NOISE STUDY REPORT

US 301 (SR 43)

from SR 60 (Adamo Drive) to I-4 (SR 400)

Project Development and Environment Study

FDOT

WPI Segment No. 430050-1

March 2018

Noise Study Report

US 301 (SR 43)

Project Development and Environment Study

From State Road 60 to I-4 (SR 400)
Hillsborough County, Florida

Work Program Item Number: 430050-1
ETDM Number: 3097

This roadway capacity improvement project involves widening US 301 from the existing four-lane divided arterial roadway to a divided six-lane arterial roadway to accommodate future travel demand in the study area. The study limits extend from the intersection with State Road 60 to south of the I-4/US 301 ramps in Hillsborough County. The total project length is 3.3 miles.

Florida Department of Transportation
District Seven

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District Seven is determining alternative roadway improvements to be considered in a Project Development and Environment (PD&E) Study for US 301 (SR 43) in Hillsborough County. The study limits are from SR 60 (Adamo Drive) to south of the I-4 (SR 400)/US 301 ramps, in Hillsborough County, a distance of approximately 3.3 miles. The purpose of the PD&E Study is to document the need for additional capacity within the study corridor and to evaluate the costs and impacts associated with providing this additional capacity. Federal funds are not planned to be used for the project, so it is being conducted in accordance with the PD&E Manual, Part 1, Chapter 10, which addresses non-federal projects.

The objectives of this Noise Study Report (NSR) are to identify noise sensitive receptors adjacent to the project corridor, to evaluate future traffic noise levels at the receptors with and without the proposed improvements, and, if necessary, to evaluate the need for, and effectiveness of, noise abatement measures. Additional objectives include the consideration of construction noise and the identification of noise level impact "contours" adjacent to the corridor.

The traffic noise analysis was performed 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* (July 2010). In addition, Chapter 335.17, *Florida Statute*, requires the use of 23 CFR 772 in the noise impact assessment process, regardless of funding. The evaluation used methodologies established by the FDOT and documented in the *PD&E Manual*, Part 2, Chapter 17 (May 2011). The prediction of 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).

Of the 18 evaluated noise sensitive receptors, nine were located at residences, three were restaurants with outdoor dining areas (Five Guys, Joe's Sandwich Shop, and 301 Family Restaurant)[1], and three were evaluated as exterior uses associated with the Comfort Inn, La Quinta, and Holiday Inn hotels. A trail within Veteran's Memorial Wilderness Park, and an office complex (Centerpoint Business Park) with two exterior uses were also evaluated.

Existing (2013) traffic noise levels are predicted to range from 51.2 to 70.6 decibels on the "A" weighted scale (dB(A)) at the 18 receptors evaluated. In the future, without the proposed improvements (2040 no-build), traffic noise levels are predicted to range from 53.1 to 70.8 dB(A) at these receptors. With the proposed improvements (2040 build), traffic noise levels are predicted to range from 55.4 to 73.2 dB(A) for both build alternatives (Alternatives 1 and

[1] The exterior use area associated with the Ker's WingHouse Bar & Grill located at the northern edge of the project corridor was not included in the noise modeling analysis because it will be analyzed as part of the I-4 Managed Lanes from east of 50th Street to Polk Parkway Project (FPID 4317461-22-01).

2) with levels approaching, meeting, or exceeding the NAC at seven and six of the receptors with Alternative 1 and 2, respectively. These receptors are referred to as “impacted”. Notably, when compared to the existing condition, traffic noise levels with the improvements are not predicted to increase more than 5 dB(A). As such, the project would not substantially increase traffic noise (i.e., an increase in traffic noise of 15 dB(A) or more with an improvement when compared to an existing level).

Noise abatement measures were considered for the seven noise sensitive receptors where traffic noise levels are predicted to approach, meet, or exceed the NAC. The measures were traffic management, alternative roadway alignments, buffer zones, and noise barriers. The results of the analysis indicate that although feasible, traffic management and alternative roadway alignments are not reasonable methods of reducing predicted traffic noise levels at the impacted receptors. Additionally, providing a buffer between the highway and noise sensitive land uses is only reasonable for locating future noise sensitive uses and should be considered as part of the local land use planning process. The results of the analysis also indicate that noise barriers do not appear to be a potentially reasonable and feasible method of reducing predicted traffic noise levels for any of the impacted noise sensitive receptors should the project be implemented in the future.

Because the consideration of abatement measures did not indicate there are any measures that would be both feasible and reasonable, there is no commitment to further consider any measure during the project’s design phase. However, there is a commitment to perform a land use review at that time to ensure that all noise sensitive land uses that received a building permit prior to the project’s Date of Public Knowledge (i.e., the date the environmental documentation is approved) have been evaluated. Notably, there was no construction or posted permits observed within the project limits when the land uses were surveyed on November 13, 2014.

Construction of the proposed roadway improvements could result in temporary construction-related noise and/or vibration impacts. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate potential construction noise and/or vibration impacts. Should 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, offices, and parks are considered incompatible with highway noise levels exceeding the NAC. In order to reduce the possibility of new noise-related impacts, noise level contours were developed for the future improved roadway facility (see **Section 5** of this NSR). These contours delineate the distance from the improved roadway’s edge-of-travel lane to where traffic noise levels of 56, 66, and 71 dB(A) (the FDOT’s NAC for Activity Categories A, B/C, and E, respectively) are expected to occur in the year 2040 with the proposed improvements. Local officials will be provided a copy of the final NSR to promote compatibility between land development and the construction of the proposed US 301 project.

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SECTION 1.0 INTRODUCTION

1.1 Project Description

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate the proposed widening of US 301 (SR 43) to six lanes from SR 60 (Adamo Drive) to the southern end of the eastbound I-4 (SR 400) on- and off-ramps in Hillsborough County. The total project length is approximately 3.3 miles, and is illustrated in **Figure 1-1**. The purpose of this PD&E study is to document the need for additional capacity within the study corridor and to evaluate the costs and impacts associated with providing this additional capacity. Federal funds are not planned to be used for the project, so it is being conducted in accordance with the PD&E Manual, Part 1, Chapter 10, which addresses non-federal projects.

The proposed action involves widening US 301 from the existing four-lane divided roadway to a six-lane divided roadway. This improvement is necessary to provide additional capacity to accommodate the future travel demand that will be generated by the projected population and employment growth in eastern Hillsborough County. US 301 is a major north-south roadway that traverses all of Hillsborough County and provides connectivity to many of Florida's major roadways including SR 60, Lee Roy Selmon Expressway and I-4. This roadway is a vital link in the regional transportation network and also serves as an emergency evacuation route.

US 301 is functionally classified as an "Urban Other Principal Arterial" and has a posted speed limit of 50 miles per hour (mph) within the majority of the project limits. The posted speed limit is reduced to 45 mph approaching SR 60 and at the approaching on-ramp to eastbound I-4. Throughout most of the study corridor, US 301 exists as a four-lane divided roadway; however, three through lanes are provided in both the northbound and southbound directions in the vicinity of the intersection with SR 574 (Dr. Martin Luther King, Jr. Boulevard).

The existing right-of-way width ranges from 160 feet to 306 feet; however, a majority of the study corridor has a right-of-way width of 200 feet. Sidewalks as well as roadside ditches, where stormwater runoff is collected, were recently constructed along both the east and west sides of US 301 from SR 574 northward to I-4. Other sections of sidewalks exist intermittently from SR 60 to SR 574.

There are also seven bridges located within the project limits. Two bridges are located over the CSX Railroad's S-Line while two others are located over the CSX Railroad's A-Line and CR 574 (Broadway Avenue). There are also two bridges that cross over the Tampa Bypass Canal and one box culvert that crosses Bruce Creek.

Figure 1-1 Project Location Map

The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM project #3097. An ETDM *Programming Screen Summary Report* was published on January 9, 2013 containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical and social resources.

1.2 Purpose and Need

The purpose of this project is to relieve congestion on this portion of US 301 in unincorporated Hillsborough County. US 301 is a major north-south roadway facility in close proximity to the City of Tampa, which travels from the Sarasota-Bradenton-Venice Metropolitan Statistical Area across the state to the Jacksonville Metropolitan Statistical Area. US 301 serves regional travel and connects residential centers in the Brandon and South Shore area with employment centers along the I-75 Corridor. It provides regional connectivity with I-75, the Lee Roy Selmon Crosstown Expressway, and I-4. US 301 has been designated by Hillsborough County Emergency Management as an emergency evacuation route. In addition to increasing capacity, this project will add or enhance the multi-modal facilities in this corridor.

The need for this widening project is based on the congestion and the current failing level of service (LOS) of this segment of US 301. Between SR 60 and I-4, I-75 and US 301 are parallel facilities. Like US 301, I-75 between SR 60 and I-4 is operating at a failing level of service according to the 2011 Hillsborough County Level of Service Report; this segment of I-75 ranges from 25-33 percent (%) over capacity. Addition of capacity on US 301 will help ease congestion for this overburdened roadway.

According to the March 2011 Hillsborough County Automobile Level of Service Report, US 301 between State Road 60 and I-4 is currently operating at 102% of capacity. This yields a failing LOS grade of "F". The most recent version of the Tampa Bay Regional Planning Model (TBRPM) uses 2010 base year data, which shows a LOS of C for the SR 60 to I-4 segment of US 301. The TBRPM projects this segment to have a failing LOS by 2035. The 2035 traffic volumes projected by the model show deficiencies and a failing LOS for the US 301 Corridor.

The proposed widening of this US 301 segment will also have positive socio-economic impacts. The Hillsborough County City-County Planning Commission's 2040 Long Range Transportation Plan socioeconomic projections (July 2014) contains both population and employment projections. These projections show Hillsborough County's population growing from 1,229,226 to 1,815,964 (a 48% increase) between 2010 and 2040. Employment is projected to grow from 711,400 to 1,112,059 (a 56% increase) between 2010 and 2040, mostly within the urban service area. Based on projected population growth, the existing infrastructure would result in failing levels of service in the future.

Several Strategic Intermodal Systems (SIS) facilities are in close proximity to US 301, including: the Port of Tampa, the Tampa Intercity Greyhound Bus Terminal, and the Port of Manatee. Emerging SIS facilities in the area include: the Tampa Amtrak Station, and the Tampa CSX Intermodal Terminal. As this project is constructed and congestion is decreased,

travel to intermodal facilities will become faster and easier. Additionally, this improvement is envisioned to include multi-modal improvements, including sidewalks, bicycle lanes, and transit accommodations. Currently, the Hillsborough Area Regional Transit (HART) system does not have buses running on this section of US 301.

Safety within the US 301 corridor is projected to improve with an increase in capacity and a reduction in congestion, thereby decreasing potential conflict with other vehicles. The US 301 corridor between SR 60 and I-4 had 535 crashes from 2008 through 2013. Most occurred at the intersections along the corridor and were the result of rear end collisions. The addition and enhancement of multi-modal facilities will increase pedestrian and bicyclist safety along the corridor.

1.3 Purpose of Report

This Noise Study Report (NSR) is one of several documents being prepared as part of the PD&E study. The objectives of this NSR are to identify noise sensitive receptors adjacent to the project corridor, to evaluate future traffic noise levels at the receptors with and without the proposed improvements, and, if necessary, to evaluate the need for and effectiveness of noise abatement measures. Additional objectives include the consideration of construction noise and the identification of noise impact “contours” adjacent to the corridor.

1.4 Existing Facility and Proposed Improvements

Within the project limits, US 301 currently has a 4-lane divided urban typical section as shown in **Figure 1-2**. The existing roadway generally has twelve-foot travel lanes, four-foot paved outside shoulders, five-foot sidewalks and a 40-foot grassed median.

The posted speed is 50 miles per hour (mph) within the majority of the project limits. The majority of the existing ROW is 200 feet wide but portions vary from 160 to 306 feet wide. Proposed Alternatives 1 and 2 both employ the same typical section. The urban typical section for both alternatives is shown in **Figure 1-3** and the suburban typical section for both alternatives is shown in **Figure 1-4**. Both alternatives include widening to six lanes within the existing ROW, as well as bicycle and pedestrian facilities. The main difference in the proposed alternatives is that Alternative 2 includes construction of new bridges over the CSX Railroad “S” and “A” lines as opposed to widening of the existing bridges with Alternative 1. A “No-Build” Alternative is also being considered. The proposed project is not funded in FDOT’s current 5-year Adopted Work Program.

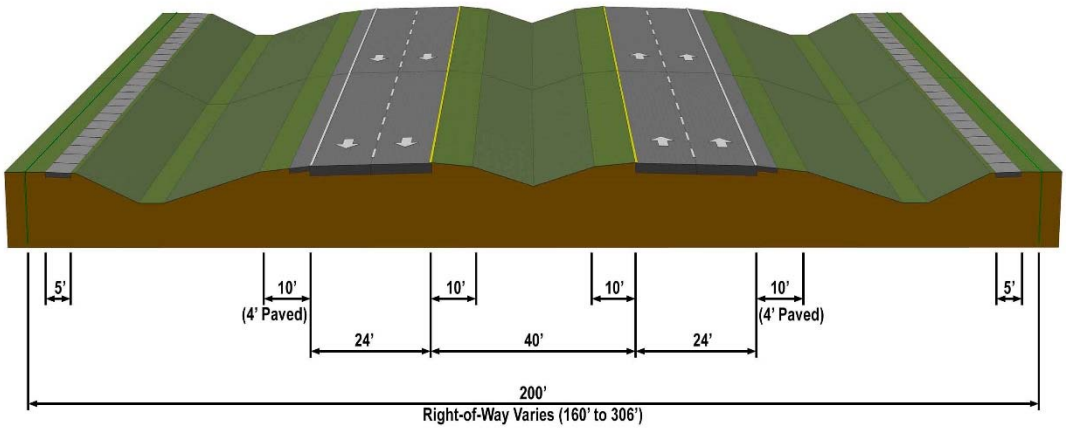

Figure 1-2 Existing Typical Section

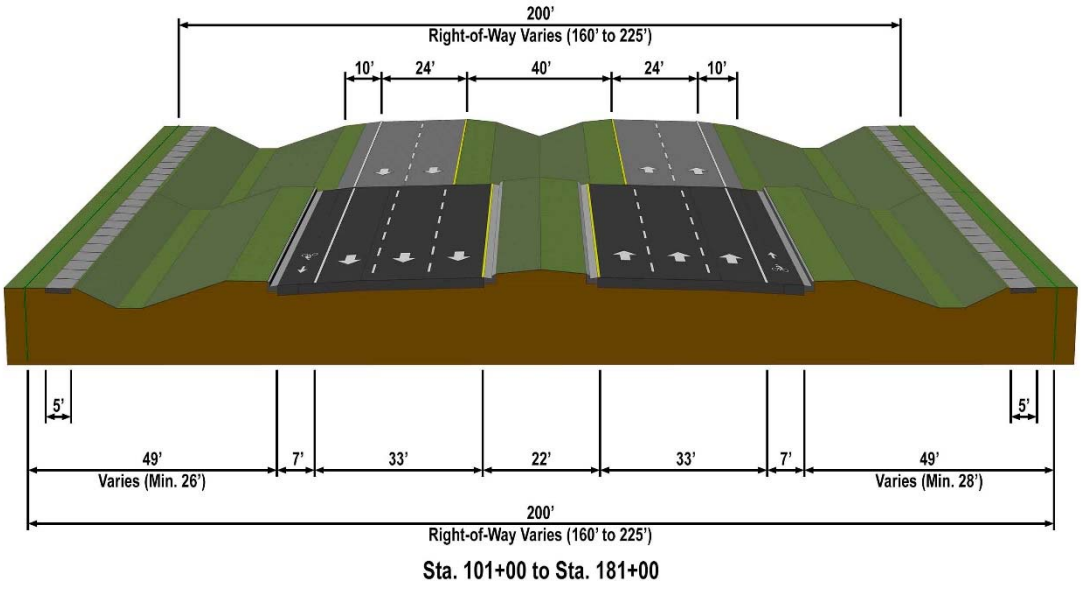

Figure 1-3 Urban Typical Section – Alternatives 1 and 2

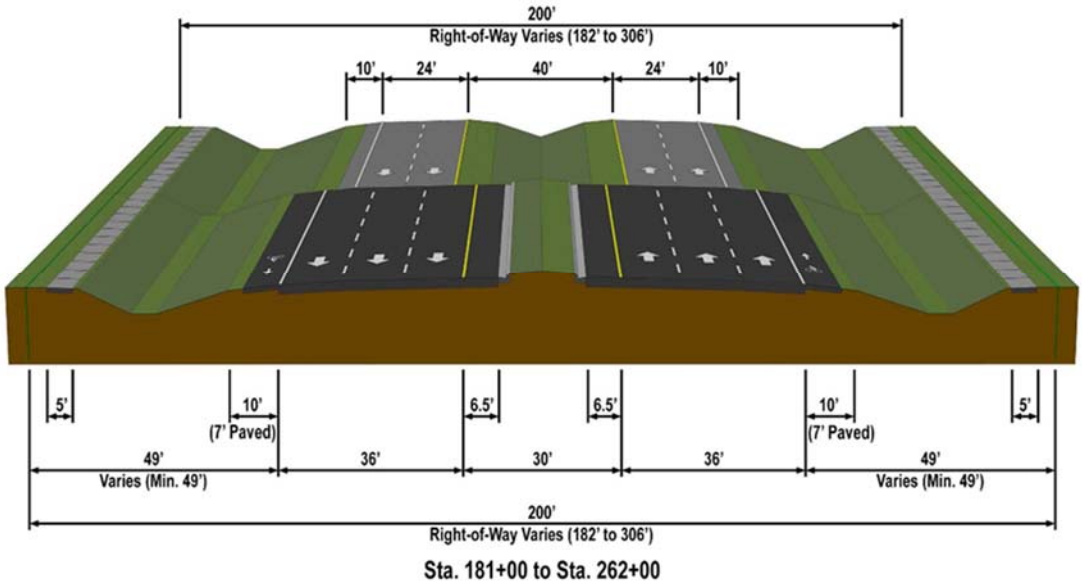

Figure 1-4 Suburban Typical Section – Alternatives 1 and 2

SECTION 2.0 TRAFFIC NOISE ANALYSIS METHODOLOGY

2.1 Evaluation Process

This traffic noise analysis for US 301 was prepared in accordance with Title 23 Code of Federal Regulations (CFR) Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 2010). In addition, Chapter 335.17, *Florida Statute*, requires the use of 23 CFR 772 in the noise impact assessment process, regardless of funding. The evaluation uses methodologies established by FDOT and documented in the PD&E Manual, Part 2, Chapter 17 (May 2011).

The predicted noise levels presented in this report are expressed in decibels on the "A"-weighted scale (dB(A)). This scale most closely approximates the response characteristics of the human ear to traffic noise. All noise levels are reported as one-hour equivalent levels [Leq(h)]. Leq(h) values are equivalent steady-state sound levels containing the same acoustic energy as time-varying sound levels over a period of one hour.

2.2 Noise Model

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) computer model for highway traffic noise prediction and analysis – the Traffic Noise Model (TNM, Version 2.5). The TNM propagates sound energy, in one-third octave bands, between highways and nearby receptors taking the intervening ground's acoustical characteristics/topography and rows of buildings into account.

2.3 Traffic Data

Noise levels are low when traffic volumes are low (i.e., LOS A or B) or when traffic is so congested that movement is slow (i.e., LOS D, E, or F). Generally, the maximum hourly noise level occurs between these two conditions. Therefore, traffic volumes used in the US 301 analysis reflect either the design LOS C volumes or the demand volumes (if forecast demand levels meet the LOS A or B criteria), whichever is less. The existing (2013), future no-build (2040), and future build (design year of 2040) traffic data are presented in **Table 2-1** and **Appendix B**.

