

Final Preliminary Engineering Report

SR 60

Project Development & Environment Study

From Valrico Road to the Polk County Line

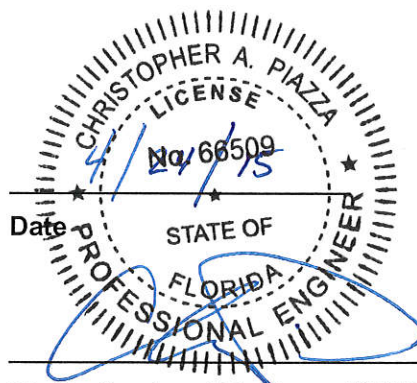
Hillsborough County, Florida

ETDM Project Number: 4131
Work Program Item Segment Number: 430055-1
Federal-Aid Project Number: N/A



This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for SR 60 from Valrico Road to the Polk County Line, within Hillsborough County, Florida.

April 2015



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SR 60 PD&E Study

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WPI Segment No.: 430055-1
Hillsborough County

Prepared for the

**Florida Department of Transportation
District Seven**



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April 2015

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SECTION 1. – SUMMARY OF PROJECT

1.1 COMMITMENTS AND RECOMMENDATIONS

Commitments

The Florida Department of Transportation (FDOT) has established the following commitments:

- Gopher tortoise: Due to the presence of gopher tortoise habitat and burrows within and adjacent to the existing right-of-way (ROW), a gopher tortoise survey in appropriate habitat within construction limits (including roadway footprint, stormwater management facilities and floodplain compensation sites) will be performed within 90 days of the project's construction letting date. The FDOT will secure any relocation permits needed for this species during the permitting phase of the project.
- Eastern indigo snake: the FDOT commits to informal consultation with the U.S. Fish and Wildlife Service (USFWS) during the Design phase of the project to provide additional information necessary to allow the Service to complete their analysis of the project's effects to the eastern indigo snake, and complete informal consultation on the project prior to advancing the project to construction to comply with Title 23 Code of Federal Regulations (CFR) Part 771.133. The FDOT commits to utilizing the Service's revised Standard Protection Measures for the Eastern Indigo Snake, dated August 12, 2013 or later measures if they have been updated by the USFWS.
- Wood stork: FDOT will evaluate impacts to Suitable Foraging Habitat (SFH) within the Core Foraging Area (CFA) during the Design phase and provide any additional wetland mitigation necessary to offset permanent impacts to SFH through the U.S. Army Corps of Engineers (USACE) permit.
- Osprey: Due to the presence of active nests within and adjacent to the existing ROW a survey of these nests will be performed within 90 days of the project's construction letting date to determine if they are active or inactive. If the nest(s) are in the way of construction and must be removed, the FDOT will secure a permit from the Florida Fish and Wildlife Conservation Commission (FWC) if

they are inactive. Requests for removal of an active nest(s) are issued on a case-by-case basis by FWC and also require permits from the USFWS.

- A land use review will be performed during the Design phase of the project to ensure that all noise-sensitive land uses that have received a building permit prior to the project's Date of Public Knowledge are evaluated.
- The FDOT will further evaluate the need and feasibility for noise barriers at the 6 impacted noise sensitive areas during the design phase.

Recommendations

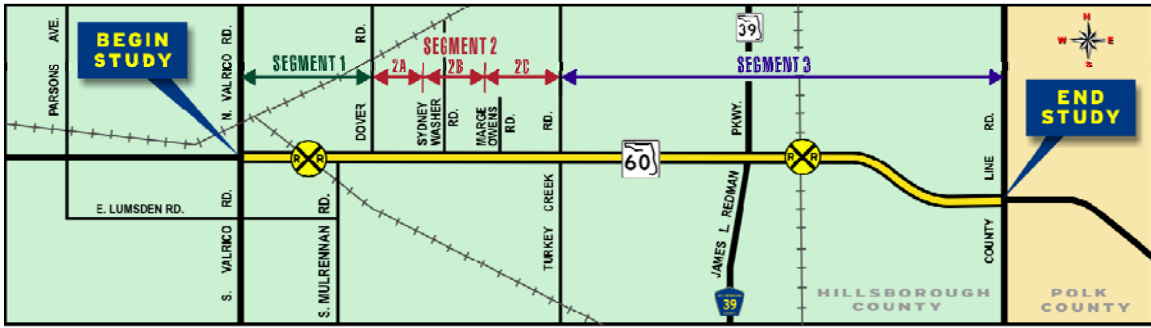
The proposed improvements as described below in **Section 1.2** are to be approved for advancement to future phases of project development (i.e. design, right-of-way acquisition, and construction) as funding becomes available.

1.2 DESCRIPTION OF PROPOSED ACTION

The FDOT conducted a project Development and Environment (PD&E) Study to consider the proposed widening of a portion of SR 60. Located in Hillsborough County, the limits of this study are from Valrico Road at the west end extending eastward to the Polk County Line, a distance of approximately 12.3 miles (mi). The project was broken out into three segments. Segment 2 was further subdivided into three sub-segments to address the varying ROW widths and land use within the segment. The segment limits, as shown in **Figure 1-1**, are as follows:

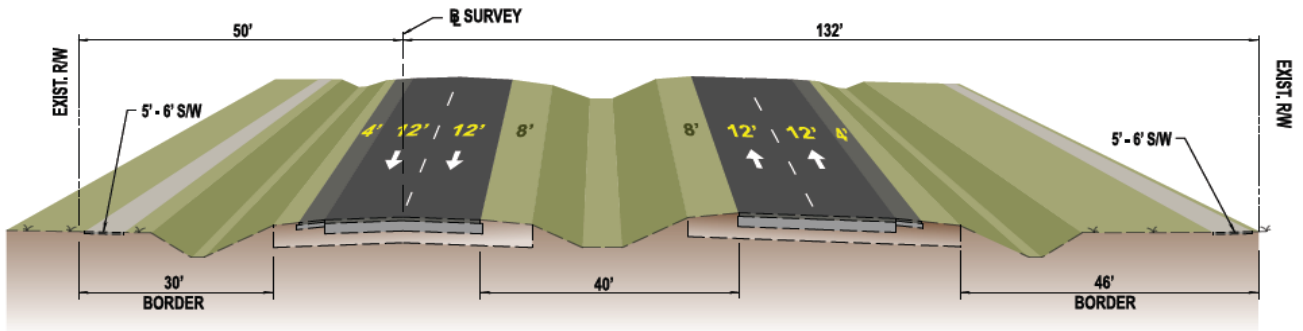
- Segment 1: Valrico Road (MP 11.459) to Dover Road (MP 13.487)
- Segment 2A: Dover Road (MP 13.487) to West of Sydney Washer Road (MP 14.106)
- Segment 2B: West of Sydney Washer Road (MP 14.106) to West of Marge Owens Road (MP 15.261)
- Segment 2C: West of Marge Owens Road (MP 15.261) to Turkey Creek Road (MP 16.491)
- Segment 3: Turkey Creek Road (MP 16.491) to the Polk County Line (MP 23.740)

FIGURE 1-1: PROJECT SEGMENTS



SR 60 currently has a 4-lane divided rural typical section (**Figure 1-2**). The existing roadway has 12-foot (ft) travel lanes, 4-ft paved outside shoulders and a 40-ft grassed median. There are two bridge culverts and two bridges located within the study limits: SR 60 over Turkey Creek (No. 100058) and the Little Alafia River (No. 100059), and SR 60 over English Creek (Nos. 100583 westbound and 100584 eastbound). The posted speed limit ranges from 50 to 65 miles per hour (mph). The existing ROW width varies from 135 to 182 feet (ft), with 182 ft being the most typical width.

FIGURE 1-2: EXISTING TYPICAL SECTION



1.3 PROPOSED TYPICAL SECTIONS

The urban pavement savings typical section was utilized in Segments 1, and 2A as shown in **Figure 1-3**. The new construction typical section was utilized in Segment 2B, as shown in **Figure 1-4**, because the restricted ROW width in that area necessitates the centering of the roadway within the ROW. Both typical sections include three 12-ft travel lanes with a 7-ft buffered bike lane and 5-ft sidewalk in each direction. The design speed is 50 mph.

FIGURE 1-3: URBAN PAVEMENT SAVING TYPICAL SECTION (SEGMENTS 1 & 2A)

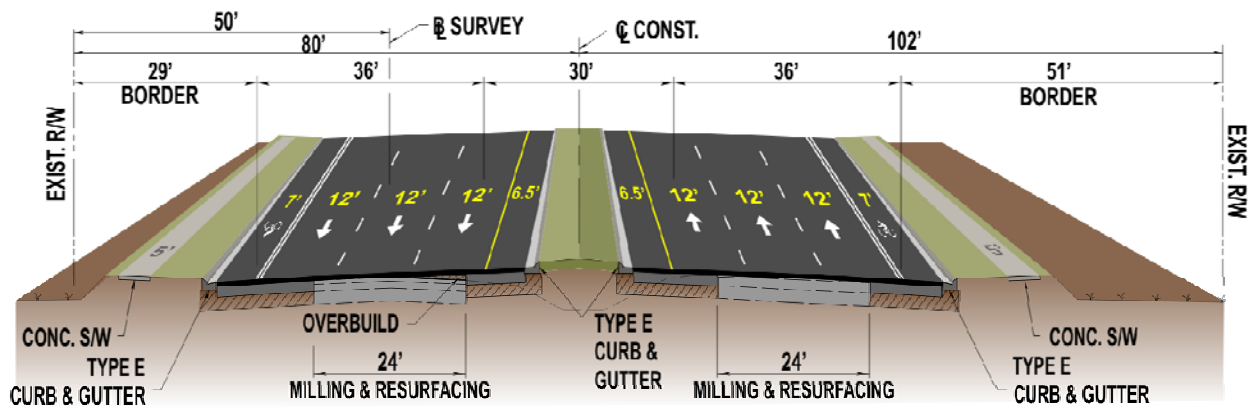
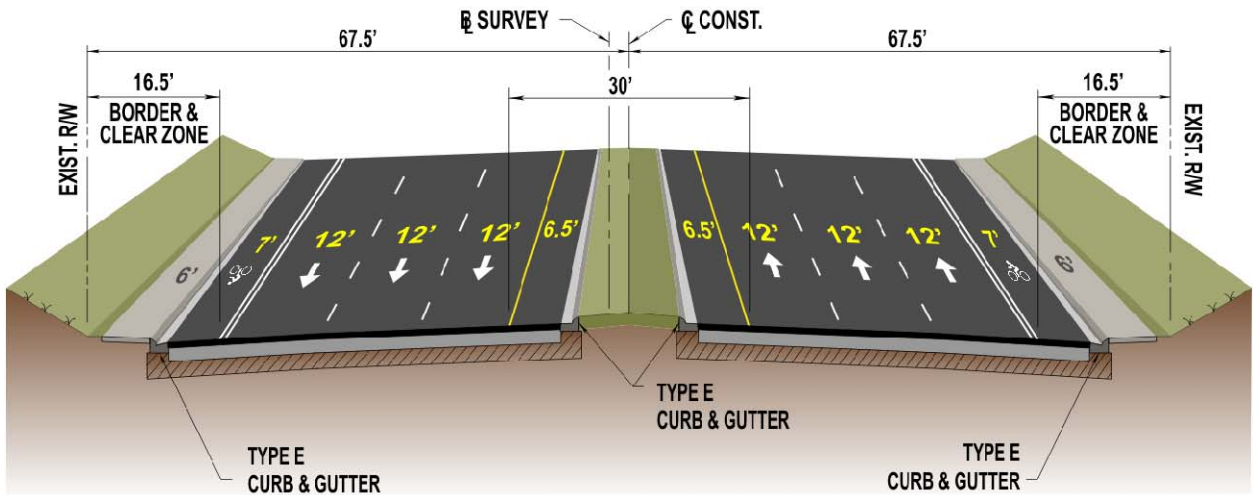
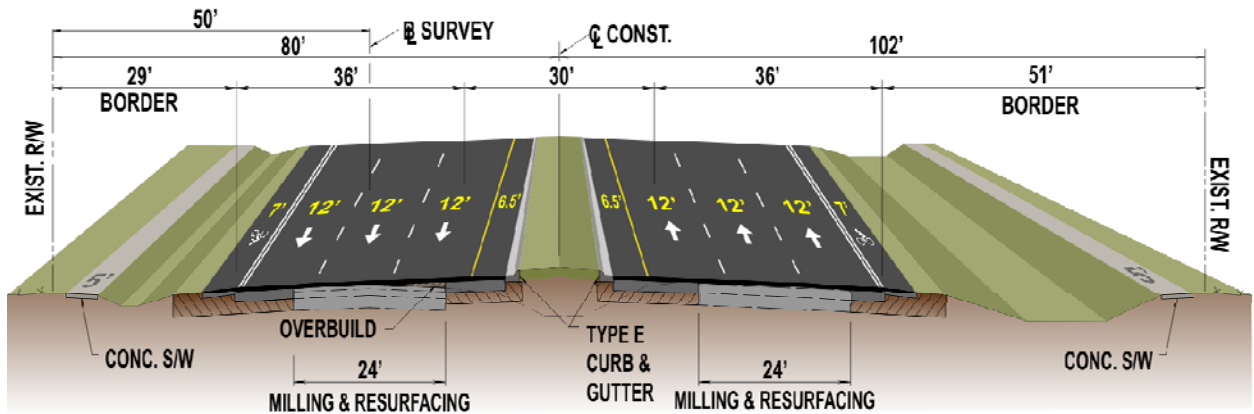


FIGURE 1-4: URBAN NEW CONSTRUCTION TYPICAL SECTION (SEGMENT 2B)



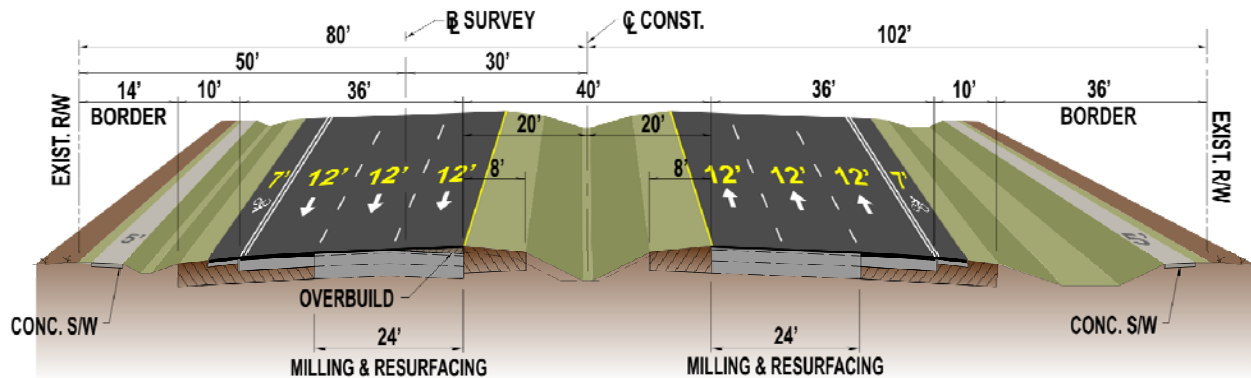
A Suburban pavement saving typical section was utilized in Segment 2C as shown in **Figure 1-5**. This typical section includes three 12-ft travel lanes with a 7-ft buffered bike lane and 5-ft sidewalks in each direction. The design speed is 50 mph.

FIGURE 1-5: SUBURBAN PAVEMENT SAVING TYPICAL SECTION (SEGMENT 2C)



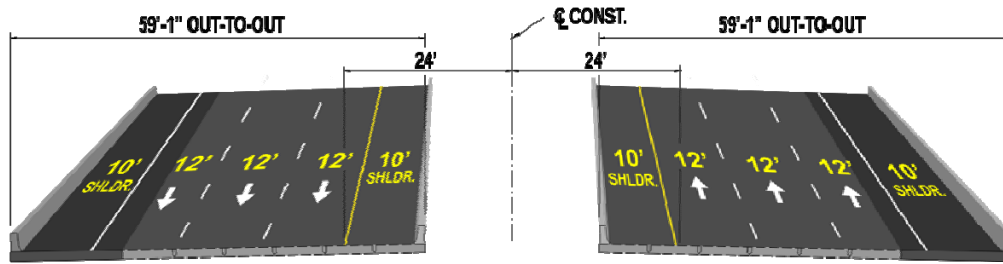
A rural pavement saving typical section was utilized in Segment 3 as shown in **Figure 1-6**. This typical section includes three 12-ft travel lanes with a 7-ft buffered bike lane and 5-ft sidewalks in each direction. The design speed is 70 mph.

FIGURE 1-6: RURAL PAVEMENT SAVING TYPICAL SECTION (SEGMENT 3)



Both the westbound (#100583 at MP 23.147) and eastbound (#100584 at MP 23.147) SR 60 bridges over English Creek are in excellent shape. They will be widened to the outside by 16 ft to accommodate the new six-lane roadway. The eastbound and westbound lanes will shift to the outside to increase the existing 6-ft inside shoulders to 10 ft across the bridges (see **Figure 1-7**), allowing the existing structures to remain with only outside widening.

FIGURE 1-7: BRIDGE WIDENING TYPICAL SECTION OF SR 60 OVER ENGLISH CREEK



1.3.1 HORIZONTAL ALIGNMENT

The Recommended Alternative is centered on the existing roadway centerline and will require additional ROW, but will not result in any business or residential relocations. The required ROW is predominantly composed of corner clips on the north side of the roadway within Segments 1, 2A, and 2B. In Segment 2B the roadway enters a cut section and the ROW narrows to 135 ft. The roadway will be reconstructed throughout this segment to allow side slopes to tie-down within the existing ROW. An existing FDOT weigh station is located in the median approximately 2,400 ft east of SR 39. The EB lanes will be shifted to the south to match the current alignment adjacent to the weigh station and the entrance and exits to the weigh station will not be modified.

Because the Alternative is centered on the existing roadway centerline, which is north of the center of the ROW, additional ROW is required on the north side of the roadway to accommodate a number of right turn lanes and the adjacent sidewalk in Segments 2C and 3. See the concept plans in **Appendix A** for details on the horizontal alignment and the locations of the additional roadway ROW.

SECTION 2. – INTRODUCTION

2.1 PROJECT DESCRIPTION

The FDOT conducted a PD&E Study to consider the proposed widening of a portion of SR 60. Located in Hillsborough County, the limits of this study are from Valrico Road at the west end extending eastward to the Polk County Line, a distance of approximately 12.3 mi (**Figure 2-1 and Figure 2-2**). Within the project limits, the existing roadway is a principal arterial, and the improvement will expand the current 4-lane facility to 6-lanes. SR 60 is a major east-west arterial roadway and is part of the Florida Strategic Intermodal System (SIS). The project is within Sections 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30 of Township 29 South, Range 21 East; Sections 19, 20, 21, 22, 25, 26, 27, 28, 29 and 30 of Township 29 South, Range 22 East of the Public Land Survey System (PLSS).

This project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process, designated as ETDM project #4131. An ETDM *Programming Screen Summary Report* was published on June 8, 2012, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical and social resources. Based on the ETAT comments included in the Summary Report and undertaking the public involvement process to date, it has been determined that the proposed improvements to SR 60 would not create any significant impacts to the environment. Also, when the project went through the ETDM Programming Screen process, the FDOT planned to seek approval of the PD&E study's environmental document by the Federal Highway Administration (FHWA). In the meantime, the FDOT determined that it would instead process the study's environmental document as a State Environmental Impact Report (SEIR). The project is currently fully funded for design in the FDOT's 2024-2040 SIS Cost Feasible Plan.

FIGURE 2-1: SR 60 PROJECT LOCATION MAP

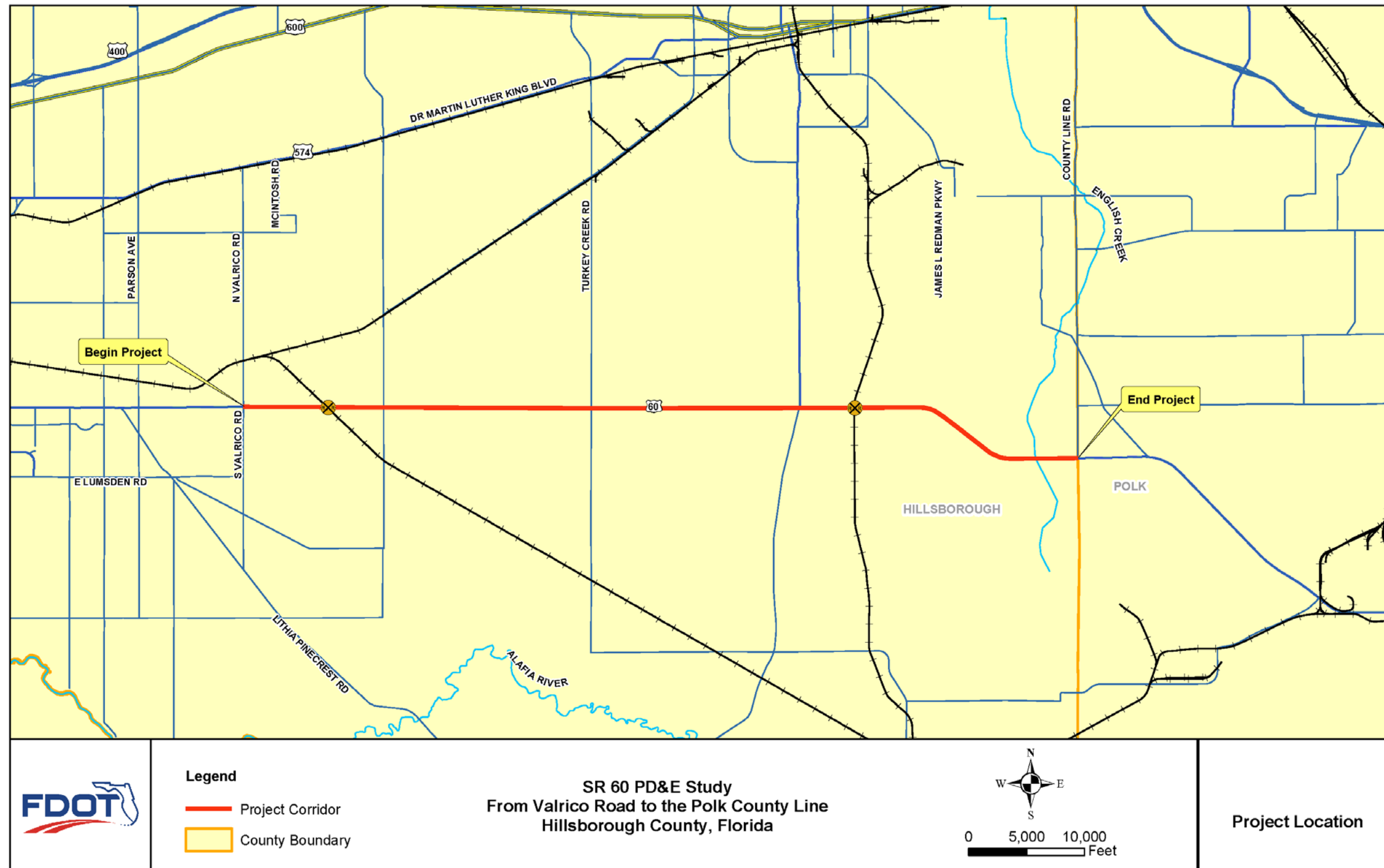
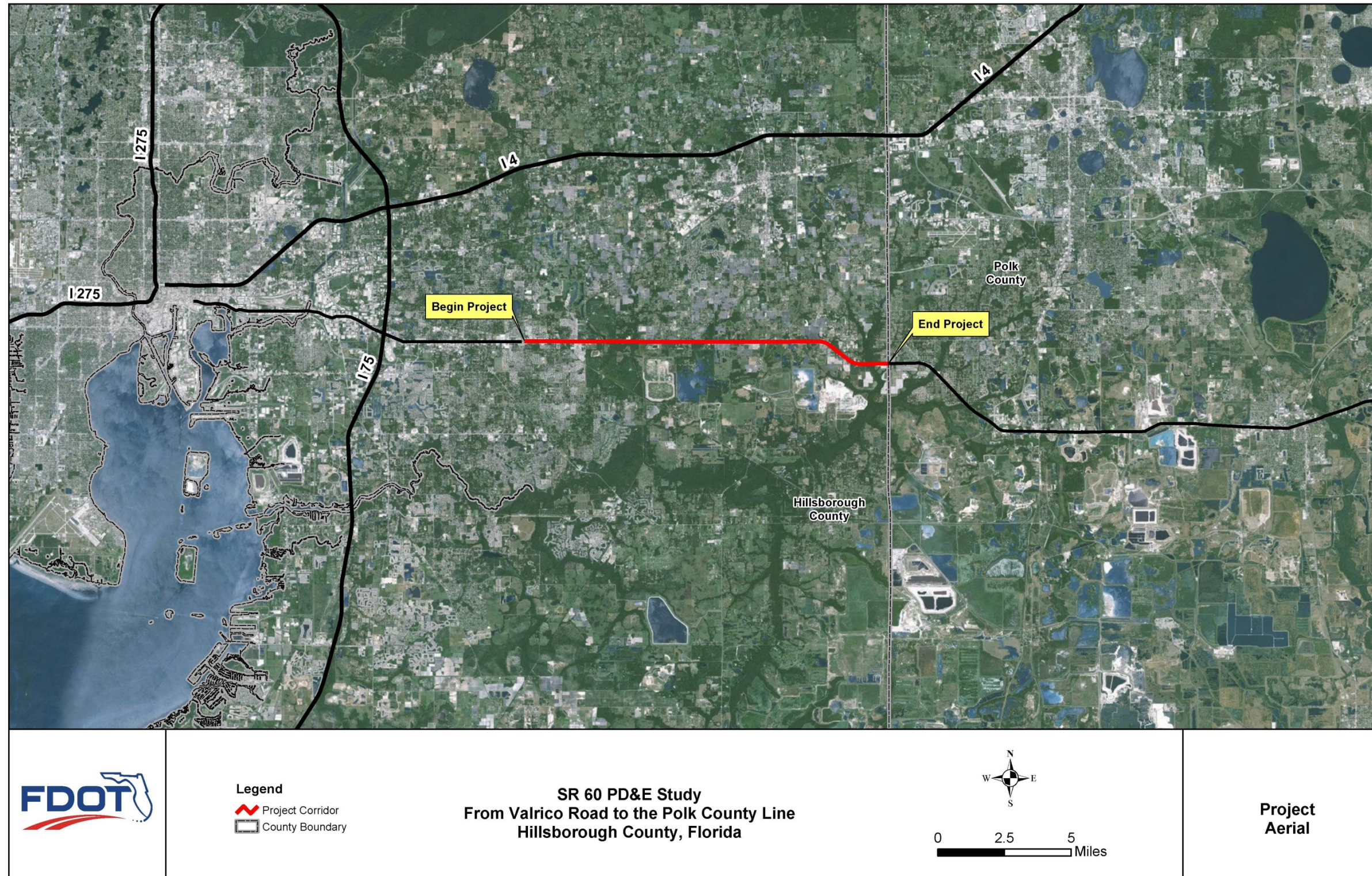


FIGURE 2-2: SR 60 PROJECT AERIAL



2.2 PURPOSE OF REPORT

The purpose of this report is to document the engineering and environmental analysis performed to support decisions related to evaluation of the project alternatives. In addition, it summarizes existing conditions, documents the purpose of and need for the project, and documents other data related to preliminary design concepts. These preliminary design concepts establish the functional or conceptual requirements that will be the starting point for the final design phase.

SECTION 3. – PROJECT PURPOSE AND NEED

The purpose of the proposed project is to accommodate increases in traffic due to the estimated employment increase for Hillsborough County as a whole and a population increase for unincorporated Hillsborough County. SR 60 is a major east-west arterial roadway and is part of the Florida SIS. The SIS is comprised of facilities of statewide and interregional significance that move people and goods and provide for smooth and efficient transfers between modes and major facilities.

SR 60 provides connectivity with many of Florida's major highways, some of which include: US 19, US 41, Interstate 75 (I-75), US 98, US 17, US 27, US 441, Florida's Turnpike, Interstate 95 (I-95) and US 1. SR 60 on the western end terminates as a roundabout with Coronado Drive (CR 699) on Clearwater Beach in Pinellas County and the eastern terminus for SR 60 is SR A1A in Indian River County; therefore, it provides a coast-to-coast route across the state. SR 60 is a vital link in the regional transportation network that connects the Tampa Bay region to the remainder of the state.

The need for two additional lanes on SR 60 in this area is based on current roadway level of service (LOS) combined with future growth projections. The Hillsborough County Level of Service Report (March 2011) shows the current LOS of SR 60 between Valrico Road and Dover Road as F. This segment is currently 12% over capacity. The 2011 LOS is C between Dover Road and Turkey Creek Road and also between SR 39 and County Line Road, and the LOS is currently B between Turkey Creek Road and SR 39.

Socioeconomic growth projections from the Hillsborough County Metropolitan Planning Organization's 2035 Long Range Transportation Plan Socioeconomic Projections estimate an employment increase of 55% and a population increase of 47% for Hillsborough County between 2006 and 2035. Based on the growth projected to occur within the corridor, SR 60 is projected by the Tampa Bay Regional Planning Model (TBRPM) – Cost Feasible Network to have future traffic volumes of approximately 48,800 vehicles east of Valrico Road and 42,500 vehicles west of County Line Road by 2035, which would yield a LOS F for the corridor with the current roadway configuration. These volumes would not meet the FDOT's acceptable LOS standards of LOS D for SR 60 between Valrico Road and Horton Road and LOS C for SR 60 between Horton Road and County Line Road.

SECTION 4. – EXISTING CONDITIONS

4.1 EXISTING CONDITIONS

4.1.1 ROADWAY CLASSIFICATION & ACCESS MANAGEMENT

SR 60 is a SIS facility designated as Access Class 3 within the study limits (See **Section 5** for more information on the median and connection spacing requirements). The functional classification varies, as shown in **Table 4-1**.

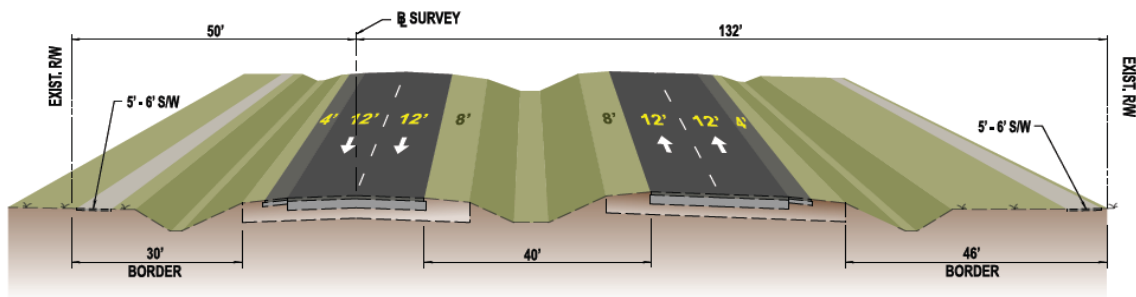
TABLE 4-1: FUNCTIONAL CLASSIFICATION

Limits	Functional Classification
Valrico Road (MP 11.456) to Dover Road (MP 13.487)	Urban Other Principal Arterial
Dover Road (MP 13.487) to Sydney Washer Road (MP 14.500)	Rural Principal Arterial - Other
Sydney Washer Road (MP 14.500) to Horton Road (MP 22.152)	Urban Other Principal Arterial
Horton Road (MP 22.152) to the Polk County Line (MP 23.740)	Rural Principal Arterial - Other

4.1.2 EXISTING ROADWAY FACILITY

SR 60 is a 4-lane rural divided facility with 12-ft travel lanes, 4-ft paved outside shoulders, a 40-ft grass median, and intermittent sidewalk within the study limits, as shown in **Figure 4-1**. The existing ROW is typically 182 ft and the posted speed limit ranges from 50 to 65 mph.

