

**PROJECT ENVIRONMENTAL IMPACT REPORT
RE-EVALUATION**

**Osceola Parkway Extension
SR 417 to Cyrils Drive**

Noise Study Report Addendum

Draft

**Central Florida Expressway Authority
Project No.: 599-223**

Contract No.: 001250

December 2019

**CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY**

**Noise Study Report Addendum
Osceola Parkway Extension**

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1.0 Introduction

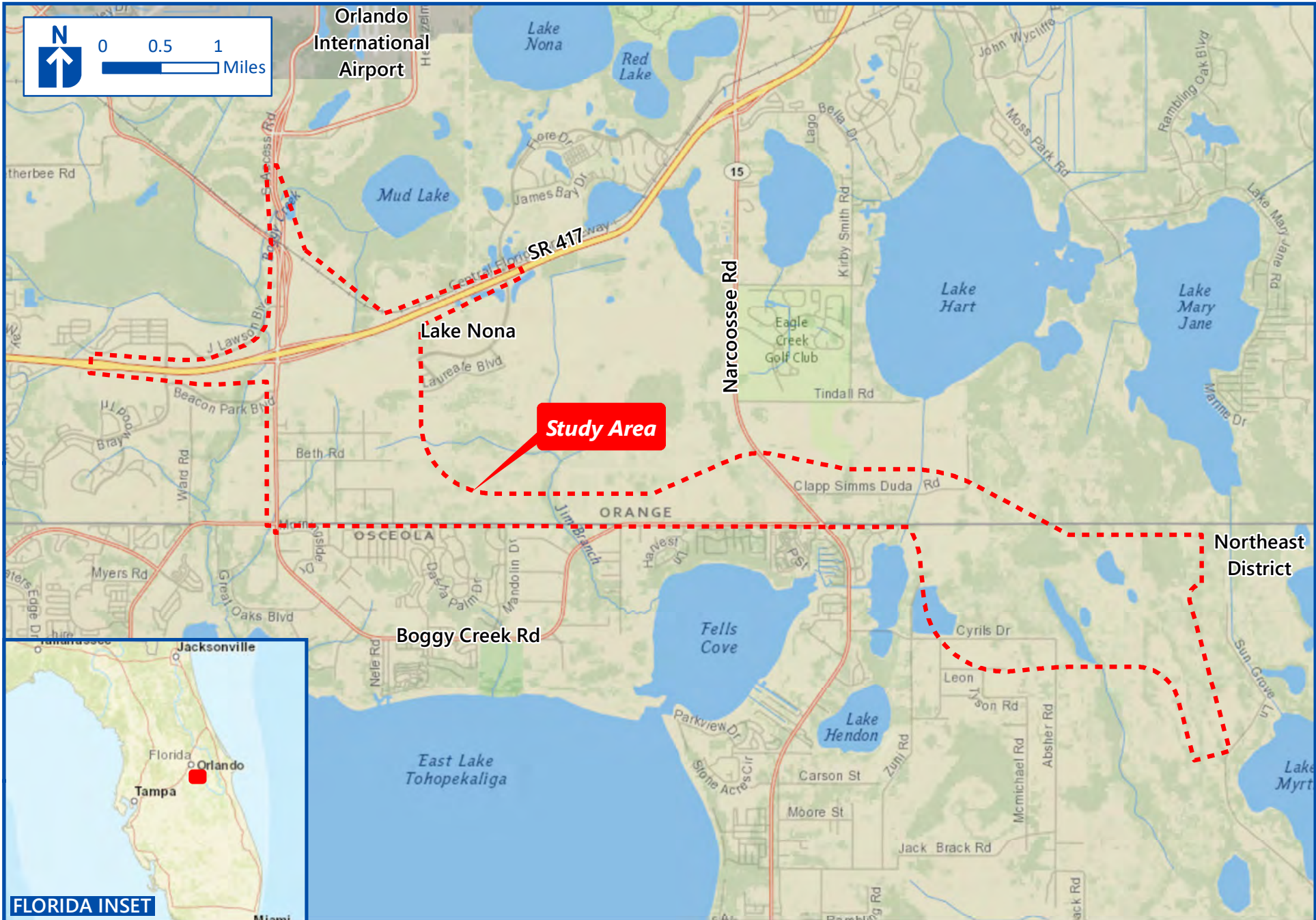
The Osceola County Expressway Authority (OCX) completed a Project Development and Environment (PD&E) Study in 2017 for a new expressway connection between State Road 417 near Boggy Creek Road in Orange County and Cyrils Drive in Osceola County. As part of the 2017 PD&E Study, a traffic noise study was performed. The results and recommendations are summarized in a Noise Study Report (NSR) dated May 2017. Due to design changes, the Central Florida Expressway Authority (CFX) is re-evaluating this project. **Figure 1.1.1** shows the current Osceola Parkway Extension (OPE) study area. As part of this re-evaluation, a traffic noise study was performed to reflect the proposed design changes since the 2017 PD&E Study; and to re-evaluate the feasibility and reasonableness of noise barriers recommended for further consideration in the 2017 NSR. This report summarizes the methodology, results, and recommendations of the traffic noise study performed as part of this re-evaluation. Pages including figures from the 2017 PD&E NSR referenced in this report are included in **Appendix A**.

1.1 Project Description

Beginning at an interchange with SR 417, OPE will extend approximately one and a half miles south at which point it will turn eastward just north of the Orange County / Osceola County line. Generally paralleling the county line, OPE will extend east / southeast approximately eight miles. OPE will provide direct, high speed connections between several of Central Florida's economic generators such as the Orlando International Airport, Lake Nona Medical City in Orange County and the Northeast District (NED) in Osceola County. OPE will also advance the expanded regional roadway network adopted by the East Central Florida Corridor Task Force, which recognized the need to provide enhanced east / west multi-modal travel capacity between Central Florida and Florida's east coast.

The OPE was originally conceived to extend the existing Osceola Parkway that begins on the Walt Disney World Resort property and ends approximately 20 miles east near the intersection of Boggy Creek Road and Simpson Road. The original OPE proposed to extend the Osceola Parkway nine miles east to the proposed Northeast Connector Expressway. During the 2017 OCX PD&E study process, it was determined that a direct connection from the existing Osceola Parkway to the proposed OPE was not viable due to high residential and community cohesion impacts. Therefore, the alternatives herein do not directly connect to the existing Osceola Parkway but provide the same regional connectivity and relief that the original study attempted to resolve.

The primary purpose of the OPE is to respond to and prepare for future growth planned and approved in Orange County's Innovation Way Overlay and Osceola County's Narcoossee Planning Initiative area and the NED planning areas. Additionally, the OPE will promote regional system linkage and network connectivity to existing SR 417 and SR 528 in east Orange County and the proposed Northeast Connector Expressway that is planned to provide further connectivity to Florida's Turnpike and US 192.



Study Area

FLORIDA INSET



**Osceola Parkway Extension
SR 417 to Cyrils Drive**
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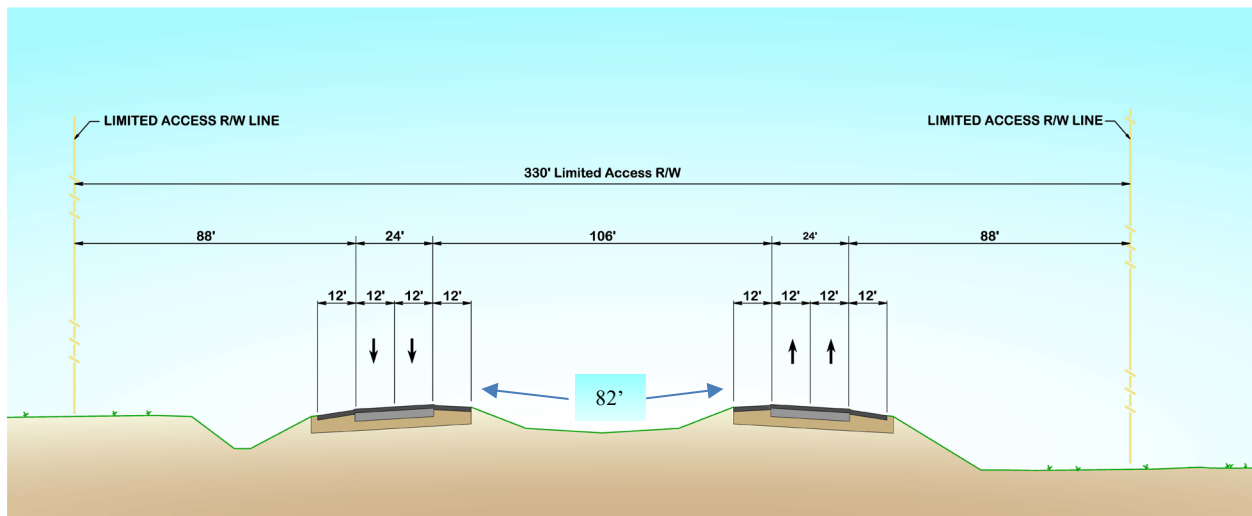
**Figure 1.1.1
Project Location Map**

**Page No.
1-2**

The need for the project is based on several factors including accommodating future travel demand and capacity needs and improving system linkages. Current infrastructure will not adequately accommodate the planned development in Orange and Osceola counties. Future growth and travel demand are anticipated in the region because of approved proposed developments including NED in Osceola County, planned development in the Innovation Way Planned Overlay Area in Orange County, and planned development in the Narcoossee Planning Initiative area. As a result, local and regional facilities are expected to exceed capacity, creating a gap between proposed developments and a regional transportation system. Additionally, the East Central Florida Corridor Task Force Summary Report recommended potential study areas for new or significantly upgraded east-west corridors in the OPE study area region.

One typical section is considered for the length of the OPE. The proposed typical section features two 12-foot travel lanes in each direction flanked by 12-foot paved inside and outside shoulders. The proposed median width is 82 feet wide, which can accommodate future widening. The proposed typical section requires 330 feet of limited access right-of-way, which includes a border width of 88 feet on both sides of OPE as shown on **Figure 1.1.2**. The ultimate typical section features an eight-lane section and two potential multi-use lanes with a concrete median barrier wall. The posted speed is anticipated to be 70 miles per hour.

Figure 1.1.2: Proposed Typical Section



The alternatives for the OPE are split into two sections:

- West Segment from SR 417 to Narcoossee Road (**Section 1.1.1**); and
- East Segment from Narcoossee Road (**Section 1.1.2**).

1.1.1 West Segment

The West segment extends from SR 417 to Narcoossee Road. In addition to the OCX PD&E Recommended Alternative (2017) West of Narcoossee Road, two additional alternatives for the West segment are identified as follows:

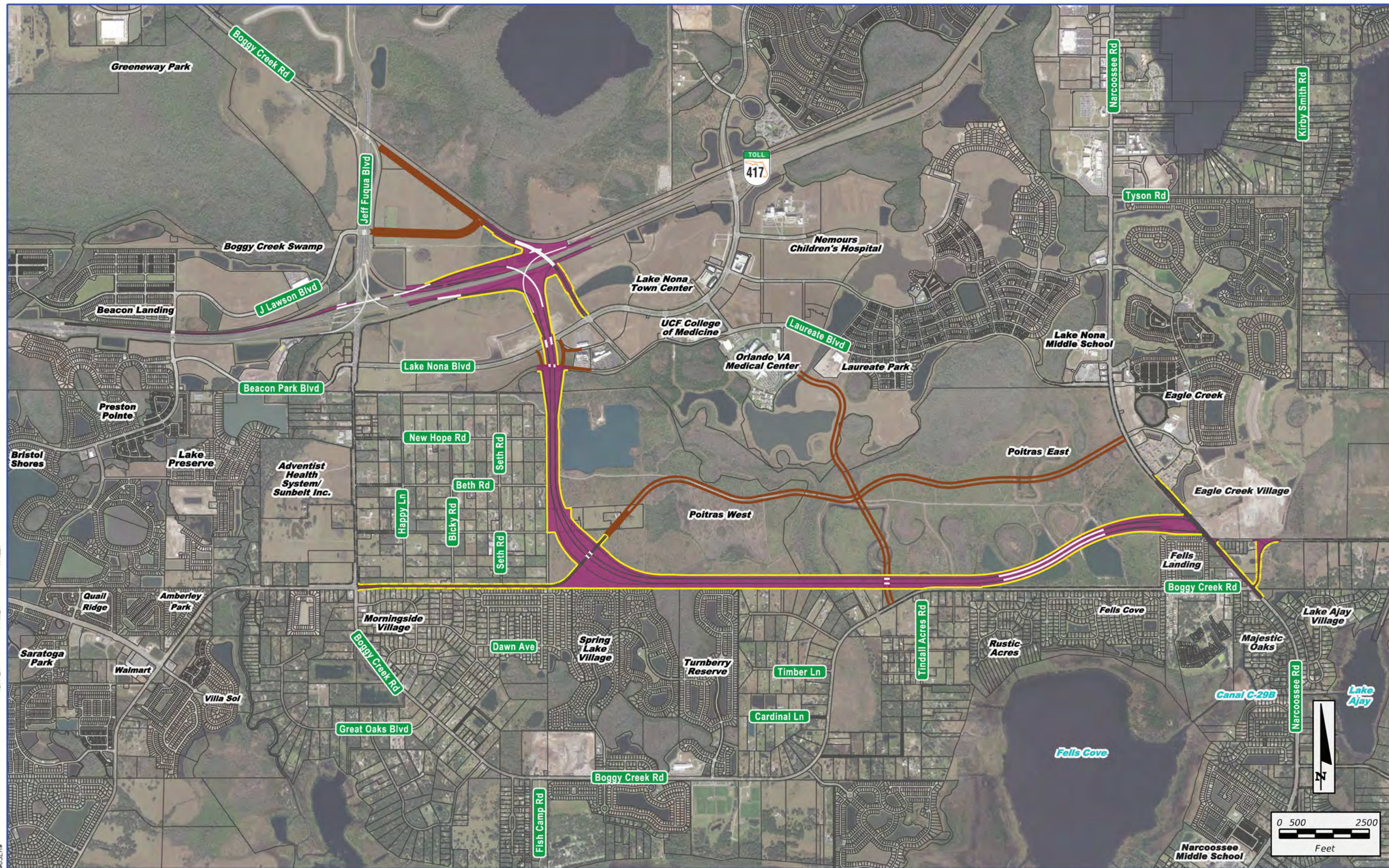
- Lake Nona Alternative; and
- Boggy Creek Road Alternative.

Lake Nona Alternative

The Lake Nona Alternative begins with a system interchange with SR 417 that provides access to the Orlando International Airport. The alignment then travels south through the Lake Nona property, where there is a partial interchange with Laureate Boulevard. The alternative continues south until the Orange / Osceola County line, where the alignment curves to the east. Simpson Road is proposed to be extended east of Boggy Creek Road to connect to the Poitras property. An interchange will be provided with this extension of Simpson Road, near the county line. The alignment continues along the Orange / Osceola County line and includes a proposed interchange at Narcoossee Road. Due to the proximity of the proposed interchange with Narcoossee Road, Clapp Simms Duda Road is proposed to be relocated south, so it aligns with the existing Boggy Creek Road signalized intersection. An overview of this alternative and the OCX PD&E Recommended Alternative (2017) West of Narcoossee Road is shown on **Figure 1.1.3**.

Boggy Creek Road Alternative

The Boggy Creek Road Alternative closely follows the OCX PD&E Recommended Alternative (2017). The Boggy Creek Road Alternative also begins with a system interchange at SR 417, then travels south and parallel to the east side of Boggy Creek Road. Simpson Road is proposed to be extended east of Boggy Creek Road. An interchange will be provided with this extension of Simpson Road just northeast of the existing Simpson Road and Boggy Creek Road intersection. Similar to the Lake Nona Alternative, after the interchange, the alternative turns eastward and parallels the Orange / Osceola County line approaching a proposed interchange at Narcoossee Road. Due to the proximity of the proposed interchange with Narcoossee Road, Clapp Simms Duda Road is proposed to be relocated south, so it aligns with the existing Boggy Creek Road signalized intersection. An overview of this alternative and the OCX PD&E Recommended Alternative (2017) West of Narcoossee Road is shown on **Figure 1.1.4**.