Table 2-1 Traffic Data for Noise Analysis

US 301 Segment	Scenario	Average Daily Traffic[1]		Speed (mph)
		LOS C	Demand	
SR 60 to Old Hopewell Road[2]	Existing	37,900	**35,000**	45
	No-Build	**37,900**	49,200	45
	Build	**58,400**	63,700	50
Old Hopewell Road to Stannum Street/Massaro Boulevard[2]	Existing	37,900	**36,200**	50
	No-Build	**37,900**	49,000	50
	Build	**58,400**	63,400	50
Stannum Street/Massaro Boulevard to Columbus Drive/Tampa East Boulevard[2]	Existing	37,900	**36,000**	50
	No-Build	**37,900**	48,800	50
	Build	**58,400**	64,000	50
Columbus Drive/Tampa East Boulevard to Overpass Road/21st Avenue[2]	Existing	37,900	**32,500**	50
	No-Build	**37,900**	50,300	50
	Build	**58,400**	62,700	50
Overpass Road/21st Avenue to Sabal Industrial Boulevard[2]	Existing	37,900	**33,800**	50
	No-Build	**37,900**	51,100	50
	Build	**58,400**	64,200	50
Sabal Industrial Boulevard to 27th Avenue[2]	Existing	37,900	**33,700**	50
	No-Build	**37,900**	51,500	50
	Build	**58,400**	64,500	50
27th Avenue to SR 574[2]	Existing	37,900	**33,750**	50
	No-Build	**37,900**	51,500	50
	Build	**58,400**	64,500	50
SR 574 to Oak Fair Boulevard[3]	Existing	37,900	**29,800**	50
	No-Build	**37,900**	49,100	50
	Build	58,400	**55,500**	50
Oak Fair Boulevard to Elm Fair Boulevard[3]	Existing	37,900	**29,700**	50
	No-Build	**37,900**	50,500	50
	Build	58,400	**57,000**	50
Elm Fair Boulevard to Eastbound I-4 Ramps[4]	Existing	58,400	**32,500**	45
	No-Build	58,400	**52,500**	45
	Build	**58,400**	59,300	50

[1] The Average Daily Traffic used in the analysis is indicated by bold text.

[2] Peak-Hour Factor (K) = 9.0%; Directional Factor (D) = 57% for existing and 50% for future no-build and build; Medium Trucks (MT) = 2.2%, Heavy Trucks (HT) = 2.2%, Buses (B) = 0.49%, and Motorcycles (MC) = 0.20%.

[3] Peak-Hour Factor (K) = 9.0%; Directional Factor (D) = 57% for existing and future build, and 50% for future no-build; Medium Trucks (MT) = 2.2%, Heavy Trucks (HT) = 2.2%, Buses (B) = 0.49%, and Motorcycles (MC) = 0.20%.

[4] Peak-Hour Factor (K) = 9.0%; Directional Factor (D) = 57% for existing and future no-build, and 50% for future build; Medium Trucks (MT) = 2.2%, Heavy Trucks (HT) = 2.2%, Buses (B) = 0.49%, and Motorcycles (MC) = 0.20%.

SECTION 3.0 NOISE ANALYSIS

3.1 Noise Sensitive Receptors

Noise sensitive receptors (i.e., locations of predicted traffic noise levels) are properties/locations where frequent human use occurs. To evaluate traffic noise at these receptors, the FHWA established Noise Abatement Criteria (NAC). As shown in **Table 3-1**, the criteria vary according to a properties' activity category (i.e., the type of activity that occurs on a property). For comparative purposes, the typical noise levels of a few common indoor and outdoor activities are provided in **Table 3-2**.

Table 3-1 FHWA/FDOT Noise Abatement Criteria [Leq(h) expressed in dB(A)]

Activity Category	Description of Activity Category	Activity Leq(h)[1]	
		FHWA	FDOT
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 (Exterior)	56 (Exterior)
B[2]	Residential	67 (Exterior)	66 (Exterior)
C[2]	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.	67 (Exterior)	66 (Exterior)
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.	52 (Interior)	51 (Interior)
E[2]	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	72 (Exterior)	71 (Exterior)
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.	--	--
G	Undeveloped lands that are not permitted.	--	--

Source: Florida Department of Transportation, PD&E Manual, Part 2, Chapter 17, Page 17-35, May 24, 2011.

[1] The Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

[2] Includes undeveloped lands permitted for this activity category.

Table 3-2 Typical Noise Levels

Common Outdoor Activities	Noise Level dB(A)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area daytime		
Gas lawnmower at 100 feet	**70**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**60**	
		Large business office
Quiet urban daytime	**50**	Dishwasher in next room
Quiet urban nighttime	**40**	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: California Department of Transportation Technical Noise Supplement, Page 2-20, September 2013.

When predicted traffic noise levels “approach” or exceed the FHWA NAC, or when predicted future noise levels increase substantially from existing levels, the FHWA requires that noise abatement measures be considered. FDOT defines the word “approach” to mean within one dB(A) of the NAC. Additionally, the FDOT criteria states that a substantial increase in traffic noise occurs if traffic noise levels are predicted to increase 15 dB(A) or more above existing conditions as a direct result of a transportation improvement project.

Of the 18 evaluated noise sensitive receptors, nine were located at residences, three were restaurants with outdoor dining areas (Five Guys, Joe’s Sandwich Shop, and 301 Family

Restaurant)[2], and three were evaluated as exterior uses associated with the Comfort Inn, La Quinta, and Holiday Inn Hotels. A trail along Veteran's Memorial Wilderness Park, and an office complex (Centerpoint Business Park) with two exterior uses were also evaluated. The land use review, during which these noise sensitive receptors were identified, was concluded on November 13, 2014.

The locations of the receptors are illustrated on the project aerials in **Appendix A**. The residences were evaluated as Activity Category "B" and the trail was evaluated as Activity Category "C". For these properties, abatement measures were considered if predicted exterior traffic noise levels were 66 dB(A) or greater. The restaurants with outdoor dining areas, and the office and hotels with exterior uses were evaluated as Activity Category "E". For these properties, abatement measures were considered if predicted exterior traffic noise levels were 71 dB(A) or greater. Additionally, noise abatement was considered if traffic noise levels were predicted to increase 15 dB(A) or more from existing levels.

3.2 Measured Noise Levels

As previously stated, existing and future noise levels with and without the proposed improvements for both Build Alternatives 1 and 2 were modeled using the TNM. To verify the accuracy of the predictions, the computer model was validated using measured noise levels adjacent to the project corridor.

Traffic data including motor vehicle volumes, vehicle mix, vehicle speeds, and meteorological conditions were recorded during each measurement period.

The field measurements were conducted in accordance with the FHWA's *Measurement of Highway-Related Noise* (May 1996). The measurements were obtained using a Larson Davis 831 Type I integrating sound level meter (SLM). The SLM was calibrated before and after the measurement periods with a Larson Davis CAL200 calibrator.

The recorded traffic data were used as input for the TNM to determine if, given the topography and actual site conditions of the area, the computer model could "re-create" the measured levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered within the accepted level of accuracy if the measured and predicted noise levels are within a tolerance standard of three dB(A).

Table 3-3 presents the field measurements and the validation results. As shown, the ability of the model to predict noise levels within the FDOT limits of plus or minus three dB(A) for the project was confirmed. Documentation in support of the validation is provided in **Appendix C**.

[2] The exterior use area associated with the Ker's WingHouse Bar & Grill located at the northern edge of the project corridor was not included in the noise modeling analysis because it will be analyzed as part of the I-4 Managed Lanes from east of 50th Street to Polk Parkway Project (FPID 4317461-22-01).

Table 3-3 Validation Data

Location	Measured Period	Modeled	Measured	Difference
East side of US 301 North of Martin Luther King Boulevard(1)	1	67.4	65.9	1.5
	2	66.7	66.6	0.1
West side of US 301 at Veteran's Memorial Park	1	66.3	68.0	-1.7
	2	66.3	67.8	-1.5
	3	66.4	68.4	-2.0

(1) Noise level measurements at this location were also conducted for a third period; however, noise levels were inadvertently recorded for a period less than ten minutes, therefore not included in model validation.

3.3 Results of the Noise Analysis

Table 3-4 and **Table 3-5** present the predicted traffic noise levels for the recommended alternatives. As shown, the existing (2013) traffic noise levels are predicted to range from 51.2 to 70.6 dB(A) at the 18 receptors evaluated. In the future without the proposed improvements (2040 no-build), traffic noise levels are predicted to range from 53.1 to 70.8 dB(A) at these receptors. In the future with the proposed improvements (2040 build), traffic noise levels are predicted to range from 55.4 to 73.2 dB(A) for both build alternatives with levels approaching, meeting, or exceeding the NAC at seven and six of the receptors with Alternative 1 and 2, respectively. These receptors are referred to as "impacted". Notably, when compared to the existing condition, traffic noise levels are not predicted to increase more than 5 dB(A) above existing conditions at any of the evaluated noise sensitive receptors. As such, the project would not substantially increase traffic noise.

Noise abatement measures were evaluated for the receptors that were predicted to experience future traffic noise levels that approach, meet, or exceed the NAC with the proposed improvements. The results of the evaluation are provided in **Section 4** of this NSR.

Table 3-4 Predicted Traffic Noise Levels – Build Alternative 1

Rec No.	Sheet No.	Activity Category	Description	Leq(h) (dB(A))					Approaches, Meets, or Exceeds the NAC?
				No. of Units	Existing (2013)	No-Build (2040)	Build (2040)	Increase from Existing	
1	5	E	Office (Centerpoint Business Park) outdoor seating	1	67.8	68.0	70.7	2.9	--
2	6	E	Restaurant (Joe's Sandwich Shop) outdoor seating	1	61.5	61.8	65.4	3.9	--
3	6	E	Office (Centerpoint Business Park) outdoor seating	1	57.1	57.4	60.8	3.7	--
4	7	B	Residential	1	61.4	61.7	64.3	2.9	--
5	7	B	Residential	1	64.4	64.6	66.7	2.3	Yes
6	8	E	Restaurant (301 Family Restaurant) outdoor seating	1	65.4	65.6	68.9	3.5	--
7	8	B	Residential	1	57.7	58.0	61.6	3.9	--
8	8	B	Residential	1	64.4	64.8	67.3	2.9	Yes
9	8	B	Residential	1	70.6	70.8	73.2	2.6	Yes
10	9	C	Trail	1	62.2	62.7	65.7	3.5	--
11	9	B	Residential	1	67.2	67.4	70.7	3.5	Yes
12	9	B	Residential	1	63.5	63.8	67.3	3.8	Yes
13	9	B	Residential	1	67.9	68.1	70.8	2.9	Yes
14	9	B	Residential	1	64.2	64.5	67.6	3.4	Yes
15	12	E	Hotel (Comfort Inn) pool	1	54.2	55.2	59.1	4.9	--
16	12	E	Hotel (La Quinta) pool	1	62.8	63.7	66.9	4.1	--
17	12	E	Restaurant (Five Guys) outdoor seating	1	64.4	66.1	68.4	4.0	--
18	13	E	Hotel (Holiday Inn) pool	1	51.2	53.1	55.4	4.2	--

Table 3-5 Predicted Traffic Noise Levels – Build Alternative 2

Rec No.	Sheet No.	Activity Category	Description	Leq(h) (dB(A))					Approaches, Meets, or Exceeds the NAC?
				No. of Units	Existing (2013)	No-Build (2040)	Build	No. of Units	
1	5	E	Office (Centerpoint Business Park) outdoor seating	1	67.8	68.0	70.8	3.0	--
2	6	E	Restaurant (Joe's Sandwich Shop) outdoor seating	1	61.5	61.8	65.0	3.5	--
3	6	E	Office (Centerpoint Business Park) outdoor seating	1	57.1	57.4	61.3	4.2	--
4	7	B	Residential	1	61.4	61.7	60.9	-0.5	--
5	7	B	Residential	1	64.4	64.6	61.9	-2.5	--
6	8	E	Restaurant (301 Family Restaurant) outdoor seating	1	65.4	65.6	68.9	3.5	--
7	8	B	Residential	1	57.7	58.0	61.6	3.9	--
8	8	B	Residential	1	64.4	64.8	67.3	2.9	Yes
9	8	B	Residential	1	70.6	70.8	73.2	2.6	Yes
10	9	C	Trail	1	62.2	62.7	65.7	3.5	--
11	9	B	Residential	1	67.2	67.4	70.7	3.5	Yes
12	9	B	Residential	1	63.5	63.8	67.3	3.8	Yes
13	9	B	Residential	1	67.9	68.1	70.8	2.9	Yes
14	9	B	Residential	1	64.2	64.5	67.6	3.4	Yes
15	12	E	Hotel (Comfort Inn) pool	1	54.2	55.2	59.1	4.9	--
16	12	E	Hotel (La Quinta) pool	1	62.8	63.7	66.9	4.1	--
17	12	E	Restaurant (Five Guys) outdoor seating	1	64.4	66.1	68.4	4.0	--
18	13	E	Hotel (Holiday Inn) pool	1	51.2	53.1	55.4	4.2	--

SECTION 4.0 EVALUATION OF ABATEMENT ALTERNATIVES

The noise abatement measures considered for US 301 were traffic management, alternative roadway alignment, buffer zones, and noise barriers. The following discusses the feasibility (e.g., amount of noise reduction) and reasonableness (e.g., cost effectiveness and meeting the noise reduction design goal) of these measures.

4.1 Traffic Management

Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective noise mitigation measures. However, typically these measures also negate a project's ability to accommodate forecast traffic volumes. For example, if the posted speed were reduced, the capacity of the improved roadway to handle the forecast motor vehicle demand would also be reduced. Therefore, reducing the traffic speed and/or traffic volumes is inconsistent with the goal of improving the ability of the roadway to handle the forecast traffic volume. As such, traffic management measures are not considered a reasonable noise abatement measure for the US 301 project.

4.2 Alternative Roadway Alignment

The proposed improvements will generally follow the same alignment as the existing roadway to minimize the need for additional ROW within the project corridor. Maintaining the alignment within the existing ROW, where feasible, will minimize impacts to surrounding noise sensitive receptors located both east and west of the roadway. As such, alternative roadway alignments are not considered a reasonable abatement measure.

4.3 Noise Buffer Zones

Providing a buffer between a roadway and future noise sensitive land uses is an abatement measure that can minimize/eliminate noise impacts in areas of future, not exisiting development. To encourage use of this abatement measure through local land use planning, noise level contours were developed (discussed in **Section 5** of this NSR).

4.4 Noise Barriers

Noise barriers have the potential to reduce traffic noise levels by physically obstructing the sound path between the motor vehicles on the roadway (the source) and the noise sensitive land uses adjacent to the roadway. However, in order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings), and sufficiently tall. Following FDOT procedures, the minimum requirements for a noise barrier to be considered both acoustically feasible and reasonable and cost effective are:

- *Acoustically Feasible and Reasonable Criteria* – To be acoustically feasible, a barrier must provide at least a 5 dB(A) reduction in traffic noise for two or more impacted noise sensitive receptors. To be acoustically reasonable, a barrier must provide at

least a 7 dB(A) reduction (i.e., the FDOT's noise reduction design goal) for at least one benefited receptor (a benefited receptor is a receptor that receives at least a 5 dB(A) reduction in noise from a mitigation measure).

- *Cost Effective Criteria* - The current FDOT unit cost to construct noise barriers (i.e., materials and labor) is $30.00 per square foot. A barrier should not cost more than $42,000 per benefited noise sensitive receptor.

If a noise barrier meets both the initial acoustic feasibility and reasonableness criteria and is cost effective, additional factors are considered. These factors relate to design and construction (i.e., given site-specific details, can a barrier actually be constructed), safety, access to and from adjacent properties, ROW requirements, maintenance, and impacts on utilities and drainage. The viewpoint of the impacted property owners, and renters if applicable, who may, or may not, desire a noise barrier is also a factor that is considered when evaluating noise barriers as an abatement measure.

The TNM was used to evaluate the ability of noise barriers to reduce traffic noise levels for the impacted noise sensitive receptors. Each barrier was evaluated at a location five feet within the FDOT's ROW and at heights from eight to 22 feet (in two-foot increments). The length of each barrier was optimized using the TNM in an attempt to provide at least 5 dB(A) of traffic noise reduction for the impacted receptors and at least 7 dB(A) for at least one of the impacted receptors.

4.4.1 Noise Barrier Analysis

As shown in **Table 3-4** and **Table 3-5**, during the design year (2040) with Build Alternatives 1 and 2, respectively, traffic noise levels are predicted to approach, meet, or exceed the NAC at the following residences:

- With Alternative 1 only, a single isolated residence between Carroll Boulevard and East 19th Avenue located on the west side of US 301 (Receptor 5),
- With both Alternatives 1 and 2, residences adjacent to Motel 301 north of East 27th Avenue (Receptors 8 and 9) and residences north of Veteran's Memorial Park located on the west side of US 301 (Receptors 11 and 12), and
- With both Alternatives 1 and 2, residences across from Veteran's Memorial Park located on the east side of US 301 (Receptors 13 and 14).

The following discusses the acoustic feasibility/reasonableness and cost effectiveness of providing noise barriers as an abatement measure for the above land uses.

Barriers for Single, Isolated Residence (Receptor 5) - Build Alternative 1

As discussed in the beginning of **Section 4**, for a noise barrier to be acoustically feasible, a barrier must provide at least a 5 dB(A) reduction in traffic noise for two or more impacted noise sensitive receptors. For the impacted, single, isolated residence (Receptor 5) this is not

achievable. As such, a noise barrier for this impacted receptor is not considered a feasible noise abatement measure for Build Alternative 1.

Barrier 1: Residences adjacent to Motel 301 (Receptors 8 and 9) – Build Alternatives 1 and 2

Barrier 1 was evaluated for the two impacted residences (Receptors 8 and 9) located north of East 27th Avenue, on the eastside of US 301. The predicted future traffic noise levels are 67.3 and 73.2 dB(A) for receptors 8 and 9, respectively. The results of the evaluation are provided in **Table 4-1**. As shown, the barrier failed to provide at least a 5 dB(A) reduction in traffic noise for both receptors at any height. As such, Barrier 1 is not considered a feasible noise abatement measure for either build alternative.

Table 4-1 Barrier 1: Residences Adjacent to Motel 301 (Receptors 8 and 9)

Barrier Height (feet)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other(1)	Total			
8	0	0	0	1	0	0	1	0	1	--	--	--
10	0	0	0	1	0	0	1	0	1	--	--	--
12	0	0	0	0	1	0	1	0	1	--	--	--
14	0	0	0	0	1	0	1	0	1	--	--	--
16	0	0	0	0	1	0	1	0	1	--	--	--
18	0	0	0	0	1	0	1	0	1	--	--	--
20	0	0	0	0	1	0	1	0	1	--	--	--
22	0	0	0	0	1	0	1	0	1	--	--	--

(1) Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 2: Residences north of Veteran's Memorial Park (Receptors 11 and 12) – Build Alternatives 1 and 2

Barrier 2 was evaluated for the two impacted residences (Receptors 11 and 12) located north of Veteran's Memorial Park, on the west side of US 301. The predicted future traffic noise levels are 70.7 and 67.3 dB(A) for receptors 11 and 12, respectively. The results of the evaluation are provided in **Table 4-2**. As shown, at heights of 10 to 22 feet the barrier would reduce traffic noise the minimum required 5 dB(A) reduction in traffic noise for at least two impacted receptors and the goal of reducing predicted traffic noise levels 7 dB(A) or more for at least one benefited receptor could be achieved. Additionally, at these heights, up to two receptors not impacted by the project would be benefited by the barrier. At heights of 10 to 22 feet, the cost per benefited receptor ranges from $58,380 to $76,350, costs that exceed the cost reasonable guideline. As such, although acoustically feasible and reasonable, Barrier 2 is not considered a cost reasonable noise abatement measure for either build alternative.