FIGURE 4-1: EXISTING TYPICAL SECTION



4.1.3 EXISTING STRUCTURES

There are two bridge culverts within the limits of this study; where SR 60 crosses over Turkey Creek (#100058 at MP 15.061) and the Little Alafia River (#100059 at MP 17.344). These two bridge culverts consist of three barrels with 10 ft spans. Both of these bridge culverts were originally constructed in 1946 and widened in 1962. An inspection of

these structures was performed on June 22, 2011 at which time the Turkey Creek culvert was given a sufficiency rating and health index of 74.7 and 68.94 respectively; the Little Alafia River culvert was given a 74.0 and 53.35 rating. There are two bridges within the limits of this study. Both the westbound (#100583 at MP 23.147) and eastbound (#100584 at MP 23.147) SR 60 bridges over English Creek are in excellent shape. These 43-ft 1-inch wide bridges consist of transversely post-tensioned, prestressed concrete slabs that are 15 inches deep to convey the SR 60 traffic over the five 33-ft 0-inch spans for a total bridge length of 165 ft 0 inches. Two 30 inch diameter drilled shafts are used for the bents because of the high limestone layer at the bridge site. The June 13, 2011 inspection resulted in these bridges being given sufficiency ratings of 99.6 and health indices greater than 88.

4.1.4 EXISTING CROSS DRAINS

There are 18 cross drains within the study limits as summarized in **Table 4-2**.

TABLE 4-2: EXISTING CROSS DRAINS

Cross Drain	Milepost	Station	Description
CD-01	11.868	421+03	Single 24" RCP
CD-02	12.246	441+28	Single 30" RCP
CD-03	14.485	559+02	Single 36" RCP
CD-04	15.434	609+10	Single 4'X3' CBC
CD-05	15.936	635+66	Single 36" RCP
CD-06	16.895	686+49	Single 7'X3' CBC
CD-07	17.106	697+50	Single 8'X5' CBC
CD-08	18.171	754+74	Single 24" RCP
CD-09	18.769	786+01	Single 24" RCP
CD-10	19.005	798+27	Single 24" RCP
CD-11	19.546	826+36	Double 7'X5' CBC
CD-12	20.117	856+80	Double 36" RCP
CD-13	20.292	865+80	Single 24" RCP
CD-14	20.992	902+99	Double 30" RCP
CD-15	21.410	925+31	Double 30" RCP
CD-16	21.840	948+00	Single 36" RCP
CD-17	21.849	960+00	Single 30" RCP
CD-18	22.061	970+00	Single 30" RCP

4.1.5 PEDESTRIAN AND BICYCLE FACILITIES

There are 5-ft and 6-ft sidewalks along both sides of SR 60 from Valrico Road to St. Cloud Avenue and the sidewalk on the south side continues to Valrico Station Road, just

west of the western railroad crossing. Short segments of 6-ft sidewalk are present along both sides of the roadway between Mulrennan Road and just east of Dover Road. East of Turkey Creek Road there are sidewalks on both sides of SR 60 to James Redman Parkway (SR 39) and the north sidewalk continues to Clarence Gordon Jr. Road. There are no other pedestrian facilities within the study limits.

Existing bicycle facilities consist of 4-ft undesignated paved shoulders from Valrico Road to Turkey Creek Road and 4-ft designated paved shoulders from Turkey Creek Road to the County Line.

4.1.6 HORIZONTAL AND VERTICAL ALIGNMENTS

The existing baseline survey horizontal and vertical alignments are summarized in **Table 4-3** and **Table 4-4**, respectively. The existing vertical alignment information was obtained from as-built plans that only included the section of the study between Turkey Lake Road (Sta. 662+90) and west of Smith Ryals Road (Sta. 915+00). No existing vertical alignment information for the remainder of the study area was available.

TABLE 4-3: EXISTING HORIZONTAL ALIGNMENT (BL SURVEY)

Curve	PC	PT	R (ft)	e
1	383+39.00	408+83.97	171,877.96	NC
2	494+11.38	501+11.33	343,758.79	NC
3	585+41.36	592+91.36	171,888.13	NC
4	738+51.80	751+51.80	171,887.34	NC
5	914+83.56	933+83.94	2,864.79	0.062
6	978+33.60	997+51.94	2,864.79	0.062

TABLE 4-4: EXISTING VERTICAL ALIGNMENT (BL SURVEY) TURKEY LAKE ROAD TO WEST OF SMITH RYALS ROAD

Grade In (%)	PI	Grade Out (%)	Type	VC Length
0.0616	662+90	-0.4165	CREST	400
-0.4165	672+00	-0.8446	CREST	400
-0.8446	681+95	-0.4224	SAG	400
-0.4224	689+90	-0.8946	CREST	400
-0.8946	695+50	0.0000	SAG	600
0.0000	720+60	1.227	SAG	500
1.2270	732+10	0.2594	CREST	500
0.2594	747+25	0.1026	CREST	500
0.1026	757+00	0.4964	SAG	400
0.4964	771+00	0.9205	SAG	300
0.9205	779+30	0.2707	CREST	400
0.2707	802+50	-0.0117	CREST	400
-0.0117	835+00	0.6205	SAG	400
0.6205	842+30	0.0804	CREST	400
0.0804	853+50	0.3012	CREST	400
0.3012	862+00	0.0671	CREST	400
0.0671	869+00	-0.0868	CREST	400
-0.0868	913+00	-0.3004	CREST	400

4.1.7 CRASH DATA AND SAFETY ANALYSIS

Crash data for the five-year period, 2006 to 2010, was obtained from FDOT District Seven for this study. The data was reviewed to identify areas that may benefit from safety related improvements. In addition, each intersection and median opening was analyzed, with a focus on median related crashes, as part of the access management evaluation, to identify opportunities to improve safety by adjusting access along the corridor.

A total of 1,270 crashes occurred within the study limits, including 18 fatalities and 1,051 injuries. Approximately 96% (1,218 crashes) of the total crashes, accounting for 913 injuries and 11 fatalities, occurred at intersections or median openings. Crashes at signalized intersections and locations with fatalities are summarized in **Table 4-5**. When only intersections are considered, there were 692 injuries and five fatalities. There were 226 angle and 89 left turn crashes at median openings and intersections. These are median related crashes that can potentially be reduced by adjusting access along the corridor. Please refer to the *Access Management Memo* for more detailed information.

TABLE 4-5: MEDIAN RELATED CRASH SUMMARY YEARS 2006 – 2010

Intersecting Street	Milepost	Injuries	Fatalities	Angle Crashes	Left Turn Crashes	Median Crashes	Total Crashes	Median Related (%)
Valrico Road	11.456	43	0	23	7	30	73	41%
Miller Road	11.957	155	3	33	22	55	213	26%
St. Cloud Avenue	12.456	115	0	23	14	37	152	24%
Mulrennan Road	12.967	94	0	13	12	25	119	21%
Dover Road	13.487	57	0	9	6	15	72	21%
Sydney Washer Road	14.500	27	1	7	2	9	37	24%
Jerry Smith Road	15.741	15	1	12	2	14	18	78%
Turkey Creek Road	16.491	69	0	15	4	19	88	22%
Unnamed	18.103	1	2	0	0	0	1	0%
Unnamed	18.348	2	2	0	0	0	1	0%
SR 39	19.495	72	0	26	8	34	106	32%
Sam Hicks Road	22.879	3	1	0	0	0	1	0%
County Line Road	23.740	15	1	8	2	10	26	38%

Based on the crash analysis, the Access Management Standards for an Access Class 3 road and the existing connectivity between roads along SR 60, modifications to the access are recommended. Signal locations will remain unchanged due to previously established signal warrants at the existing signalized intersections. These locations should be studied for countermeasures to reduce crashes during design.

4.1.8 INTERSECTIONS AND SIGNALIZATION

There are 30 intersections within the study corridor, eight of which are signalized, as shown in **Table 4-6**.

TABLE 4-6: EXISTING INTERSECTIONS

Intersecting Street	Milepost	Signalized
Valrico Road	11.456	Yes
Rolling Hills Blvd	11.631	No
Miller Road	11.957	Yes
Oakhill Village Cr	12.178	No
Church St	12.322	No
St. Cloud Avenue	12.456	Yes
Skywood Drive	12.708	No
Sharewood Drive	12.809	No
Mulrennan Road	12.967	Yes
Strawberry Ridge Blvd	13.235	No
Dover Road	13.487	Yes
Hans Lane	13.807	No
Sydney Washer Road	14.500	No
Boca Grande Cir	15.567	No
Jerry Smith Road	15.741	No
S. Farkas Road	16.213	No
Turkey Creek Road	16.491	Yes
Calhoun Road	16.744	No
Luckasavage Road	16.996	No
Wallace Road	17.252	No
Rain Frog Lane	17.504	No
Mud lake Road / Haynsworth Drive	17.878	No
Bugg Road / Cassells Road	18.762	No
SR 39 / James L Redman Parkway	19.495	Yes
Smith Ryals Road	21.513	No
Horton Road	22.155	No
Old Hopewell Road	22.560	No
Sam Hicks Road	22.879	No
Miles Farms Road	23.003	No
County Line Road	23.740	Yes

4.1.9 LIGHTING

Currently, street lights are present from the beginning of the study at Valrico Road to approximately 1,400 ft east of Dover Road on both sides of the roadway. There is also lighting on both sides of the Turkey Creek Road intersection; approximately 1,200 ft to the west and 1,000 ft to the east. The lights pick up again about 1,200 ft west of SR 39 and continue for 3,000 ft, to the east end of the weigh station. Lastly, the intersection with Smith Ryals Road is lit. Hillsborough County maintains the lighting along the project.

4.1.10 UTILITIES AND RAILROADS

Utility identification was conducted with the use of as-built plans, field reconnaissance, and Sunshine 811. **Table 4-7** summarizes the facilities of the 10 identified utility owners within the study area.

TABLE 4-7: UTILITIES IN STUDY AREA

Utility Company	Facility Type	Limits	Offset/Side
Bright House Networks	Underground Fiber Optic & Coax	Entire Study Area	North / South
Comcast Communications	Underground Fiber Optic	Mulrennan Road to W. of Orchid Grove Lane	North
	Underground Coax	W. of Orchid Grove Lane to E. of Sydney Washer Road	North
	Underground Coax	W. of Farkas Road to Farkas Road	North
	Underground Coax	Turkey Creek Road to Calhoun Road	North
	Underground Coax	Wallace Road to W. of Mud Lake Road	North
Florida Gas Transmission	Underground Gas Main	Crossing SR 60 Between Dover Road and Sydney Washer Road	N/A
	Underground Gas Main	Crossing SR 60 Between Jerry Smith Road and Farkas Road	N/A
Hillsborough County Traffic	Underground Fiber Optic	Valrico Road to Turkey Creek Road	South
	Electric	Valrico Road to 1,400' East of Dover Rd; Turkey Creek Road Intersection; SR 39 Intersection; Smith Ryals Road Intersection	North / South
Hillsborough County Water	12" Water Main	Valrico Road to Mulrennan Road	South
	4" Force Main	Valrico Road Intersection	South
Sprint/Nextel	Underground Fiber Optic	Entire Study Area	North / South
Tampa Electric Company	Aerial Electric: 13.2 kv Distribution & 69 kv Transmission	Entire Study Area	North
Tampa Electric Company	Aerial Electric: Transmission	Crossing SR 60 at St. Cloud Avenue	West Side of Intersection
	Aerial Electric: Transmission	Crossing SR 60 at Mud Lake Road	West Side of Intersection
TECO Peoples Gas	Underground 4" Gas Main	Valrico Road to Mulrennan Road	South; Approx. 30' from EOP
Verizon Florida, LLC	Aerial Cable	Valrico Road to W. of Sydney Washer Road	South
	Underground Phone & Fiber Optic	Entire Study Area	North / South
	Underground Phone	Rolling Hills Road to E. of Mulrennan Road	North
	Underground Phone	E. of Dover Road to W. of Sydney Washer Road	North
	Underground Phone	W. of Jerry Smith Road to Luckasavage Road	South
	Aerial Cable	W. of Turkey Creek Road to Turkey Creek Road	South
	Aerial Cable	Lukasavage Road to W. of Mud Lake Road	South
	Underground Phone	W. of Mud Lake Road to SR 39	South
	Aerial Cable	SR 39 to Clarence Gordon Jr. Road	South
	Underground Phone	SR 39 to Clarence Gordon Jr. Road	North
	Underground Phone	W. of Smith Ryals Road to Smith Ryals Road	North
	Aerial Cable	W. of Smith Ryals Road to W. of the County Line	South
Qwest Communications	Underground Fiber Optic	Along CSX Railroad Tracks	N/A

There are two at-grade railroad crossings along SR 60 within the study limits. One is located between St. Cloud Avenue and Mulrennan Road (NGCN 624551-H) and, the second is located between SR 39 and Old Hopewell Road (NGCN 624572-B CSX). Based on the information received from the FDOT-District Seven Rail Section, NGCN 624551-H currently has approximately 20 trains a day, and as they are mostly longer phosphate trains, the flashing lights and gates are activated for between three and five minutes; and, NGCN 624572-B currently has one train a day and the flashing and gates are activated for between two and four minutes. There are no future plans to widen these crossings or provide grade separation per the District Rail Coordinator; however, the crossings are scheduled to be reconstructed by FDOT in 2015 (WPI Nos. 435277-1 and 435275-1).

4.1.11 WEIGH STATION

The Hopewell Static Station is located in the median east of SR 39. The weigh station is operational, but there are no plans to bring it online full time or upgrade it in the near future as per coordination with the Office of Maintenance, Motor Carrier Size and Weight.

4.1.12 PAVEMENT CONDITIONS

The existing pavement is generally in fair condition with no signs of base failure. The pavement and base is anticipated to be in an acceptable condition for reuse with milling and resurfacing as part of the Recommended Alternative, but should be evaluated further during final design. SR 60 between Turkey Creek Road and Clarence Gordon Jr. Road, which was resurfaced in 2012, is in good condition.

4.1.13 SOILS AND GEOTECHNICAL

A review of soil data from both the United States Geological Service (USGS) and the United States Department of Agriculture (USDA) indicates that much of the project alignment contains sandy soils (See **Figure 4-2**). In addition, areas directly adjacent to the project alignment contain mining related soils. The depth and concentration of organic material within the surficial soils, as well as the mining-related soils, varies.

Along most of the alignment, Seasonal High Groundwater Table (SHGWT) levels, in their natural condition, are estimated to be at or above the ground surface in the low areas of the project ranging to more than six feet below natural ground surface. At some locations, the

FIGURE 4-2: SOILS MAP

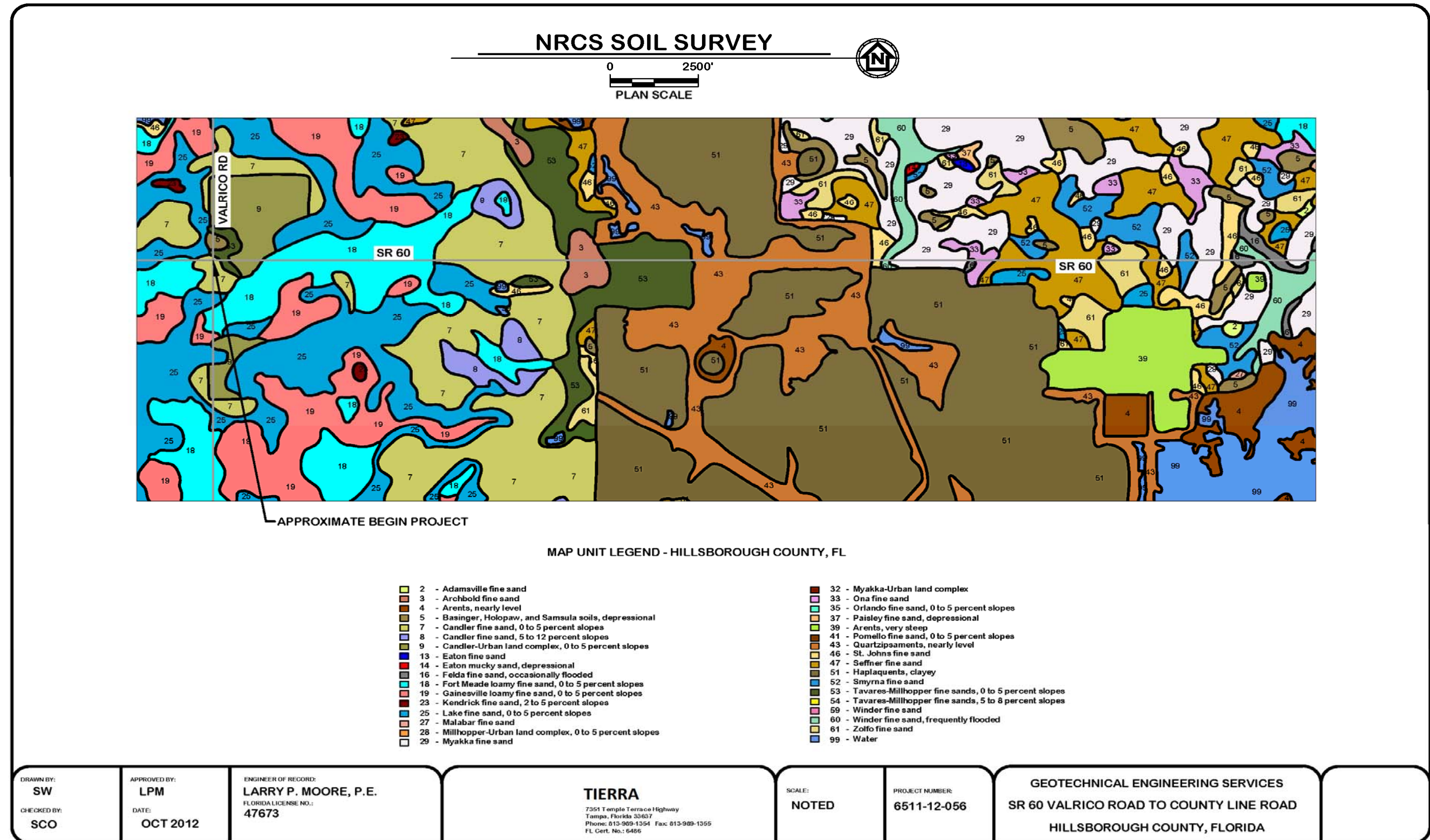
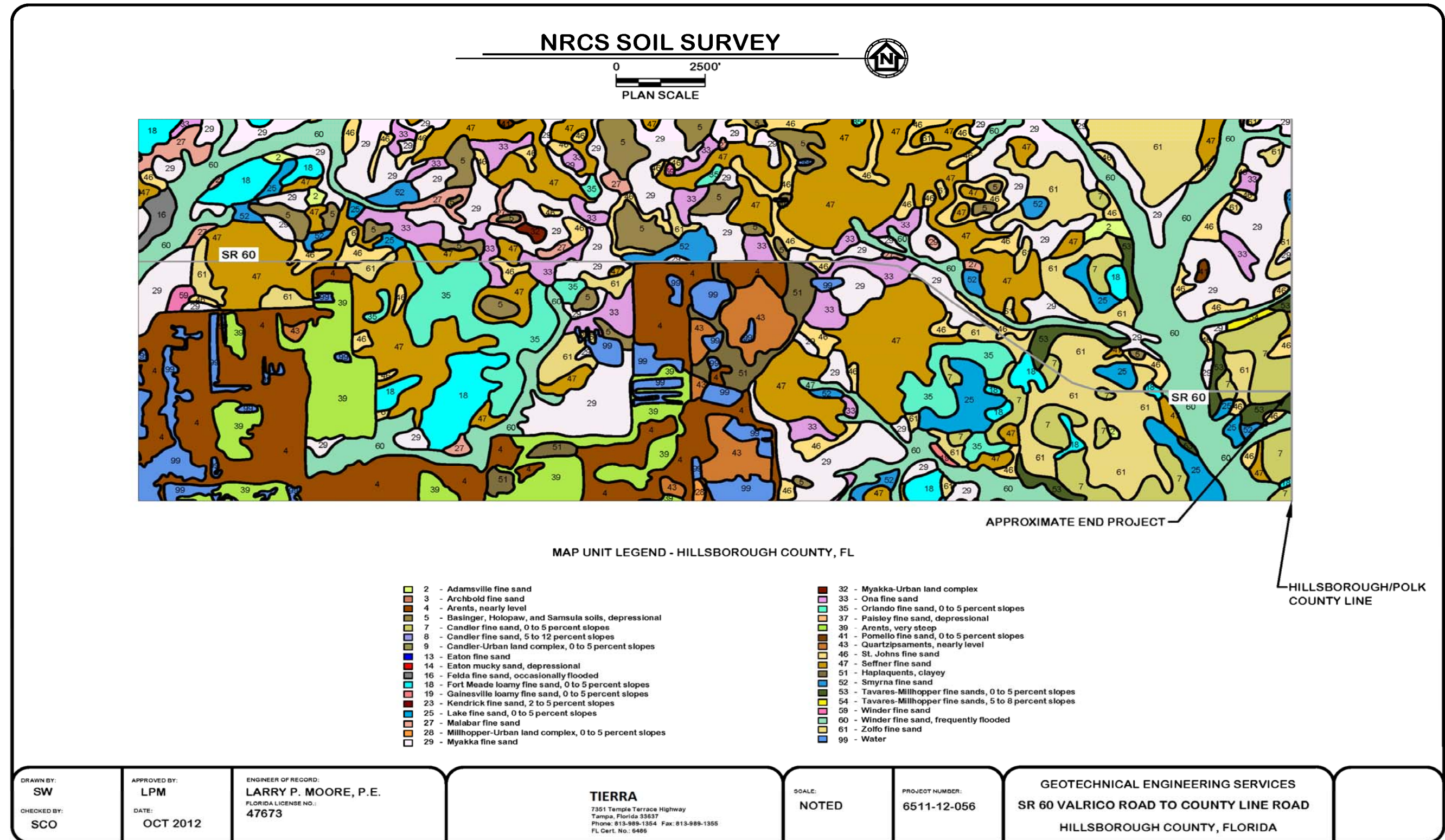


FIGURE 4-2: SOILS MAP (CONT.)



SHGWT is reported to be above natural ground surface during wet seasons. For further information, refer to the *Geotechnical Memorandum*.

4.2 NATURAL AND PHYSICAL ENVIRONMENT

4.2.1 AIR QUALITY

The project is located in Hillsborough County, Florida, an area currently designated by the US Environmental Protection Agency (EPA) as being in attainment for all of the criteria air pollutants. Because the project is in an attainment area and the project would reduce congestion, it is not likely that the proposed improvements will have an impact on local or regional air pollutant/pollutant precursor emissions or concentrations.

The project was subject to a localized carbon monoxide (CO) screening analysis and “passed” the screening test.

4.2.2 CONTAMINATION AND HAZARDOUS MATERIALS SITES

Sixty-six mainline locations were investigated for sites that may present the potential for finding petroleum contamination or hazardous materials during project construction activities, and therefore may impact the proposed improvements for this project. Of 66 mainline sites investigated (See **Table 4-8**), the following risk rankings have been applied: 13 “High” ranking sites, 6 “Medium” ranking sites, 24 “Low” ranking sites, and 23 sites ranked "No" for potential contamination concerns. See **Appendix A** for the locations of facilities listed as “Medium” or “High.” A detailed discussion of each site, including the “Low” and “No” sites, and their location is presented in the *Contamination Screening Evaluation Report (CSER)*.

TABLE 4-8: CONTAMINATION AND HAZARDOUS MATERIALS SITES

Site Number	Facility Name	Address	Concern	Facility/Site ID	Regulatory Databases	Risk Ranking
1	Dry Cleaning Depot	1761 SR 60, Valrico, FL 33594	Drycleaning Solvents	NA	NA	NO
2	Firestone Complete Auto Care Store #19GR-025976	1809 SR 60, Valrico, FL 33594	Petroleum Products	8945459	UST, LUST	LOW
3	Master Cleaners	1946 SR 60 East, Valrico, FL 33594	Drycleaning Solvents	299600577	UST	NO
4	Majik Touch Cleaners	1985 SR 60 East, Valrico, FL 33594	Drycleaning Solvents	2996005522	UST	NO
5	Shell Valrico, Circle K #8713	2104 E. Brandon Blvd, Valrico, FL 33594	Petroleum Products & Hazardous Waste	8841014 FLD984251587	UST, LUST, SPILLS, RCRAGN	HIGH
6	Hess #09417	2101 E. Brandon Blvd, Valrico, FL 33594	Petroleum Products & Hazardous Waste	8839630 FLT040073686	UST, RCRAGN	LOW
7	CVS Pharmacy #3660	2109 SR 60 East, Valrico, FL 33594	Hazardous Waste	FLR000188268	RCRAGN	NO
8	APC Rentals	2102 Jelane Drive, Valrico, FL 33594	Petroleum Products	8624847	UST, LUST, SPILLS	LOW
9	Express Towing & Recovery	2116 Jelane Drive, Valrico, FL 33594	Hazardous Waste	SOQS 49712	County	NO
10	Former Circle K #7472	2501 SR 60, Valrico, FL 33594	Petroleum Products & Hazardous Waste	8625164 FLD984251579	UST, LUST, SPILLS, RCRAGN	MEDIUM
11	Mobil Valrico #139, Automated Petroleum & Energy	2510 SR 60 East, Valrico, FL 33594	Petroleum Products & Hazardous Waste	8624876 FLT050075605	UST, RCRAGN	LOW
12	Cavalier Motors Acquisition	2512 SR 60 East, Valrico, FL 33594	Hazardous Waste	FLD984227553	RCRAGN	NO
13	Brandon Tire	2514 SR 60 East, Valrico, FL 33594	Petroleum Products & Hazardous Waste	NA	NA	LOW
14	Gerber Collision & Glass	2566 SR 60, Valrico, FL 33594	Petroleum Products & Hazardous Waste	NA	NA	LOW
15	Team Automotive	NW corner of SR 60 and Church Street	Petroleum Products & Hazardous Waste	NA	NA	LOW
16	REA Remedial Solutions	0610 Oak Place, Valrico, FL 33594	Petroleum Products & Hazardous Waste	NA	NA	LOW
17	Bradford Motors	2811 SR 60 E, Valrico, FL 33594	Hazardous Waste	NA	NA	LOW
18	Shell MK Food Mart	2819 SR 60 E, Valrico, FL 33594	Petroleum Products	9801625	UST	LOW
19	Railroad Corridor	SR 60, Valrico, FL 33594	Arsenic & Pesticides/ Herbicides	NA	NA	HIGH
20	Cutter Power	3138 SR 60, Valrico, FL 33594	Hazardous Waste	FLR000082396	RCRAGN	NO
21	Nicky's Car Wash & Repair	3160 SR 60 E, Valrico, FL 33594	Petroleum Products & Hazardous Waste	NA	NA	LOW
22	Brandon Auto Salvage	3159 SR 60, Valrico, FL 33594	Petroleum Products & Hazardous Waste	FLD984209668	RCRAGN	HIGH
23	Former Brandon Automotive	3212 SR 60 East, Valrico, FL 33511	Hazardous Waste	FLD037304466	RCRAGN	NO
24	Valrico Auto & Truck Repair, Automotive Collision Repair by Mike	3250 SR 60, Valrico, FL 33594	Petroleum Products & Hazardous Waste	NA	NA	LOW
25	James W Daniels Jr.	4325 SR 60, Valrico, FL 33594	Petroleum Products	8624924	UST	NO

Site Number	Facility Name	Address	Concern	Facility/Site ID	Regulatory Databases	Risk Ranking
26	RV Land of Brandon	3307 SR 60, Valrico, FL 33594	Hazardous Waste	FLR000031237	RCRAGN	NO
27	Division of Forestry	118 N Dover Rd, Dover, FL 33527	Petroleum Products	8625749	UST, LUST	LOW
28	7-Eleven Food Store #33105	3629 SR 60 East, Valrico, FL 33592	Petroleum Products	9804143	UST, LUST, SPILLS	HIGH
29	Former Ready Food Store #8	3709 SR 60, Dover, FL 33527	Petroleum Products	8508904	UST, LUST	LOW
30	Landscaping Supply	3801 SR 60, Dover, FL 33527	Petroleum Products	NA	NA	NO
31	Home Supplies Inc.	3811 SR 60, Dover, FL 33527	Hazardous Waste	NA	NA	NO
32	Global Equipment Sales & Service	3801 SR 60 Suite A, Dover, FL 33527	Hazardous Waste	NA	NA	NO
33	Brandon Farms, Equipment Staging Area	3931 West SR 60, Brandon, FL 33567	Petroleum Products & Hazardous Waste	NA	NA	LOW
34	Hillsborough County Fair	SR 60, Brandon, FL 33567	Petroleum Products & Hazardous Waste	NA	NA	NO
35	Sydney Mine Sludge Ponds/Disposal Superfund Site # 033	SR 60, 0.5 to 1 mile East of Dover Road	Petroleum Products & Hazardous Waste	WACSID 43386 SHWS-33 4029P30065 FLD000648055	STATE, SWL, NPL, CERCLIS, FEDBROWN, FED IC/E	HIGH
36	Mando Motors & Pro Turf	5144 SR 60, Dover, FL 33527	Petroleum Products & Hazardous Waste	NA	NA	LOW
37	Former Amoco Hinson's	5138 (5144) West SR 60, Dover, FL 33527	Petroleum Products	8508970	UST, LUST, SPILLS	MEDIUM
38	Superior Used Appliances	5148 SR 60, Dover, FL 33527	Hazardous Waste	NA	NA	NO
39	EV Auto Brokers	5210 SR 60, Dover, FL 33527	Petroleum Products & Hazardous Waste	NA	NA	LOW
40	Luis Anglia Auto Repair	5214 SR 60, Dover, FL 33527	Petroleum Products & Hazardous Waste	NA	NA	LOW
41	Citrus Hills RV Park	5401 Boca Grande Circle, Dover, FL 33527	Petroleum Products	NA	NA	LOW
42	Oommen Property, Megdyl Auto Repair	6027 West SR 60, Plant City, FL 33567	Petroleum Products	9600959	UST, LUST	HIGH
43	Turkey Creek Quick Mart, Circle K #7031	6049 West SR 60, Plant City, FL 33567	Petroleum Products	8625160 FLD984251199	SPILLS, RCRAGN	HIGH
44	RaceTrac #698	6050 West SR 60, Plant City, FL 33567	Petroleum Products	9812187	UST	LOW
45	Turkey Creek Bait & Tackle	SR 60, Plant City, FL 33567	Petroleum Products	NA	NA	NO
46	Gillespie's Auto Parts Service & Salvage Yard	4601 West SR 60, Plant City, FL 33567	Petroleum Products & Hazardous Waste	8625740 Site #96554	UST	HIGH
47	Pleasant Grove Landfill	6100 Turkey Creek Road, Plant City, FL 33567	Petroleum Products & Hazardous Waste	FLSW-0907- 00094587 FLD984169763 FLR000054163 Site #000374 Site #65124	SWL, CERCLIS, RCRAGN, STATE, VCP	NO
48	Blue Berry Farms & Nursery	SR 60, Plant City, FL 33567	Pesticides	NA	NA	LOW
49	Highland Tractor	2805 SR 60, Plant City, FL 33567	Petroleum Products & Hazardous Waste	NA	NA	LOW
50	Cell Tower Emergency Generator	SE of SR 60 and Cassels Road, Plant City, FL 33567	Petroleum Products	NA	NA	LOW

Site Number	Facility Name	Address	Concern	Facility/Site ID	Regulatory Databases	Risk Ranking
51	Farm Equipment Storage/Staging Area	W of SR 60 and CR 39, Plant City, FL 33567	Petroleum Products & Hazardous Waste	NA	NA	LOW
52	Circle K #2707556	204 SR 60 West, Plant City, FL 33567	Petroleum Products	8625102	UST, LUST, SPILLS	HIGH
53	Angelo's Chevron Quick Pick Chevron-Vettus Five	101 SR 60 West, Plant City, FL 33567	Petroleum Products	8627454	UST, LUST	HIGH
54	Former JA Miles Garage, Advance Auto Parts	5518 CR 39, Plant City, FL 33567	Petroleum Products & Hazardous Waste	9401209 9401472	UST, LUST, SPILLS	MEDIUM
55	Former Terrell Oil Truck Stop, Lands Used Trucks	306 & 304 SR 60, Plant City, FL 33567	Petroleum Products	9045631	UST, LUST, SPILLS	MEDIUM
56	Hopewell (Plant City) Static Weigh Station	E of SR 60 and CR 39, Plant City, FL 33567	Petroleum Products	NA	NA	NO
57	Railroad Corridor	SR 60, Plant City, Valrico, FL 33567	Arsenic & Pesticides/Herbicides	NA	NA	HIGH
58	Cell Tower Emergency Generator	NW of SR 60 and Smith Ryals Road, Plant City, FL 33567	Petroleum Products	NA	NA	LOW
59	Rutland Property Former retail gas station	1820 SR 60, Plant City, FL 33567	Petroleum Products	9806544	UST, LUST	MEDIUM
60	Fortson Salvage	2217 Holloman Road, Plant City, FL 33567	Petroleum Products	SQGS 49165	ERNS	NO
61	Nova Longa Salvage Yard	2503 East SR 60, Plant City, FL 33567	Petroleum Products and Hazardous Waste	SQGS 107894	County	NO
62	Twilight Zone Lounge	4010 East SR 60, Plant City, FL 33567	Petroleum Products	NA	NA	NO
63	Former Circle M #7 AutoScan Prima's C-store	6980 SR 60, Mulberry, Polk Co., FL 33860	Petroleum Products	8623400	UST, LUST	MEDIUM
64	Pick & Go Food Store #1	6810 County Line Road, Mulberry, Polk Co., FL 33860	Petroleum Products	8623397	UST, LUST	HIGH
65	Former Shaw's Fiberglass, Inc. & HTF Manufacturing, Inc.	6925 SR 60, Mulberry, Polk Co., FL 33860	Hazardous Waste	NA	NA	LOW
66	Agricultural Lands Row Crops & Citrus Groves	Various locations along the SR 60 ROW	Herbicides/ Pesticides & Heavy Metals	NA	NA	HIGH

Notes: NA–Not Applicable: Category does not apply, information has not been identified, was not available or is unknown.

