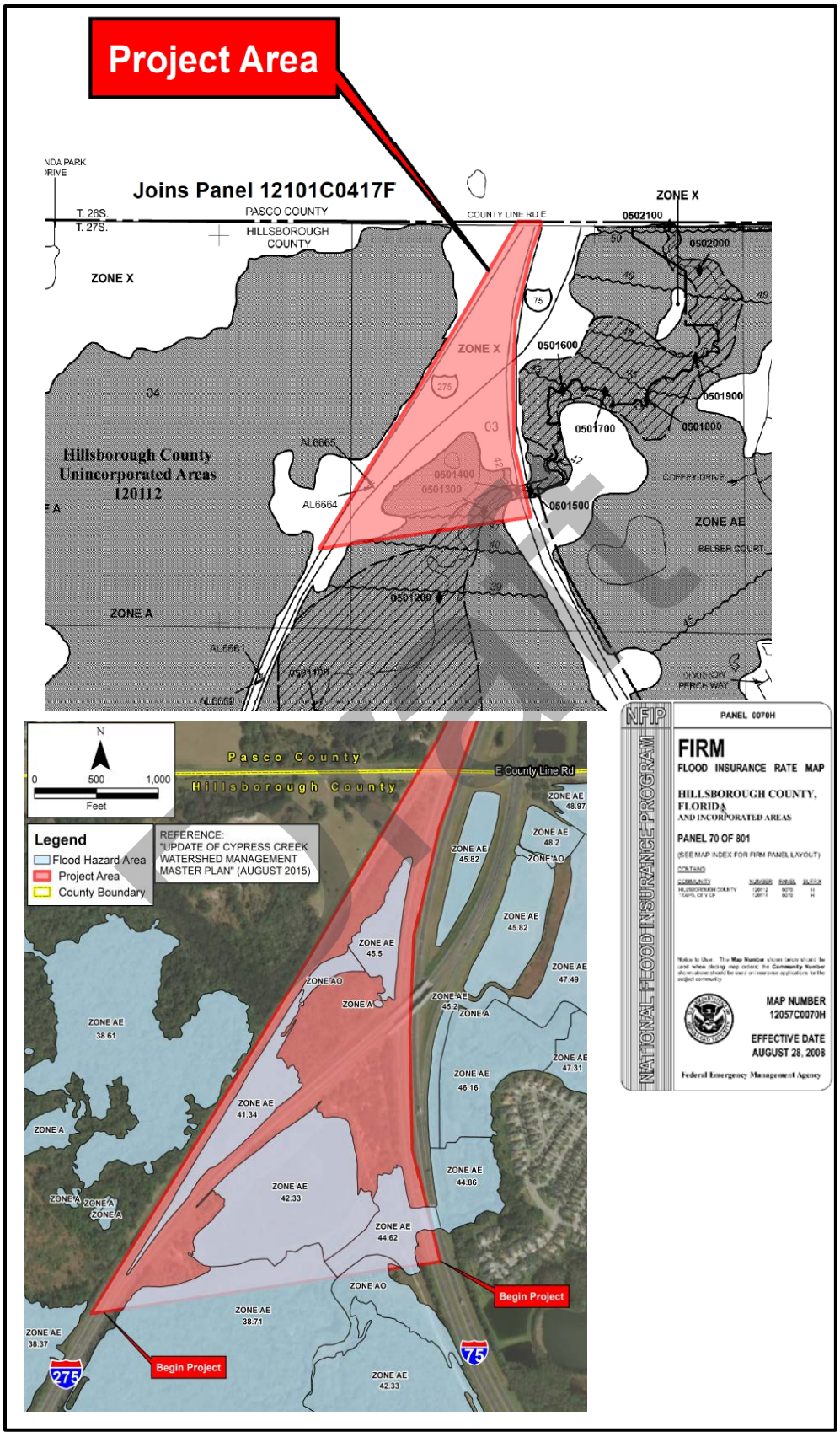


Figure 2-8 FEMA Floodplain Map – Hillsborough County

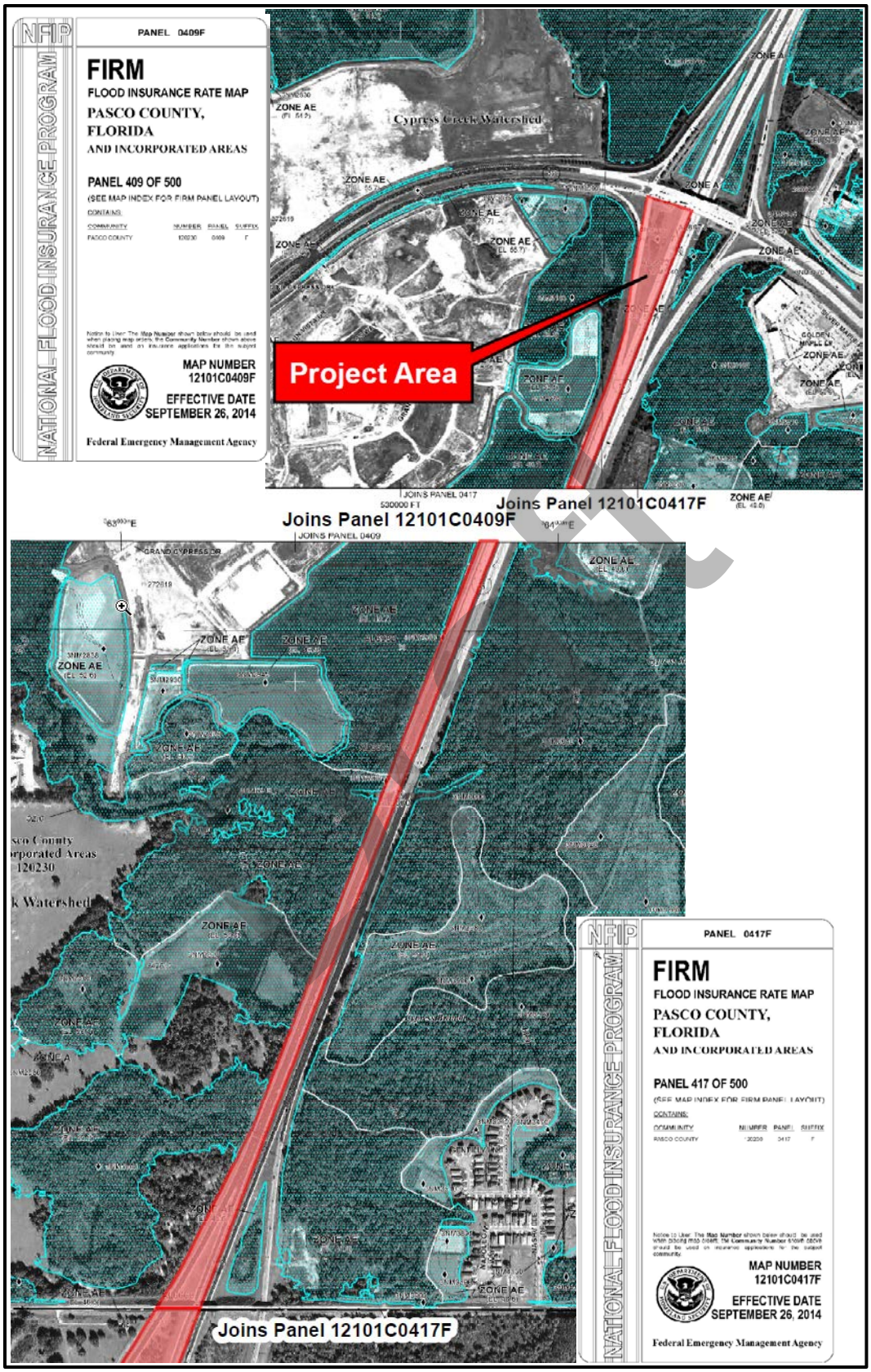


Figure 2-9 FEMA Floodplain Map – Pasco County

2.15.5 Special Basin Criteria

The project is within the Cypress Creek watershed, associated with water body identification (WBID) No. 1402. This water body is not nutrient impaired, thus a nutrient loading evaluation is not necessary. Cypress Creek is a tributary of the Hillsborough River, which is classified as an OFW. The study basins discharge directly to Cypress Creek or to its wetlands, thus the SMFs require an additional 50% of runoff from the contributing basin area to be treated.

2.15.6 Drainage Basins

The areas surrounding the project limits are primarily wetland. Each drainage basin is described below.

Basin 1 (Basin I, Permit No. 43033020.002)

Beginning at bridge No. 100412/100413 and ending at County Line Road, this basin consists of the I-75 lanes from right of way to right of way and a segment of the I-275 NB ramp. Shoulder gutter and shoulder inlets collect runoff and route it via pipe of varying size to permitted SMF I, an infield wet detention pond. The runoff is treated and subsequently routed via 30" pipe to an existing ditch running south alongside the I-275 NB ramp to Cypress Creek. SMF I was designed to accommodate 100% impervious coverage within the basin boundaries.

Basin 2 (Basin 800A, Permit No. 43033020.006)

This basin is located at the I-75 and I-275 interchange and includes a triangular area around the I-275 NB lanes, the I-275 SB lanes, and the infield area that their paths outline. There is an existing facility within this basin, known as SMF 800A, which was last revised under ERP 4433020.006. Runoff is conveyed to SMF 800A via swale and shoulder gutter inlets. There are two existing culverts along the I-275 SB ramp, 24" and 30" pipes, through which treated runoff is discharged to wetlands on the west side of southbound I-275.

Basin 3 (Basin J1, Permit No. 43033020.002)

This basin collects runoff from I-75 between County Line Road and bridge pair No. 140061/140062. The permitted SMF within this basin consists of two wet detention ponds, SMF J1-1 and SMF J1-2, interconnected by an 18" equalizer pipe. SMF J1-1 is located north of County Line Road in the infield between I-75 and the I-275 NB ramp. SMF J1-1 treats runoff from the I-275 SB lanes and I-75 SB lanes from County Line Road to bridge pair 140061/140062, which is captured by shoulder gutter inlets and median ditch bottom inlets. A 60" culvert under I-75 discharges the runoff collected by the shoulder gutter inlets to SMF J1-1. On the other hand, SMF J1-2 treats the runoff from NB I-75 and the I-275 NB ramp between County Line Road and station 2385+40, just north of Cross Drain 3. A network of shoulder gutter inlets and various pipes lead to a 36" pipe that discharges to SMF J1-2. Following treatment, runoff outflows east from SMF J1-2 via 48" pipe to adjacent wetlands.

Basin 4 (Basin J2, Permit No. 43033030.002)

The northern-most basin within the project limits begins along I-75 north of County Line Road at Cross Drain 3 and extends to approximately 600' north of State Road 56. Similar to the other basins, J2 is associated with a permitted wet detention pond, in this case SMF J2. This SMF is designed to treat the entire contributing area within the existing right of way as impervious coverage. The contributing area includes I-75 N from Cross Drain 19 to SR 56, and I-75 S from bridge pair 140061/140062 to SR 56 including the entrance and exit ramps at SR 56. SMF J2 is located southeast of the County Line Road bridge over the I-275 NB ramp, adjacent to the I-275 NB ramp right of way. This SMF is outside of the boundary of its associated basin. Approximately 5,000 feet of 84" and similar sized pipes convey the runoff collected by shoulder gutter inlets and ditch bottom inlets to SMF J2. After treatment, runoff is discharged via 36" pipe to an adjacent roadside ditch that flows south to Cypress Creek.

2.16 GEOTECHNICAL DATA

The Natural Resources Conservation Service (NRCS) *Soil Survey of Hillsborough County* (1989) and *Soil Survey of Pasco County* (1980) and geographic information system (GIS) data indicate that there are multiple soil types that exist within and adjacent to the project area. Soils within a 500-foot buffer from the existing right of way of the project were evaluated. See **Table 2-9** for acreages and percentages of soil types within the project buffer and **Figure 2-10** for a detailed soils map.

Table 2-9 Existing Soils Data (NRCS)

Map Unit Symbol	Description	Acreage (Approx. 500' from Centerline, and SMF and FPC sites)	Percentage
Pasco County Soils			
4	Felda fine sand (0-2% slopes) – *hydric*	2.9	0.5%
5	Myakka-Myakka, wet, fine sands, (0-2% slopes) – *hydric*	0.9	0.2%
6	Tavares sand (0-5% slopes)	1.0	0.2%
10	Wabasso-Wabasso, wet, fine sand, (0-2% slopes) – *hydric*	18.3	3.4%
11	Adamsville fine sand (0-2% slopes) – *hydric*	2.3	0.4%
22	Basinger fine sand (0-2% slopes) – *hydric*	2.4	0.4%
26	Narcoossee fine sand (0-2% slopes)	34.1	6.3%
27	Anclote fine sand (0-2% slopes), ponded – *hydric*	34.4	6.4%
28	Pits – *hydric*	5.0	0.9%
30	Okeelanta-Terra Ceia association – *hydric*	12.2	2.3%
35	EauGaille fine sand – *hydric*	43.5	8.1%
39	Chobee soils, frequently flooded – *hydric*	60.7	11.2%
59	Newnan fine sand (0-5% slopes)	12.1	2.1%
63	Delray mucky fine sand – *hydric*	26.3	4.9%
99	Water	8.2	1.5%

Map Unit Symbol	Description	Acreage (Approx. 500' from Centerline, and SMF and FPC sites)	Percentage
Hillsborough County Soils			
5	Basinger, Holopaw, and Samsula soils, depressional – *hydric*	67.3	12.5%
15	Felda fine sand (0-2% slopes) – *hydric*	4.6	0.9%
16	Felda fine sand (0-2% slopes), occasionally flooded – *hydric*	1.8	0.3%
21	Immokalee fine sand (0-2% slopes) – *hydric*	48.3	8.9%
27	Malabar fine sand (0-2% slopes) – *hydric*	6.8	1.3%
29	Myakka fine sand (0-2% slopes) – *hydric*	70.7	14.6%
46	St. Johns fine sand – *hydric*	1.1	0.2%
59	Winder fine sand (0-2% slopes) – *hydric*	0.3	0.1%
60	Winder fine sand, frequently flooded – *hydric*	15.6	2.9%
61	Zolfo fine sand (0-2% slopes) – *hydric*	36.0	6.7%
99	Water	15.3	2.8%
	Total	**540.2**	**100%**

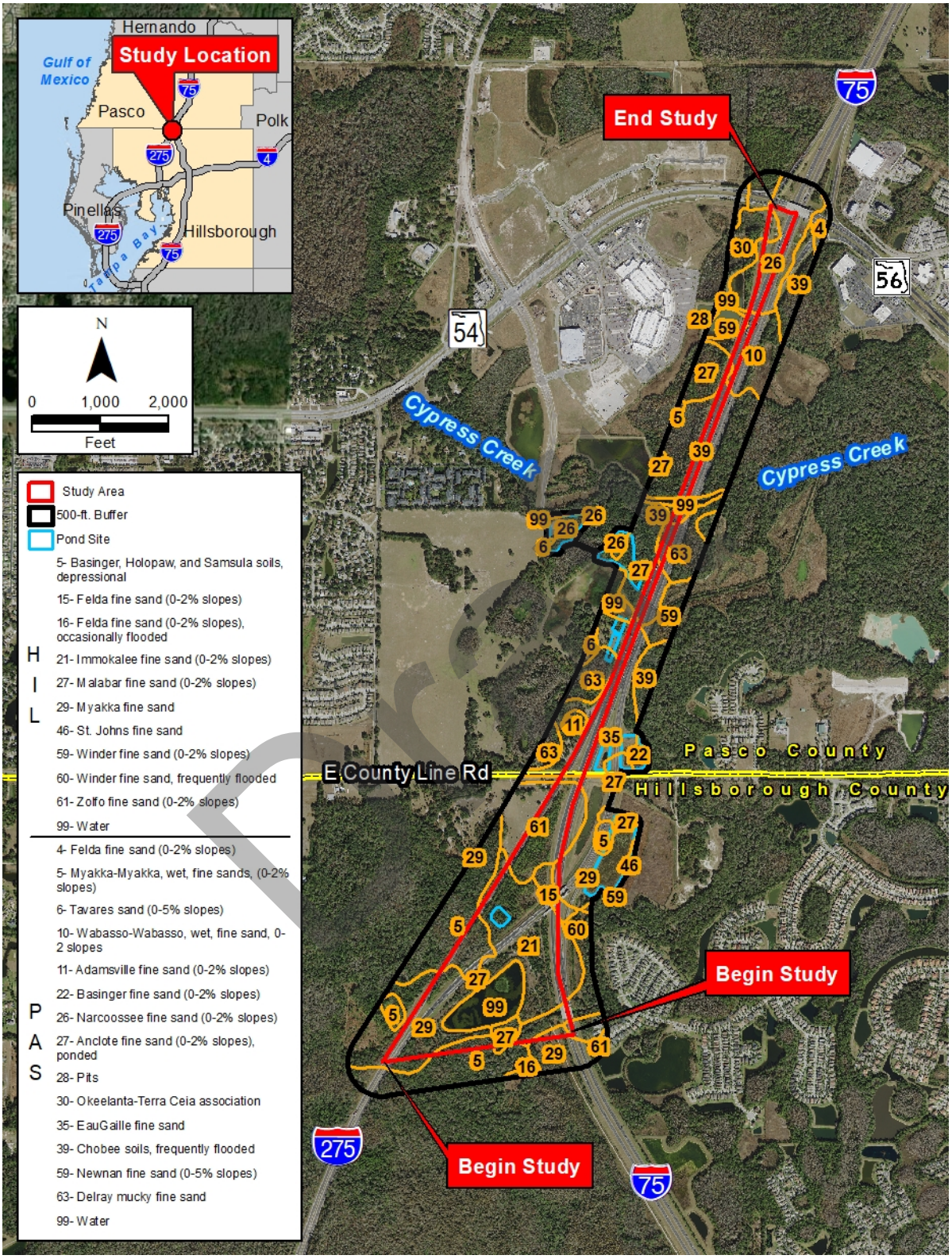


Figure 2-10 Existing Soils Map

2.17 EXISTING AND FUTURE LAND USE

Land use and vegetative cover within and adjacent to the study area was classified using the FDOT's *Florida Land Use, Cover and Forms Classification System* (FLUCCS). The study area, located in Hillsborough and Pasco Counties, is mostly undeveloped consisting of natural uplands and bottomlands outside of the existing interstate. For evaluating existing land use within the study area, a 500-foot buffer was created from the existing right of way of I-75/I-275 southbound lanes from south of County Line Road to SR 56, as well as a 50-foot buffer around the proposed SMF and FPC sites. The predominant land uses within the 500-foot buffer of the study area is transportation (8100), followed by stream and lake swamps (bottomland) (6150), and open land (1900). The remainder of the land uses and their percent cover within the 500-foot buffer area are shown in **Table 2-10**. Land uses within the study area are shown in **Figure 2-11**.

Table 2-10 Existing Land Use

FLUCCS	Description	Acreage (Approx. 500' from Centerline, and SMF and FPC sites)	Percent Cover
1300	Residential High Density	3.5	0.6%
1400	Commercial and Services	2.7	0.5%
1900	Open Land	59.0	10.9%
2100	Cropland and Pastureland	14.7	2.7%
3200	Shrub and Brushland	5.2	1.0%
4100	Upland Coniferous Forest	2.7	0.5%
4340	Upland Hardwood-Coniferous Mix	32.7	6.1%
5100	Streams and Waterways	1.2	0.2%
5300	Reservoirs	11.5	2.1%
6100	Wetland Hardwood Forest	4.5	0.8%
6150	Stream and Lake Swamps (Bottomland)	118.3	21.9%
6210	Cypress	21.9	4.1%
6300	Wetland Forested Mix	15.7	2.9%
6410	Freshwater Marshes	26.1	4.8%
6440	Emergent Aquatic Vegetation	25.7	4.8%
6530	Intermittent Ponds	4.6	0.9%
8100	Transportation	187.8	34.8%
8200	Communication	2.4	0.4%
	Total	**540.2**	**100.0%**

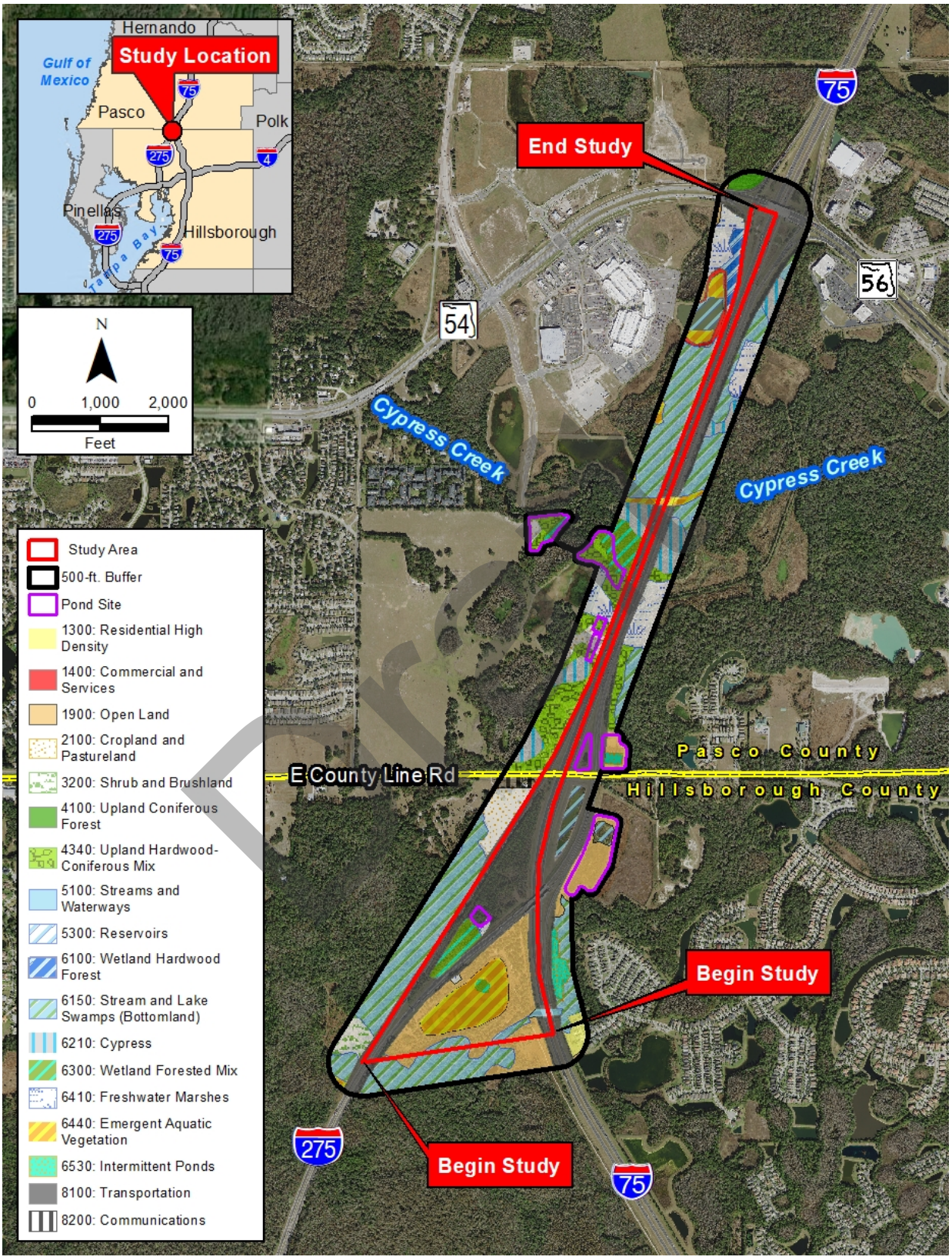


Figure 2-11 Existing Land Use Map

2.18 ENVIRONMENTAL CHARACTERISTICS

Existing environmental characteristics are documented in the following reports prepared for this PD&E Study:

- *Natural Resource Evaluation Report*
- *Location Hydraulics Memorandum*
- *Water Quality Impact Evaluation Checklist*
- *Contamination Screening Evaluation Report*
- *Cultural Resource Assessment Survey*
- *Cultural Resource Assessment Survey Pond Technical Memorandum*
- *Type 2 Categorical Exclusion*

SECTION 3 TRAFFIC ANALYSIS AND FUTURE CONDITIONS

The information in this section has been extracted and summarized from the project's *PTAR.*

3.1 EXISTING YEAR TRAFFIC VOLUMES AND TRAFFIC CHARACTERISTICS

The SR 56 interchange with I-75 was under construction at the onset of this PD&E Study. Data collection for this study did not include new traffic counts. Traffic data for the SR 56 ramps to I-75, the I-75 mainline and I-275 came from adjacent studies and Florida Traffic Online (FTO) website. FTO data for all historic years including Existing Year (2019) that was available on the website was utilized for this study. The existing count information used in this study to develop traffic factors was the 72-hour count information provided in the *I-75 and SR 56 Interchange Operational Study* in 2016.

The Directional Design factor (D-factor) for I-75 and I-275 were calculated by averaging the most recent 5-year historic data provided from FTO at sites 100154 (I-75 south of I-275), 140156 (I-75 between I-275 and SR 56), 140190 (I-75 one mile north of SR 56 telemetered site), and site 109955 (I-275/SR 93 Hillsborough County telemetered site). In order to have the same D-factor for I-75 and I-275, the averages from the site's 5-year average were then also averaged, respectively.

The daily truck factor (T24) for I-75 should decrease north of the I-275 northbound merge based on existing traffic patterns. FTO site 100154 (I-75 south of I-275) does not show this for years 2014, 2018 and 2019 and actually has T24 less than site 140156 which is north of the I-275 merge. In order to calculate accurate T24 for this study that represent existing traffic factors, T24's were averaged for all years that data is provided in the FTO with outliers removed. The Design Hour Truck (DHT) factor was calculated by dividing the T24's in half. The T24 for the SR 56 ramps were calculated based on the traffic counts taken for the 2016 I-75 and SR 56 Interchange Operational Study.

A standard K-factor of 9.0 was used for all roadway segments within the study area except for SR 56 to I-75 on ramp which was calculated from existing counts. Due to the SR 56 southbound traffic onto I-75 being one-way directional peak-to-daily ratio factor for the AM and PM peak hour was calculated using 72-hour count data provided in the September 2014 *Interchange Operational Analysis Report (IOAR) for the I-75 (SR 93) / SR 56 Interchange.* Traffic factors used in this study are shown in **Table 3-1**.

Table 3-1 Recommended Traffic Factors

Roadway	K-factor (%)	D-factor (%)	T24	DHT
I-275	9.0	62.5	5.3	2.6
I-75 (south of I-275)	9.0	56.7	14.5	7.2
I-75 (between I-275 and SR 56)	9.0	56.7	12.7	6.4
I-75 (north of SR 56)	9.0	56.7	12.3	6.2
SR 56 southbound on-ramp to I-75	9.0	N/A	4.0	2.0

The Existing Year (2019) Annual Average Daily Traffic (AADT) traffic volumes were obtained from FTO and balanced throughout the study area. The 2019 AADT traffic volumes are shown in **Figure 3-1**.

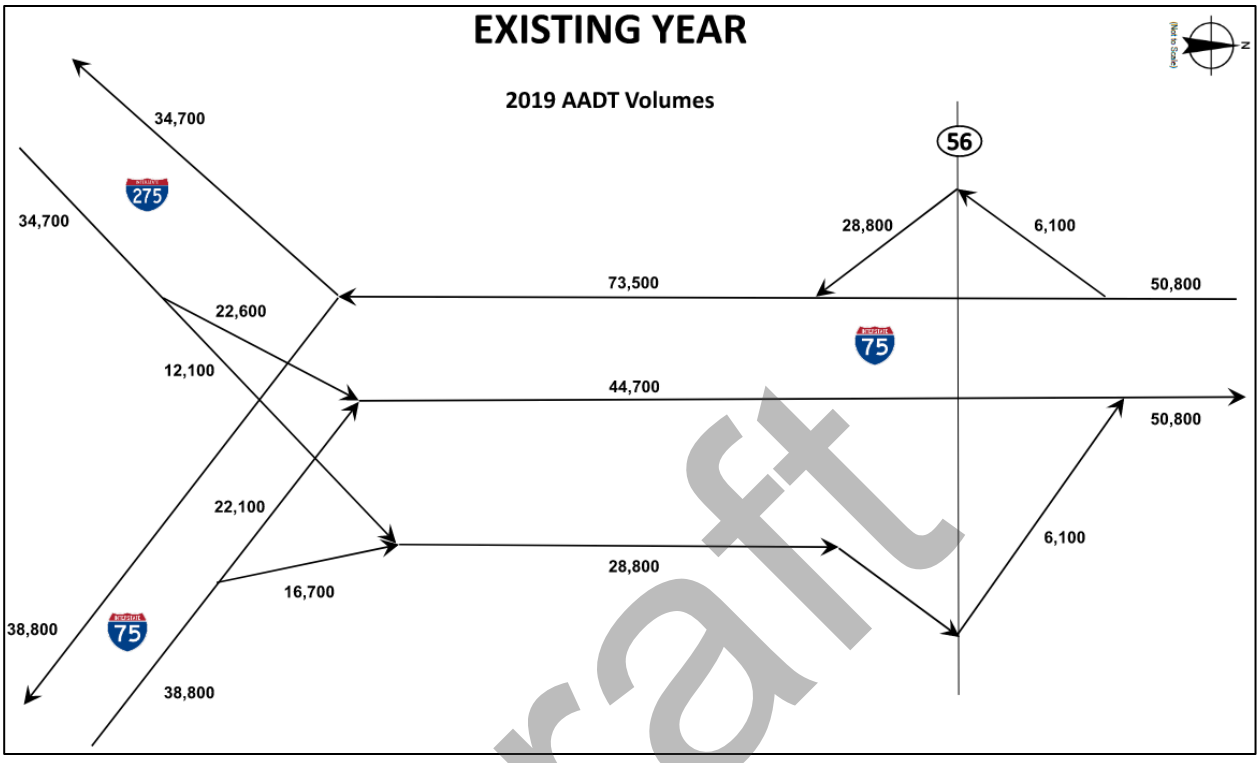


Figure 3-1 Existing Year (2019) AADT Volumes

The Existing Year (2019) Directional Design Hourly Volumes (DDHVs) traffic volumes were calculated from the 2019 AADT and recommended traffic factors for the study area. The hourly volumes were then balanced along the study area and manual adjustments were made due to I-275 and I-75 having different directional factors. The Existing Year (2019) DDHVs are shown in **Figure 3-2**.

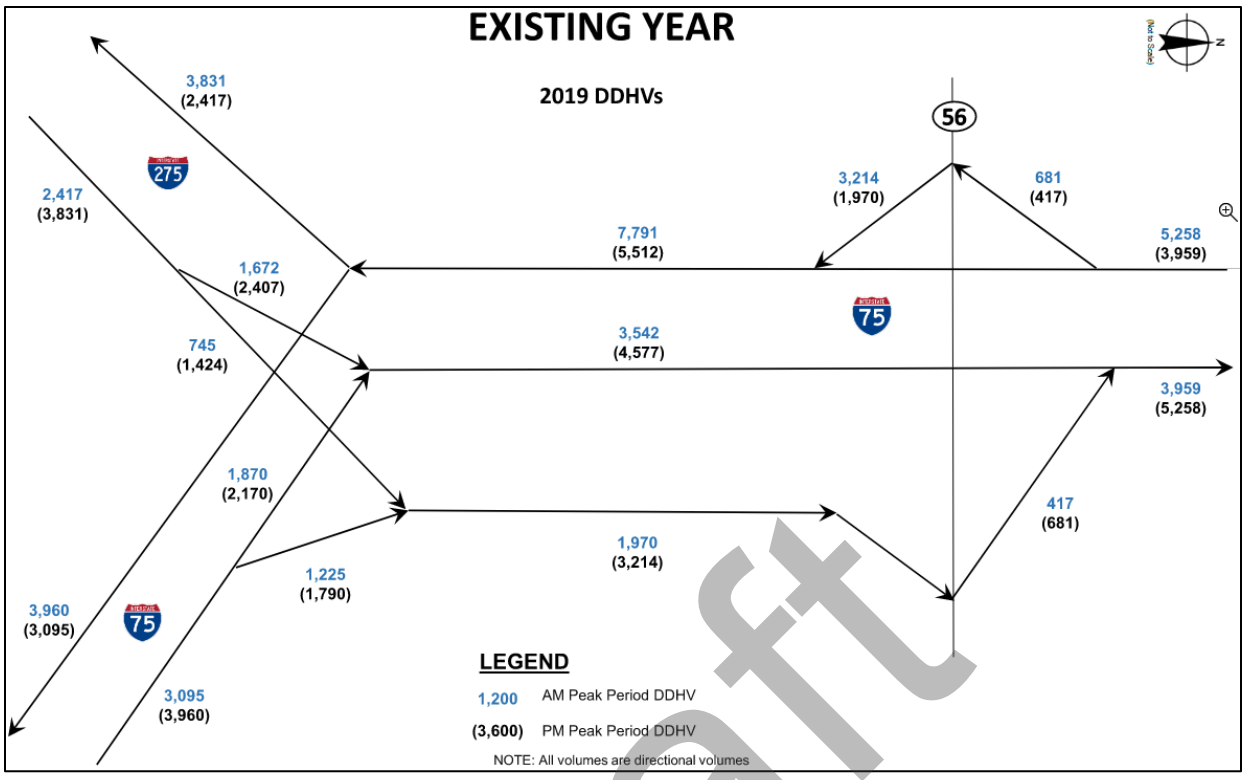


Figure 3-2 Existing Year (2019) DDHVs

3.2 EXISTING YEAR LEVELS OF SERVICE

Utilizing the existing lane geometry shown in **Figure 2-4** and the Existing Year (2019) peak hour volumes for the AM and PM peak period shown in **Figure 3-2** the existing traffic operational analysis was conducted using *Highway Capacity Software* (HCS). A visual representation of the LOS analysis areas for the study area is shown in **Figure 3-3**.