Table 4-2 Barrier 2: Residences North of Veteran's Memorial Park (Receptors 11 and 12)

Barrier Height/ Length (feet)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other (1)	Total			
8	0	0	1	0	0	0	1	0	1	--	--	--
10/509	1	0	0	0	1	0	2	0	2	$152,700	$76,350	No
12/404	1	0	0	0	1	0	2	0	2	$145,440	$72,720	No
14/278	1	0	0	0	0	1	2	0	2	$116,760	$58,380	No
16/251	1	0	0	0	0	1	2	0	2	$120,480	$60,240	No
18/223	1	0	0	0	0	1	2	0	2	$120,420	$60,210	No
20/223	1	0	0	0	0	1	2	0	2	$133,800	$66,900	No
22/223	1	0	0	0	0	1	2	0	2	$147,180	$73,590	No

(1) Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

Barrier 3: Residences across from Veteran's Memorial Park (Receptors 13 and 14) – Build Alternatives 1 and 2

Barrier 3 was evaluated for the two impacted residences (Receptors 13 and 14) located across from Veteran's Memorial Park on the east side of US 301. The predicted future traffic noise levels are 70.8 and 67.6 dB(A) for receptors 13 and 14, respectively. The results of the evaluation are provided in **Table 4-3**. As shown, the barrier failed to provide at least a 5 dB(A) reduction in traffic noise for either impacted receptor at any height. As such, Barrier 3 is not considered a feasible noise abatement measure for either build alternative.

Table 4-3 Barrier 3: Residences Across from Veteran's Memorial Park (Receptors 13 and 14)

Barrier Height (feet)	Impacted Receptors with Insertion Loss of (dB(A))						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
	5	6	7	8	9	10 or >	Impacted	Other (1)	Total			
8	0	0	0	0	0	0	0	0	0	--	--	--
10	0	0	0	0	0	0	0	0	0	--	--	--
12	0	0	0	0	0	0	0	0	0	--	--	--
14	1	0	0	0	0	0	1	0	1	--	--	--
16	1	0	0	0	0	0	1	0	1	--	--	--
18	1	0	0	0	0	0	1	0	1	--	--	--
20	1	0	0	0	0	0	1	0	1	--	--	--
22	1	0	0	0	0	0	1	0	1	--	--	--

(1) Other = Receptors determined to be unaffected by the project (traffic noise levels less than 66 dB(A)) but benefited by the noise barrier.

SECTION 5.0 NOISE CONTOURS

Land uses such as residences, motels, schools, churches, recreation areas, and parks are considered incompatible with highway noise levels exceeding the NAC. In order to reduce the possibility of additional noise-related impacts, noise level contours were developed for the future improved roadway facility. These noise contours delineate the distance from the improved roadway's edge-of-travel lane to where 56, 66, and 71 dB(A) (the NAC for Activity Categories A, B/C, and E, respectively) is predicted to occur in the future (2040) with the proposed improvements.

As shown in **Table 5-1**, within the project limits, the contours extend 78 feet from the improved roadway's edge-of-travel lane up to 610 feet depending on the land use activity category and roadway segment. Local officials will be provided a copy of the Final NSR to promote compatibility between any future land development in this area and the project, should it be completed.

Table 5-1 Noise Contours

US 301 Segment	Measured Period Distance from Improved Roadway's Edge-of-Travel Lane[(1)] (feet)		
	Activity Category A 56 dB(A)	Activity Category B/C 66 dB(A)	Activity Category E 71 dB(A)
SR 60 to Overpass Road	565	172	78
Overpass Road to SR 574	610	182	83
SR 574 to Oak Fair Boulevard	600	179	79
Oak Fair Boulevard to Elm Fair Boulevard	605	180	80
Elm Fair Boulevard to Eastbound I-4 Ramps	610	182	82

(1) See **Table 2** for a description of the activities that occur within each category. Distances do not reflect any reduction in noise levels that would occur from existing structures (shielding) and should be used for planning purposes only.

SECTION 6.0 CONSTRUCTION NOISE AND VIBRATION

Construction of the proposed roadway improvements could result in temporary construction-related noise and/or vibration impact. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate potential construction noise and/or vibration impacts. 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.

SECTION 7.0 PUBLIC INVOLVEMENT

The FDOT held a Public Hearing for the PD&E Study for the proposed improvements to US 301 on March 1, 2016 at the Sheraton Tampa East Hotel. Draft project documents, including a draft of this NSR, along with other project-related materials were on display as well as a PowerPoint presentation that ran continuously.

The public was invited to make formal oral comments following the formal portion of the hearing and were also afforded the opportunity to submit written comments at the hearing or to mail/email comments following the hearing. A court reporter was also available at the hearing to receive comments in a one-on-one setting. At the conclusion of the comment period (March 12, 2016) no comments were received that related to traffic noise.

SECTION 8.0 REFERENCES

Federal Highway Administration. U.S. Department of Transportation. July 13, 2010. Title 23 CFR, Part 772. *Procedures for Abatement of Highway Traffic Noise and Construction Noise.*

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Florida Department of Transportation. May 24, 2011. *Project Development and Environment Manual*, Part 2, Chapter 17 – Noise.

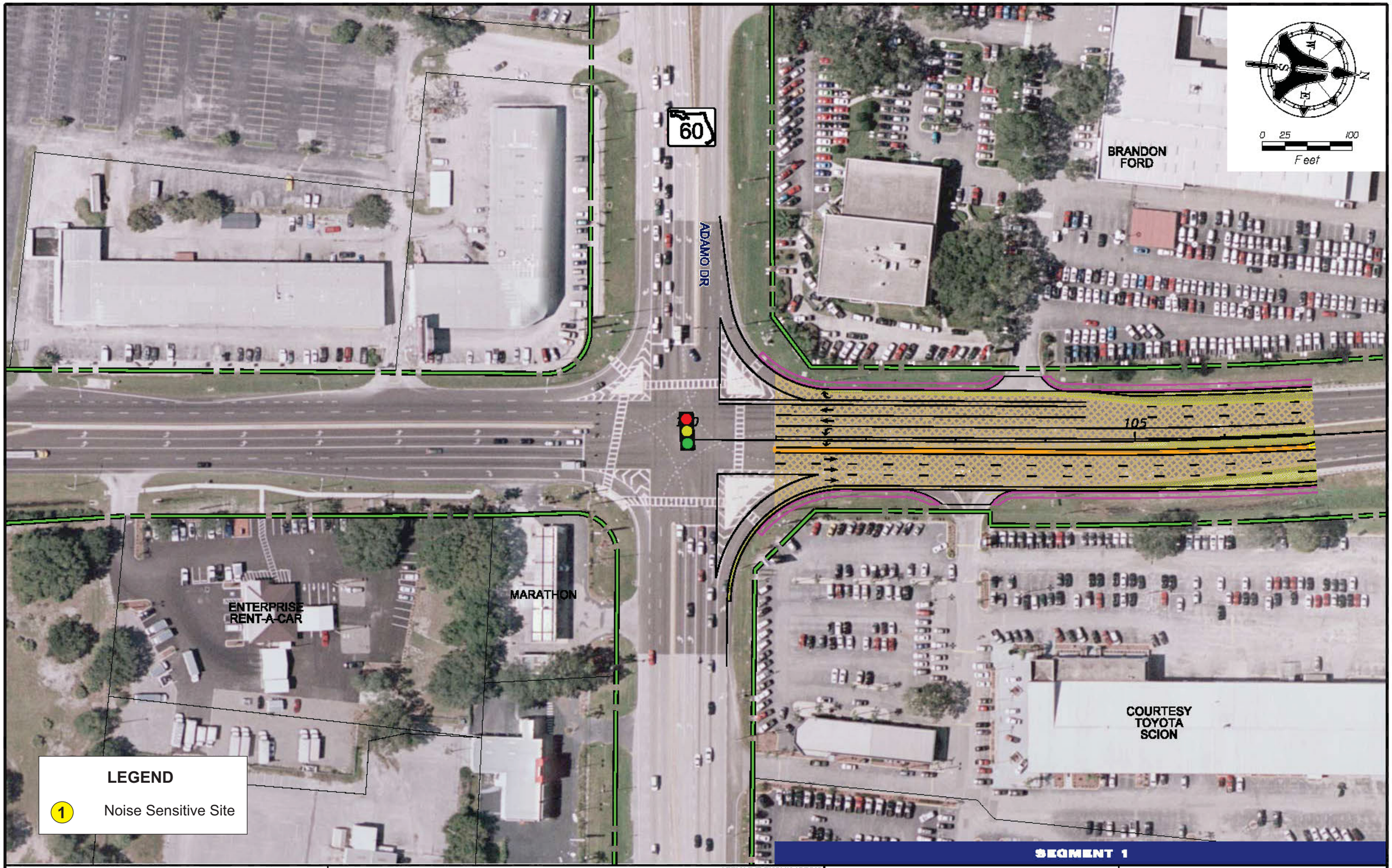
Florida Department of Transportation. July 1, 2013. *Plans Preparation Manual*, Volume 1, Chapter 32 – Sound Barriers.

Florida Department of Transportation. 2014. *Standard Specifications for Road and Bridge Construction*.

California Department of Transportation. September 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*.

APPENDIX A

Project Aerials



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PAVEMENT REMOVED

AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 408)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 1

6/20/2014

BRANDON FORD

MEADOW CREEK

Existing Southbound Bridge Number 100910

CSX RAILROAD S-LINE

110 115 120

Existing Northbound Bridge Number 100101

HOPEWELL INDUSTRIAL CENTER

COURTESY TOYOTA SCION

N E S W

0 25 100

Feet

LEGEND

1 Noise Sensitive Site

SEGMENT 1

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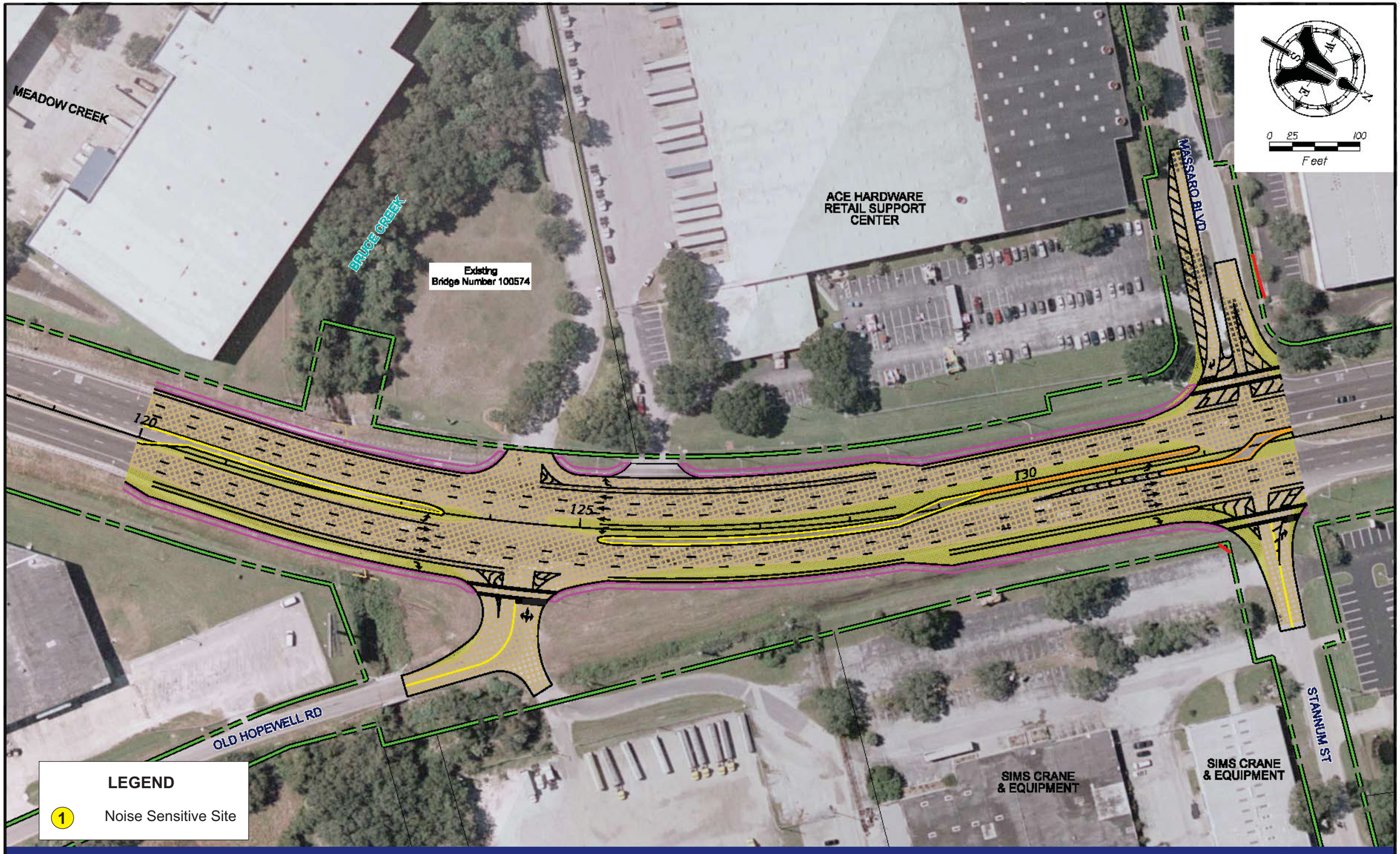
PLAN SHEET ALTERNATIVE 1

SHEET: 2



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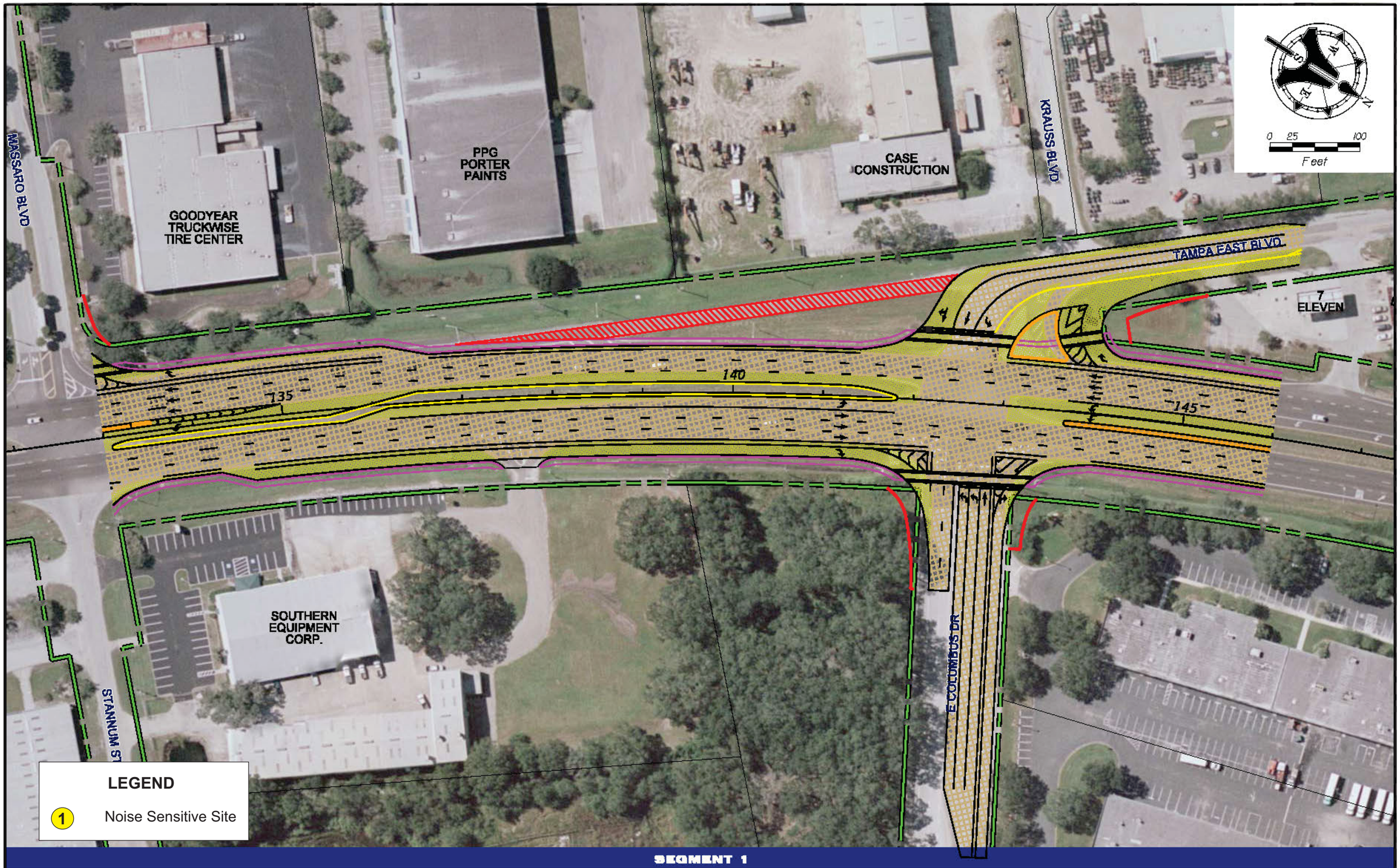
PLAN SHEET
ALTERNATIVE 1

SHEET: 3



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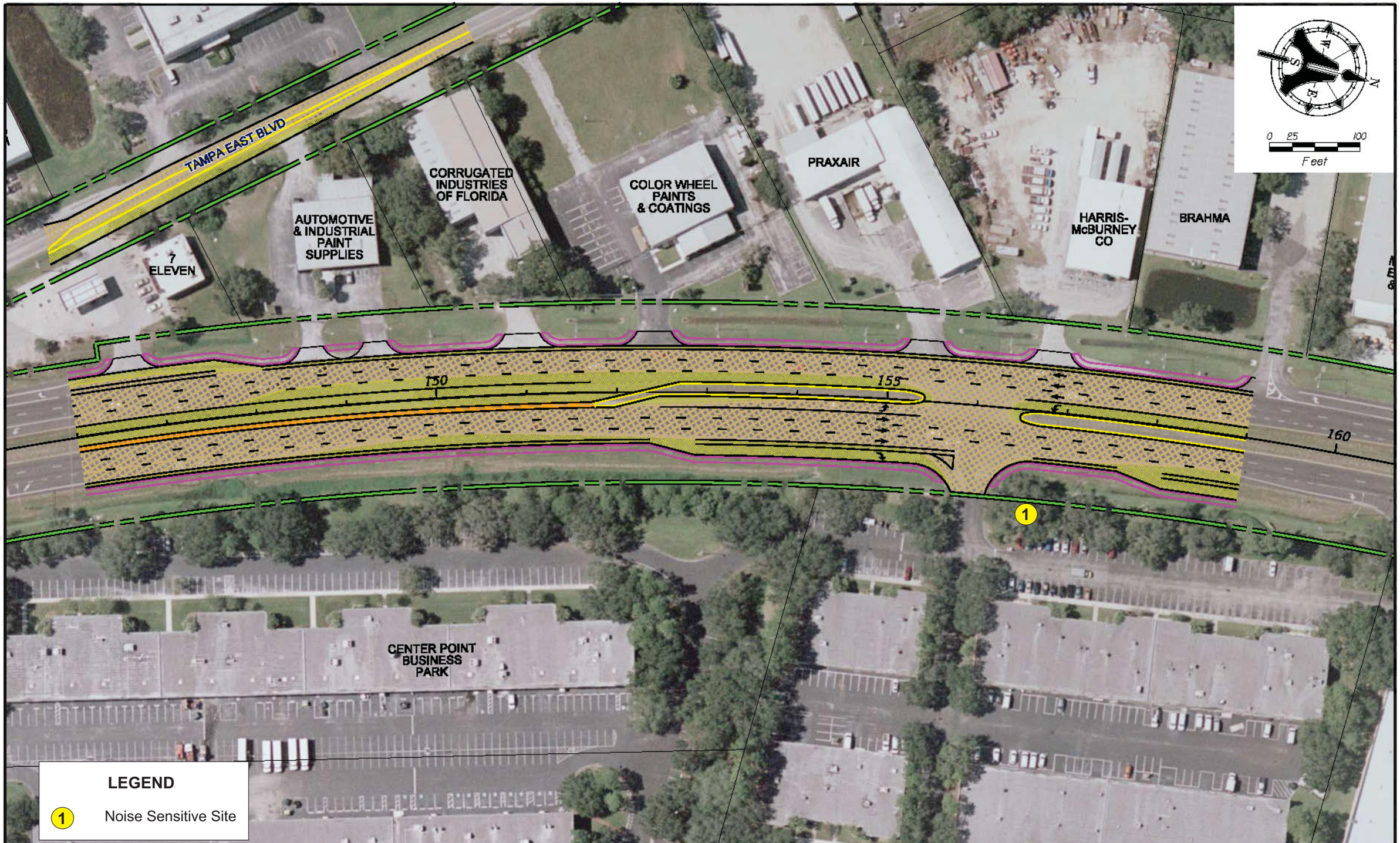