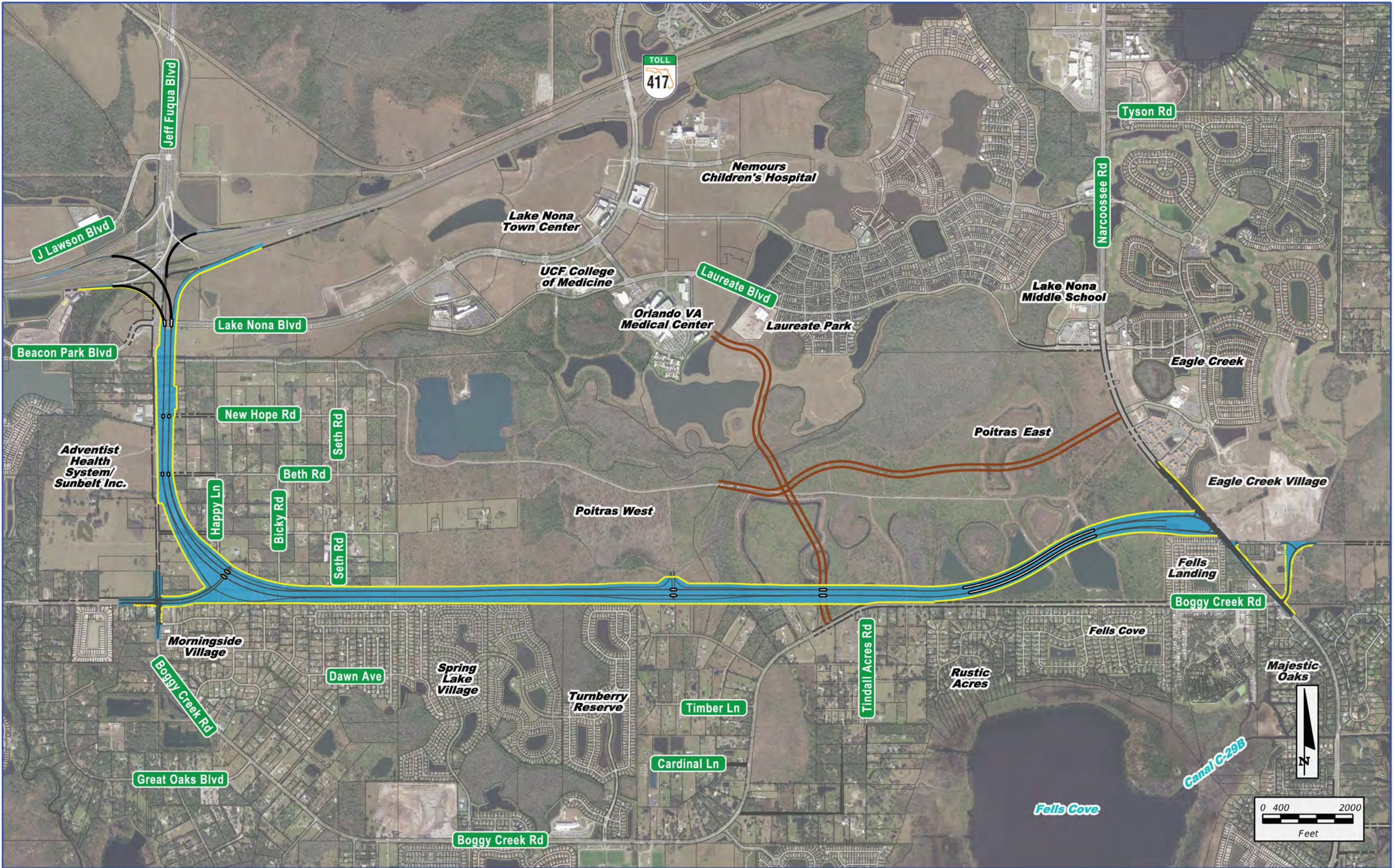


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Legend	
	Existing Right-of-Way
	Proposed Limited Access Right-of-Way
	Proposed Right-of-Way
	Property Lines
	Future Roadway by Others
	Alternative Corridor
	Pavement
	Structure

Figure 1.1.3
 Lake Nona Alternative
 Overview



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- Existing Right-of-Way
- Proposed Limited Access Right-of-Way
- Proposed Right-of-Way

- Legend**
- Property Lines
 - Future Roadway by Others

- Alternative Corridor
- Pavement
- Structure

Figure 1.1.4
Bogy Creek Alternative
Overview

1.1.2 East Segment

In addition to the OCX PD&E Recommended Alternative (2017) East of Narcoossee Road, two additional alternatives have been evaluated for the portion of the study area east of Narcoossee Road. The two additional alternatives for the East segment are identified as follows:

- Split Oak Minimization Alternative; and
- Split Oak Avoidance Alternative.

Split Oak Minimization Alternative

The Split Oak Minimization Alternative travels north of and parallel to Clapp Simms Duda Road before turning southeast near Canal C-29A. The alternative traverses the southwestern edge of Split Oak Forest and includes a local access interchange with Cyrils Drive just east of Split Oak Forest. An overview of this alternative and the OCX PD&E Recommended Alternative (2017) East of Narcoossee Road is shown on **Figure 1.1.5**.

Split Oak Avoidance Alternative

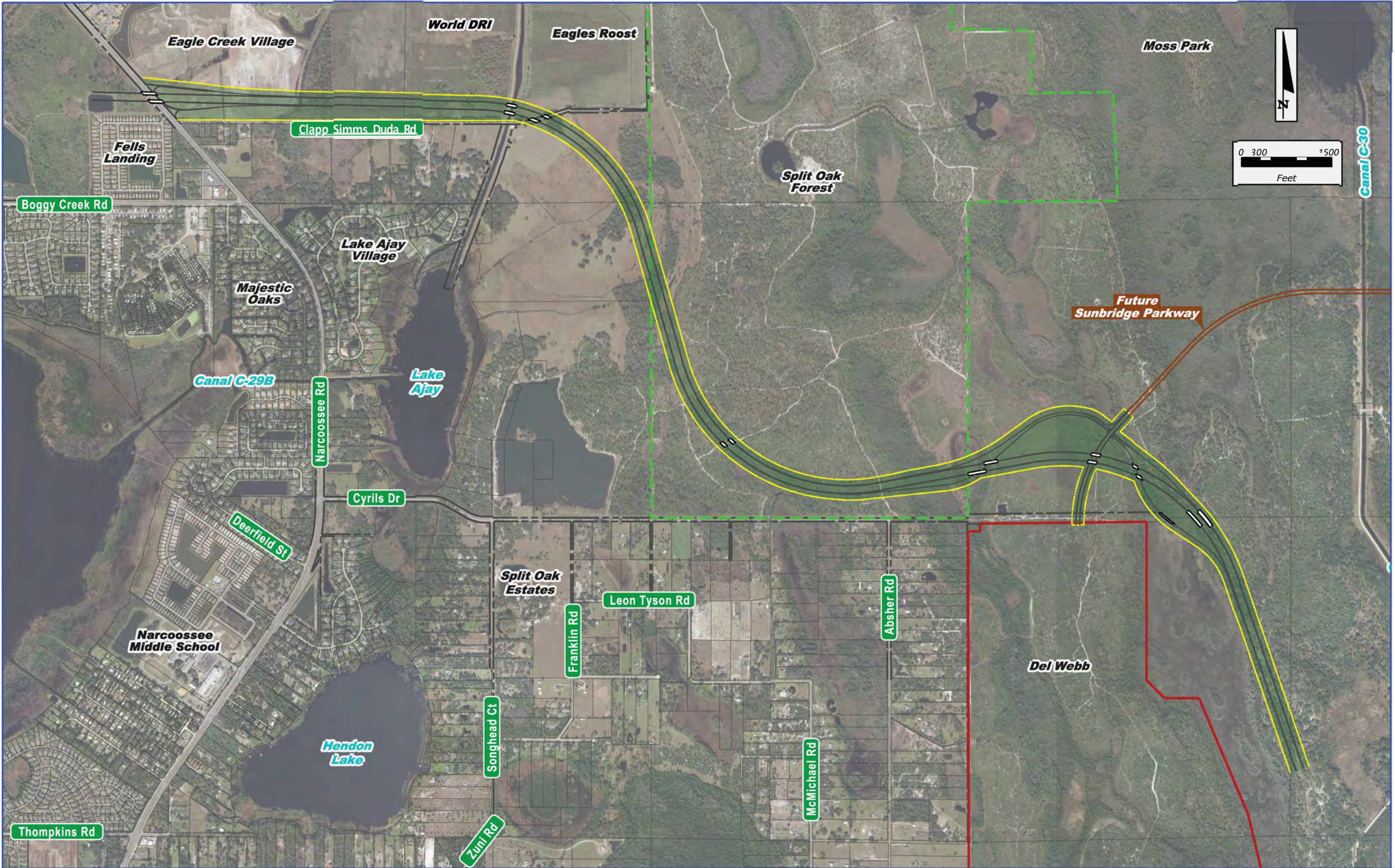
The Split Oak Avoidance Alternative also travels north of and parallel to Clapp Simms Duda Road before turning south just before Canal C-29A. This alternative is positioned west of Split Oak Forest and overpasses Cyrils Drive before being positioned south of and parallel to the existing Cyrils Drive. This alternative then reconfigures Cyrils Drive into a pair of one-way frontage roads on either side of OPE. An interchange with Cyrils Drive is provided near Absher Road. This alternative avoids direct impacts to Split Oak Forest. An overview of this alternative and the OCX PD&E Recommended Alternative (2017) East of Narcoossee Road is shown on **Figure 1.1.6**.

1.1.3 Summary of Design Changes and Preferred Build Alternative

Section 6.0 *Alternative Analysis of the Engineering Analysis Technical Memorandum* (November 2019) provides details of the evaluation of the various alternatives considered for OPE and the design changes since the completion of the 2017 PD&E Study. Of the alternatives considered, the Lake Nona Alternative and Split Oak Minimization Alternative represent the most logical choice for the Preferred Build Alternative for each of the project segments (see *Section 6.13 Preferred Alternative in the Engineering Analysis Technical Memorandum*). The following summarizes the design changes associated with the Lake Nona and Split Oak Minimization Alternatives since the completion of the 2017 PD&E Study.

Lake Nona Alternative:

- Does not include an interchange at SR 417 and Boggy Creek Road;
- Includes a new directional interchange between OPE and SR 417, approximately one mile east of the SR 417 and Boggy Creek Road interchange;
- Includes a partial interchange (ramps to and from the south only) with Laureate Boulevard to serve the Lake Nona properties;
- Includes the Boggy Creek Road / Simpson Road interchange but on the Poitras West property which results in long connector ramps to Boggy Creek Road;
- Does not include an interchange at the planned Medical City Drive extension on the Poitras property; and

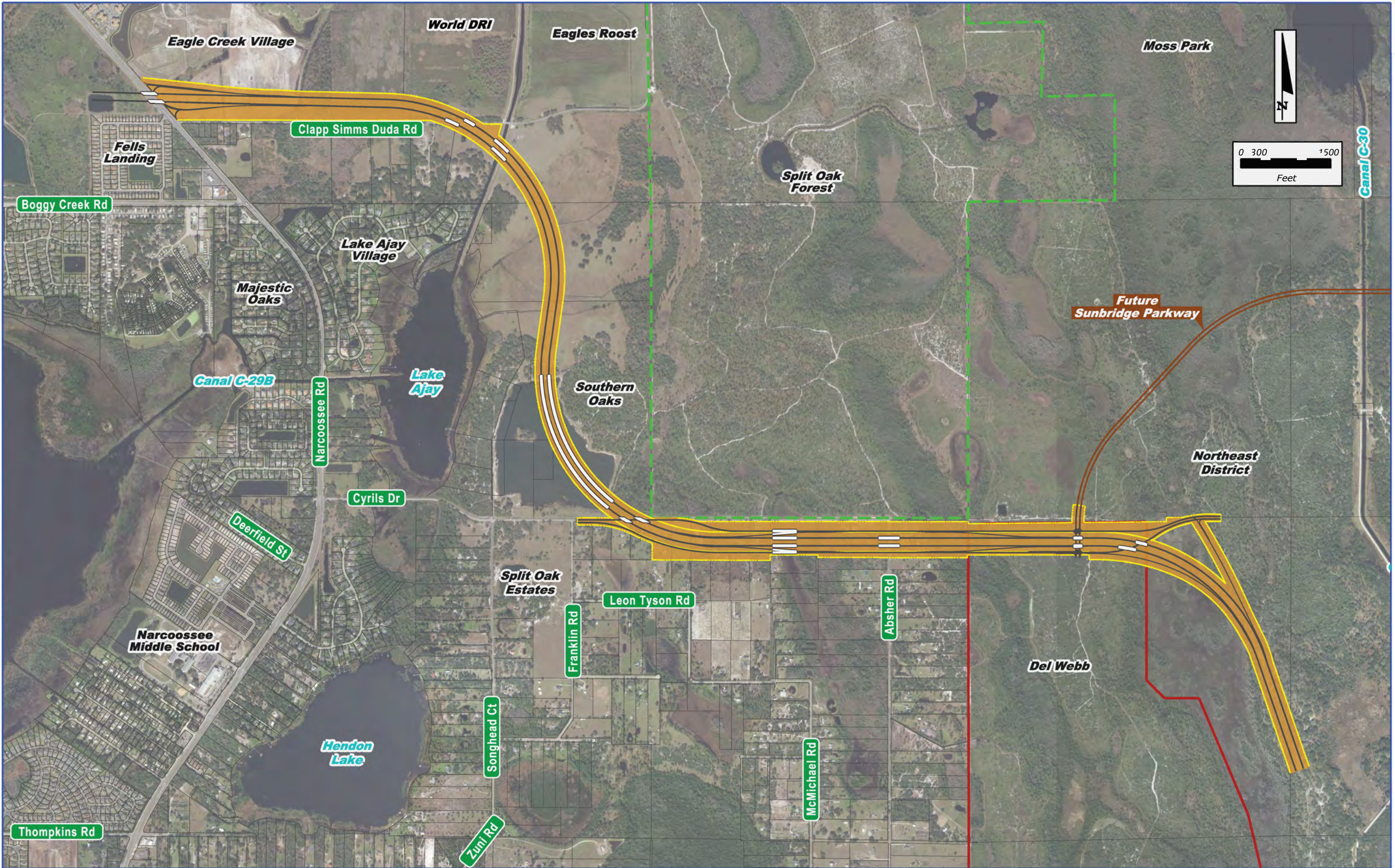


- Existing Right-of-Way
- Proposed Limited Access Right-of-Way
- Proposed Right-of-Way

- Legend**
- Property Lines
 - Split Oak Forest Boundary

- Alternative Corridor
- Pavement
- Structure

Figure 1.1.5
Split Oak Minimization Alternative
Overview



- Existing Right-of-Way
- Proposed Limited Access Right-of-Way
- Proposed Right-of-Way

- Legend**
- Property Lines
 - Split Oak Forest Boundary

- Alternative Corridor
- Pavement
- Structure

Figure 1.1.6
Split Oak Avoidance Alternative
Overview

- Relocates Clapp Simms Duda Road to align with the eastern terminus of Boggy Creek Road at Narcoossee Road.

Split Oak Minimization Alternative:

- A consistent 330-foot wide typical section (compared to 400-foot and 264-foot typical sections);
- Does not impact Split Oak Forest in Orange County;
- Crosses Split Oak Forest near the southern boundary instead of crossing in the middle;
- Includes a local interchange with Sunbridge Parkway extension / Cyrils Drive instead of a system-to-system interchange with the Northeast Connector; and
- Does not include the connection to the future Sunbridge Parkway (assumes it will be built by others).

1.2 Summary of PD&E Noise Study

The 2017 PD&E noise study evaluated potential traffic noise impacts to the noise sensitive sites along State Road 417, Osceola Parkway, Boggy Creek Road, and crossroads within the project corridor. Section 4.0 Conclusion of the 2017 NSR (see **Appendix A**) indicates noise impacts are predicted to occur at 166 residences and at a church located along Boggy Creek Road (Receptor Site REB09-013). Of these 166 residences, 14 residents will be relocated; 107 residences will be impacted due to an exceedance of the NAC, and 45 residences will experience a substantial increase [15.0 dB(A) or greater] impact when compared to existing conditions.

Noise barriers were evaluated for each of the impacted sites. The summary of the barrier analysis performed during the PD&E Study is summarized in Table 4-1 in the 2017 NSR (see **Appendix A**). Noise barriers were found to be reasonable and feasible at one location [i.e., Noise Sensitive Area (NSA) EB08]. The optimal conceptual noise barrier design at this location represented a 22-foot tall ground mounted noise barrier extending 7,880 feet between Stations 165+00 to 239+80 (**see Plan Sheets 3-5 in Appendix A**). This noise barrier would provide benefit to 95 impacted residences within Morningside, Morningside Village, Silver Lake Estates, Springlake Village, and Raintree at Springlake Village. This noise barrier would be constructed along the right-of-way line of the eastbound side of OPE with an estimated cost of \$5,200,800 or \$29,393 per benefited receptor site. The 2017 NSR indicated that further consideration of a noise barrier at this location will be given during the Design phase of the project.

1.3 Noise Regulations

The 2017 PD&E NSR states that the noise study was performed in accordance with Code of Federal Regulations, Title 23, Part 772 (23 CFR 772) Procedures for Abatement of Highway Traffic Noise and Construction Noise using methodology established by FDOT in the Project Development and Environment Manual, Part 2, Chapter 17 (FDOT, June 24, 2016). Predicted noise levels were produced using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), version 2.5. Since the completion of the 2017 PD&E NSR, FDOT's noise policies have been updated to accommodate the changes related to FHWA's National Environmental Policy Act (NEPA) delegation to FDOT. Chapter 17 *Noise* was renumbered to Chapter 18 and titled *Highway Traffic Noise* and has an effective date of January 14, 2019. There have not been

any significant changes to FDOT's or FHWA's policies or regulations that would change the number of impacted residences or the consideration of noise abatement measures for the sites impacted by design year traffic noise from the proposed extension of Osceola Parkway.

2.0 Methodology

This study was conducted based on the methodology described in the FDOT’s PD&E Manual, Part 2, Chapter 18, *Highway Traffic Noise* (January 14, 2019) and in accordance with Title 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 13, 2010). The noise study involved the following procedures:

- Identification of Noise Sensitive Receptor Sites;
- Prediction of Future Traffic Noise Levels with the Preferred Build Alternative Preliminary Design Concept;
- Assessment of Traffic Noise Impacts; and
- Consideration of Noise Barriers as a Noise Abatement Measure.

The latest approved version of the FHWA’s TNM, Version 2.5 – dated February 2004, was used to predict future traffic noise levels and to analyze the effectiveness of noise barriers, where warranted. This model was also used in the 2017 PD&E NSR. This model estimates the acoustic intensity at noise sensitive receptor sites from a series of roadway segments (the source). Model-predicted noise levels are influenced by several factors, such as vehicle speed and distribution of vehicle types. Noise levels are also affected by characteristics of the source-to-receptor site path, including the effects of intervening barriers, structures (houses, trees, etc.), ground surface type (hard or soft), and topography. It should be noted that the existing/ambient noise levels from the 2017 PD&E NSR were used in this analysis and were not updated as part of the current study.

Noise receptor sites, representing the noise sensitive sites along the project corridor were used as inputs to the TNM 2.5 to predict noise levels associated with the future design year (2045) conditions. It should be noted that the predicted traffic noise levels in the 2017 PD&E NSR were based on 2040 design year conditions. Traffic noise levels were predicted at the edge of these residences closest to the nearest primary roadway. Representative receptor sites were chosen based on noise sensitivity, roadway proximity, anticipated impacts from the proposed project, and homogeneity (i.e., the site is representative of other nearby sites). Traffic noise levels were predicted at the edge of the dwelling unit closest to the nearest primary roadway. For other noise sensitive sites, traffic noise levels were predicted where the exterior activity occurs. For the prediction of interior noise levels, receptor sites were placed approximately ten feet inside the building at the edge closest to the roadway. Building noise reduction factors and window conditions identified in Table 18.3 in Part 2, Chapter 18 of the PD&E Manual (January 14, 2019) were used to estimate noise reduction due to the physical structure.