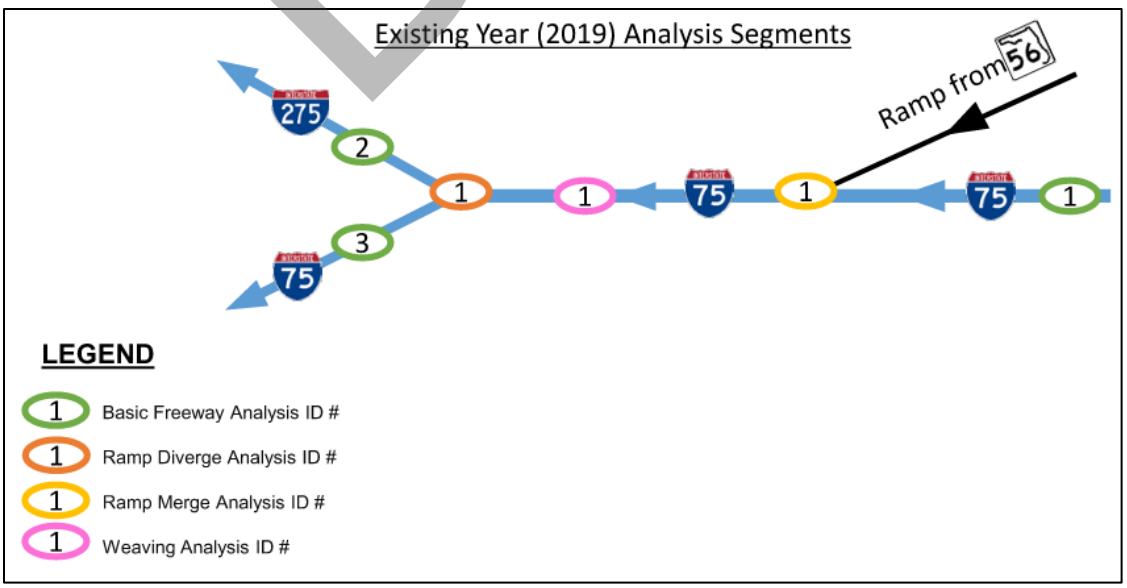


Figure 3-3 Existing Year (2019) LOS Analysis Areas

The LOS operational analysis for the study's basic freeway segments for Existing Year (2019) show all three segments operating at densities of passenger car per mile per lane (pc/mi/ln) of acceptable LOS for both peak periods. The diverge area was identified as a major diverge area and *Highway Capacity Manual* (*HCM)* Equation 14.28 was used to calculate LOS and density. The ramp diverge operational analysis resulted in acceptable LOS for both the AM and PM peak periods for the diverge segment of southbound I-75 to southbound I-275. The merge analysis for I-75 southbound from SR 56 resulted in both the upstream and downstream peak demand volumes not exceeding the existing capacity. The operational analysis did find the weaving segment of I-75 southbound between the southbound on-ramp from SR 56 and the off-ramp to I-275 to operate at unacceptable LOS for both the AM and PM peak periods. The volume to capacity ratio of the SR 56 southbound on-ramp was evaluated and results show (less than a value of one) that the volume of the ramp does not exceed the capacity. LOS results from the HCS analysis is shown in **Table 3-2**.

Table 3-2 Summary of Existing Year (2019) LOS Results

Analysis ID	Roadway Segment	DENSITY (pc/mi/ln) & LOS			
		AM		PM	
Basic Freeway Analysis					
1	I-75 southbound north of on-ramp from SR 56	22.1	C	16.4	B
2	I-275 southbound south of I-75	19.9	C	12.4	B
3	I-75 southbound south of off-ramp to I-275 southbound	21.8	C	16.6	B
Diverge Analysis					
1	I-75 southbound to I-275**	34.1	D	24.1	C
Merge Analysis***					
1	I-75 southbound from SR 56 - Upstream	Demand volume doesn't exceed capacity			
1	I-75 southbound from SR 56 - Downstream	Demand volume doesn't exceed capacity			
Weaving Analysis					
1	I-75 southbound between on-ramp from SR 56 and off-ramp to I-275 southbound	**>43.0***	**F**	**>43.0***	**F***

**Exact density value not calculated due to HCS limitations for LOS F*

*** HCM Equation 14.28 used to determine density and LOS*

****Major merge segment, therefore, capacity check was conducted upstream and downstream of the merge segment per HCM*

3.3 ASSUMPTIONS AND METHODOLOGY FOR FUTURE TRAFFIC PROJECTIONS

Future traffic volumes were forecasted using the methodology presented in *Traffic Methodology Statement* dated Feburary 18, 2021 (provided in Appendix A of the *PTAR*).

3.4 FUTURE TRAFFIC PROJECTIONS

The DDHVs for the No Build and Build Alternative differ due to the proposed C-D roadway in the Build Alternative as explained later in **Section 3-6**. For the Build Alternative traffic demand modeling, employing the Tampa Bay Regional Planning Model (TBRPM) Version 9.1, was used to determine the origin and destination pairs of traffic using the proposed ramps at the system interchange for the southbound direction. The forecasted AADT volumes for the Opening Year (2025) and Design Year (2045) for the No-Build Alternative are shown in **Figure 3-4**. The forecasted AADT volumes for the Opening Year (2025) and Design Year (2045) for the Build Alternative are shown in **Figure 3-5**.

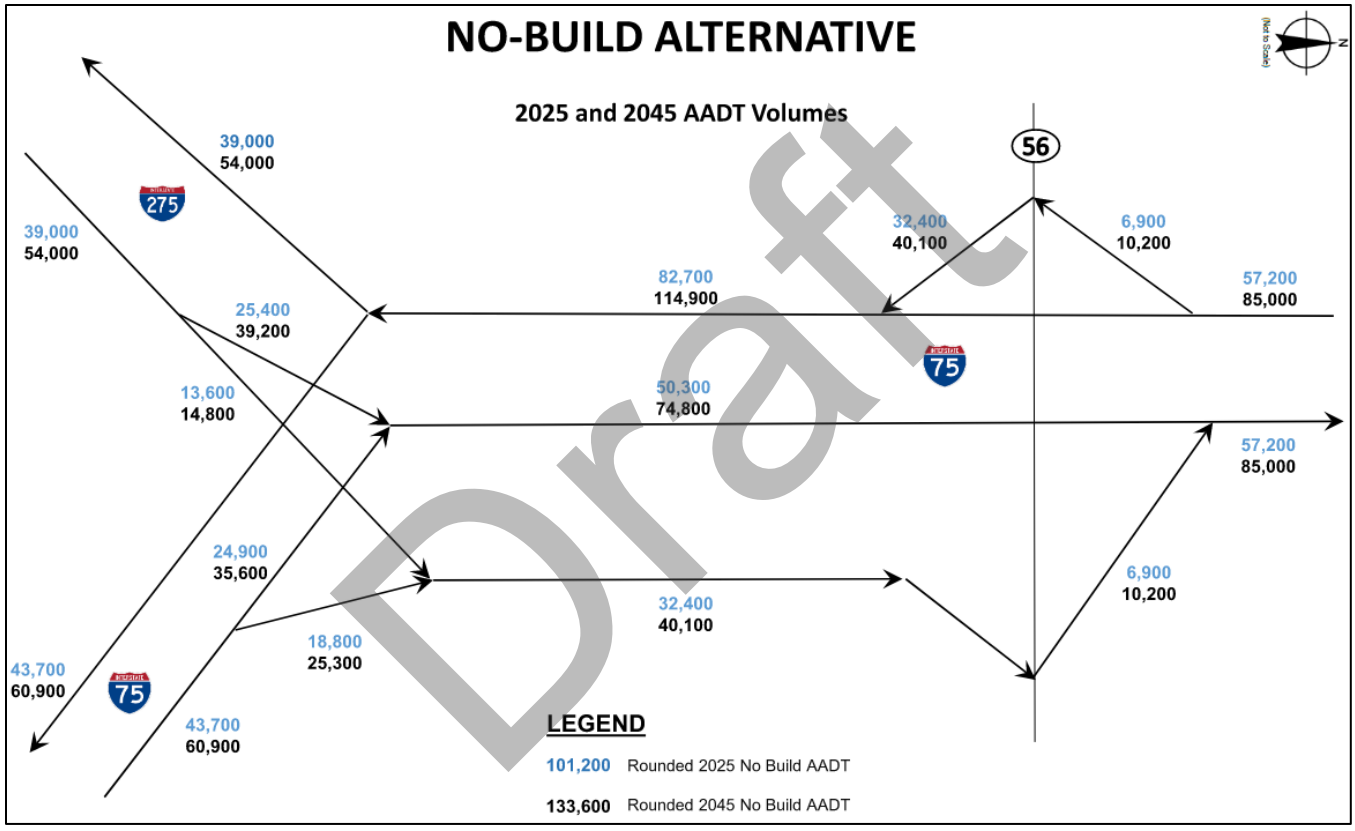


Figure 3-4 No-Build Opening Year (2025) and Design Year (2045) AADT Volumes

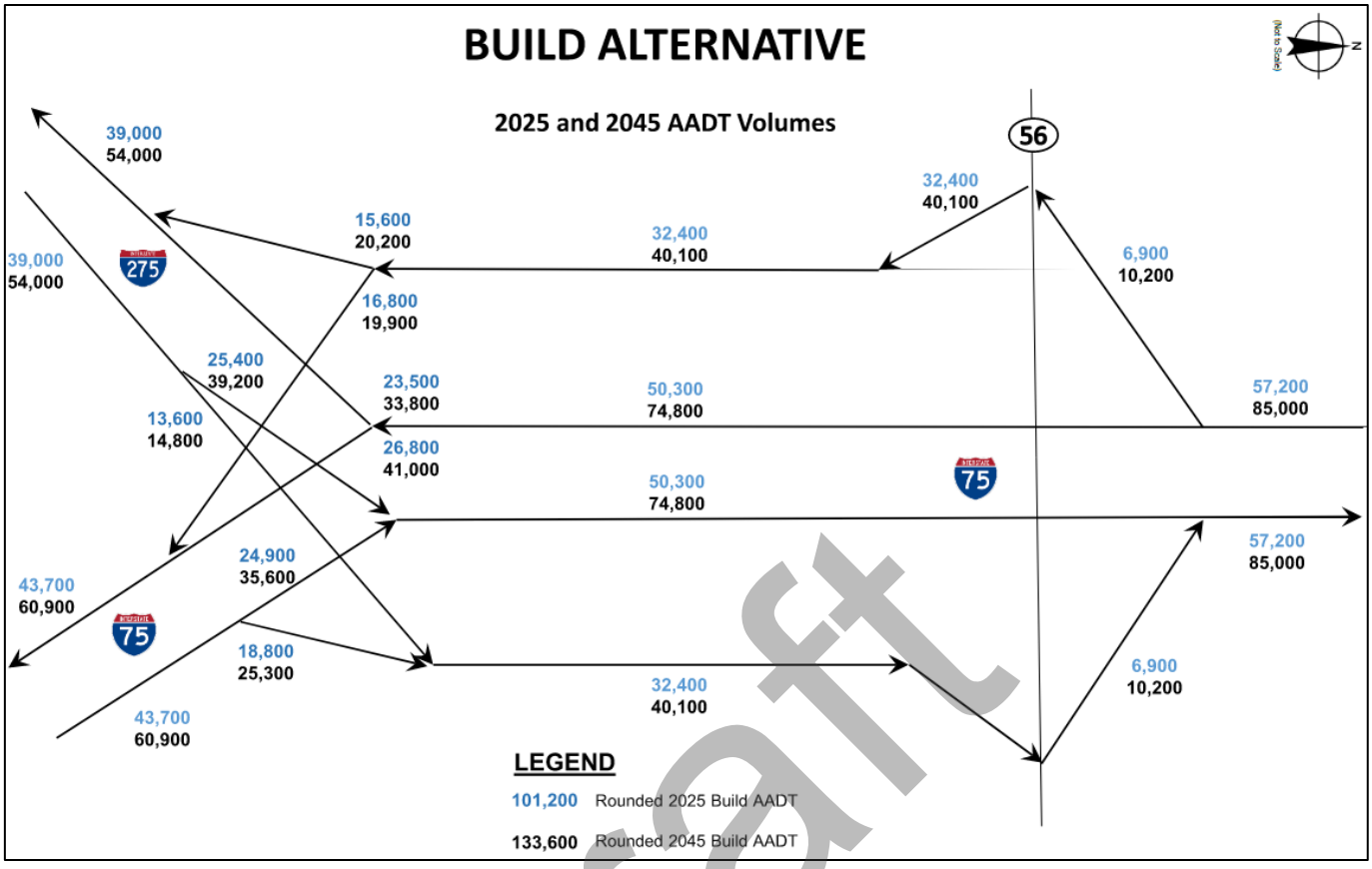


Figure 3-5 Build Opening Year (2025) and Design Year (2045) AADT Volumes

Utilizing the traffic factors presented in **Table 3-1**, DDHVs for the study area were forecasted for the Opening Year (2025) and Design Year (2045). The volumes were balanced between segments due to the highway segments being limited access with no driveways or sidestreets to account for. **Figure 3-6** through **Figure 3-9** show the forecasted DDHVs for this study.

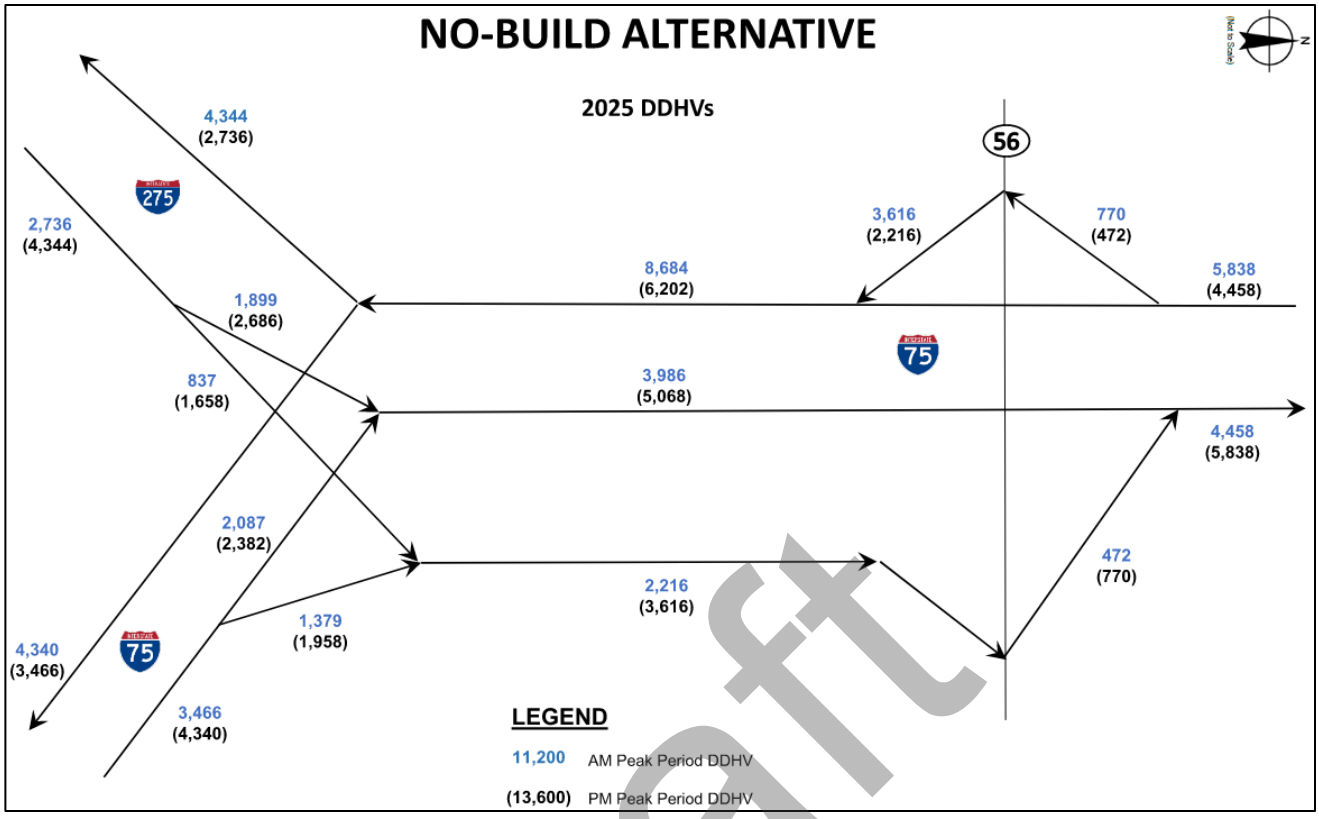


Figure 3-6 No-Build Opening Year (2025) DDHVs

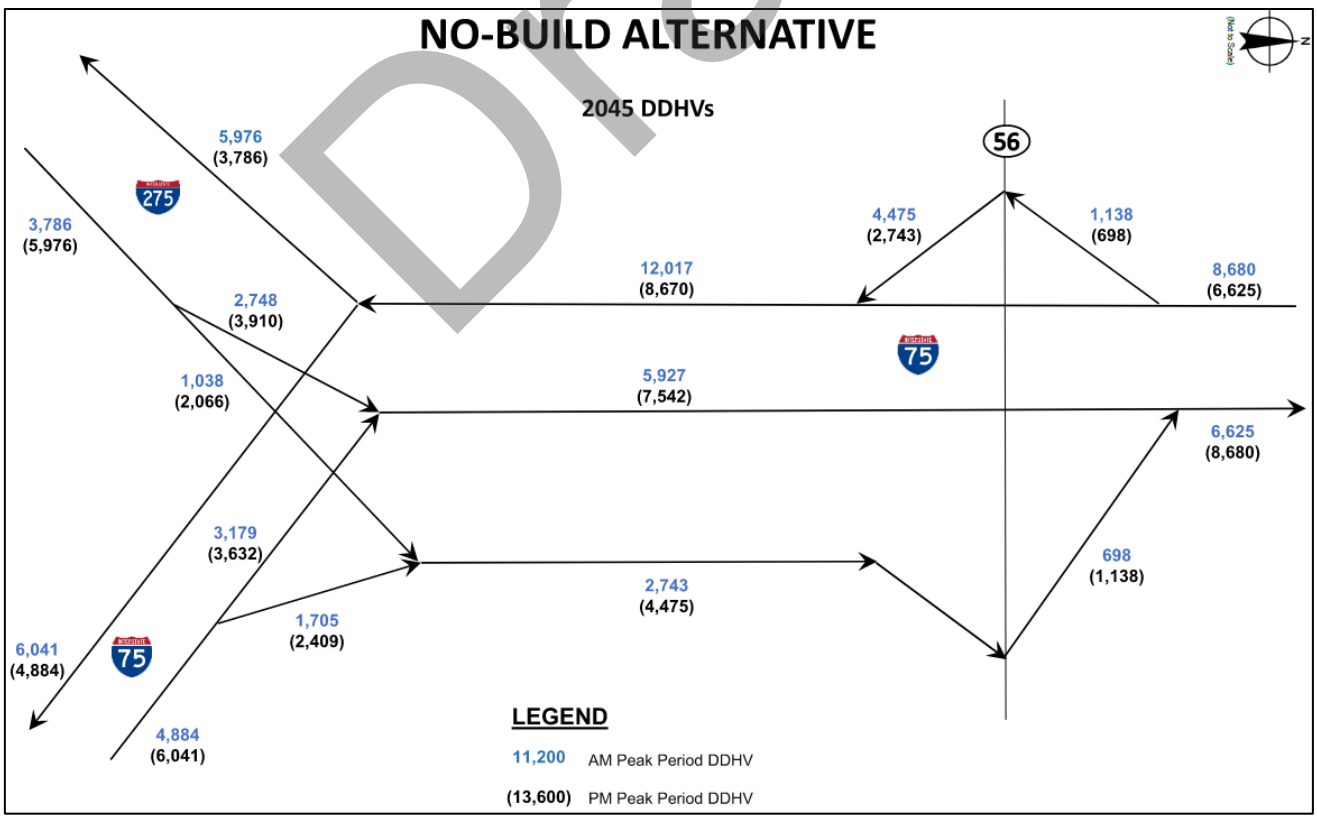


Figure 3-7 No-Build Design Year (2045) DDHVs

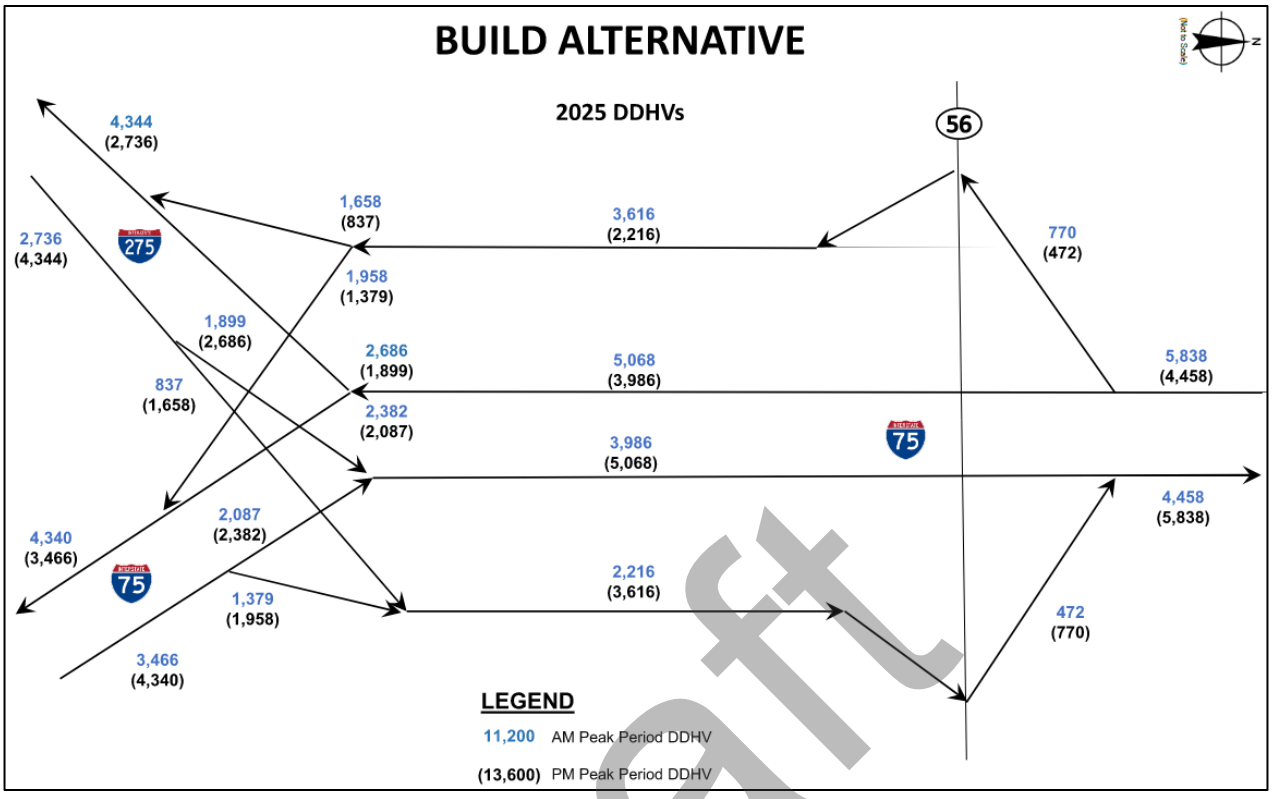


Figure 3-8 Build Opening Year (2025) DDHVs

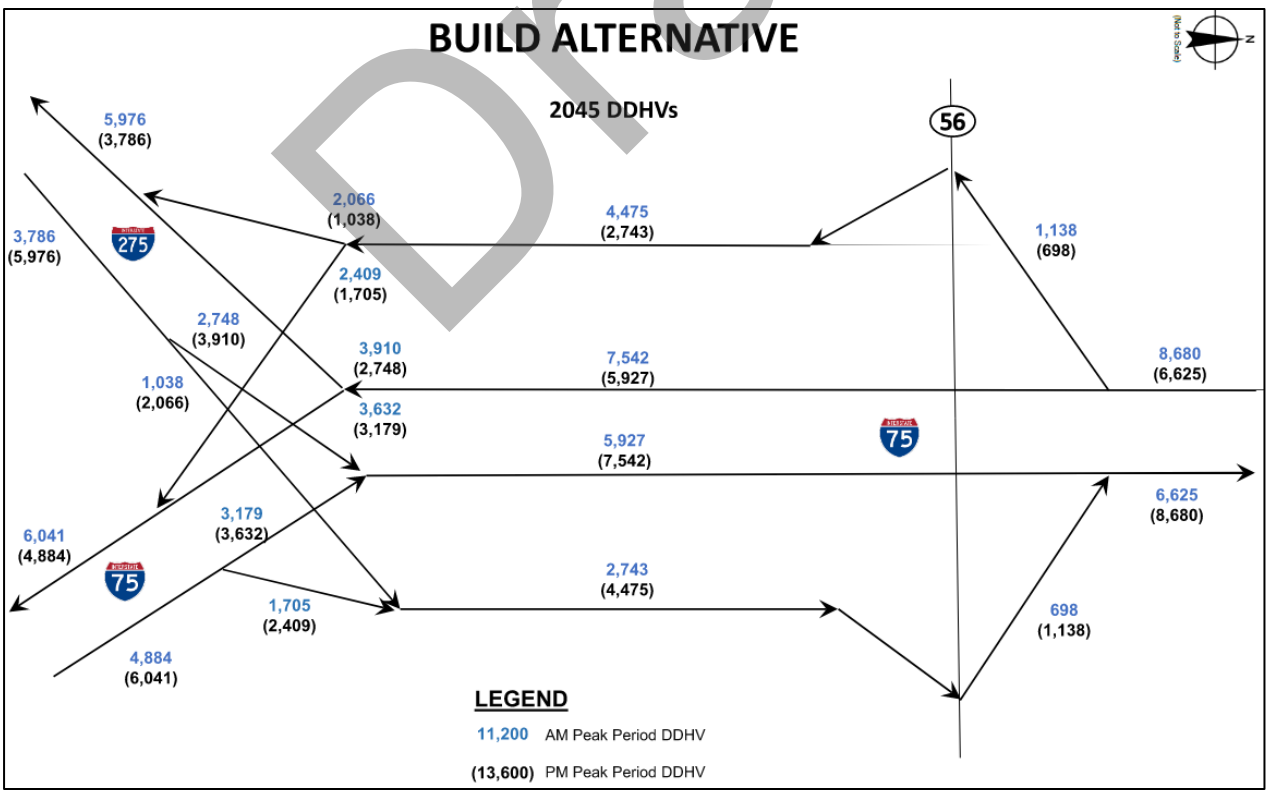


Figure 3-9 Build Design Year (2045) DDHVs

3.5 NO-BUILD ALTERNATIVE LEVEL OF SERVICE

The No-Build Alternative traffic operational analysis utilized the existing lane geometry presented in **Figure 2-4** and the design hour volumes shown in **Figure 3-6** and **Figure 3-7** for the Opening Year (2025) and Design Year (2045), respectively.

3.5.1 Opening Year (2025) No-Build Analysis

For Opening Year (2025) the No-Build Alternative LOS results found that all basic freeway segments operate at an acceptable LOS for both the AM and PM peak period. The No-Build Alternative ramp diverge LOS analysis resulted in acceptable LOS for the PM peak period. The AM peak period resulted in unacceptable LOS with a density of 38.0 pc/mi/ln. The No-Build Alternative ramp merge LOS analysis resulted in demand volumes not exceeding capacity for both upstream and downstream of the major merge. The weaving analysis for the segment of southbound I-75 between the on-ramp from SR 56 and off-ramp to I-275 southbound resulted in failing LOS for both the AM and PM peak periods. The HCS has a limitation where it doesn't calculate density for segments with a LOS F. The density and LOS results of the study segments are shown in **Table 3-3**.

Table 3-3 Summary of No-Build Alternative LOS Analysis – Opening Year (2025)

Analysis ID	Roadway Segment	DENSITY (pc/mi/ln) & LOS			
		AM		PM	
Basic Freeway Analysis					
1	I-75 southbound north of on-ramp from SR 56	25.1	C	18.5	C
2	I-275 southbound south of I-75	23.2	C	14.1	B
3	I-75 southbound south of off-ramp to I-275 southbound	24.5	C	18.7	C
Diverge Analysis					
1	I-75 southbound to I-275**	**38.0**	**E**	27.1	C
Merge Analysis***					
1	I-75 southbound from SR 56 - Upstream	Demand volume does not exceed capacity.			
1	I-75 southbound from SR 56 - Downstream	Demand volume does not exceed capacity.			
Weaving Analysis					
1	I-75 southbound between on-ramp from SR 56 and off-ramp to I-275 southbound	**>43.0***	**F**	**>43.0***	**F**

** Exact density value not calculated due to HCS limitations for LOS F*

*** HCM Equation 14.28 used to determine density and LOS*

****Major merge segment, therefore, capacity check was conducted upstream and downstream of the merge segment per HCM*

3.5.2 Design Year (2045) No-Build Analysis

For Design Year (2045) the No-Build Alternative LOS results found that all basic freeway segments operate at an unacceptable LOS for the AM peak period. The No-Build Alternative ramp diverge LOS analysis resulted in unacceptable LOS for the AM and PM peak period. The No-Build Alternative ramp merge LOS analysis resulted in acceptable capacity for both upstream and downstream of the major merge. The weaving analysis for the segment of southbound I-75 between the on-ramp from SR 56 and off-ramp to I-275 southbound resulted in failing LOS for both the AM and PM peak periods. The HCS has a limitation where it doesn't calculate density for segments with a LOS F. The density and LOS results of the study segments are shown in **Table 3-4**.

Table 3-4 Summary of No-Build Alternative LOS Analysis – Design Year (2045)

Analysis ID	Roadway Segment	DENSITY (pc/mi/ln) & LOS			
		AM		PM	
Basic Freeway Analysis					
1	I-75 southbound north of on-ramp from SR 56	**>45.0***	**F**	29.9	D
2	I-275 southbound south of I-75	**38.1**	**E**	19.7	C
3	I-75 southbound south of off-ramp to I-275 southbound	**42.7**	**E**	29.9	D
Diverge Analysis					
1	I-75 southbound to I-275**	**52.6**	**E**	**37.9**	**E**
Merge Analysis***					
1	I-75 southbound from SR 56 - Upstream	Demand volume does not exceed capacity.			
1	I-75 southbound from SR 56 - Downstream	Demand volume does not exceed capacity.			
Weaving Analysis					
1	I-75 southbound between on-ramp from SR 56 and off-ramp to I-275 southbound	**>43.0***	**F**	**>43.0***	**F**

** Exact density value not calculated due to HCS limitations for LOS F*

*** HCM Equation 14.28 used to determine density and LOS*

****Major merge segment, therefore, capacity check was conducted upstream and downstream of the merge segment per HCM*

3.6 RECOMMENDED TRAFFIC OPERATIONAL AND SAFETY IMPROVEMENTS

Based on the crash data and safety information provided in **Section 2.11** and operational evaluation provided in **Section 3.5.2**, the No-Build alternative is not a viable option for the long-term range. As shown in **Figure 2-6** many of the crashes that occurred from years 2014-2018 happened in the weave zone between the southbound SR 56 on-ramp merge and the I-75/I-275 diverge. Further, based on the traffic analysis, by year 2045, the basic freeway segment analysis, the diverge analysis and the weave analysis all realize failing LOS by 2045, with the diverge and weave analyses failing by 2025.