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FROM SR 93 (ADAMO DRIVE) TO I-4 (SR 400)

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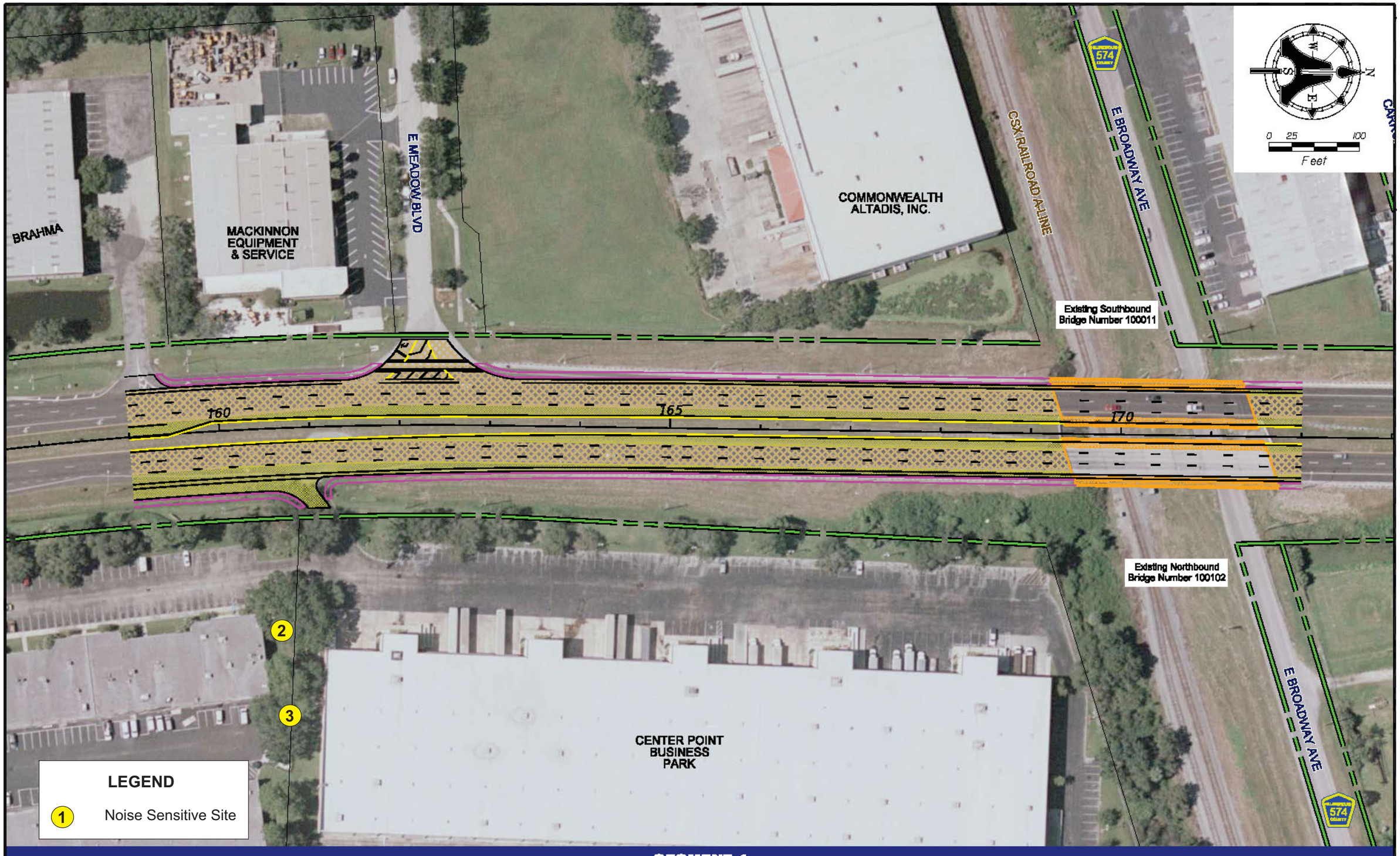
PLAN SHEET ALTERNATIVE 1

SHEET: 5



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WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 6

CARROLL BLVD

E 19TH AVE

20TH AVE E

21ST AVE EAST

CHAMPION TRAILERS

AIRGAS DRY ICE

BP

4

5

0 25 100

Feet

175

180

185

E BROADWAY AV

BOBCAT COMPACT EQUIPMENT RENTAL

OVERPASS RD

LEGEND

1 Noise Sensitive Site

SEGMENT 1 | **SEGMENT 2**

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PROPOSED SIDEWALK
TRAFFIC SIGNAL
PAVEMENT REMOVED

AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

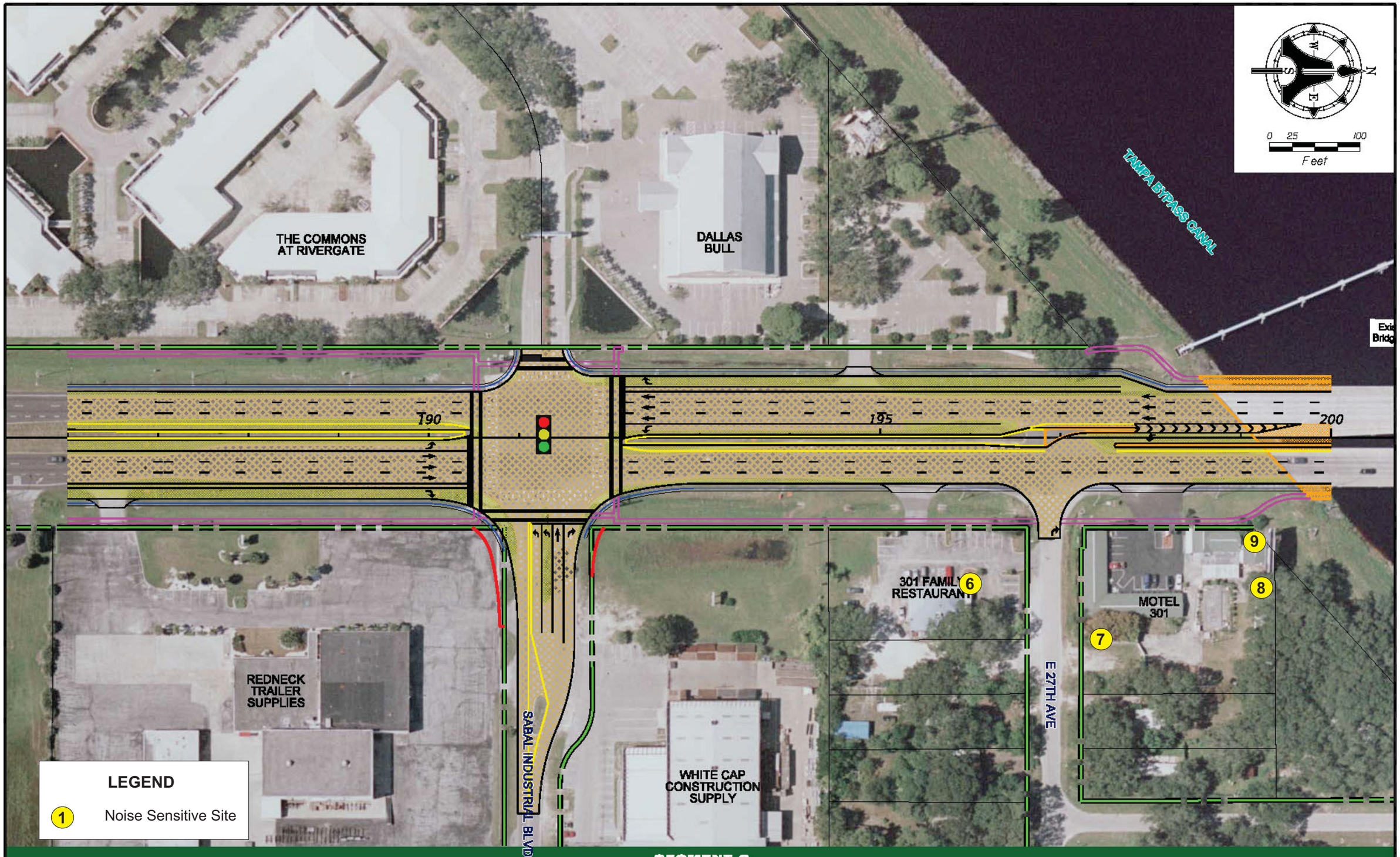
COUNTY: HILLSBOROUGH COUNTY

WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 7



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PROPOSED R.O.W.
MILLING & OVERLAY
PROPOSED PAVEMENT
PROPOSED BRIDGE
PROPOSED SIDEWALK
TRAFFIC SIGNAL
PAVEMENT REMOVED

AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

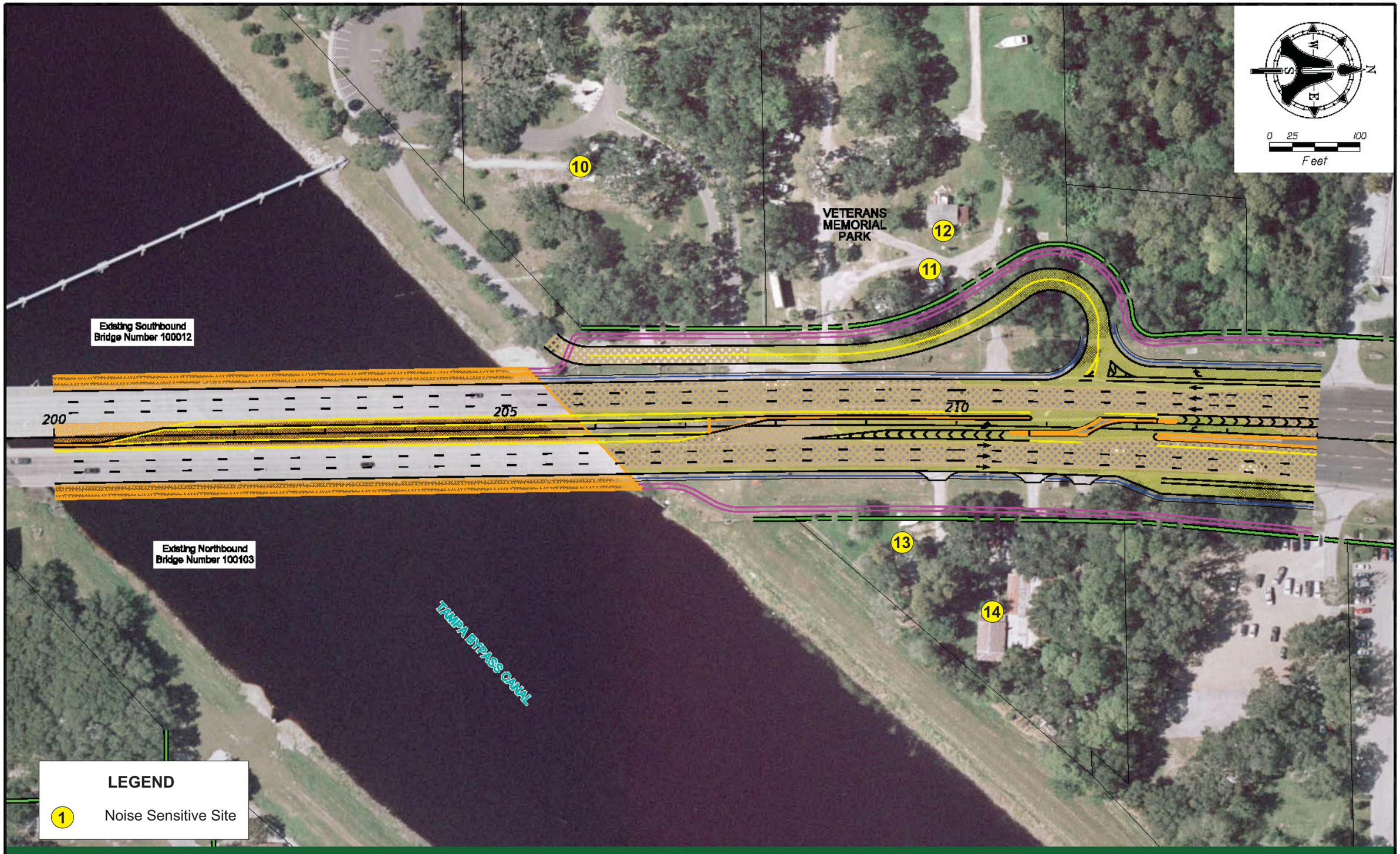
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 8



SEGMENT 2

AIM ENGINEERING & SURVEYING, INC.
3502 CORPOREX PARK DRIVE, SUITE 225
TAMPA, FLORIDA 33619
TEL: (813) 627-4144
FAX: (813) 664-1899 WWW.AIMENGR.COM

In Association with:
Adams Traffic, Inc.
Analytic Engineering, Inc.
Archaeological Consultants, Inc.
LF. Rooks & Associates, Inc.
K2 Environmental Sciences, Inc.
Kisinger Campo & Associates, Corp.
Omni Communications, LLC
Rummel, Klepper & Kahl, LLP
Schoda Ecological Associates, Inc.
Tierra, Inc.

110
BASELINE & STATIONS
EXISTING R.O.W.
PROPOSED R.O.W.
MILLING & OVERLAY
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US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

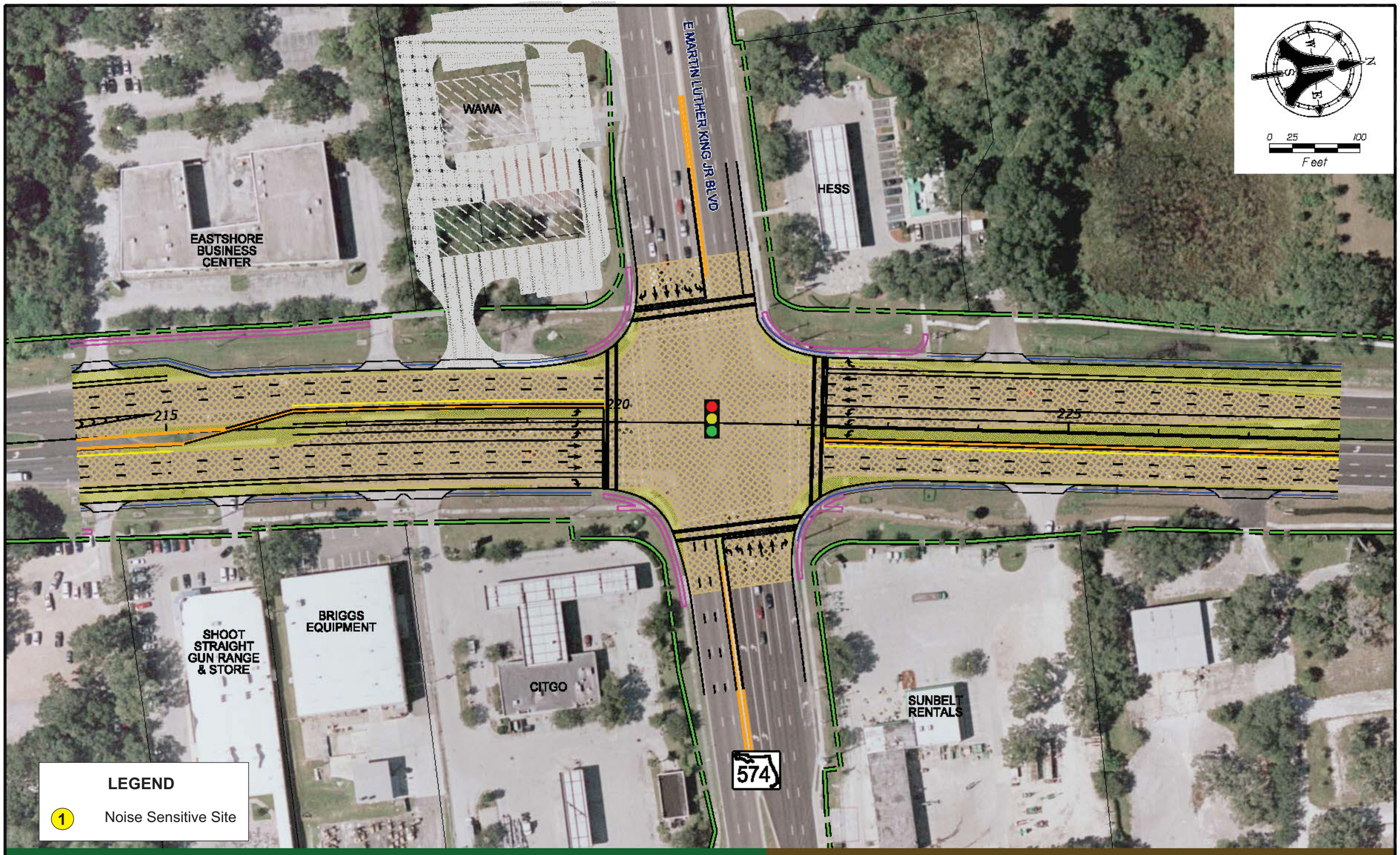
COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET
ALTERNATIVE 1

SHEET: 9

6/20/2014



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BASELINE & STATIONS
EXISTING R.O.W.
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AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