2.1 Noise Metrics

Noise levels documented in this report represent the hourly equivalent sound level [Leq(h)]. Leq(h) is the steady-state sound level, which contains the same amount of acoustic energy as the actual time-varying sound level over a 1-hour period. Leq(h) is measured in A-weighted decibels [dB(A)], which closely approximate the human frequency response. Sound levels of typical noise sources and environments are provided in **Table 2.1.1** as a frame of reference.

Table 2.1.1: Sound Levels of Typical Noise Sources and Environments

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL dB(A)	COMMON INDOOR ACTIVITIES
Jet Fly-over at 1000 ft	---110---	Rock Band
Gas Lawn Mower at 3 ft	---100---	
Diesel Truck at 50 ft, at 50 mph	---90---	Food Blender at 1 m (3 ft)
Noise Urban Area (Daytime)	---80---	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower at 100 ft	---70---	Vacuum Cleaner at 10 ft
Commercial Area	---60---	Normal Speech at 3 ft
Heavy Traffic at 300 ft	---60---	
Quiet Urban Daytime	---50---	Large Business Office
		Dishwasher Next Room
Quiet Urban Nighttime	---40---	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	---30---	Library
		Bedroom at Night, Concert Hall (Background)
Quiet Rural Nighttime	---20---	
	---10---	
	---0---	Lowest Threshold of Human Hearing
Lowest Threshold of Human Hearing	---0---	

Source: California Dept. of Transportation Technical Noise Supplement, Oct. 1998, Page 18.

2.2 Traffic Data

The traffic data used in the noise analysis is from the Alternative Analysis of the Engineering Analysis Technical Memorandum (November 2019): Section 5.2.8 *2045 Daily and Design-Hour Traffic Forecasts and LOS* and Figure 5.2.12 *2045 Build DDHVs* (Directional Design Hour Volumes). The traffic data specifically used in the noise modeling to predict future traffic noise levels for the Preferred Build Alternative is presented in **Tables 2.2.1, 2.2.2, and 2.2.3** in **Appendix B**. The traffic data tables include peak hour traffic volumes, Level of Service (LOS) C volumes, speeds, and the traffic volumes by vehicle type (cars, medium trucks, heavy trucks, buses, and motorcycles) used to predict traffic noise levels. According to Chapter 18 of the PD&E Manual, “Maximum peak-hourly traffic representing Level of Service (LOS) “C” will be used, unless traffic analysis shows the LOS “C” will not be reached. If LOS “C” will not be reached, demand volumes shall be used.” In cases where traffic volumes on project roadways were predicted to operate at worse than LOS C, the LOS C project data were used.

2.3 Noise Abatement Criteria

The FHWA has established Noise Abatement Criteria (NAC) for land use activity categories, which are presented in **Table 2.3.1**. Maximum noise threshold levels, or criteria levels, have been established for five of the seven activity categories. These criteria determine when an impact occurs and when consideration of noise abatement is required. Noise abatement measures must be considered when predicted noise levels approach, meet, or exceed the NAC levels or when a substantial noise increase occurs. A substantial noise increase occurs when the existing noise level is predicted to be exceeded by 15 dB(A) or more as a result of the transportation improvement project. The FDOT defines “approach” as within 1.0 dB(A) of the FHWA criteria.

Noise sensitive receptor sites include properties where frequent exterior human use occurs and where a lowered noise level would be of benefit. This includes residential land use (Activity Category B); a variety of nonresidential land uses not specifically covered in Category A (i.e., lands on which serenity and quiet are of extraordinary significance) or Category B including parks and recreational areas, medical facilities, schools, and places of worship (Activity Category C); and commercial and developed properties including offices, hotels, and restaurants with exterior areas of use (Activity Category E). Noise sensitive sites also include interior use areas where no exterior activities occur for facilities such as auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, recording studios, schools, and television studios (Activity Category D). Categories F and G, which include commercial and developed properties without exterior areas of use, do not have noise abatement criteria levels. Category F includes land uses such as industrial and retail facilities that are not considered noise sensitive. Category G includes undeveloped lands.

2.4 Noise Abatement Measures

When traffic noise associated with a proposed project is predicted to approach [i.e., by 1.0 dB(A)], meet, or exceed the NAC at a noise sensitive site, noise abatement is considered. The most common and effective noise abatement measure is the construction of a noise barrier. Noise barriers reduce noise by blocking the sound path between a roadway and a noise sensitive area. To be effective, noise barriers must be long, continuous (i.e., with no intermittent openings), and have sufficient height to block the path between the noise source and the receptor site. Evaluated noise abatement measures, in the form of a noise barrier, must be considered reasonable and feasible to be recommended for design and construction. The FHWA’s Analysis and Abatement Guidance (January 2011) indicates the ends of the noise barriers should, in general, extend in each direction four times as long as the distance from the receptor site to the noise barrier. The 2017 PD&E NSR identified noise barriers as the only viable abatement measure that could be implemented as part of the project. Other abatement measures that were considered but determined to be not feasible and/or reasonable for this project, include traffic management, alignment modification, and buffer zones.

Table 2.3.1: Noise Abatement Criteria [Hourly A-Weighted Sound Level dB(A)]

Activity Category	Activity Leq(h) ¹		Evaluation Location	Description of Activity Category
	FHWA	FDOT		
A	57	56	Exterior	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.
B ²	67	66	Exterior	Residential
C ²	67	66	Exterior	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.
D	52	51	Interior	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.
E ²	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
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.

(Based on Table 1 of 23 CFR Part 772)

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

² Includes undeveloped lands permitted for this activity category.

Note: FDOT defines that a substantial noise increase occurs when the existing noise level is predicted to be exceeded by 15 decibels or more as a result of the transportation improvement project. When this occurs, the requirement for abatement consideration will be followed.

For noise abatement measures to be recommended for further consideration in the design phase of the project, they must be determined to be both feasible and reasonable. A wide range of factors are used to evaluate the feasibility and reasonableness of noise abatement measures. Feasibility deals with engineering considerations, including the ability to construct a noise barrier using standard construction methods and techniques as well as the ability of the noise barrier to provide a reduction of at least 5 dB(A) to the impacted receptor sites. For example, given the topography of a location, can the minimum noise reduction [5 dB(A)] be achieved given certain access, drainage, utility, safety, and maintenance requirements. In addition, for a noise barrier to be considered acoustically feasible, at least two impacted receptor sites must achieve at least a 5 dB(A) reduction.

Once a noise barrier is determined to be feasible, the reasonableness of a noise barrier is evaluated. Reasonableness implies that common sense and good judgment were applied in a decision related to noise abatement. The following three reasonable factors must be collectively achieved in order for the noise barrier to be deemed reasonable: the cost effectiveness of the noise barrier, the achievement of the noise reduction design goal, and the consideration of the viewpoints of the benefited property owners and residents. To be deemed reasonable, the noise barrier needs to be below FDOT's reasonable cost criterion, which is described below, must attain FDOT's noise reduction design goal of 7 dB(A) at one or more impacted receptor sites, and be supported by a majority of the benefited receptor sites.

When determining the cost reasonableness of a conceptual noise barrier design for a residential area, \$42,000 per benefited receptor is looked upon as the limit using the standard construction cost of \$30.00 per square foot. A benefited receptor site is defined as a noise sensitive site that will obtain a minimum of 5.0 dB(A) of noise reduction as a result of the construction of a noise barrier regardless of whether or not they are identified as impacted. Only benefited receptor sites are included in the calculation of reasonable cost for a noise barrier. A noise barrier must achieve the established noise reduction design goal. To meet the noise reduction design goal, a noise barrier must benefit at least two impacted receptor sites and must attain the noise reduction design goal of 7 dB(A) at one or more impacted receptor sites.

If the noise abatement measure has been determined to be reasonable and feasible, the viewpoint of the impacted and benefited property owners must be considered. During the Design phase of the project, a more detailed process is implemented to include noise abatement workshops and/or public surveys, to determine the wishes of the benefited receptor sites at locations where noise abatement measures have been recommended.

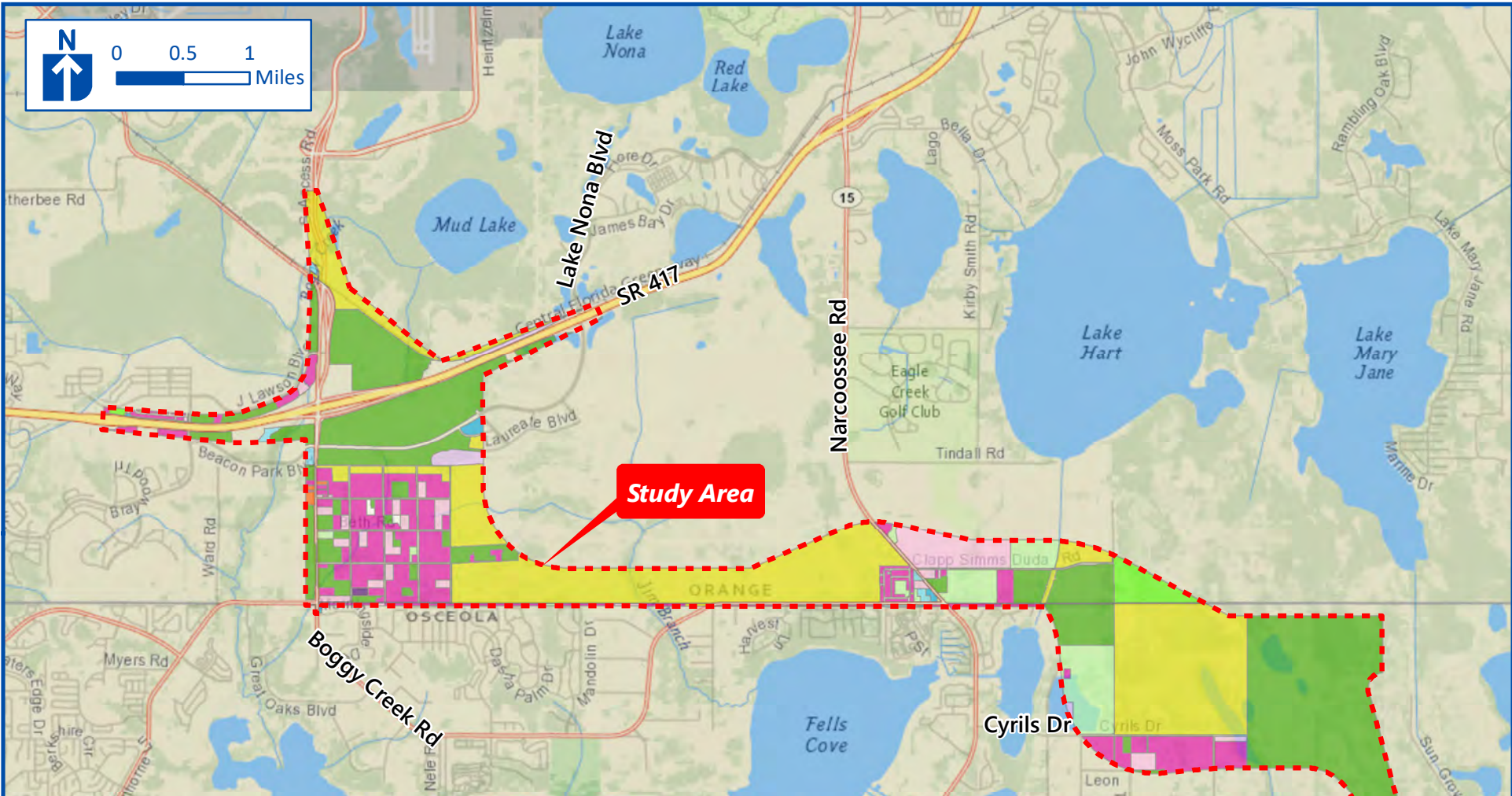
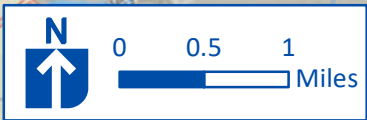
The above-mentioned reasonableness factors are set by FDOT, however CFX is not bound to the criteria and can implement noise barriers for alternatives above these measures for design, ascetics or to eliminate impacts if necessary.

2.5 Existing and Future Land Use

The existing land use in the study area is predominantly Agricultural (38% of land use). Other major land use categories in the study area include Public / Semi-Public Property (34%), and Residential (14%). Of note is the majority of Public / Semi-Public Property was owned by the Greater Orlando Airport Authority (GOAA). This property has recently been sold to Tavistock

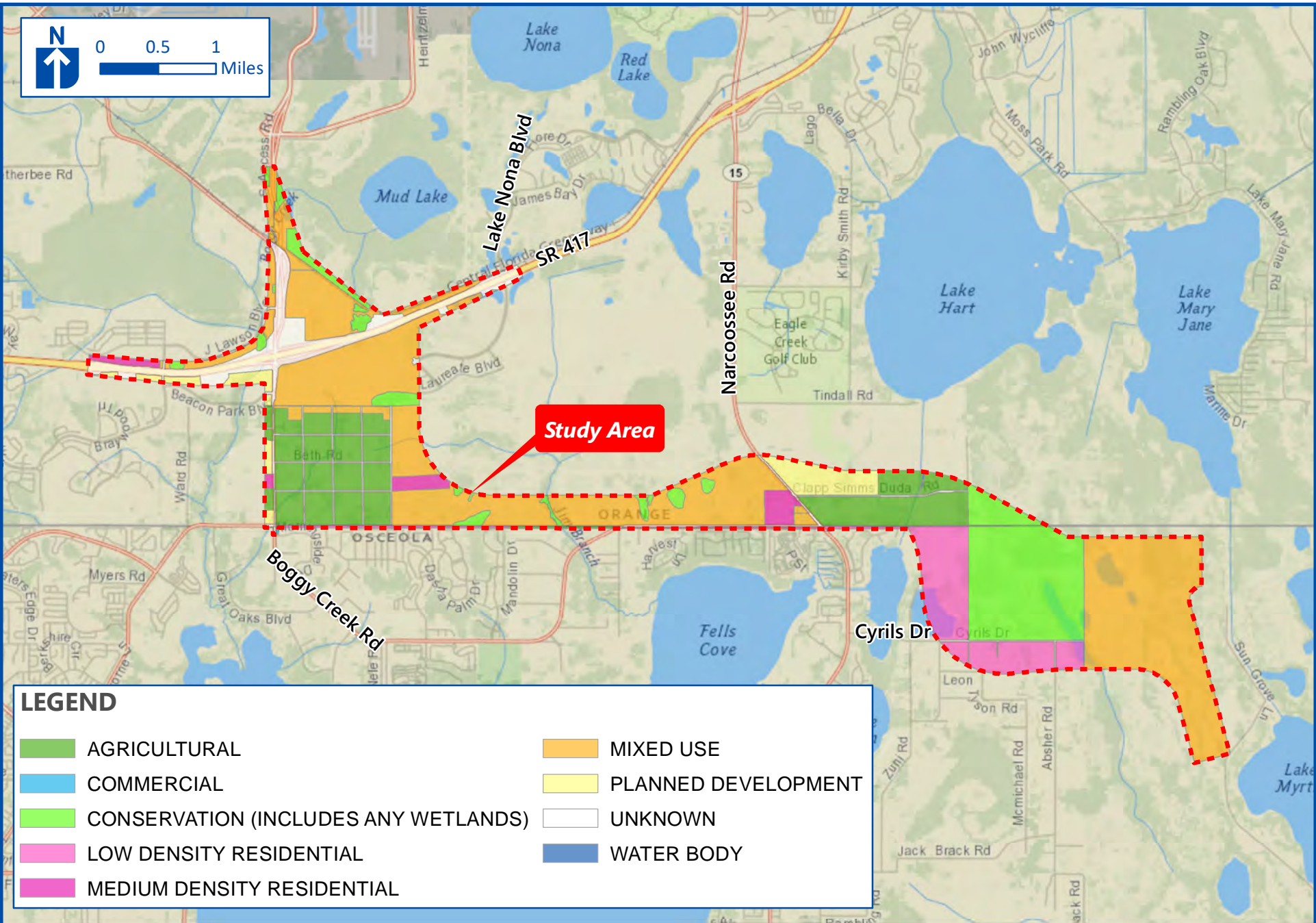
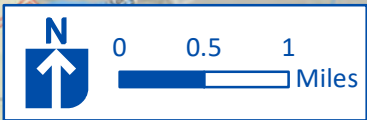
Development Company and is anticipated to be dense residential development with some mixed use. The other large portion of the Public / Semi-Public land use is Split Oak Forest within Osceola County. **Figure 2.5.1** shows the existing land use in the project corridor.

The future land use map from the East Central Florida Regional Planning Council shows that the land use in the study area is anticipated to become more developed than it is today. Large portions of Agricultural and Public / Semi-Public land use are anticipated to become Mixed Use. The percent of the future land use anticipated to be Agricultural is 16%, down about 22% from the existing condition (of note is that the existing residential property along Boggy Creek Road is shown as agricultural, when it is currently low density residential). The majority of this property is anticipated to become mixed use which is the most common land use in the future (44% of land use). **Figure 2.5.2** shows the future land use in the project corridor. It should be noted that only those residential developments that have an active construction permit for housing are considered in this noise analysis, in accordance with Chapter 18 of the PD&E Manual.