Proposed Improvements

To eliminate the weave between the southbound on-ramp from SR 56 and the I-75/I-275 diverge, the traffic from the southbound on-ramp is proposed to remain separated from southbound I-75 lanes until downstream from the I-75/I-275 diverge in a C-D road that will be split into separate ramps that will merge to I-75 and I-275. **Figure 3-10** shows a simplified schematic of the differences between the existing and proposed traffic routing for southbound I-75 and SR 56 on-ramp to I-275 and I-75 and the elimination of the existing weave zone.

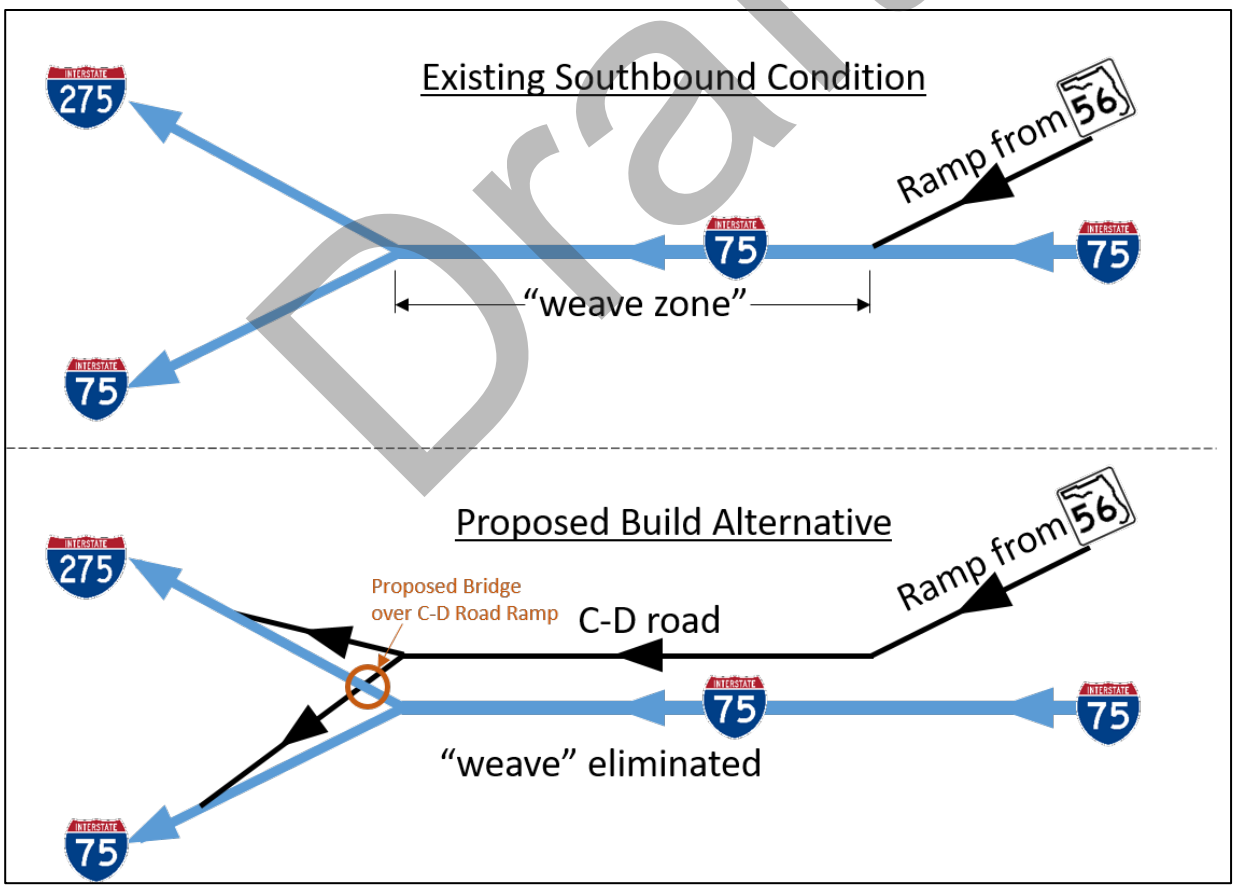


Figure 3-10 Existing and Proposed Traffic Routing for I-75, I-275 & SR 56 Ramp

3.7 BUILD ALTERNATIVE LEVEL OF SERVICE

The Build Alternative operational analysis utilizes the lane geometry presented in **Figure 3-10** and more specifically on Concept Plans in **Appendix A** and the design hourly volumes shown in **Figure 3-8** and **Figure 3-9** for the Opening Year (2025) and Design Year (2045), respectively. The Build HCS traffic operational result tables coincide with the analysis segments are identified in **Figure 3-11**.

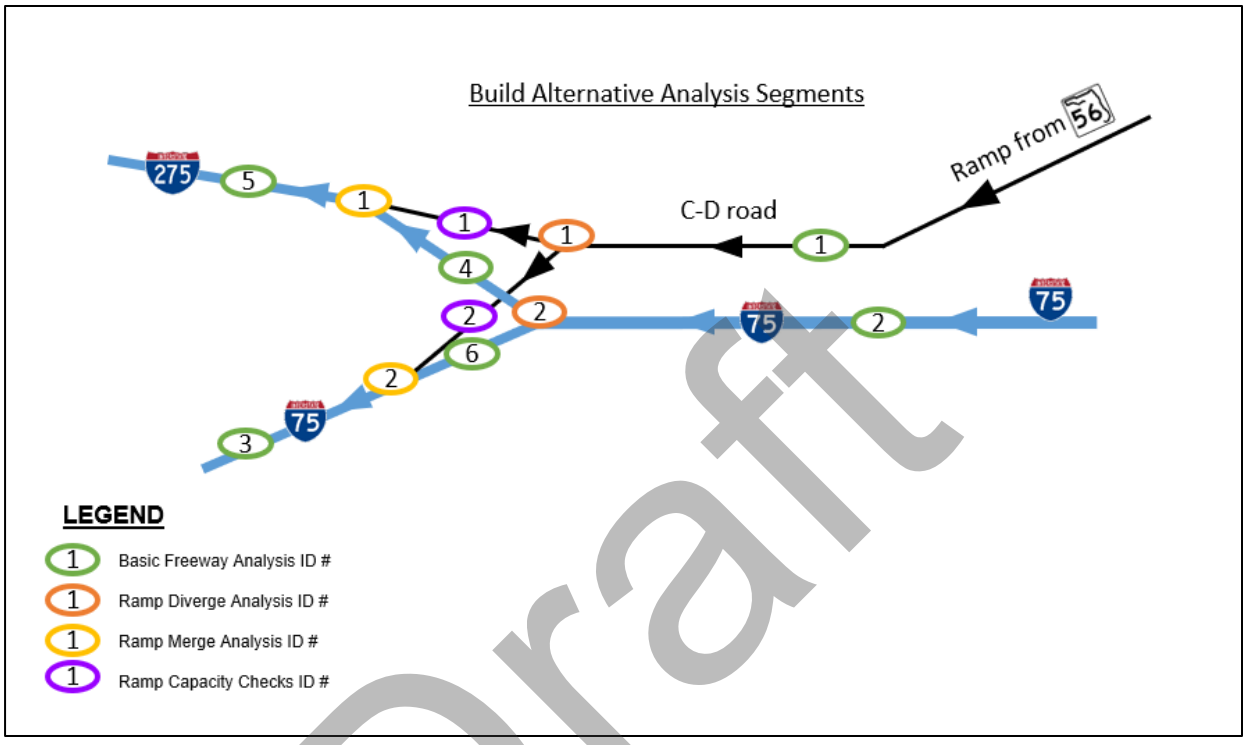


Figure 3-11 Build Traffic Operational Analysis Area Identification

3.7.1 Opening Year (2025) Build Analysis

For Opening Year (2025) the Build Alternative LOS results found that all basic freeway segments operate at an acceptable LOS for both the AM and PM peak period. All ramps diverge segments operate at an acceptable LOS for both the AM and PM peak period. All ramp merge segments operate at an acceptable LOS for both the AM and PM peak period. The volume to capacity ratio of the proposed southbound C-D Road ramps to southbound I-75 and I-275 were also evaluated. The capacity of the ramps were determined from *HCM Exhibit 14-12* for a single-lane ramp with a free flow speed greater then 50 mph. Both ramps have a volume to capacity ratio less than one. The density and LOS results of the study segments are shown in **Table 3-5**.

Table 3-5 Summary of Build Alternative LOS Analysis – Opening Year (2025)

Analysis ID	Roadway Segment	DENSITY (pc/mi/ln) & LOS			
		AM		PM	
Basic Freeway Analysis					
1	I-75 southbound C-D Road	21.5	C	13.2	B
2	I-75 southbound north of diverge to I-275	13.5	B	10.6	A
3	I-75 southbound south of merge from C-D Road ramp	24.5	C	18.7	C
4	I-75 southbound between diverge to I-275 and merge at I-275	13.8	B	9.8	A
5	I-275 southbound south of merge from C-D Road and I-75	23.2	C	14.1	B
6	I-75 southbound between diverge to I-275 and C-D Road ramp merge at I-75	12.8	B	11.2	B
Diverge Analysis					
1	I-75 southbound C-D Road to I-275**	21.1	C	12.9	B
2	I-75 southbound to I-275**	14.8	B	11.6	B
Merge Analysis					
1	I-75 southbound C-D Road to I-275	24.9	C	14.4	B
2	I-75 southbound C-D Road ramp to I-75	28.0	C	21.9	C
Ramp Volume to Capacity Analysis***					
1	Southbound C-D to I-275 Ramp	Demand volume does not exceed capacity.			
2	Southbound C-D to I-75 Ramp	Demand volume does not exceed capacity.			

**Density not calculated due to HCS limitations, v/c ratio reported instead*

*** HCM Equation 14.28 used to determine density and LOS*

****Single-lane ramp capacity for FFS > 50 mph = 2200 based on HCM Exhibit 14-12*

3.7.2 Design Year (2045) Build Analysis

For Design Year (2045) the Build Alternative LOS results found that almost all basic freeway segments operate at an acceptable LOS for both the AM and PM peak period. Two basic freeway segments are forecasted to operate at an unacceptable LOS of E in the AM peak period. The two segments are southbound I-275 and southbound I-75, south of the system interchange apex. Adding capacity to these two segments would require proposed improvements extending to adjacent south interchanges and out of the limits of this project scope; therefore, no improvements for these segments are proposed in this study.

All ramps diverge segments operate at an acceptable LOS for both the AM and PM peak period. The ramp merge segment from the proposed I-75 C-D Road ramp to I-275 to operate at an acceptable LOS for both the AM and PM peak periods.

The ramp merge segment from the proposed I-75 southbound C-D roadway to I-75 (Merge Analysis ID 2) is forecasted to operate within target LOS for the AM and PM peak periods with an acceleration length of 1500 feet. Due to bridge structure 100412 over the Cypress Creek, the proposed C-D roadway to I-75 acceleration length is constrained to 900 feet in length. The merge analysis for this segment is forecasted to operate at LOS E for the AM peak period in the Design Year (2045). Interpolating the input design year hourly volumes, the constrained merge segment was found to reach LOS E in year 2039. It should be noted that this segment is merging onto Basic Freeway Segment ID #3 (I-75 southbound south of merge from C-D Road) which is expected to operate at LOS E downstream of the merge in the AM peak period. In order for this merge segment to reach acceptable LOS with the forecasted 2045 volumes and downstream LOS conditions, the acceleration length will need to be extended to 1500 feet. A straight-line interpolation of the Opening Year (2025) and Design Year (2045) density results for the merge, results in an expected LOS E with a Density E (>35 pc/mi/ln) in year 2039. Extending the acceleration length of this merge segment to 1500' and over bridge 100415 will be further evaluated at a later time.

A volume to capacity ratio evaluation was completed for the proposed southbound C-D Road ramps to I-275 and I-75. Using the peak hour demand volumes the volume to capacity ratios were calculated. The peak demand volume for the southbound C-D Road ramp to I-75 does exceed the capcity of a single-lane ramp (with a free flow speed greater than 50 mph) by less than 10%.

The density and LOS results of the study segments are shown in **Table 3-6**.

Table 3-6 Summary of Build Alternative LOS Analysis – Design Year (2045)

Analysis ID	Roadway Segment	DENSITY (pc/mi/ln) & LOS			
		AM		PM	
Basic Freeway Analysis					
1	I-75 southbound C-D Road	26.7	D	16.3	B
2	I-75 southbound north of diverge to I-275	20.4	C	15.8	B
3	I-75 southbound south of merge from C-D Road ramp	**42.7**	**E**	28.9	D
4	I-75 southbound between diverge to I-275 and merge at I-275	20.4	C	14.1	B
5	I-275 southbound south of merge from C-D Road and I-75	**38.1**	**E**	19.7	C
6	I-75 southbound between diverge to I-275 and C-D Road ramp merge at I-75	19.7	C	17.1	B
Diverge Analysis					
1	I-75 southbound C-D Road to I-275**	26.1	C	16.0	B
2	I-75 southbound to I-275**	22.0	C	17.3	B
Merge Analysis					
1	I-75 southbound C-D Road to I-275	34.7	D	20.3	C
2	I-75 southbound C-D Road ramp to I-75 (acceleration length = 900')	**38.2**	**E**	30.2	D
2	I-75 southbound C-D Road ramp to I-75 (acceleration length = 1500')	35.0	D	26.9	C
Ramp Volume to Capacity Analysis***					
1	Southbound C-D to I-275 Ramp	Demand volume does not exceed capacity.			
2	Southbound C-D to I-75 Ramp	Demand volume does not exceed capacity.			

**Density not calculated due to HCS limitations, v/c ratio reported instead*

*** HCM Equation 14.28 used to determine density and LOS*

****Single-lane ramp capacity for FFS > 50 mph = 2200 based on HCM Exhibit 14-12*

Given the following reasons it is recommended to keep the southbound C-D Road ramp to I-75 ramp one lane:

- The ramp diverges from the proposed C-D roadway as two lanes and then merges down to one lane when it reaches geometric constraints under the I-275 bridges.
- The 20-year forecasted demand volume for the ramp exceeds capacity by less than 10%
- The upstream and downstream demand flows do not exceed capacity.

SECTION 4 DESIGN CONTROLS AND CRITERIA

Proposed design controls, standards and criteria are shown below in **Tables 4-1 & 4-2.**

Table 4-1 I-75/I-275 Mainline and C-D Road Design Controls and Criteria

DESIGN ELEMENT	2 to 3-Lane Collector-Distributor	I-75/275 Mainline	Source
Context Classification	N/A		FDM Table 200.4.1 (Limited Access)
Design Year	2045		PTAR
Design Speed	60 mph (Flush Shoulder)	70 mph (Flush Shoulder)	FDM Table 201.5.1
Design Vehicle	WB-62FL		FDM Section 201.6
HORIZONTAL ALIGNMENT			
Maximum Superelevation	0.10		FDM Table 210.9.1
Maximum Curvature	5º15'	3º30'	FDM Table 210.9.1
Maximum Curvature w/o Superelevation	0º15'		FDM Table 210.9.1
Max. Deflection w/o Horizontal Curve	0º 45' 00"		FDM Section 211.7.1
Minimum Length of Horizontal Curve	1800 ft Desirable 900 ft Minimum	2100 ft Desirable 1050 ft Minimum	FDM Table 211.7.1
Superelevation Rate	1:180	1:200	FDM Table 210.9.3
VERTICAL ALIGNMENT			
Maximum Grade	3.00%		FDM Table 211.9.1
Minimum Grade	0.30%	N/A	FDM Section 210.10.1.1
Minimum Distance Between VPI's	250 ft	N/A	FDM Section 210.10.1.1
Min. K Value for Crest Vertical Curves	313	506	FDM Table 211.9.2
Min. K Value for Sag Vertical Curves	157	206	FDM Table 211.9.2
Minimum Vertical Curve Length	Crest: 1800 ft	Sag: 800 ft	FDM Table 211.9.3
Minimum Stopping Sight Distance	645 ft	820 ft	FDM Table 211.10.1
Max. Change in Grade w/o Vertical Curve	0.40	0.20	FDM Table 210.10.2
Roadway Base Clearance	3 ft (Minimum)		FDM Section 210.10.3
ROADWAY CROSS SECTION			
Lane Widths	12 ft	12 ft	FDM Section 211.2
Cross Slopes (Roadway)	2% two inside lanes, 3% outside lane		FDM Figure 211.2.1
Cross Slopes (Shoulder)	Outside 6%, Inside 5%		FDM Section 211.4.2
Median Width (Minimum)	64 ft	64 ft	FDM Table 211.3.1
Shoulders: Outside & Median	Full Width 12 ft, Paved Width 10 ft (Paved 12 ft w/Shoulder Barrier Wall)	Full Width 12 ft, Paved Width 10 ft	FDM Table 211.4.1
Sidewalk Width	N/A	N/A	N/A (Limited Access)
Clear Zone (CZ)	36 ft (Mainline) 24 ft (Aux Lane)		FDM Table 215.2.1
Lateral Offset	36 ft (Outside CZ)		FDM Table 215.2.2
Front Slopes	1:6 to edge of CZ, then 1:4, 1:3, or 1:2 w guardrail (based on fill height)		FDM Table 215.2.3
Back Slopes	1:4 or 1:3 w std. width trapezoidal ditch & 1:6 front slope		FDM Table 215.2.3
Minimum Border Width	94 ft		FDM Section 211.6
Access Classification	1		FDM Table 201.4.1
Minimum Level of Service (LA Facility)	C		PTAR
SOURCE: *FDOT Design Manual* (FDM), January 2021; *PTAR*			

Table 4-2 One Lane and Two Lane Ramp Design Controls and Criteria

DESIGN ELEMENT	One-Lane Ramp (Interstate)	Two-Lane Ramp (Interstate)	Source
Context Classification	N/A		FDM Table 200.4.1 (Limited Access)
Design Year	2045		PTAR
Design Speed	60 mph (Flush Shoulder)		FDM Table 201.5.1
Design Vehicle	WB-62FL		FDM Section 201.6
HORIZONTAL ALIGNMENT			
Maximum Superelevation	0.10		FDM Table 210.9.1
Maximum Curvature	5º15'		FDM Table 210.9.1
Maximum Curvature w/o Superelevation	0º15'		FDM Table 210.9.1
Max. Deflection w/o Horizontal Curve	0º 45' 00"		FDM Section 211.7.1
Minimum Length of Horizontal Curve	1800' Desirable	900 ft Minimum	FDM Table 211.7.1
Superelevation Rate	1:225	1:200	FDM Table 210.9.3
VERTICAL ALIGNMENT			
Maximum Grade	4.00%		FDM Table 211.9.1
Minimum Grade	0.30%		FDM Section 210.10.1.1
Minimum Distance Between VPI's	N/A		FDM Section 210.10.1.1
Min. K Value for Crest Vertical Curves	245		FDM Table 211.9.2
Min. K Value for Sag Vertical Curves	136		FDM Table 211.9.2
Minimum Vertical Curve Length	Crest: 400 ft	Sag: 300 ft	FDM Table 211.9.3
Minimum Stopping Sight Distance	570 ft		FDM Table 211.10.1
Max. Change in Grade w/o Vertical Curve	0.40		FDM Table 210.10.2
Roadway Base Clearance	3 ft (Minimum)		FDM Section 210.10.3
ROADWAY CROSS SECTION			
Lane Widths	15 ft	12 ft	FDM Section 211.2
Cross Slopes (Roadway)	2% two inside lanes, 3% outside lane		FDM Figure 211.2.1
Cross Slopes (Shoulder)	Outside 6%, Inside 5%		FDM Section 211.4.2
Median Width (Minimum)	64 ft	64 ft	FDM Table 211.3.1
Shoulders: Outside	Full Width 6 ft, Paved 4 ft	Full Width 12 ft, Paved 10 ft	FDM Table 211.4.1
Shoulders: Median	Full Width 6 ft, Paved 2 ft	Full Width 8 ft, Paved 4 ft	FDM Table 211.4.1
Sidewalk Width	N/A	N/A	N/A (Limited Access)
Clear Zone	36 ft (Mainline)	24 ft (Aux Lane)	FDM Table 215.2.1
Lateral Offset	36 ft (Outside CZ)		FDM Table 215.2.2
Front Slopes	1:6 to edge of CZ, then 1:4, 1:3, or 1:2 w guardrail (based on fill height)		FDM Table 215.2.3
Back Slopes	1:4 or 1:3 w std. width trapezoidal ditch & 1:6 front slope		FDM Table 215.2.3
Minimum Border Width	94 ft		FDM Section 211.6
Access Classification	1		FDM Table 201.4.1
Minimum Level of Service (LA Facility)	C		PTAR
SOURCE: *FDOT Design Manual* (FDM), January 2021; *PTAR*			

Drainage and Stormwater Management Design Criteria: The design of SMFs and FPCs for this proposed project are governed by rules and criteria set forth by the FDOT, SWFWMD, and Florida Department of Environmental Protection (FDEP). The specific governing requirements from each agency are outlined in the *PSR* related to:

- FDOT Criteria (water quality, compensatory treatment, water quantity, stormwater management facilities, environmental look arounds, nutrient loading analysis)
- SWFWMD Criteria (water quality, overtreatment, off-site compensation, water quantity, floodplain encroachment)

SECTION 5 ALTERNATIVES ANALYSIS

5.1 NO-BUILD/REHABILITATION/REPAIR ALTERNATIVE

The No-Build Alternative would not construct any improvements along I-75 except for routine maintenance that may be planned in the future. The No-Build Alternative requires no additional expenditure of funds, requires no acquisition of additional ROW, and has no environmental impacts. However, the No-Build Alternative fails to fulfill the project's purpose and need and fails to meet the goals of the Hillsborough Metropolitan Planning Organization (MPO) and Pasco County MPO Long Range Transportation Plans (LRTP). The No-Build Alternative will remain a viable alternative throughout the study process and serve as the basis of comparison for the Build Alternatives.

5.2 TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS ALTERNATIVE

The objective of Transportation System Management & Operations (TSM&O) is to identify strategies with the operational objective of preserving the capacity and improving the security, safety, and reliability of the transportation system, while minimizing all environmental impacts. These strategies may include upgrades or additions to the existing facility, such as ramp signals, arterial traffic management systems, traffic incident management, work zone traffic management, road weather management, traveler information services, congestion pricing, parking management, traffic control, commercial vehicle operations, transit priority signals systems, and freight management.

For this proposed project, it was determined that the traffic operation improvement needs cannot be provided solely through the implementation of TSM&O improvements.

5.3 MULTIMODAL ALTERNATIVE

As noted in **Section 2.6**, there are no transit routes along I-75 or I-275 in the project limits. While a regional transit alternative could have the potential to improve traffic operations in the distant future, this alternative would fail to fulfill the purpose and need for the proposed project within the study area. Therefore, a transit alternative was not considered as a standalone solution for the expected future transportation demand deficiencies within the study area. Both I-75 and I-275 are limited access facilities, so no accommodations for pedestrians and bicycles are contemplated.

5.4 BUILD ALTERNATIVES

The following steps were utilized to develop and evaluate viable alternatives:

- Base concept plans were prepared using all available data, including county GIS data, as-built plans, FDOT ROW maps, and subdivision plats.
- Initial planning level alignment configuration options were developed to eliminate the southbound traffic weave between the SR 56 on-ramp and I-75/I-275 diverge.
- An alternative alignment was refined considering geometric complexity, lane continuity, impact to existing bridge structures, new bridge location and additional ROW needs.

- The required number of lanes was confirmed based on the traffic analysis summarized in **Section 3.**
- Alternative SMFs and FPCs were developed and evaluated.
- Potential impacts to environmental resources were assessed.
- A Preferred Alternative was selected.

5.4.1 Configuration Options Considered

Prior to the initiation of this PD&E Study, FDOT undertook a planning level evaluation of operational improvements to eliminate the existing weave between the southbound I-75/I-275 diverge and the on-ramp from SR 56 through the introduction of a three-lane C-D Road. The C-D Road begins from the southbound SR 56 on-ramp and distributes to I-75 and I-275 downstream of the existing I-75/I-275 diverge point. **Figure 5-1** schematically shows two alternative configurations developed in that initial planning evaluation. A more detailed layout of these two alternative configurations is included in the project files.

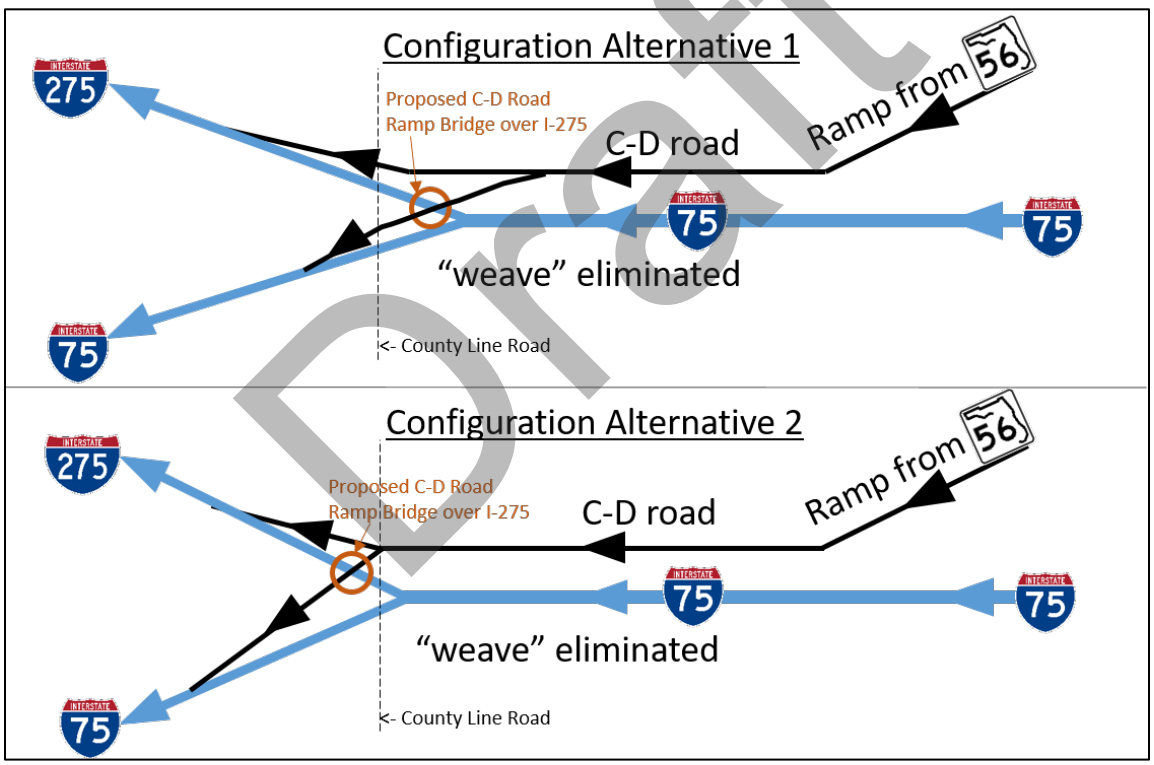


Figure 5-1 Initial Planning Level Configuration Alternatives 1 and 2

Configuration Alternative 1

Configuration Alternative 1 provides for a split in the three-lane southbound C-D Road lanes with two lanes continuing in a ramp to I-275 and two lanes continuing in a ramp to I-75 which then narrow to one-lane approximately 1,800 feet south of the diverge point. **Figure 5-2** shows the diverges for both the C-D Road and for I-75/I-275.

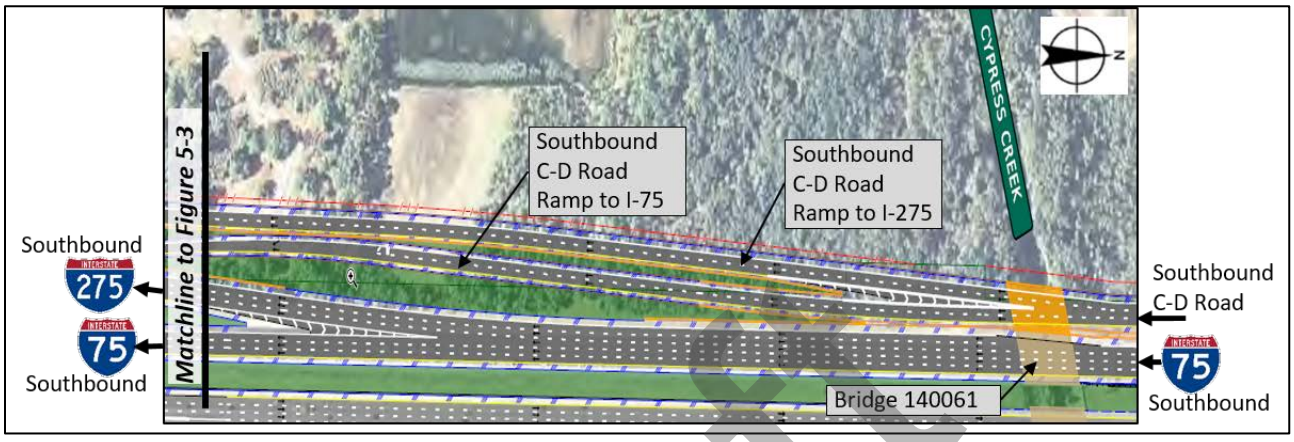


Figure 5-2 Alternative 1-Diverge Points for C-D Road & I-75/I-275

(Figure 5-2 is not to scale and compressed horizontally to fit on page)

A new bridge carrying the C-D Road ramp to I-75 over the southbound I-275 lanes is situated north of the existing County Line Road bridge overpass (Bridge 100492). **Figure 5-3** shows the County Line Road overpass bridge in relation to the proposed C-D Road bridge. In order to gain the sufficient crossing angle of this C-D Road bridge overpass, the C-D Road alignment was shifted further west starting near the I-75 bridge over Cypress Creek (Bridge No. 140061).

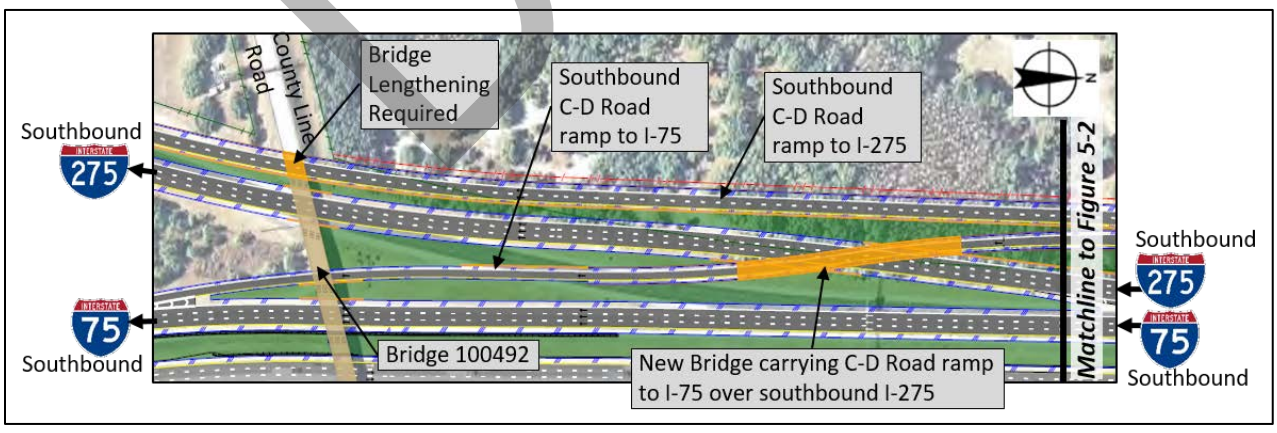


Figure 5-3 Alternative 1–C-D Road Ramp Bridge over I-275 & County Line Road Bridge

(Figure 5-3 is not to scale and compressed horizontally to fit on page)

The acute crossing angle of the C-D Road ramp to I-75 over southbound I-275 resulted in a bridge length of approximately 600 feet. An additional span would needed for the existing bridge carrying County Line Road over I-275 (Bridge No. 100492) for the C-D Road ramp to I-275 to fit under the

overpass structure. This additional span would be added to the west of the existing bridge abutment. From a vertical alignment perspective, the C-D Road ramp to I-75 would need to be raised to cross over the southbound I-275 lanes and then lowered to fit under the County Line Road overpass bridge. The distance between these two crossing locations is approximately 1,300 feet.