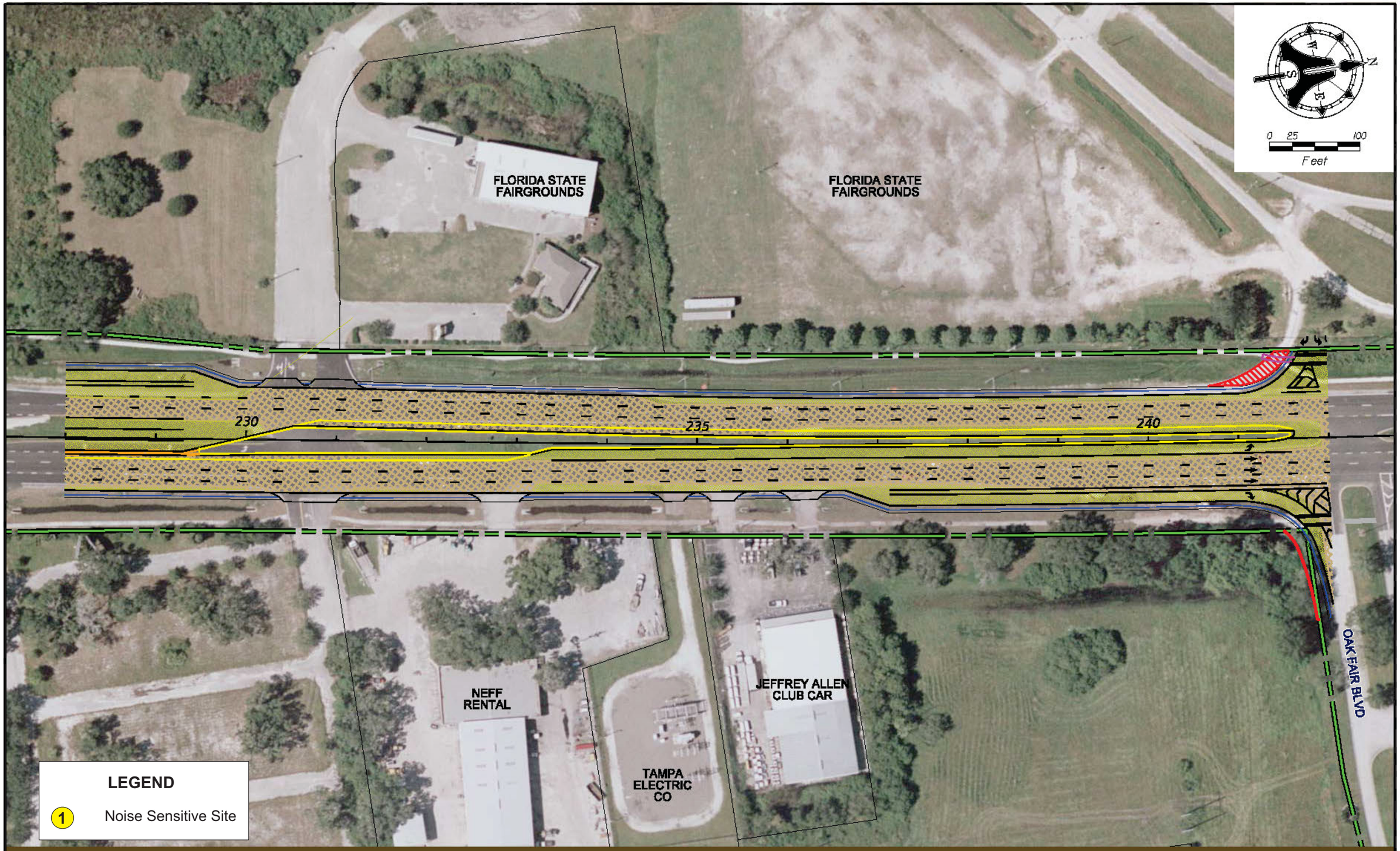
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430050-1

FDOT

PLAN SHEET
ALTERNATIVE 1

SHEET: 10



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110
BASELINE & STATIONS
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US 301 (SR 43) PD&E STUDY

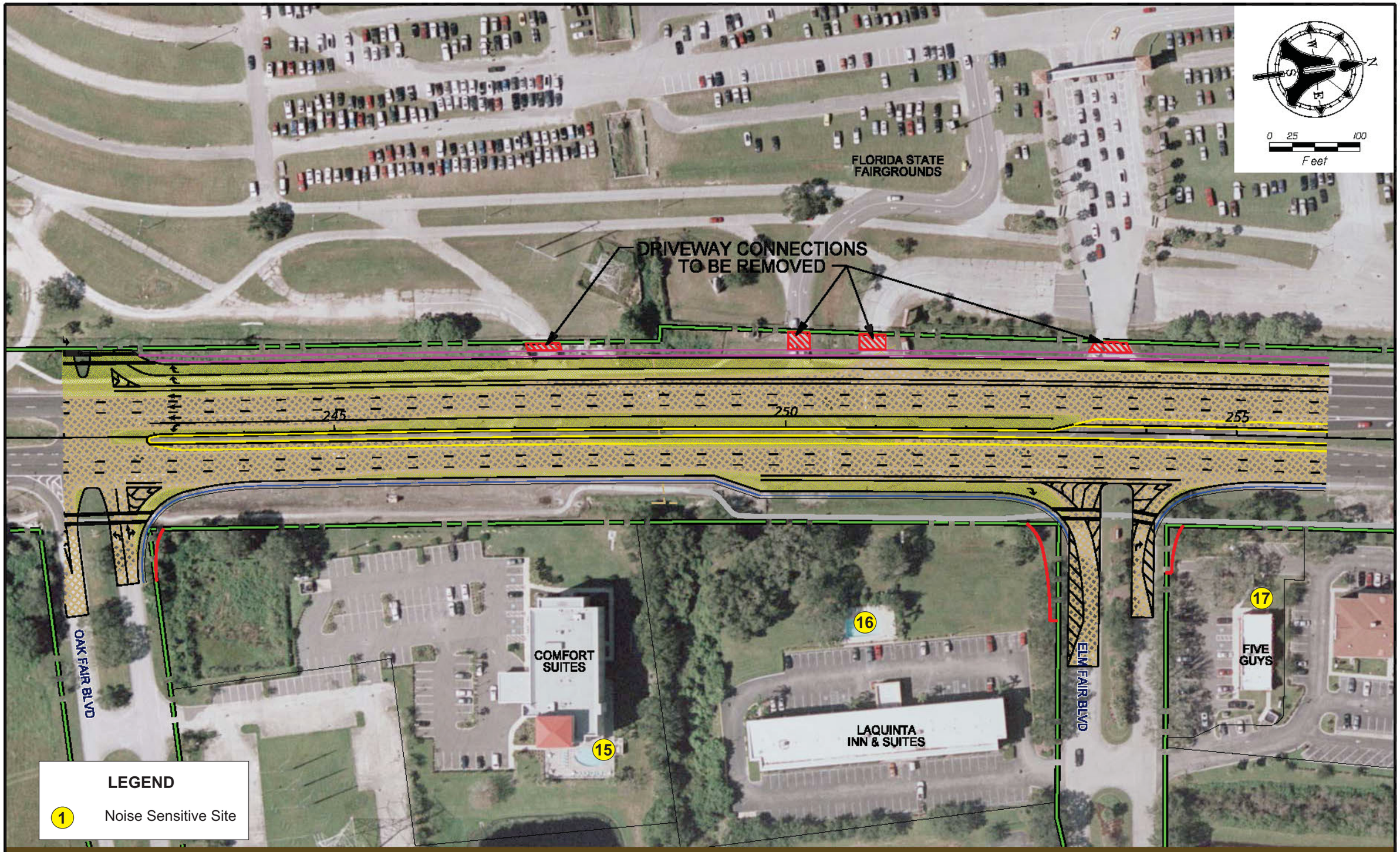
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 11



SEGMENT 3

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Omni Communications, LLC
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Therm, Inc.

110
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US 301 (SR 43) PD&E STUDY

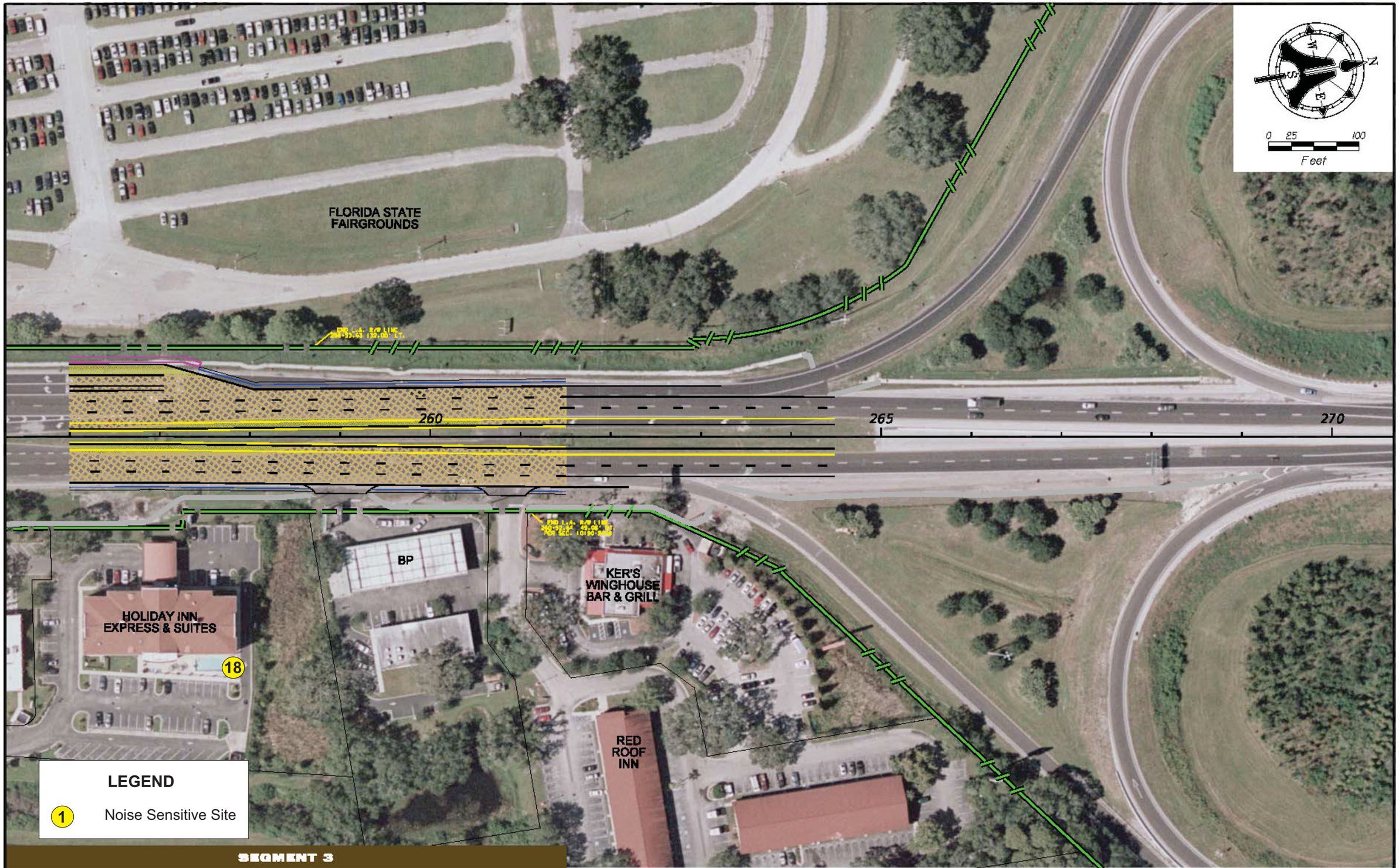
FROM SR 93 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 12



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US 301 (SR 43) PD&E STUDY

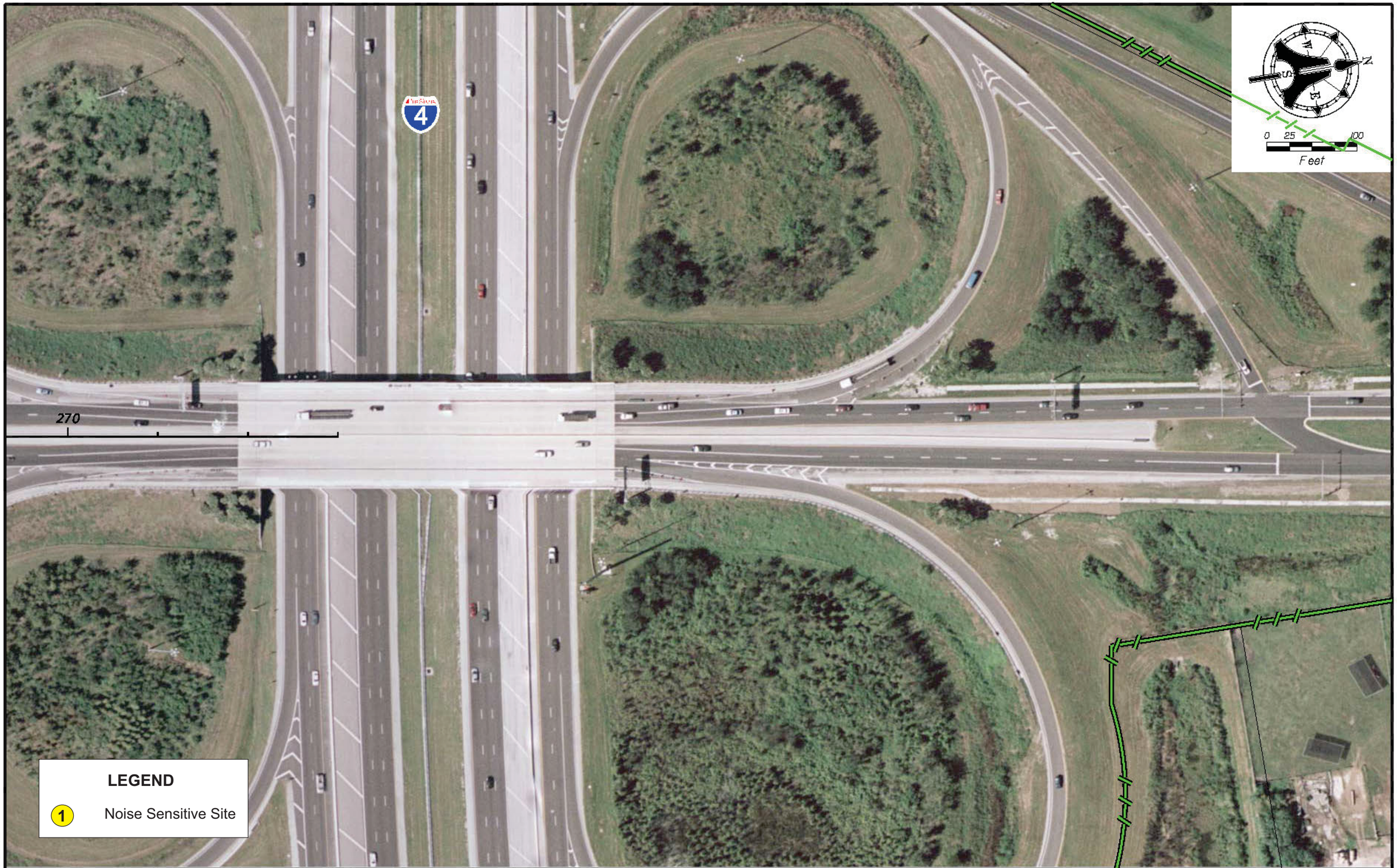
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1

SHEET: 13



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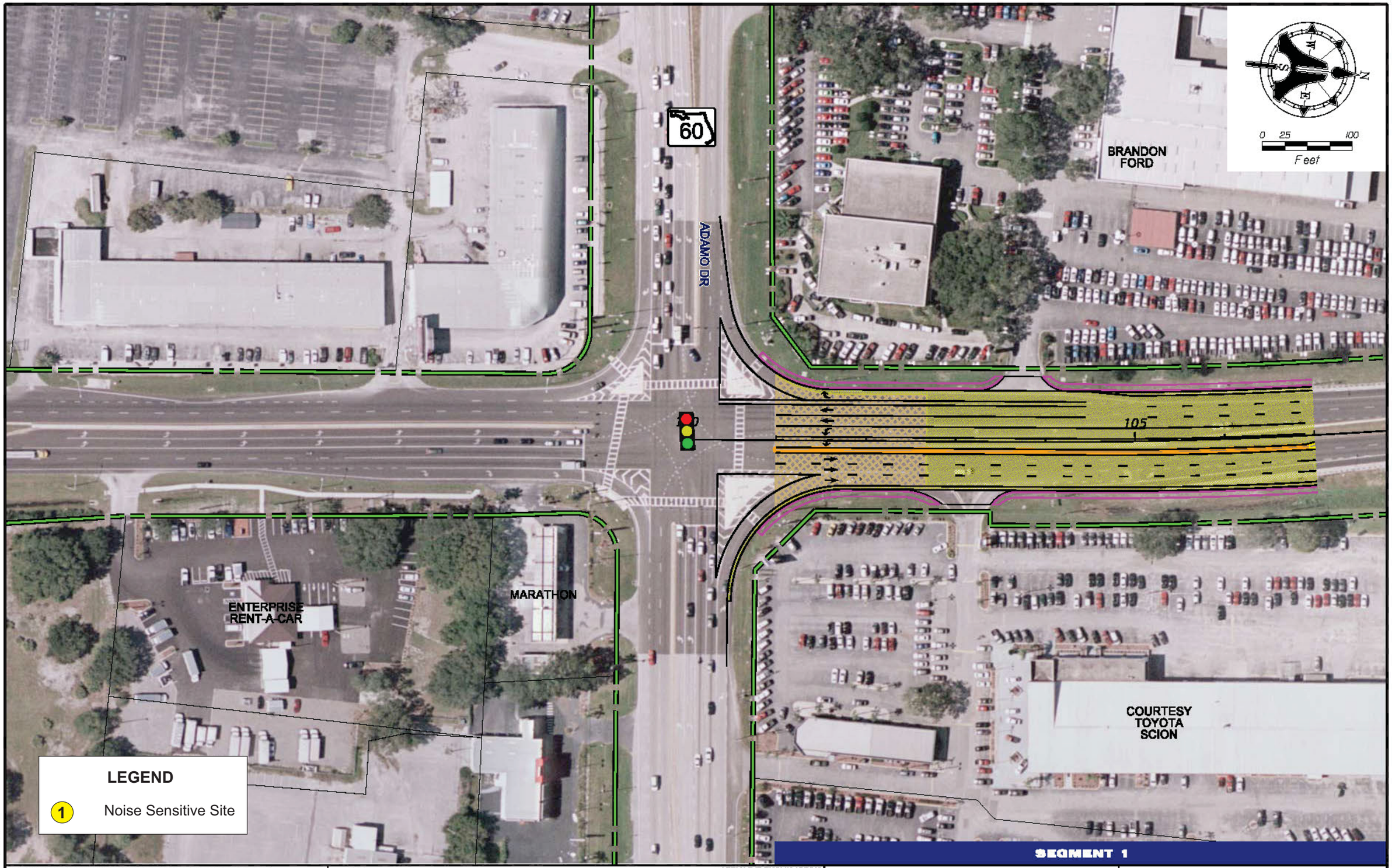
US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 1



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US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 408)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 1

BRANDON FORD

MEADOW CREEK

Existing Southbound
Bridge Number 100910

CSX RAILROAD S-LINE

110

115

120

Existing Northbound
Bridge Number 100101

HOPEWELL
INDUSTRIAL CENTER

COURTESY
TOYOTA
SCION

N

S

E

W

0 25 100

Feet

LEGEND

1 Noise Sensitive Site

6/20/2014

SEGMENT 1

AIM ENGINEERING & SURVEYING, INC.
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Omni Communications, LLC
Rummel, Klepper & Kahl, LLP
Schiele Ecological Associates, Inc.
Thane, Inc.