LEGEND

	ACREAGE NOT ZONED FOR AGRICULTURE		OTHER		RETAIL/OFFICE
	AGRICULTURAL		PARCELS WITH NO VALUES		VACANT NONRESIDENTIAL
	INDUSTRIAL		PUBLIC/SEMI-PUBLIC		VACANT RESIDENTIAL
	INSTITUTIONAL		RECREATION		WATER
	MINING		RESIDENTIAL		



LEGEND	
 AGRICULTURAL	 MIXED USE
 COMMERCIAL	 PLANNED DEVELOPMENT
 CONSERVATION (INCLUDES ANY WETLANDS)	 UNKNOWN
 LOW DENSITY RESIDENTIAL	 WATER BODY
 MEDIUM DENSITY RESIDENTIAL	

3.0 Traffic Noise Analysis

3.1 Predicted Noise Levels and Abatement Analysis

As described in the 2017 PD&E Noise Study, the project area includes noise sensitive land uses that will be potentially impacted by traffic noise associated with the extension of Osceola Parkway. To determine the changes in land uses since the 2017 PD&E NSR and to re-evaluate the potential for traffic noise impacts, the existing land uses along the corridor were reviewed and mapped by FHWA's Noise Activity Categories (see **Figure 3.1.1** in **Appendix C**). The noise sensitive land uses along the project corridor include single and multi-family residences, places of worship, schools, and recreational areas.

Each of the noise sensitive areas and representative receptor sites within the project area were given a unique designation using alphanumeric characters. To facilitate comparisons to the 2017 PD&E Noise Study, the same system of identifying noise sensitive areas and sites were used. The names of the noise sensitive areas (e.g., WB01) and receptor sites (e.g., WB01-001) were associated with the location relative to the direction of travel (e.g., EB and WB for eastbound and westbound sides of Osceola Parkway Extension, respectively). The numerical value following the dash represents the unique/sequential noise study area and receptor site number for that location (e.g., for Beacon Park, Receptors Sites WB05-001 through WB05-016 were used to represent the single family residences within this community).

The seventeen noise sensitive areas (EB01, EB02, EB03, EB05 through EB14, WB01, WB02, WB04, and WB05) and the representative noise sensitive receptor sites used in assessment of impacts are presented in **Table 3.1.1** in **Appendix D** and depicted in **Figure 3.1.1**. **Table 3.1.1** lists and describes the general area, approximate location, and number of sites represented. **Table 3.1.1** also includes the existing noise levels from the May 2017 PD&E NSR and the predicted design year (2045) noise levels for the Preferred Build Alternative. It should be noted that NSAs EB10 through EB13 and WB05 are located along SR 417 and NSA EB14 located south of Cyrils Drive were not within the project limits for the 2017 PD&E Study or previously assessed for traffic noise impacts.

Predicted design year (2045) noise levels for the Build Alternative were compared to the NAC and to the existing noise levels to assess potential noise impacts associated with the project. As identified in **Table 3.1.1** and summarized in **Table 3.1.2: Summary of Traffic Noise Impacts by Noise Sensitive Areas**, traffic noise impacts occur. With the Preferred Build Alternative, design year (2045) traffic noise levels will result in impact to 219 noise sensitive sites representing 217 residences within nine NSAs (i.e., EB03; EB06, EB07, EB08, EB10, EB11, EB12, WB04, and WB05) and two special land uses associated with NSAs EB10 and WB05. At these sites, design year noise levels will either meet or exceed the FDOT NAC or result in a 15 dB(A) increase over the existing noise levels. Therefore, consideration of noise barriers at each of these impacted residential and special land use sites is warranted.

Table 3.1.2: Summary of Traffic Noise Impacts by Noise Sensitive Areas

Noise Sensitive Area (NSA) ID / General Location	Representative Noise Receptor Site Designation	Noise Abatement Activity Category - Criteria	TNM Predicted Design Year (2045) Noise Levels dB(A)		Impacted by Traffic Noise?	Number of Residential Sites Impacted	Number of Special Land Uses Impacted?	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No	Noise Barrier Analysis Section
			Minimum	Maximum					
WB05 / North of SR 417 and West of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)	Beacon Park	Residential NAC B - 66 dB(A)	64.3	75.8	Yes	45	---	Exceeds / Yes	3.1.2
	Beacon Park Community Pool	Recreational NAC C - 66 dB(A)	75.8	75.8	Yes	---	1	Exceeds / Yes	---
	Beacon Park Community Playground	Recreational NAC C - 66 dB(A)	67.6	67.6	Yes	---		Exceeds / Yes	---
EB10 / South of SR 417 and West of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)	Somerset Park	Residential NAC B - 66 dB(A)	65.1	68.0	Yes	33	---	Exceeds / Yes	3.1.1
	Somerset Park Community Playground	Recreational NAC C - 66 dB(A)	67.9	67.9	Yes	---	1	Exceeds / Yes	---
EB11 / South of SR 417 and East of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)	Somerset Crossings	Residential NAC B - 66 dB(A)	65.1	67.6	Yes	22	---	Exceeds / Yes	3.1.1
EB12 / South of SR 417 and East of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)	Lake Nona Ariel Apartments	Residential NAC B - 66 dB(A)	53.6	71.8	YES	15	---	Exceeds / Yes	3.1.1
EB13 / South of SR 417 Between Lake Nona Boulevard and Laureate Boulevard	University of Florida Research and Academic Center	Institutional Interior Use NAC D - 51 dB(A)	27.2	27.2	No	---	---	Below / No	---
	Lake Nona Innovation Center	Recreational NAC C - 66 dB(A)	50.2	50.2	No	---	---	Below / No	---
	Sanford Burnham Institute	Institutional Interior Use NAC D - 51 dB(A)	23.6	23.6	No	---	---	Below / No	---
EB07 / South of Osceola Parkway Extension and to the East of Turnberry Reserve	High Plains	Residential NAC B - 66 dB(A)	50.0	66.2	Yes	3	---	Approaches / Yes	Section 3.1.3
EB08 / South of Osceola Parkway Extension from Boggy Creek Road to the East of Turnberry Reserve	Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods	Residential NAC B - 66 dB(A)	45.7	70	Yes	63	---	Exceeds / Yes	Section 3.1.3
EB09 / East of Osceola Parkway Extension between Beacon Park Boulevard and Simpson Road (No Longer Being Impacted)	Scattered Residences Along Boggy Creek Road	Residential NAC B - 66 dB(A)	---	---	---	---	---	Not Applicable / No (Community Located Outside the Limits of Proposed Improvements along Boggy Creek Road)	---
WB04 / South of SR 417 between Beacon Park Boulevard and Hidden Trail Road	Orlando Kissimmee Farms	Residential NAC B - 66 dB(A)	51.4	68.8	Yes	4	---	Exceeds / No (Not Acoustically Feasible - Isolated Residence)	---
EB03 / East of Osceola Parkway Extension and West of Narcoossee Road	Fells Landing	Residential NAC B - 66 dB(A)	58.7	74.2	Yes	23	---	Exceeds / Yes	Section 3.1.5
EB05 / East of Osceola Parkway Extension and South of Boggy Creek Road	Fells Cove	Residential NAC B - 66 dB(A)	64.5	65.6	No	---	---	Below / No	---
EB06 / South of Boggy Creek Road and West of Rustic Road	Rustic Acres	Residential NAC B - 66 dB(A)	54.6	70.0	Yes	9	---	Exceeds / Yes	Section 3.1.4
WB02 / West of Osceola Parkway Extension and East of Narcoossee Road	Sanctuary at Eagle Creek	Residential NAC B - 66 dB(A)	---	---	---	---	---	Not Applicable / No (Community Located Outside the Limits of Proposed Improvements along Narcoossee Road)	---
EB01 / West of Osceola Parkway Extension and East of Clapp Simms Duda Road	Split Oak Forest Trailhead Area	Recreational NAC C - 66 dB(A)	64.9	64.9	No	---	---	Below / No	---
EB02 / East of Osceola Parkway Extension between Narcoossee Road and Canal C-29A	Lake Ajay Village	Residential NAC B - 66 dB(A)	48.6	64.6	No	---	---	Below / No	---
EB14 / East of Narcoossee Road and South of Cyrils Road (Not Included in May 2017 Noise Study Report)	Scattered Residences Along Cyrils Drive	Residential NAC B - 66 dB(A)	47.6	58.7	No	---	---	Below / No	---
WB01 / West of Osceola Parkway Extension and East of Narcoossee Road	Split Oak Forest Trailhead Area	Recreational NAC C - 66 dB(A)	50.8	50.8	No	---	---	Below / No	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)						217	---	---	---
Total Number of Non-Residential / Special Land Use Sites Equal to or Greater than the Noise Abatement Criteria (NAC)						---	2	---	---

Of the nine impacted NSAs, noise barriers were not considered a feasible abatement option for NSA WB04. Noise Sensitive Area WB04 encompasses the impacted single family residences within the Orlando Kissimmee Farms community located south of SR 417 and east of Hidden Trail Road (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) at four residences within this community. The four impacted sites (i.e., RWB04-001R through RWB04-004R) within this residential community represent isolated residences. Since the impacted residential receptor sites represent isolated residences, noise barriers were not considered acoustically feasible. For a noise barrier to be considered an acoustically feasible abatement measure, it must benefit at least two impacted receptor sites.

For the other eight NSAs impacted by design year (2045) traffic noise levels, the analysis of noise barriers and recommendations are summarized by NSA by west to east in **Section 3.1.1** through **Section 3.1.5**. Due to the number of Noise Barrier Analysis Summary Tables (i.e., **3.1.1.1** through **3.1.5.1**), these have been included in **Appendix E**. The locations and limits of the recommended noise barriers are depicted on **Figure 4.1**.

No other noise sensitive sites within the project corridor are predicted to be impacted by design year (2045) traffic noise levels including NSAs WB02 and EB09. Due to design changes and the modification to the proposed alignment of OPE, NSAs WB02 and EB09 are no longer within the project limits as they were within the 2017 PD&E Study. Therefore, these two areas are no longer predicted to experience design year traffic noise that meet or exceed the FDOT NAC or to experience a substantial increase in noise levels associated with the project. NSA WB02 represents the Sanctuary at Eagle Creek Apartments located on the westbound side of Osceola Parkway Extension, just east of Narcoossee Road. NSA EB09 represents scattered single family residences along Boggy Creek Road located south of SR 417. As presented in **Table 3.1.2**, the other NSAs not impacted by the project traffic noise include EB01, EB02, EB05, EB13, EB14, and WB01. With the exception of NSA EB11 (i.e., Somerset Park), noise abatement was also not considered for residential developments that are under construction (i.e., have an active construction permit) along the project corridor. During the design phase of the project, these developments will be evaluated to determine if they meet the criteria for consideration of noise abatement measures.

3.1.1 Somerset Park, Somerset Crossings, Lake Nona Ariel Apartments (NSAs EB10, EB11, and EB12)

NSA EB10 represents the neighborhood of Somerset Park and consists of single family residences located along the eastbound side of SR 417 and west of Wyndham Lakes Boulevard (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) at 33 residences and one special land use (i.e., community playground) within this community; therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.1.1**.

NSA EB11 represents the neighborhood of Somerset Crossings (an area of active residential development with some construction permits obtained for residential buildings) and consists of multi-family residences located along the eastbound side of Osceola Parkway Extension between Wyndham Lakes Boulevard and Boggy Creek Road, north of Beacon Park Boulevard (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) at 22 residences within this community; therefore, noise barriers were

evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.1.2**.

NSA EB12 represents the Lake Nona Ariel Apartments located on the eastbound side of Osceola Parkway Extension, just west of Boggy Creek Road. Patios and balconies associated with the dwelling units in these buildings are facing towards SR 417 (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) at 15 residences within this community; therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.1.3**.

Noise barriers were initially evaluated for each of the NSAs separately and these results are summarized in **Tables 3.1.1.1** through **3.1.1.3**. However, due to the proximity of the NSAs, it was determined that they should be evaluated as one continuous NSA to provide noise abatement at the 70 impacted receptor sites.

Of the conceptual noise barrier designs evaluated, SM-CD4 represents the optimal conceptual noise barrier that would be recommended at this location. Conceptual Barrier Design SM-CD4 represents a combination of an 8-foot and 14-foot tall shoulder mounted noise barrier starting at Station 905+00 and continues to Station 972+00 for a length of 6,700 feet. An 8-foot tall shoulder mounted noise barrier is the maximum allowable height on bridges. SM-CD4 would benefit a total of 107 residents, including the 70 impacted residences, and the special land use. The proposed noise barrier would provide an average noise reduction of 7.6 dB(A) at benefited receptor sites with a maximum noise reduction of 10.8 dB(A). The estimated construction cost of this conceptual noise barrier design is \$2,760,000 or \$25,794 per benefited residence.

Conceptual Noise Barrier Design SM-CD4 is recommended for further consideration and public input during the project's design phase. It should be noted that the final decisions on noise barrier dimensions are made during the project's design phase and based on input from adjacent residential properties benefitted by a noise barrier(s). This segment of SR 417 west of Boggy Creek Road was not included in the 2017 PD&E Noise Study. Therefore, the assessment of noise impacts and the evaluation of the feasibility and reasonableness of noise barriers were not previously evaluated.

3.1.2 Beacon Park (NSA WB05)

Noise Sensitive Area WB05 encompasses the single family residences within the Beacon Park community located north of SR 417 and west of Wyndham Lakes Boulevard (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) at 45 residences and one special land use site within this community (i.e., community pool and playground); therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.2.1**.

Of the conceptual noise barrier designs evaluated, SM-CD2 represents the optimal conceptual noise barrier that would be recommended at this location. Conceptual Barrier Design SM-CD2 represents a combination of an 8-foot and 14-foot tall shoulder mounted noise barrier starting at Station 908+00 and continues to Station 936+00 for a length of 2,800 feet. An 8-foot tall shoulder mounted noise barrier is the maximum allowable height on bridges. SM-CD2 would benefit the

special land use and 42 of the 45 impacted residences; and would provide an average noise reduction of 8.6 dB(A) at benefited receptor sites with a maximum noise reduction of 11.0 dB(A). The estimated construction cost of this conceptual noise barrier design is \$1,122,000 or \$26,714 per benefited residence.

Conceptual Noise Barrier Design SM-CD2 is recommended for further consideration and public input during the project's design phase. It should be noted that the final decisions on noise barrier dimensions are made during the project's design phase and based on input from adjacent residential properties benefitted by a noise barrier(s). This segment of SR 417 west of Boggy Creek Road was not included in the 2017 PD&E Noise Study. Therefore, the assessment of noise impacts and the evaluation of the feasibility and reasonableness of noise barriers were not previously evaluated.

3.1.3 Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods (NSA EB08); and Scattered Residences along High Plains Lane (NSA EB07)

NSA EB08 represents the neighborhoods of Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve and consists of single family residences located on the eastbound side of Osceola Parkway Extension east and north of Boggy Creek Road, from Boggy Creek Road to the eastern boundary of Turnberry Reserve (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) or experience a substantial increase at 63 residences; therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.3.1**.

NSA EB07 represents scattered residences along High Plains Lane and consists of single family residences located on the eastbound side of Osceola Parkway Extension between the Turnberry Reserve neighborhood and Boggy Creek Road (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) or experience a substantial increase at three residences; therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.3.2**.

Two barrier locations were evaluated within these NSAs. The first location evaluated was to provide benefit to the 33 impacted residents within Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village. Of the conceptual noise barrier designs evaluated, GM-CD5 represents the optimal conceptual noise barrier that would be recommended at this location. Conceptual Barrier Design GM-CD5 represents a 22-foot tall ground mounted noise barrier starting at Station 102+00 (along the Simpson Road Extension) and continues to Station 207+00 (along the OPE) for a length of 8,200 feet. GM-CD5 would benefit a total of 146 residents, including 30 of 33 impacted residences located between Boggy Creek Road and Springlake Village. Conceptual Barrier Design GM-CD5 would provide an average noise reduction of 8.0 dB(A) at benefited receptor sites with a maximum noise reduction of 12.9 dB(A). The estimated construction cost of this conceptual noise barrier design is \$5,412,000 or

\$37,068 per benefited residence. In the 2017 NSR, a noise barrier was recommended at this location with a height of 22 feet and a length of 7,880 feet.

The second location evaluated was to provide benefit to the 33 impacted residents within Turnberry Reserve and NSA EB07. Of the conceptual noise barrier designs evaluated, GM-CD4 represents the optimal conceptual noise barrier that would be recommended at this location. Conceptual Barrier Design GM-CD4 represents a 22-foot tall ground mounted noise barrier starting at Station 213+00 and continues to Station 238+00 for a length of 2,600 feet. GM-CD4 would benefit a total of 43 residents, including 28 of 33 impacted residences. Conceptual Barrier Design GM-CD4 would provide an average noise reduction of 8.3 dB(A) at benefited receptor sites with a maximum noise reduction of 12.7 dB(A). The estimated construction cost of this conceptual noise barrier design is \$1,716,000 or \$39,907 per benefited residence. In the 2017 NSR, a noise barrier was not considered feasible or reasonable at this location.

Conceptual Noise Barrier Designs GM-CD5 and GM-CD4 are recommended for further consideration and public input during the project's design phase. It should be noted that the final decisions on noise barrier dimensions are made during the project's design phase and based on input from adjacent residential properties benefitted by a noise barrier(s).

3.1.4 Scattered Residences along Eastbound Boggy Creek Road and Rustic Acres Neighborhood (NSA EB06)

NSA EB06 represents scattered residences along eastbound Boggy Creek Road and the neighborhood of Rustic Acres and consists of single family residences located on the eastbound side of Osceola Parkway Extension south and east of Boggy Creek Road between High Plains Road and Rustic Drive (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) or experience a substantial increase at 9 residences; therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.4.1**.

Of the conceptual noise barrier designs evaluated, GM-CD2 represents the optimal conceptual noise barrier. Conceptual Barrier Design GM-CD2 represents a 22-foot tall ground mounted noise barrier starting at Station 272+00 and continues to Station 312+00 for a length of 4,200 feet. GM-CD2 would benefit 2 of the 9 impacted residents. Conceptual Barrier Design GM-CD2 would provide an average noise reduction of 5.1 dB(A) at benefited receptor sites with a maximum noise reduction of 5.1 dB(A). The estimated construction cost of this conceptual noise barrier design is \$2,772,000 or \$1,386,000 per benefited residence. This barrier is not able to meet FDOT's noise reduction design goal of a 7dB(A) at an impacted receptor site. In addition, this noise barrier does not meet the cost criteria of \$42,000 or less per benefited receptor, therefore a noise barrier is not recommended for further consideration at this location. In addition, in the 2017 NSR, a noise barrier was not considered feasible or reasonable at this location.