Configuration Alternative 2

Configuration Alternative 2 differs from Alternative 1 in that it provides for a split in the three-lane southbound C-D Road lanes with two lanes continuing in a ramp to I-275 and only one-lane continuing in a ramp to I-75. The split occurs south of the existing County Line Road Bridge overpass (Bridge No. 100492). Unlike Configuration Alternative 1, the C-D Road alignment does not need to be shifted further west near the I-75 bridge over Cypress Creek (Bridge No. 140061). Thus, Alternative 2 would require less ROW than Alternative 1.

The crossing angle of the C-D Road overpass bridge is not as acute and thus the bridge length is shorter (approximately 400 feet). In this alternative, the bridge carrying County Line Road over I-275 (Bridge No. 100492) would not need to be lengthened for the C-D Road ramp to I-275 to fit under the overpass structure. The southbound I-275 lanes would be realigned to the east and could fit under a middle span of the County Line Road bridge. From a vertical alignment perspective, the C-D Road ramp to I-75 would need to be raised quickly after passing under the County Line Road bridge to cross over the southbound I-275 lanes. The distance between these two crossing locations is approximately 700 feet. **Figure 5-4** shows the diverges for both the C-D Road and for I-75/I-275.

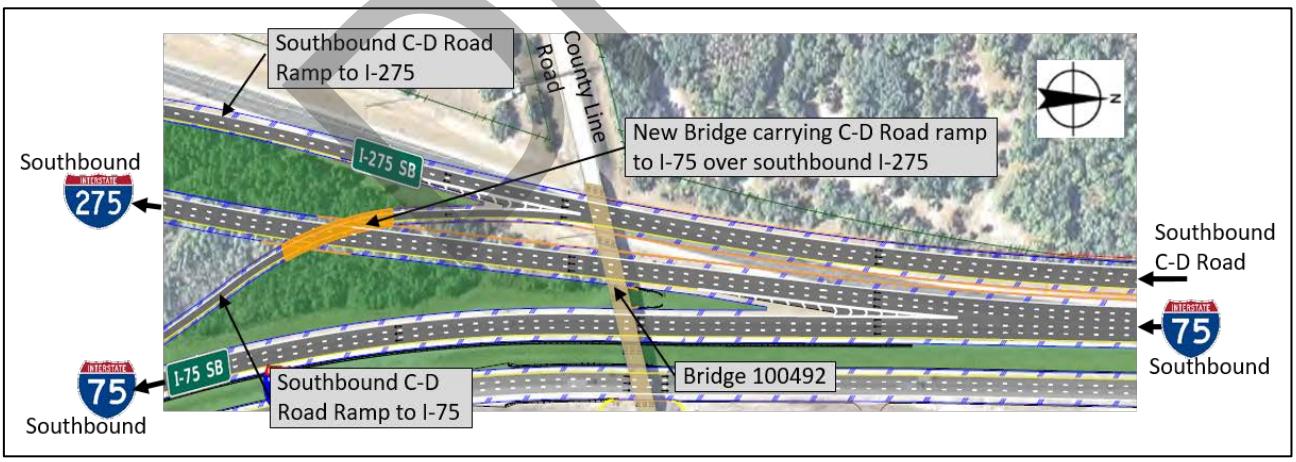


Figure 5-4 Alternative 2-Diverge Points for C-D Road & I-75/I-275

(Figure 5-4 is not to scale and compressed horizontally to fit on page)

In Alternative 2, the C-D Road ramp to I-75 joins I-75 further south than in Alternative 1 and would require the bridge carrying northbound I-275 over I-75 (Bridge No. 100411) to be lengthened, by moving the southern abutment further to the southwest so the additional ramp lane can fit under the

bridge. This is an existing curved steel girder bridge, so extending this bridge may not be easily constructed without replacing the entire bridge superstructure.

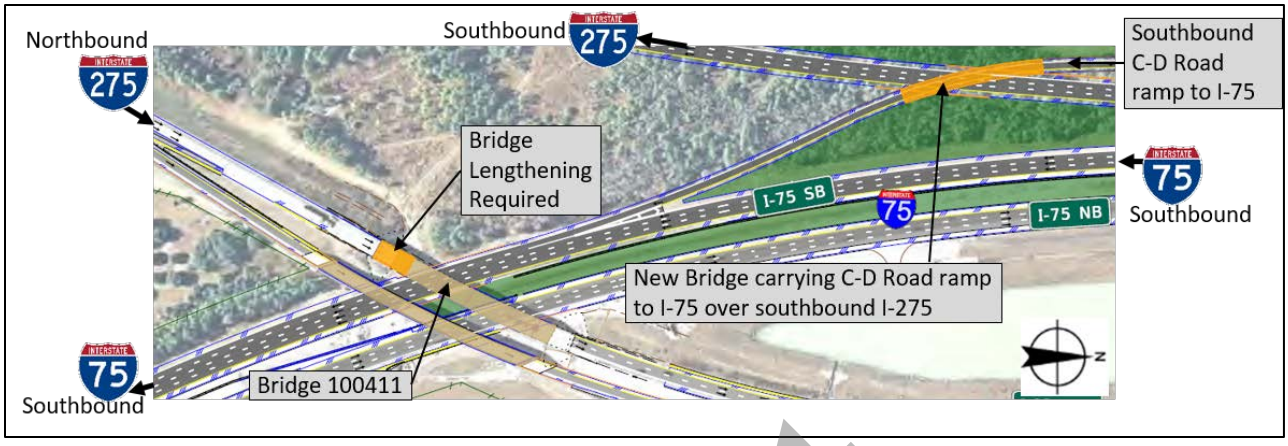


Figure 5-5 Alternative 2–C-D Road Ramp Bridge over I-275 & Northbound I-275 Bridge

(Figure 5-5 is not to scale and compressed to fit on page)

Based on the planning level evaluation, Alternative 1 was dropped from further consideration. Reasons for dropping Alternative 1 were based on Alternative 1 requiring more ROW, a longer and more acutely skewed new bridge carrying the C-D Road ramp to I-75 over southbound I-275, more widening (or a wider new bridge) required for the I-75 bridge over Cypress Creek (Bridge No. 140061), and the County Line Road bridge (Bridge No. 100492) would need to be lengthened.

Alternative 2 was selected to move forward for further evaluation and refinement and was renamed as Alternative 2A for comparison of further refinements.

Configuration Alternative 2B (refinement of Alternative 2A)

The horizontal alignment for Configuration Alternative 2A was refined in order to avoid lengthening the northbound I-275 bridge over I-75 (Bridge No. 100411), and to provide for better vertical alignments and shorter bridge lengths. These refinements resulted in Configuration Alternative 2B. See **Figure 5-6** showing a schematic of both Alternative 2A and Alternative 2B for comparison.

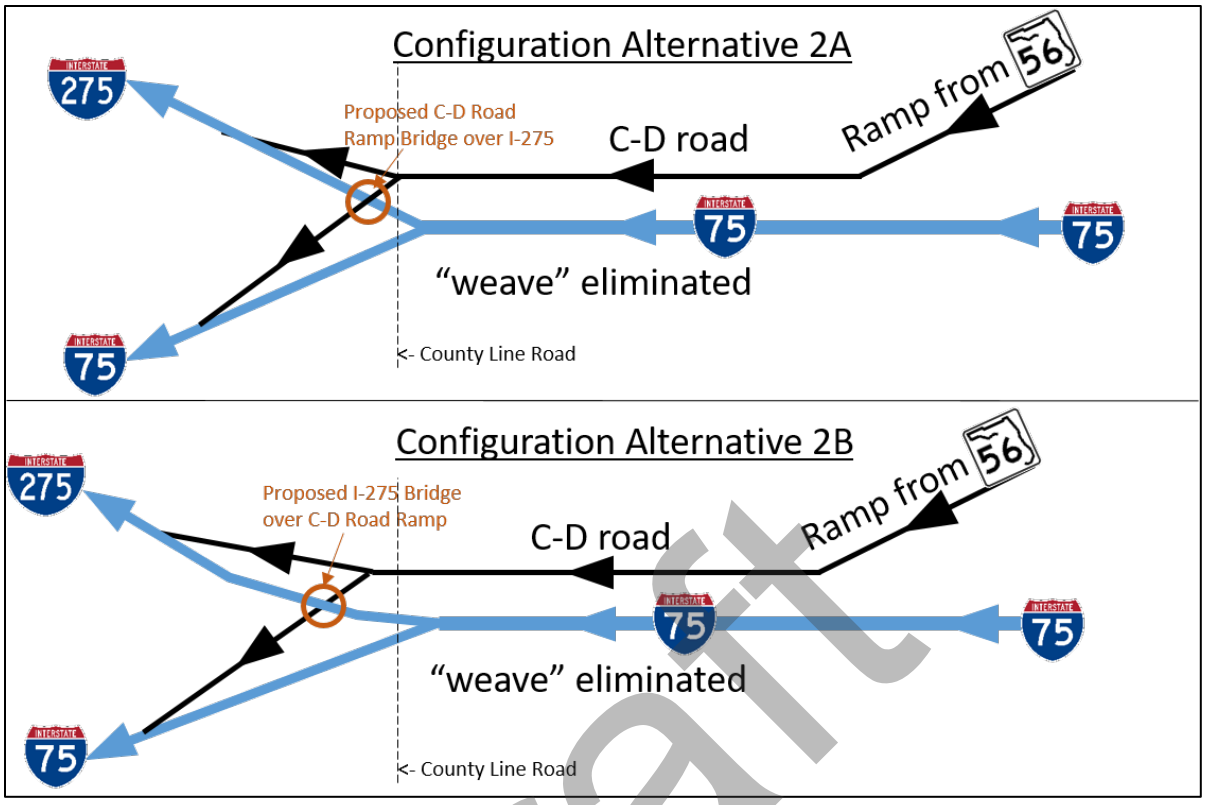


Figure 5-6 Configuration Alternatives 2A and 2B

Several refinements were developed for Alternative 2B. First, the alignment for the southbound I-275 lanes was shifted slightly to provide for a slightly less acute crossing angle for the C-D Road/I-275 bridge (approx. 72 degrees from perpendicular) and slightly longer distance from the County Line Road bridge (Bridge No. 100492) at approximately 1,000 feet. The stacking of this new bridge was also reversed so the I-275 lanes would cross over the C-D Road ramp to I-75. **Figure 5-7** shows the C-D Road diverge point and new bridge carrying southbound I-275 over the C-D Road ramp to I-75.

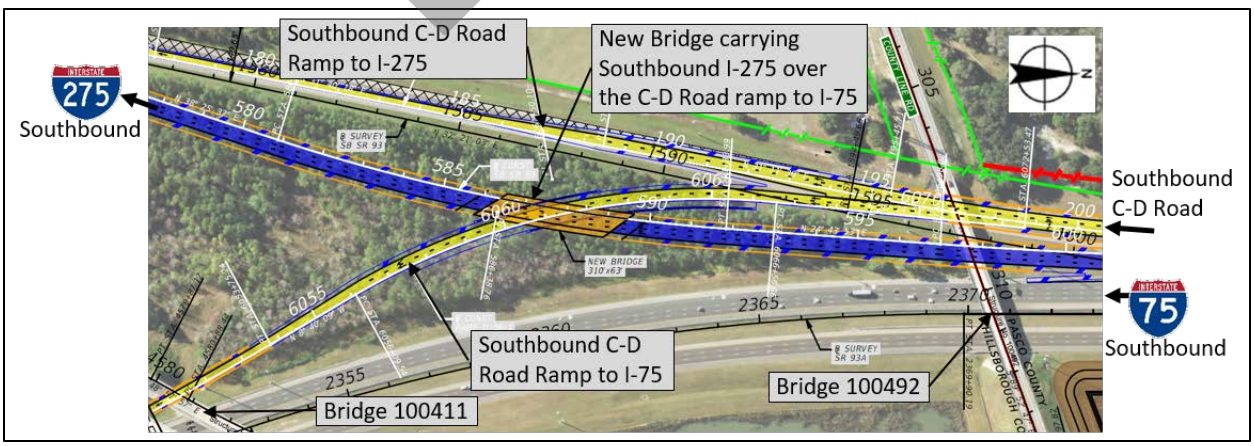


Figure 5-7 Alternative 2B–C-D Road Diverge & New I-275 Bridge over C-D Road Ramp

(Figure 5-7 is not to scale and compressed to fit on page)

In order to maximize driver horizontal sight distance on the C-D Road ramp, the inside shoulder width is widened approaching and under the bridge. These refinements result in a shorter bridge length than for Alternative 2A at approximately 310 feet. The alignment of the C-D Road ramp to I-75 was also adjusted so it can fit under the first span of the northbound I-275 bridge over I-75 (Bridge No. 100411), eliminating the need to extend or replace this structure at this time. In order to meet lane balance criteria, the C-D Road ramp to I-75 was widened to two lanes at the southbound C-D Road diverge to I-75 and I-275. This allows for the middle C-D Road lane to become a "choice lane" with an option to connect to either southbound I-275 or southbound I-75. The second lane on the C-D Road ramp to I-75 is extended past the new southbound I-275 overpass bridge, downstream of the diverge point. The tie-in point of the C-D Road ramp to I-75 is shifted south of that in Alternative 2A, but can connect to I-75 prior to the bridge carrying I-75 over Cypress Creek (Bridge No. 100412).

The FDOT is currently undertaking a PD&E Study to add managed lanes to I-75 from south of US 301 to north of Bruce B. Downs (WPI Segment No. 419235-3). This study presently provides for the proposed managed lanes to be added to the median of I-75. The northern limit of WPI Segment 419235-3 is south of this PD&E Study. However should these proposed managed lanes be contemplated for extension further north in the future through the limits of this study, the refinements made in Alternative 2B may not require substantial reconstruction.

The location of the southbound C-D Road was shifted to the west to better accommodate the potential for future managed lanes. This allows a new bridge over Cypress Creek to be built adjacent to Bridge No. 140061, rather than widening Bridge No. 140061. **Figure 5-8** shows the new proposed bridge carrying the southbound C-D Road over Cypress Creek.

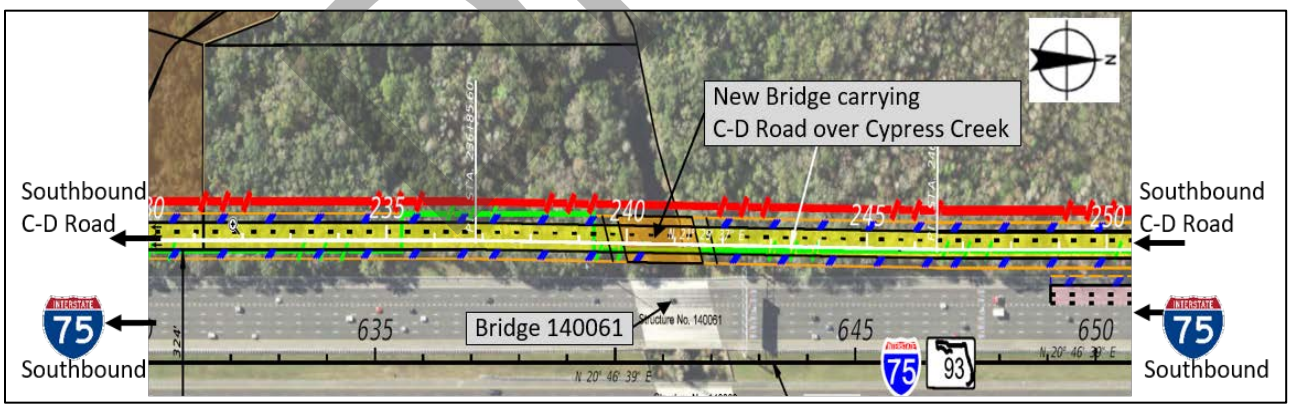


Figure 5-8 Alternative 2B–New C-D Road Bridge over Cypress Creek

(Figure 5-8 is not to scale and compressed to fit on page)

Constructing the C-D Road further west will facilitate safer maintenance of traffic as the existing southbound I-75 lanes can remain open during most phases of construction rather than potentially closing the outside right-most lane for widening the pavement. Alternative 2B is shown in more detail on the Concept Plans in **Appendix A**.

After coordination with FDOT staff, it was determined that Alternative 2A be dropped from further consideration and Alternative 2B be carried forward as the Preferred Build Alternative for further engineering and traffic evaluation and environmental impact assessment.

5.4.2 Typical Roadway Sections

Figure 2-5 showed the existing typical section for southbound I-75 between the I-75/I-275 diverge and the on-ramp from SR 56. As noted in **Section 5.4.1**, I-75 lanes will remain the same in this location and a three-lane C-D Road will be constructed to the west. **Figure 5-9** shows the proposed roadway typical section in this area. To facilitate stormwater conveyance, concrete ditch pavement may be constructed between the walls for southbound I-75 and the C-D Road in lieu of the miscellaneous asphalt.

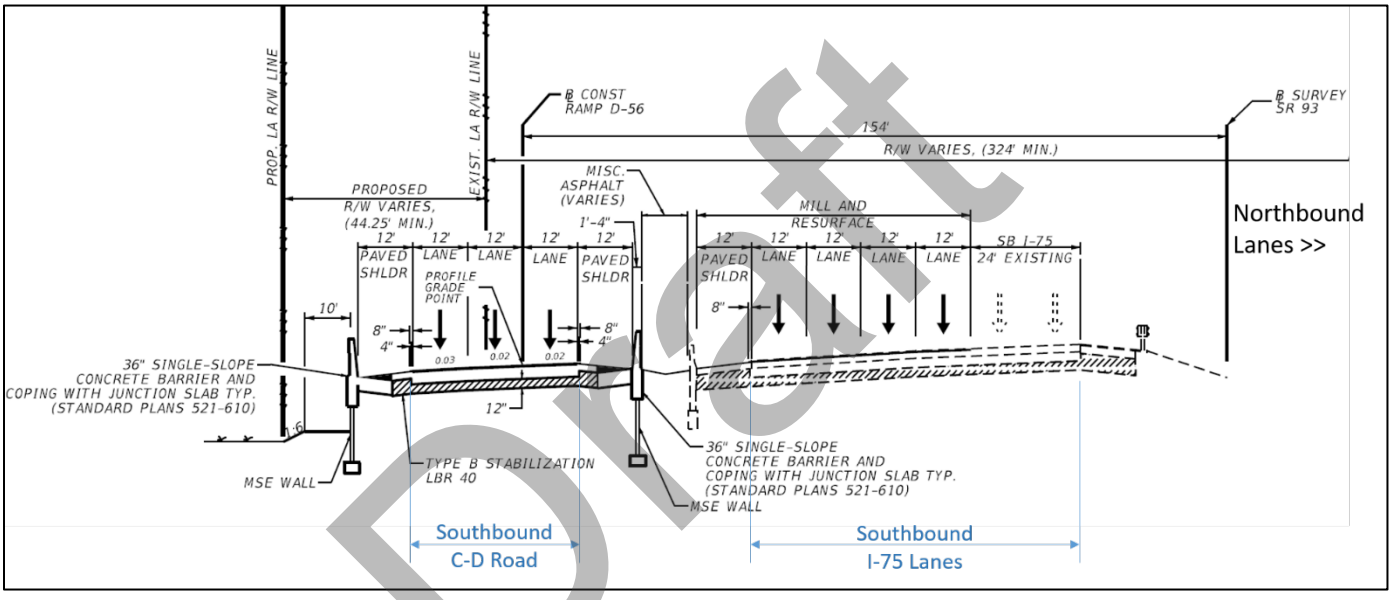


Figure 5-9 Proposed Typical Section along Southbound I-75

The proposed typical section for I-75 shown in **Figure 5-9** is included in **Appendix E** with other proposed typical sections including:

- Southbound I-275 from C-D Road ramp connection to I-75/I-275 diverge (3-lanes)
- Southbound C-D Road ramp to I-275 (2-lanes and 1-lane)
- Southbound C-D Road ramp to I-75 (2-lanes and 1-lane)
- Southbound I-75 south of C-D Road ramp connection (4-lanes)

5.4.3 Proposed Horizontal Alignments

Table 5-1 lists the horizontal alignments and the corresponding curve data for the Preferred Build Alternative. More details of the horizontal alignment including the point of curvature (PC) and point of tangent (PT) of the curves are shown on the Concept Plans in **Appendix A**.

Table 5-1 Proposed Horizontal Curves

Curve #	Curve Direction	Point of Inter-section (PI) Location	Degree of Curve	Curve Length (Ft)	Est. Design Speed (MPH)	Superelevation
I-275 Southbound						
1	Right	565+26.94	0° 31'	1163	70	RC
2	Left	586+38.76	1° 15'	1096	70	0.046
3	Left	601+46.37	0° 21'	896	70	NC
C-D Road Ramp to I-275 and C-D Road Southbound						
1	Left	169+42.70	0° 19'	915	60	NC
2	Left	200+82.37	0° 58'	1070	60	0.030
3	Left	276+29.41	1° 30'	914	60	0.043
C-D Road Ramp to I-75						
1	Left	6049+25.23	0° 28'	900	60	NC
2	Right	6061+50.10	3° 21'	1047	60	0.084

RC = Reverse Crown, NC = Normal Crown

5.4.4 Structure Alternatives

There are two new bridge structures with the Preferred Alternative. They are shown on the Concept Plans in **Appendix A** with an orange shading. Below is a description of these new bridge structures.

New Bridge carrying Southbound I-275 over C-D Road Ramp to I-75

This new bridge structure is located between I-75 and I-275 south of County Line Road overpass bridge. This structure carries southbound I-275 (3 lanes) over the C-D Road ramp to I-75 (2-lanes). **Figure 5-10** shows a plan view layout of the new bridge from the Concept Plans in **Appendix A**.

The bridge width is approximately 63 feet as it carries three lanes at 12 feet each, outside and inside shoulders at 12 feet each and parapet walls. The horizontal alignment for I-275 is in curvature, with a degree of curve of 1° 15' (radius approximately 4,584 feet) and superelevation at approximately 0.046 as shown in **Table 5-1**. The proposed width of the crossing C-D Road ramp is approximately 59 feet with two lanes at 12 feet each, inside and outside shoulders at 16-12 feet each respectively and a single faced barrier wall. The C-D Road ramp is also not tangent, with a degree of curve of 3° 21' (radius of approximately 1,710 feet) and a superelevation of approximately 0.039. The intersecting angle of the tangents of these two horizontal curves is approximately 72 degrees from perpendicular at intersection of the baselines of both roadways. The vertical clearance critical point based on horizontal geometry with the lowest point of superelevation of I-275 and the highest point of superelevation of the C-D Road ramp is the east side of the bridge where the outside shoulder of the C-D Road passes under the outside shoulder of I-275. The overall bridge is assumed to be approximately 310 feet in length, for a total bridge deck area of approximately 19,530 square feet.

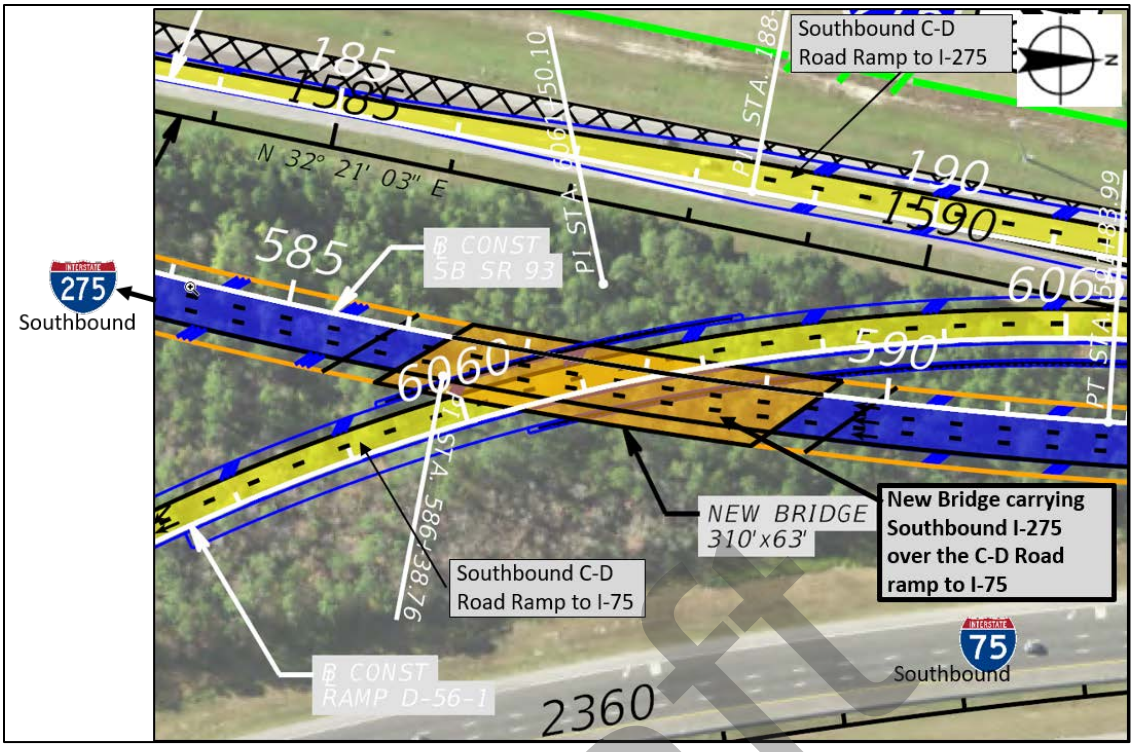


Figure 5-10 New Bridge-I-275 over C-D Road Ramp to I-75

<u>New Bridge carrying Southbound C-D Road over Cypress Creek (adjacent to Bridge No. 140061)</u>

This new bridge structure is located west of the I-75 southbound lanes and north of County Line Road overpass bridge. This structure carries the southbound C-D Road (3 lanes) over Cypress Creek. **Figure 5-11** shows a plan view layout of the new bridge from the Concept Plans in **Appendix A**.

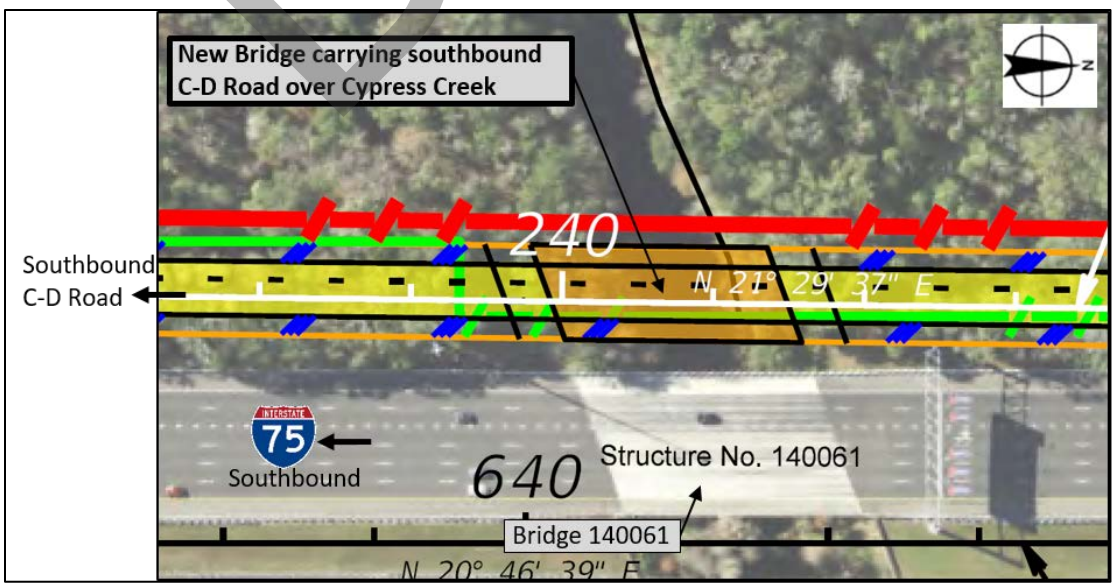


Figure 5-11 New Bridge-Southbound C-D Road over Cypress Creek

The proposed bridge width is approximately 63 feet which includes three lanes at 12 feet each, outside and inside shoulders at 12 feet each and parapet walls. The horizontal alignment for the C-D Road is in tangent. The bridge length and skew angle is assumed to be similar to that of Bridge No. 140061 which also crosses over Cypress Creek approximately 10 feet east of this new bridge. Bridge No. 140061 is a three-span bridge (approx. 52 foot long spans) and a skew angle of 20 degrees. Depending on the survey data collected and bridge hydraulics that will be determined during the design phase, the vertical clearance over Cypress Creek and span arrangement for the new bridge is anticipated to be similar to Bridge No. 140061 to minimize any impacts with flows of Cypress Creek. The total bridge deck area is approximately 9,830 square feet.

Modifications to Bridge No. 100411

In order for the C-D Road ramp to I-75 to be constructed, the slopewall of the south approach span to Bridge No. 100411 which carries northbound I-275 over I-75 will need to be removed. The alignment for the C-D Road ramp has been developed to fit under this bridge span between the abutment and the hammerhead pier. **Figure 5-12** shows a ground level photo of this span courtesy of Google street view looking south from the southbound I-75 lanes at approximately station 2353+00 for reference. The existing slopewall is located just to the right of the I-75 sign behind the guardrail.

Figure 5-12 Bridge-No. 100411 Showing Slopewall to be Removed

Retaining Walls

New retaining walls are proposed and shown with an orange line on the Concept Plans in **Appendix A**. The lengths will be determined when survey data is collected on the elevation of existing ground surfaces and when horizontal and vertical alignments for the adjacent roadways have been determined in greater detail.

5.4.5 Drainage and Floodplain Considerations

This section documenting the preferred drainage and floodplain considerations was extracted from the *PSR* where additional details are provided related to the calculations and alternative means of addressing the stormwater treatment and attenuation needs as well as floodplain compensation requirements of the Preferred Alternative. Minutes from the Pond Siting Long Listing Meeting held on 9/16/20 are included in **Appendix D**. The existing drainage basins and floodplain conditions are documented in **Section 2.15**.

Stormwater Management Requirements

As stated in the existing permits, Basins I, J1, and J2 were modeled such that the entire contributing area within the I-75 right of way is considered impervious area. Basin 800A was not modeled this way and instead considered both impervious and pervious areas. Therefore, the runoff from all new impervious area within Basin 800A requires water quality treatment and discharge attenuation. The other three basins will require discharge attenuation and water quality treatment only if the construction associated with the build alternative is outside of the existing I-75 right of way.

All construction associated with the Preferred Build Alternative occurring in Basin I is within the existing I-75 right of way, thus no additional treatment or attenuation is required for this basin. Construction of the build alternative will require right of way expansion within basins J1 and J2. The boundaries of these basins will expand under proposed conditions to the proposed right of way. To maintain the original modeling assumptions, these two basins, under proposed conditions, will continue to treat all contributing area within the proposed I-75 right of way as impervious area. Therefore, the area between the existing and proposed rights of way will be considered entirely impervious area and will require discharge attenuation and water quality treatment. The estimated required additional stormwater management volumes for the four basins are given in **Table 5-2**.

Table 5-2 Stormwater Management Requirements

Basin No.	Permitted Basin Name	Estimated Required Additional Water Quality Treatment (ac-ft)	Estimated Required Additional Discharge Attenuation Volume (ac-ft)	Estimated Required Additional Stormwater Management Volume (ac-ft)
1	I	0	0	0
2	800A	0.33	0.27	0.60
3	J1	0.09	1.02	1.11
4	J2	0.54	4.33	4.87

To avoid both wetland impacts and acquisition of property for stormwater management, conversion of existing SMFs to conservation method wet detention ponds is recommended, where feasible. Each basin and its associated Stormwater Management Facility (SMF) is described in more detail in Section 4.3 of the *PSR*.

Floodplain Compensation Requirements

Construction of the C-D Road will require fill to be placed within the floodplains to the west of I-75. Five floodplains associated with the Cypress Creek Watershed will be impacted by the build alternative. These encroachments are listed in **Table 5-3**, and shown in Figure B-6 of Appendix B of the *PSR*.