A Level II field screening is likely to be conducted during the design phase of the project for those locations with a risk ranking of “Medium” or “High.”

4.2.3 DRAINAGE AND FLOODPLAINS

According to The Federal Emergency Management Agency (FEMA) the relevant FIRM panel numbers are 12057C0405H, 12057C0410H, 12057C0430H, 12057C0415H, 12057C0420H, 12057C0440H and 12057C0445H for Hillsborough County, Florida dated August 28, 2008. The majority of the project is designated Zone ‘X’ which means those

areas have a 0.2% probability of flooding every year (500-year floodplain). Some parts (mostly streams and waterbodies crossing) are in the Zone ‘A’ which have a 1% probability of flooding every year (100-year floodplain), and where predicted flood water elevations have not been established. This project does not cross any regulatory floodway.

FDOT District 7 Maintenance office was contacted to discuss any flooding history and maintenance concerns. One concern they have is with drainage connections from adjoining properties and their effects from a maintenance standpoint. The recent construction project (FPN 423053-1-52-01) addressed some of the ditch areas between Turkey Creek and SR 39 but also brought some underlying drainage issues to the surface, particularly, between Mud Lake Rd. and Wallace Rd. on the north side of SR 60. Maintenance was called upon to regrade a backslope at 2902 E. SR 60 due to concern of future runoff from the driveway going into their yard instead of the newly constructed ditch. The other location is approximately 900’ west of Mud Lake Rd. An approved mitered end pipe was constructed under FPN 423053-1-52-01 to connect an adjoining agricultural field to the drainage system. Since the completion of the project, FDOT maintenance have had to clean sediment/silt out of this ditch because of what has come out of the adjoining property’s mitered end. It is enough sediment/silt to block the 18” CMP driveway pipe by 75% that runs east to west and hold 12”-16” of water to the east of the driveway.

A *Location Hydraulics Report (LHR)* was prepared for the project. The *LHR* identified within the project limits and ROW, seven floodplain impact area (FIA) segments (See **Table 4-9**) which are impacted by 100-year floodplain (Zone A) have been identified.

TABLE 4-9: SUMMARY OF FLOODPLAIN IMPACT AREAS (FIA)

Floodplain Impact Area (FIA)	From Station	To Station	Flood Zone	Floodplain Elev. (Ft.)	Existing Ground Elev. (Ft.)	Seasonal High Water Table Elev. (Ft.)
Segment 1	409+00.00	446+00.00	A	38.50	38.00	31.00
Segment 2	582+00.00	603+00.00	A	58.00	56.00	49.00
Segment 3	684+00.50	688+00.00	A	72.60	72.00	71.00
Segment 4	708+00.50	718+00.00	A	68.57	64.00	63.50
Segment 5	825+00.00	828+45.00	A	105.39	105.00	104.00
Segment 6	873+00.00	897+00.00	A	117.00	116.00	113.70
Segment 7	1010+00.00	1024+00.00	A	74.00	70.00	69.50

Note: Existing ground elevation obtained from 1-foot LiDAR Contour (Source: Hillsborough Co.)

4.2.4 SPECIAL DESIGNATIONS

No features with a Special Designation such as Outstanding Florida Waters (OFW), Aquatic Preserves, Scenic Highways, or Wild and Scenic Rivers exist within the study area.

4.2.5 WATER QUALITY

Water features were examined to comply with all water quality regulations. Both Turkey Creek (WBID 1578B) and Mustang Ranch Creek (WBID 1592C) are verified as impaired for Nutrients on the current FDEP 303(d) list.

4.2.6 WETLANDS

The proposed project has been evaluated for potential effects to wetlands and a *Wetland Evaluation and Biological Assessment Report (WEBAR)* was prepared. Wetland locations and boundaries were identified and approximated using aerial interpretation and field reconnaissance in the spring and summer of 2013. Wetland boundaries were visually approximated using the USACE “Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region” (2008) and the Florida Department of Environmental Protection’s (FDEP) “Delineation of the Landward Extent of Wetlands and Surface Waters” (1995) (Chapter 62-340, F.A.C). Maps depicting all of the wetlands and jurisdictional surface water features within the project ROW are provided in **Appendix A** and summarized in **Table 4-10**.

TABLE 4-10: INDIVIDUAL WETLANDS AND SURFACE WATERS WITHIN THE STUDY AREA

Wetland/SW ID	FLUCFCS Description	FLUCFCS Code	R/W Acreage
WL 2N	Stream/Lake Swamps	615	0.028
WL 2S	Stream/Lake Swamps	615	0.223
WL 4S	Stream/Lake Swamps	615	0.155
WL 7N	Stream/Lake Swamps	615	0.097
WL 7S	Stream/Lake Swamps	615	0.316
WL 8N	Stream/Lake Swamps	615	0.075
WL 8S	Stream/Lake Swamps	615	0.068
WL 9N	Stream/Lake Swamps	615	0.099
WL 18N	Stream/Lake Swamps	615	0.387
WL 18S	Stream/Lake Swamps	615	0.910
SW 6S	Freshwater Marsh -Excavated	641	0.078
SW 10N	Freshwater Marsh -Excavated	641	0.024
SW 10S	Freshwater Marsh -Excavated	641	0.282
SW 11N	Freshwater Marsh -Excavated	641	0.035
SW 11S	Freshwater Marsh -Excavated	641	0.073
SW 15N	Freshwater Marsh -Excavated	641	0.154
SW 15S	Freshwater Marsh -Excavated	641	0.174
SW 16S	Freshwater Marsh -Excavated	641	0.039
OSW 1N	Streams/Waterways	510	0.112
OSW 1S	Streams/Waterways	510	0.404
OSW 3N	Streams/Waterways	510	0.126
OSW 5N	Streams/Waterways	510	0.262
OSW 5S	Streams/Waterways	510	0.083
OSW 6S	Streams/Waterways	510	0.011
OSW 7S	Streams/Waterways	510	0.004
OSW 9S	Streams/Waterways	510	0.043
OSW 10N	Streams/Waterways	510	0.061
OSW 10S	Streams/Waterways	510	0.248
OSW 11N	Streams/Waterways	510	0.022
OSW 12S	Streams/Waterways	510	0.076
OSW 13N	Streams/Waterways	510	0.059
OSW 14N	Streams/Waterways	510	0.006
OSW 14S	Streams/Waterways	510	0.329
OSW 15N	Streams/Waterways	510	0.332
OSW 16S	Streams/Waterways	510	0.248
OSW 17N	Streams/Waterways	510	0.062
OSW 17S	Streams/Waterways	510	0.444
OSW 18S	Streams/Waterways	510	0.023
OSW 19S	Streams/Waterways	510	0.033
OSW 20S	Streams/Waterways	510	0.035

WL = wetland; OSW = other surface waters; SW = jurisdictional surface water; x = excavated; n/a = not applicable.

Two wetland habitat types and one main surface water type are present within the project corridor. Wetland habitat types include Stream and Lake Swamps and Freshwater Marsh - Excavated. Jurisdictional surface waters and other surface waters include Herbaceous Ditches. Detailed descriptions of the wetland and surface water community types are provided below.

All wetlands and surface water features within and immediately adjacent to the project corridor were mapped on a scale of 1" = 200' (aerial photographs 2011), assigned an identification number and categorized in accordance with the FLUCFCS designation.

Each wetland and surface water within the project corridor was assigned a unique identification code based on type and position along the corridor. These codes include whether each site is a wetland (WL), jurisdictional surface water (SW) or other surface water (OSW), and the location on the north or south side of the existing roadway (N = North; S = South). Wetlands were also classified utilizing the "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al., 1979) developed by the USFWS.

Distinction between wetland habitat and other surface water systems was required on this project primarily because of the linear and generally man-made features that are present along much of the project corridor. These systems were present in both upland and wetland mapped soil units. Man-made systems such as excavated ditches were identified as jurisdictional surface waters where all or major portions were excavated within hydric soil mapping units. Other surface waters found on the corridor consist of ditches excavated in non-hydric soils, but are sufficiently hydrated to typically support wetland vegetation. Shallow swale systems associated with the roadway that support primarily turf grass and are regularly mowed are not considered wetlands or other surface waters and therefore were not evaluated for impacts or mapped during field surveys.

Stream and Lake Swamps

(FLUCFCS 615); Palustrine Forested with Broad-Leaved Deciduous & Broad-Leaved Evergreen (PFO1/3).

According to the FLUCFCS manual this community, often referred to as bottomland or stream hardwoods, is usually found on, but not restricted to river, creek and lake floodplain or overflow areas. Several stream and lake swamps are located along the project corridor and are generally located directly adjacent to or within the floodplain of riverine and creek systems (Turkey Creek, Little Alafia River, and Howell Branch Creek). SR 60 spans Turkey Creek just east of Atkins Ranch Lane between station numbers 585 and 595. The wetlands associated with Turkey Creek are WL 2N, WL 2S and WL 4S. SR 60 also spans the Little Alafia River just east of Wallace road between stations 708 and 712. The wetlands associated with the Little Alafia River are WL 7N, WL 7S, WL 8N, WL 8S and WL 9N. SR 60 spans Howell Branch Creek just east of Miles Farms Road between stations 1010 and 1025. The wetlands associated with Howell Branch Creek are WL 18N and WL 18S. Hydrologic conditions within these wetland areas generally consist of saturated soils to intermittent and seasonal flooding.

(FLUCFCS 615); Palustrine Forested with Broad-Leaved Deciduous & Needle-Leaved Deciduous (PFO1/2).

This community is also comprised of bottomland or stream hardwoods except that it also has a cypress component. This type of stream swamp found on the project corridor is a floodplain located directly adjacent to (**Appendix A**, sheets 22-23) Howell Branch Creek (often referred to as English Creek, which it connects with). SR 60 spans this creek just east of Miles Farm Road between station numbers 1012 and 1024 and is made up of wetlands WL 18N and WL 18S. Hydrologic conditions within these wetland areas generally consist of saturated soils to intermittent and seasonal flooding.

Wetlands Excavated in Hydric Soils

Freshwater Marsh - Excavated (FLUCFCS 641x); Palustrine Emergent with Persistent Vegetation (PEM1x).

Nine manmade ditches are located along the corridor and are labeled SW 6S, 10N, 10S, 11N, 11S, 15N, 15S, and 16S. These features are associated with the stormwater management facilities currently in place to serve SR 60 and adjacent roadways. These features have been cut into hydric soils and are considered wetlands. They vary in length and width along the corridor, and provide only marginal wildlife habitat, limited

primarily to forage opportunities for wading birds. Water regimes generally consist of intermittent and seasonal flooding. This feature type is represented by the one category described below (Note: x denotes “excavated”).

Other Surface Waters (FLUCFCS 510x)

Twenty-three manmade ditches are located along the corridor that support wetland vegetation but are not considered to be jurisdictional based on excavation within uplands. These features have been labeled as OSW and include areas OSW 3N, 5N, 6S, 7S, and 9S through 20S. These features are associated with the stormwater management facilities currently in place to serve SR 60 and adjacent roadways. Water regimes generally consist of intermittent and seasonal flooding.

Additional Drainage Features

A variety of non-wetland, man-made swales and shallow ditches are located along the corridor. These features also tend to be associated with the stormwater management system currently in place to serve SR 60 and adjacent roadways. These drainage features are man-made conveyances constructed within upland soil mapping units and do not support a dominance of wetland vegetation. Water regimes generally consist of intermittent flooding. Dominant vegetation is turf grasses, and mowing of these areas is conducted on a routine basis.

4.2.7 WILDLIFE AND HABITAT

As noted in Section 4.2.7, the project corridor was assessed and a *WEBAR* was prepared that also documented the presence of suitable habitat for federal- and/or state-listed protected species in accordance with 50 Code of Federal Regulation (CFR) Part 402 of the ESA of 1973, as amended, Chapters 5B-40 and 68A-27 F.A.C., and *Part 2, Chapter 27 - Wildlife and Habitat Impacts* of the FDOT *PD&E Manual*.

Literature reviews, agency database searches, and preliminary field reviews of potential habitat areas were conducted to identify state and federally protected species occurring or potentially occurring within the project area. The Hillsborough County Soil Survey and recent aerial photographs (2011) were reviewed to determine habitat types occurring

within and adjacent to the project corridor. Information sources and databases utilized include the following:

- ETDM *Programming Screen Summary Report* for SR 60 (Project #4131)
- USFWS Databases
- Florida Natural Areas Inventory (FNAI)
- FWC Databases
- Hillsborough County Soil Survey
- FWC - Eagle Nest Locator for Hillsborough County (2007-2008 nesting season data) (1 mile radius)
- FWC - Waterbird Colony Locator (1999) (10 mile radius)
- FWC - Strategic Habitat Conservation Areas (SHCA) (1994) (10 mile radius)
- USFWS – Critical Habitat for Threatened and Endangered Species
- USFWS - Wood Stork Rookeries Core Foraging Area (CFA) (15.0 mile radius)

Land use along the corridor varies from suburban and commercial development on the western portion to a mix of primarily rural and agricultural lands on the eastern end. Agricultural lands provide habitat to many wildlife and plant species, some of which are protected, while the more developed areas provide limited habitat value. One state listed species, the gopher tortoise, was observed near the western project terminus. One non-listed federally protected species, the osprey, was observed. Several active osprey nests were observed. No state or federally listed plant species were observed. Descriptions below list species which have been observed along the project corridor or have high potential to occur within habitats identified on the corridor.

Federally protected wildlife species which have been identified as having a high probability for occurrence in the vicinity of the corridor include the wood stork (*Mycteria americana*), American alligator (*Alligator mississippiensis*), and Eastern indigo snake (*Drymarchon corais couperi*). No federally listed plant species were observed or are documented for the corridor.

Wood storks utilize freshwater and estuarine habitats for nesting, foraging, and roosting. Wood storks typically are colonial nesters and construct their nests in medium to tall trees located within wetlands or on islands. Wood storks are listed as endangered by both the USFWS and FWC. No wood storks or rookeries were observed during field surveys. The project falls within 15 miles of nine Wood Stork Core Foraging Areas (CFA) for Central Florida populations. SFH is provided by many of the roadside ditches along the corridor. SFH within the project corridor will be re-evaluated during final permitting of the project as vegetative structure of wetlands will change over time and due to maintenance activities associated with these surface water management systems.

The American alligator is protected by the USFWS as a federally threatened species, based upon “similarity of appearance” to the endangered American crocodile (*Crocodylus acutus*), and is listed by the FWC as a species of special concern. No American Alligators were observed during the field surveys, however habitats utilized by them, such as creeks and a variety of surface waters are found within and adjacent to the project corridor. The USFWS does not consult or make determinations of affect for this species due to its commonality, and listing is maintained primarily for law enforcement purposes.

Eastern indigo snakes are large, black, non-venomous snakes which are distributed throughout the Southeastern United States. The Eastern indigo snake occurs in a wide variety of habitats, including forested uplands and wetlands as well as wet and dry prairies. This species feeds on snakes, frogs, salamanders, toads, small mammals, birds and young turtles. Eastern indigo snakes are listed as threatened by both the USFWS and FWC. No individuals were observed during the field surveys, however, areas of suitable habitat for this species occurs within and adjacent to the project corridor. The probability of occurrence for this species within the corridor is therefore high.

State listed wildlife species which have been identified as having a high probability for occurrence in the vicinity of the corridor include the gopher tortoise (*Gopherus polyphemus*) and several species of wetland dependent birds. No state listed plant species were observed or recorded in the project area.

The gopher tortoise is listed by the FWC as threatened, and is currently a candidate for listing by the USFWS. Two active and one inactive gopher tortoise burrows are located within the project ROW near the western terminus. An adult tortoise was observed at the mouth of one of these burrows during field surveys, and several additional burrows were observed to the north of the ROW, beyond the fence line. The mowed slope within the ROW appears to be utilized for grazing by tortoises in the area. Comprehensive surveys for tortoises and their burrows will be conducted during the final design phase of the project. Per FWC requirements, gopher tortoise burrows located within 25 ft of proposed impact areas must be excavated and tortoises are to be relocated to an approved recipient site. Commensal species that may utilize the burrows, such as the Eastern indigo snake, the gopher frog (*Rana capito*) and Florida mouse (*Podomys floridanus*) will also be relocated, if encountered.

Wetland dependent avian species, include state listed wetland dependent avian species that have a potential to occur on the project corridor. This includes: Florida sandhill crane, little blue heron (*Egretta caerulea*), roseate spoonbill (*Ajaia ajaia*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), and white ibis (*Eudocimus albus*). The Florida sandhill crane is listed as threatened by the FWC; the remaining species are listed as species of special concern by the FWC.

No wetland dependent bird species were observed during field surveys, however a mixed wading bird rookery identified in the Florida Atlas of Breeding Sites for Herons and their Allies (Atlas #615104) was documented within one mile of the project corridor within Medard Park. The colony was active on May 6, 1999, located a closed canopy, and consisted of 90% cattle egrets (*Bubulcus ibis*), 10% double-crested cormorants (*Phalacrocorax auritus*), and 1% great egrets (*Ardea alba*). None of these species are listed by FWC. No rookeries for these or other species were observed during field surveys. Wetlands and surface waters that provide foraging potential for the wetland dependent avian species include ditches/swales, ponds, and riverine systems.

Ospreys (*Pandion haliaetus*) are afforded protection under the Migratory Bird Treaty Act (MBTA) (16 U.S.C.703-712) and state protected by Chapter 68A of the Florida

Administrative Code (F.A.C). They readily build nests on manmade structures, such as telephone poles and nest platforms designed especially for these birds. Three active osprey nests were observed on two platforms on utility poles and one cell phone tower immediately adjacent to the ROW. Although both active and inactive osprey nests are federally protected, only active nests require Federal permits for taking. Under State rules only inactive osprey nests may be taken, as determined by the absence of eggs or flightless young at the nest. Typically a replacement nesting structure located in the immediate vicinity is required to be erected.

Although the bald eagle (*Haliaeetus leucocephalus*) is no longer afforded protection by the ESA, protection for the species is afforded through the Migratory Birds Program per the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA). The most recent FWC data show three bald eagle nests in the vicinity, however, none are located within one mile of the project corridor.

The project corridor was assessed for Critical Habitat (CH) designated by Congress in 17 CFR 35.1532. Review of the USFWS's available GIS data for CH resulted in the identification of no Critical Habitats.

4.2.8 NOISE

A traffic noise analysis was performed and a *Noise Study Report (NSR)* was prepared following FDOT procedures that comply with *Title 23 Code of Federal Regulations (CFR), Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The evaluation used methodologies established by the FDOT that are documented in the *PD&E Manual, Part 2, Chapter 17* (May 2011). The prediction of existing and future traffic noise levels with and without the roadway improvements was performed using the Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM Version 2.5).

A total of 315 noise-sensitive sites were evaluated. The sites were comprised of 297 residences (located within the Oakwood Terrace Townhomes, Valrico Station Apartments, Strawberry Ridge Mobile Home Park, Citrus Hill RV Park, Orange Blossom

RV Park, Turkey Creek Mobile Home Park, Orange Rose Mobile Home Park, Valrico Hills Mobile Home Park, Kings Mill Townhomes, Oakhill Village Mobile Home Park, Featherrock Mobile Home Park, and several isolated residences within the project corridor), four recreational areas, nine places of worship, two day care facilities, a medical center, an outdoor dining area, and the Hillsborough County Fairgrounds.

The results of the analysis indicate that existing (2012) exterior traffic noise levels range from 51.5 to 74.1 dB(A). Traffic noise levels are predicted to approach, meet, or exceed the Noise Abatement Criteria (NAC) at 97 receptors (94 residences, two recreational areas, and one place of worship). Existing (2012) interior levels for the places of worship and the day care facility that do not have exterior areas of use and the medical center range from 34.9 to 45.4 dB(A). None of these levels approach, meets or exceeds the NAC. Future (2040) exterior noise levels without the proposed improvements (No-Build) range from 53.1 to 77.3 dB(A) and are predicted to approach, meet, or exceed the NAC at 136 receptors (133 residences, two recreational areas and one place of worship). Future (2040) interior noise levels without the proposed improvements are predicted to range from 34.9 to 48.1 dB(A), noise levels that do approach, meet or exceed the NAC. In the future (2040) with the improvements (Build), traffic noise levels are predicted to approach, meet, or exceed the NAC at 187 receptors for the pavement savings alternative and 199 receptors for the new construction alternative with exterior noise levels ranging from 58.0 to 78.2 dB(A). In the future (2040) with the improvements interior levels are predicted to range from 38.0 to 50.9, levels again that do not approach, meeting, or exceed the NAC. Notably, when compared to the existing condition, traffic noise levels are not predicted to increase more than 10 dB(A) above existing conditions at any of the evaluated sites. As such, the project would not substantially increase traffic noise (i.e., increase traffic noise 15 dB(A) or more). Noise abatement measures were considered for the 187 impacted receptors and the results of the analysis performed indicates that barriers would meet minimum noise reduction requirements at a cost below the reasonable limit at six locations. The results are summarized in **Section 8.7**.

4.3 CULTURAL ENVIRONMENT

4.3.1 HISTORICAL/ARCHAEOLOGICAL

A review of the Florida Master Site File (FMSF) and NRHP indicated that 10 previously recorded archaeological sites are located within one-half mile of the study corridor (see **Table 4-11**); none is located within the project Area of Potential Effect (APE). The background research suggested a moderate potential for prehistoric (precontact) archaeological sites on the better drained and/or elevated soils proximate to a water source. Archaeological sites of the historic period were considered possible near the Turkey Creek, Bealsville, and Hopewell communities. No archaeological sites were discovered as the result of a field survey conducted on July 10, 2012.

TABLE 4-11: PREVIOUSLY RECORDED ARCHEOLOGICAL SITES

Site Number	Site Name	Site Type	Culture
8HI968	C-1	Lithic scatter	Aboriginal lacking pottery
8HI972	C-6,7,8,9	Artifact scatter	Aboriginal lacking pottery; 19/20 th century
8HI3984	Bledsoe	Campsite; lithic scatter	Aboriginal lacking pottery
8HI3985	Bledsoe / Bridges	Campsite; lithic scatter	Aboriginal lacking pottery
8HI3986	Bridges Farm	Campsite; lithic scatter	Aboriginal lacking pottery
8HI3987	Doberman	Campsite; lithic scatter	Aboriginal lacking pottery
8HI3991	NN	Isolated flake	Aboriginal lacking pottery
8HI3992	NN	Isolated flake	Aboriginal lacking pottery
8HI3995	Willis	Isolated sherd	Aboriginal with pottery
8HI6748	Swamp View Estates	Lithic scatter	Aboriginal lacking pottery

Historical/architectural field survey of the SR 60 PD&E Study project APE resulted in the identification and evaluation of 103 historic resources (see **Table 4-12** for summary of locations). This includes one structure, the Valrico Fire Tower (8HI03880); one historic road segment (8HI11991); two culverts (8HI11974 and 8HI11975); two railroad segments (8HI11335 and 8HI11888); eight building complex resource groups (8HI11880-8HI11887), and 89 buildings (8HI03878, 8HI03879, 8HI03882, 8HI06552, 8HI10286, and 8HI11889 through 8HI11973). Of the 103 historic resources located within the project APE, seven were previously recorded in the FMSF and 96 were newly identified. Four previously recorded historic resources have been demolished.