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US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

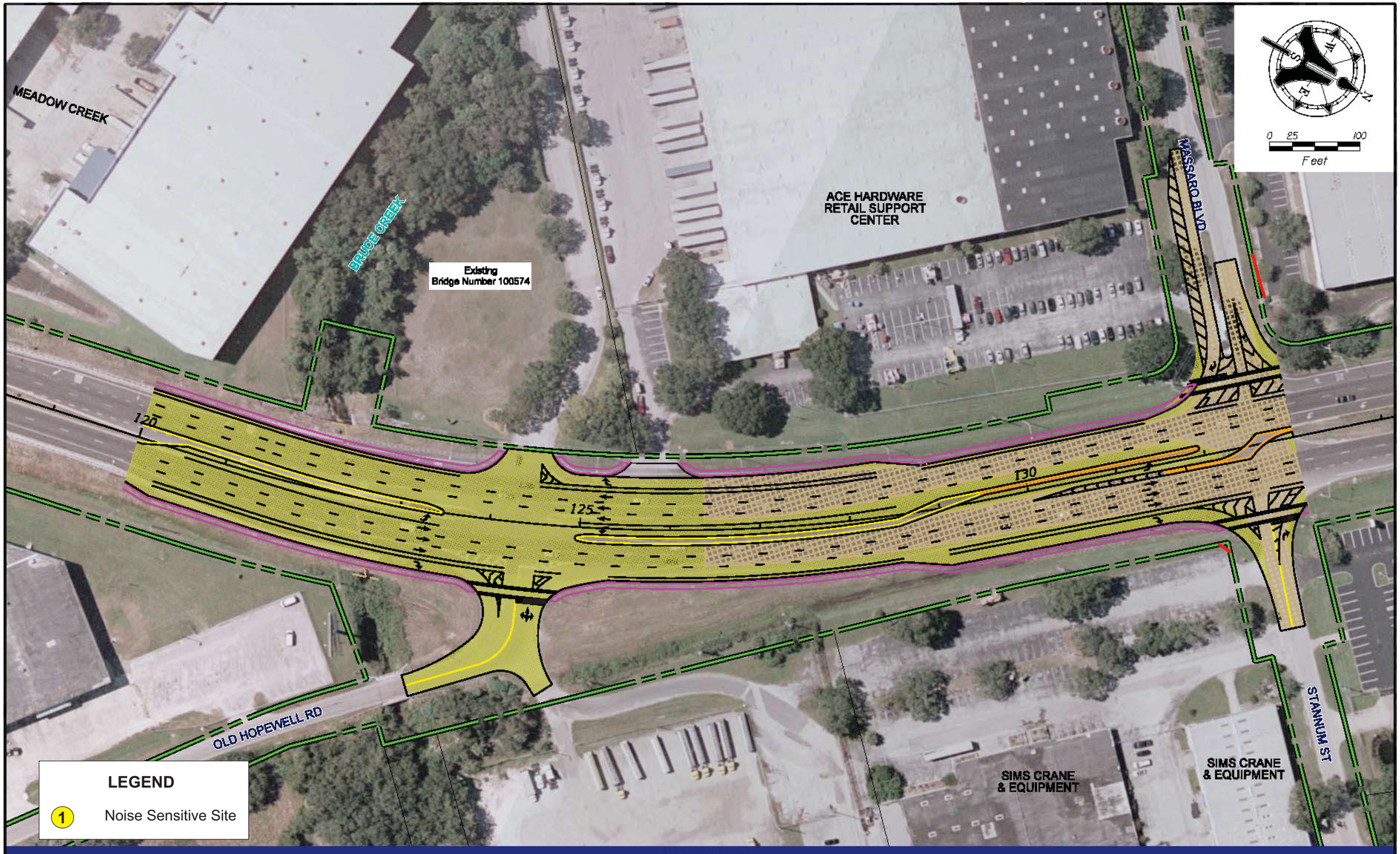
COUNTY: HILLSBOROUGH COUNTY

WORK PROGRAM SEGMENT NO. 430050-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 2



SEGMENT 1

6/20/2014

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110
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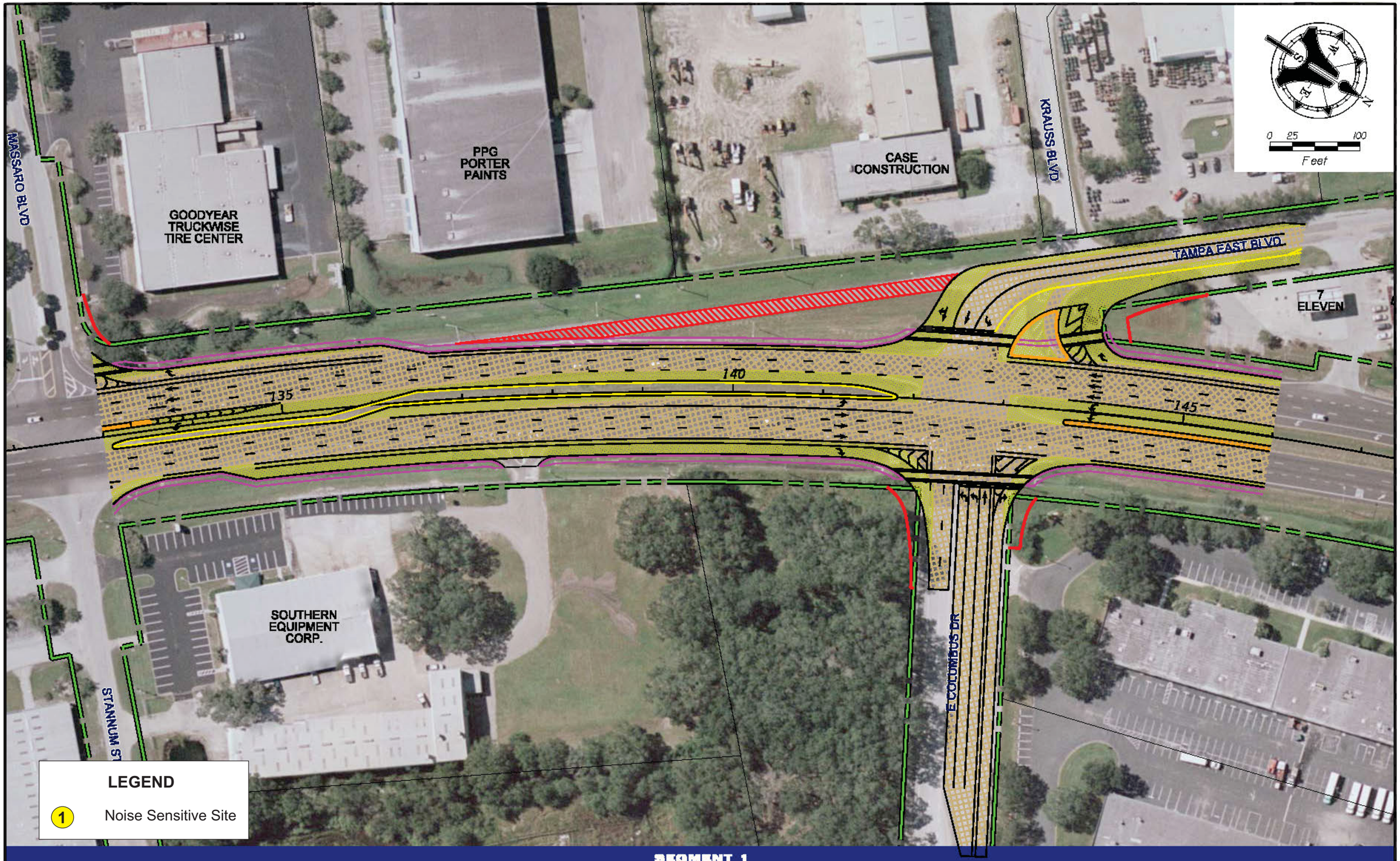
US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET
ALTERNATIVE 2



LEGEND

1 Noise Sensitive Site

SEGMENT 1

6/20/2014

AIM ENGINEERING & SURVEYING, INC.
3802 CORPOREX PARK DRIVE, SUITE 225
TAMPA, FLORIDA 33619
TEL: (813) 627-4144
FAX: (813) 664-1899 WWW.AIMENGR.COM

In Association with:
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K2i Environmental Sciences, Inc.
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Omni Communications, LLC
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Schoda Ecological Associates, Inc.
Tierra, Inc.

110
BASELINE & STATIONS
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AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

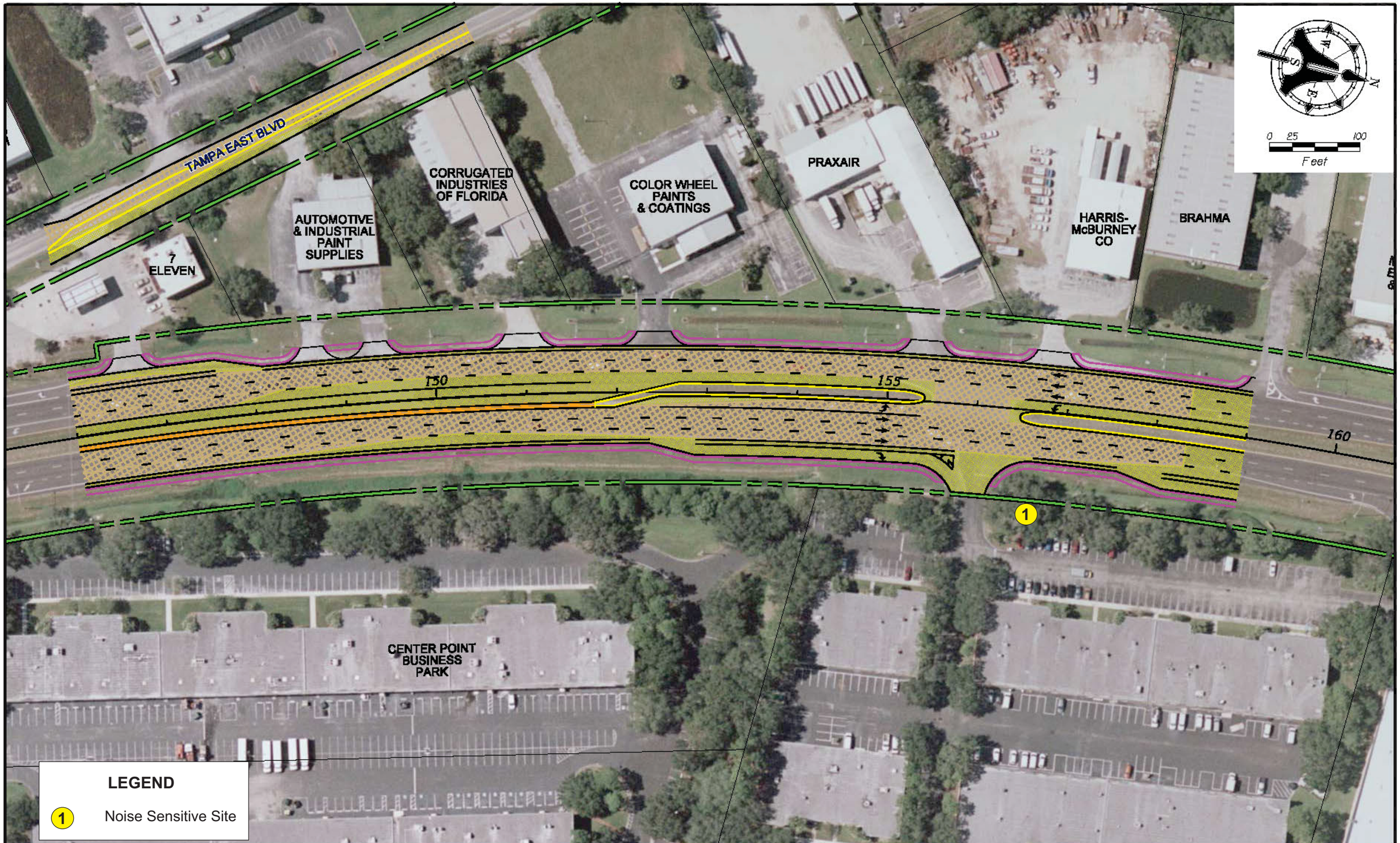
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430050-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 4



LEGEND

1 Noise Sensitive Site

SEGMENT 1

6/20/2014

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110
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US 301 (SR 43) PD&E STUDY

FROM SR 93 (ADAMO DRIVE) TO I-4 (SR 400)

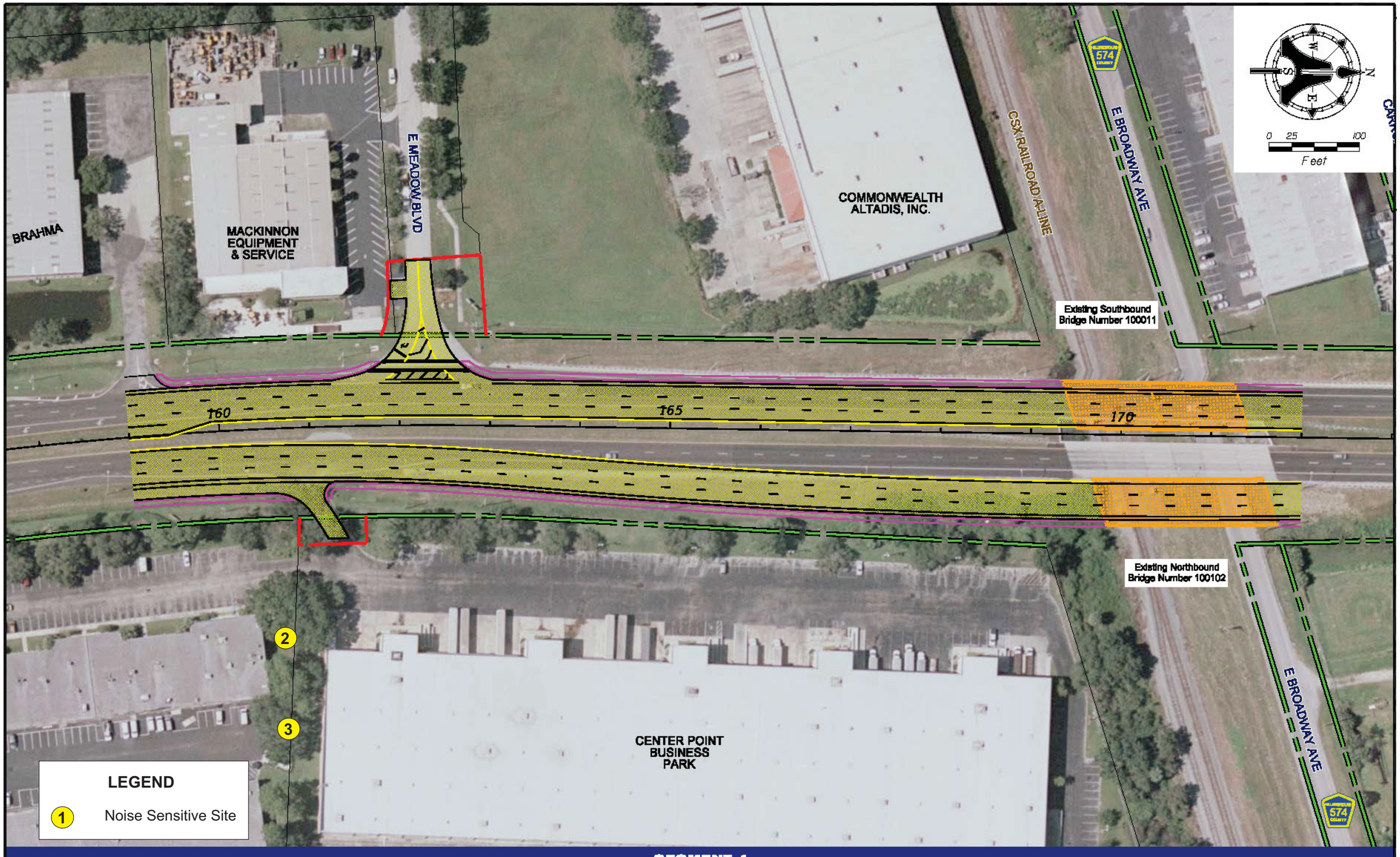
COUNTY: HILLSBOROUGH COUNTY

WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 5



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110
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US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

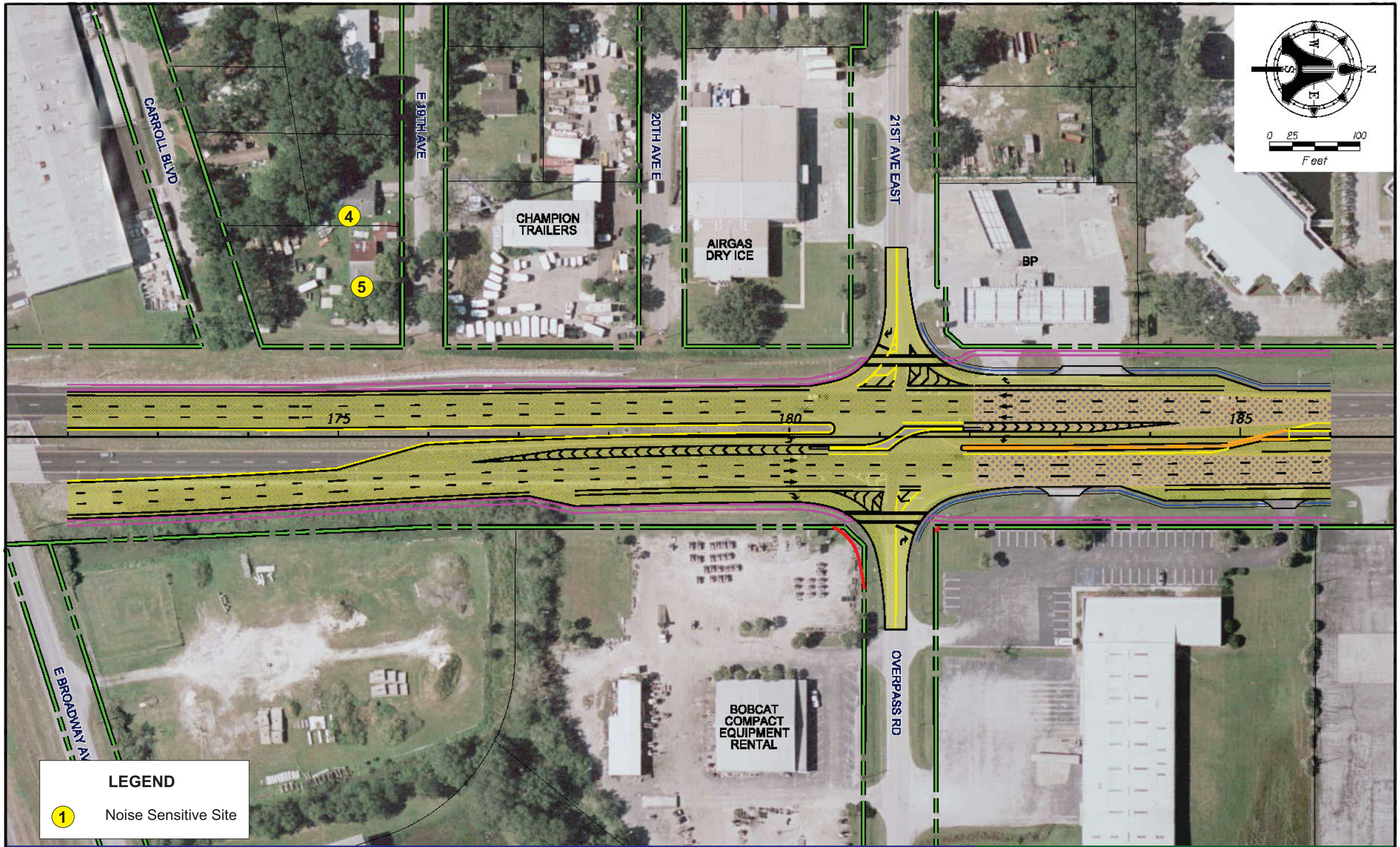
COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430050-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 6