3.1.5 Fells Landing (NSA EB03)

NSA EB03 represents the neighborhood of Fells Landing and consists of single family residences located on the eastbound side of Osceola Parkway Extension just west of Narcoossee Road (see **Figure 4.1**). Design year (2045) noise levels for the Build Alternative are predicted to meet or exceed the FDOT NAC of 66 dB(A) or experience a substantial increase at 23 residences; therefore, noise barriers were evaluated at this location. The results of the noise barrier analysis for this area are summarized in **Table 3.1.5.1**.

Of the conceptual noise barrier designs evaluated, GM-CD3 represents the optimal conceptual noise barrier. Conceptual Barrier Design GM-CD3 represents a ground mounted noise barrier that ranges in height from 18-feet tall to 22-feet tall starting at Station 349+20 and continues to Station 360+00 for a length of 1,080 feet. GM-CD3 would benefit 16 of the impacted residents. Conceptual Barrier Design GM-CD3 would provide an average noise reduction of 6.1 dB(A) at benefited receptor sites with a maximum noise reduction of 7.2 dB(A). The estimated construction cost of this conceptual noise barrier design is \$667,890 or \$41,743 per benefited residence.

Conceptual Noise Barrier Design GM-CD3 is recommended for further consideration and public input during the project's design phase. It should be noted that the final decisions on noise barrier dimensions are made during the project's design phase and based on input from adjacent residential properties benefitted by a noise barrier(s). In the 2017 NSR, a noise barrier was not considered feasible or reasonable at this location.

4.0 Conclusion

A traffic noise study was performed in accordance with 23 CFR 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (July 13, 2010) and the FDOT's PD&E Manual, Part 2, Chapter 18, Highway Traffic Noise (January 14, 2019). The purpose of this noise study is to update the noise analysis to reflect the design changes since the 2017 PD&E Noise Study Report.

Design year (2045) traffic noise levels for the Preferred Build Alternative will result in impacts to 217 residences and two special land use sites within the project limits. The design year noise levels at these impacted sites will either meet or exceed the FDOT NAC or will result in a 15 dB(A) increase over the existing noise levels. The 219 noise sensitive sites impacted by the project are located within nine (i.e., EB10, EB11, EB12, WB05, EB08, EB07, EB06, EB03, and WB04) of the 17 NSAs evaluated. In accordance with FHWA and FDOT policies, the feasibility and reasonableness of noise barriers were considered for these impacted noise sensitive sites within these nine NSAs.

Of the nine impacted NSAs, noise barriers were not considered a feasible abatement option for WB04. The four impacted sites within this residential community represent isolated residences. Since the impacted residential receptor sites represent isolated residences, noise barriers were not considered acoustically feasible. For a noise barrier to be considered an acoustically feasible abatement measure, it must benefit at least two impacted receptor sites.

The results of the noise barrier analysis for the other eight NSAs are summarized in **Table 4.1**. Noise barriers are recommended for further consideration during the project's design phase and for public input within seven of the eight NSAs. The locations and limits of the recommended noise barriers are presented in **Table 4.1** and are shown in **Figure 4.1**. The recommended noise barriers within these seven NSAs are expected to reduce traffic noise by at least 5 dB(A) at 354 residences including 186 of the 217 impacted residences along the project corridor. The estimated cost of the recommended noise barriers is \$11,677,890. Additional noise barrier analysis will be performed during the project's design phase when more detailed project design information is available. It is during the project's design phase that final decisions regarding noise barrier length and height are made and an engineering constructability review is conducted to confirm that the noise barrier is feasible and support for noise barriers from the benefited noise sensitive sites is determined. Therefore, the heights of the noise barriers and costs are still subject to change during the project's design phase.

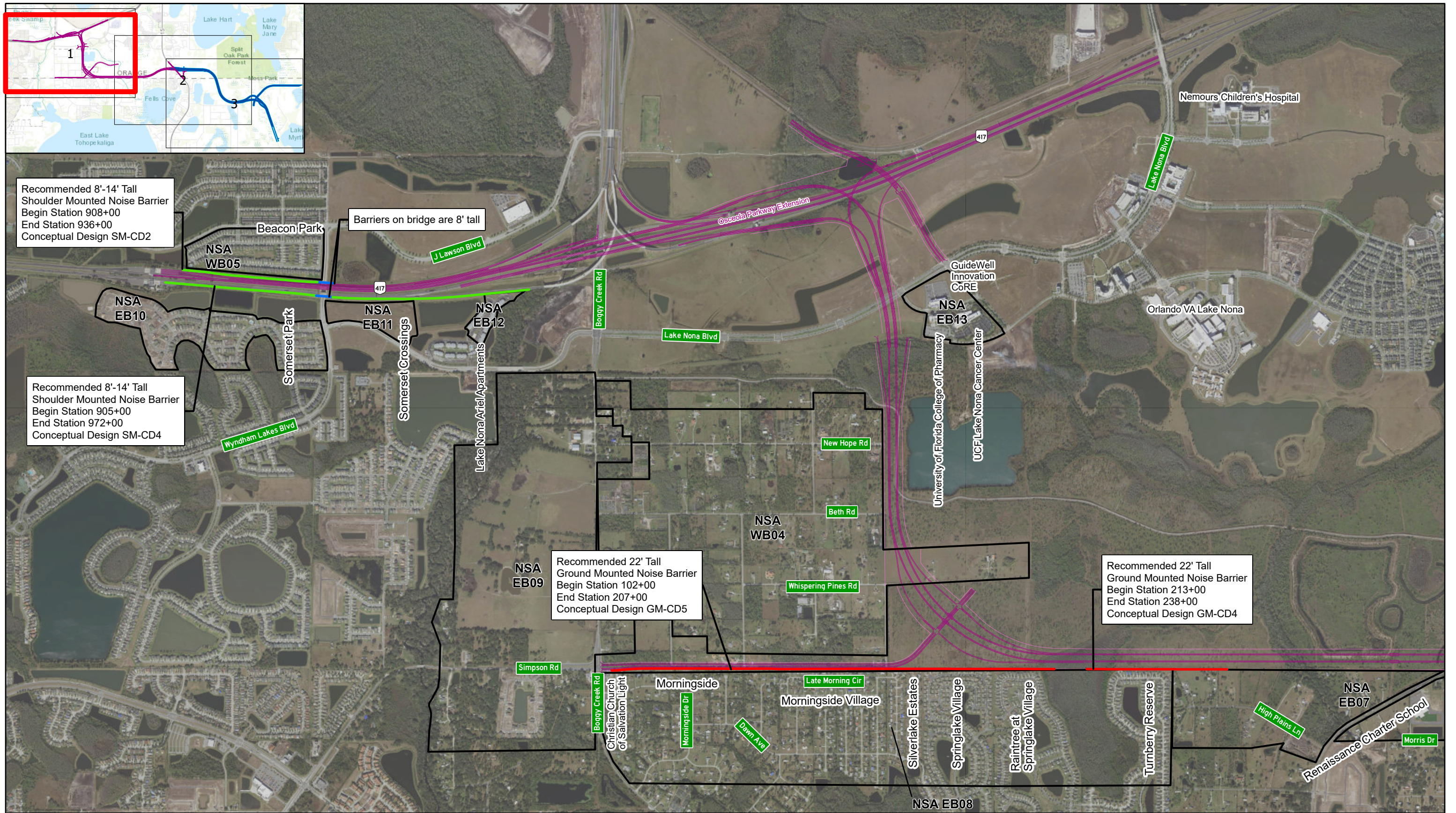
Noise barriers are not recommended for further consideration at one NSA (i.e., EB06). The cost to construct noise barriers at this location exceeds FDOT's reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site and/or the optimal/lowest cost conceptual noise barrier design did not meet the minimum noise reduction design goal of 7 dB(A) for at least one impacted residence.

Based on the noise analysis performed to date, there appears to be no apparent solutions available to mitigate the noise impacts at 31 of the 217 impacted residences. Therefore, impacts to these and other noise sensitive sites along the project corridor are an unavoidable consequence of the project.

Table 4.1: Noise Barrier Evaluation Summary and Recommendations

Noise Sensitive Area Name / Number	Conceptual Noise Barrier Design Number (Type)	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Noise Barrier Recommended for Further Consideration and Public Input?	Comments
Noise Sensitive Areas EB08, EB07, EB06, and EB05 from Boggy Creek Road to Narcoossee Road(See Figure 4.1 Sheet 1)																
Morningside Village, Silver Lake Estates, Springlake Village and Raintree at Springlake Village / NSA EB08	GM-CD5 (Ground Mounted Noise Barrier)	22	8,200	102+00 (Simpson Rd Extension)	207+00 (OPE)	33	30	116	146	8.0	12.9	\$5,412,000	\$37,068	YES	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input during the project's design phase.
Turnberry Reserve and Homes West / NSA EB08 / NSA EB07	GM-CD4 (Ground Mounted Noise Barrier)	22	2,600	213+00	238+00	33	28	15	43	8.3	12.7	\$1,716,000	\$39,907	YES	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input during the project's design phase. Barrier is able to provide some benefit to homes with NSA 07.
Scattered Residence along Eastbound Boggy Creek Road and Rustic Acres Neighborhood/ Fells Cove Neighborhood NSA EB06 / NSA EB05	GM-CD2 (Ground Mounted Noise Barrier)	22	4,200	272+00	312+00	9	2	0	2	5.1	5.1	\$2,772,000	\$1,386,000	NO	NO	The conceptual design does not meet FDOT's 7.0 dB(A) Noise Reduction Design Goal, or the Reasonableness Cost Criteria. A noise barrier is not recommended for further consideration or public input during the project's design phase at this location.
Noise Sensitive Area EB03 from West of Narcoossee Road and North of Boggy Creek Road (See Figure 4.1 Sheet 2)																
Fells Landing / NSA EB03	GM-CD3 (Ground Mounted Noise Barrier)	18	80	349+20	350+00	23	16	0	16	6.1	7.2	\$667,890	\$41,743	YES	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input during the project's design phase.
		20	500	350+00	355+00											
		22	400	355+00	359+00											
		20	100	359+00	360+00											
Noise Sensitive Area WB05 Beacon Park - North of SR 417 from the Toll Booth to Wyndham Lakes Blvd (See Figure 4.1 Sheet 1)																
Beacon Park / NSA WB05	SM-CD2 (Shoulder Mounted Noise Barrier)	8	300	933+00	936+00	45	42	0	42	8.6	11.0	\$1,122,000	\$26,714	YES	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input during the project's design phase.
		14	2,500	908+00	933+00											
Noise Sensitive Areas EB10, EB11, and EB12 Somerset Park, Somerset Crossing and Lake Nona Ariel Apartments - South of SR 417 from the Toll Booth to EB Off Ramp to NB Boggy Creek Road (See Figure 4.1 Sheet 1)																
Somerset Park/ Somerset Crossing/Lake Nona Ariel Apartments / NSA EB10 / NSA EB11 / NSA EB12	SM-CD4 (Shoulder Mounted Noise Barrier)	14	2,800	905+00	933+00	70	70	37	107	7.6	10.8	\$2,760,000	\$25,794	YES	YES	'Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input during the project's design phase.
		8	300	933+00	936+00											
		14	3,600	936+00	972+00											

\\randh.com\files\Transportation\Noise_Studies\Oceola_Pkwy_OPE\Noise Study Report\Tables\Tables_4.1_NoiseBarrierAnalysis&Summary_November2019.xlsx\SummaryTable



SR 417/Osceola Parkway Extension Project
 Development and Environment (PD&E)
 Study Near Boggy Creek Rd. in Orange
 County, Florida and Cyrils Dr. in Osceola
 County, Florida
 Contract No.: 001250

**CENTRAL
 FLORIDA
 EXPRESSWAY
 AUTHORITY**
 Date: November 2019

□ Noise Sensitive Areas (NSA)

Proposed Noise Barriers

Height (ft)
 — 8
 — 14

— 18

— 20

— 22

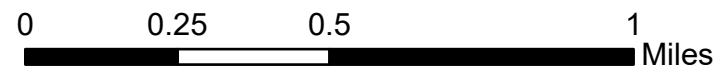
Proposed Improvements

— Lake Nona

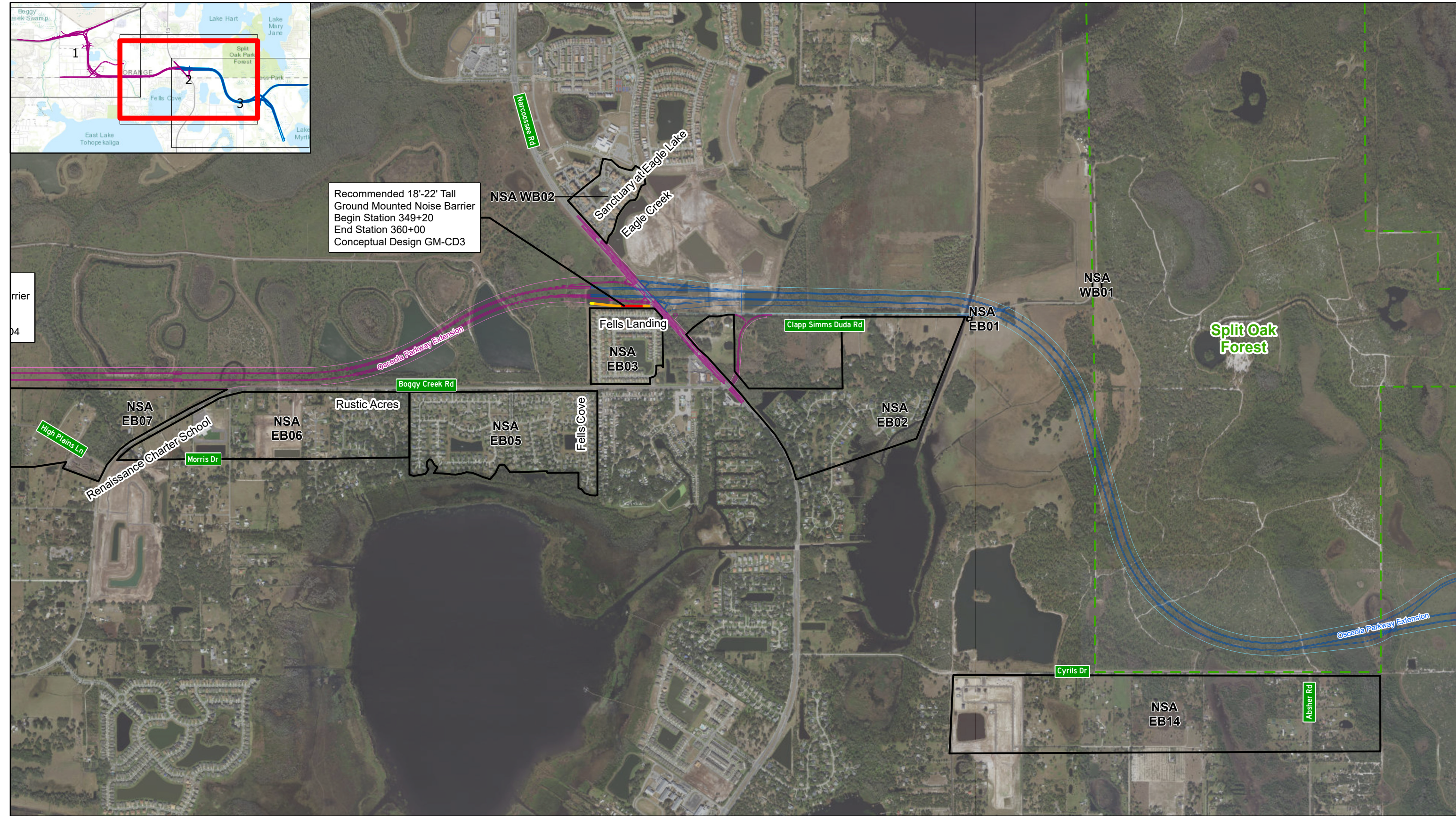
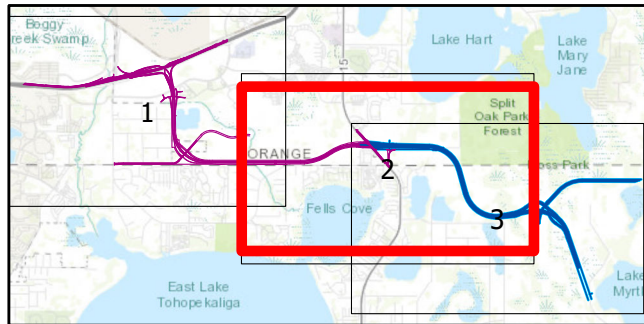
— Lake Nona - Proposed ROW