TABLE 4-12. PREVIOUSLY AND NEWLY RECORDED HISTORIC RESOURCES WITHIN THE SR 60 PROJECT APE

FMSF	Name/Address	Style	Use	Date	Eligibility
8HI11991	SR 60	Not applicable	Road	Various	Ineligible
8HI11889	2303 E SR 60	Ranch	Residence	ca. 1954	Ineligible
8HI11890	2307 E SR 60	Ranch	Residence	ca. 1958	Ineligible
8HI11971	110 Church St.	Frame Vernacular	Residence	ca. 1957	Ineligible
8HI11881	2801 E SR 60 Resource Group	Not applicable	Building complex resource group	Various	Ineligible
8HI11891	2801A E SR 60	Frame Vernacular	Commercial	ca. 1960	Ineligible
8HI11892	2801B E SR 60	Frame Vernacular	Residence	ca. 1949	Ineligible
8HI11882	2811 E SR 60 Resource Group	Not applicable	Building complex resource group	Various	Ineligible
8HI11893	2811A E SR 60	Masonry Vernacular	Motel	ca. 1946	Ineligible
8HI11894	2811B E SR 60	Masonry Vernacular	Motel	ca. 1962	Ineligible
8HI11970	2810 E SR 60	Masonry Vernacular	Residence	ca. 1947	Ineligible
8HI11335*	Seaboard Railway— Welcome to Edison (CSX Railroad)	Not applicable	Railroad	ca. 1892	Insufficient information
8HI11887	102 Sharewood Drive Resource Group	Not applicable	Building complex resource group	Various	Ineligible
8HI11969	102B Sharewood Drive	Mobile home	Residence	ca. 1956	Ineligible
8HI03878*	102A Sharewood Drive	Frame Vernacular	Residence	ca. 1951	Ineligible
8HI11886	3176 E SR 60 Resource Group	Not applicable	Building complex	Various	Ineligible
8HI03879*	3176A E SR 60	Frame Vernacular	Commercial	ca. 1950	Ineligible
8HI11968	3176B E SR 60	Frame Vernacular	Residence	ca. 1954	Ineligible
8HI11885	3202 E SR 60 Resource Group	Not applicable	Building complex resource group	Various	Ineligible
8HI11966	3202A E SR 60	Masonry Vernacular	Residence	ca. 1951	Ineligible
8HI11967	3202B E SR 60	Frame Vernacular	Residence	ca. 1960	Ineligible
8HI11895	3307 E SR 60	Masonry Vernacular	Commercial	ca. 1959	Ineligible
8HI11896	3347 E SR 60	Frame Vernacular	Commercial	ca. 1920	Ineligible
8HI11897	3402 Activities Lane	Masonry Vernacular	Office	ca. 1960	Ineligible
8HI03880*	Valrico Fire Tower/ 102A N Dover Road	Not applicable	Tower	ca. 1937	Potentially eligible
8HI11965	102B N Dover Road	Masonry Vernacular	Residence	ca. 1960	Ineligible
8HI11898	3907 E SR 60	Masonry Vernacular	Residence	ca. 1962	Ineligible
8HI11899	3931 E SR 60	Masonry Vernacular	Residence	ca. 1962	Ineligible
8HI11964	4002 E SR 60	Frame Vernacular	Residence	ca. 1964	Ineligible
8HI11963	4016 E SR 60	Frame Vernacular	Residence	ca. 1954	Ineligible
8HI03882*	Bledsoe Residence/ 4037 E SR 60	Frame Vernacular	Residence	ca. 1928	Ineligible
8HI11975	Little Alafia River Culvert/ FDOT No. 100059	Not applicable	Culvert	1946/ 1962	Ineligible
8HI11962	5102 E SR 60	Masonry Vernacular	Residence	ca. 1961	Ineligible

FMSF	Name/Address	Style	Use	Date	Eligibility
8HI11961	5148 E SR 60	Masonry Vernacular	Commercial	ca. 1962	Ineligible
8HI11960	5210 E SR 60	Frame Vernacular	Commercial	ca. 1949	Ineligible
8HI11880	5401 Schmitz Lane Resource Group	Not applicable	Building complex resource group	Various	Ineligible
8HI11900	5401A Schmitz Lane	Craftsman	Residence	ca. 1928	Ineligible
8HI11901	5401B Schmitz Lane	Frame Vernacular	Residence	ca. 1924	Ineligible
8HI11902	5401C Schmitz Lane	Frame Vernacular	Residence	ca. 1924	Ineligible
8HI11903	5401D Schmitz Lane	Mobile Home	Residence	ca. 1962	Ineligible
8HI11904	5401E Schmitz Lane	Mobile Home	Residence	ca. 1962	Ineligible
8HI06552*	5703 Farkas Road	Craftsman	Residence	ca. 1933	Ineligible
8HI11959	5732 E SR 60	Masonry Vernacular	Residence	ca. 1958	Ineligible
8HI11883	6023 E SR 60 Resource Group	Not applicable	Building complex resource group	ca. 1963	Ineligible
8HI11905	6023A E SR 60	Masonry Vernacular	Commercial	ca. 1963	Ineligible
8HI11906	6023B E SR 60	Masonry Vernacular	Commercial	ca. 1963	Ineligible
8HI11907	6049 E SR 60	Masonry Vernacular	Commercial	ca. 1963	Ineligible
8HI11908	4601 W SR 60	Masonry Vernacular	Commercial	ca. 1958	Ineligible
8HI11958	5302 Turkey Creek Road	Frame Vernacular	Residence	ca. 1918	Ineligible
8HI11957	4604 W SR 60	Frame Vernacular	Residence	ca. 1951	Ineligible
8HI11956	4602 W SR 60	Frame Vernacular	Residence	ca. 1952	Ineligible
8HI11909	5433 W SR 60	Masonry Vernacular	Residence	ca. 1958	Ineligible
8HI11955	4508 W SR 60	Masonry Vernacular	Residence	ca. 1960	Ineligible
8HI11954	4506 W SR 60	Frame Vernacular	Residence	ca. 1958	Ineligible
8HI11953	4504 W SR 60	Frame Vernacular	Residence	ca. 1960	Ineligible
8HI11952	4502 W SR 60	Masonry Vernacular	Residence	ca. 1958	Ineligible
8HI11951	5366 Calhoun Road	Frame Vernacular	Residence	ca. 1925	Ineligible
8HI11950	4400 W SR 60	Frame Vernacular	Residence	ca. 1940	Ineligible
8HI11910	4407 W SR 60	Masonry Vernacular	Residence	ca. 1963	Ineligible
8HI11911	4403 W SR 60	Mobile home	Residence	ca. 1963	Ineligible
8HI11949	4402 W SR 60	Masonry Vernacular	Residence	ca. 1947	Ineligible
8HI11948	4420 W SR 60	Frame Vernacular	Residence	ca. 1951	Ineligible
8HI11912	4209 W SR 60	Masonry Vernacular	Residence	ca. 1960	Ineligible
8HI11974	Turkey Creek Culvert/FDOT No. 100058	Not applicable	Culvert	1946/ 1962	Ineligible
8HI11947	2904 W SR 60	Frame Vernacular	Residence	ca. 1954	Ineligible
8HI11946	2806 W SR 60	Masonry Vernacular	Residence	ca. 1945	Ineligible
8HI11913	2601 W SR 60	Frame Vernacular	Residence	ca. 1921	Ineligible
8HI11945	5205 Mud Lake Drive	Masonry Vernacular	Church	ca. 1959	Ineligible
8HI11944	1702 W SR 60	Frame Vernacular	Residence	ca. 1935	Ineligible
8HI11914	1501 W SR 60	Masonry Vernacular	Residence/ commercial	ca. 1945	Ineligible
8HI11915	1317 W SR 60	Frame Vernacular	Residence	ca. 1927	Ineligible
8HI11916	5303A Cassels Road	Frame Vernacular	Residence	ca. 1925	Ineligible
8HI11917	5303B Cassels Road	Frame Vernacular	Residence	ca. 1927	Ineligible
8HI11943	1208 W SR 60	Frame Vernacular	Storage	ca. 1950	Ineligible
8HI11942	910 W SR 60	Frame Vernacular	Residence	ca. 1925	Ineligible
8HI11941	704 W SR 60	Masonry Vernacular	Residence	ca. 1952	Ineligible
8HI11918	415 W SR 60	Frame Vernacular	Residence	ca. 1928	Ineligible

FMSF	Name/Address	Style	Use	Date	Eligibility
8HI11940	602 W SR 60	Frame Vernacular	Residence	ca. 1925	Ineligible
8HI11972	406 W SR 60	Frame Vernacular	Residence	ca. 1945	Ineligible
8HI11919	601 W SR 60	Frame Vernacular	Residence	ca. 1925	Ineligible
8HI11920	303 W SR 60	Ranch	Residence	ca. 1958	Ineligible
8HI11921	301 W SR 60	Masonry Vernacular	Commercial	ca. 1958	Ineligible
8HI11939	286 W SR 60	Masonry Vernacular	Residence	ca. 1957	Ineligible
8HI11938	402 E SR 60	Masonry Vernacular	Residence	ca. 1952	Ineligible
8HI11888	CSX Railroad	Not applicable	Railroad	ca. 1898	Insufficient information
8HI11922	1705 E SR 60	Masonry Vernacular	Residence	ca. 1949	Ineligible
8HI11937	1710 E SR 60	Masonry Vernacular	Residence	ca. 1945	Ineligible
8HI11936	1840 E SR 60	Masonry Vernacular	Church	ca. 1961	Ineligible
8HI11935	2180 E SR 60	Ranch	Residence	ca. 1962	Ineligible
8HI11924	5806B Horton Road	Masonry Vernacular	Commercial	ca. 1950	Ineligible
8HI11923	5806A Horton Road	Frame Vernacular	Residence	ca. 1920	Ineligible
8HI11934	2414 E SR 60	Masonry Vernacular	Church	ca. 1960	Ineligible
8HI11925	2501 E SR 60	Masonry Vernacular	Residence	ca. 1964	Ineligible
8HI11926	2503 E SR 60	Masonry Vernacular	Residence	ca. 1963	Ineligible
8HI11927	2505 E SR 60	Masonry Vernacular	Residence	ca. 1964	Ineligible
8HI11928	2612 Old Hopewell Road	Frame Vernacular	Residence	ca. 1958	Ineligible
8HI11933	2806 E SR 60	Masonry Vernacular	Residence	ca. 1955	Ineligible
8HI11932	2810 E SR 60	Masonry Vernacular	Residence	ca. 1962	Ineligible
8HI11884	3802 E SR 60 Resource Group	Not applicable	Building complex resource group	ca. 1951	Ineligible
8HI11930	3802A E SR 60	Masonry Vernacular	Residence	ca. 1951	Ineligible
8HI11931	3802B E SR 60	Masonry Vernacular	Residence	ca. 1951	Ineligible
8HI11973	3802C E SR 60	Masonry Vernacular	Residence	ca. 1951	Ineligible
8HI11929	4011 E SR 60	Masonry Vernacular	Residence	ca. 1962	Ineligible
8HI10286*	Twilight Zone Lounge/4010 E SR 60	Masonry Vernacular	Commercial	ca. 1946	Ineligible

Note: * Indicates previously recorded historic resource

The Valrico Fire Tower (8HI03880 – see **Appendix A, sheet 4**) is considered potentially eligible for NRHP listing under Criterion A in the areas of Conservation and Community Planning and Development and under Criterion C in the area of Engineering. There is insufficient information to determine the NRHP eligibility of both the Seaboard Railway (8HI11335 – see **Appendix A, sheet 3**) and the CSX Railroad (8HI11888 – see **Appendix A, sheet 17**) which cross SR 60 because only a small segment of each railroad line is located within the APE, and determining the eligibility of the lines through Hillsborough County was beyond the scope of the *Cultural Resource Assessment Survey (CRAS)*. None of the historic buildings and building complex resource groups is considered potentially eligible for listing in the NRHP due to their

commonality of style and lack of significant historical associations. In addition, the historic road culverts (8HI11974 and 8HI11975) lack engineering distinction and have no known significant historical associations. The APE includes portions of the Valrico, Hopewell, Turkey Creek and Bealsville communities, but there is no potential for historic districts there or anywhere else within the APE. Also, there are no Florida Century Pioneer Family Farms or historic farmsteads within the project APE.

In conclusion, given the results of background research and archaeological and historical/architectural field surveys, the Valrico Fire Tower (8HI03880) is considered potentially eligible for listing in the NRHP and the two railroad crossings (8HI11335 and 8HI11888) have insufficient information to determine NRHP eligibility within the project APE. SHPO concurred with the recommendations and findings of the CRAS via a letter dated October 10, 2013 (letter is included in the project file). A Section 106 Effects Determination was completed and it was determined that the proposed improvements to SR 60 will have no effect on the Valrico Fire Tower, Seaboard Railway (8HI1135) or the CSX Railroad (8HI11888). All other recorded resources are not considered NRHP-eligible. For further information, refer to the CRAS.

4.3.2 RECREATION AREAS

During project development, three recreational resources were identified within the SR 60 study area. These include: the Sydney Dover Trails Hillsborough County Park (535 N Dover Road), Hillsborough County Fairgrounds (215 Sydney Washer Road), and the Hillsborough Community College English Creek Preserve (3780 E SR 60). There are no impacts expected to any of these facilities, except for possible traffic delays during construction.

4.4 SOCIAL ENVIRONMENT

4.4.1 SOCIOECONOMIC

Socioeconomic growth projections from the Hillsborough County Metropolitan Planning Organization's 2035 Long Range Transportation Plan Socioeconomic Projections estimate an employment increase of 55% and a population increase of 47% for Hillsborough County between 2006 and 2035. Based on the growth projected to occur within the corridor, SR 60 is projected by the Tampa Bay Regional Planning Model (TBRPM) – Cost Feasible Network to have future traffic volumes of approximately

48,800 vehicles east of Valrico Road and 42,500 vehicles west of County Line Road by 2035, which would yield a LOS F for the corridor with the current roadway configuration. These volumes would not meet the acceptable FDOT LOS standards of LOS D for SR 60 between Valrico Road and Horton Road and LOS C for SR 60 between Horton Road and County Line Road.

4.4.2 MOBILITY

SR 60 is part of the state's SIS. The SIS is a statewide network of high-priority transportation facilities, including the state's largest and most significant commercial airports, spaceport, deep water seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways, and highways. These facilities are the workhorses of Florida's transportation system, carrying the majority of truck traffic and general traffic on the State Highway System.

4.4.3 AESTHETICS

SR 60 within the study limits is a 4-lane rural divided facility that includes a grassed median and border areas, which would allow for future aesthetic and landscaping features. Currently there are none at this time.

SECTION 5. – DESIGN CRITERIA

The design criteria used to develop the build alternatives are based on the Florida Department of Transportation’s Plans Preparation Manual (PPM), Volume 1, July 2013.

The criteria are presented in **Table 5-1** and **Table 5-2**.

TABLE 5-1: URBAN AND SUBURBAN DESIGN CRITERIA

<i>DESIGN CRITERIA</i>	<i>DESIGN STANDARD</i>	<i>SOURCE</i>
DESIGN SPEED (V)	50 mph	PPM, Table 1.9.2 & Section 2.16.1
ACCESS CLASS	Class 3	PPM, Table 1.8.2
	Median Openings: Full/Signal: 2640 ft. Directional: 1320 ft.	
	Connection Spacing: >45 MPH: 660 ft. <45MPH: 440 ft.	
HORIZONTAL ALIGNMENT		
Max. Curvature	2° 35' 00"	PPM, Figure 2.16.3
Clear Zone	24 ft. - Travel Lane	PPM, Table 2.11.11
	14 ft. - Auxiliary Lane	
Border Width	29 ft.	PPM, Section 2.16.7
	Traffic Control Signs - See Design Standards	PPM, Section 2.16.11 & Table 2.11.1
	Light Poles - 20 ft. (Travel Lane) / 14 ft. (Auxiliary Lane)	PPM, Section 2.16.11 & Table 2.11.2
	AFUs - Clear Zone	PPM, Section 2.16.11 & Table 2.11.3
Horizontal Clearance	Signal Poles and Controller Cabinet - Clear Zone	PPM, Section 2.16.11 & Table 2.11.4
	Trees - Clear Zone	PPM, Section 2.16.11 & Table 2.11.5
	Railroad Crossing Traffic Control Devices - See Design Standards	PPM, Section 2.16.11 & Table 2.11.7
	Other Roadside Obstacles - Clear Zone	PPM, Section 2.16.11 & Table 2.11.9
Horizontal Clearance	ITS Poles - Clear Zone	PPM, Section 2.16.11 & Table 2.11.10
	Guardrail - If not face of curb, than 13.1 ft. from face of curb; Shoulder Width Plus 2 ft (Suburban)	PPM, Figures 2.11.1 & 4.3.1
Max. Superelevation	0.05	PPM, Section 2.16.10
Superelevation Transition Slope Rate	1:160 (100 ft. minimum length of transition)	PPM, Table 2.9.3

DESIGN CRITERIA	DESIGN STANDARD	SOURCE
Max. Deflection w/o Curve	0° 45' 00"	PPM, Table 2.8.1a
Max. Deflection Through Intersection	3° 00' 00"	PPM, Table 2.8.1b
Min. Horizontal Curve Length	15V = 750 ft. (400 ft. minimum)	PPM, Table 2.8.2a
Max. Curvature Using Normal Cross Slopes	0° 30' 00"	PPM, Table 2.8.4
VERTICAL ALIGNMENT		
K Value for Vertical Curve (Crest)	136	PPM, Table 2.8.5
Minimum Length (Crest)	300 ft.	PPM, Table 2.8.5
K Value for Vertical Curve (Sag)	96	PPM, Table 2.8.6
Minimum Length (Sag)	200 ft.	PPM, Table 2.8.6
Grades	6% Maximum	PPM, Section 2.16.8
	0.3% Minimum	PPM, Table 2.6.4
Min. Distance Between VPI's	250 ft.	PPM, Table 2.6.4
Max. Change in Grade w/o Vertical Curve	0.60%	PPM, Table 2.6.2
Roadway Base Clearance	3 ft.	PPM, Table 2.6.3
SIGHT DISTANCE		
Minimum Stopping Sight Distance for Grades ≤ 2%	425 ft.	PPM, Table 2.7.1
ROADWAY ELEMENTS		
Number of Through Lanes	6 (3 in each direction)	
Through Lane Width	12 ft.	PPM, Table 2.1.1
Turn Lane Width	12 ft.	PPM, Table 2.1.1
Bicycle Lane Width	6.5 ft. ; 5 ft. (Suburban)	PPM, Section 2.16.5
Shoulder Width	6.5 ft.	PPM, Section 2.16.5
Sidewalk Width	5 ft. (6 ft. adjacent to curb)	PPM, Section 8.3.1
Median Width	30 ft.	PPM, Section 2.16.4
Side Slopes	Front Slope: Varies 1:6 to 1:2	PPM, Table 2.4.1
	Back Slope: Varies 1:6 to 1:2	PPM, Table 2.4.1
Transverse Slopes	1:4	PPM, Table 2.4.1
Travel Lane Cross Slope (ft/ft)	0.02 (0.03 Outside Lane)	PPM, Figure 2.1.1

TABLE 5-2: RURAL DESIGN CRITERIA

DESIGN CRITERIA	DESIGN STANDARD	SOURCE
DESIGN SPEED (V)	70 mph	PPM, Table 1.9.2
ACCESS CLASS	Class 3	PPM, Table 1.8.2
	Median Openings- Full/Signal: 2640	
	Directional: 1320 ft.	
	Connection Spacing: >45 MPH: 660 ft. <45MPH: 440 ft.	
HORIZONTAL ALIGNMENT		
Max. Curvature	3° 30' 00"	PPM, Table 2.9.1
Clear Zone	36 ft. - Travel Lane	PPM, Table 2.11.11
	24 ft. - Auxiliary Lane	
Border Width	40 ft.	PPM, Table 2.5.1
	See Design Standards - Traffic Control Signs	PPM, Table 2.11.1
	20 ft. (Travel Lane) / 14 ft. (Auxiliary Lane) - Light Poles	PPM, Table 2.11.2
	Clear Zone - AFUs	PPM, Table 2.11.3
Horizontal Clearance	Clear Zone - Signal Poles and Controller Cabinet	PPM, Table 2.11.4
	Clear Zone- Trees	PPM, Table 2.11.5
	See Design Standards - Railroad Crossing Traffic Control Devices	PPM, Table 2.11.7
Horizontal Clearance	Clear Zone-- Other Roadside Obstacles	PPM, Table 2.11.9
	Clear Zone- - ITS Poles	PPM, Table 2.11.10
	Shoulder Width Plus 2 ft. - Guardrail	PPM, Figure 2.11.1
Max. Superelevation	0.10	PPM, Section 2.9
Superelevation Transition Slope Rate	1:200 (100 ft. minimum length of transition)	PPM, Table 2.9.3
Max. Deflection w/o Curve	0° 45' 00"	PPM, Table 2.8.1a
Max. Deflection Through Intersection	3° 00' 00"	PPM, Table 2.8.1b
Min. Horizontal Curve Length	15V = 1050 ft. (400 ft. minimum)	PPM, Table 2.8.2a
Max. Curvature Using Normal Cross Slopes	0° 15' 00"	PPM, Table 2.8.4

DESIGN CRITERIA	DESIGN STANDARD	SOURCE
VERTICAL ALIGNMENT		
K Value for Vertical Curve (Crest)	401	PPM, Table 2.8.5
Minimum Length (Crest)	500 ft.	PPM, Table 2.8.5
K Value for Vertical Curve (Sag)	181	PPM, Table 2.8.6
Minimum Length (Sag)	400 ft.	PPM, Table 2.8.6
Grades	3% Maximum	PPM, Table 2.6.1
Max. Change in Grade w/o Vertical Curve	0.20%	PPM, Table 2.6.2
Roadway Base Clearance	3 ft.	PPM, Table 2.6.3
SIGHT DISTANCE		
Minimum Stopping Sight Distance for Grades \leq 2%	730 ft.	PPM, Table 2.7.1
ROADWAY ELEMENTS		
Number of Through Lanes	6 (3 in each direction)	
Through Lane Width	12 ft.	PPM, Table 2.1.1
Turn Lane Width	12 ft.	PPM, Table 2.1.1
Bicycle Lane Width	5 ft.	PPM, Table 2.1.2
Shoulder Width	10 ft. (5 ft. paved outside)	PPM, Table 2.3.2
Shoulder Width on Bridge	10 ft.	PPM, Figure 2.0.1
Sidewalk Width	5 ft.	PPM, Section 8.3.1
Median Width	40 ft.	PPM, Table 2.2.1
Side Slopes	Front Slope: Varies 1:6 to 1:2	PPM, Table 2.4.1
	Back Slope: 1:4 or 1:3	PPM, Table 2.4.1
Transverse Slopes	1:4	PPM, Table 2.4.1
Travel Lane Cross Slope (ft/ft)	0.02 (0.03 Outside Lane)	PPM, Figure 2.1.1

SECTION 6. – TRAFFIC

A *Design Traffic Technical Memorandum (DTTM)* has been prepared for the proposed project. Analysis was performed as a part of this study for the existing year (2012) and the future years – opening year (2020), interim year (2030) and design year (2040) with the existing and the projected future traffic volumes.

6.1 EXISTING TRAFFIC VOLUMES AND TRAFFIC CHARACTERISTICS

The operational analysis was performed for existing conditions with the existing lane geometry and 2012 traffic; see **Figures 6-1 and 6-2**. The acceptable LOS standard for the study corridor of SR 60 in the urbanized area from Valrico Road to Horton Road is ‘LOS D’ and in the transitioning area from Horton Road to the Polk County Line is ‘LOS C’. The existing analysis showed that most of the study intersections do not operate at an acceptable level of service during AM or PM or both of the peak periods with the exception of SR 60 at Miller Road, St. Cloud Avenue, Turkey Creek Road, SR 39 and Old Hopewell Road. The existing roadway segment analysis showed that the segment of SR 60 between St. Cloud Avenue and Dover Road in the eastbound direction does not operate at an acceptable level of service during the PM peak period and the segment between Mulrennan Road and Dover Road does not operate at an acceptable level of service in the westbound direction during the AM peak. Also, the section of SR 60 between Valrico Road and Miller Road does not operate at an acceptable level of service in the westbound direction during both the AM and the PM peak periods.

FIGURE 6-1: EXISTING LANE GEOMETRY

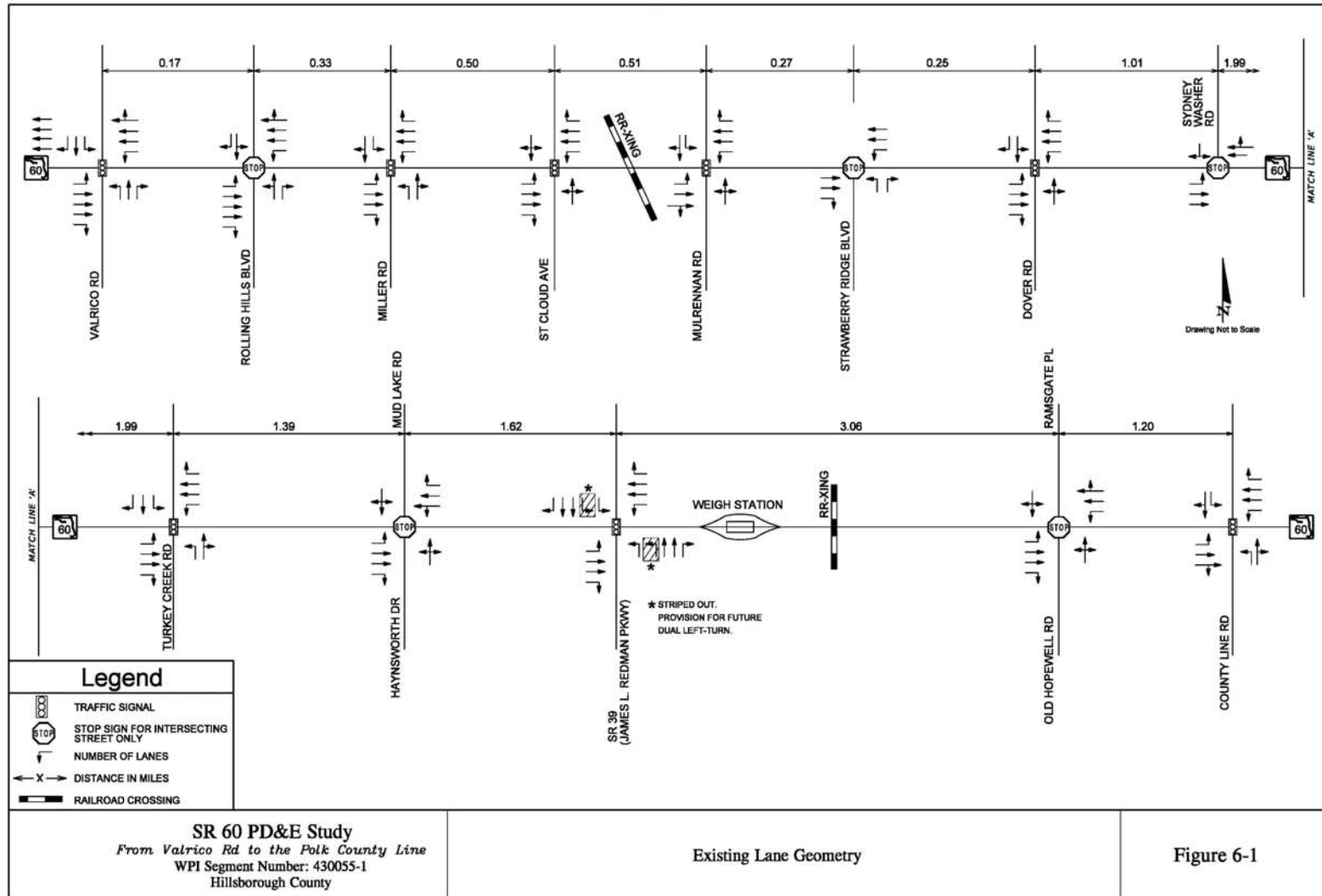
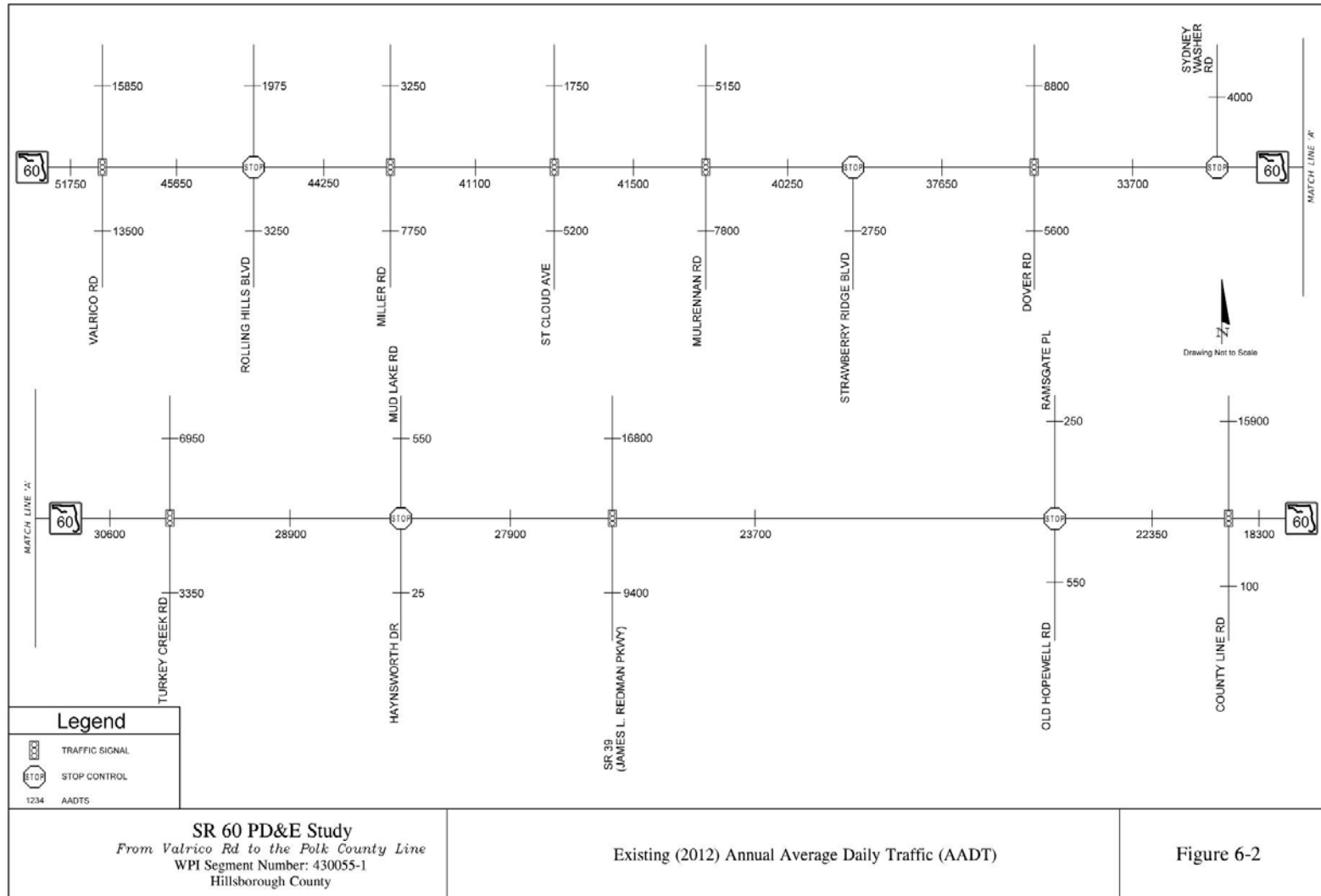


FIGURE 6-2: EXISTING (2012) ANNUAL AVERAGE DAILY TRAFFIC (AADT)



6.2 FUTURE TRAFFIC PROJECTIONS

Operational analyses of future conditions for years 2020, 2030 and 2040 were conducted for both the no-build and the build conditions. The same set of traffic projections and volumes were used for both conditions. The no-build condition considered the existing lane geometry. The analysis showed that the intersections and the roadway segments deteriorated during the future years under the no-build condition.

The operational analysis for build conditions was conducted to assess the traffic operational impact of widening SR 60 improving capacity and identify required turn lanes at intersections to operate at an acceptable level of service. The build condition considered widening SR 60 to six lanes within the project limits. The build analysis performed in this study showed that widening of SR 60 to six lanes from Valrico Road to the Polk County Line will result in improved traffic operation and reduce delay by 2040 along the SR 60 roadway segments within the project limits and also, at the study intersections with intersection turn lane improvements. The traffic volume and LOS projections for the opening year (2020) and interim year (2030) are included in the DTTM for determining when specific improvements are warranted.

6.3 LEVEL OF SERVICE ANALYSIS

6.3.1 BUILD ALTERNATIVE LEVEL OF SERVICE

The 2040 build proposed geometry is shown in **Figure 6-4**. The levels of service (LOS) for the study intersections and roadway segments have been calculated using the design hour volumes shown in **Figure 6-3**. The 2040 build calculated LOS for signalized and un-signalized intersections and the SR 60 roadway segment within the project limits are summarized in **Tables 6-1** and **6-2**.