Table 5-3 Potential Floodplain Encroachments

Floodplain Encroachment	Cypress Creek Watershed Subbasin	Project Floodplain Limits	Base Flood Elev. (ft-NAVD)	Estimated Floodplain Encroachment Area (ac)	Estimated Floodplain Encroachment Volume (ac-ft)
1	M3860	Sta.2372+00 to Sta. 620+00	49.1	0.78	1.41
2	M2920	Sta. 620+00 to Sta. 627+00	49.1	0.44	0.38
3	M2940	Sta. 627+00 to Sta. 635+00	50-52	1.22	4.46
4	M2960	Sta 642+00 to Sta. 686+00	50-51	0.55	1.61
5	M2950	Sta. 635+00 to Sta. 642+00	49.7	2.09	7.65

For encroachments 1, 2, and 3, compensation has been provided on a cup-for-cup basis. The FPC sites provide cut equivalent to the fill at the encroachment site between the seasonal high water table (SHWT) and the base flood elevation (BFE). For encroachments 4 and 5, compensation can be provided at one of two alternative sites located upstream of the impacted floodplains. This has been evaluated and deemed feasible by developing existing conditions and post conditions Cypress Creek Watershed Models, the results of which can be found in Appendix C of the *PSR*. The SHWT elevation varies throughout the project limits. Refer to Appendix E of the *PSR* for SHWT elevations provided in the existing ERPs. SHWT elevations not provided in the existing permits were estimated using the 2011 LiDAR elevation data in conjunction with the site's soil data. A SHWT elevation evaluation should be performed at the time of design.

Each floodplain encroachment and associated alternative FPC is described in more detail in Section 4.4 of the *PSR*.

Recommended Stormwater Management and Floodplain Compensation Sites

Table 5-4 presents a site matrix indicating the preferred SMF and FPC alternatives. All of these sites are shown on the Concept Plans in **Appendix A**. Right of way acquisition will not be required for any of the stormwater management facilities. The stormwater management requirements can be achieved through the modification of three existing stormwater management facilities and construction of a new SMF within existing right of way. FPC-1 and FPC-2 will require a single site to be acquired from a privately owned parcel (Parcel ID: 34-26-19-0000-00100-0000). FPC-3A would

require land to be acquired from within the same parcel. FPC-3B would require a smaller area of land to be acquired from the aforementioned parcel in addition to the total acquisition of parcel 34-26-19-0000-00100-0060, both of which are owned by the same entity. FPC-3B is the preferred alternative due to its ease of access adjacent to the I-75 right of way, and because of the potential for future developments at the location of FPC-3A. There are no wetland impacts or relocations of businesses or residential units required for and of the SMF or FPCs.

Table 5-4 Stormwater Management and Floodplain Compensation Sites

Site Name	Site Area (Ac)	Wildlife and Habitat	Contamination	Cultural Resources	Est. Construction Cost	Est. Right of Way Cost	Est. Total Cost
SMF J1-1	1.82	Low	None	Low	$56,000	N/A	$56,000
SMF J1-2	3.65	Low	None	Low	$141,000	N/A	$141,000
SMF J2	10.59	Low	None	Low	$850,000	N/A	$850,000
SMF 800A-1	1.40	Low	None	Low	$119,000	N/A	$119,000
FPC-1*	1.41	High	None	Low	$70,000	$125,000	$235,000
FPC-2*	0.76	Medium	None	Low	$40,000		
FPC-3B	9.43	Low	None	Low	$545,000	$877,000	$1,422,000

* FPC-1 and FPC-2 will be located adjacent to each other on one site
Construction costs estimated January 2021, ROW costs estimated March 2021

5.5 CONSTRUCTION AND RIGHT OF WAY COSTS BY COUNTY

Table 5-5 shows the estimated construction and right of way acquisition costs for the Build Alternative separated by county for work programming and coordination purposes. The construction costs are based on the FDOT's LRE cost estimating system as of March 2021. The ROW costs are based on FDOT estimates prepared as of March 2021. The wetlands mitigation cost is based on an estimate of $250,000 per acre of impact.

Table 5-5 Estimated Construction and Right of Way Costs by County

Estimated Costs Present Day Costs in $ Million Rounded to the Nearest 0.1 Million $	Pasco County Segment 430573-2	Hillsborough County Segment 430573-3	Total Project
Construction of Roadway, Bridges and Ponds	$39.0	$23.8	$62.8
Right of Way for I-75 Roadway Widening	$0.8	$0	$0.8
Right of Way for Stormwater Ponds and Floodplain Compensation Site	$1.0	$0	$1.0
Wetlands Mitigation (5.82 acres)	$1.5	$0	$1.5
Design and Construction Inspection (20% of construction)	$7.8	$4.8	$12.6
Total Project Estimated Costs	**$50.1**	**$28.6**	**$78.7**

5.6 ENVIRONMENTAL IMPACT EVALUATION OF ALTERNATIVES

There are no direct environmental impacts with implementing the No-Build Alternative. Anticipated environmental impacts for implementing the Preferred Build Alternative are documented in detail in technical reports listed in **Section 2.18** and summarized in the *Type 2 Categorical Exclusion*. Below is a description of these impacts.

5.6.1 Social and Economic Impacts

Social and economic effects are anticipated to be minimal. There are no planned changed to land use nor aesthetics. Economic conditions may be enhanced through the enhanced freight mobility. There is no involvement with farmland resources as defined by 7 Code of Federal Register (CFR) Part 658. There are no residential nor business relocations anticipated as part of the proposed right of way acquisition.

Mobility is anticipated to be enhanced for all motorized vehicles including freight through the improved safety of the corridor through improved operation of the facilities and elimination of the traffic weave.

5.6.2 Cultural Resource Impacts

As documented in the *Cultural Resources Assessment Survey* (*CRAS*) and *CRAS Pond Technical Memorandum*, potential resources were identified within the project area of potential effect, however the preferred build alternative will have no adverse effect on cultural resources listed or eligible for listing in the National Register of Historic Places. The State Historic Preservation Officer (SHPO) concurred with the findings on June 8 and 24, 2021.

There are no properties within the project area that are protected pursuant to *Section 4(f) of the USDOT Act of 1966*, *Section 6(f) of the Land and Water Conservation Fund of 1965*, nor other recreational or protected lands.

5.6.3 Natural Resource Impacts

The *NRE* documented all potential involvement of species and wetlands within the project area. The project will not have significant impacts to natural resources. There are several listed species that may be present or their habitat may be present, but the effect determination of either no affect or may affect, not likely to affect was made for these species including the following Federal Listed faunal and floral species: eastern indigo snake, eastern black rail, and wood stork. A no adverse effect is anticipated for the following State Listed faunal and floral species: gopher tortoise, southeastern American kestrel, Florida sandhill crane, roseate spoonbill, little blue heron, tricolored heron Brooksville bellflower, pygmy fringe-tree and Cooley's water willow.

The project would result in approximately 5.82 acres of wetland and 0.25 acres of surface water impacts with the Preferred Build Alternative. Impacts are planned to be mitigated through the

purchase of wetland mitigation credits through an approved mitigation bank, or creation, restoration or enhancement of wetlands within the project watersheds

As documented in the *LHM* and the *PSR*, the Preferred Build Alternative is estimated to have little to no impact to the floodplains. All fill placed below the base flood elevations of the impacted floodplains will be compensated for with equivalent cut volume, and the natural floodplain values will be maintained. There will be no flood-related risks to highway users, highway infrastructure, or residents. A public notification for floodplain impacts will not be necessary.

Water quality findings are documented in the *Water Quality Impact Evaluation Checklist* and *the PSR*.

The Cypress Creek is a tributary of the Hillsborough River, which is classified as an OFW. The bridge height for the new bridge I-275 southbound is anticipated to be constructed to provide at least the same vertical clearance as the existing US 301 bridge. The proposed bridge piers are anticipated to align with the existing bridge piers or be designed to span the creek so as not to impede the creek's free-flowing condition.

There are no essential fish habitat, aquatic preserves, wild and scenic rivers or coastal barrier resources in the project area.

5.6.4 Physical Environment Impacts

The *Contamination Screening Evaluation Report* documented the presence of potential contamination sources. Out of the seven sites considered to have potential contamination sources, no sites were rated as high or medium risk. One site was rated as low risk, with no further action required at this time. This site has potential to impact the study area, but based on select variables has been determined to have low risk to the corridor. There are minimal to no variables that may change the risk rating for this site due to the nature of the incident. Should any of these variables change, additional assessment of the site should be conducted.

There are no sites adjacent to the project limits that would warrant an evaluation for noise, so no noise impacts are anticipated that would justify evaluation of a potential noise barrier. The study area is located within an attainment area for air quality, thus no further evaluation for air quality was performed.

The proposed alignment for I-75 and the construction of the new C-D Road may have impacts to aerial electric, telephone and cable facilities and in-ground water, sewer, reclaimed water, and communication including fiber optic. Coordination of utility conflicts and relocations will take place during the design phase of this project.

Construction impacts are anticipated to be minimal. Through the retention of the existing I-75 bridges, the need for detour routing is minimal and a maintenance of traffic plan will be developed during the final design phase to safely maintain traffic and access to all businesses and residences to the maximum extent possible during construction. Construction activities for the proposed project will have temporary water quality, and traffic flow effects for the travelers within the immediate

vicinity of the project. These effects will be minimized through the application of the FDOT's *Standard Specifications for Road and Bridge Construction*.

5.7 EVALUATION MATRIX

The evaluation summary matrix comparing the project alternatives is shown in **Table 5-6**. This matrix was developed to compare the No-Build Alternative and the Preferred Build Alternative based on preliminary estimates of costs (ROW acquisition, wetland mitigation, engineering and construction), as well as, social and environmental factors. The data for the Build Alternative was developed based on the preferred alternative "footprint" along with base map information collected and prepared for this study. The construction cost estimates was prepared using the Department's LRE program.

Table 5-6 Evaluation Matrix of Project Alternatives

Evaluation Criteria	No-Build Alternative	Preferred Build Alternative
Potential Business Impacts		
Number of business relocations	0	0
Potential Residential Impacts		
Number of residential relocations	0	0
Potential ROW Impacts		
Number of affected parcels	0	4[1]
Area of ROW anticipated to be acquired for I-75 widening (acres)	0	8.1
Area of ROW anticipated to be acquired for Stormwater Ponds[2] and Floodplain Compensation Sites (acres)	0	10.7
Potential Environmental Effects		
Archeological/Historical sites	0	0
Section 4(f) sites	0	0
Noise sensitive areas	0	0
Wetlands that are not Other Surface Waters (acres)	0	5.82
Protected species involvement	None	Low
Petroleum and hazardous material sites	None	0 (High) 0 (Medium)
Estimated Costs[3] (Present Day Costs in $ Millions rounded to nearest 0.1 Million)		
Construction of Roadway, Bridges and Ponds	$0.0	$62.8
ROW for I-75 Roadway Widening	$0.0	$0.8
ROW for Stormwater Ponds and Floodplain Compensation Sites	$0.0	$1.0
Wetlands Mitigation	$0.0	$1.5
Design and Construction Inspection (20% of construction)	$0.0	$12.6
Total Project Estimated Costs	**$0.0**	**$78.7**

[1] One parcel includes both roadway and floodplain compensation sites

[2] No new ROW is required for Stormwater Ponds

[3] Construction cost based on LRE system prepared March 2021

5.8 PREFERRED ALTERNATIVE

The No-Build Alternative was determined as not achieving the purpose and need of the project. Therefore, the operational improvements included in Build Alternative 2B, also called the Preferred Build Alternative, as described **Section 5.4.1** and subsequent portions of **Section 5** was selected as the Preferred Alternative. Additional details of the Preferred Alternative are included in **Section 7**.

SECTION 6 PUBLIC INVOLVEMENT/PROJECT COORDINATION

A *Public Involvement Plan* was prepared at the onset of this PD&E Study to outline the public outreach efforts planned. A *Comments and Coordination Report* will be prepared after the planned public hearing opportunity which provides a description of all of the public involvement performed for this PD&E study. Below is a summary of pertinent public involvement efforts for this study.

6.1 OUTREACH EFFORTS

Various public involvement activities were conducted during the study:

- A **Project Website** (https://www.fdotd7studies.com/projects/sr56-ramps-to-i75-i275/) was developed and maintained throughout the study period. This website contained information about the study and served as a clearinghouse of information for the public pertaining the project details. The website also included a page where the public may submit a comment or request a meeting.
- A **Notice to Request a Public Hearing** will be placed in the local newspapers and in the Florida Administrative Register (FAR) in accordance with PD&E Manual Part 1, Chapter 11. If a public hearing is requested, notification will be provided to promote the public hearing and to encourage participation and receive public comments. See **Section 6.3** for additional details.

6.2 AGENCY AND STAKEHOLDER COORDINATION

Agency comments were received based on the initial findings provided in the *NRE* and coordination was conducted throughout the PD&E study process. FDOT is presently coordinating with the USFWS and FWC for review of the *NRE*. In addition, FDOT coordinated with the SHPO on the findings of the *CRAS* and *CRAS Pond Technical Memorandum*. SHPO concurred with the findings of these documents on June 8 and June 24, 2021 respectively. These agency concurrence and coordination letters will be found in Appendix A of the *Comments and Coordination Report*. Additional agency coordination included:

- This project was screened through the FDOT's ETDM process as ETDM Project No. 14330. The ETDM Programming Screen Summary Report was published on February 22, 2018, containing comments from the ETAT on the project's effects on various natural, physical, and social resources.
- A meeting was held with the Southwest Florida Water Management District (SWFWMD) on September 16, 2020 in order to discuss the project's environmental, water quality, and water quantity considerations. Meeting notes are included in **Appendix D**.

6.3 NOTICE OF OPPORTUNITY TO REQUEST A PUBLIC HEARING

In August 2021, a notification will be placed in local newspapers and in the FAR providing the public for an opportunity to request a Public Hearing. The content of the notice of Opportunity for the for the FAR and FDOT's Public Notices Website will include the following information:

1. An explanation of the opportunity notice
2. A project description
3. A statement on the type of studies accomplished and a list of places where study documents are available for public inspection
4. A statement that the request for a public meeting must be submitted in writing, and the date by which the request must be received
5. The name of the District contact person
6. The address where the request for a public hearing is to be sent

Comments received from the public hearing opportunity request and subsequent public involvement will be added to this section at a later time.

SECTION 7 PREFERRED ALTERNATIVE

This section describes additional engineering details of the operational improvements proposed for the Preferred Alternative.

7.1 DESIGN TRAFFIC VOLUMES

Design year (2045) AADTs and DDHVs were previously shown in **Figures 3-5** and **3-9**, respectively.

7.2 TYPICAL SECTION AND DESIGN SPEED

The preferred typical section for the C-D Road adjacent to I-75 were shown previously in **Figure 5-9** and in the graphically enhanced **Figure 7-1.** Additional typical sections are included in **Appendix C**. The proposed design speed for the C-D Road is 60 mph while the design speed of I-75 and I-275 is 70 mph.

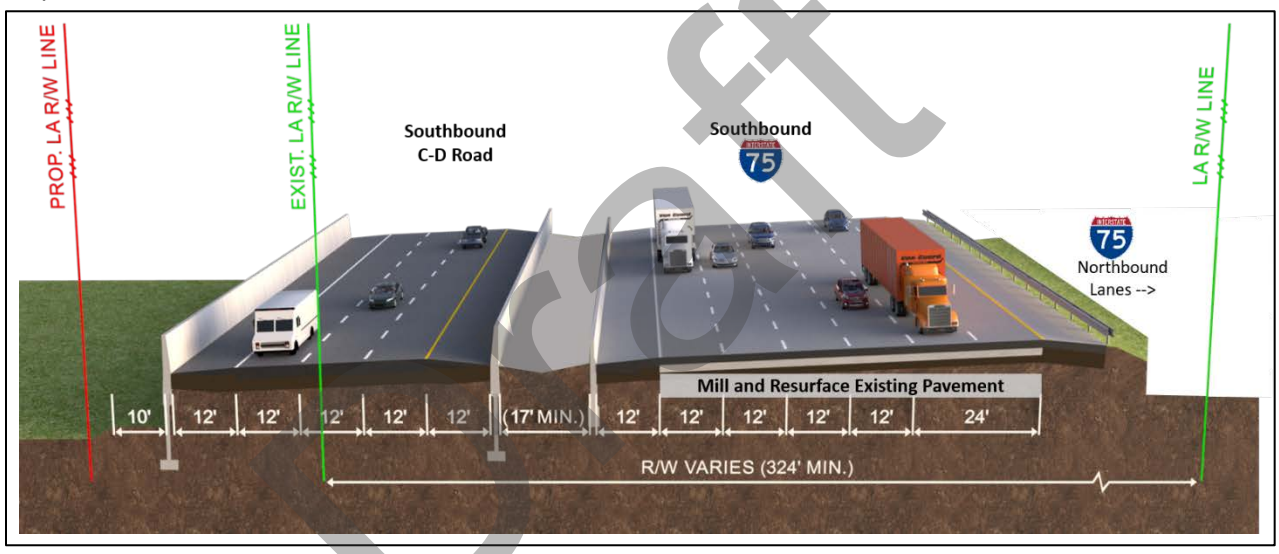


Figure 7-1 Graphically Enhanced Typical Section of Preferred Alternative

7.3 HORIZONTAL AND VERTICAL ALIGNMENT

The proposed horizontal alignment is described in **Section 5.4.3.** A proposed profile grade for the vertical alignment will be determined during the future design phase when full survey data is available.

7.4 ACCESS MANAGEMENT

The C-D Road and related ramps will be Access Classification 1, the same as I-75 and I-275 as they are limited access facilities.

7.5 INTERSECTION CONCEPTS AND SIGNALIZATION

There are no intersections involved with the Preferred Alternative.

7.6 RIGHT OF WAY NEEDS AND RELOCATIONS

The Preferred Alternative will require the acquisition of additional ROW including partial property acquisition. Acquisition from 3 parcels (8.1 acres) is required for the C-D Road. Acquisition from 2 parcels (10.7 acres of land) is required for the FPC sites. No additional ROW is needed for the SMF sites. One parcel needed for acquisition of ROW for a FPC site is also required for roadway widening site, so acquisition from a total of 4 parcels is required for the Preferred Alternative. All locations of proposed ROW are shown in a red line on the Concept Plans in **Appendix A**.

The ROW acquisition will not require the relocation of any businesses nor residences.

7.7 BICYCLE AND PEDESTRIAN FEATURES

The C-D Road and related ramps associated with the Preferred Alternative will be constructed with full paved shoulders, but there are no pedestrian or bicycle facilities along I-75 or I-275 within the study area.

7.8 MULTIMODAL CONSIDERATIONS

As noted in **Section 2.6** there are no transit vehicles from HART nor PCPT that currently utilize this portion of I-75 or I-275. The Preferred Alternative will not preclude future use of the C-D Road or related ramps by transit vehicles.

7.9 STRUCTURES

7.9.1 Bridge Structures

As noted in **Section 5.4.4**, two new bridge structures and a modification to one bridge structure are proposed with the Preferred Alternative and are shown on the concept plans in **Appendix A**.

New Bridge carrying Southbound I-275 over C-D Road Ramp to I-75

This new bridge structure is located between I-75 and I-275 south of County Line Road overpass bridge. This structure carries southbound I-275 (3 lanes) over the C-D Road ramp to I-75 (2-lanes). **Figure 5-10** shows a plan view layout of the new bridge. More specifically, the proposed bridge will carry three 12-foot wide lanes with two 12-foot wide shoulders and two 36-inch single slope barriers resulting in a total bridge width of 62-feet-8-inches. **Figure 7-2** shows the preliminary typical section of the proposed bridge.

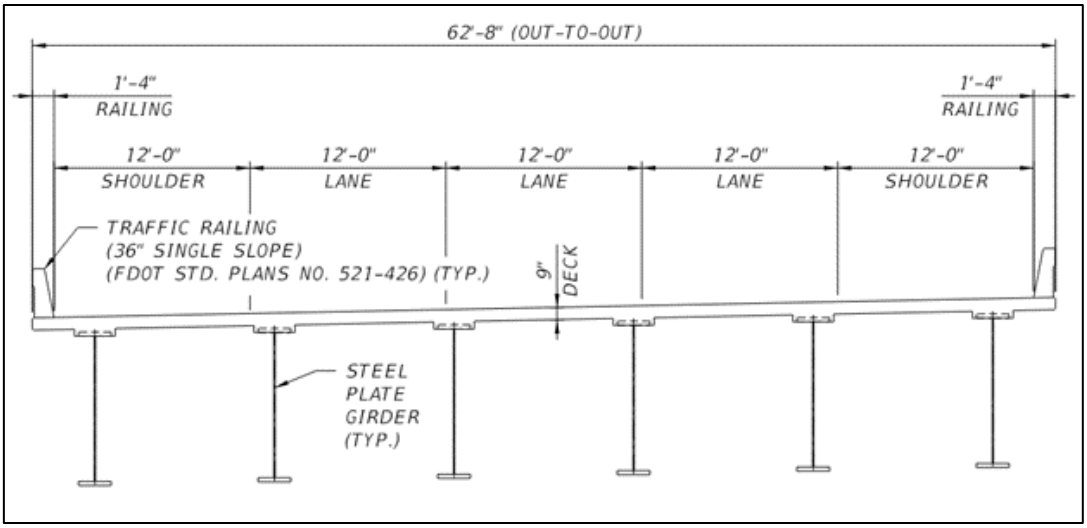


Figure 7-2 Typical Section of Proposed C-D Road Bridge over Cypress Creek

This 284-foot long bridge clear spans the proposed ramp taking traffic from the proposed C-D Road to Southbound I-75. Steel plate girders are anticipated to be used with an approximate depth of 106.5-inches requiring a total superstructure depth of approximately 121-inches or 10-foot 1-inch. The bridge is on a curved alignment with a radius of 4584-feet. Steel girders maybe chorded with an overhang variance of approximately 3-feet. The profile will provide a 16-feet-6-inch minimum vertical clearance to comply with FDM Table 122.5.9.1. The maximum skew angle is 50 degrees which is equal to the 50 degrees limit required by the Structures Design Guidelines (SDG) 1.10. The bridge will have wrap around mechanically stabilized earth (MSE) walls to reduce the bridge length. **Figure 7-3** shows the preliminary elevation view of the proposed bridge.

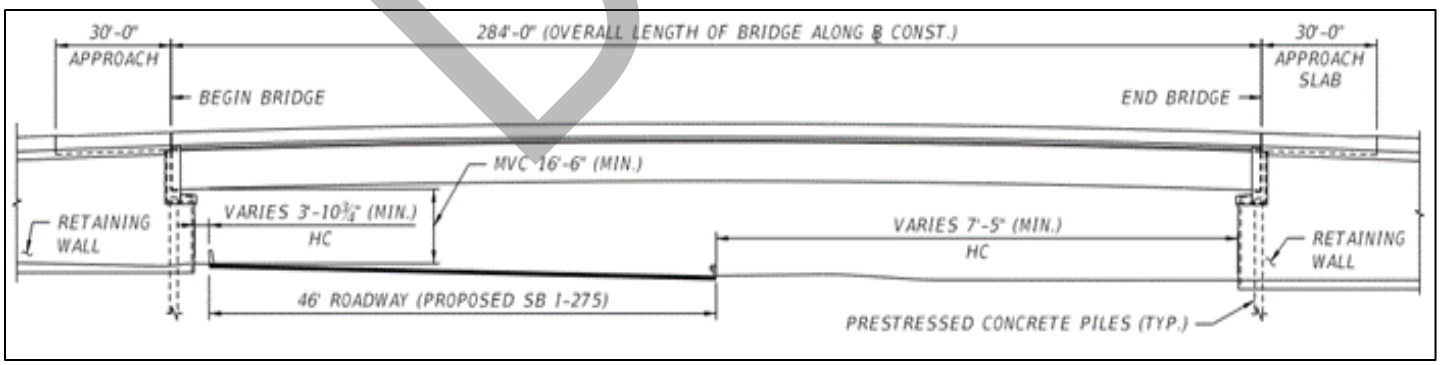


Figure 7-3 Elevation View of Proposed C-D Road Bridge over Cypress Creek

New Bridge carrying Southbound C-D Road over Cypress Creek (adjacent to Bridge No. 140061)

This new bridge structure is located west of the I-75 southbound lanes and north of County Line Road overpass bridge. This structure carries the southbound C-D Road (3 lanes) over Cypress Creek. **Figure 5-11** shows a plan view layout of the new bridge. More specifically, this new bridge will convey three 12-foot lanes, two 12-foot shoulders and two – 36-inch single slope barriers for a total bridge width of 62-ft 8-inches. Shoulders are typically 10-feet wide however 12-foot wide shoulders are used to allow shoulders to be used as lanes for emergency evacuations. **Figure 7-4** shows the preliminary typical section of the proposed bridge.

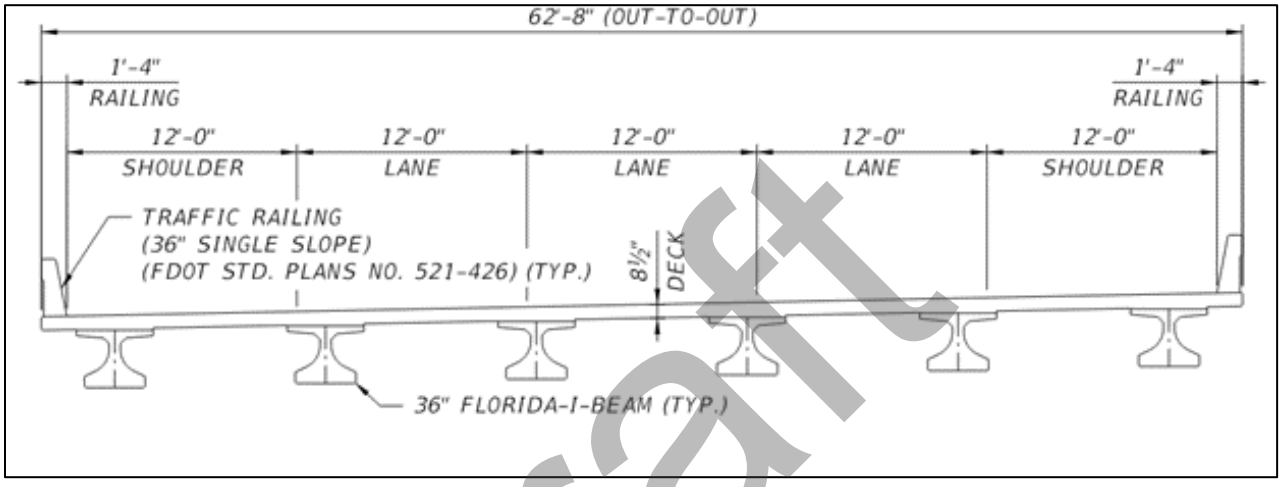


Figure 7-4 Typical Section of Proposed C-D Road Bridge over Cypress Creek

The 156-foot long bridge consists of three – 52-foot spans supported by pile bents skewed to approximately 30 degrees similar to the existing adjacent bridges. 36-inch deep Florida-I-Beam girders are anticipated to be used to match the height of the American Association of State Highway Transportation Officials (AASHTO) Type II girders of the adjacent bridges allowing for a similar profile to be used. This profile needs to provide the 2-foot minimum vertical clearance for drainage per FDM 260.8.1. Spill-thru abutments are located at the begin and end of the bridge with rubble riprap to control scour. Note that the adjacent bridge (Bridge No. 140061) has perched MSE walls along the west side at both beginning and end, therefore retaining walls may be required along the coping of the proposed bridge to match the proposed 156-foot length of the adjacent bridges. The maximum clearance between Bridge No. 140061 and the proposed bridge varies from approximately 17-feet 2-inches to 19-feet. FDM 260.5 requires the District Structures Maintenance Engineer be consulted when this spacing between bridges is less than 20-feet. **Figure 7-5** shows the preliminary elevation view of the proposed bridge.

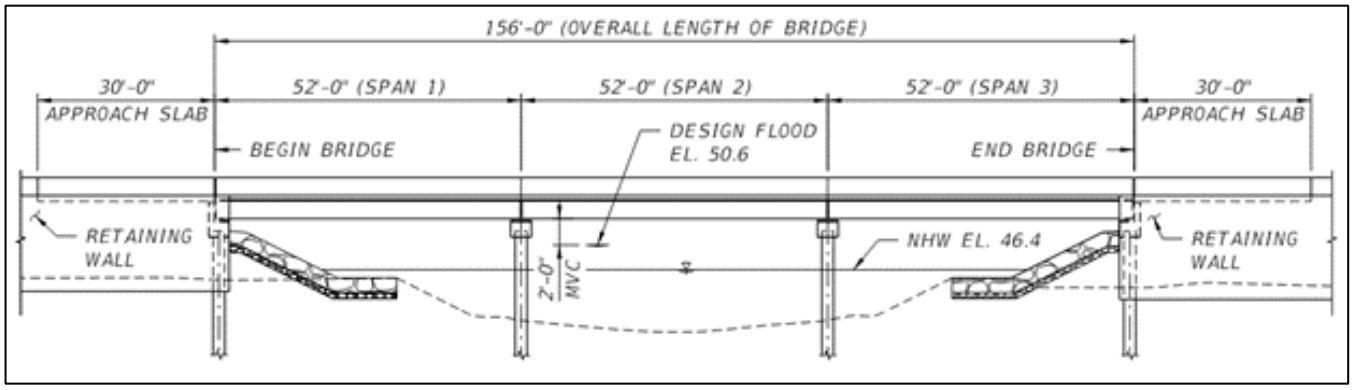


Figure 7-5 Elevation View of Proposed C-D Road Bridge over Cypress Creek

Modifications to Bridge No. 100411

In order for the C-D Road ramp to I-75 to be constructed, the slopewall of the south approach span to Bridge No. 100411 which carries northbound I-275 over I-75 will need to be removed. The alignment for the C-D Road ramp has been developed to fit under this bridge span between the abutment and the hammerhead pier.

7.9.2 Retaining Walls

Proposed gravity walls and MSE walls are proposed along the west shoulder of the C-D Road to minimize ROW needs and at the ends of the new bridges to retain the earthen embankment. The locations of these walls are generally shown on the concept plans in **Appendix A**. The exact limits and heights of these walls will be determined in the design phase.

7.9.3 Sign Structures

The Preferred Alternative will require the construction of additional overhead and cantilever sign structures. An existing overhead sign located at approximately station 620+00 may need to be relocated based on a potential conflict with the northern column and the proposed C-D Road. This will be further evaluated when survey data is collected in the design phase. A preliminary signing plan is included in **Appendix E** showing the preliminary location of the proposed overhead or cantilever sign structures.

7.10 DRAINAGE AND STORMWATER MANAGEMENT

Section 5.4.5 provided details related to stormwater and floodplain compensation requirements for the Preferred Alternative. SMF site alternatives that are hydraulically feasible and environmentally permissible based on the best available information were analyzed. These alternatives were then compared based on community impacts; environmental impacts including wetlands, upland habitat and protected species involvement; petroleum and hazardous materials contamination; cultural

resources; and economic factors including ROW costs. **Table 5-4** summarizes the environmental evaluation and potential impacts of the preferred SMF and FPC site alternatives. Most categories were given a ranking of No Low, Moderate, or High based on potential impacts. A more detailed discussion of drainage and stormwater management is provided in the *PSR*. All proposed SMF and FPC sites are shown on the Concept Plans in **Appendix A**.

7.11 SPECIAL FEATURES

The Preferred Alternative will impact existing landscaping around the I-75/I-275 junction. The placement and maintenance of any landscaping shall comply with the required clear zone and sight distance. No other provisions or commitments have been made yet regarding special aesthetic features. No noise barriers are proposed with the Preferred Alternative.

7.12 USER BENEFITS

The public will realize benefits after the improvements of the Preferred Alternative are constructed. Reduction in travel time, reduced vehicle operating costs, reduced traffic crash related costs and reduced emergency response times are the primary benefits. Freight vehicles will be provided safer and more efficient accommodations with the Preferred Alternative.

7.13 RECYCLING AND SALVAGEABLE MATERIALS

During construction of the Preferred Alternative, recycling of reusable materials will occur to the greatest extent possible. Where feasible, removal and recycling of the existing pavement and base material for use in the new pavement will be considered. This will reduce the volume of the materials that need to be hauled away and disposed of potentially reducing the cost of purchasing new materials for construction. Other materials such as signs, drainage pipes, etc., will also be salvaged and reused for regular maintenance operations if they are deemed to be in acceptable condition.

7.14 UTILITY AND RAILROAD IMPACTS

Existing utilities are described in **Section 2.14**. Depending on the location and depth of the utilities, construction of the Preferred Alternative will likely require adjustments or relocation of some facilities. Cost for utility adjustments are not included in the total estimated project costs presented in **Section 7.18**, since some may be incurred by the utility owners. Determination of any utility relocation reimbursement costs will be made by FDOT's legal department during the future design phase. Coordination with utility owners will be ongoing throughout the study process.