6/20/2014



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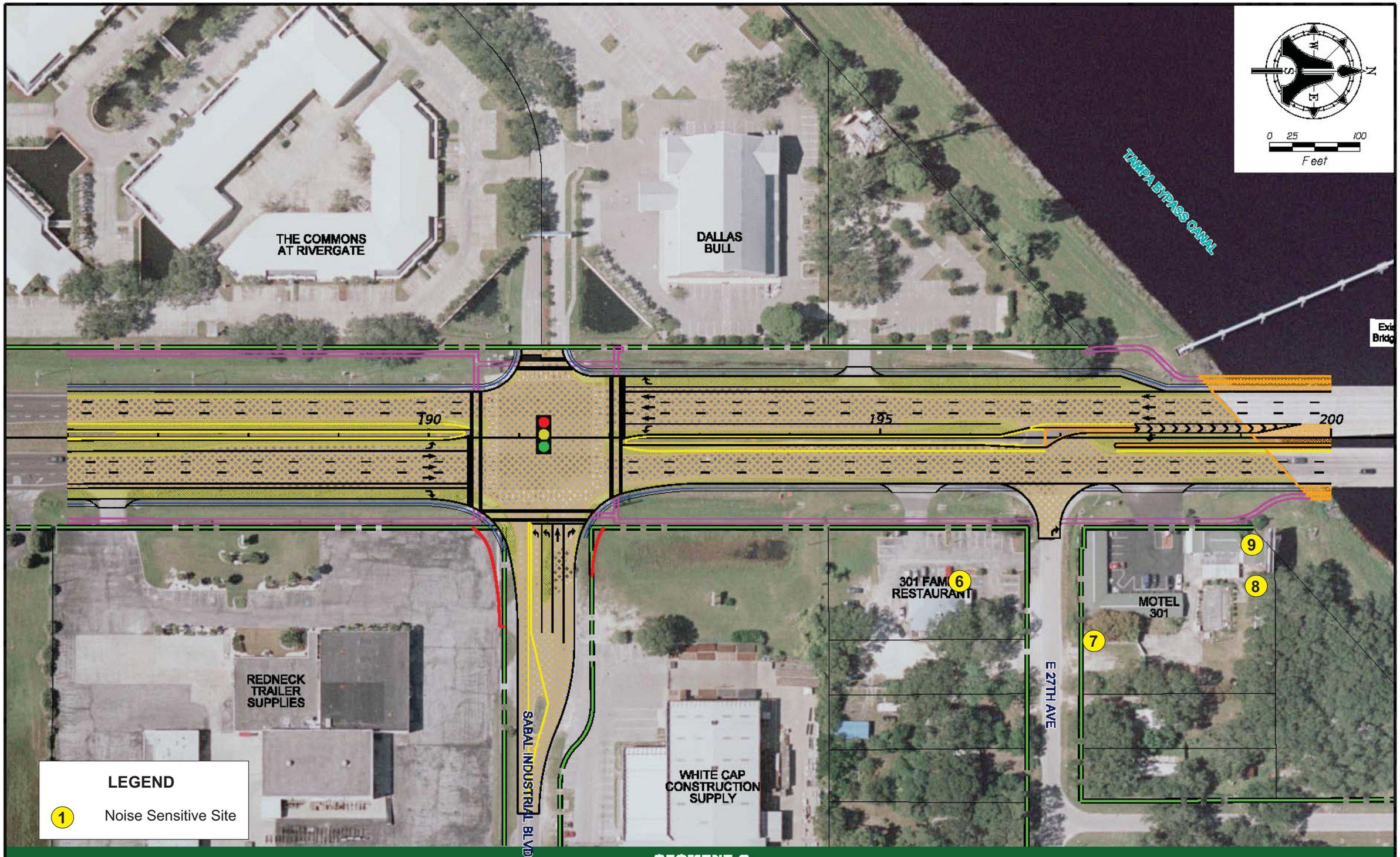
PLAN SHEET ALTERNATIVE 2



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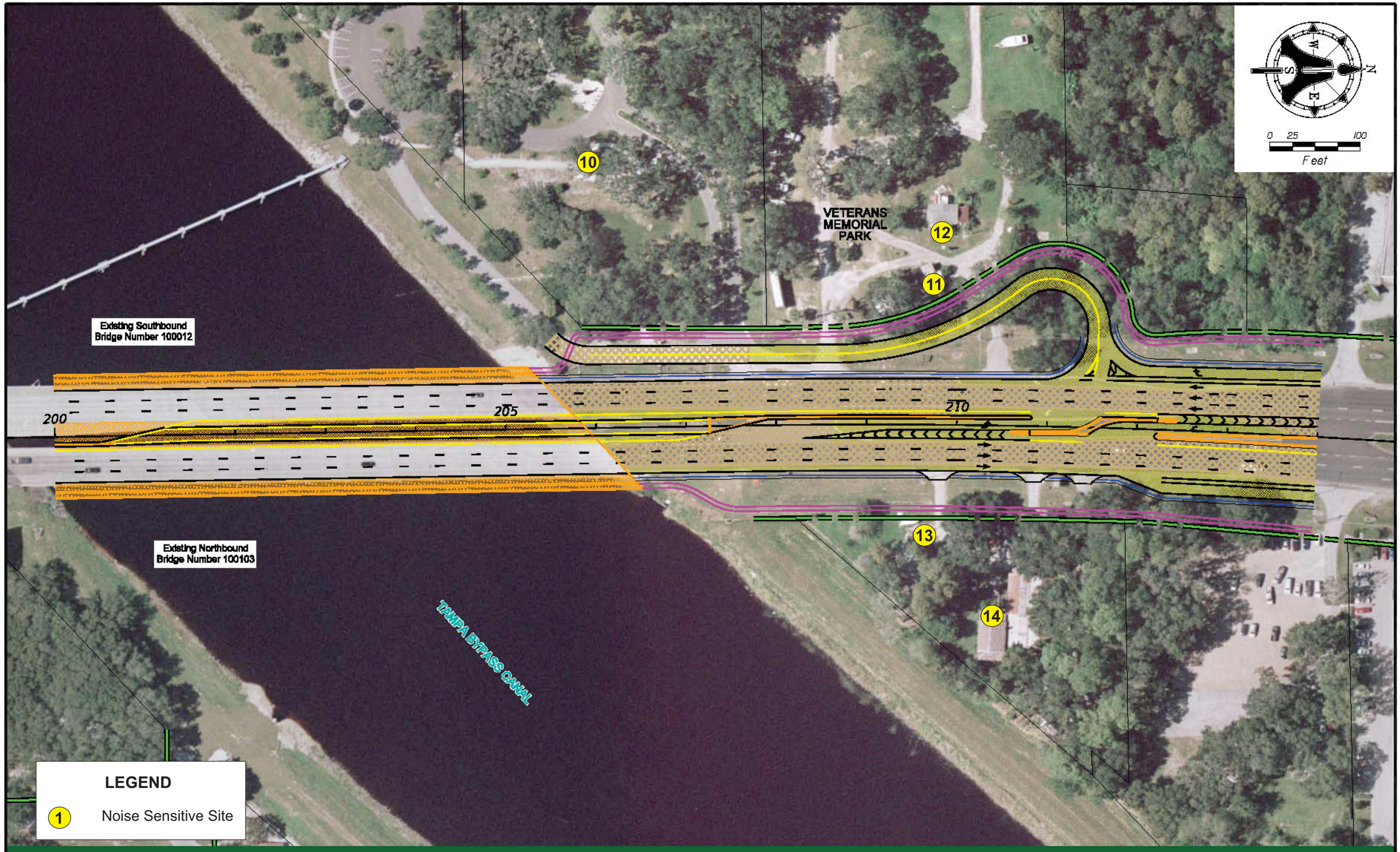

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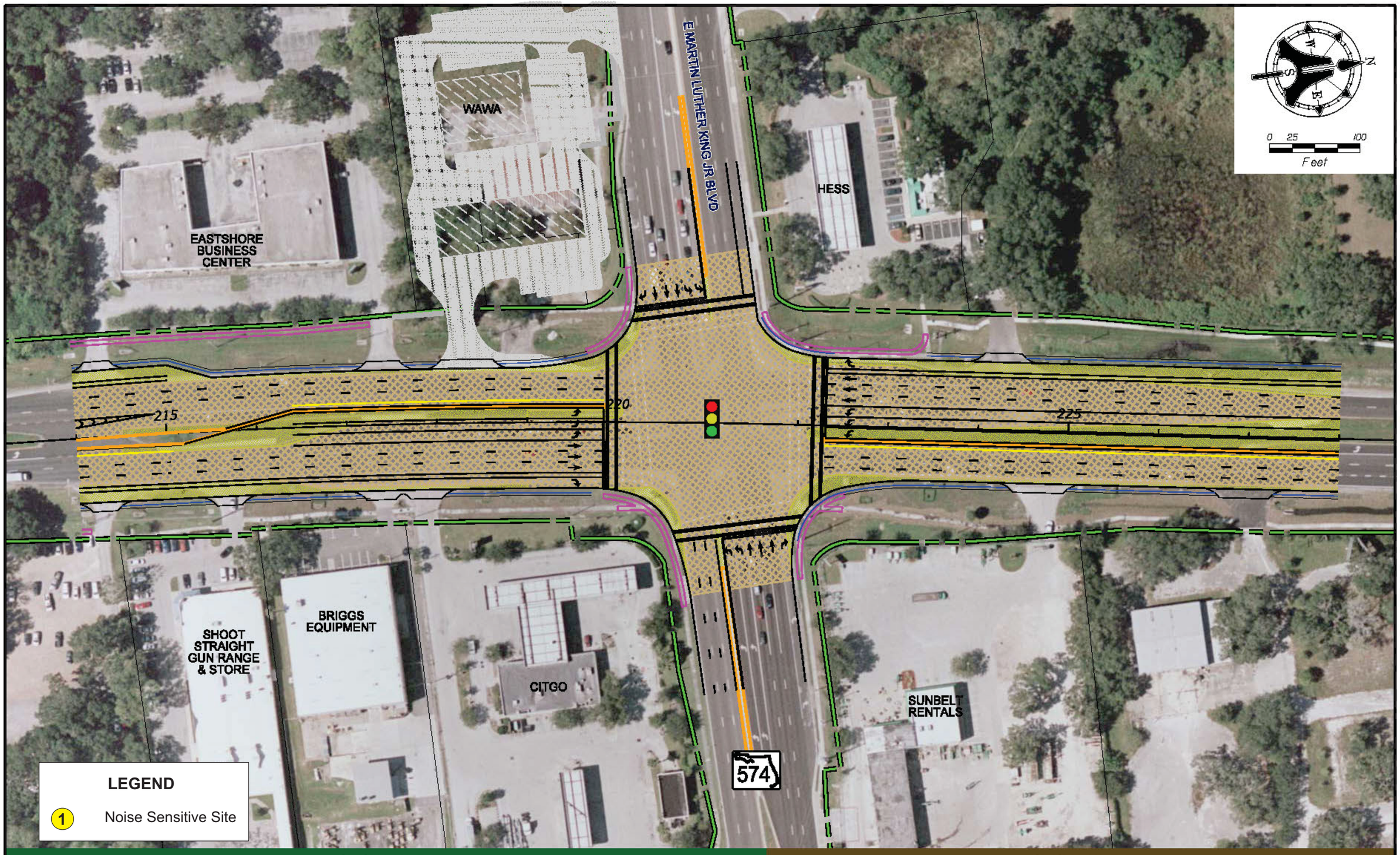
6/20/2014



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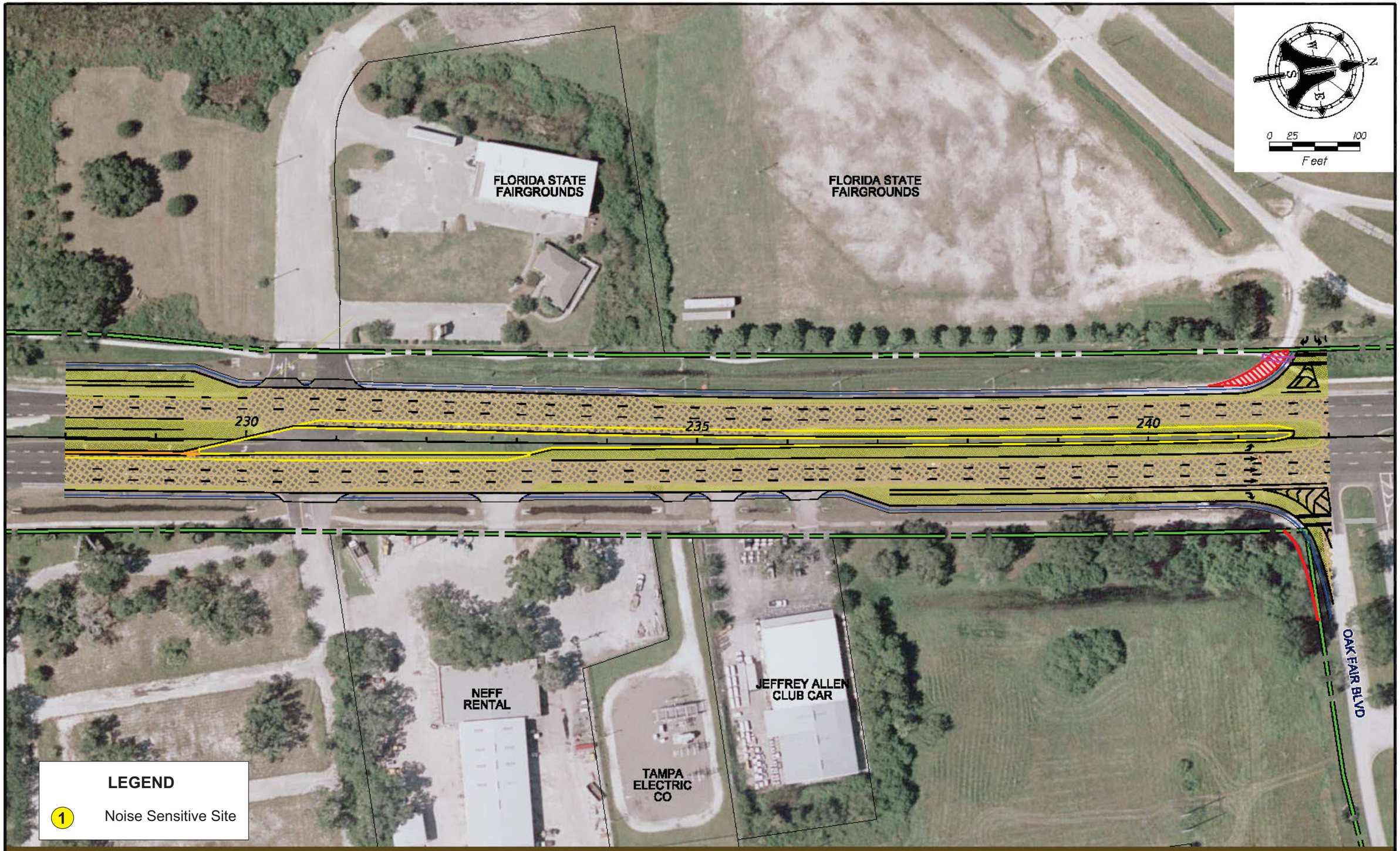
FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 10



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TEL: (813) 627-4144
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In Association with:
Adams Traffic, Inc.
Analytic Engineering, Inc.
Archaeological Consultants, Inc.
L.F. Rooks & Associates, Inc.
KG Environmental Sciences, Inc.
Kellinger Campo & Associates, Corp.
Omni Communications, LLC
Rummel, Klepper & Kahl, LLP
Schoda Ecological Associates, Inc.
Tierra, Inc.

110
BASELINE & STATIONS
EXISTING R.O.W.
PROPOSED R.O.W.
MILLING & OVERLAY
PROPOSED PAVEMENT
PROPOSED BRIDGE
PROPOSED SIDEWALK

AERIALS FLOWN IN 10/2012
TRAFFIC SIGNAL
PAVEMENT REMOVED

US 301 (SR 43) PD&E STUDY

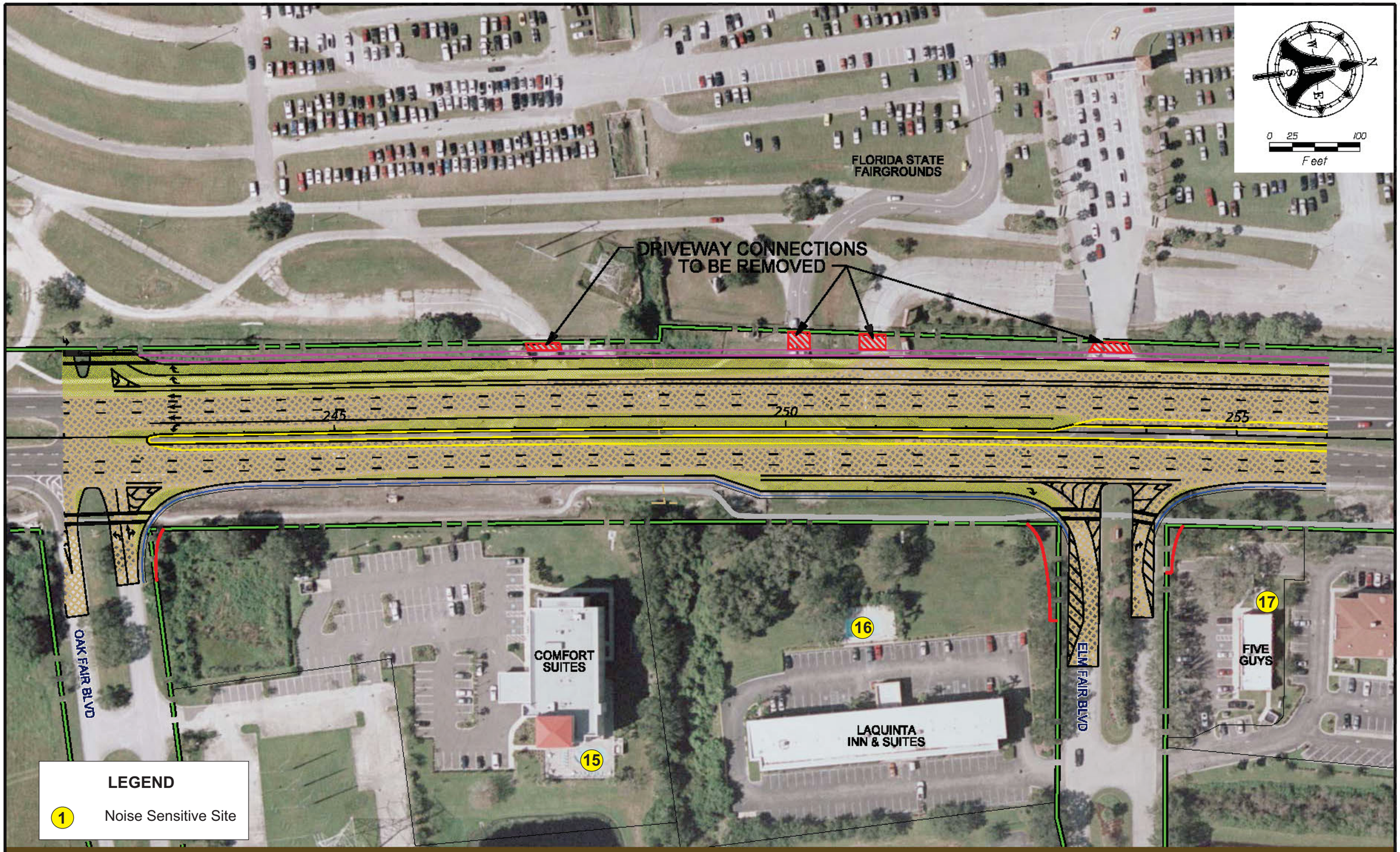
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 11



SEGMENT 3

6/20/2014

AIM ENGINEERING & SURVEYING, INC.
3802 CORPOREX PARK DRIVE, SUITE 226
TAMPA, FLORIDA 33619
TEL: (813) 627-4144
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In Association with: Adams Traffic, Inc. · Analytic Engineering, Inc. · Archaeological Consultants, Inc. · C.F. Rooks & Associates,Inc. · Kimley-Horn & Associates, Inc. · Klamper Campo & Associates, Corp. · Omni Communications, LLC · Rummel, Klepper & Kahl, LLP · Schwab Ecological Associates, Inc. · Thorne, Inc.