FIGURE 6-3: DESIGN YEAR (2040) BUILD AM/PM PEAK HOUR TRAFFIC VOLUMES

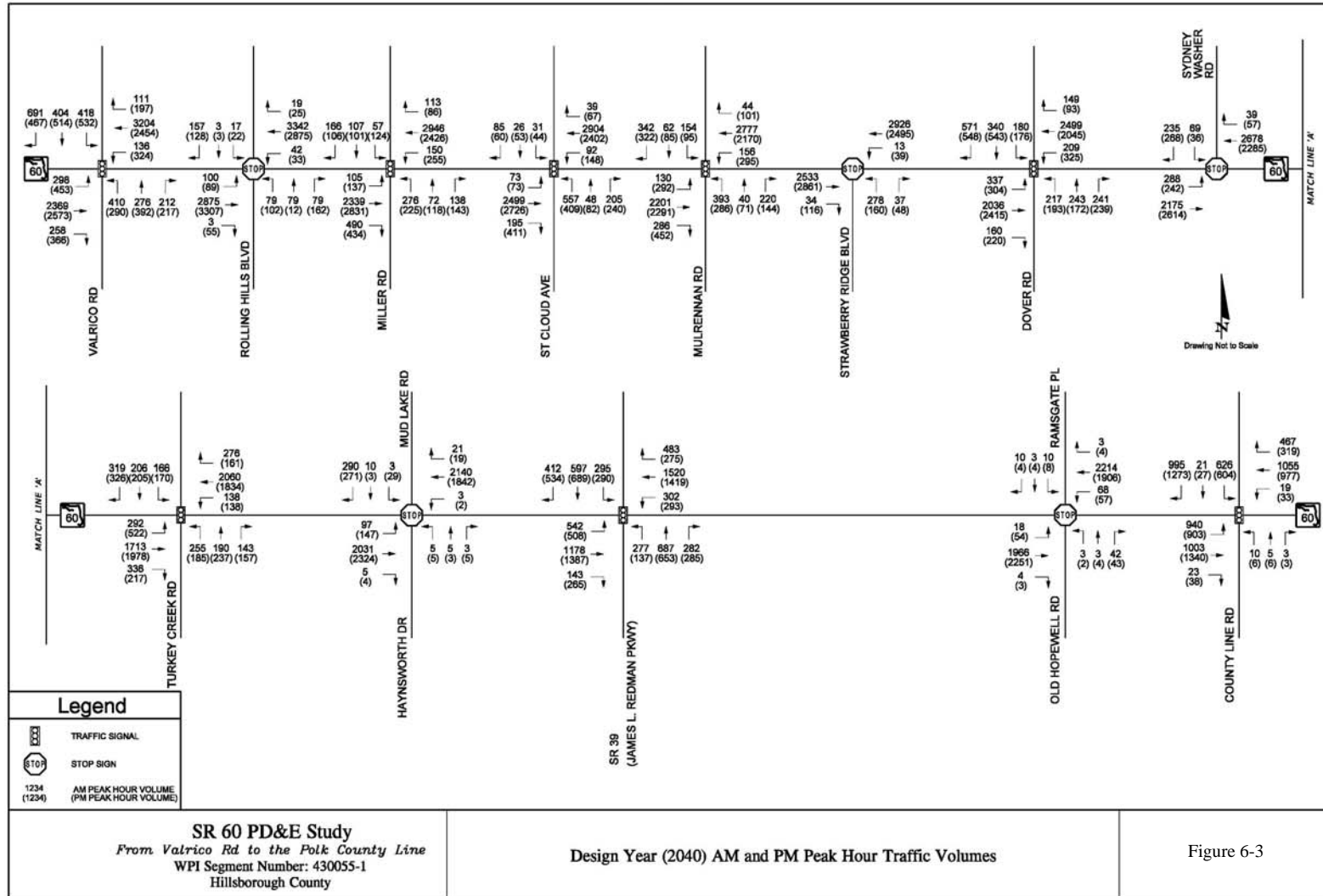


FIGURE 6-4: DESIGN YEAR (2040) BUILD PROPOSED LANE GEOMETRY

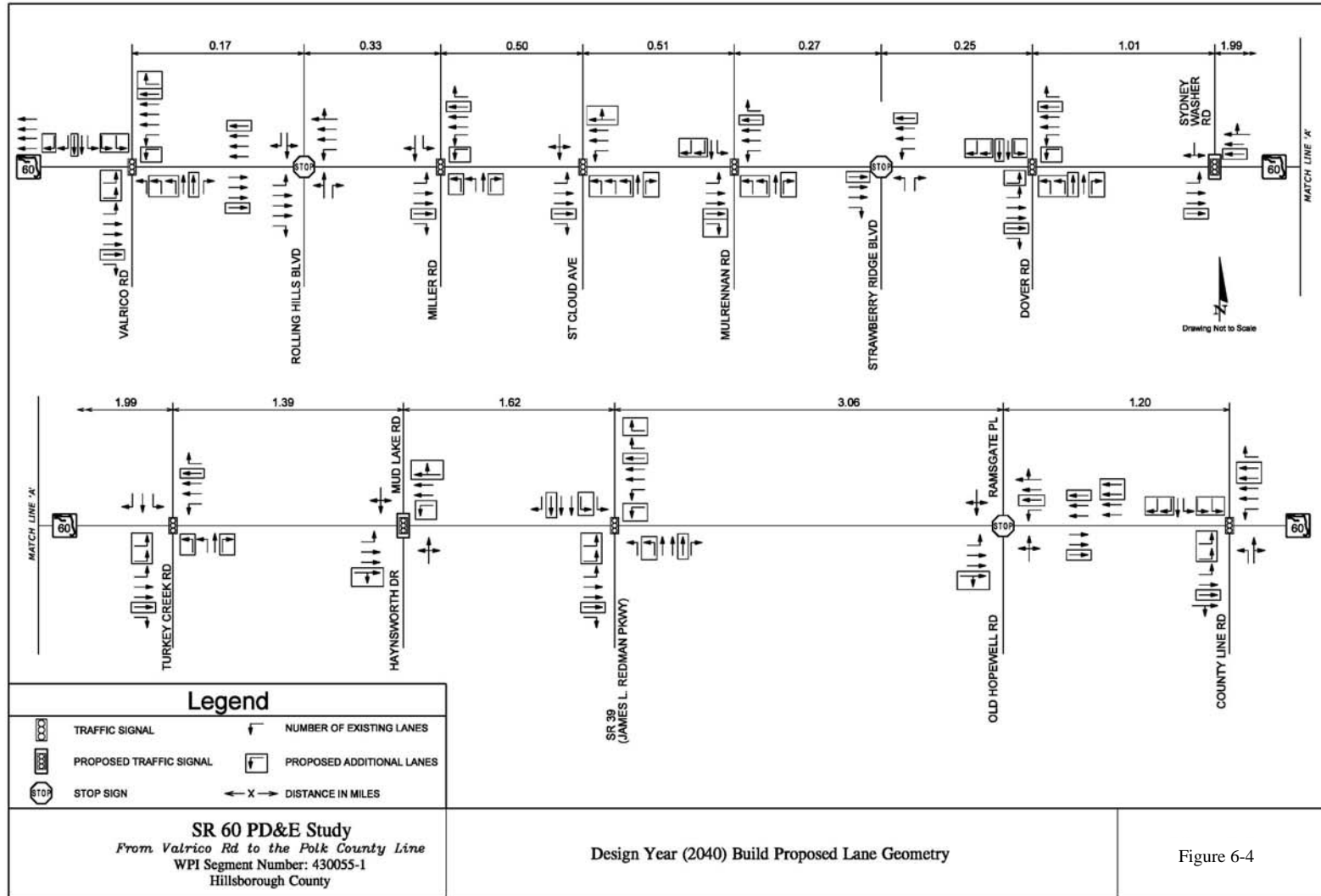


TABLE 6-1: DESIGN YEAR (2040) BUILD AM/PM INTERSECTION DELAY AND LEVEL OF SERVICE SUMMARY

Intersection	Overall Average Delay (seconds/vehicle)	Overall Intersection V/C Ratio	Overall Intersection LOS
SR 60 at Valrico Road	53.7/54.3	0.89/0.90	D/D
SR 60 at Rolling Hills Boulevard* (un-signalized)	- ⁽¹⁾ / - ⁽¹⁾	-	F/F
SR 60 at Miller Road	53.1/52.6	1.07/1.03	D/D
SR 60 at St. Cloud Avenue	51.4/54.3	1.04/1.09	D/D
SR 60 at Mulrennan Road	52.1/50.8	1.01/1.04	D/D
SR 60 at Strawberry Ridge Boulevard* (un-signalized)	899.2/545.4	-	F/F
SR 60 at Dover Road	51.0/53.9	0.99/0.94	D/D
SR 60 at Sydney Washer Road (ran as signalized)	47.3/24.2	1.04/0.91	D/C
SR 60 at Turkey Creek Road	50.5/53.3	0.84/1.02	D/D
SR 60 at Mud Lake Road (ran as signalized)	23.2/24.1	1.02/0.90	C/C
SR 60 at SR 39	54.3/51.2	0.85/1.13	D/D
SR 60 at Old Hopewell Road* (un-signalized)	53.3/63.6	-	F/F
SR 60 at County Line Road	34.1/33.9	0.71/0.77	C/C

*Un-signalized Intersection – Delay/LOS along minor approach.

(1) Delay exceeds software capacity.

TABLE 6-2: DESIGN YEAR (2040) BUILD AM/PM ROADWAY SEGMENT SPEED AND LEVEL OF SERVICE SUMMARY

Roadway	Segment	Build Condition		
		Distance (mi)	Arterial Speed (mph)	Roadway Segment LOS
SR 60 EB	Valrico Road to Miller Road	0.50	30.8/21.6	C/D
	Miller Road to St. Cloud Avenue	0.50	29.5/26.2	C/D
	St. Cloud Avenue to Mulrennan Road	0.51	31.5/25.5	C/D
	Mulrennan Road to Dover Road	0.52	26.8/22.6	D/D
	Dover Road to Sydney Washer Road	1.01	46.0/44.4	A/A
	Sydney Washer Road to Turkey Creek	1.99	39.9/40.0	B/B
	Turkey Creek Road to Mud Lake Road	1.39	55.3/54.7	A/A
	Mud Lake Road to SR 39	1.62	46.9/46.1	A/A
SR 60 WB	SR 39 to County Line Road	4.29	60.8/60.2	A/A
	County Line Road to SR 39	4.29	52.7/54.4	A/A
	SR 39 to Mud Lake Road	1.62	48.6/50.5	A/A
	Mud Lake Road to Turkey Creek Road	1.39	42.1/41.3	A/B
	Turkey Creek Road to Sydney Washer	1.99	36.8/39.7	B/B
	Sydney Washer Road to Dover Road	1.01	29.8/31.1	C/C
	Dover Road to Mulrennan Road	0.52	21.1/25.0	D/D
	Mulrennan Road to St. Cloud Avenue	0.51	21.0/21.2	D/D
	St. Cloud Avenue to Miller Road	0.50	23.3/25.7	D/D
	Miller Road to Valrico Road	0.50	23.6/22.9	D/D

Based on the results of the analysis shown in the table above, the minor approaches of the un-signalized intersections do not operate at an acceptable level of service.

Planning level evaluation of the signal warrant (Warrant 1 and Warrant 2 as included in the Manual on Uniform Traffic Studies (MUTS)) were conducted at the un-signalized locations – Rolling Hills Boulevard, Strawberry Ridge Boulevard, Sydney Washer Road, Mud Lake Road and Old Hopewell Road along SR 60 within the project limits. Warrants were evaluated using the two peak hour – AM and PM volumes available for the future years. Consideration was also given to access management for spacing in recommending a signal at these un-signalized locations. Traffic signal appears to be warranted at SR 60 and Sydney Washer Road and at SR 60 and Mud Lake Road from the opening year 2020 based on available traffic volumes. These locations will also meet signal spacing requirements for Access Management Class 3. These two intersections were analyzed as signalized intersections as a part of the build scenarios for all the future analysis years and are shown as signalized intersections as a part of the build lane geometries in this study.

The intersection storage lengths have been calculated for the design year 2040 build conditions based on the ITE “red-time” formula and are listed in the DTTM.

6.3.2 NO-BUILD ALTERNATIVE LEVEL OF SERVICE

The 2040 no-build condition includes the existing geometry shown in **Figure 6-1**. The levels of service (LOS) for the study intersections and roadway segments have been calculated using the design hour volumes shown in **Figure 6-2**. The 2040 no-build calculated LOS for signalized and un-signalized intersections and the SR 60 roadway segment within the project limits are summarized in **Tables 6-3** and **6-4**. Signal timings were optimized as a part of the future year analysis.

TABLE 6-3: DESIGN YEAR (2040) NO-BUILD AM/PM INTERSECTION DELAY AND LEVEL OF SERVICE SUMMARY

Intersection	Overall Average Delay (seconds/vehicle)	Overall Intersection V/C Ratio	Overall Intersection LOS
SR 60 at Valrico Road	224.8/225.4	1.70/1.92	F/F
SR 60 at Rolling Hills Boulevard* (un-signalized)	- ⁽¹⁾ / - ⁽¹⁾	-	F/F
SR 60 at Miller Road	175.4/162.3	1.41/1.83	F/F
SR 60 at St. Cloud Avenue	264.9/204.5	1.86/2.04	F/F
SR 60 at Mulrennan Road	406.2/383.6	2.49/2.49	F/F
SR 60 at Strawberry Ridge Boulevard* (un-signalized)	3574.0/2715.0	-	F/F
SR 60 at Dover Road	443.1/723.0	2.61/4.12	F/F
SR 60 at Sydney Washer Road* (un-signalized)	- ⁽¹⁾ / - ⁽¹⁾	-	F/F
SR 60 at Turkey Creek Road	135.8/167.6	1.50/1.46	F/F
SR 60 at Mud Lake Road* (un-signalized)	- ⁽¹⁾ / - ⁽¹⁾	-	F/F
SR 60 at SR 39	170.5/144.5	1.54/1.62	F/F
SR 60 at Old Hopewell Road* (un-signalized)	400.1/- ⁽¹⁾	-	F/F
SR 60 at County Line Road	321.7/335.2	1.93/2.04	F/F

*Un-signalized Intersection – Delay/LOS along minor approach.

(1) Delay exceeds software capacity.

TABLE 6-4: DESIGN YEAR (2040) NO-BUILD AM/PM ROADWAY SEGMENT SPEED AND LEVEL OF SERVICE SUMMARY

Roadway	Segment	No-Build Condition		
		Distance (mi)	Arterial Speed (mph)	Roadway Segment LOS
SR 60 EB	Valrico Road to Miller Road	0.50	11.8/7.8	F/F
	Miller Road to St. Cloud Avenue	0.50	10.7/9.4	F/F
	St. Cloud Avenue to Mulrennan Road	0.51	5.9/4.6	F/F
	Mulrennan Road to Dover Road	0.52	5.1/6.5	F/F
	Dover Road to Turkey Creek Road	3.00	42.8/37.4	A/B
	Turkey Creek Road to SR 39	3.01	39.8/38.3	B/B
	SR 39 to County Line Road	4.29	56.3/50.6	A/A
SR 60 WB	County Line Road to SR 39	4.29	32.2/37.8	C/B
	SR 39 to Turkey Creek Road	3.01	29.9/27.4	C/C
	Turkey Creek Road to Dover Road	3.00	14.4/34.8	F/B
	Dover Road to Mulrennan Road	0.52	4.8/8.2	F/F
	Mulrennan Road to St. Cloud Avenue	0.51	7.3/15.9	F/F
	St. Cloud Avenue to Miller Road	0.50	6.5/14.0	F/F
	Miller Road to Valrico Road	0.50	7.6/11.0	F/F

SECTION 7. – ALTERNATIVES ANALYSIS

7.1 NO-BUILD ALTERNATIVE

The No-Build Alternative assumes that traffic volumes will continue to increase with no changes to SR 60 within the study area other than routine maintenance. The No-Build Alternative requires no additional expenditure of funds and has no environmental impacts. Although the No-Build Alternative does not meet the purpose and need and offers no future operational improvements, it was considered as a viable alternative throughout the study process and it served as the basis of comparison for the build alternatives.

7.2 TRANSPORTATION SYSTEM MANAGEMENT & OPERATIONS (TSM&O)

The objective of Transportation System Management & Operations (TSM&O) is to identify strategies that reduce existing traffic congestion and prevent its occurrence in areas that are currently congested. These strategies are designed to modify travel behavior and increase system efficiency without costly infrastructure improvements. TSM&O strategies are implemented when one or more of the following occurs:

- Insufficient funds available to meet system improvement needs,
- Increased construction costs for new roadways and transit facilities,
- Increased need to improve operational efficiency, and/or
- Changes in travel patterns.

TSM&O options generally include traffic signal and intersection improvements, access management, and transit improvements. Upon analysis it was determined, the additional capacity required to meet the projected traffic volumes along SR 60 in the Design Year 2040 cannot be provided solely through the implementation of TSM&O improvements.

7.3 BUILD ALTERNATIVES

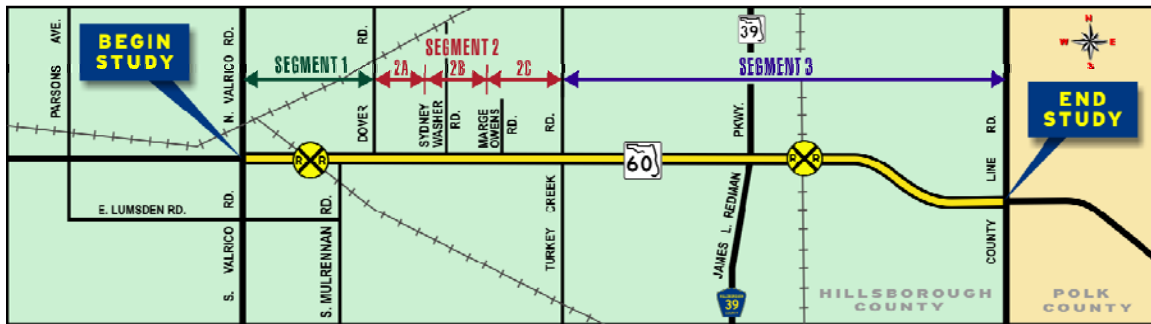
The project area was divided into three segments, as shown in **Figure 7-1**, based on the characteristics of the existing roadway and adjacent properties. Segment 2 was further subdivided into three sub-segments to address varying the ROW and land use within the segment. The segment limits are as follows:

- Segment 1: Valrico Road (MP 11.459) to Dover Road (MP 13.487)

- Segment 2A: Dover Road (MP 13.487) to West of Sydney Washer Road (MP 14.106)
- Segment 2B: West of Sydney Washer Road (MP 14.106) to West of Marge Owens Road (MP 15.261)
- Segment 2C: West of Marge Owens Road (MP 15.261) to Turkey Creek Road (MP 16.491)
- Segment 3: Turkey Creek Road (MP 16.491) to the Polk County Line (MP 23.740)

Within each segment, with the exception of Segment 2B, New Construction and Pavement Saving design alternatives were evaluated. Only a New Construction Alternative was developed for Segment 2B because of the restricted ROW width in that area.

FIGURE 7-1: PROJECT SEGMENTS



7.3.1 TYPICAL SECTIONS

7.3.1.1 Urban

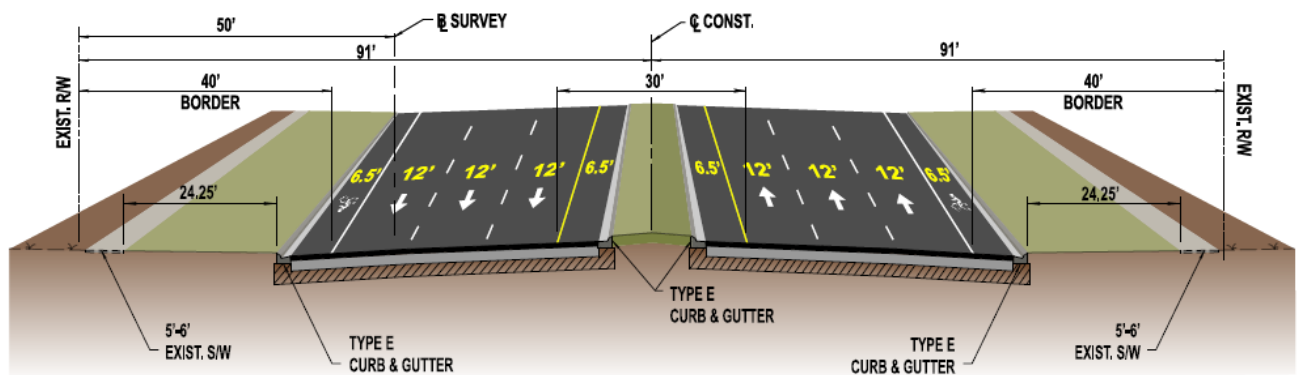
An urban typical section was utilized in Segments 1, 2A, and 2B. Segment 2 would typically utilize a suburban typical section due to the transitional nature of the surrounding land use; however, an urban section was selected in Segment 2B to stay within the constrained existing ROW of 135 feet. In addition, an urban typical section was developed for Segment 2A because a suburban typical section of only 0.619 miles long between two urban sections (Segment 1 and 2B) would create an inconsistent roadway design and deviate from driver expectancies.

New Construction

This urban typical section, as shown in **Figure 7-2**, includes three 12-foot travel lanes with a 6.5-foot bike lane in each direction separated by a 30-foot raised grass median consisting of 6.5-foot inside paved shoulders and type E curb and

gutter. The closed drainage system has type E curb and gutter to the outside. Existing sidewalks will be utilized where possible and new sidewalk will be constructed near the ROW line as needed. The design speed is 50 mph and the roadway is centered in the 182-foot ROW with 40-foot borders on each side. Within Segment 2B the roadway is centered in the 135-foot ROW with 16.5-foot borders on each side. Design variations will be required for border width and clear zone in Segment 2B.

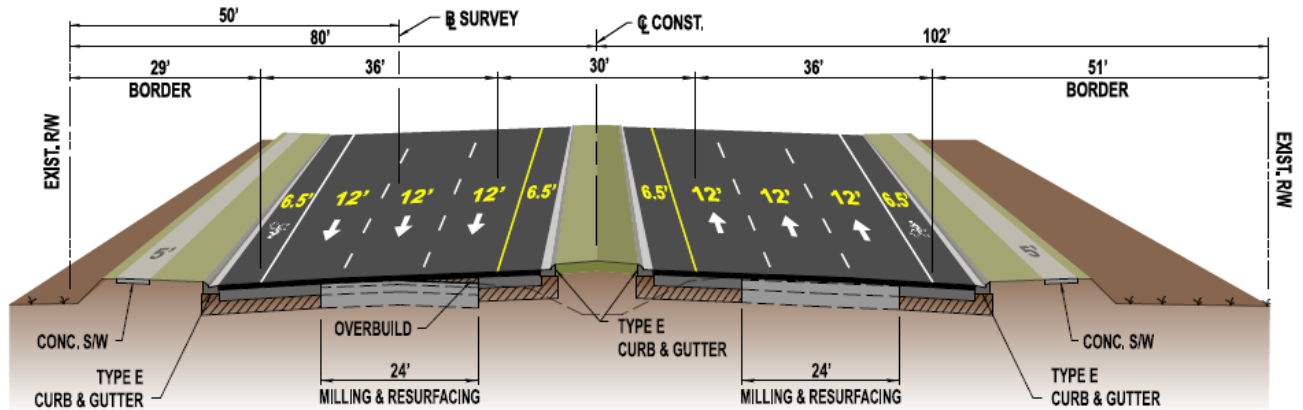
FIGURE 7-2: URBAN NEW CONSTRUCTION TYPICAL SECTION



Pavement Saving

This urban typical section, as shown in **Figure 7-3**, includes three 12-foot travel lanes with a 6.5-foot bike lane in each direction separated by a 30-foot raised grass median consisting of 6.5-foot inside paved shoulders and type E curb and gutter. The two existing lanes in each direction will be milled and resurfaced and overbuild will be used to accommodate the slope of the widened roadway. The closed drainage system has type E curb and gutter to the outside and 5-foot sidewalks will be constructed 8.25 feet from the back of the curb. The design speed is 50 mph and the roadway is centered on the existing roadway with a 29-foot border on one side and a 51-foot border on the other. This Pavement Saving typical is not applicable to Segment 2B because of the restricted ROW width in that area; only the New Construction typical section is being considered.

FIGURE 7-3: URBAN PAVEMENT SAVING TYPICAL SECTION



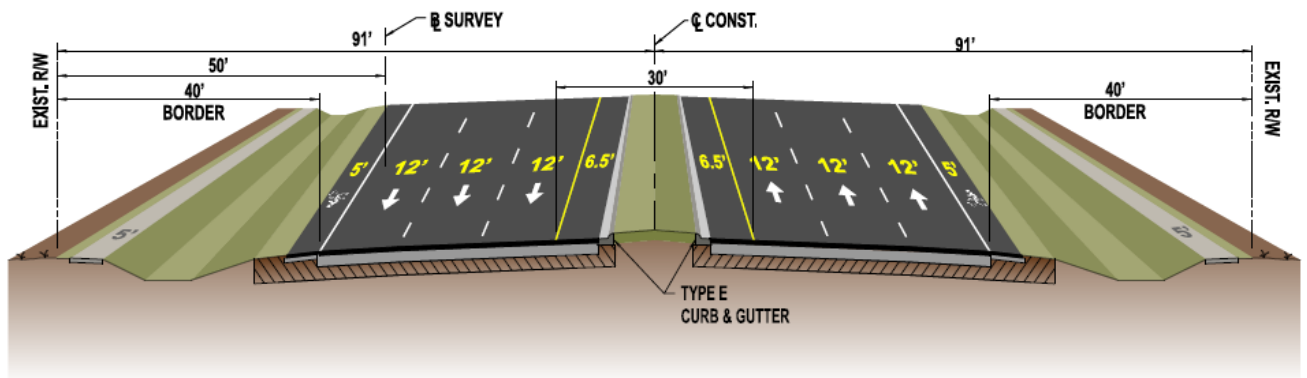
7.3.1.2 Suburban

A Suburban typical section was utilized in Segment 2C due to the transitional nature of the land use.

New Construction

This suburban typical section, as shown in **Figure 7-4**, includes three 12-foot travel lanes with a 10-foot outside shoulder (5-foot paved bike lane) in each direction separated by a 30-foot raised grass median consisting of 6.5-foot inside paved shoulders and type E curb and gutter. Sidewalks are set near the ROW line behind the open drainage conveyance ditches. The design speed is 50 mph and the roadway is centered in the 182-foot ROW with 40-foot borders on each side.

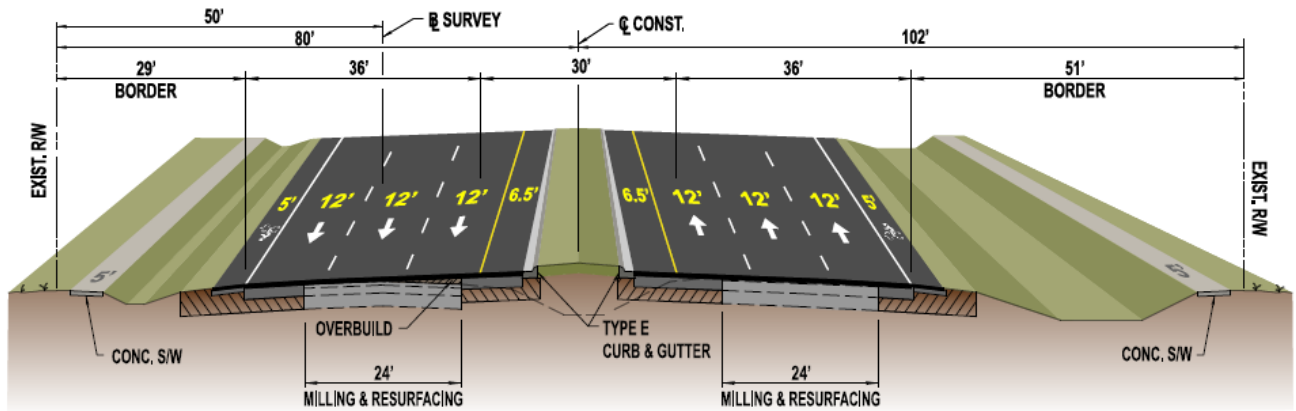
FIGURE 7-4: SUBURBAN NEW CONSTRUCTION TYPICAL SECTION



Pavement Saving

This suburban typical section, as shown in **Figure 7-5**, includes three 12-foot travel lanes with a 10-foot outside shoulder (5-foot paved bike lane) in each direction separated by a 30-foot raised grass median consisting of 6.5-foot inside paved shoulders and type E curb and gutter. The two existing lanes in each direction will be milled and resurfaced and overbuild will be used to accommodate the slope of the widened roadway. Sidewalks are set near the ROW line behind the open drainage conveyance ditches. The design speed is 50 mph and the roadway is centered on the existing roadway with a 29-foot border on one side and a 51-foot border on the other.

FIGURE 7-5: SUBURBAN PAVEMENT SAVING TYPICAL SECTION



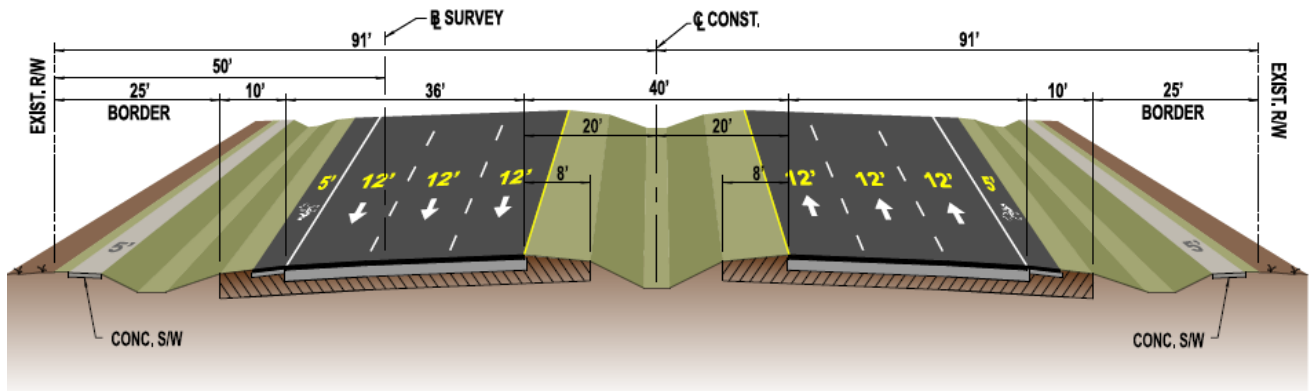
7.3.1.3 Rural

A rural typical section was utilized in Segment 3.

New Construction

This rural typical section, as shown in **Figure 7-6**, includes three 12-foot travel lanes with a 10-foot outside shoulder (5-foot paved bike lane) in each direction separated by a 40-foot grass median consisting of 8-foot inside shoulders. Sidewalks are set near the ROW line behind the open drainage conveyance ditches. The design speed is 70 mph and the roadway is centered in the 182-foot ROW with 25-foot borders on each side. A border width design variation will be required.

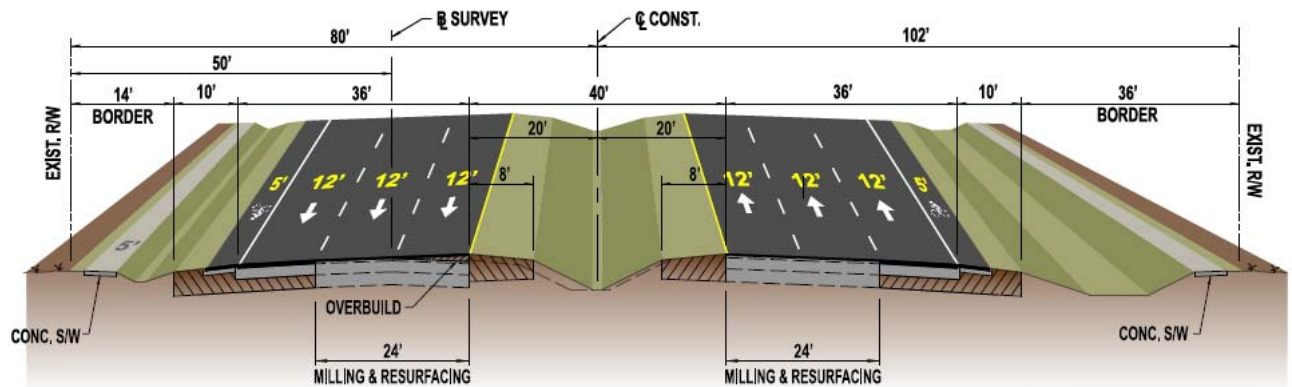
FIGURE 7-6: RURAL NEW CONSTRUCTION TYPICAL SECTION



Pavement Saving

This rural typical section, as shown in **Figure 7-7**, includes three 12-foot travel lanes with a 10-foot outside shoulder (5-foot paved bike lane) in each direction separated by a 40-foot grass median consisting of 8-foot inside shoulders. The two existing lanes in each direction will be milled and resurfaced. Sidewalks are set near the ROW line behind the open drainage conveyance ditches. The design speed is 70 mph and the roadway is centered on the existing roadway with a 14-foot border on one side and a 36-foot border on the other. A border width design variation will be required.