— Split Oak

— Split Oak - Proposed ROW



**Figure 4.1
 Noise Barrier
 Recommendation Map**



SR 417/Osceola Parkway Extension Project
 Development and Environment (PD&E)
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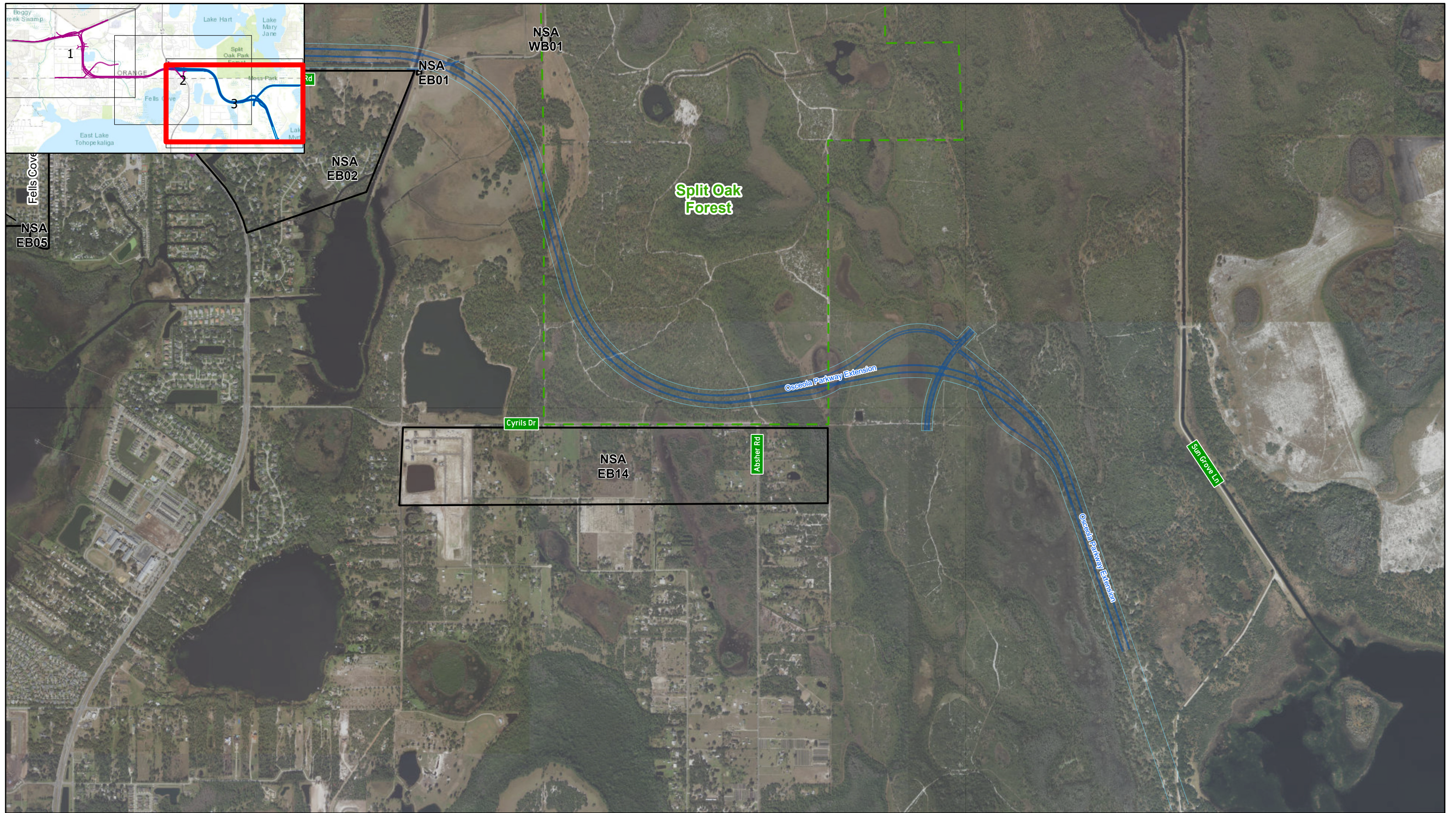
□ Noise Sensitive Areas (NSA)
Proposed Noise Barriers
 Height (ft)
 — 8
 — 14

— 18
 — 20
 — 22
Proposed Improvements
 — Lake Nona

— Lake Nona - Proposed ROW
 — Split Oak
 — Split Oak - Proposed ROW



**Figure 4.1
 Noise Barrier
 Recommendation Map**



SR 417/Osceola Parkway Extension Project
 Development and Environment (PD&E)
 Study Near Boggy Creek Rd. in Orange
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 County, Florida
 Contract No.: 001250

**CENTRAL
 FLORIDA
 EXPRESSWAY
 AUTHORITY**
 Date: November 2019

□ Noise Sensitive Areas (NSA)

Proposed Noise Barriers

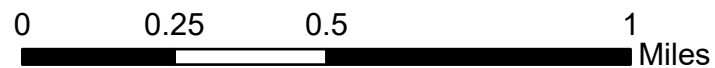
Height (ft)
 — 8
 — 14

— 18
 — 20
 — 22

Proposed Improvements

— Lake Nona

— Lake Nona - Proposed ROW
 — Split Oak
 — Split Oak - Proposed ROW



**Figure 4.1
 Noise Barrier
 Recommendation Map**

5.0 Construction Noise and Vibration

During construction of the project, there is the potential for noise impacts to be substantially greater than those resulting from normal traffic operations because heavy equipment is typically used to build roadways. In addition, construction activities may result in vibration impacts. Therefore, early identification of potential noise/vibration sensitive sites along the project corridor is important in minimizing noise and vibration impacts. The project area does include residential, commercial, and institutional land uses. Construction related noise and vibration impacts to these sites will be minimized by adherence to the controls listed in the latest edition of the FDOT's Standard Specifications for Road and Bridge Construction. A reassessment of the project corridor for additional sites particularly sensitive to construction noise and/or vibration will be performed during the project's design phase to ensure that impacts to such sites are minimized.

6.0 References

23 CFR Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise", Federal Register, Vol. 75, No. 133, Tuesday, July 13, 2010; pages 39834-39839.

Federal Highway Administration Report FHWA-HEP-10-025, "Highway Traffic Noise: Analysis and Abatement Guidance", June 2010 (revised December 2010); 76 pages.

Federal Highway Administration Report FHWA-PD-96-009, "FHWA Traffic Noise Model, Version 1.0 User's Guide", January 1998; 192 pages + supplements.

Federal Highway Administration Report Number FHWA-PD-96-046, "Measurement of Highway-Related Noise", Cynthia S.Y. Lee and Gregg Fleming; May, 1996; 206 pages.

Federal Highway Administration Report FHWA-HEP-06-015, "FHWA Highway Construction Noise Handbook: Final Report". August 2006; 185 pages.

Florida Department of Transportation. "Highway Traffic Noise", Part 2, Chapter 18. Project Development and Environment Manual, Florida Department of Transportation, Tallahassee, January 14, 2019.

Florida Department of Transportation. "Design Manual, Topic No. 625-000-002", Part 2, Section 264, Noise Walls and Perimeter Walls, 2018.

Florida Department of Transportation "Standard Specifications for Road and Bridge Construction", August 2019.

Florida Department of Transportation "Traffic Noise Modeling and Analysis Practitioners Handbook", January 2016.

University of Central Florida "A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations", Roger L. Wayson and John M. MacDonald, Updated July 22, 2009; 64 pp. Available from: Florida Department of Transportation, Environmental Management Office, 605 Suwannee Street, M.S. 37, Tallahassee, FL 32399-0450.

Appendix A
*Referenced Pages from 2017 Noise Study Report for
Osceola Parkway Extension PD&E Study*

Noise Study Report

for

Project Development and Environment (PD&E) Study

Osceola Parkway Extension

From West of Boggy Creek Road to the Proposed Northeast Connector Expressway and Boggy Creek Road/SR 417 Access Road

(FPID: 432134-1-22-01 and FPID: 432134-2-22-01)

Osceola and Orange Counties, Florida

ETDM No. 13789

Prepared for:



May 2017

The receptor locations are shown on the project aerials located in Appendix D and the predicted noise levels are shown in Appendix B.

3.4.8 Scattered Residences along Clapp Simms Duda Road and Lake Ajay Village (NSA EB02)

Scattered residences along Clapp Simms Duda Road and Lake Ajay Village are located on the eastbound side of Osceola Parkway Extension between Narcoossee Road and Canal C-29A (Station 394+80 to Station 455+50). Seven receptor points were utilized to represent 7 residences. Noise levels are not predicted to approach or exceed the NAC or increase 15 dB(A) or more for the Build condition for any of the residences and therefore noise abatement was not considered for this location.

The receptor locations are shown on the project aerials located in Appendix D and the predicted noise levels are shown in Appendix B.

3.4.9 Split Oak Forest Trailhead Area (NSA EB01)

A single receptor representing the Split Oak Forest trailhead area with an educational kiosk (RWB01-001) is located on the westbound side of Osceola Parkway Extension just east of Clapp Simms Duda Road at approximately Station 455+05. Noise levels at the receptor location are not predicted to approach or exceed the NAC or increase 15 dB(A) or more for the Build condition and therefore noise abatement was not considered for this location.

The receptor location for the Split Oak Forest trailhead area is shown on the project aerials located in Appendix D and the predicted noise level is shown in Appendix B.

4.0 CONCLUSIONS

For the year 2040 Build condition, a noise impact is predicted to occur at 166 residences. Of these 166 residences, noise levels are predicted to approach or exceed the NAC at 121 residences and are predicted to result in a substantial increase [15.0 dB(A) or greater] at 112 residences when compared to the existing conditions.

In addition to residences (Noise Abatement Criteria Activity Category B), Title 23 Code of Federal Regulations, Part 772 specifies other Activity Categories addressing non-residential noise sensitive sites. Within the project limits, non-residential noise sensitive sites include:

- Activity Category C – Four receptors representing 2 Churches and two receptors representing trailhead areas within the Split Oak Forest Mitigation Park.

- Activity Category D– Four receptors representing 2 Churches

Of the non-residential noise sensitive sites within the project limits, a noise impact is predicted to occur at one church for predicted noise levels in the year 2040 Build condition. The noise levels at the impacted church are predicted to approach or exceed the NAC for Activity Category C [i.e., 67 dB(A)] and are predicted to result in a substantial increase [15.0 dB(A) or greater] when compared to the existing conditions.

Noise barriers were evaluated for the impacted sites. The noise barrier analysis performed to date and summarized in Table 4-1 indicates that noise barriers could potentially provide at least a 5 dB(A) reduction of roadway-related noise for 95 of the 167 impacted sites. Because of the proximity to impacted sites, an additional 82 noise sensitive sites with predicted noise levels that do not approach the NAC may also benefit from noise barriers. Noise barriers were evaluated and determined to not be reasonable and/or feasible for 72 of the 167 impacted noise sensitive sites due to a combination of factors, including the presence of traffic related noise from other arterial roadways, the impacted site being an individual isolated residence, the distance between the impacted site and the Osceola Parkway Extension, and the elevation of the Osceola Parkway Extension mainline in relationship to the elevation of the impacted sites. Additionally, fourteen of the impacted residences are located within proposed footprint of the Osceola Parkway Extension and will be relocated as part of the project. The results of the noise barrier evaluation are summarized by noise sensitive area in Table 4-1.

The PD&E phase analysis indicates that noise barriers are potentially feasible and reasonable at one location. This noise barrier may benefit 95 residences with predicted noise levels that approach or exceed the NAC and an additional 82 residences with predicted noise levels that do not approach the NAC. Table 4-1 shows the noise sensitive area where preliminary noise barriers were determined to be potentially feasible and reasonable. The potentially feasible and reasonable noise barrier meets FDOT's benefit criteria with a preliminary cost of under the \$42,000 per benefited receptor criterion. A noise barrier is likely to be a viable abatement measure at one location along the project limits and will be given further consideration during the Design phase of this project.

**Table 4-1 – Feasible and Reasonable Noise Barrier Evaluation Summary
Osceola Parkway Extension**

Noise Sensitive Area	Number of Impacted Residences ³	Barrier Approx. Begin Station	Barrier Approx. End Station	Preliminary Barrier Height (ft.)	Preliminary Barrier Length (ft.) ⁴	Preliminary Barrier Location	Preliminary Barrier Cost ¹	Number of Residences Potentially Benefited by a Noise Barrier ²		Cost Per Benefited Residence
								Impacted	Total	
NOISE BARRIERS WESTBOUND SIDE OF OSCEOLA PARKWAY EXTENSION MAINLINE										
Orlando Kissimmee Farms (NSA WB04) from Beacon Park Boulevard to Hidden Trail Road	5	NA	NA	NA	NA	NA	NA	0	0	NA
Sanctuary at Eagle Creek (NSA WB02) from Narcoossee Road to Canal C-29A.	31	NA	NA	NA	NA	NA	NA	0	0	NA
Sub-Total Westbound Side							NA	0	0	NA
NOISE BARRIERS EASTBOUND SIDE OF OSCEOLA PARKWAY EXTENSION MAINLINE										
Scattered Residences Along Boggy Creek Road (NSA EB09) / SR 417 to Simpson Road	9	NA	NA	NA	NA	NA	NA	0	0	NA
Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village and Turnberry Reserve (NSA EB08) / Between Boggy Creek Road and the eastern boundary of Turnberry Reserve.	101	165+00	239+80	22	7,880	Non-Shoulder	\$5,200,800	95	177	\$29,383
Scattered Residences Along Boggy Creek Road and Rustic Acres (NSA EB06) / South side of Boggy Creek Road between High Plains Lane and Rustic Drive	10	NA	NA	NA	NA	NA	NA	0	0	NA
Fells Landing (NSA EB03) / West of Narcoossee Road	11	NA	NA	NA	NA	NA	NA	0	0	NA
Sub-Total Eastbound Side							\$ 5,200,800	95	177	
Project Total	167						\$ 5,200,800	95	177	

**Table 4-1 – Feasible and Reasonable Noise Barrier Evaluation Summary
Osceola Parkway Extension**

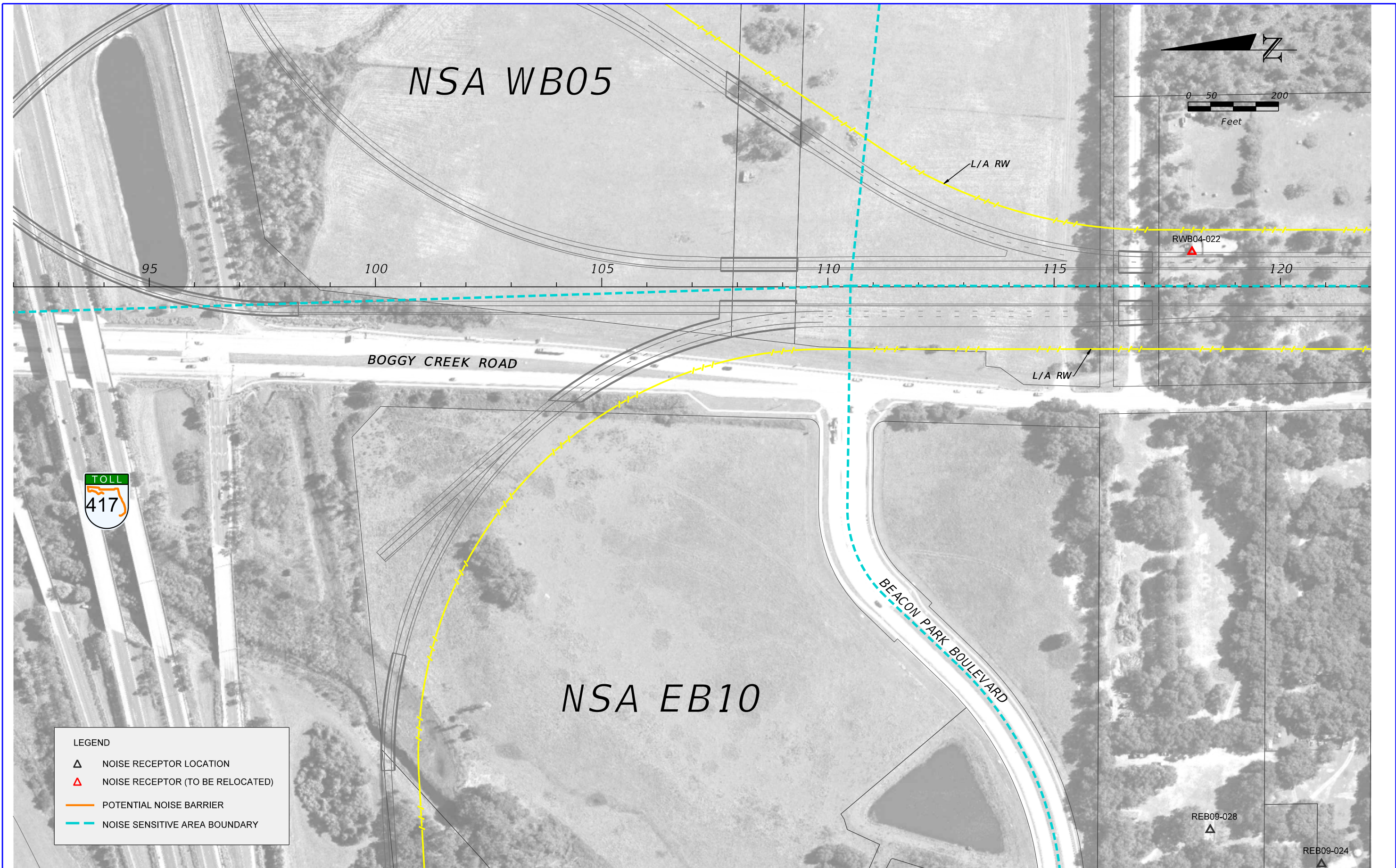
Noise Sensitive Area	Number of Impacted Residences ³	Barrier Approx. Begin Station	Barrier Approx. End Station	Preliminary Barrier Height (ft.)	Preliminary Barrier Length (ft.) ⁴	Preliminary Barrier Location	Preliminary Barrier Cost ¹	Number of Residences Potentially Benefited by a Noise Barrier ²		Cost Per Benefited Residence
								Impacted	Total	

¹ Unit cost of \$30/ft² for all non-shoulder barriers.

² Total includes impacted/benefited residences and residences with a predicted noise level that does not approach or exceed 67 dBA, but are incidentally benefited.

³ Total includes 166 residences and 1 church.