It should be noted that several utilities may be currently located under the existing pavement and would also be under the proposed improvements. The relocation costs could be reduced significantly

if these utilities were permitted to remain within the travel way. Approval would be required from both the utility owners and the FDOT. Impacts to existing utility facilities can also be reduced or eliminated if Subsurface Utility Engineering (SUE) is performed during the design phase at potential conflict locations (drainage facilities, sign structures, etc.).

There are Intelligent Transportation System (ITS) facilities within the project limits. The existing ITS is located on the west side of I-75. There is a portable traffic monitoring site #140156 for traffic counting located on I-75 just to the south of SR 56 at Pasco County milepost 0.431. There is also a portable traffic monitoring site #14140021 for traffic counting located on the SR 56 southbound on ramp at milepost 0.156, which is located just north of the project limits.

There are no existing railroads within the project limits.

7.15 POTENTIAL DESIGN VARIATIONS AND EXCEPTIONS

There are no design exceptions nor variations currently anticipated with the Preferred Alternative, however when survey data is collected and the existing vertical geometry is established during the design phase, the need for design exceptions or variations will be reexamined.

7.16 TEMPORARY TRAFFIC CONTROL PLAN CONCEPTS

Due to its importance, the existing travel lanes should be maintained to the maximum extent possible during construction of the Preferred Alternative. Lane closures, if necessary, would occur during night or other off-peak hours.

The following conceptual construction sequence will help maintain traffic operations along I-75, I-275, and the southbound SR 56 ramp:

- Relocate existing utilities within the existing or proposed ROW
- Construct SMF and FPC sites
- Construct C-D Roads, C-D Road Ramp to I-75 and southbound I-275 and related drainage facilities, walls, sign structures and ITS infrastructure that fall outside the limits of the existing pavement and shoulders
- Construct the proposed bridges for the C-D Road over Cypress Creek and for southbound I-275 over the C-D Road ramp to I-75
- Remove slope wall of the south approach span to Bridge No. 100411 which carries northbound I- 275 over I-75
- Construct any temporary pavement to shift traffic to newly completed C-D Road and ramps
- Mill & Resurface existing pavement along I-75 and I-275

- Remove existing pavement not needed in the permanent condition along existing SR 56 ramp from I-75 to I-275 and along I-275.
- Construct remainder of pavement in transition areas
- Remove temporary pavement where applicable, complete final pavement markings and shift traffic to final permanent lane locations

7.17 VALUE ENGINEERING RESULTS

A value engineering study is planned early in the design phase.

7.18 COST ESTIMATES

The preliminary cost estimates were updated for the Preferred Alternative ($millions, rounded) are included in **Table 7-1**. These costs are separated by County for programming purposes. Construction costs are based on FDOT's LRE cost estimating system prepared in July 2021. These costs include components for earthwork, roadway, shoulder, walls, bridges, sign structures, signing/marking, drainage (including SMF and FPC sites) as well as temporary traffic control, mobilization, and an initial contingency. Estimated costs for retaining walls and will be refined in the design phase as field survey is collected to establish needs and wall heights. All costs are preliminary and will be refined as the design phase progresses.

Table 7-1 Estimated Construction and Right of Way Costs by County

Estimated Costs Present Day Costs in $ Million Rounded to the Nearest 0.1 Million $	Pasco County Segment 430573-2	Hillsborough County Segment 430573-3	Total Project
Construction of Roadway, Bridges and Ponds	$39.0	$23.8	$62.8
Right of Way for I-75 Roadway Widening	$0.8	$0	$0.8
Right of Way for Stormwater Ponds and Floodplain Compensation Site	$1.0	$0	$1.0
Wetlands Mitigation (5.82 acres)	$1.5	$0	$1.5
Design and Construction Inspection (20% of construction)	$7.8	$4.8	$12.6
Total Project Estimated Costs	**$50.1**	**$28.6**	**$78.7**

[1]*Construction cost based on LRE system prepared March 2021*

7.19 POTENTIAL CONSTRUCTION SEGMENTS AND PHASING

The entire project is anticipated to be constructed as one construction project.

Advance funding for ROW acquisition could include securing potential off-site SMF and/or FPC areas or properties along the C-D Road that become listed for sale by the property owners or willing sellers. As developments are submitted for approval to Pasco County, provisions for land dedications and accommodations of drainage, floodplain and wetland impacts would be considered in accordance with the County's Comprehensive Plan and Land Development Code.

7.20 PROJECT FUNDING AND WORK PROGRAM SCHEDULE

As of August 2021, for the Pasco County segment (WPI Segment No. 430573-2), the 2045 LRTP for the Pasco County MPO identifies funding (design, ROW acquisition and construction phases) for this project. The 2022-2026 Transportation Improvement Plan (TIP) for the Pasco County MPO identifies design funding in fiscal year (FY) 2023, ROW acquisition funding in FY 2025 and construction funding after FY 2026.

For the Hillsborough County segment (WPI Segment No. 430573-3) the 2045 LRTP for the Hillsborough County MPO identifies funding for design and construction phases for this project. There is no ROW acquisition anticipated in the Hillsborough County segment. The 2022-2026 TIP for the Hillsborough MPO identifies design funding in fiscal year (FY) 2023 and construction funding after FY 2026.

SECTION 8 LIST OF TECHNICAL REPORTS

Public Involvement Items

- *Public Involvement Plan*
- *Comments and Coordination Report (To Be Prepared)*

Engineering Items

- *This Preliminary Engineering Report with Conceptual Design Plans*
- *Project Traffic Analysis Report*
- *Pond Siting Report*

Environmental Items

- *Natural Resource Evaluation Report*
- *Location Hydraulics Memorandum*
- *Water Quality Impact Evaluation*
- *Contamination Screening Evaluation Report*
- *Cultural Resource Assessment Survey*
- *Cultural Resource Assessment Survey Pond Technical Memorandum*
- *Type 2 Categorical Exclusion*

APPENDICES

APPENDIX A

Preferred Alternative Concept Plans

CONTRACT PLANS COMPONENTS

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

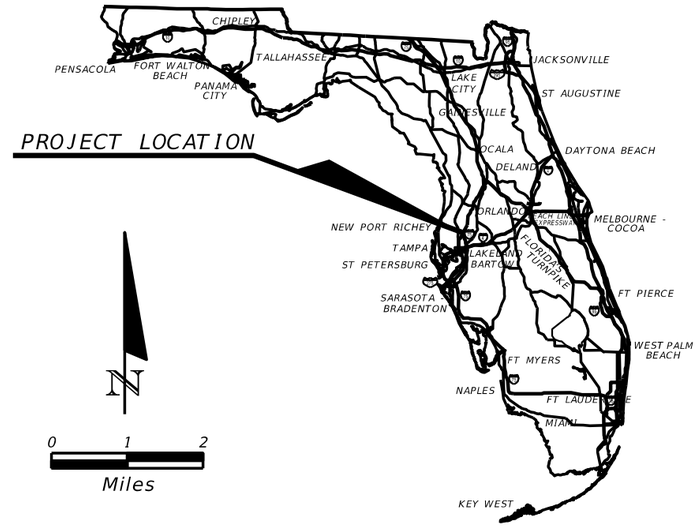
PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDY CONCEPT PLANS

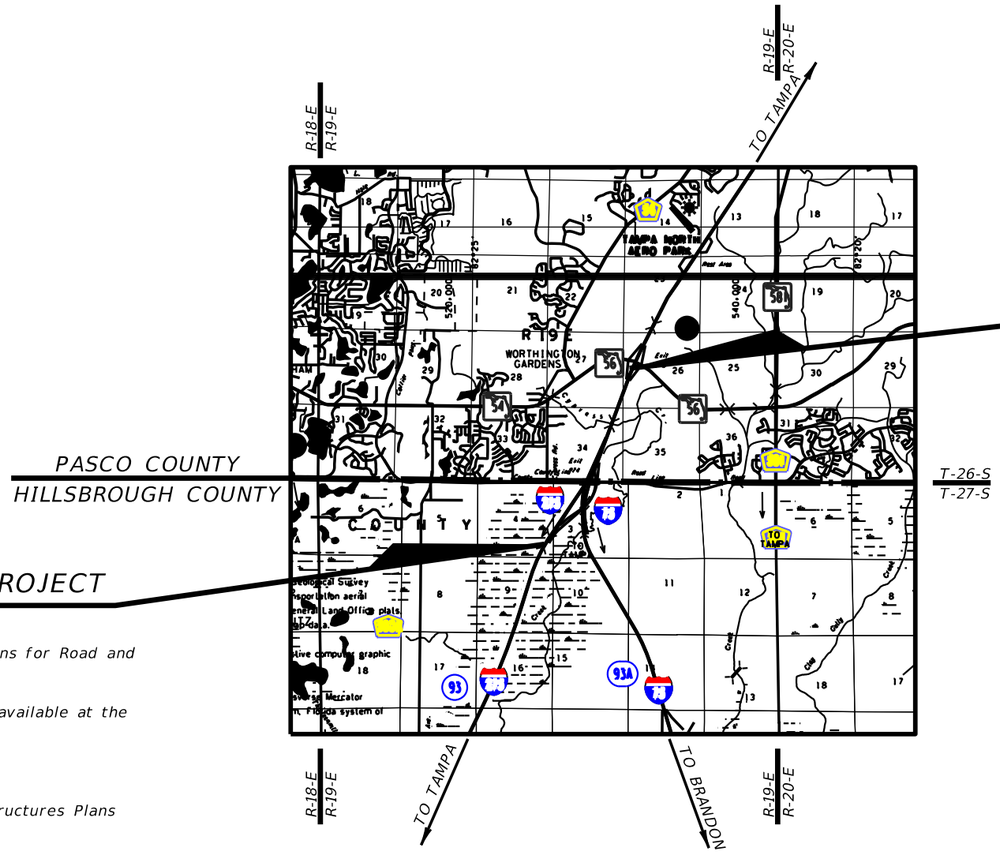
FINANCIAL PROJECT ID 254552-1-22-19

HILLSBROUGH COUNTY

PASCO COUNTY

STATE ROAD NO. SR 93/SR 93A /SR 56





INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	PROJECT LAYOUT PLAN SHEETS
3-8	CONCEPT PLAN SHEETS
9	PREFERRED SMF and FPC SITES

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY_____ Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

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

APPLICABLE IRs: IR___-___-__

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

GOVERNING STANDARD SPECIFICATIONS:

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

ROADWAY PLANS
ENGINEER OF RECORD:

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P.E. NO.: 51083
AMERICAN CONSULTING PROFESSIONALS, LLC
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WESLEY CHAPEL, FLORIDA 33544
ENGINEERING BUSINESS NO.: EB7110

FDOT PROJECT MANAGER: ASHLEY HENZEL, P.E.

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 8/10/2021

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
		1

END PROJECT
WPI No. 430573-4

BEGIN PROJECT
WPI No. 430573-4

SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7

LIVINGSTON RD.
COUNTY LINE RD
PASCO COUNTY
HILLSBOROUGH COUNTY
CYPRESS CREEK
BRUCE B. DOWNS BLVD

0 400 2000
Feet

DRAFT
These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 8/10/2021

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- EXISTING ROW
- EXISTING L/A ROW
- PROPOSED L/A ROW
- COUNTY LINE
- PLAN SHEET BOUNDARY
- STORMWATER MANAGEMENT FACILITY/FLOODPLAIN COMPENSATION SITE SHEET BOUNDARY

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Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp) Concept Plan Layout Sheet WPI Segment No. 430573-4

SHEET NO. 2

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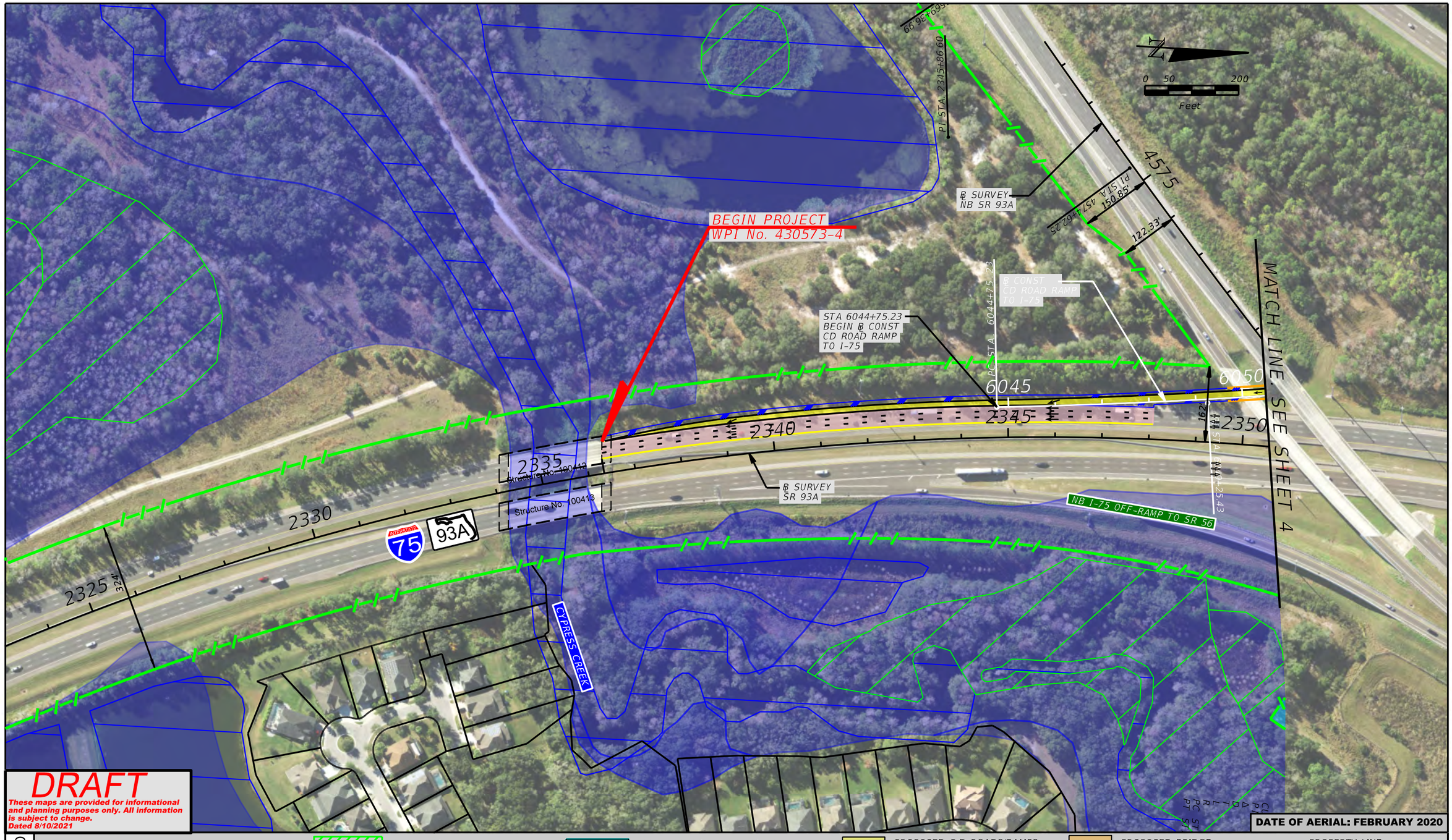

LEGEND

- WETLANDS
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA
- PREFERRED SMF AND FPC AREA
- POTENTIALLY CONTAMINATED SITE
- MILL / RESURFACE
- PROPOSED C-D ROADS/RAMPS
- PROPOSED MAINLINE
- PROPOSED MEDIAN BARRIER WALL / MSE WALL
- PROPOSED BRIDGE
- PAVEMENT REMOVAL
- COUNTY LINE
- PROPERTY LINE
- EXISTING R/W
- EXISTING LA R/W
- PROPOSED LA R/W

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp)
Concept Plans
WPI Segment No. 430573-4

SHEET NO. 3

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 8/10/2021

LEGEND

- WETLANDS
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA
- PREFERRED SMF AND FPC AREA
- POTENTIALLY CONTAMINATED SITE
- MILL / RESURFACE
- PROPOSED C-D ROADS/RAMPS
- PROPOSED MAINLINE
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp) Concept Plans WPI Segment No. 430573-4

SHEET NO. 4

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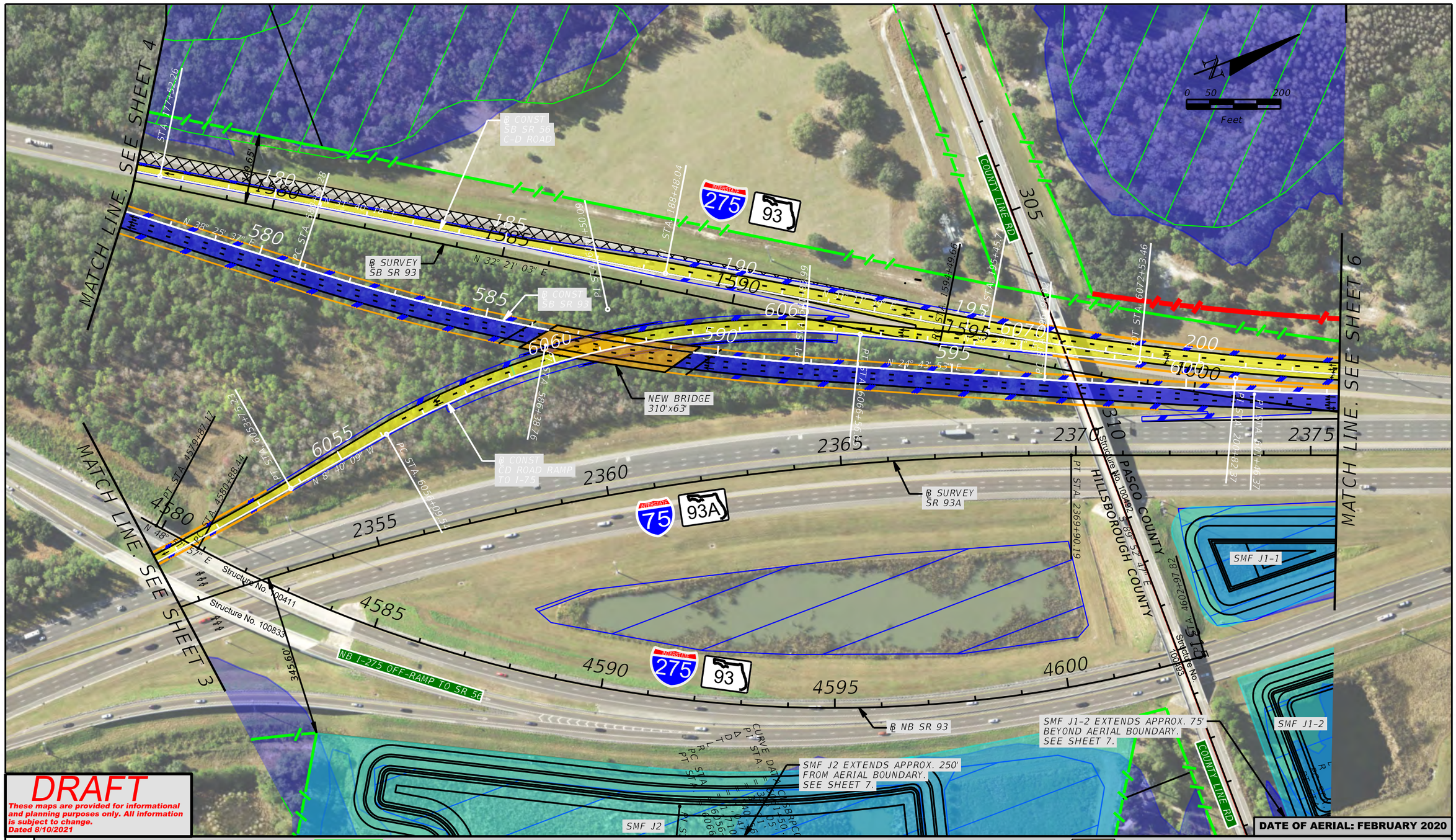

LEGEND

- WETLANDS
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA
- PREFERRED SMF AND FPC AREA
- POTENTIALLY CONTAMINATED SITE
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- PROPOSED MEDIAN BARRIER WALL / MSE WALL
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- EXISTING LA R/W
- PROPOSED LA R/W

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp)
Concept Plans
WPI Segment No. 430573-4

SHEET NO. 5

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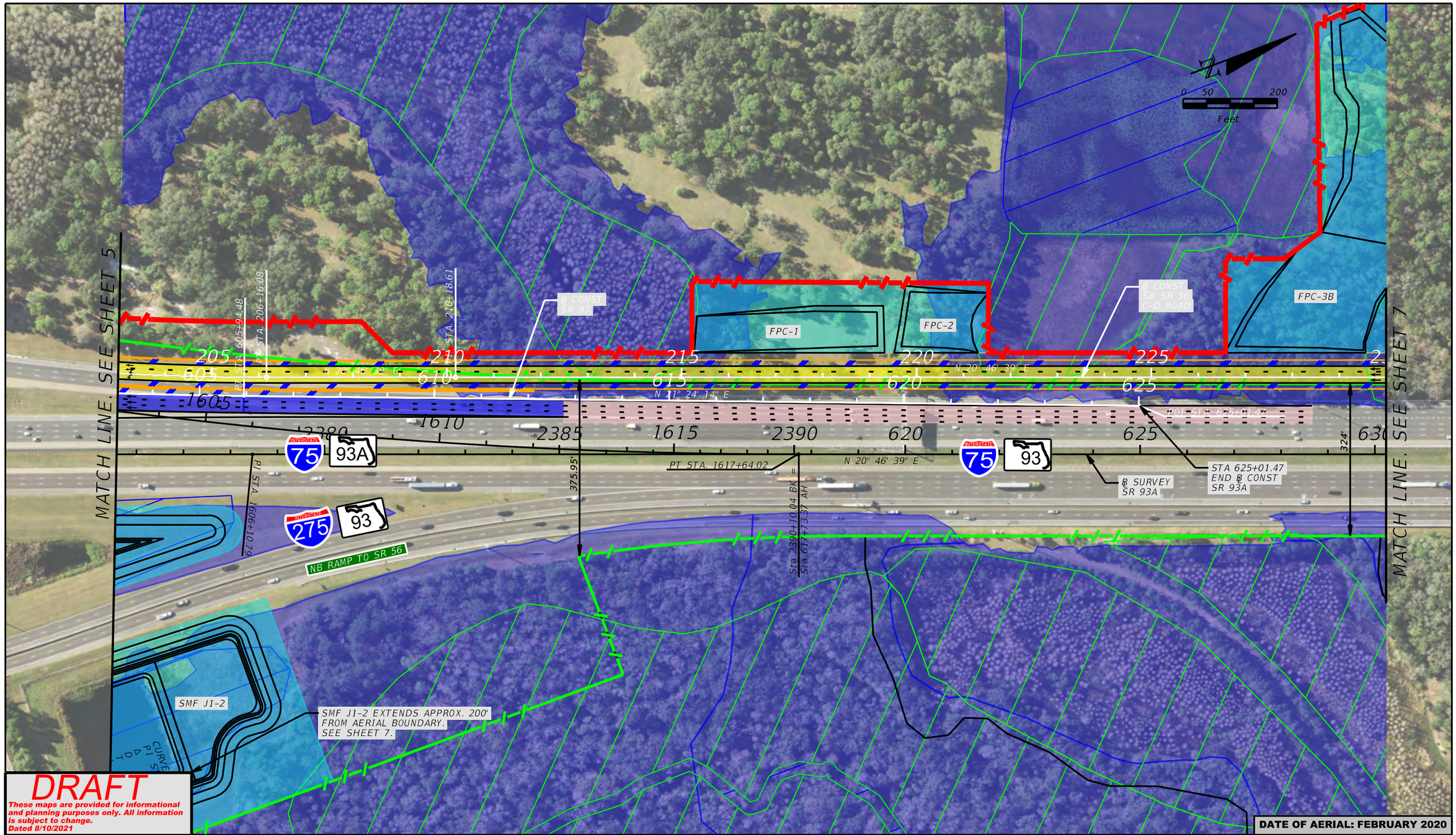

American Consulting Professionals, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp)
Concept Plans
WPI Segment No. 430573-4

SHEET NO. 6

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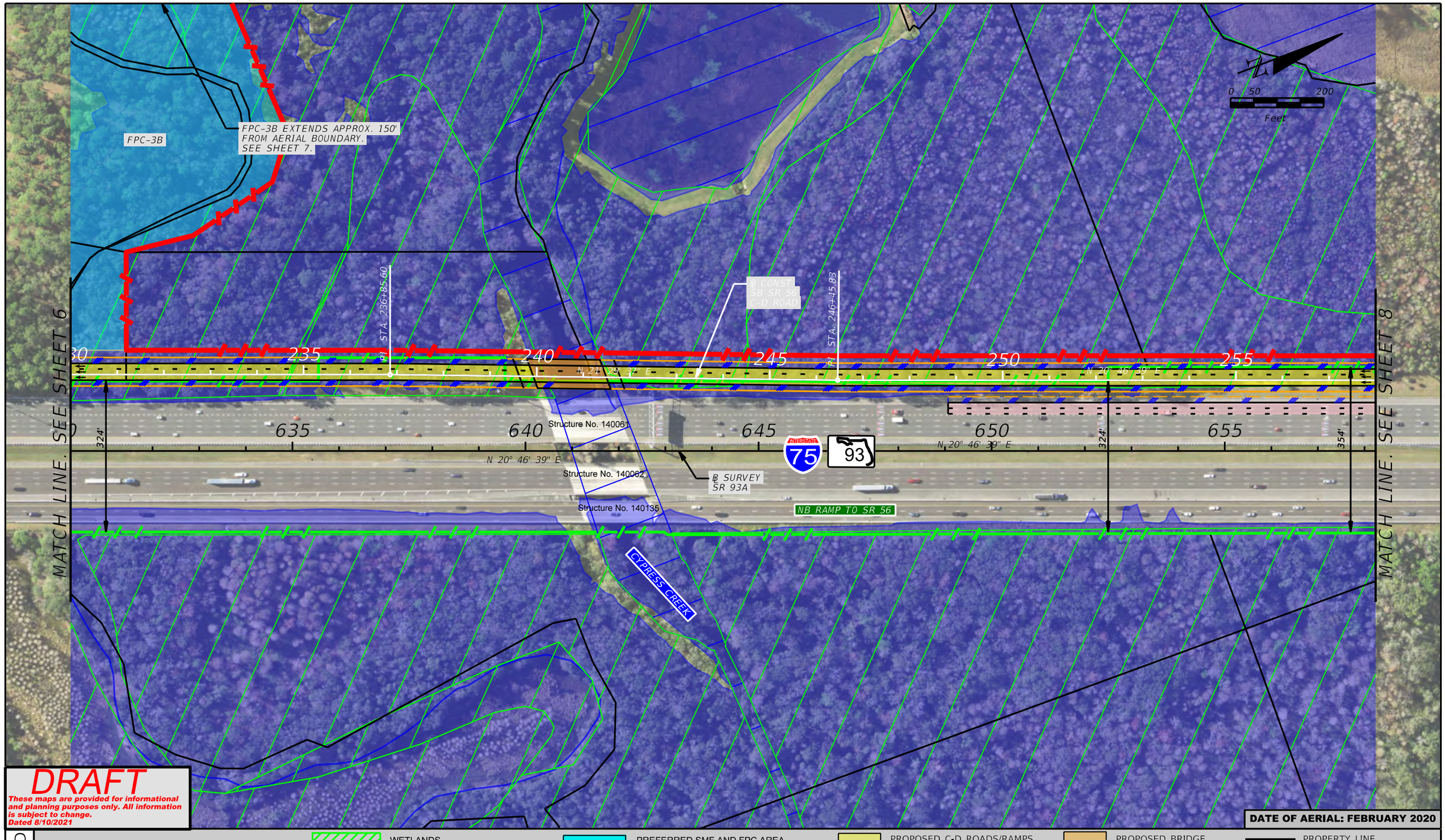

LEGEND

- WETLANDS
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA
- PREFERRED SMF AND FPC AREA
- POTENTIALLY CONTAMINATED SITE
- MILL / RESURFACE
- PROPOSED C-D ROADS/RAMPS
- PROPOSED MAINLINE
- PROPOSED MEDIAN BARRIER WALL / MSE WALL
- PROPOSED BRIDGE
- PAVEMENT REMOVAL
- COUNTY LINE
- PROPERTY LINE
- EXISTING R/W
- EXISTING LA R/W
- PROPOSED LA R/W

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp)
Concept Plans
WPI Segment No. 430573-4

SHEET NO. 7

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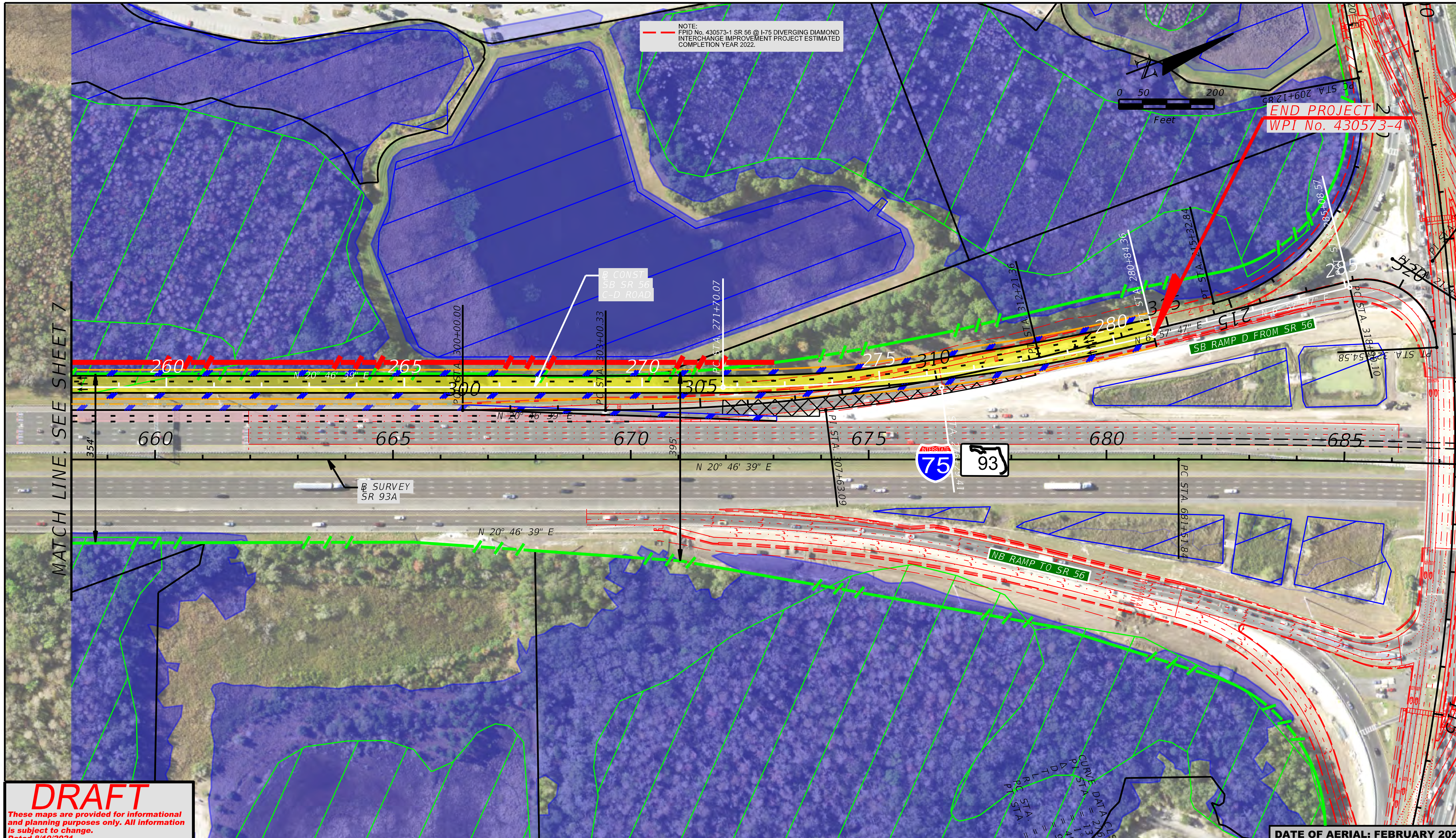