FIGURE 7-7: RURAL PAVEMENT SAVING TYPICAL SECTION



7.3.2 ALTERNATIVE ALIGNMENTS

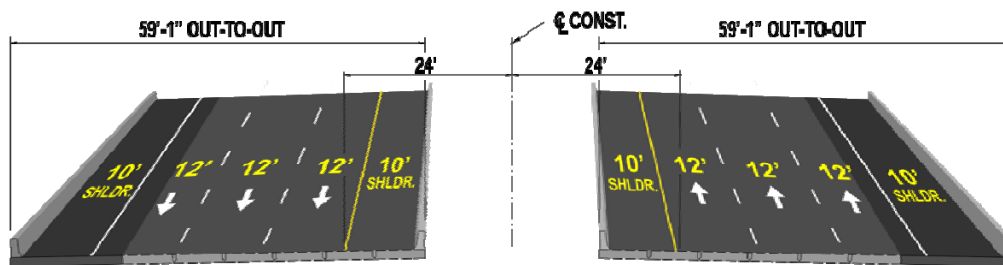
Two build alternatives, New Construction and Pavement Saving, have been evaluated and presented at a public workshop held on March 18, 2014. The New Construction

alternative consists of the new construction typical section in each segment while the Pavement Saving alternative utilizes the pavement saving typical section in all segments except 2B, where only the new construction typical was developed. A “hybrid” alignment composed of both the new construction and pavement saving typical sections was considered, but was not carried forward to the workshop, because the roadway transitions required between the shifting centerline may cause operational problems. **Appendix A** provides concept plans for the recommended alternative.

7.3.2.1 New Construction Alternative

The New Construction Alternative is centered in the existing ROW to eliminate the need for additional ROW. The existing sidewalk near the ROW line will be utilized where possible to minimize construction impacts to driveways and pedestrians. In Segment 2B the roadway enters a cut section and the ROW narrows to 135 feet. The sidewalk transitions to the back of curb through this segment to stay within the existing ROW. An existing FDOT weigh station is located in the median approximately 2,400 feet east of SR 39. Both the EB and WB lanes will be shifted to match the current alignment with all widening taking place to the outside adjacent to the weigh station. The entrance and exits to the weigh station will not be modified. The structures that carry SR 60 over English Creek within Segment 3 are in good condition and will be widened to the outside by 16 feet to accommodate the new six-lane roadway. The EB and WB alignments will transition to provide a 10-foot inside shoulder across the bridges, as shown in **Figure 7-8**, so that only outside widening is required. No additional ROW is required for the New Construction Alternative.

FIGURE 7-8: ENGLISH CREEK BRIDGES TYPICAL SECTION



7.3.2.2 Pavement Saving Alternative

The Pavement Saving Alternative is centered on the existing roadway centerline and will require additional ROW, but will not result in any business or residential relocations. The required ROW is predominantly composed of corner clips on the north side of the roadway within Segments 1, 2A, and 2B. In Segment 2B the roadway enters a cut section and the ROW narrows to 135 feet. The roadway will be reconstructed throughout this segment to allow side slopes to tie-down within the existing ROW. An existing FDOT weigh station is located in the median approximately 2,400 feet east of SR 39. The EB lanes will be shifted to the south to match the current alignment adjacent to the weigh station and the entrance and exits to the weigh station will not be modified. The structures that carry SR 60 over English Creek within Segment 3 are in good condition and will be widened to the outside by 16 feet to accommodate the new six-lane roadway. Although the Pavement Saving Alternative follows the existing centerline, the EB and WB lanes will shift to the outside to increase the existing 6-foot inside shoulders to 10 feet across the bridges (see Figure 7-8), allowing the existing structures to remain with only outside widening.

Because the Alternative is centered on the existing roadway centerline, which is north of the center of the ROW, additional ROW is required on the north side of the roadway to accommodate a number of right turn lanes and the adjacent sidewalk in Segments 2C and 3. See the concept plans in **Appendix A** for details on the locations of the additional ROW. The total amount of required ROW for the Pavement Saving Alternative is approximately 41,300 square feet, or 0.95 acres, for the entire study limits.

7.4 EVALUATION MATRIX

The No-Build and both build alternatives were evaluated on a number of elements including cost, the natural and social environment, cultural resources and property impacts. The findings are summarized in **Table 7-1**.

TABLE 7-1 EVALUATION MATRIX

Evaluation Criteria	No-Build Alternative	Alternative 1 (Full Reconstruction)	Alternative 2 (Pavement Saving)
Potential Business Effects			
Number of business relocations	0	0	0
Potential Residential Effects			
Number of residential relocations	0	0	0
Potential Environmental Effects			
Archaeological/Historical sites identified	0	1	1
Wetlands (acres)	0	5.89	5.84
Floodplains (acres)	0	15.62	15.62
Threatened and endangered species likelihood of occurrence	NONE	LOW	LOW
Noise sensitive sites within 66 dBA	0	199	187
Petroleum and hazardous material sites (ranked as high / medium)	0	19	19
Potential Right-of-Way (ROW) Effects			
ROW to be acquired for roadway (acres)	0.0	0.0	0.95
ROW to be acquired for stormwater and floodplain facilities (acres)	0.0	65.0	65.0
Estimated Project Costs (2014 Cost)			
Wetland Mitigation	0	\$655,185	\$648,499
ROW acquisition for roadway	0	\$0	\$3,744,200
ROW acquisition for stormwater and floodplain facilities	0	\$17,509,200	\$17,509,200
Total ROW and Mitigation Costs	0	18,164,385	21,901,899
Construction cost for roadway	0	\$54,376,955	\$40,313,003
Construction cost for stormwater and floodplain facilities	0	\$16,263,320	\$14,790,742
Total Construction Costs	0	\$70,640,275	\$55,103,745
Design (10% of Total Construction Cost)	0	\$7,064,028	\$5,510,375
Construction Engineering & Inspection (10% of Total Construction Cost)	0	\$7,064,028	\$5,510,375
Preliminary Estimate of Total Project Costs	\$0	\$102,932,716	\$88,026,394

7.5 RECOMMENDED ALTERNATIVE

The No-Build Alternative fails to fulfill the project's purpose and need to accommodate future traffic projections in a safe and efficient manner, resulting in substandard LOS within the corridor and increased traffic congestion. The No-Build Alternative will result in reduced economic viability and mobility due to traffic congestion and deterioration of air quality caused by traffic congestion and delays.

While the Build Alternative has costs associated with design, ROW acquisition, and construction, it would result in a four- to six-lane facility that enhances the LOS while safely accommodating expected future growth. The two Build Alternatives have similar environmental and ROW impacts; therefore, the Pavement Saving Alternative (Build Alternative 2) has been chosen as the Recommended Alternative based on its lower cost and ease of construction.

7.6 PREFERRED ALTERNATIVE

Following the Public Hearing, the Recommended Alternative was revised to incorporate 7-foot wide buffered bike lanes per FDOT's Roadway Design Bulletin 15-01. Once approved by the District, the Recommended Alternative becomes the Preferred Alternative, and it can be advanced to the design phase.

SECTION 8. – DESIGN DETAILS OF RECOMMENDED ALTERNATIVE

8.1 DESIGN TRAFFIC VOLUMES

The design hour volumes are presented in **Figure 6-3**. Details on the future traffic projections are included in **Chapter 6**. The proposed geometry includes improvements to cross streets which are the responsibility of others. A traffic and level of service analysis with only SR 60 mainline (FDOT) improvements is provided in the Appendix F of the *Design Traffic Technical Memorandum*. See **Figure 8-1** for the FDOT approved lane geometry.

8.2 TYPICAL SECTIONS AND DESIGN SPEED

Following the Public Hearing, the Recommended Alternative was revised to incorporate 7-foot wide buffered bike lanes per FDOT's Roadway Design Bulletin 15-01. The revised typical sections are included below.

8.2.1 URBAN

The urban pavement savings typical section was utilized in Segments 1, and 2A as shown in **Figure 8-2**. The new construction typical section was utilized in Segment 2B, as shown in **Figure 8-3**, because the restricted ROW width in that segment necessitates the centering of the roadway within the ROW. Both typical sections include three 12-foot travel lanes with a 7-foot buffered bike lane and 5-foot sidewalk in each direction. The design speed is 50 mph.

FIGURE 8-1: FDOT APPROVED LANE GEOMETRY

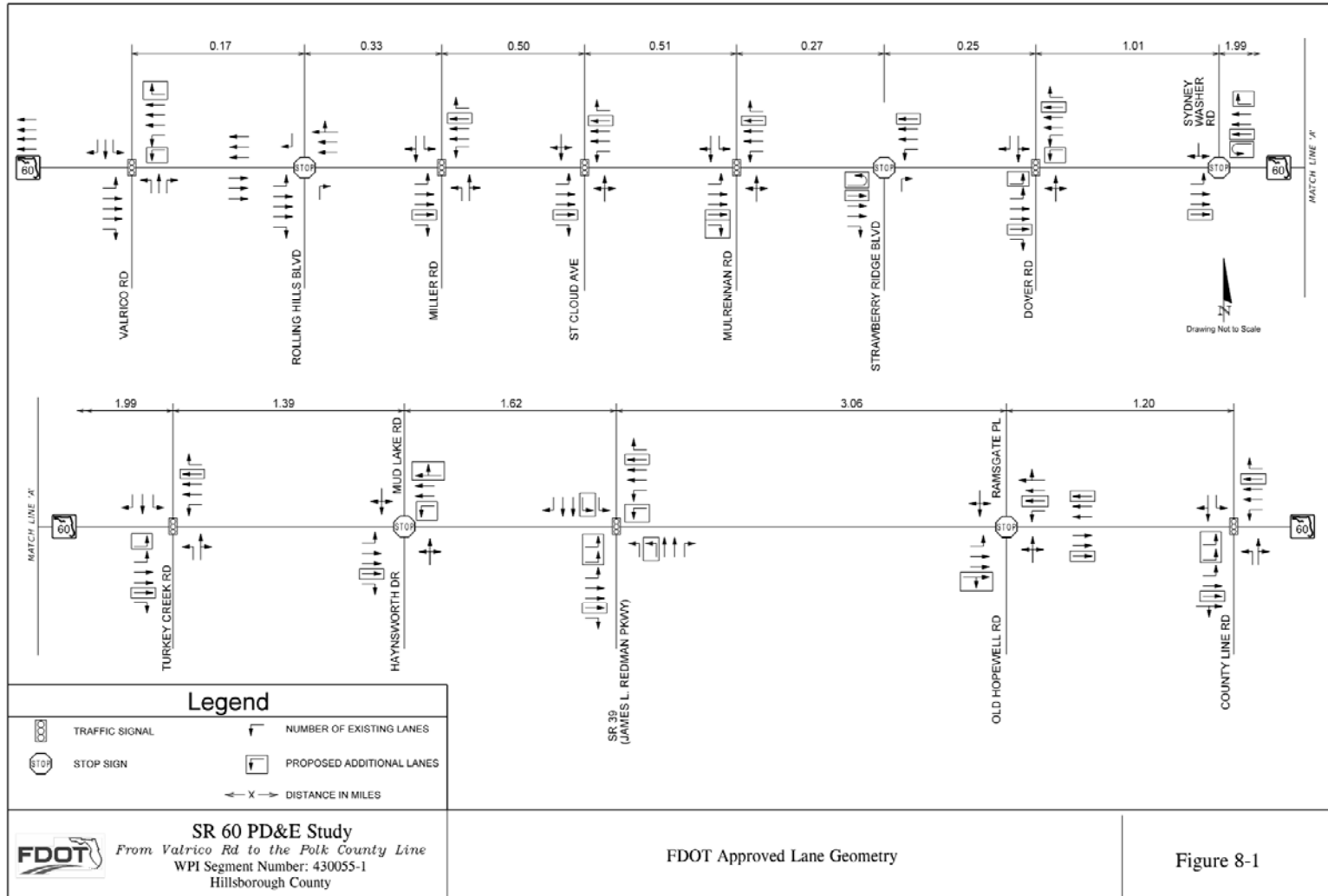


FIGURE 8-2: URBAN PAVEMENT SAVING TYPICAL SECTION (SEGMENTS 1 & 2A)

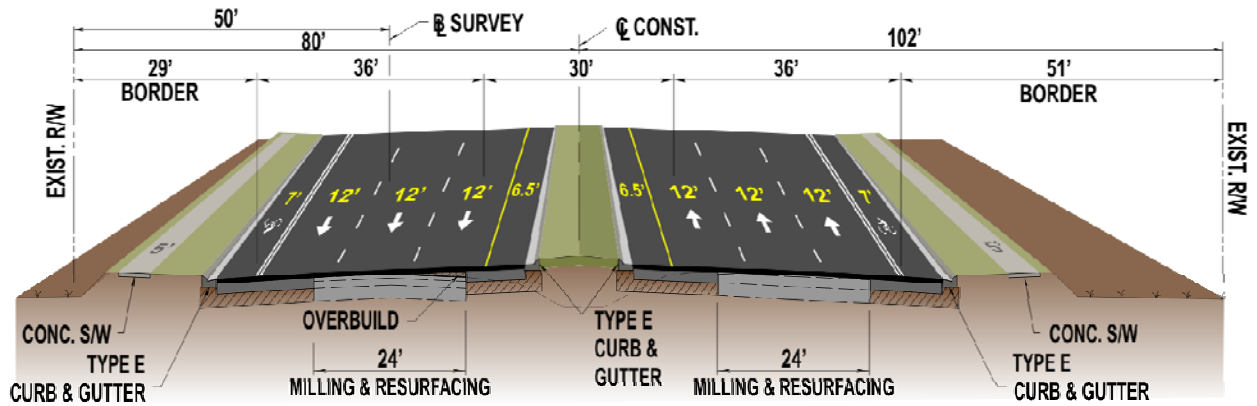
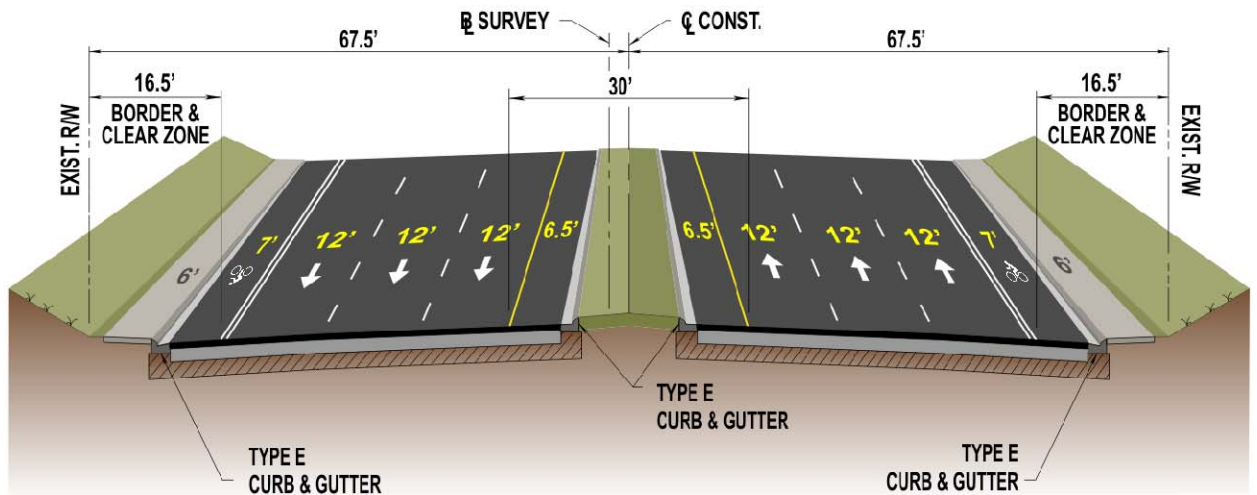


FIGURE 8-3: URBAN NEW CONSTRUCTION TYPICAL SECTION (SEGMENT 2B)



8.2.2 SUBURBAN

A Suburban pavement saving typical section was utilized in Segment 2C as shown in **Figure 8-4**. This typical section includes three 12-foot travel lanes with a 7-foot buffered bike lane and 5-foot sidewalks in each direction. The design speed is 50 mph.

8.2.3 RURAL

A rural pavement saving typical section was utilized in Segment 3 as shown in **Figure 8-5**. This typical section includes three 12-foot travel lanes with a 7-foot buffered bike lane and 5-foot sidewalks in each direction. The design speed is 70 mph.

FIGURE 8-4: SUBURBAN PAVEMENT SAVING TYPICAL SECTION (SEGMENT 2C)

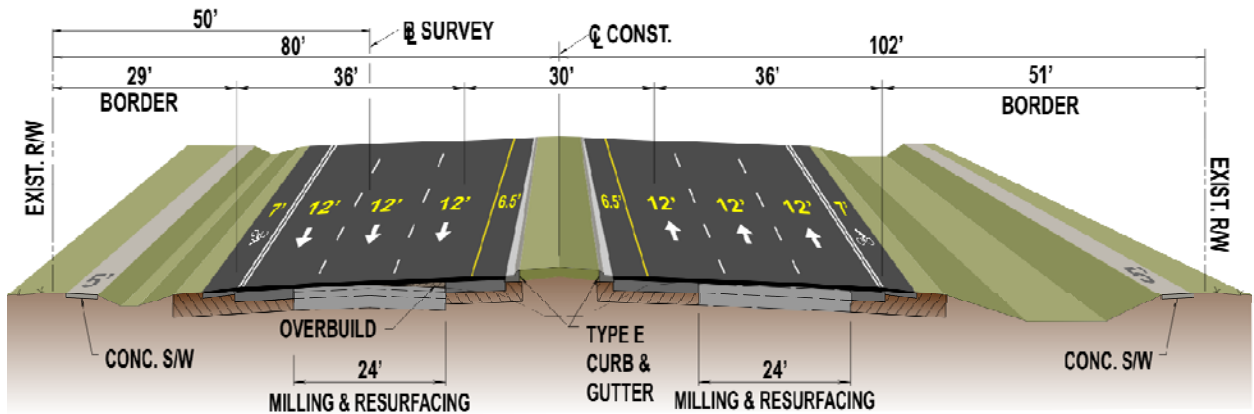
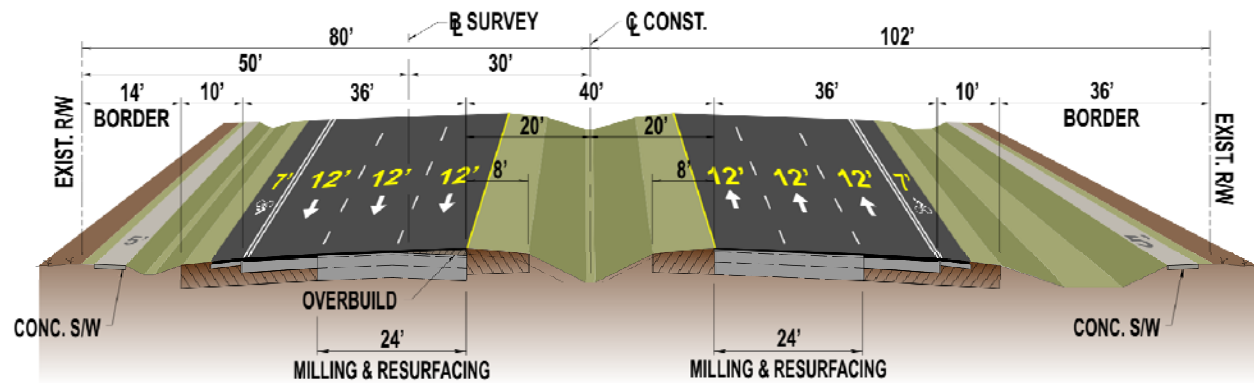


FIGURE 8-5: RURAL PAVEMENT SAVING TYPICAL SECTION (SEGMENT 3)



8.3 INTERSECTION CONCEPTS AND SIGNAL ANALYSIS

The 2040 build proposed geometry is shown in Figure 6-4. The proposed geometry includes improvements to cross streets which are the responsibility of others, thus, a traffic and level of service analysis with only SR 60 mainline (FDOT) improvements was completed and is provided in the Appendix F of the DTTM. See Figure 8-1 for the FDOT approved lane geometry. The proposed geometry intersection storage lengths calculated for the design year 2040 build conditions (See DTTM) are based on the assumption that improvements to the cross streets will be implemented. If improvements are not made to the cross streets which are the responsibility of others, i.e., FDOT approved geometry only, the turn lane storage lengths are likely to be recalculated during design.

The levels of service (LOS) for the study have been calculated using the design hour volumes shown in **Figure 6-3**. The 2040 build calculated LOS with the FDOT approved

lane geometry for signalized and un-signalized intersections are summarized in **Table 8-1**. Planning level evaluation of the signal warrant (Warrant 1 and Warrant 2 as included in the Manual on Uniform Traffic Studies (MUTS)) were conducted at the un-signalized locations – Rolling Hills Boulevard, Strawberry Ridge Boulevard, Sydney Washer Road, Mud Lake Road and Old Hopewell Road along SR 60 within the project limits. Warrants were evaluated using the two peak hour – AM and PM volumes available for the future years. Consideration was also given to access management for spacing in recommending a signal at these un-signalized locations. **Table 8-2** below summarizes the findings of this planning level analysis.

TABLE 8-1: DESIGN YEAR (2040) BUILD WITH FDOT APPROVED INTERSECTION GEOMETRY AM/PM INTERSECTION DELAY AND LEVEL OF SERVICE SUMMARY

Intersection	Overall Average Delay (seconds/vehicle)	Overall Intersection V/C Ratio	Overall Intersection LOS
SR 60 at Valrico Road	213.4/205.1	1.56/1.52	F/F
SR 60 at Rolling Hills Boulevard* (un-signalized)	65.3/ 32.8	-	F/D
SR 60 at Miller Road	56.1/64.2	1.12/1.17	E/E
SR 60 at St. Cloud Avenue	242.9/167.6	1.45/1.49	F/F
SR 60 at Mulrennan Road	273.6/248.9	1.67/1.55	F/F
SR 60 at Strawberry Ridge Boulevard* (un-signalized)	68.3/42.3	-	F/E
SR 60 at Dover Road	257.3/319.7	1.98/2.42	F/F
SR 60 at Sydney Washer Road* (un-signalized)	- ⁽¹⁾ /1661	-	F/F
SR 60 at Turkey Creek Road	59.7/69.0	0.97/1.23	E/E
SR 60 at Mud Lake Road* (un-signalized)	73.8/117.6	-	F/F
SR 60 at SR 39	62.2/56.9	0.98/1.01	E/E
SR 60 at Old Hopewell Road* (un-signalized)	53.3/63.6	-	F/F
SR 60 at County Line Road	118.0/147.0	1.19/1.48	F/F

*Un-signalized Intersection – Delay/LOS along minor approach.

(1) Delay exceeds software capacity.

TABLE 8-2: PLANNING LEVEL SIGNAL WARRANT EVALUATION AT UN-SIGNALIZED INTERSECTIONS

Un-signalized Intersection	Signal Warrant*	Opening Year 2020	Interim Year 2030	Design Year 2040	Recommendation
SR 60 @ Rolling Hills Boulevard	1	Satisfied	-	-	Traffic Signal was not recommended due to Access Management standards.
	2	Satisfied	-	-	
SR 60 @ Strawberry Ridge Boulevard	1	Satisfied	-	-	Traffic Signal was not recommended due to Access Management standards.
	2	Satisfied	-	-	
SR 60 @ Sydney Washer Road	1	Satisfied	-	-	Traffic Signal may be recommended in Opening Year 2020.
	2	Satisfied	-	-	
SR 60 @ Mud Lake Road	1	Satisfied	-	-	Traffic Signal may be recommended in Opening Year 2020.
	2	Satisfied	-	-	
SR 60 @ Old Hopewell Road	1	Not Satisfied	Not Satisfied	Not Satisfied	Traffic Signal warrant not satisfied.
	2	Not Satisfied	Not Satisfied	Not Satisfied	

*Only peak hours were tested.

8.4 ALIGNMENT AND RIGHT OF WAY NEEDS

The Recommended Alternative is centered on the existing roadway centerline and will require additional ROW, but will not result in any business or residential relocations. The required ROW is predominantly composed of corner clips on the north side of the roadway within Segments 1, 2A, and 2B. In Segment 2B the roadway enters a cut section and the ROW narrows to 135 feet. The roadway will be reconstructed throughout this segment to allow side slopes to tie-down within the existing ROW. An existing FDOT weigh station is located in the median approximately 2,400 feet east of SR 39. The EB lanes will be shifted to the south to match the current alignment adjacent to the weigh station and the entrance and exits to the weigh station will not be modified. The structures that carry SR 60 over English Creek within Segment 3 are in good condition and will be widened to the outside by 16 feet to accommodate the new six-lane roadway. Although the Recommended Alternative generally follows the existing centerline, the EB and WB lanes will shift to the outside to increase the existing 6-foot inside shoulders to 10 feet across the bridges, allowing the existing structures to remain with only outside widening.

Because the Alternative is centered on the existing roadway centerline, which is north of the center of the ROW, additional ROW is required on the north side of the roadway to accommodate a number of right turn lanes and the adjacent sidewalk in Segments 2C and 3. See the concept plans in **Appendix A** for details on the horizontal alignment and the locations of the additional roadway ROW. The total amount of required ROW for the roadway is approximately 41,300 square feet, or 0.95 acres. In addition, approximately 65.0 acres are required for stormwater (48.91 acres) and floodplain facilities (15.62 acres); see the *Pond Sizing Report* for more information.

The proposed vertical alignment matches the existing; however, a change in grade may be required in Segment 2B to eliminate the need for walls and allow side slopes to tie-down within the existing ROW. This will be further evaluated in the design phase. The proposed horizontal alignment matches the existing, except in Segment 2B where the roadway will be reconstructed and centered in the ROW. The proposed horizontal and vertical alignments meet the design criteria specified in Chapter 5. See Section 4.1.6 for details on the existing vertical and horizontal alignment.

8.5 RELOCATIONS

No residential or business relocations are anticipated.

8.6 COST ESTIMATES

A construction cost estimate for the Recommended Alternative was developed using the FDOT's Long Range Estimates (LRE) system. The estimate includes major items such as mobilization, maintenance of traffic (MOT), pavement, bridges, earthwork, signalization, and project unknowns. The costs included in **Table 8-3** are per the LRE prepared for the recommended alternative on September 22, 2014.

In addition to the roadway construction cost estimate, costs were calculated for wetland mitigation, stormwater and floodplain facility construction, and ROW acquisition. Final design costs were estimated at 10% of the total construction cost and construction engineering and inspection costs were estimated at 10% of the total construction cost. The preliminary estimate of project costs for the No-Build and Recommended Alternatives is shown in Table 8-3.

TABLE 8-3: PRELIMINARY ESTIMATE OF PROJECT COSTS

Estimated Project Costs (2014 Cost)	No-Build Alternative	Recommended Alternative
Wetland Mitigation	0	\$648,499
ROW acquisition for roadway	0	\$3,744,200
ROW acquisition for stormwater and floodplain facilities	0	\$17,509,200
Total ROW and Mitigation Costs	\$0	\$21,901,899
Construction cost for roadway (Includes noise walls and bridge widening)	0	\$40,313,003
Construction cost for stormwater and floodplain facilities	0	\$14,790,742
Total Construction Costs (Includes MOT, mobilization, and project unknowns)	\$0	\$55,103,745
Design (10% of Total Construction Cost)	0	\$5,510,375
Construction Engineering & Inspection (10% of Total Construction Cost)	0	\$5,510,375
Preliminary Estimate of Total Project Costs	\$0	\$88,026,394

8.7 NOISE

Noise abatement measures were considered for the 187 impacted receptors (184 residences, tennis courts at the Valrico Station Apartments and Strawberry Ridge Mobile Home Park, and the basketball court at the Fellowship Baptist Church). The measures were traffic management, alternative roadway alignments, and noise barriers. The results of the evaluation indicate that although feasible, traffic management and an alternative roadway alignment(s) are not reasonable methods of reducing predicted traffic noise impacts at the impacted receptors. The results of the analysis performed to evaluate noise barriers indicates that, for the 28 noise barriers evaluated, barriers would meet minimum noise reduction requirements and reduce traffic noise at least 5 dB(A) at 53 of the 187 impacted receptors at a cost below the reasonable limit. The benefited residences are at the following six locations:

- Barrier 2: Residences at the Oakwood Terrace Townhomes and Valrico Station Apartments (South of SR 60) (Sites 3-7, 11)
- Barrier 3: Residences at the Strawberry Ridge Mobile Home Park (South of SR 60) (Sites 18, 21-27)

- Barrier 4: Residences at the Citrus Hill and Orange Blossom RV Parks (South of SR 60) (Sites 40-47, 54-57, 60-61)
- Barrier 24: Residences at and adjacent to the Valrico Hills Mobile Home Park (North of SR 60) (Sites 243-245, 247-254)
- Barrier 25: Residences west of Mulrennan Rd. (North of SR 60) (Sites 269-272, 274)
- Barrier 27: Residences at the Featherrock Mobile Home Park (North of SR 60) (Sites 301-305, 312-315)

Statement of Likelihood

The FDOT is committed to the construction of noise barriers at the locations above contingent upon the following:

- Detailed noise analysis during the final design process supports the need for, and the feasibility and reasonableness of, providing the barriers as abatement;
- The detailed analysis demonstrates that the cost of the noise barriers will not exceed the cost reasonable limit;
- The residents/property owners benefitted by the noise barriers desire that a noise barrier be constructed; and
- All safety and engineering conflicts or issues related to construction of the noise barriers are resolved.

Land uses adjacent SR 60 are identified on the FDOT listing of noise- and vibration-sensitive sites (e.g., residential use). Construction of the proposed roadway improvements is not expected to have any significant noise or vibration impact. If sensitive land uses develop adjacent to the roadway prior to construction, increased potential for noise or vibration impacts could result. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate potential construction noise and vibration impacts. However, should unanticipated noise or vibration issues arise during the construction process, the Project Engineer, in coordination with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

Land uses such as residences, auditoriums, hotels/motels, libraries, recreational areas, and parks are considered incompatible with highway noise levels that exceed the NAC. To reduce the possibility of additional traffic noise-related impacts, noise level contours were developed for the future improved roadway facility. These noise contours delineate the extent of the predicted traffic noise impact area from the improved roadway's edge-

of-travel lane for activity categories of land use. Local officials will be provided a copy of the *Final Noise Study Report* to promote compatibility between any future land developments in the project area.

8.8 RECYCLING OF SALVAGEABLE MATERIALS

The Recommended Alternative allows the majority of the existing roadway base and pavement to be reused as part of the widened roadway. The existing lanes will be milled and resurfaced everywhere except Segment 2B, where the roadway will be reconstructed to fit within the reduced ROW. Overbuild will be required on the existing WB inside lane to remove the WB roadway's crown.

8.9 MULTIMODAL CONSIDERATIONS

The Hillsborough Area Regional Transit Authority (HART) provides bus service within the project area. Currently HART's 46 and 22X routes run along SR 60 within the project limits from Valrico Road to the Park-n-Ride lot at Dover Rd. HART's 2014-2023 Transit Development Plan Update included plans for a MetroRapid route that will utilize SR 60 from Valrico Road to Dover Rd within the project limits beginning in fiscal year 2021. MetroRapid features include traffic signal priority, off-vehicle ticket vending machines, and enhanced passenger stations. The location of the bus stops/stations will be determined through a separate HART MetroRapid PD&E study and have not been included in this study.