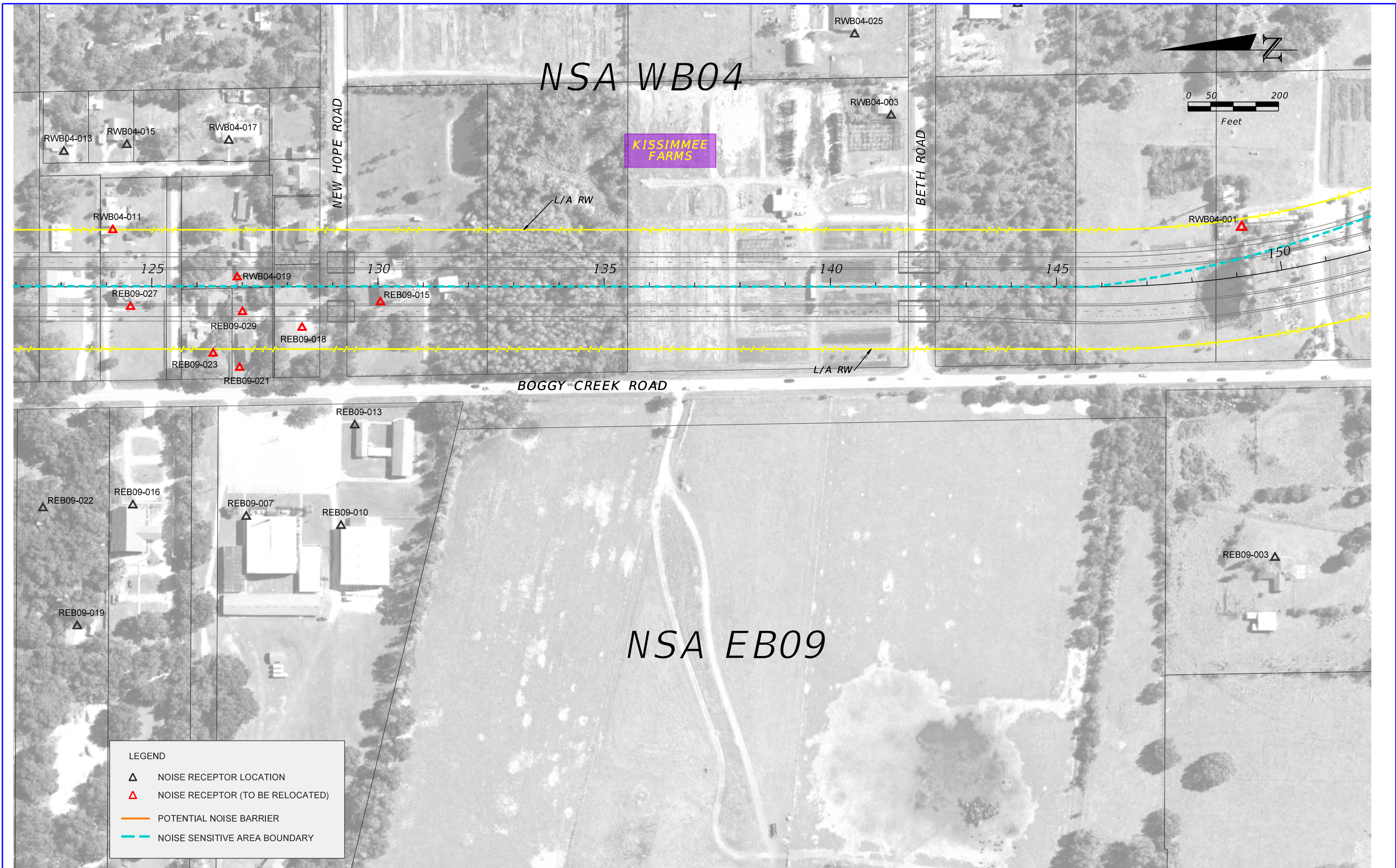
⁴ Full height is for length indicated. The length for any required taper in height at a shoulder barrier termination would be in addition to the length indicated.



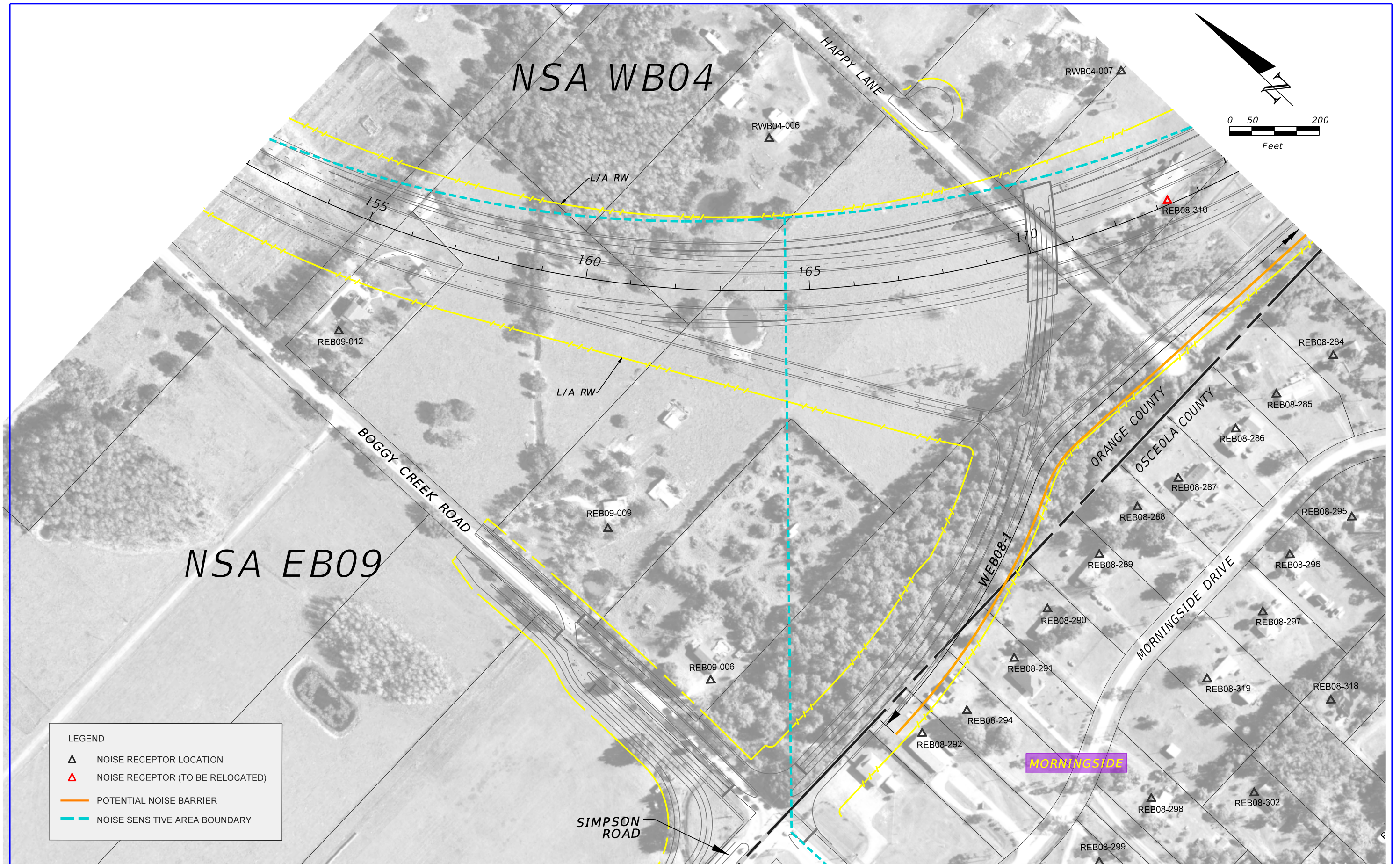
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- ▲ NOISE RECEPTOR (TO BE RELOCATED)
- POTENTIAL NOISE BARRIER
- - - NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		1
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		



REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 2
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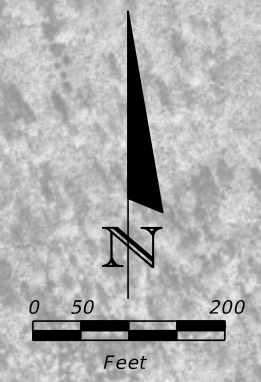


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▲	NOISE RECEPTOR (TO BE RELOCATED)		
—	POTENTIAL NOISE BARRIER		
- - -	NOISE SENSITIVE AREA BOUNDARY		

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 3
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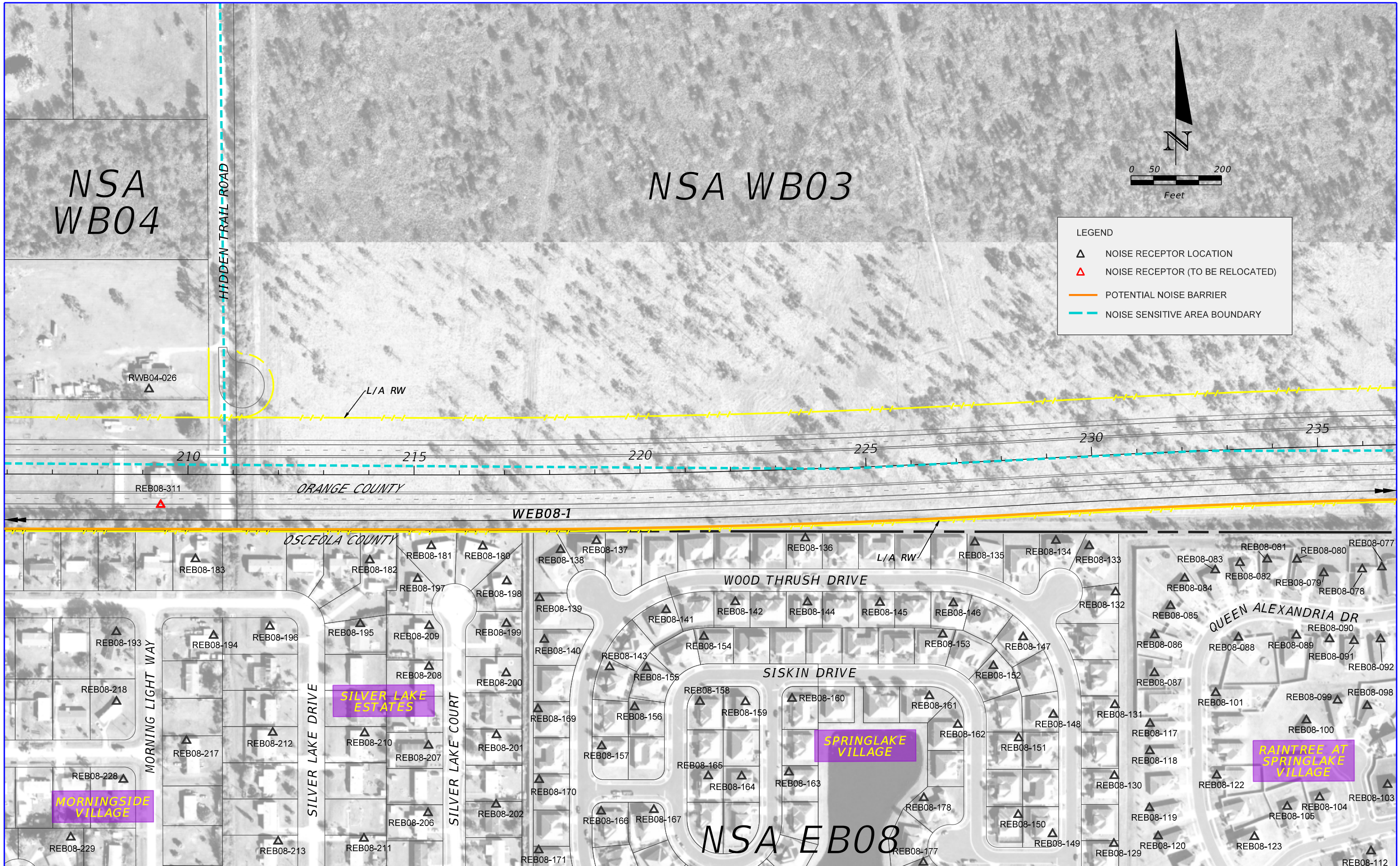
NSA
WB04

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- ▲ NOISE RECEPTOR (TO BE RELOCATED)
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- - - NOISE SENSITIVE AREA BOUNDARY

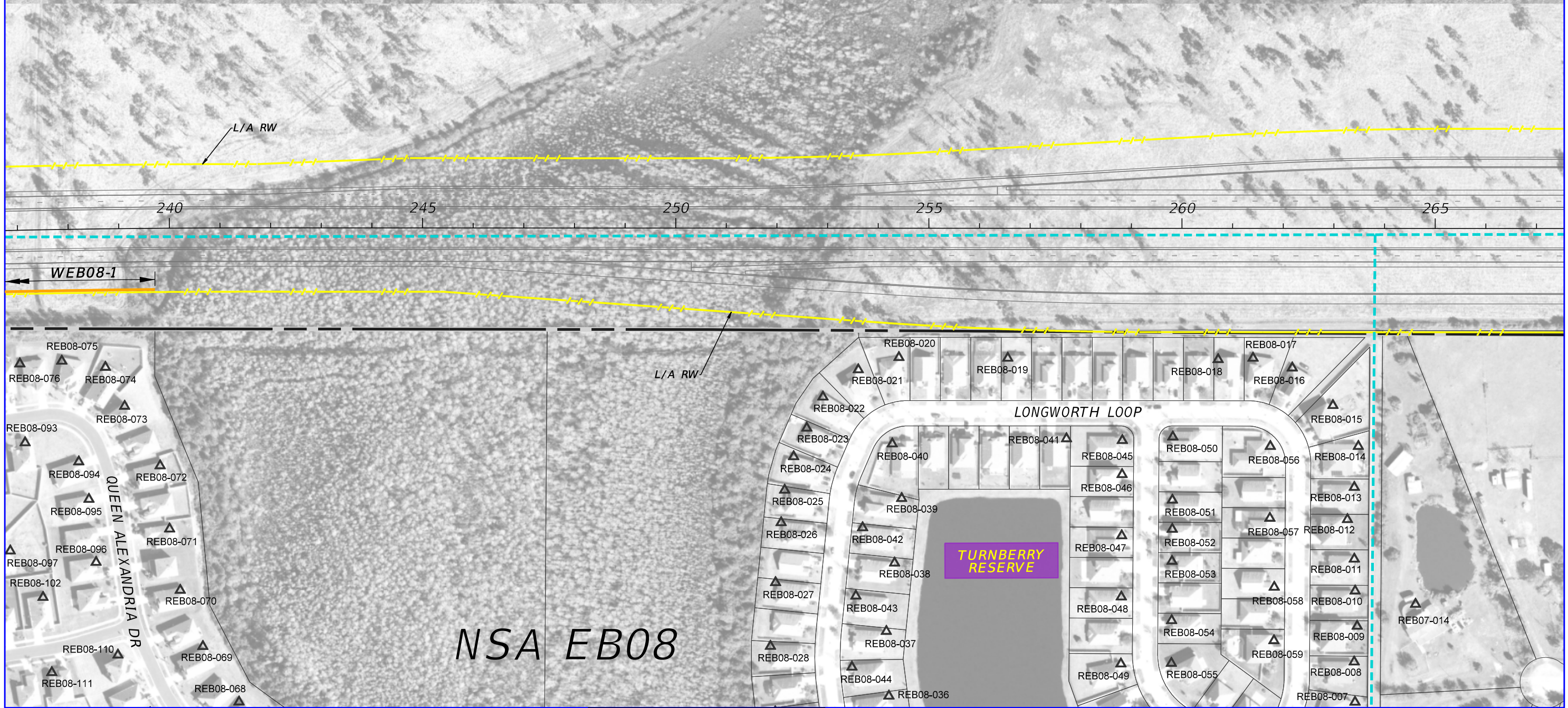
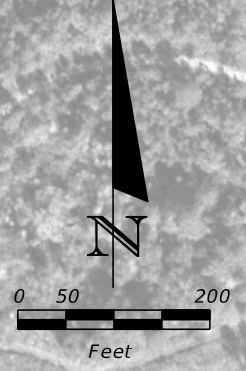


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NSA WB03

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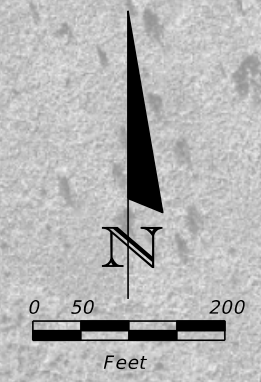


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NSA WB03

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- ▲ NOISE RECEPTOR (TO BE RELOCATED)
- POTENTIAL NOISE BARRIER
- NOISE SENSITIVE AREA BOUNDARY



MEDICAL CITY DR
(FUTURE BY OTHERS)