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change. Dated 8/10/2021

LEGEND

- WETLANDS
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA
- PREFERRED SMF AND FPC AREA
- POTENTIALLY CONTAMINATED SITE
- MILL / RESURFACE
- PROPOSED C-D ROADS/RAMPS
- PROPOSED MAINLINE
- PROPOSED MEDIAN BARRIER WALL / MSE WALL
- PROPOSED BRIDGE
- PAVEMENT REMOVAL
- COUNTY LINE
- PROPERTY LINE
- EXISTING R/W
- EXISTING LA R/W
- PROPOSED LA R/W

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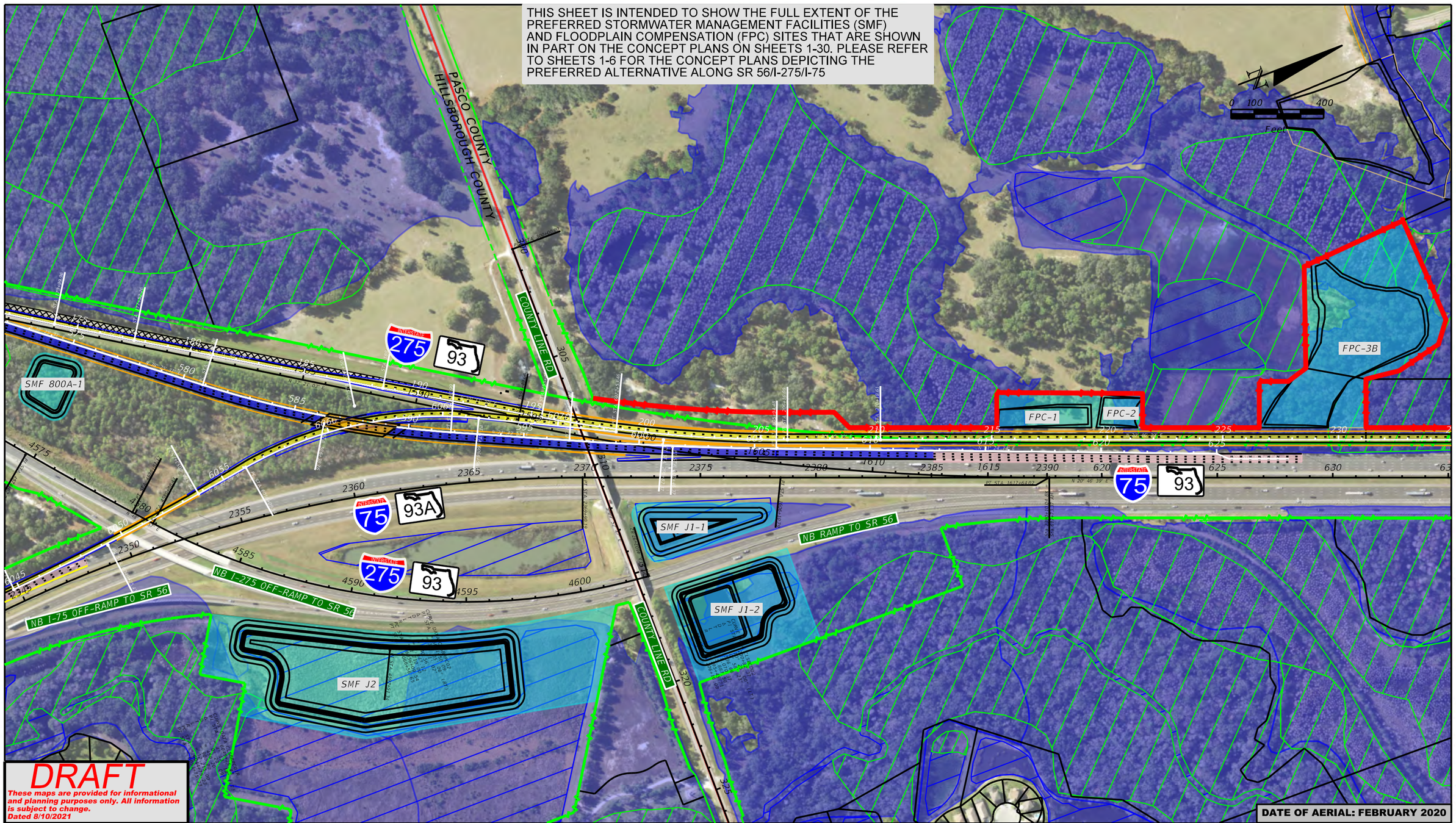
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp) Concept Plans
WPI Segment No. 430573-4

SHEET NO. 8

THIS SHEET IS INTENDED TO SHOW THE FULL EXTENT OF THE PREFERRED STORMWATER MANAGEMENT FACILITIES (SMF) AND FLOODPLAIN COMPENSATION (FPC) SITES THAT ARE SHOWN IN PART ON THE CONCEPT PLANS ON SHEETS 1-30. PLEASE REFER TO SHEETS 1-6 FOR THE CONCEPT PLANS DEPICTING THE PREFERRED ALTERNATIVE ALONG SR 56/I-275/I-75



DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 8/10/2021

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- WETLANDS
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA
- PREFERRED SMF AND FPC AREA
- POTENTIALLY CONTAMINATED SITE
- MILL / RESURFACE
- PROPOSED C-D ROADS/RAMPS
- PROPOSED MAINLINE
- PROPOSED MEDIAN BARRIER WALL / MSE WALL
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- PAVEMENT REMOVAL
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- EXISTING R/W
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- PROPOSED LA R/W

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93/ SR 93A/ SR 56	HILLSBOROUGH/ PASCO	254552-1-22-19

SB I-75/I-275 from South of County Line Road to SR 56 (SB C-D Road with Flyover Ramp)
Concept Plans
WPI Segment No. 430573-4

SHEET NO. 9

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APPENDIX B

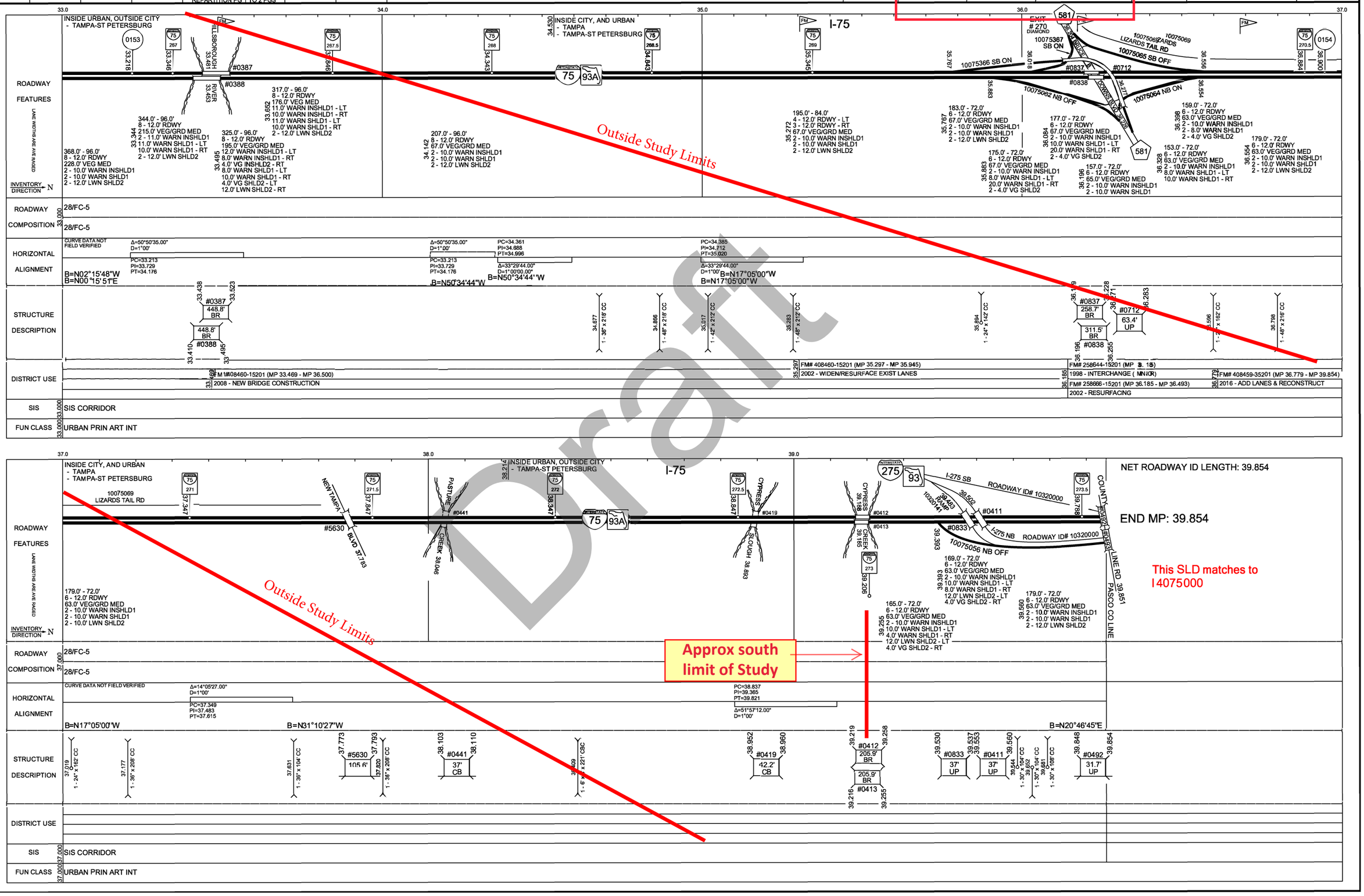
Straight Line Diagram Inventory

	5 YR/INV	SLD REV	INTERIM REVISIONS BMP	EMP	INV	SLD REV
DATE	08 / 24 / 2012	09 / 27 / 2012	0.000	12.540	03 / 23 / 2021	04 / 19 / 2021
BY	FTE / JW-KA	FTE / KA	CONSTRUCTION ACCEPT & REPARTITION PG 1 TO 2 PGS		FTE / IM-KA	FTE / KA

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I-75	SR 93A	HILLSBOROUGH	07	10 075 000	5 OF 5

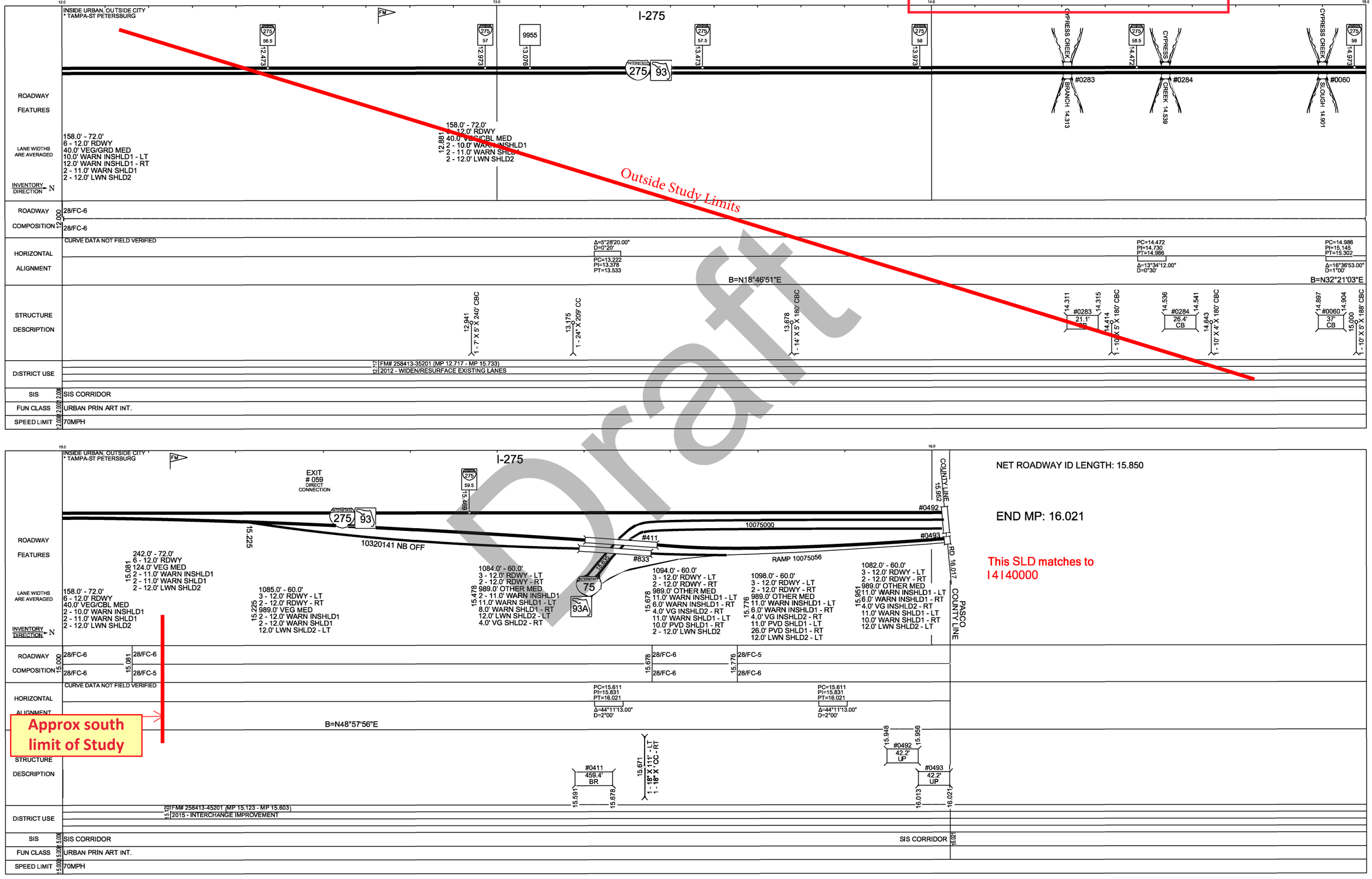


	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	01/24/2018	02/26/2018	0.368	0.465		08/05/2020
BY	FTE / IM-BK	FTE / KA	REVISED F252			FTE/KA
			EXIT 45A & 45B			

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
12	I 275	SR 93	HILLSBOROUGH	07	10 320 000	4 OF 5



Version: 1.4.2.27 02/23/2018

	5 YR INV	SLD REV
DATE	05/01/2017	06/22/2017
BY	FTE / JR-IM	FTE / KA

BMP	EMP	INV	SLD REV
0.000	0.265		12/11/2017
EMP SHORTENED TO 0.265			FTE / KA

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I 75	SR 93A	PASCO	07	14 075 000	1 OF 1

This SLD matches to I 0075000

0.0

0.000 INSIDE URBAN, OUTSIDE CITY
ST TAMPA-ST PETERSBURG
*I<=I-75
*I<SR 93A
*I<I-75

I-75

EXIT # 274 DIRECT CONNECTION DESIGN

(0.148 TO 0.265)

ONE WAY NB (0.148 TO 0.265)

HILLSBOROUGH COUNTY

#10049

14140000 SB I-275

0.148

93A INTERSTATE 75

0.265

ROADWAY FEATURES

#10049

14140000 NB I-275

LANE WIDTHS ARE AVERAGED

0.000
198.0' - 84.0'
4 - 12.0' RDWY - LT
3 - 12.0' RDWY - RT
67.0' VEG/GRD MED
12.0' WARN INSHLD1 - LT
3.0' WARN INSHLD1 - RT
12.0' WARN SHLD1 - LT
11.0' WARN SHLD1 - RT
2 - 12.0' LWN SHLD2

0.148
81.0' - 36.0'
3 - 12.0' RDWY
10.0' WARN SHLD1 - LT
11.0' WARN SHLD1 - RT
2 - 12.0' LWN SHLD2

INVENTORY DIRECTION = N

NET ROADWAY ID LENGTH: 0.265

END MP: 0.265

ROADWAY COMPOSITION

0.000 28/FC-2
28/FC-2

0.148 28/FC-2

HORIZONTAL ALIGNMENT

Δ=11°35'00" CURVE DATA NOT FIELD VERIFIED
D=0°00'01"
PC=0.000
P=0.156
PT=0.311
B=N20°32'24E

STRUCTURE DESCRIPTION

0.102
1 - 18" X 182' CC

DISTRICT USE

SIS

0.000 SIS CORRIDOR

SIS CORRIDOR 0.265

FUN CLASS

0.000 0.000 URBAN PRIN ART INT.

SPEED LIMIT

0.000 0.000 65MPH

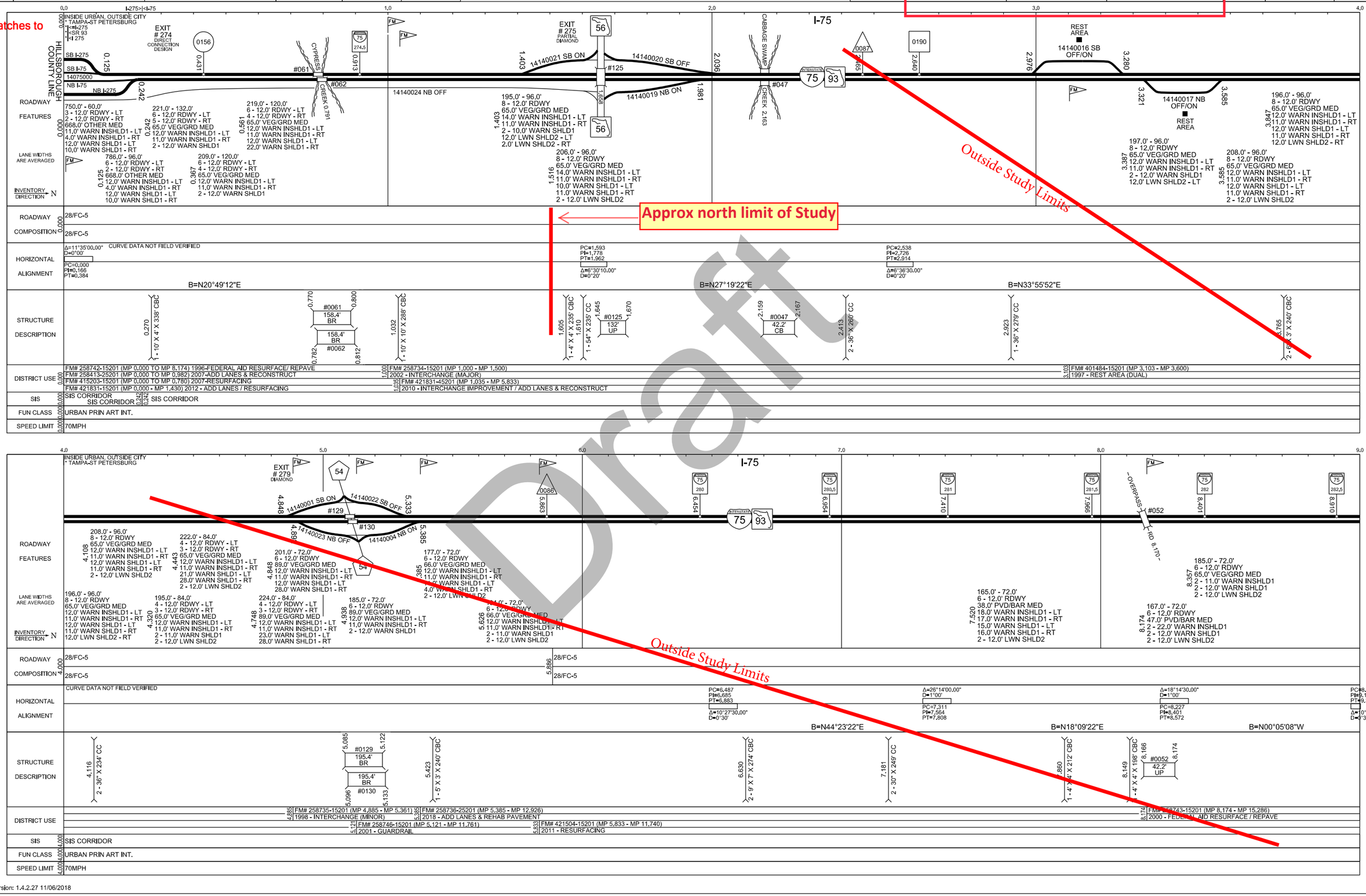
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	08/28/2018	11/06/2018				
BY	FTE / IM-BK	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I 275/I 75	SR 93	PASCO	07	14 140 000	1 OF 3

This SLD matches to I 0320000



Version: 1.4.2.27 11/06/2018

APPENDIX C

Proposed Typical Sections

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

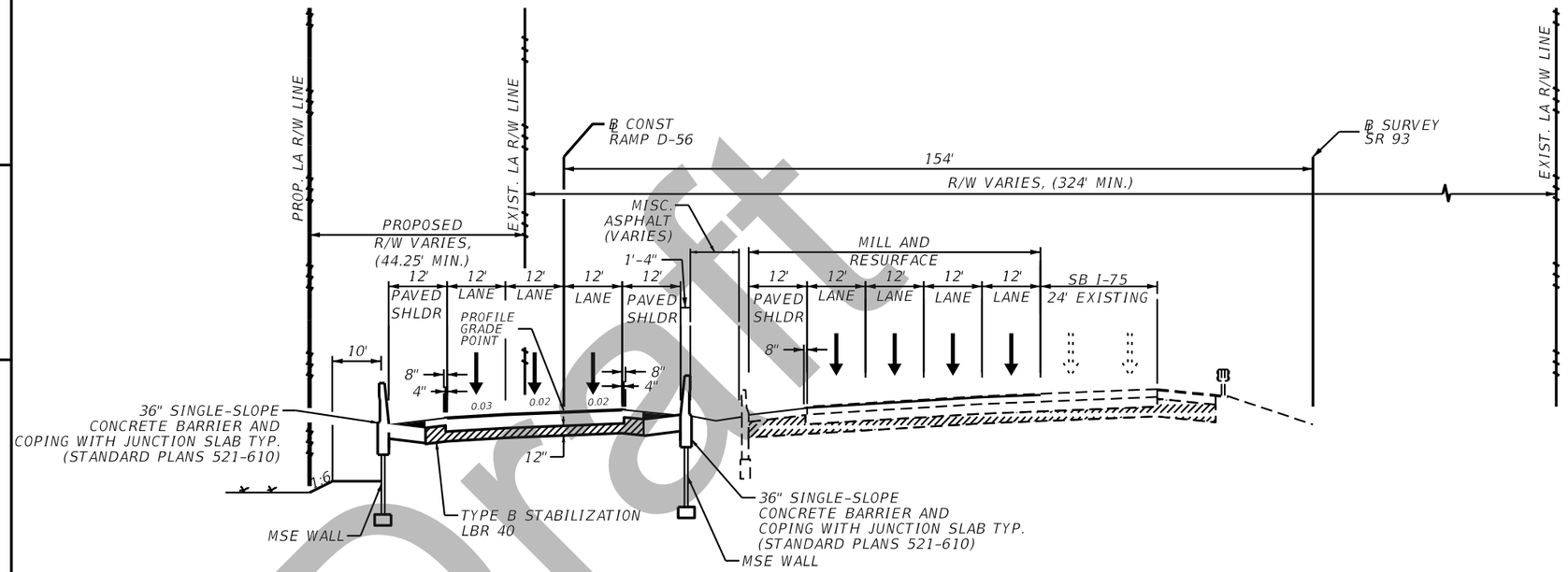
(x)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



TYPICAL SECTION
℄ RAMP D-56
STA 196+89.89 TO STA 279+77.15
(THREE LANE RAMP)

TYPICAL SECTION
℄ SR 93A (I-75 MAINLINE)
STA 2385+09.67 TO STA 2390+10.04
℄ SR 93 (I-275 MAINLINE)
STA 617+73.37 TO STA 628+65.95
STA 649+06.65 TO STA 666+46.75

Southbound I-75
from I-275 Diverge to SR 56 On-Ramp

FINANCIAL PROJECT ID	SHEET NO.
254552-1-22-19	

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

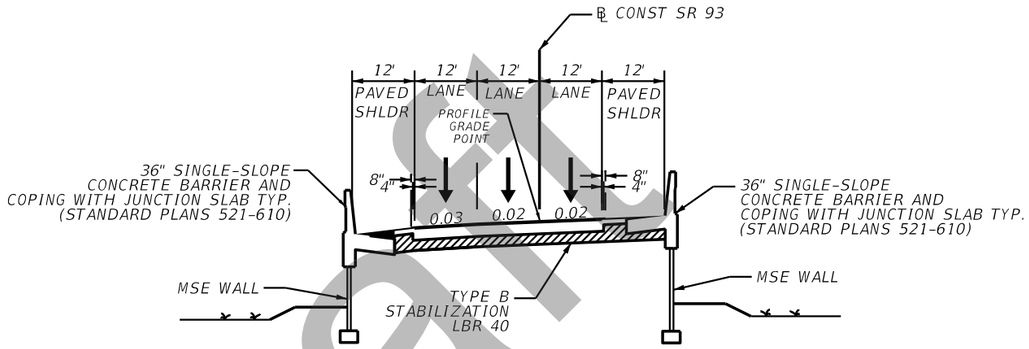
(x)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



TYPICAL SECTION
℄ SR 93 MAINLINE
STA 559+42.26 TO STA 612+76.30

Southbound I-275
from C-D Road Ramp Connection to I-75/I-275 Diverge

FINANCIAL PROJECT ID	SHEET NO.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

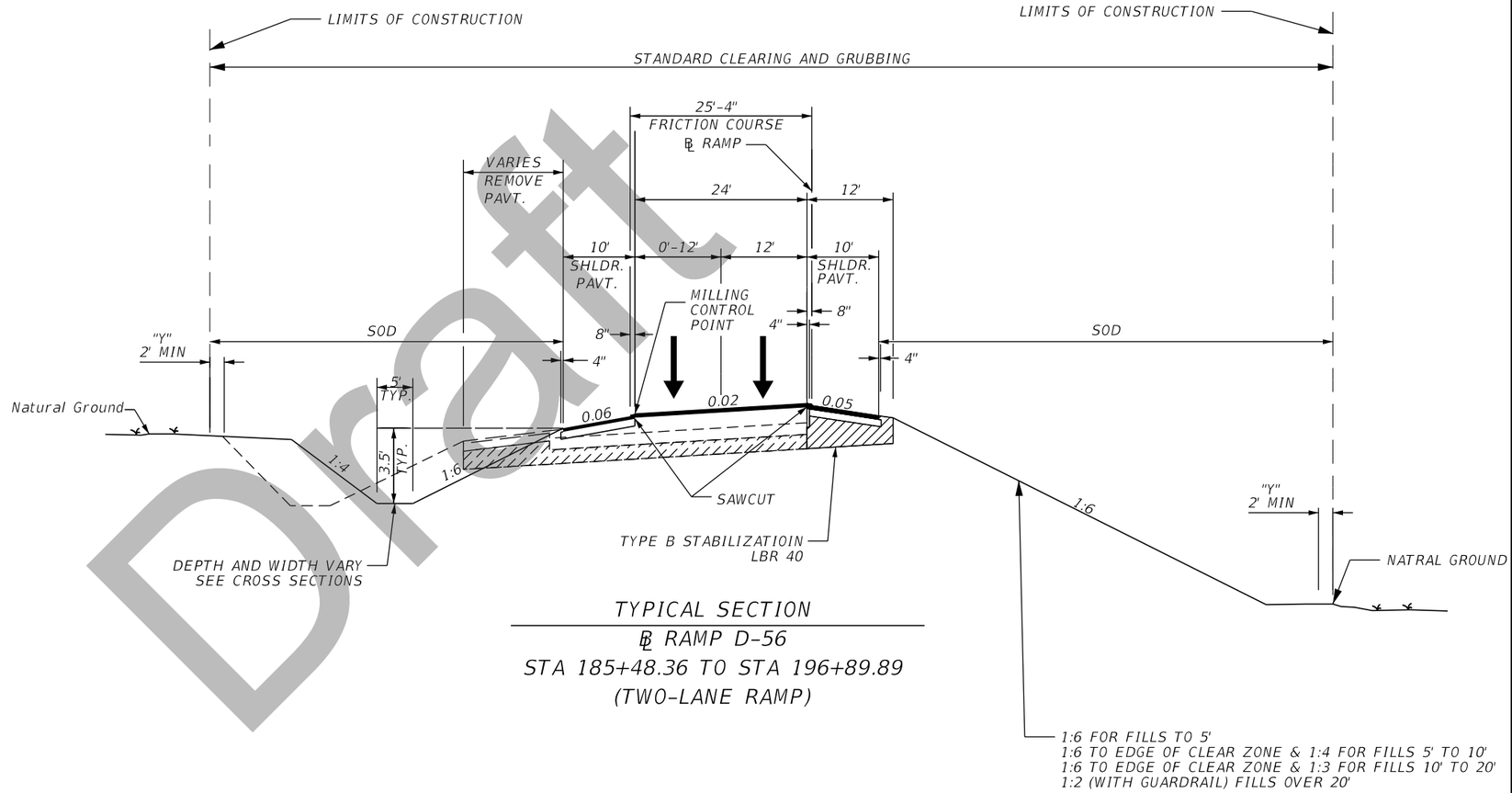
(X)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



TYPICAL SECTION
℄ RAMP D-56
STA 185+48.36 TO STA 196+89.89
(TWO-LANE RAMP)

Southbound C-D Road Ramp to I-275
(2-Lane Ramp)
South of C-D Road Ramp Diverge

"Y" THE AREA DISTURBED
BY CONSTRUCTION VARIES.

FINANCIAL PROJECT ID	SHEET NO.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

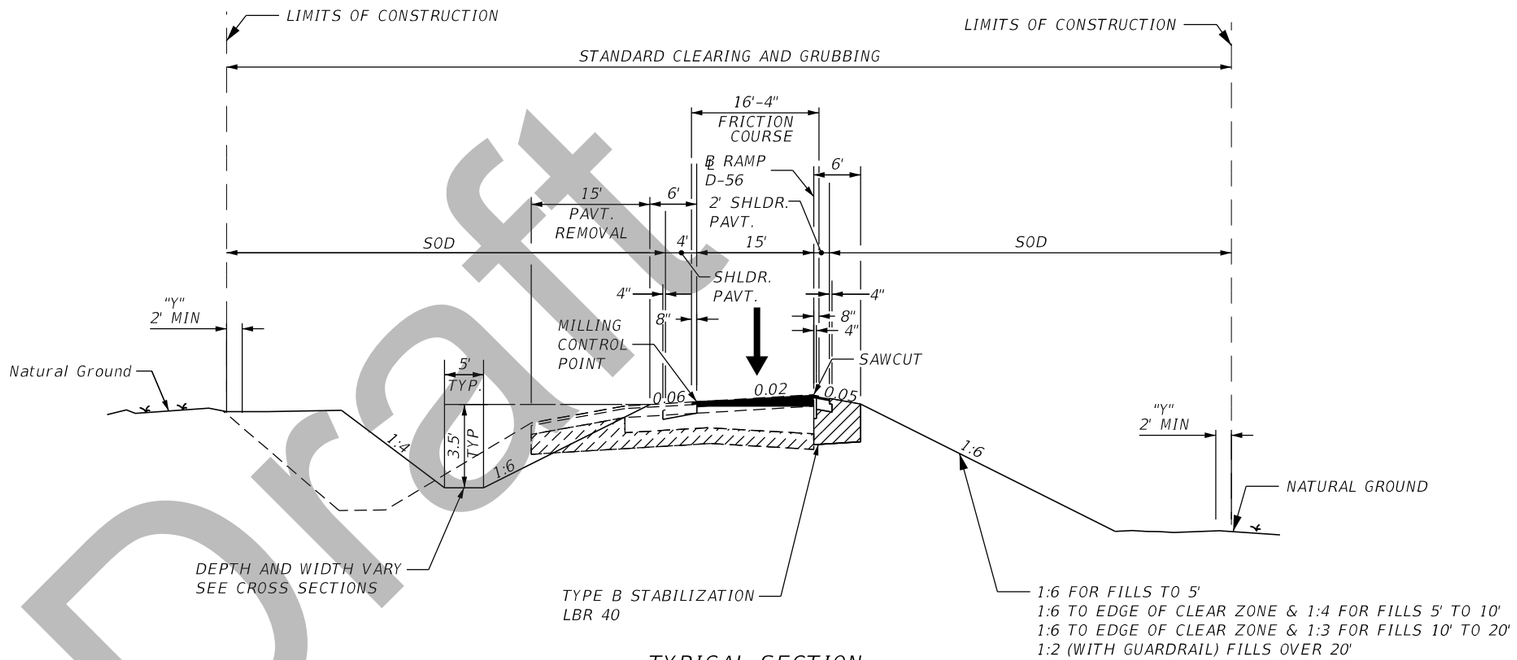
(X)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



TYPICAL SECTION

℄ RAMP D-56

STA 164+85.26 TO STA 185+48.36

(SINGLE LANE RAMP)

Southbound C-D Road Ramp to I-275
(1-Lane Ramp)
South of C-D Road Ramp Diverge
Prior to Connection to I-275

NOTE:

PROVIDE PLASTIC EROSION MAT ON SLOPES STEEPER THAN 1:3

"Y" THE AREA DISTURBED BY CONSTRUCTION VARIES.