8.10 TEMPORARY TRAFFIC CONTROL PLAN

The temporary traffic control plans for Segments 1, 2A, 2C and 3 can be developed in one of two phased construction methods. The first phased construction method for these segments would be to reduce the eastbound and westbound travel lanes to one lane in each direction under allowable lane closure restrictions and construct the overbuild, inside EB and WB widening and Type E curb & gutter along median (construct enough width to accommodate two lanes of travel in each direction for the following phase). The next phase of construction would be to shift the traffic to the newly constructed pavement on the insides in both directions and construct the outside widening, Type E curb and gutter and sidewalks. The final phase would be the milling and resurfacing and final

friction course of the existing and proposed pavement. An alternate construction method for these segments would be the construction of temporary pavement on the outside under allowable lane closure restrictions during Phase 1. The existing travel lanes (two in each direction) could then be shifted to the outsides during Phase 2 with temporary concrete barrier wall placed adjacently during construction of the inside EB and WB widening and associated curb & gutter. Phase 3 would be to shift the traffic to the inside widening constructed in Phase 2 and construct the outside widening, curb and gutter and sidewalk. The final phase would be the milling and resurfacing and final friction course of the existing and proposed pavement.

The temporary traffic control plans for Segment 2B can be developed in one phased construction method. The first phased construction method for this segments would be to reduce the existing two travel lanes to one lane in each direction on the existing WB travel lanes while the proposed EB new construction is completed. The next phase of construction would be to shift the traffic to the eastbound pavement constructed in the previous phase and maintain two lanes of traffic in each direction while the proposed WB new construction is completed. If lanes closures are not allowed due to high traffic volumes at the time of construction, an alternative construction method with temporary pavement and walls may be necessary.

The temporary traffic control plan will be developed during the final design phase to safely and efficiently move vehicles, bicycles, and pedestrians through and around the work zones. Advance notice will be given if street closures and detours are necessary and construction will take place during off-peak hours, whenever feasible, to minimize disruptions to the traveling public and adjacent residences and businesses.

8.11 PEDESTRIAN AND BICYCLE FACILITIES

The Recommended Alternative includes five-foot sidewalks on both sides of the roadway throughout the project limits with existing sidewalks salvaged wherever feasible. Bicycle lanes are also included throughout the project limits. Following the Public Hearing, the Recommended Alternative was revised to incorporate 7-foot wide buffered bike lanes per FDOT's Roadway Design Bulletin 15-01.

8.12 UTILITIES AND RAILROADS IMPACTS

Utility identification was conducted with the use of as-built plans, field reconnaissance, and Sunshine 811. **Table 4-7** in **Section 4** summarizes the facilities of the 10 identified utility owners within the study area. The two Florida Gas Transmission gas main crossings may require additional coordination. The exact locations of existing utilities and the extent of impacts will be determined during the final design phase through coordination with the utility owners; however, some impacts are expected as a result of widening the roadway to the outside. Disruptions to service and utility relocations will be minimized to the greatest extent feasible.

There are two at-grade railroad crossings along SR 60 within the study limits. One is located between St. Cloud Avenue and Mulrennan Road (NGCN 624551-H) and, the second is located between SR 39 and Old Hopewell Road (NGCN 624572-B CSX). The actual crossings themselves will not be upgraded as part of this project, but the approaches to them will be widened. Coordination with the railroad owners will take place during the design and construction phases to insure that train, pedestrian, bicycle, and vehicular traffic are accommodated safely. Pedestrian gates are likely to be evaluated during the design phase due to the new sidewalks.

8.13 RESULTS OF PUBLIC INVOLVEMENT PROGRAM

A comprehensive Public Involvement Program was conducted for this project. This program is in compliance with the FDOT Project Development and Environment Manual, Section 339.155, Florida Statutes (F.S.); Executive Orders 11990 and 11988; Council on Environmental Quality Regulations for implementing the procedural provisions of the NEPA; and 23 CFR 771.

Through the Advance Notification (AN) process FDOT informed numerous federal, state, and local agencies of the project and its scope. The AN Package was transmitted to the Florida State Clearinghouse (FSC), Department of Environmental Protection/Office of Intergovernmental Programs, on January 26, 2012. In addition, FDOT submitted this project simultaneously with the AN package in the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) (ETDM #4131 – SR 60 from

Valrico Road to County Line Road). During the 45 day review, the Environmental Technical Advisory Team (ETAT) provided their comments on the project's purpose and need, and issued their Degree of Effect (DOE) findings by resource area. Upon completion of the ETDM Programming Screen review, a Programming Screen Summary Report was developed and entered into the EST which provided the FDOT's response to each DOE finding as well as discussion about the overall project. As a result of the AN and EST screening, there were no substantial comments received and no further coordination was necessary in the EST.

An alternatives public workshop was held on March 18, 2014 from 5:00 pm to 7:00 pm at the Strawberry Ridge Community Clubhouse located at 3419 SR 60 East, in Valrico, FL. The purpose of the workshop was to provide an opportunity for the public to provide comments regarding the location and conceptual design of the proposed improvements to SR 60 within the project limits. A newsletter announced the public workshop and it was sent via electronic mail to public officials, and first class mail to property owners and agencies on the mailing list. In accordance with FDOT's PD&E Manual guidelines, an advertisement was published in the Florida Administrative Register (FAR) on March 11, 2014, and a quarter-page legal display advertisement was published in the Tampa Tribune on February 25, 2014. Approximately 65 citizens signed the attendance sheets at the public workshop. Fifteen written comments were received by the postmark date of March 31, 2014. There were no comments regarding opposition to the project and none regarding the selection of the no-build alternative. The majority of the comments were regarding access management needs along the project corridor.

A public hearing was held on November 6, 2014 from 5:00 pm to 7:00 pm at the Strawberry Ridge Community Clubhouse located at 3419 SR 60 East, in Valrico, FL. The purpose of the hearing was to provide an opportunity for the public to provide comments regarding the location and conceptual design of the proposed improvements to SR 60 within the project limits. A newsletter announced the public hearing and were sent via electronic mail to public officials and first class mail to property owners and agencies on the mailing list. In accordance with FDOT's PD&E Manual guidelines, an advertisement was published in the Florida Administrative Register (FAR) on October 30, 2014, and a

quarter-page legal display advertisement was published in the Tampa Tribune on October 16, 2014, and again on October 30, 2014.

Approximately 78 citizens signed the attendance sheets at the public hearing. Three individuals spoke during the formal presentation, three written comments were received at the hearing, and six written comments were received by the postmark date of November 17, 2014. There were no comments regarding opposition to the project and none regarding the selection of the no-build alternative. The majority of the comments were regarding existing drainage issues and access management needs along the project corridor. A certified public hearing transcript was prepared and is included in the *Comments and Coordination Report*.

8.14 VALUE ENGINEERING RESULTS

A Value Engineering Study may be scheduled during the Design phase.

8.15 DRAINAGE AND STORMWATER MANAGEMENT

The stormwater runoff from the project limits will be collected and conveyed in roadside ditches or closed drainage systems to the proposed offsite wet detention and dry retention ponds. The ponds will discharge at or near the same cross drains that carry the roadway runoff in the existing condition. The water quality treatment and water quantity attenuation will be achieved through the construction of offsite wet detention and dry retention ponds, which will require the acquisition of additional ROW.

Pond ROW areas have been calculated (approximately 48.91 acres total) for each of the roadway drainage basins along the project limits. The analysis estimates ROW needs using a volumetric analysis, which accounts for water quality treatment and water quantity for runoff attenuation. The recommendations were based on pond sizes determined from preliminary data calculations, reasonable engineering judgment, and assumptions. Pond sizes and configurations may change during final design as more detailed information on SHWT, wetland hydrologic information, and final roadway profile become available. Please refer to **Table 8-4** for a summary of the stormwater pond areas.

TABLE 8-4: SUMMARY OF STORMWATER POND AREAS

Pond Name	Pond Right-of-Way Area (ac) (Including Access Easement)
Pond 1	1.02
Pond 2	0.89
Pond 3	1.93
Pond 4	2.37
Pond 5	1.93
Pond 6	2.40
Pond 7	2.07
Pond 8	3.09
Pond 9	4.63
Pond 10	1.38
Pond 11	1.10
Pond 12	13.11
Pond 13	2.56
Pond 14	0.55
Pond 15	1.45
Pond 16	2.73
Pond 17	1.38
Pond 18	1.45
Pond 19	0.73
Pond 20	0.62
Pond 21	1.52
TOTAL:	48.91

The majority of the project area is designated Zone ‘X’ which means those areas have a 0.2% probability of flooding every year (500-year floodplain). Some parts (mostly streams and waterbodies crossing) are in the zone ‘A’ which have a 1% probability of flooding every year (100-year floodplain), and where predicted flood water elevations have not been established. This project does not cross any regulatory floodway.

Within the project limits and ROW, seven floodplain impact area (FIA) segments (See **Table 8-5**) which are impacted by 100-year floodplain (Zone A) have been identified. Approximately 15.62 acres (area) and 27.34 Acre-ft (volume) of 100-year floodplain are impacted by the Recommended Alternative. For more details, see the *Location Hydraulics Report* and *Pond Sizing Report*.

TABLE 8-5: SUMMARY OF FLOODPLAIN IMPACT AREAS (FIA)

Floodplain Impact Area (FIA)	From Station	To Station	Flood Zone	Floodplain Elev.	Area of Impact (Acre)	Volume of Impact (Acre-ft)
Segment 1	409+00.00	446+00.00	A	38.50	4.59	2.29
Segment 2	582+00.00	603+00.00	A	58.00	2.12	4.24
Segment 3	684+00.50	688+00.00	A	72.60	0.64	0.39
Segment 4	708+00.50	718+00.00	A	68.57	1.61	7.34
Segment 5	825+00.00	828+45.00	A	105.39	0.55	0.22
Segment 6	873+00.00	897+00.00	A	117.00	3.86	3.86
Segment 7	1010+00.00	1024+00.00	A	74.00	2.25	9.00
				TOTAL:	15.62	27.34

Note: Existing ground elevation obtained from 1-foot LiDAR Contour (Source: Hillsborough Co.)

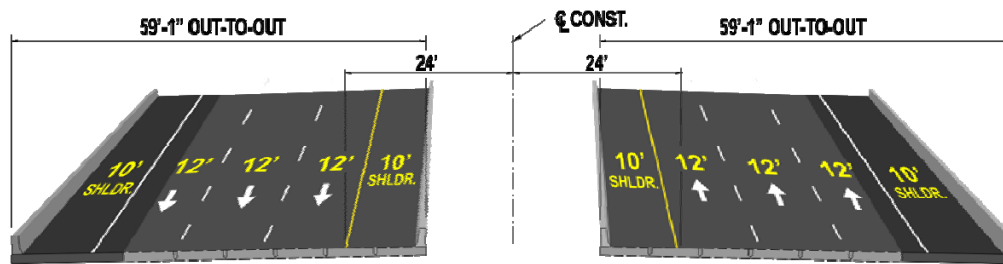
8.16 STRUCTURES

There are two bridge culverts within the limits of this study; where SR 60 crosses over Turkey Creek (#100058 at MP 15.061) and the Little Alafia River (#100059 at MP 17.344). These two bridge culverts consist of three barrels with 10 foot spans. Both of these bridge culverts were originally constructed in 1946 and widened in 1962. An inspection of these structures was performed on June 22, 2011 at which time the Turkey Creek culvert was given a sufficiency rating and health index of 74.7 and 68.94; the Little Alafia River culvert was given a 74.0 and 53.35 rating. The bridge culverts will be widened to accommodate the Recommended Alternative.

The only two bridges within the study limits carry SR 60 across English Creek. Both the westbound (#100583 at MP 23.147) and eastbound (#100584 at MP 23.147) SR 60 bridges over English Creek are in excellent shape. These 43-foot 1-inch wide bridges consist of transversely post-tensioned, prestressed concrete slabs that are 15 inches deep to convey the SR 60 traffic over the five 33-foot 0-inch spans for a total bridge length of 165 feet 0 inches. The June 13, 2011 inspection resulted in these bridges being given sufficiency ratings of 99.6 and health indices greater than 88.

Because the structures that carry SR 60 over English Creek are in good condition, they are likely to be widened to the outside by 16 feet to accommodate the new six-lane roadway. Although the Recommended Alternative generally follows the existing centerline, the EB and WB lanes will shift to the outside to increase the existing 6-foot inside shoulders to 10 feet across the bridges (see **Figure 8-6**), allowing the existing structures to remain with only outside widening.

FIGURE 8-6: ENGLISH CREEK BRIDGES TYPICAL SECTION



8.17 SPECIAL FEATURES

Consideration of context sensitive solutions such as aesthetics features and landscaping during the Design phase so that the project is in harmony with the community and preserves and/or enhances the natural, environmental, scenic and aesthetic values of the area. The placement and maintenance of any landscaping shall comply with the required clear zone and sight distance at intersections. No other provisions or commitments were made regarding special aesthetic features.

8.18 DESIGN EXCEPTIONS AND VARIATIONS

In Segment 2B, West of Sydney Washer Road (MP 14.106) to West of Marge Owens Road (MP 15.261), the urban new construction alternative border width is only 16.5 feet; this may require a design variation for both border and clear zone width. In Segment 3, Turkey Creek Road (MP 16.491) to the County Line (MP 23.740), the rural pavement saving alternative border width is only 14 feet and the clear zone width is only 24 feet on the east side; this may require a design variation for both border and clear zone width. Additionally, at the SR 39 and County Line Road intersections, eastbound triple left turns can be accommodated with 11-foot turn lanes; this may require a design variation for lane width.

8.19 ACCESS MANAGEMENT

SR 60 in Hillsborough County is designated as Access Class 3 from Valrico Road to Polk County Line. The proposed median openings have been designed to provide a balance between access to adjacent properties and safety based on the Access Class 3 standards. Existing driveway connections will be maintained. See **Section 5** for more information on the median and connection spacing requirements and **Appendix A** for locations of the proposed median openings and connections as summarized in **Table 8-6**. The *Access Management Memo*, dated March 2014, contains more information on the spacing of existing and proposed median openings, connections, and signals.

TABLE 8-6: RECOMMENDED ACCESS MANAGEMENT PLAN

LOC. NO.	CROSS STREET	MILE POST	EXIST. ACCESS	PROP. ACCESS	EXISTING SPACING (FT)			PERCENT COMPLIANCE		
					SIGNAL	FULL	DIR	SIGNAL	FULL	DIR
1	Valrico Road	11.456	SIGNAL	SIGNAL	2660	1900	-	100%	72%	-
2	Rolling Hills Blvd	11.631	FULL	EB DIR	-	-	910	-	-	69%
3	Unnamed	11.818	FULL/U-TURN	DIR	-	-	760	-	-	58%
4	Miller Road	11.957	SIGNAL	SIGNAL	2640	760	-	100%	29%	-
5	Oakhill Village Cr	12.178	DIR	DIR	-	-	1165	-	-	88%
6	Unnamed (Near Church St)	12.322	FULL	CLOSED	-	-	-	-	-	-
7	St. Cloud Avenue	12.456	SIGNAL	SIGNAL	2640	1345	-	100%	51%	-
8	Skywood Drive	12.708	FULL	DIR	-	-	1345	-	-	100%
9	Sharewood Drive	12.809	FULL	CLOSED	-	-	-	-	-	-
10	Mulrennan Road	12.967	SIGNAL	SIGNAL	2700	1440	-	100%	55%	-
11	Strawberry Ridge Blvd	13.235	FULL	DIR	-	-	1435	-	-	100%
12	Dover Road	13.487	SIGNAL	SIGNAL	2700	1300	-	100%	49%	-
13	Unnamed	13.670	FULL/U-TURN	CLOSED	-	-	-	-	-	-
14	Hans Lane/Valrico Hills	13.807	FULL	FULL	-	1810	-	-	100%	-
15	Unnamed	14.034	FULL	CLOSED	-	-	-	-	-	-
16	Unnamed	14.192	FULL/U-TURN	CLOSED	-	-	-	-	-	-
17	Sydney Washer Road	14.500	FULL	FULL	-	2640	-	-	100%	-
18	Unnamed	14.999	FULL/U-TURN	FULL	-	2640	-	-	100%	-
19	Unnamed	15.187	FULL/U-TURN	CLOSED	-	-	-	-	-	-
20	Unnamed	15.401	FULL/U-TURN	CLOSED	-	-	-	-	-	-
20B	Connell Road	15.491	NO ACCESS	EB DIR	-	-	1600	-	-	100%
21	Boca Grande Cir	15.567	FULL	WB DIR	-	-	2000	-	-	100%
22	Jerry Smith Road	15.741	FULL	FULL	-	2495	-	-	95%	-
23	Unnamed	15.900	FULL/U-TURN	CLOSED	-	-	-	-	-	-
23B	Unnamed	15.908	NO ACCESS	WB DIR	-	-	1200	-	-	91%
24	Unnamed	16.060	FULL/U-TURN	EB DIR	-	-	840	-	-	-
25	S Farkas Road	16.213	FULL	FULL	-	1470	-	-	56%	-
26	Unnamed	16.370	FULL/U-TURN	CLOSED	-	-	-	-	-	-
27	Turkey Creek Road	16.491	SIGNAL	SIGNAL	15860	1345	-	100%	51%	-
28	Unnamed	16.618	FULL/U-TURN	CLOSED	-	-	-	-	-	-
29	Calhoun Road	16.744	FULL	DIR	-	-	1345	-	-	100%
30	Unnamed	16.875	FULL/U-TURN	CLOSED	-	-	-	-	-	-
31	Luckasavage Road	16.996	FULL	CLOSED	-	-	-	-	-	-

LOC. NO.	CROSS STREET	MILE POST	EXIST. ACCESS	PROP. ACCESS	EXISTING SPACING (FT)			PERCENT COMPLIANCE		
					SIGNAL	FULL	DIR	SIGNAL	FULL	DIR
32	Wallace Road	17.252	FULL	FULL	-	2340	-	-	89%	-
33	Rain Frog Lane	17.504	FULL	DIR	-	-	1300	-	-	98%
34	Unnamed	17.695	FULL/U-TURN	CLOSED	-	-	-	-	-	-
35	Mud Lake Road/ Haynsworth Drive	17.878	FULL	FULL	-	3300	-	-	100%	-
36	Unnamed	18.103	FULL/U-TURN	DIR	-	-	1200	-	-	91%
37	Unnamed	18.348	FULL/U-TURN	DIR	-	-	1280	-	-	97%
38	Unnamed	18.557	FULL/U-TURN	DIR	-	-	1100	-	-	83%
39	Bugg Road	18.762	FULL	FULL	-	2115	-	-	80%	-
40	Unnamed	18.893	FULL/U-TURN	CLOSED	-	-	-	-	-	-
40B	Unnamed	18.970	NO ACCESS	DIR	-	-	1100	-	-	83%
41	Unnamed	19.029	FULL/U-TURN	CLOSED	-	-	-	-	-	-
42	Unnamed	19.162	FULL/U-TURN	CLOSED	-	-	-	-	-	-
42B	Unnamed	19.258	NO ACCESS	DIR	-	-	1900	-	-	100%
43	Unnamed	19.332	FULL/U-TURN	CLOSED	-	-	-	-	-	-
44	SR 39	19.495	SIGNAL	SIGNAL	15861	1550	-	100%	59%	-
45	Unnamed	19.638	FULL/U-TURN	CLOSED	-	-	-	-	-	-
46	Unnamed	19.789	FULL/U-TURN	FULL/U-TURN	-	1550	-	-	-	59%
47	Unnamed	20.205	FULL/U-TURN	FULL/U-TURN	-	930	-	-	35%	-
48	Unnamed	20.379	WB DIR	EB DIR	-	-	1100	-	-	83%
49	Unnamed	21.021	FULL/U-TURN	EB DIR	-	-	3215	-	-	100%
50	Smith Ryals Road	21.513	DIR	DIR	-	-	1620	-	-	100%
51	Unnamed	21.627	EB DIR	CLOSED	-	-	-	-	-	-
52	Unnamed	21.819	EB DIR	DIR	-	-	1620	-	-	100%
53	Horton Road	22.155	FULL	FULL	-	3375	-	-	3375	-
54	Old Hopewell road	22.560	FULL	FULL	-	2330	-	-	88%	-
55	Sam Hicks Road (East)	22.879	FULL	CLOSED	-	-	-	-	-	-
56	Miles Farms Road	23.003	FULL	FULL	-	2330	-	-	88%	-
57	County Line Road	23.740	SIGNAL	SIGNAL	22410	4020	-	100%	100%	-

8.20 POTENTIAL CONSTRUCTION SEGMENTS AND PHASING

The project is likely to be constructed in three phases based upon the current and future need and viable construction/design limits.

Construction Segment 1

Construction Segment 1 consists of widening SR 60 from Valrico Road to Dover Road, Segment 1 of this study. Parts of this urbanized segment currently do not operate at an acceptable LOS during both the AM and PM peak hours and the level of service is projected to degrade further in the future if roadway capacity is not increased. This project's design phase is included in the FDOT's current adopted work program; see **Section 8.21** for more information.

Construction Segment 2

Construction Segment 2 consists of widening SR 60 from Dover Road to SR 39, Segment 2 and part of Segment 3 of this study. This segment currently operates at an acceptable LOS during both the AM and PM peak hours, but is projected to have areas that will not operate at an acceptable level of service by 2040 under the no-build scenario. This project's design phase is included in the FDOT's current adopted work program; see **Section 8.21** for more information.

Construction Segment 3

Construction Segment 3 consists of widening SR 60 from SR 39 to the Polk County Line, part of Segment 3 of this study. This segment currently operates at an acceptable LOS during both the AM and PM peak hours. Although this section is expected to continue to operate at an acceptable level of service until at least 2040 under the no-build scenario, delay will increase.

8.21 WORK PROGRAM SCHEDULE

Segments 1 and 2, identified in **Section 8.20** are included in the FDOT's current adopted 2015-2020 Five-Year Work Program. The segment from Valrico Road to Dover Road (WPI Segment No.: 435750-1) has \$2,396,000 programmed for final design in fiscal year 2015. Likewise, the segment from Dover Road to SR 39 (WPI Segment No.: 435750-2) has \$4,063,000 programmed for final design in fiscal year 2015. Neither of these projects has funding for ROW acquisition or construction in the current adopted work program. SR 60 from SR 39 to the County Line is not currently funded for final design, ROW acquisition, or construction.

SECTION 9. – LIST OF TECHNICAL REPORTS

The following is a list of technical reports that have been prepared for the project:

- State Environmental Impact Report
- Contamination Screening Evaluation Report
- Geotechnical Memorandum
- Location Hydraulics Report
- Wetlands Evaluation and Biological Assessment Report
- Cultural Resource Assessment Survey
- Noise Study Report
- Traffic Technical Memorandum
- Access Management Memorandum
- Pond Sizing Report
- Public Hearing Scrapbook
- Public Hearing Transcript
- Comments & Coordination Report
- Public Involvement Plan

APPENDIX A

CONCEPTUAL PLANS FOR RECOMMENDED ALTERNATIVE



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS	
DATE	DESCRIPTION

0 40 200
Feet

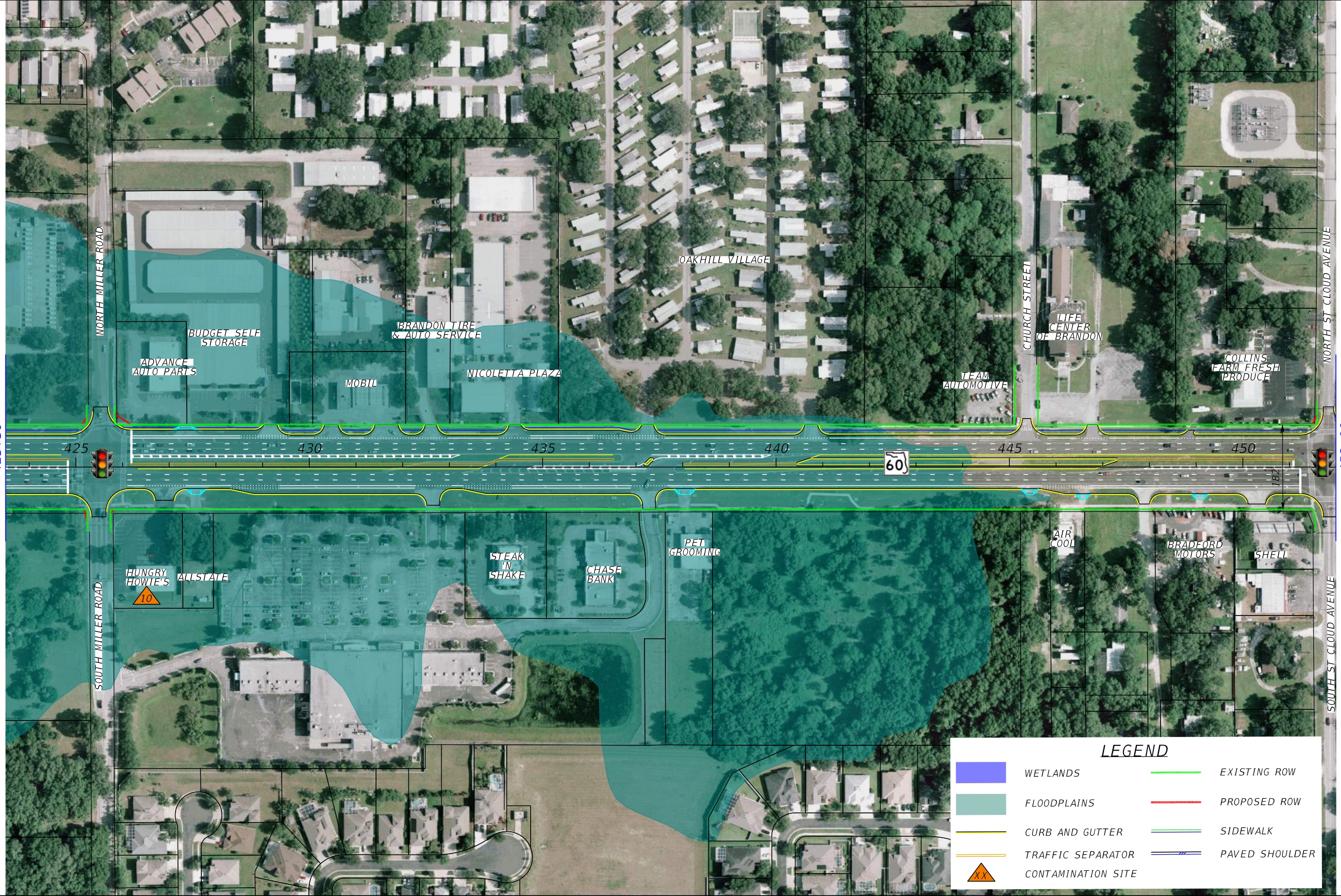
DATE OF AERIAL: 8/3/2012

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	HILLSBOROUGH	430055-1-22-01

SR 60 PD&E STUDY
RECOMMENDED ALTERNATIVE

SHEET NO.
1



423+50

452+00

425

430

435

440

445

450

60

182

NORTH MILLER ROAD

CHURCH STREET

NORTH ST. CLOUD AVENUE

SOUTH MILLER ROAD

SOUTH ST. CLOUD AVENUE

BUDGET SELF STORAGE
ADVANCE AUTO PARTS

MOBIL

BRANDON TIRE & AUTO SERVICE

NICOLETTA PLAZA

OAKHILL VILLAGE

TEAM AUTOMOTIVE

LIFE CENTER OF BRANDON

COLLINS FARM FRESH PRODUCE

HUNGRY HOWIE'S
ALLSTATE

STEAK 'N SHAKE

CHASE BANK

PET GROOMING

AIR COOL

BRADFORD MOTORS

SHELL



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
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SR 60 PD&E STUDY
RECOMMENDED ALTERNATIVE

SHEET NO.
2



452+00

480+50



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
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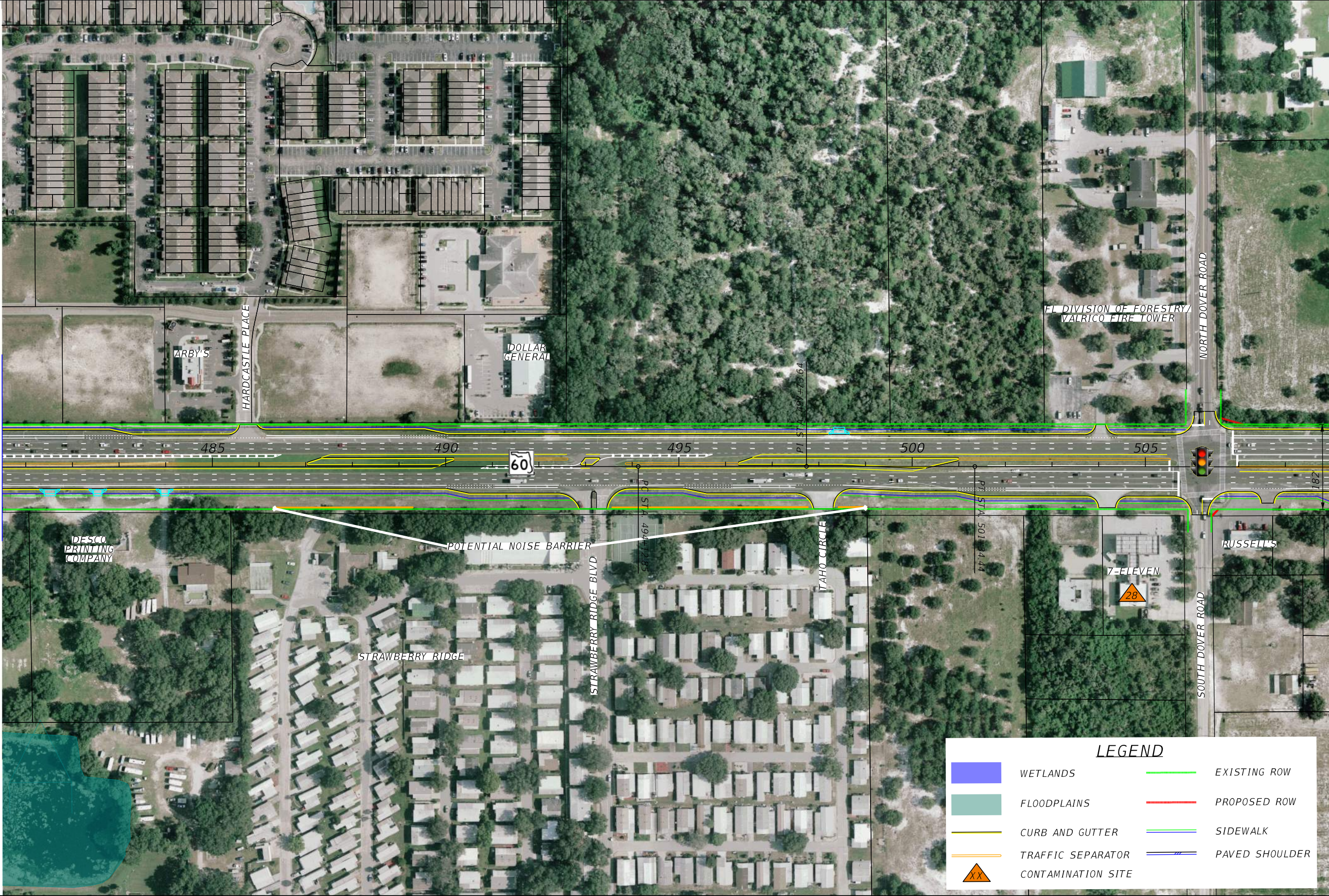
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SHEET NO.
3