110
BASELINE & STATIONS
EXISTING R.O.W.
PROPOSED R.O.W.
MILLING & OVERLAY
PROPOSED PAVEMENT
PROPOSED BRIDGE
PROPOSED SIDEWALK

AERIALS FLOWN IN 10/2012
TRAFFIC SIGNAL
PAVEMENT REMOVED

US 301 (SR 43) PD&E STUDY

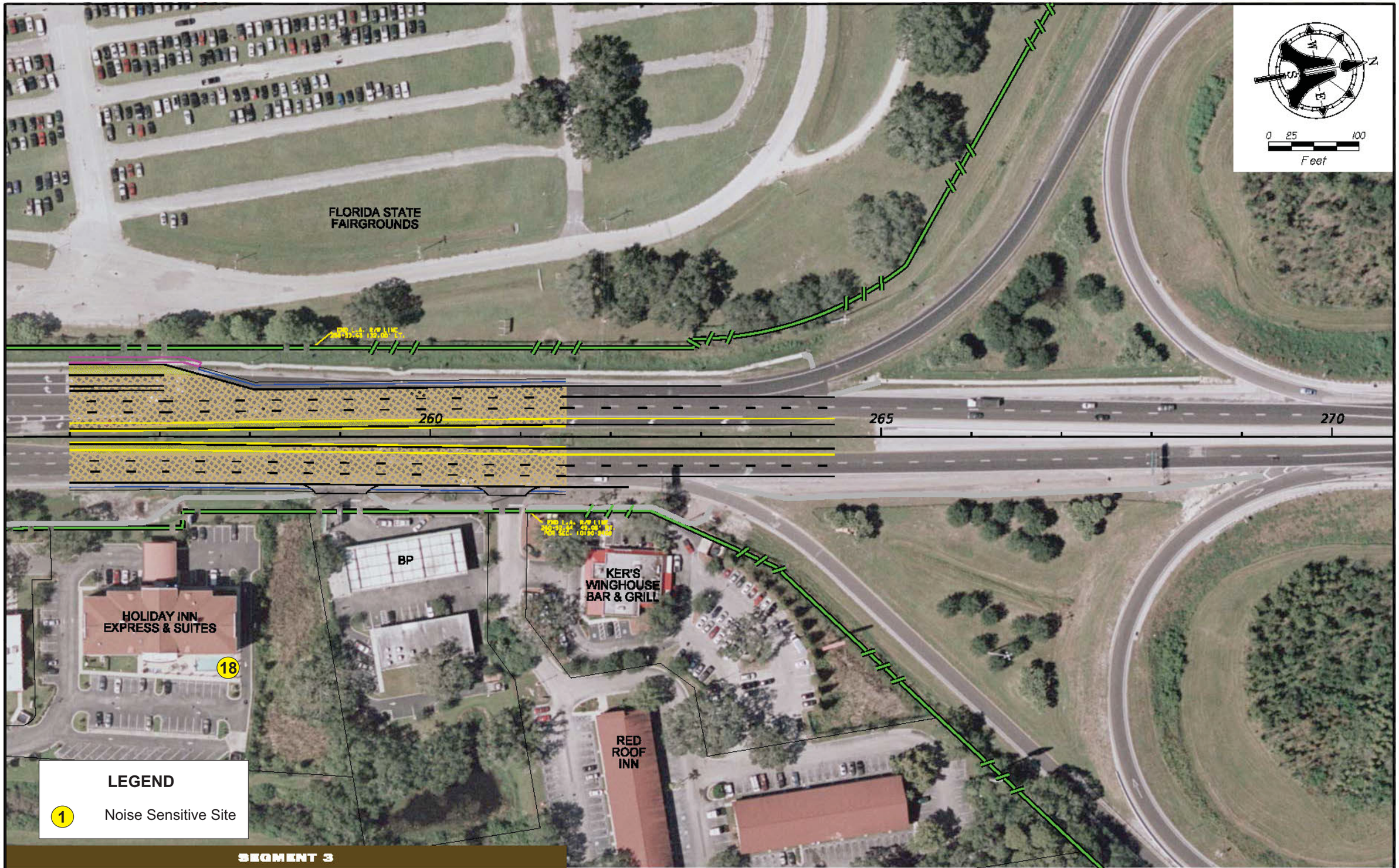
FROM SR 93 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 12



6/20/2014

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TAMPA, FLORIDA 33619
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Kisinger Campo & Associates, Corp.
Omni Communications, LLC
Rummel, Klepper & Kahl, LLP
Schoefs Ecological Associates, Inc.
Tierra, Inc.

110 BASELINE & STATIONS
EXISTING R.O.W.
PROPOSED R.O.W.
MILLING & OVERLAY
PROPOSED PAVEMENT
PROPOSED BRIDGE
PROPOSED SIDEWALK
TRAFFIC SIGNAL
PAVEMENT REMOVED

AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

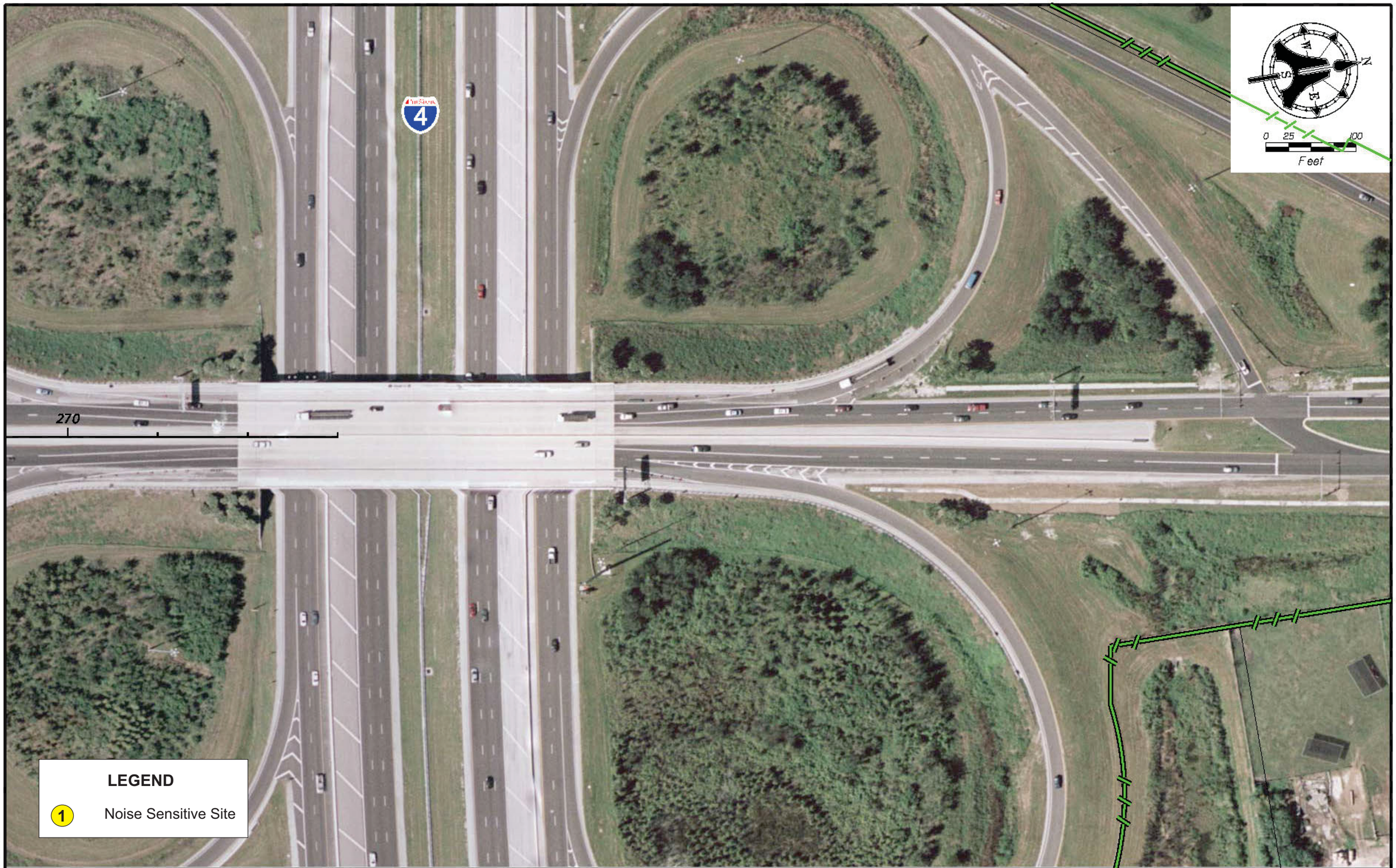
FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 2

SHEET: 13



6/20/2014

AIM ENGINEERING & SURVEYING, INC.
3802 CORPOREX PARK DRIVE, SUITE 225
TAMPA, FLORIDA 33619
TEL: (813) 627-4144
FAX: (813) 664-1899 WWW.AIMENGR.COM

In Association with:
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Archaeological Consultants, Inc.
L.F. Rooks & Associates,Inc.
KG Environmental Sciences, Inc.
Kleinger Campo & Associates, Corp.
Omni Communications, LLC
Rumminel, Klepper & Kahl, LLP
Scheda Ecological Associates, Inc.
Thera, Inc.

110
BASELINE & STATIONS
EXISTING R.O.W.
PROPOSED R.O.W.
MILLING & OVERLAY
PROPOSED PAVEMENT
PROPOSED BRIDGE
PROPOSED SIDEWALK
TRAFFIC SIGNAL
PAVEMENT REMOVED

AERIALS FLOWN IN 10/2012

US 301 (SR 43) PD&E STUDY

FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)

COUNTY: HILLSBOROUGH COUNTY
WORK PROGRAM SEGMENT NO. 430060-1

FDOT

PLAN SHEET ALTERNATIVE 2

APPENDIX B

Traffic Data

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between SR 60 and Old Hopewell Road

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	37,900	ADT: LOS (C)	37,900	ADT: LOS (C)	58,400
Demand	35,000	Demand	49,200	Demand	63,700
Speed:	45 mph / 72 kmh	Speed:	45 mph / 72 kmh	Speed:	50 mph / 80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Old Hopewell Road and Stannum Street/Massaro Boulevard

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	37,900	ADT: LOS (C)	37,900	ADT: LOS (C)	58,400
Demand	36,200	Demand	49,000	Demand	63,400
Speed:	50 mph / 80 kmh	Speed:	50 mph / 80 kmh	Speed:	50 mph / 80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Stannum Street/Massaro Boulevard and Columbus Drive/Tampa E. Boulevard

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility			No-Build (Design Year)			Build (Design Year)		
Lanes:	4		Lanes:	4		Lanes:	6	
Year:	2013		Year:	2040		Year:	2040	
ADT: LOS (C)	37,900		ADT: LOS (C)	37,900		ADT: LOS (C)	58,400	
Demand	36,000		Demand	48,800		Demand	64,000	
Speed:	50	mph	Speed:	50	mph	Speed:	50	mph
	80	kmh		80	kmh		80	kmh
K=	9.0	%	K=	9.0	%	K=	9.0	%
D=	57.0	%	D=	57.0	%	D=	57.0	%
T=	8.6	% for 24 hrs.	T=	8.6	% for 24 hrs.	T=	8.6	% for 24 hrs.
T=	4.4	% Design hr	T=	4.4	% Design hr	T=	4.4	% Design hr
2.2	% Medium Trucks DHV		2.2	% Medium Trucks DHV		2.2	% Medium Trucks DHV	
2.2	% Heavy Trucks DHV		2.2	% Heavy Trucks DHV		2.2	% Heavy Trucks DHV	
0.49	% Buses DHV		0.49	% Buses DHV		0.49	% Buses DHV	
0.20	% Motorcycles DHV		0.20	% Motorcycles DHV		0.20	% Motorcycles DHV	

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Columbus Drive/Tampa E. Boulevard and Overpass Road/21st Avenue

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	37,900	ADT: LOS (C)	37,900	ADT: LOS (C)	58,400
Demand	32,500	Demand	50,300	Demand	62,700
Speed:	50 mph	Speed:	50 mph	Speed:	50 mph
	80 kmh		80 kmh		80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Overpass Road/21st Avenue and Sabal Industrial Boulevard

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	37,900	ADT: LOS (C)	37,900	ADT: LOS (C)	58,400
Demand	33,800	Demand	51,100	Demand	64,200
Speed:	50 mph / 80 kmh	Speed:	50 mph / 80 kmh	Speed:	50 mph / 80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Sabal Industrial Boulevard and 27th Avenue

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT:		ADT:		ADT:	
LOS (C)	37,900	LOS (C)	37,900	LOS (C)	58,400
Demand	33,700	Demand	51,500	Demand	64,500
Speed:	50 mph	Speed:	50 mph	Speed:	50 mph
	80 kmh		80 kmh		80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between 27th Avenue and SR 574

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT:		ADT:		ADT:	
LOS (C)	37,900	LOS (C)	37,900	LOS (C)	58,400
Demand	33,750	Demand	51,500	Demand	64,500
Speed:	50 mph	Speed:	50 mph	Speed:	50 mph
	80 kmh		80 kmh		80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between SR 574 and Oak Fair Boulevard

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	37,900	ADT: LOS (C)	37,900	ADT: LOS (C)	58,400
Demand	29,800	Demand	49,100	Demand	55,500
Speed:	50 mph	Speed:	50 mph	Speed:	50 mph
	80 kmh		80 kmh		80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4 Date: 3/5/2014

State Project Number(s): 4300501 Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Oak Fair Boulevard and Elm Fair Boulevard

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	4	Lanes:	4	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT: LOS (C)	37,900	ADT: LOS (C)	37,900	ADT: LOS (C)	58,400
Demand	29,700	Demand	50,500	Demand	57,000
Speed:	50 mph / 80 kmh	Speed:	50 mph / 80 kmh	Speed:	50 mph / 80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

TRAFFIC DATA FOR NOISE STUDIES

Project: US 301 PD&E Study From SR 60 to I-4

Date: 3/5/2014

State Project Number(s): 4300501

Prepared By: AIM Engineering & Surveying

Financial Project ID: 430050-1-22-01

Federal Aid Number(s): N/A

Segment Description: Between Elm Fair Boulevard and EB I-4 Ramps

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Existing Facility		No-Build (Design Year)		Build (Design Year)	
Lanes:	6	Lanes:	6	Lanes:	6
Year:	2013	Year:	2040	Year:	2040
ADT:		ADT:		ADT:	
LOS (C)	58,400	LOS (C)	58,400	LOS (C)	58,400
Demand	32,500	Demand	52,500	Demand	59,300
Speed:	45 mph	Speed:	45 mph	Speed:	50 mph
	72 kmh		72 kmh		80 kmh
K=	9.0 %	K=	9.0 %	K=	9.0 %
D=	57.0 %	D=	57.0 %	D=	57.0 %
T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.	T=	8.6 % for 24 hrs.
T=	4.4 % Design hr	T=	4.4 % Design hr	T=	4.4 % Design hr
2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV	2.2	% Medium Trucks DHV
2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV	2.2	% Heavy Trucks DHV
0.49	% Buses DHV	0.49	% Buses DHV	0.49	% Buses DHV
0.20	% Motorcycles DHV	0.20	% Motorcycles DHV	0.20	% Motorcycles DHV

APPENDIX C

Validation Documentation

NOISE MEASUREMENT DATA SHEET

Measurements Taken By: Paola Pringle/Carrol Fowler/Don Fowler/Nick Rhoads Date: 1/9/15
Time Study Started: 8:45 am Time Study Ended: 9:35 am
Project Identification:
Financial Project ID: 430050 1
Project Location: US 301 SR 60 to I-4

Site Identification: Site 1/Runs 1 through 2
East side of US 301 North of Martin Luther King Boulevard

Weather Conditions:
Sky: Clear ____ Partly Cloudy ____ Cloudy __X__ Other _____
Temperature 48.4°F Wind Speed 3 mph Wind Direction N Humidity 76%
Equipment:
Sound Level Meter:
Type: Larson Davis 813 Serial Number(s): 1285
Did you check the battery? Yes X No
Calibration Readings: Start 114.2 End 113.6
Response Settings: Fast ____ Slow X
Weighting: A X Other ____
Calibrator:
Type: Larson Davis CAL200 Serial Number: 5592
Did you check the battery? Yes X No ____

TRAFFIC DATA

Roadway Identification	US 301 Northbound		US 301 Southbound	
	Run 1/Run 2		Run 1/Run 2	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	336/330	44/46	357/360	42/38
Medium Trucks	27/33	38/36	30/12	32/38
Heavy Trucks	24/12	39/42	15/21	31/35
Buses	-	-	3/0	32/0
Motorcycles	-	-	-	-
Duration	10 minutes per run		10 minutes per run	

RESULTS [dB(A)] Run 1/Run 2

L_{EQ} 65.9/66.6
Background Noise: Primarily US 301
Major Sources: US 301
Unusual Events: Sound of truck backing out/train whistle/loud music from passing car/ lawn edger

KB Environmental Sciences

NOISE MEASUREMENT DATA SHEET

Measurements Taken By: Paola Pringle/Carrol Fowler/Don Fowler/Nick Rhoads Date: 1/9/15
Time Study Started: 10:15 am Time Study Ended: 11:00 am
Project Identification:
Financial Project ID: 430050 1
Project Location: US 301 SR 60 to I-4

Site Identification: Site 2/Runs 1 through 3
Veteran's Memorial Park

Weather Conditions:
Sky: Clear ____ Partly Cloudy ____ Cloudy __X____ Other _____
Temperature 47.8°F Wind Speed 2 mph Wind Direction N Humidity 83%
Equipment:
Sound Level Meter:
Type: Larson Davis 813 Serial Number(s): 1285
Did you check the battery? Yes X No
Calibration Readings: Start 114.2 End 113.6
Response Settings: Fast ____ Slow X
Weighting: A X Other____
Calibrator:
Type: Larson Davis CAL200 Serial Number: 5592
Did you check the battery? Yes X No ____

TRAFFIC DATA

Roadway Identification	US 301 Northbound		US 301 Southbound	
	Run 1/Run 2/Run 3		Run 1/Run 2/Run 3	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	423/381/456	39/33/35	453/447/414	46/47/46
Medium Trucks	6/21/30	31/34/39	21/36/24	42/45/39
Heavy Trucks	12/15/27	37/28/32	21/24/24	38/37/39
Buses	-	-	-	-
Motorcycles	-	-	-	-
Duration	10 minutes per run		10 minutes per run	

RESULTS [dB(A)] Run 1/Run 2/Run 3

L_{EQ} 68.0/67.8/68.4

Background Noise: Primarily US 301
Major Sources: US 301
Unusual Events: Car honked horn

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