FINANCIAL PROJECT ID	SHEET NO.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

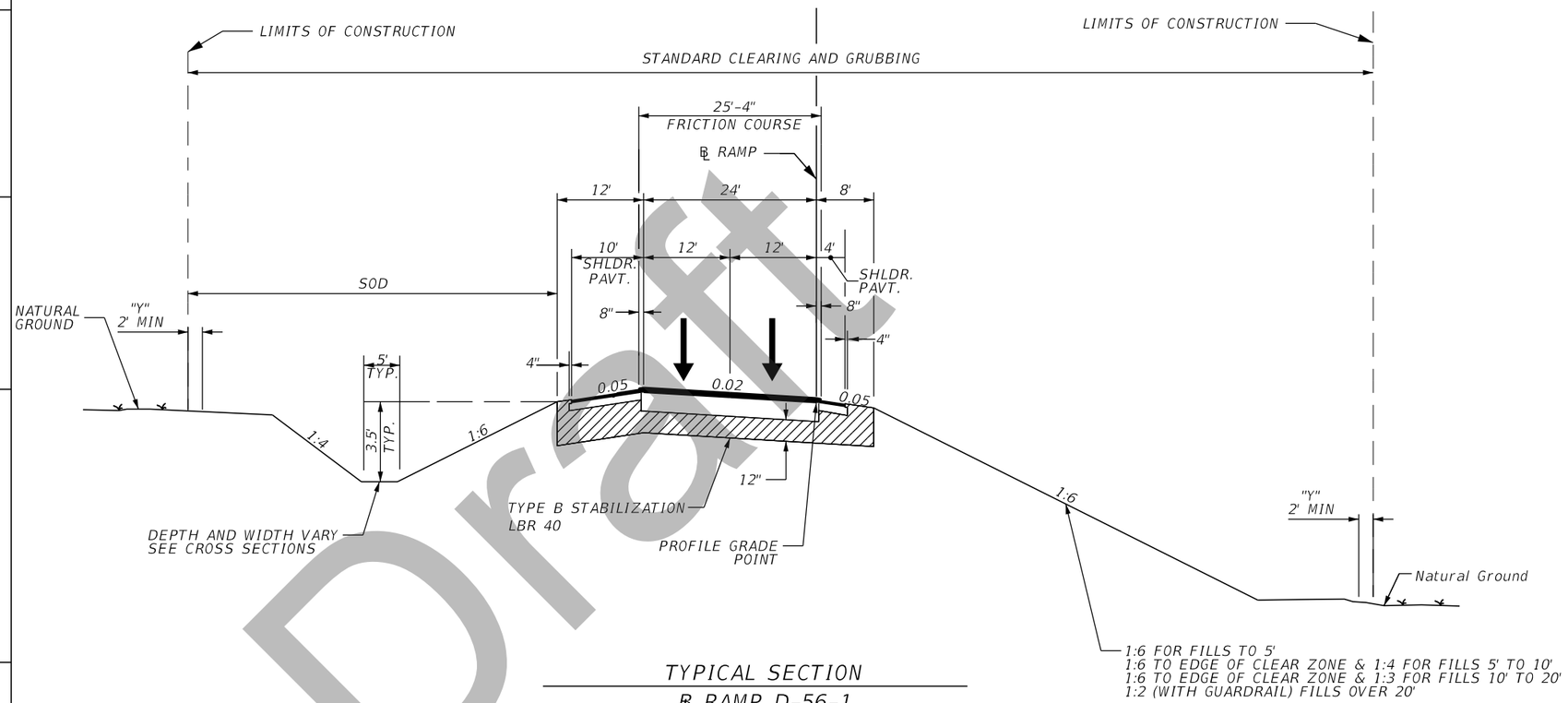
(X)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



TYPICAL SECTION
℄ RAMP D-56-1
STA 6053+28.45 TO STA 6072+53.47
(TWO-LANE RAMP)

Southbound C-D Road Ramp to I-75
(2-Lane Ramp)
South of C-D Road Ramp Diverge

"Y" THE AREA DISTURBED BY CONSTRUCTION VARIES.

FINANCIAL PROJECT ID	SHEET NO.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

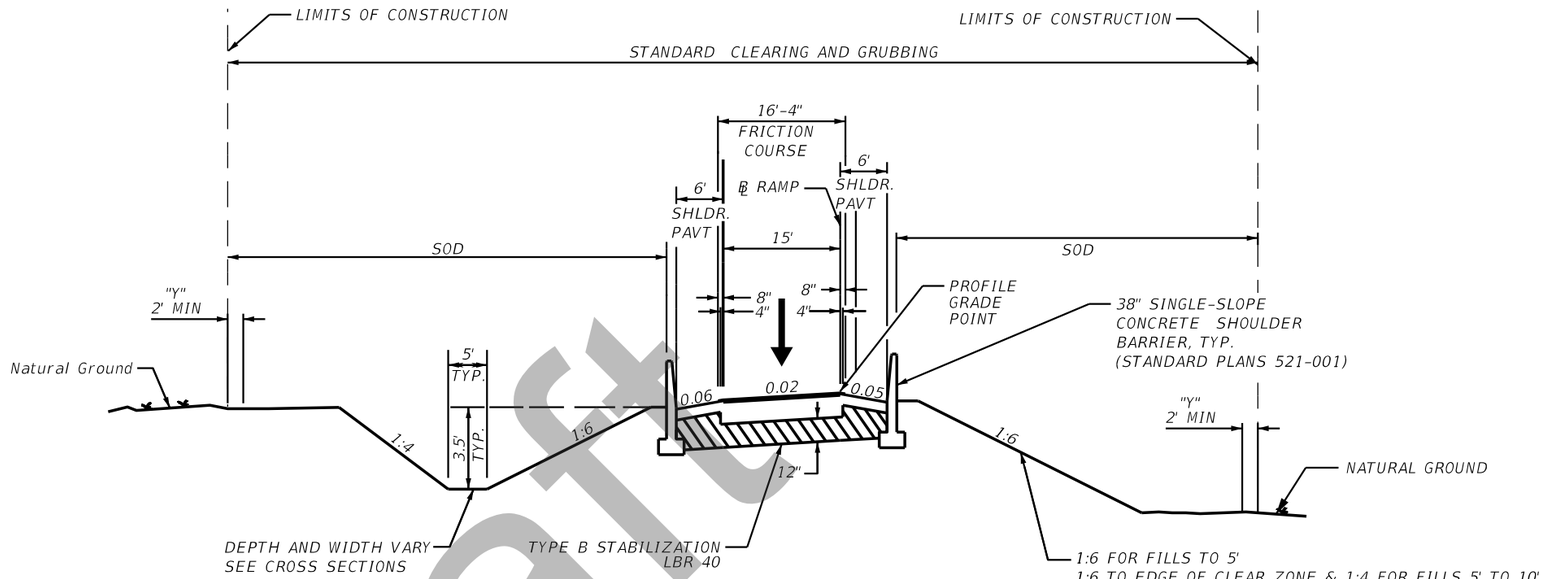
(X)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



TYPICAL SECTION

℄ RAMP D-56-1

STA 6046+22.46 TO STA 6053+28.45

(SINGLE LANE RAMP)

Southbound C-D Road Ramp to I-75
(1-Lane Ramp)
South of C-D Road Ramp Diverge
Prior to Connection to I-75

"Y" THE AREA DISTURBED BY CONSTRUCTION VARIES.

FINANCIAL PROJECT ID	SHEET NO.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

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

FUNCTIONAL CLASSIFICATION

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

HIGHWAY SYSTEM

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

ACCESS CLASSIFICATION

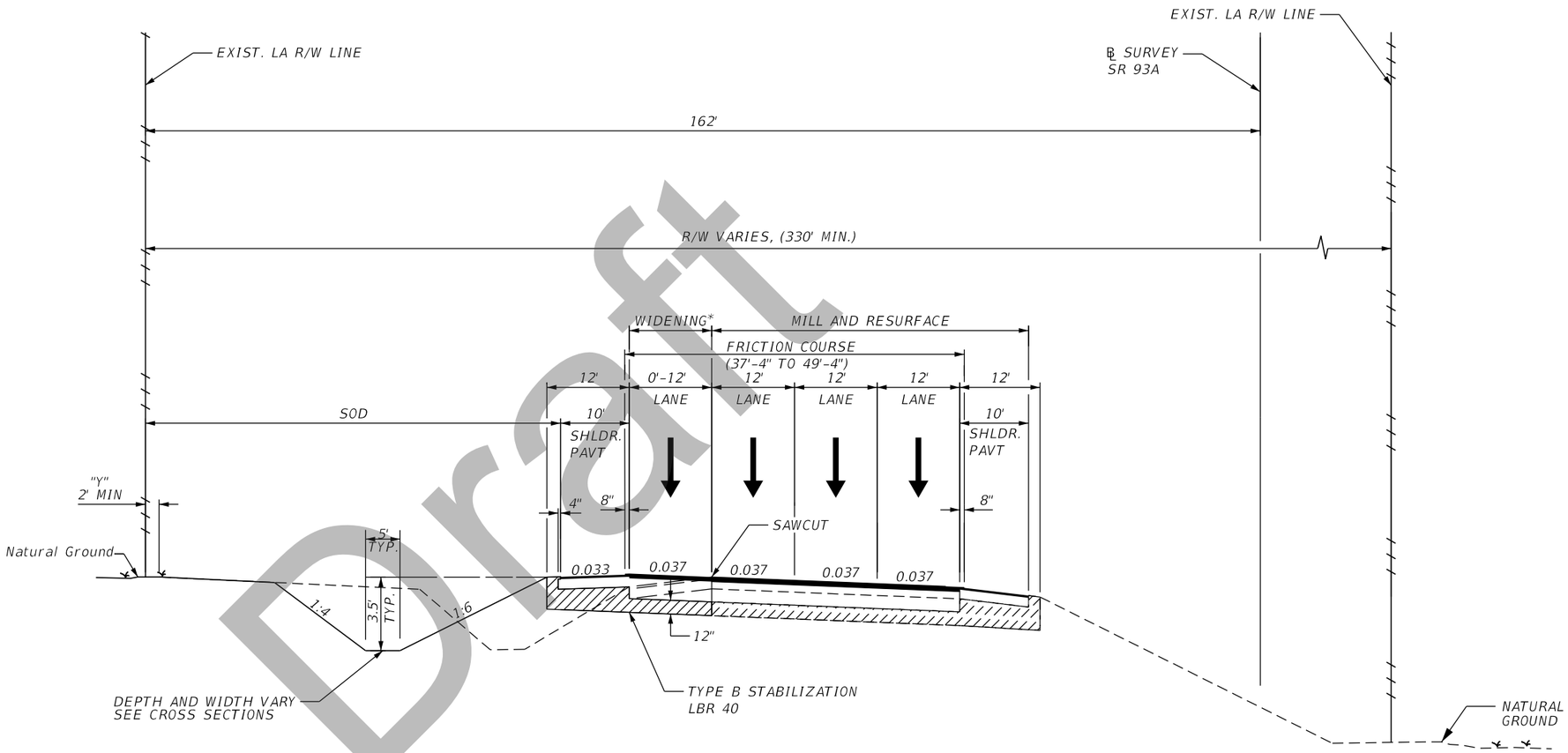
(X)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

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

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No.



* ACTUAL WIDTH OF BASE WIDENING MAY VARY DUE TO EXISTING PAVEMENT WIDTH. A UNIFORM WIDTH BASE WIDENING STRIP MAY BE CONSTRUCTED AT NO ADDITIONAL COMPENSATION.

TYPICAL SECTION

℄ SURVEY SR 93A

STA 2335+00.00 TO STA 2348+00.00

Southbound I-75
South of C-D Road Ramp Connection
(Outside lane is C-D Road Ramp Acceleration Lane)

FINANCIAL PROJECT ID	SHEET NO.

APPENDIX D

Design Documentation

MEETING MINUTES

Meeting Date:	March 27, 2020	**Date Issued:**	March 31, 2020
Location:	Teleconference at 9:30am through GoTo Meeting		
Project Name:	430573-2/3-22-01, I75/I275 SB FROM S OF COUNTY LINE RD TO SR 56		
Purpose:	To review interim and ultimate concept designs (Accommodating future express lanes)		
Notes by:	Adam Perez	**American Project #:**	5167733_010
Copies to:	All attendees		

Attendees	Representing	Phone	Fax or e-mail
Allan Urbonas	FDOT Design	813-975-6083	Allan.Urbonas@dot.state.fl.us
Daniel Lauricello	FDOT Roadway Design	813-975-6083	Daniel.Lauricello@dot.state.fl.us
Kirk Bogen	FDOT EMO	813-975-6448	Kirk.Bogen@dot.state.fl.us
Amber Russo	FDOT (GEC) EMO	813-975-6260	Amber.Russo@dot.state.fl.us
Ashley Henzel	FDOT (GEC) EMO	813-975-6433	Ashley.Henzel@dot.state.fl.us
Jeff Novotny	American Consulting	813-435-2646	JNovotny@acp-fl.com
Daniel Intriago	American Consulting	813-435-2626	DIntriago@acp-fl.com
Adam Perez	American Consulting	813-435-2628	Aperez@acp-fl.com
Mike DeVore	American Consulting	813-435-2650	MDeVore@acp-fl.com

The following notes reflect our understanding of the discussions and decisions made at this meeting. If you have any questions, additions or comments, please contact us at the above address. We will consider the minutes to be accurate unless written notice is received within 10 working days of the date issued.

The meeting began at 9:30am, with a roll call of attendees on the teleconference.

American provided an updated interim concept and ultimate concept layout as a follow-up to a previous meeting held on March 11, 2020. The ultimate concept shows the future condition with 2 express lanes in each direction as provided previously by FDOT/HNTB with the connection of the SB SR 56 (C-D Road Ramp). The interim concept shows just the SB SR 56 C-D Road ramp and its connection to existing conditions on SB I-75 and SB I-275. An overview of the interim concept design was reviewed. It was noted that the concept design has been updated to accommodate the future express lanes along I-75 and any transitions or potential "throw away" construction was shown on the concept drawings by color differences.

A review of each ramp movement was provided by Adam. Design elements of note are as follows:

- The SB SR 56 ramp (C-D Road) will be three lanes, barrier separated from SB I-75, with a separate bridge over Cypress Creek.
- The SB SR 56 ramp (C-D Road) will have a 2-2 split, just south of the Count Line Road bridge, where two lanes will travel to SB I-75 and two lanes will travel to SB I-275. This meets lane

balance criteria. The express lanes concept that American received showed this as a 2-1 split, not providing lane balance, so this is one change that was made.

- The SB SR 56 (C-D Road) ramp to SB I-75 will go under the three SB I-75 system ramp lanes which will connect to SB I-275. The express lanes concept showed this in reverse (C-D Road Ramp over the SB I-75 system ramp). As American reviewed this, flipping these minimizes the vertical challenge in getting up and over between County Line Road and the NB I-275 entrance system ramp bridge). With the SB SR 56 ramp traveling under the SB I-275 lanes, there will be a shorter bridge required with a skew angle that meets criteria.
- The SB C-D Road ramp to SB I-75 will taper to one lane prior to traveling under the two bridges coming from NB I-275 (one for NB I-75 and one for SR 56). The bridge embankment can be cut back for the bridge leading to NB I-75 to allow for the SB C-D Road ramp to be constructed without replacing the bridge in the interim condition. A normal crown curve was designed under the bridges to allow for future widening for the connection to the ultimate express lanes design. This also allows for meeting break over criteria where the ramp merges with SB I-75, which is at a 0.030 ft/ft superelevation rate in the opposite direction.
- None of the existing bridges will need to be reconstructed for the updated interim concept design provided. The SB I-75 to SB I-275 lanes will travel between the existing piers of the County Line Road bridge. An ITS equipment building will need to be relocated for this to occur.
- Where the SB I-75 system ramp lanes connect with the existing SB I-275 lanes, it is anticipated that overbuild will be used to simplify TCP and minimize reconstruction. The lanes will match the 0.02 ft/ft slope of the inside lane along I-275 with a reverse crown curve, leaving only the outside two lanes to be transitioned back to normal crown (sloped to the outside). Similarly, the existing SB I-275 lanes will be reused from the connection point mentioned above, to north of the County Line Road bridge.
- All curve lengths now meet the new requirements in the FDOT Design Manual (FDM). The express lanes concept provided to American had several C-D Road and Ramp curves not meeting the new FDM requirements.

Daniel Lauricello provided questions concerning the potential wetland impacts, and drainage floodplain compensation needs from 2000 and how it could be used. His questions were emailed to the attendees for consideration during the development of the PD&E documents. Those questions are attached.

It was requested that the final graphics for the interim and ultimate concept design show the existing pier locations for the County Line Road bridges.

American mentioned that they provided the work program update cost estimates to Ashley that reflect costs of the interim concept, split into one FPID number for work in Hillsborough County and one FPID number for work in Pasco County. In addition, the ROW needs were sent to Bill McTeer

Meeting was adjourned at approximately 10:00am.

Perez, Adam S.

From: Lauricello, Daniel <Daniel.Lauricello@dot.state.fl.us>
Sent: Friday, March 27, 2020 10:03 AM
To: Russo, Amber; Bogen, Kirk; Chin, Ronald; Urbonas, Allan; Henzel, Ashley; Waris, Abdul
Cc: Novotny, Jeffrey S.; Intriago, Daniel A.; Perez, Adam S.; DeVore, Mike
Subject: RE: (PD&E) I75/I275 SB FROM S OF COUNTY LINE RD TO SR 56: Revised Concept

Good Morning Everyone,

Due to the meeting being abbreviated I wanted to provide my comments by email. I worked on the original PD&E back in the early 2000s.

This project will have significant impacts to wetlands and floodplains. These impacts will likely drive the project and what is done with the roadway geometry. I suggest the following:

- As the wetlands and FP impacts will likely drive the project, I suggest a meeting with drainage and environmental permitting. Also a pre-application meeting with the SWFWMD would also be advised.
- The ponds may have been sized with extra stormwater treatment capacity. At one time we were designing the ponds for the 10-Lane interstate condition. Was this done on this project?
- The Existing FPCs might have also be designed for the 10-lane condition. Is there extra FP comp volume?
- There is a huge FDOT wetland mitigation site that at one time had excess wetland mitigation and excess floodplain mitigation. But I think it was built, Pre-2000s. Can FDOT still utilize the excess wetland mitigation and FP at that time?
- I suggest that preliminary FP impact volumes be established to attempt to get an order of magnitude of the FP impacts and attempt to figure out where you can mitigate for that impact. You may be able to do it in the past excess volume created.

Thanks,

Daniel M. Lauricello, P.E.
District Roadway Engineer - District VII
Roadway Design Section

State of Florida
Department of Transportation
11201 N. McKinley Drive, MS 7-800
Tampa, Florida 33612-6403
(813) 975-6083

-----Original Appointment-----
From: Russo, Amber <Amber.Russo@dot.state.fl.us>
Sent: Thursday, March 12, 2020 2:39 PM
To: Russo, Amber; Bogen, Kirk; Chin, Ronald; Lauricello, Daniel; Urbonas, Allan; Henzel, Ashley
Cc: Novotny, Jeffrey S.; Intriago, Daniel A.; Perez, Adam; DeVore, Mike
Subject: (PD&E) I75/I275 SB FROM S OF COUNTY LINE RD TO SR 56: Revised Concept

When: Friday, March 27, 2020 9:30 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: GoToMeeting

(PD&E) I75/I275 SB FROM S OF COUNTY LINE RD TO SR 56: Revised Concept
Fri, Mar 27, 2020 9:30 AM - 10:00 AM (EDT)

Please join my meeting from your computer, tablet or smartphone.

https://global.gotomeeting.com/join/970958133

You can also dial in using your phone.
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https://global.gotomeeting.com/install/970958133

Ron, Allan, & Daniel- The PD&E team has revised the concept (attached) in order to accommodate the future expansion of I-75. Let's meet to discuss any questions or concerns. Thank you!

MEETING MINUTES

Meeting Date:	9/16/2020	**Date Issued:**	9/16/2020
Location:	Virtual (Teams Meeting)		
Project Name:	430573-4/I75/I275 SB FROM S OF COUNTY LINE RD TO SR 56		
Purpose:	Pond Siting Longlist Meeting		
Notes by:	Eric Nelson	**American Project #:**	5167733-010
Copies to:	Attendees		

Attendees	Representing	Fax or e-mail
Henzel, Ashley	FDOT D7	Ashley.Henzel@dot.state.fl.us
Bogen, Kirk	FDOT D7	Kirk.Bogen@dot.state.fl.us
Waris, Abdul	FDOT D7	Abdul.Waris@dot.state.fl.us
McTeer, Bill	FDOT D7	Bill.Mcteer@dot.state.fl.us
Rhinesmith, Robin	FDOT D7	Robin.Rhinesmith@dot.state.fl.us
Conner, Allison	FDOT D7	Allison.Conner@dot.state.fl.us
Geiger, Crystal	FDOT D7	Crystal.Geiger@dot.state.fl.us
Goss, Marcel	FDOT D7	Marcel.Goss@dot.state.fl.us
Novotny, Jeff	American	JNovotny@acp-fl.com
Salicco, Chris	American	CSalicco@acp-fl.com
Nelson, Eric	American	ENelson@acp-fl.com

The following notes reflect our understanding of the discussions and decisions made at this meeting. If you have any questions, additions or comments, please contact us at the above address. We will consider the minutes to be accurate unless written notice is received within 10 working days of the date issued.

The purpose of this meeting was to discuss the pond and floodplain compensation site alternatives for the proposed express lanes and southbound CD ramp on I-75, between from the I-275 interchange to the SR 56 interchange.

- JN briefly discussed the proposed roadway concept. Discussed both build alternatives and future consideration of express lanes. Discussed the need for pond siting and floodplain impacts.
- EN then went through the pond needs and FPC needs. The following items were noted during this discussion:
  - SMF J1 and J2 will be converted from wet detention to conservation pond.
    - Will need to excavated each pond deeper and modify the control structures.
    - This eliminates the need for additional pond sites within these basins.
  - County Line Rd is in kind replacement, whereas the map showed it as a future need if replaced
    - SMF B-1 and B-2 can be eliminated. This is most likely exempt from permitting

- I-275 NB Ramp is also an in-kind replacement
  - American will need to adjust calculations for SMF 800A-1 accordingly.
  - No alternative sites were needed because it is in the infield of the FDOT r/w.
- American will look at expanding the area for FPC J2-1 to also accommodate FPC J1-2
  - EN mentioned that it will still need to be divided into two FPC sites utilizing a berm.
- American will attempt bring J2-2 closer to the r/w for access purposes.
- American will move J2-3 to the east out of the way of the future Wesley Chapel Blvd extension.
- American will label County and FDOT owned land
  - Also review further if they could be used for FPC sites
- American will label Cypress Creek Preserve on east side of the I-75
- AW questioned if net improvement is required
  - EN answered that there are no impaired WBIDs
  - *Correction to statement: Cypress Creek is an OFW. Therefore 50% net improvement is required. However, the affected ponds will still have sufficient capacity and no expansion is necessary.*
- FDOT questioned whether we would look at modeling the FPC
  - *Confirmed after meeting - this was not included in American's scope and fee for this TWO.*
- *Other items emailed immediately following the meeting (per AH):*
  - *Include the existing and proposed R/W lines*
  - *Change the FPID number from the CSC contract to the project number*
  - *If there is a FPC site that is not adjacent to the R/W, we need to show an access easement*
  - *Add roadway labels*

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES

FILE NUMBER:

PA 407927

Date:	09/16/2020		
Time:	11:00		
Project Name:	SB I-75/I-275 Ramps from SR 56 PD&E Study		
District Engineer:	Scott VanOrsdale		
District ES:	Lauren Greenawalt		
Attendees:	Eric Nelson, PE, Chris Salicco		
County:	Pasco	**Sec/Twp/Rge:**	26, 27, 34 & 35/26/19, 3 & 4/27/19
Total Land Acreage:	N/A	**Project Acreage:**	unknown acres

Prior On-Site/Off-Site Permit Activity:

- ERP – 43033020.004

Project Overview:

- PD&E/PSR phase of project. Proposing to widen I-75 r/w to the west to accommodate new SB Ramp from SR 56 to I-275, modifications to existing ramps at I-75/I-275 interchange. Will require SMF(s) to treat new impervious. Three permitted in the interchange will be modified from wet treatment to conservation ponds. FPC sites also required.
- Project will modify existing permit, Individual Major Modification.
- Discussed utilizing storage modeling to show no adverse floodplain impacts where cup for cup cannot be provided.
- Discussed digging three existing ponds deeper to function better and reduce maintenance issues. Provide justification for removing the littoral zone.

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- The site is located in the Hillsborough River ERP Basin. Mitigation Banks that serve this area include Hillsborough River and North Tampa. For an interactive map of permitted mitigation banks and their service areas, use this LINK.
- If the wetland mitigation is appropriate and the applicant is proposing to utilize mitigation bank credit as wetland mitigation, the following applies: Provide letter or credit availability or, if applicable, a letter of reservation from the wetland mitigation bank. The wetland mitigation bank current credit ledgers can be found out the following link: https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit, Go to “ERP Mitigation Bank Wetland Credit Ledgers”
- Demonstrate elimination and reduction of wetland impacts.
- Maintain minimum 15 foot, average 25 foot wetland conservation area setback or address secondary impacts.
- The project is proposing to attenuate/treat in wetlands. Please demonstrate that adverse impacts to the wetland hydro-periods will not occur by providing hydrographs of the 2.33 year mean annual storm. The graph should start and end at the pop-off elevation with Existing Condition and Proposed Condition hydrographs superimposed for comparison. Please provide a supporting narrative for the hydrographs explaining any variations that are shown. The invert of the agricultural ditches may be the existing ‘pop-off’ elevation, or SHWL of the wetland and may need to be considered when designing the storm water management system.
- Determine SHWL’s at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.

- Determine 'pop-off' locations and elevations of wetlands.
- As of October 1, 2017, the District will no longer send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- Existing roadway/intersections – I-75, I-275; SR 54
- Watersheds – Cypress Creek
- WBIDs need to be independently verified by the consultant - WBID 1402 – Cypress Creek; not impaired at this time. Possible WBID 1440E – Cypress Creek (North); not impaired at this time. Possible WBID 1455 – Trout Creek; TMDL for Fecal Coliform and impaired for Escherichia.
- OFW – Cypress Creek, at least one pond will have a direct discharge.
- Document/justify SHWE's at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.
- Determine 'pop-off' locations and elevations of wetlands.
- Provide documentation to support tailwater conditions for quality and quantity design
- Proposed control structures in wetlands should be consistent with existing 'pop-off' elevations of wetlands; demonstrate no adverse impacts to wetland hydroperiod for up to 2.33yr mean annual storm.
- Minimum flows and levels of receiving waters shall not be disrupted.
- Contamination issues need to be resolved with the FDEP. Check FDEP MapDirect layer for possible contamination points within/adjacent to the project area. FDEP MapDirect Link
  - FDEP Site ID No. **9101790** located within or adjacent to site. Please verify with FDEP if any have current contamination issues.
  For known contamination within the site or within 500' beyond the proposed stormwater management system:
  - after the application is submitted, please contact FDEP staff listed below and provide them with the ERP Application ID # along with a mounding analysis (groundwater elevation versus distance) of the proposed stormwater management system that shows the proposed groundwater mound will not adversely impact the contaminated area. FDEP will review the plans submitted to the District and mounding analysis to determine any adverse impacts. Provide documentation from FDEP that the proposed construction will not result in adverse impacts. This is required prior to the ERP Application being deemed complete.
  - If a SWMS is to be constructed within a contamination zone area, a groundwater sample collected from the first aquifer water bearing zone (i.e. zone of saturation or first zone that the water table is encountered) will most likely be required.
  FDEP Contacts:
  - For projects located within Citrus, Hernando, Pasco, Hillsborough, Pinellas, Manatee, Polk and Hardee Counties: Yanisa Angulo yanisa.angulo@floridadep.gov
- Check for District owned lands over and adjacent to project area.
- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- Any wells on site should be identified and their future use/abandonment must be designated.
- Are there any high water data, flooding complaints or issues onsite or nearby?
- District data collection site may be impacted by proposed construction. Contact data.maps@watermatters.org to coordinate relocation of District data collection site.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Demonstrate that post development peak discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation~~.~~ if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same

basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.

- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- Replace treatment function of existing ditches to be filled.
- Presumptive Water Quality Treatment for Alterations to Existing Public Roadway Projects:
  -Refer to Section 4.5 A.H.V.II for Alterations to Existing Public Roadway Projects.
  -Refer to Sections 4.8, 4.8.1 and 4.8.2 A.H.V.II for Compensating Stormwater Treatment, Overtreatment, and Offsite Compensation.
  -All co-mingled existing & new impervious that is proposed to be connected to a treatment pond will require treatment for an area equal to the co-mingled existing & new impervious (times ½" for dry treatment or 1" for wet treatment). This applies whether or not equivalent treatment concepts are used.
  -However, if equivalent treatment concepts are used it is possible to strategically locate the pond(s) so that the minimum treatment requirement may be for an area equivalent to the new impervious area only. That is, co-mingled existing & new impervious that is not connected to a treatment pond may bypass treatment (as per Section 4.5(2), A.H.V.II); if the 'total impervious area' that is connected to the treatment pond(s) is at least equivalent to the area of new impervious only. The 'total impervious area' that is connected to the pond(s) may be composed of co-mingled existing & new impervious.
  -Offsite impervious not required to be treated; but may be useful to be treated when using equivalent treatment concepts.
  -Existing treatment capacity displaced by any road project will require additional compensating volume. Refer to Subsection 4.5(c), A.H.V.II.
- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.
- Provide additional 50% treatment for any direct discharges to OFW. Refer to ERP Applicant's Handbook Vol. II Subsection 4.1(f).
- Please be advised that although use of isolated wetlands for ERP treatment purposes is permittable as per Section 4.1(a)(3), A.H.V.II, use of isolated wetlands for treatment purposes may not necessarily meet US Army Corps criteria.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- The project may be located within state owned sovereign submerged lands (SSSL). Be advised that a title determination will be required from FDEP to verify the presence and/or location of SSSL.
- If use of SSSL is proposed, authorization will be required. Refer to Chapter 18-21, F.A.C. and Chapter 18-20, F.A.C. for guidance on projects that impact SSSL and Aquatic Preserves.

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to entity that owns or controls the property.
- Provide evidence of ownership or control by deed, easement, contract for purchase, etc. Evidence of ownership or control must include a legal description. A Property Appraiser summary of the legal description is NOT acceptable.

Application Type and Fee Required:

- SWERP Individual Major Modification – Sections A, C, and E of the ERP Application.
- < 40 acres of project area and < 3 wetland or surface water impacts - $1,082.00 Online Submittal
- < 100 acres of project area and <10 acre of wetland or surface water impacts - $1,245.75
- Consult the fee schedule for different thresholds.

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
  a. Deed with complete Legal Description attachment.
  b. Plat.
  c. Boundary survey of the property(ies) with a sketch.

- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

  ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

  DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*
- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]
- If lowering of SHWE is proposed, then burden is on Applicant to demonstrate no adverse onsite or offsite impacts as per Subsection 3.6, A.H.V.II. Groundwater drawdown 'radius of influence' computations may be required to demonstrate no adverse onsite or offsite impacts. Please note that new roadside swales or deepening of existing roadside swales may result in lowering of SHWE. Proposed ponds with control elevation less than SHWE may result in adverse lowering of onsite or offsite groundwater.

APPENDIX E

Preliminary Conceptual Signing Plan

MASTER SIGNAGE PLAN OVERHEAD AND CANTILEVER SIGNS ONLY

SR 56 SOUTHBOUND C-D ROAD / RAMPS TO I-75/I-275
I-75 FROM SOUTH OF THE I-75/I-275 APEX TO SR 56

WPI Segment No. 430573-4