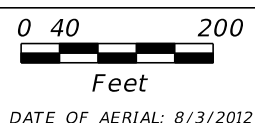


480+50

509+00

LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

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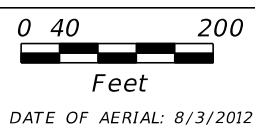
SR 60 PD&E STUDY
RECOMMENDED ALTERNATIVE

SHEET NO.
4



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
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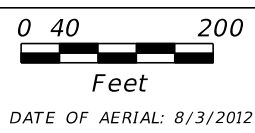
SR 60 PD&E STUDY
RECOMMENDED ALTERNATIVE

SHEET NO.
5



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

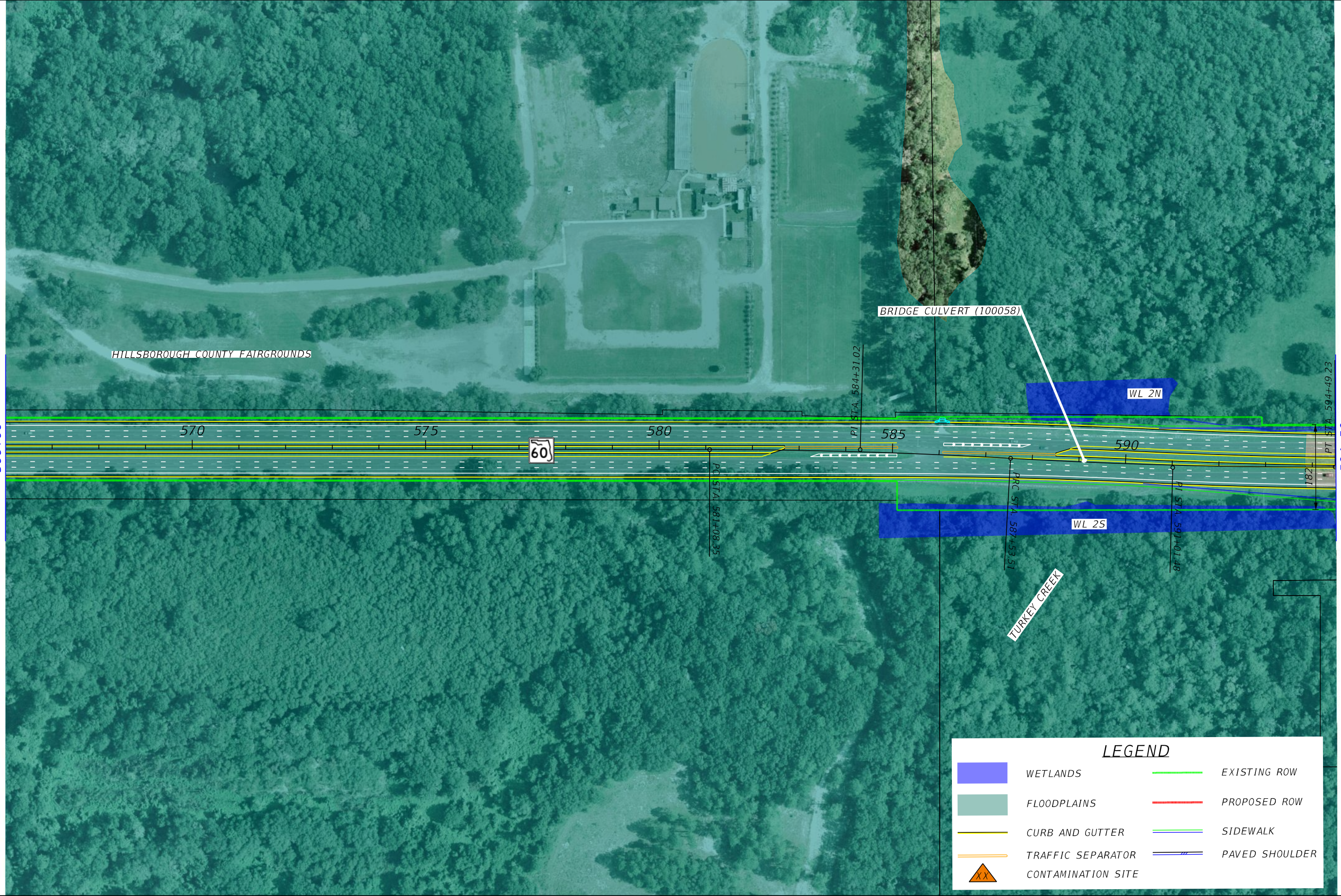


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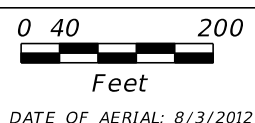
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RECOMMENDED ALTERNATIVE

SHEET NO.
6



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
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SR 60 PD&E STUDY
RECOMMENDED ALTERNATIVE









SHEET NO.
7




594+50

623+00



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



0 40 200
Feet

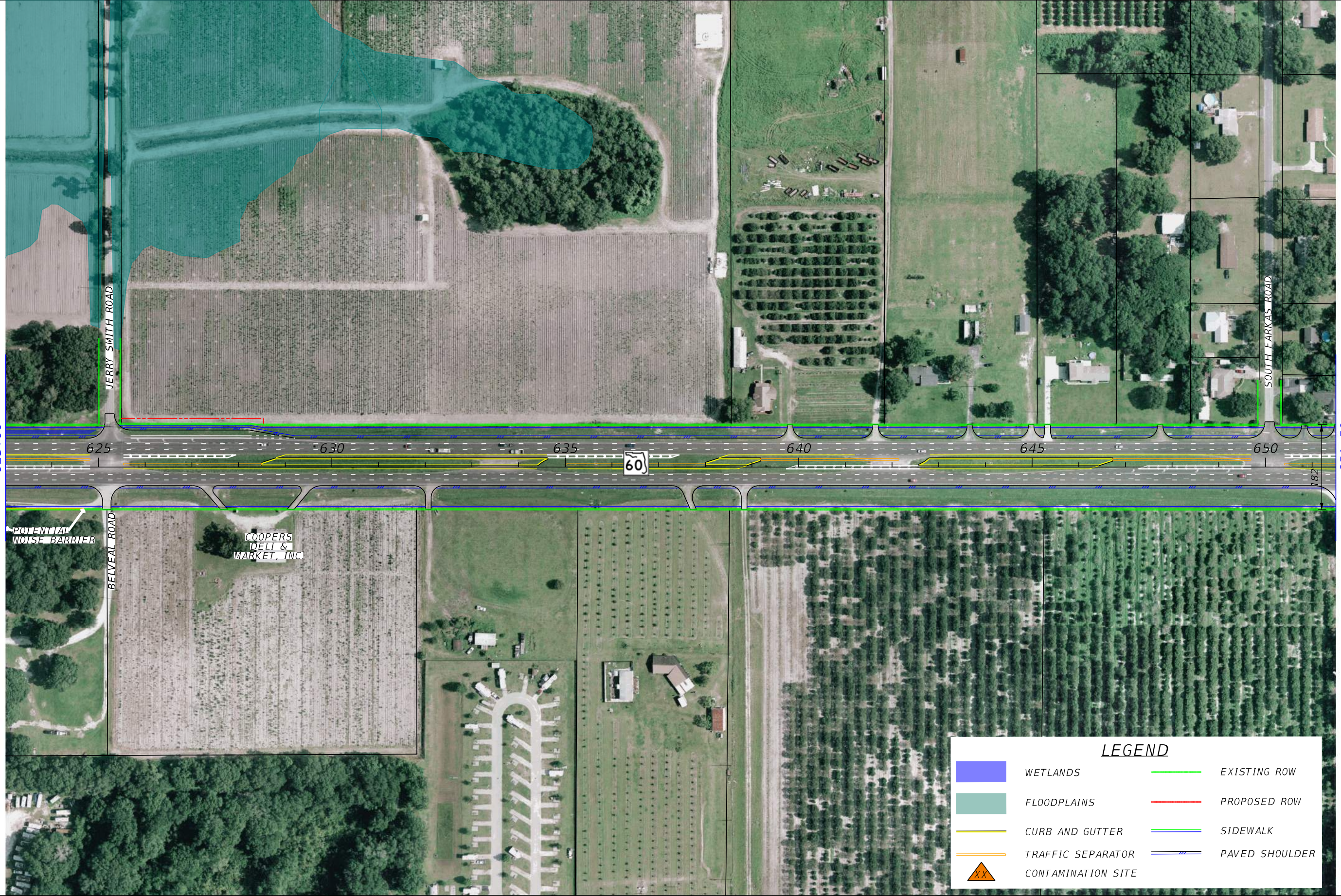
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RUMMEL, KLEPPER & KAHL, LLP (RK&K)
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	HILLSBOROUGH	430055-1-22-01


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SHEET NO.
8



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



0 40 200
Feet

DATE OF AERIAL: 8/3/2012

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RECOMMENDED ALTERNATIVE

SHEET NO.
9



651+50

680+00



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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Feet
DATE OF AERIAL: 8/3/2012

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SHEET NO.
10



LEGEND			
	WETLANDS		EXISTING ROW
	FLOODPLAINS		PROPOSED ROW
	CURB AND GUTTER		SIDEWALK
	TRAFFIC SEPARATOR		PAVED SHOULDER
	CONTAMINATION SITE		

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

0 40 200
Feet

DATE OF AERIAL: 8/3/2012

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60	HILLSBOROUGH	430055-1-22-01

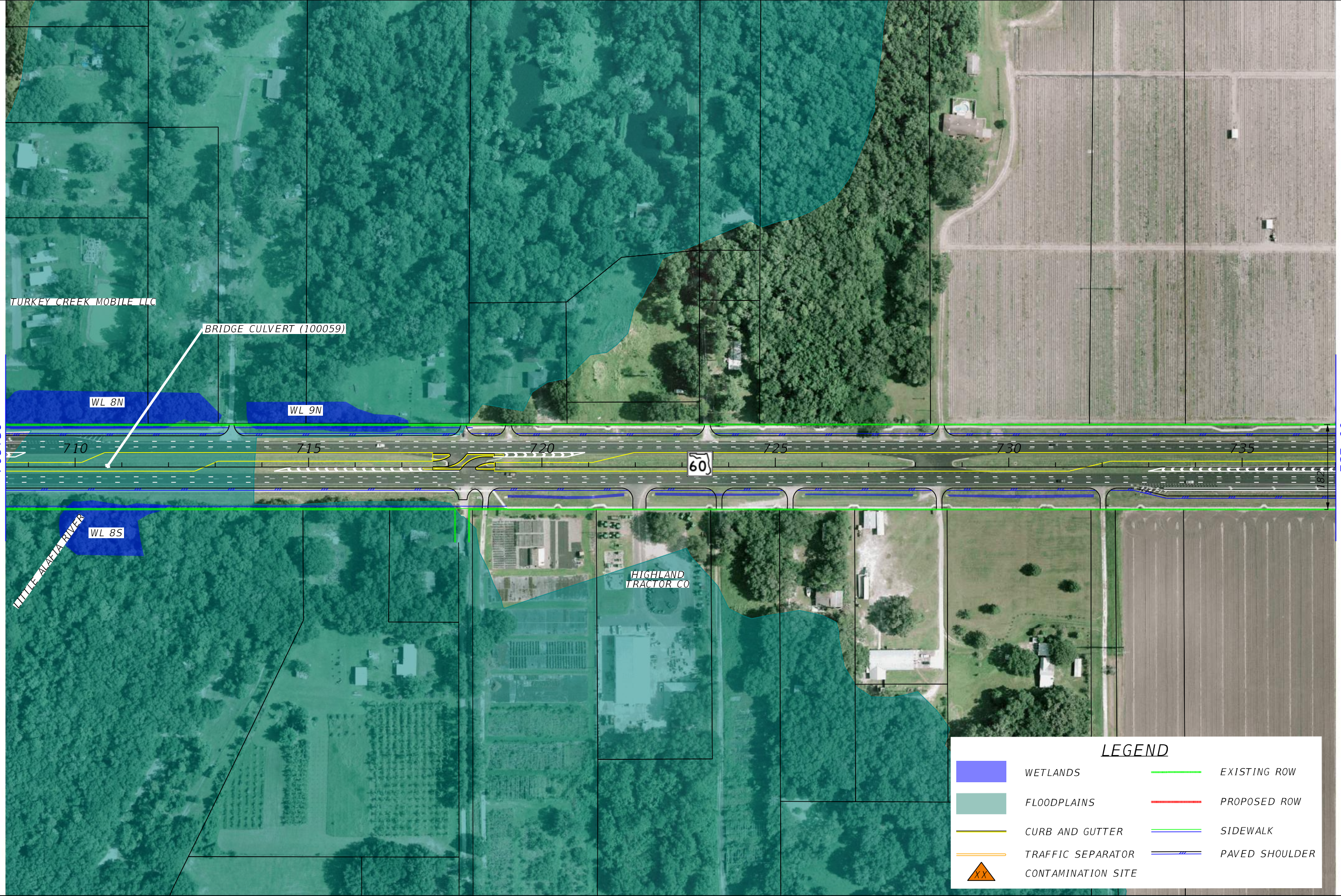
SR 60 PD&E STUDY
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SHEET NO.
11




708+50

737+00



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



0 40 200
Feet

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SHEET NO.
12



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

0 40 200
Feet

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SHEET NO.
13




765+50

794+00



LEGEND	
	WETLANDS
	EXISTING ROW
	FLOODPLAINS
	PROPOSED ROW
	CURB AND GUTTER
	SIDEWALK
	TRAFFIC SEPARATOR
	PAVED SHOULDER
	CONTAMINATION SITE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



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60	HILLSBOROUGH	430055-1-22-01

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SHEET NO.
14




794+00

822+50

LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



0 40 200
Feet

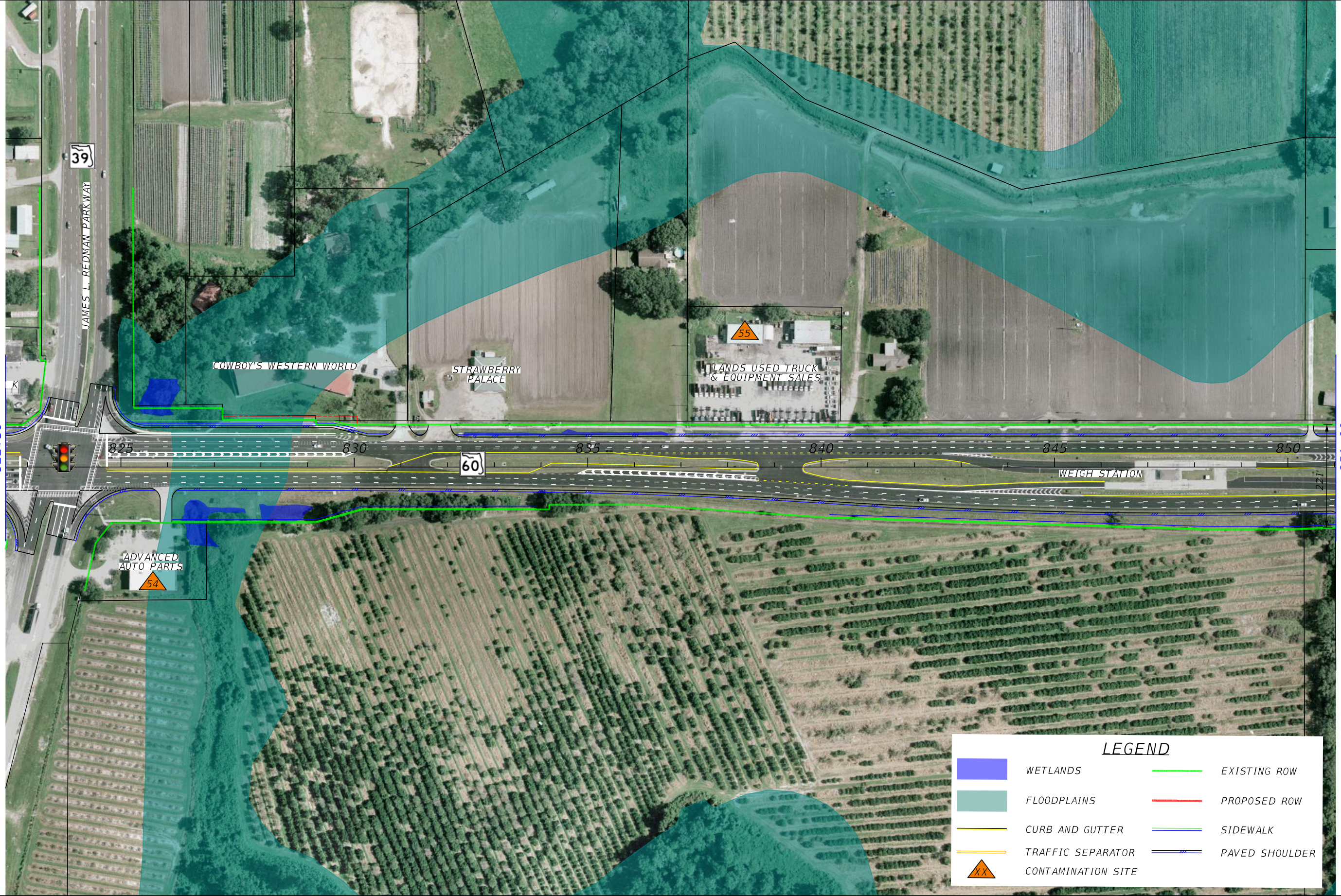
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RECOMMENDED ALTERNATIVE

SHEET NO.
15

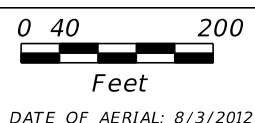


822+50

851+00

LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
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60	HILLSBOROUGH	430055-1-22-01

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RECOMMENDED ALTERNATIVE

SHEET NO.
16



851+00

879+50



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

0 40 200
Feet

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RECOMMENDED ALTERNATIVE

SHEET NO.
17



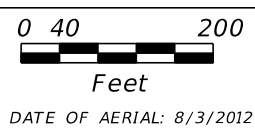
879+50

908+00



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



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60	HILLSBOROUGH	430055-1-22-01

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RECOMMENDED ALTERNATIVE

SHEET NO.
18



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS	
DATE	DESCRIPTION

0 40 200
Feet
DATE OF AERIAL: 8/3/2012

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60	HILLSBOROUGH	430055-1-22-01

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RECOMMENDED ALTERNATIVE

SHEET NO.
19



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

0 40 200
Feet

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60	HILLSBOROUGH	430055-1-22-01

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SHEET NO.
20



LEGEND			
	WETLANDS		EXISTING ROW
	FLOODPLAINS		PROPOSED ROW
	CURB AND GUTTER		SIDEWALK
	TRAFFIC SEPARATOR		PAVED SHOULDER
	CONTAMINATION SITE		

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

0 40 200
Feet

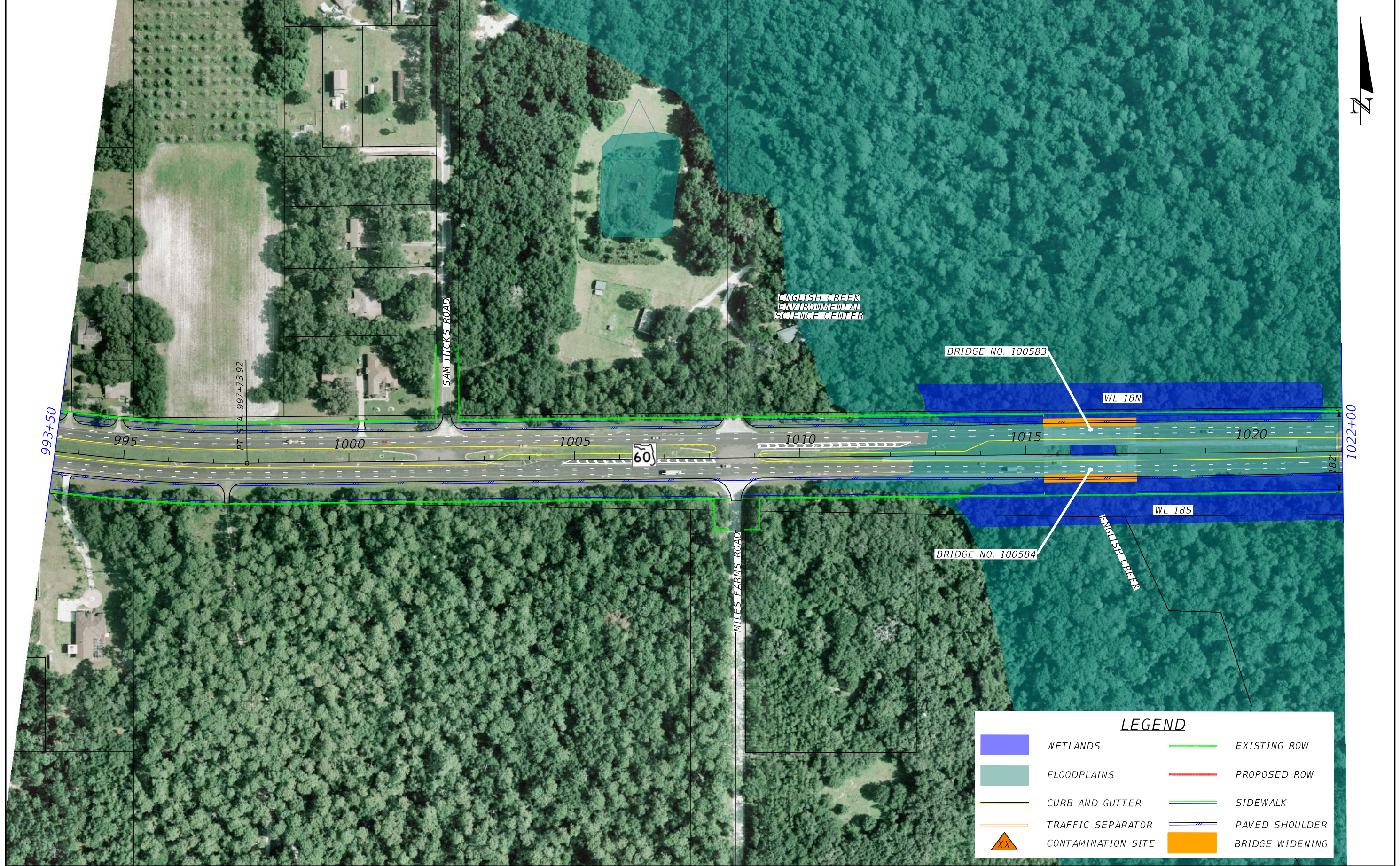
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SHEET NO.
21



LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER
	BRIDGE WIDENING

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

0 40 200
Feet
DATE OF AERIAL: 8/3/2012

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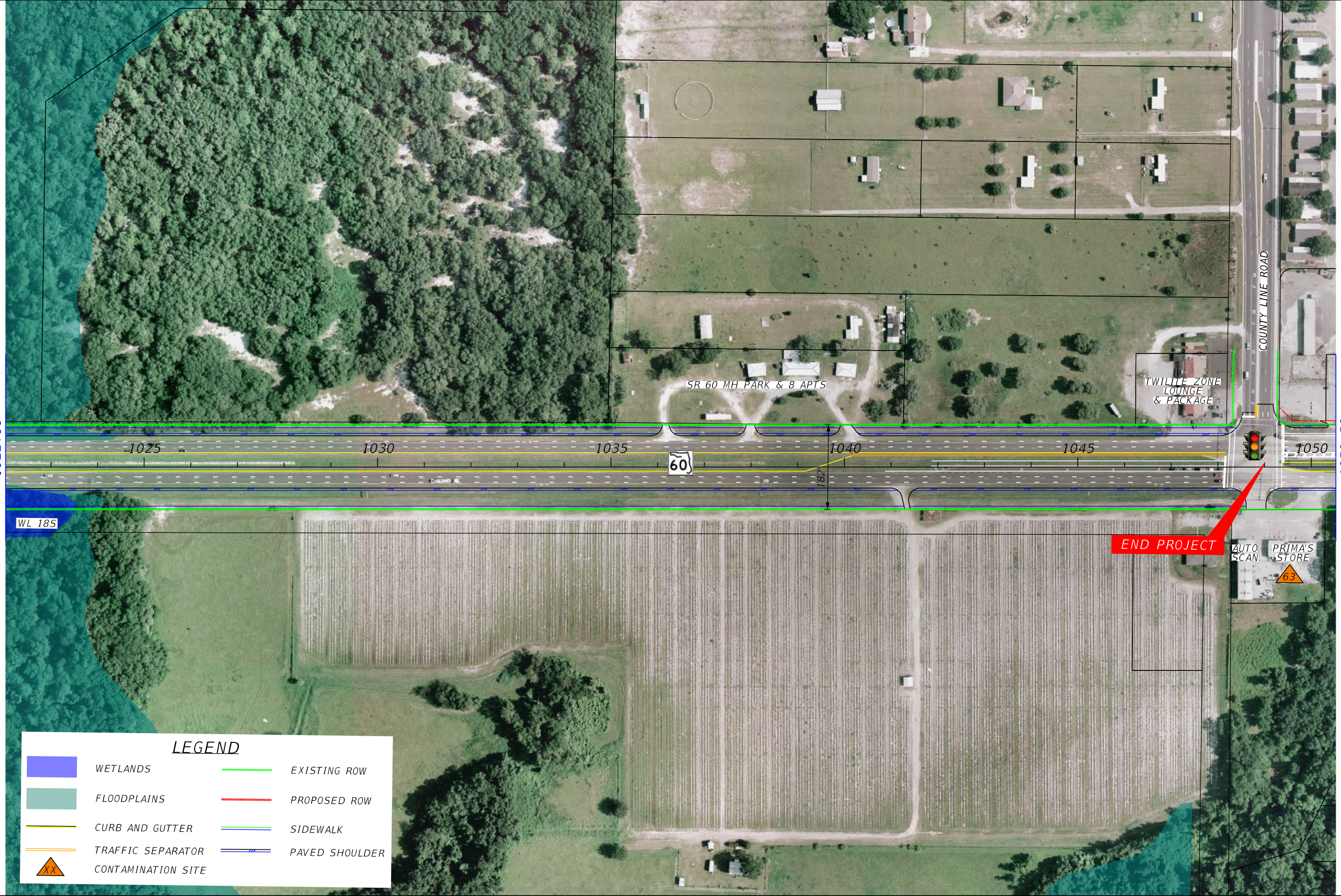
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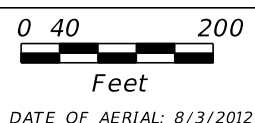
1022+00

1050+50



LEGEND			
	WETLANDS		EXISTING ROW
	FLOODPLAINS		PROPOSED ROW
	CURB AND GUTTER		SIDEWALK
	TRAFFIC SEPARATOR		PAVED SHOULDER
	CONTAMINATION SITE		

REVISIONS			
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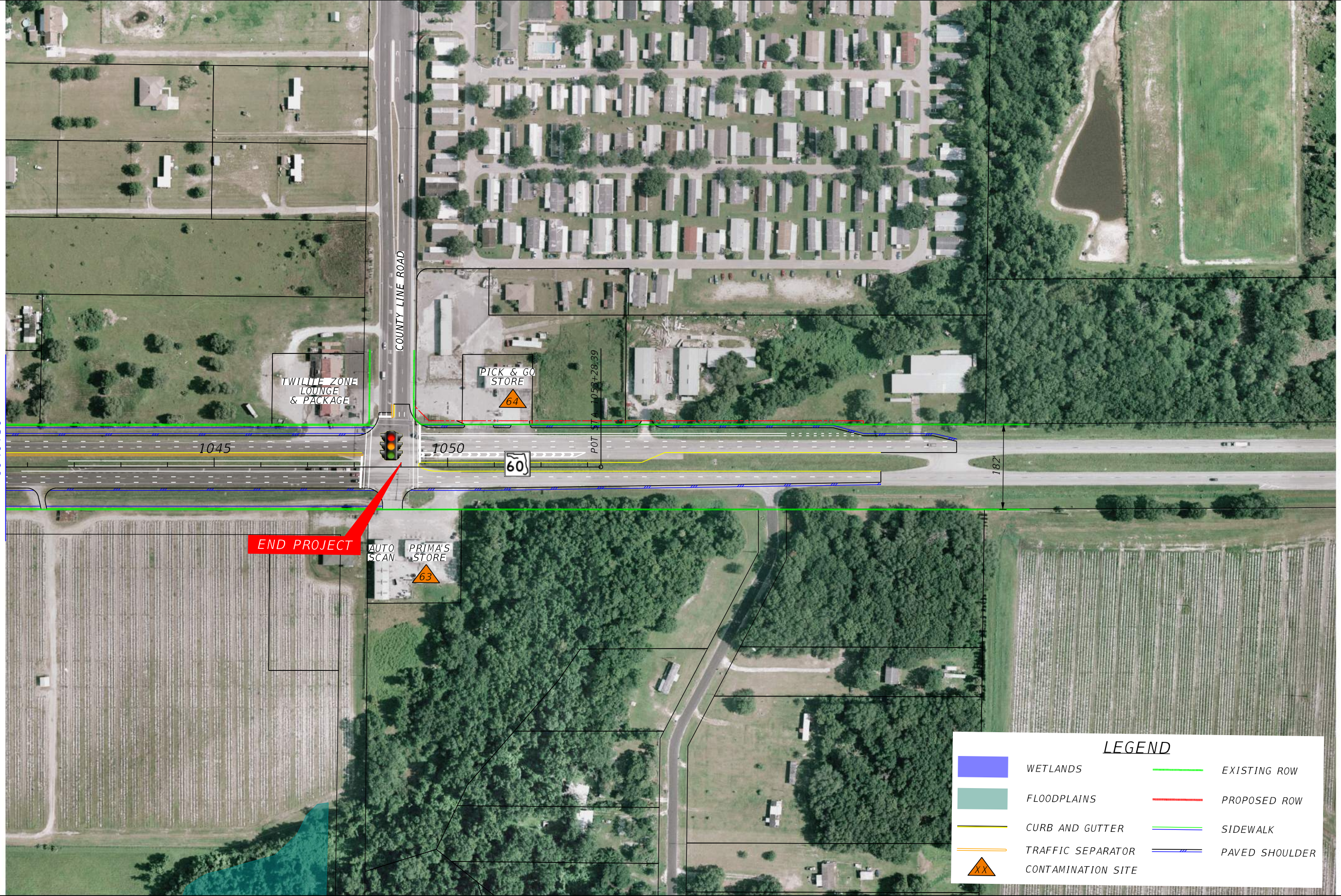
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60	HILLSBOROUGH	430055-1-22-01

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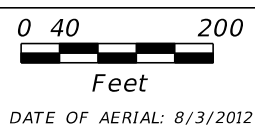
1040+50



END PROJECT

LEGEND	
	WETLANDS
	FLOODPLAINS
	CURB AND GUTTER
	TRAFFIC SEPARATOR
	CONTAMINATION SITE
	EXISTING ROW
	PROPOSED ROW
	SIDEWALK
	PAVED SHOULDER

REVISIONS			
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SHEET NO.
24