L/A RW

270

275

280

285

290

295

ORANGE COUNTY

OSCEOLA COUNTY

▲ REB07-006

L/A RW

▲ REB07-012

▲ REB07-010

▲ REB07-010

▲ REB07-007

▲ REB07-013

▲ REB07-011

▲ REB07-005

NSA EB07

HIGH PLAINS LANE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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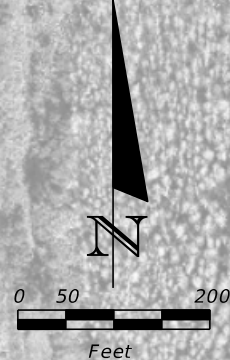
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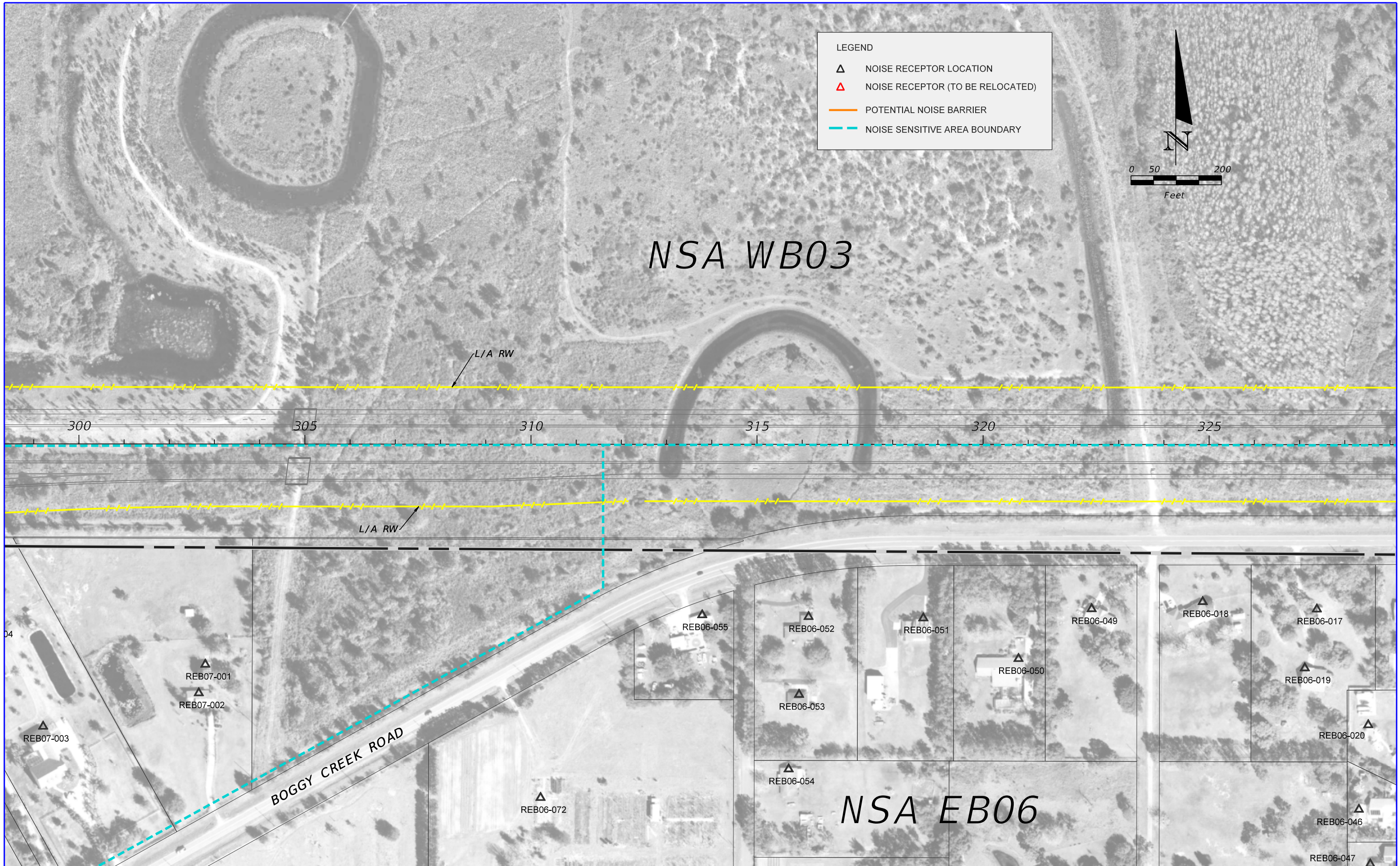
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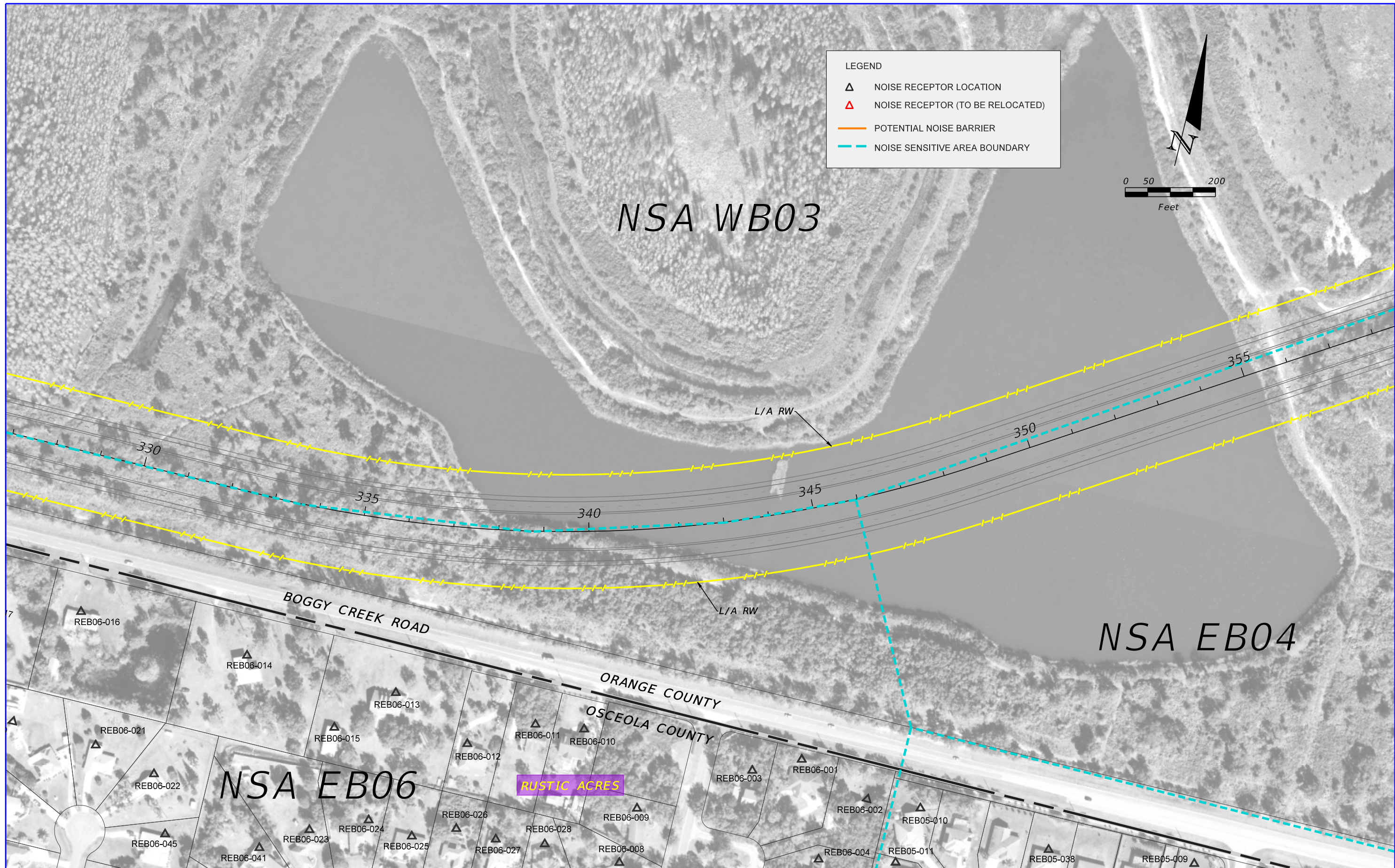
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- POTENTIAL NOISE BARRIER
- NOISE SENSITIVE AREA BOUNDARY



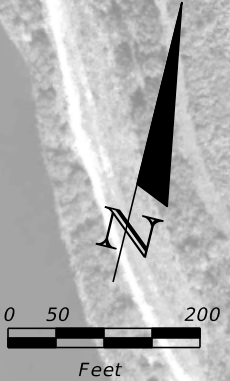
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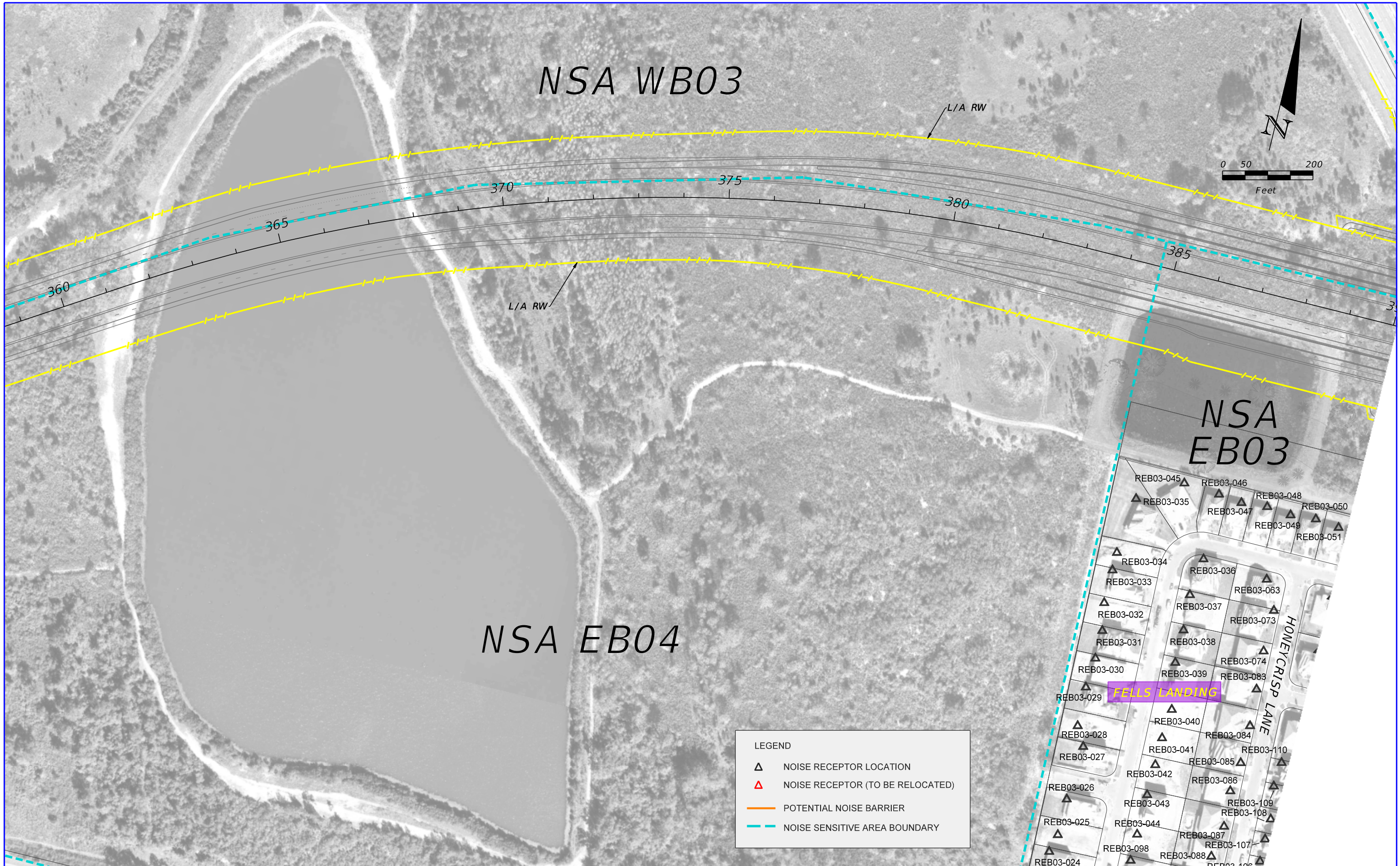
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LEGEND	
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▲	NOISE RECEPTOR (TO BE RELOCATED)
—	POTENTIAL NOISE BARRIER
- - -	NOISE SENSITIVE AREA BOUNDARY



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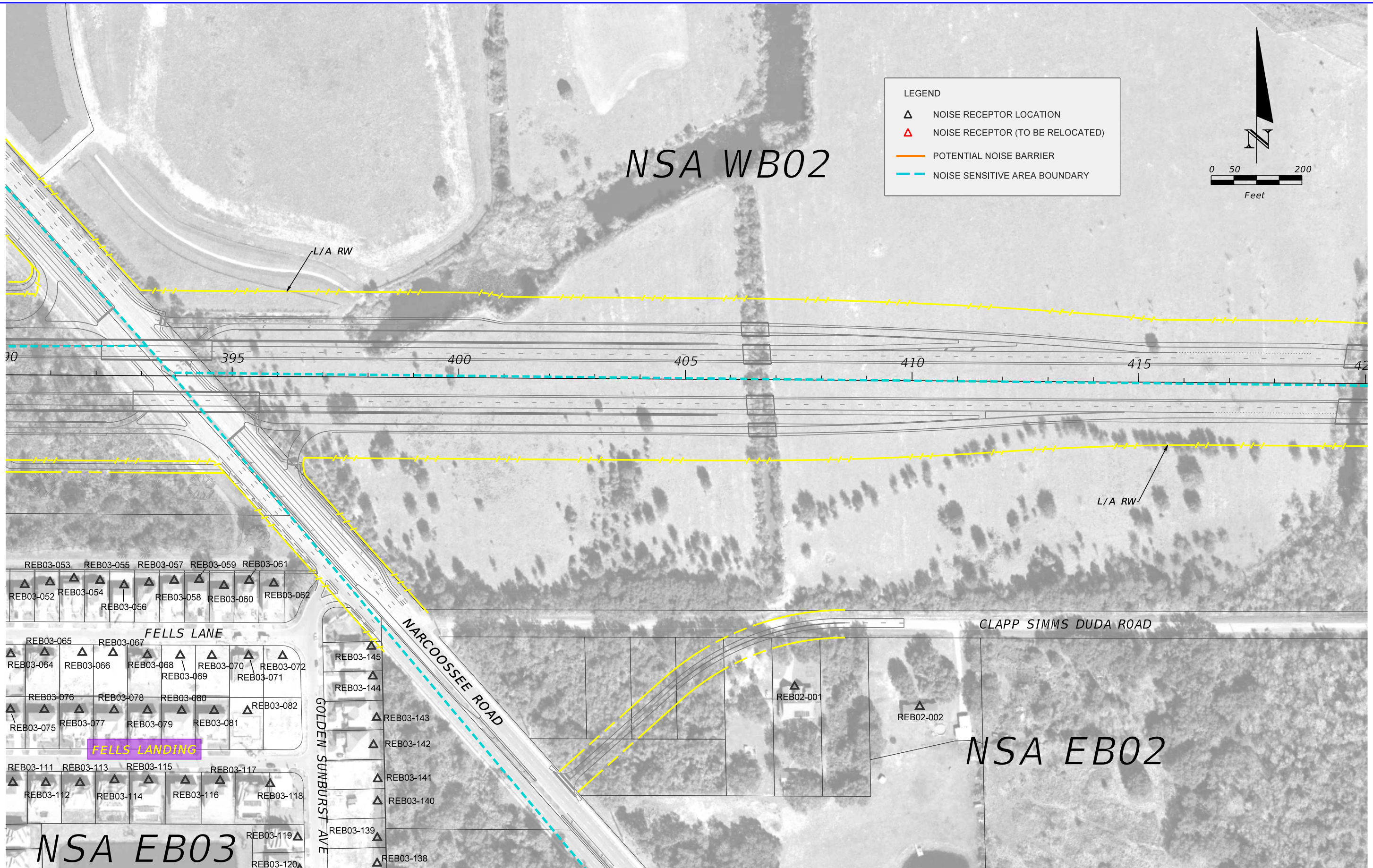
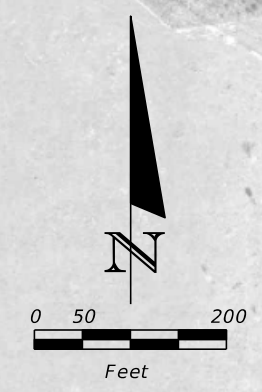
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▲	NOISE RECEPTOR (TO BE RELOCATED)
—	POTENTIAL NOISE BARRIER
—	NOISE SENSITIVE AREA BOUNDARY

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				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		

NSA WB02

LEGEND

- ▲ NOISE RECEPTOR LOCATION
- ▲ NOISE RECEPTOR (TO BE RELOCATED)
- POTENTIAL NOISE BARRIER
- NOISE SENSITIVE AREA BOUNDARY



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

NOISE SPECIALIST
David A. Graeber, PE





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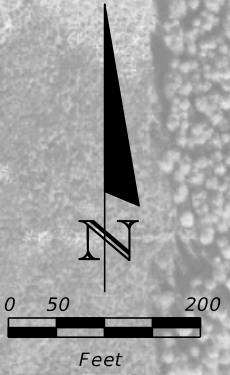
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OSCEOLA PARKWAY
PROJECT AERIALS

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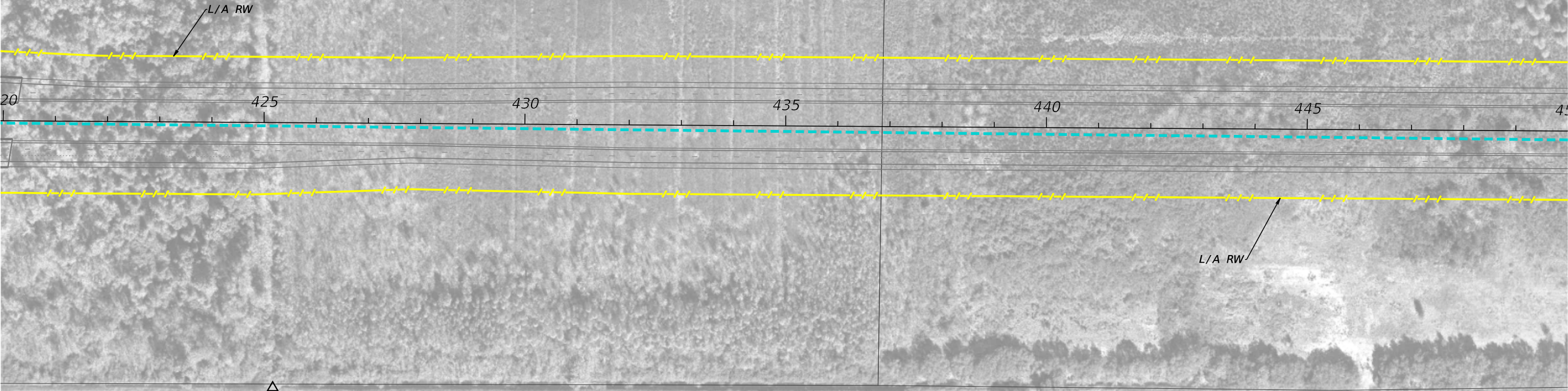
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-  NOISE RECEPTOR LOCATION
-  NOISE RECEPTOR (TO BE RELOCATED)
-  POTENTIAL NOISE BARRIER
-  NOISE SENSITIVE AREA BOUNDARY



Feet

NSA WB02

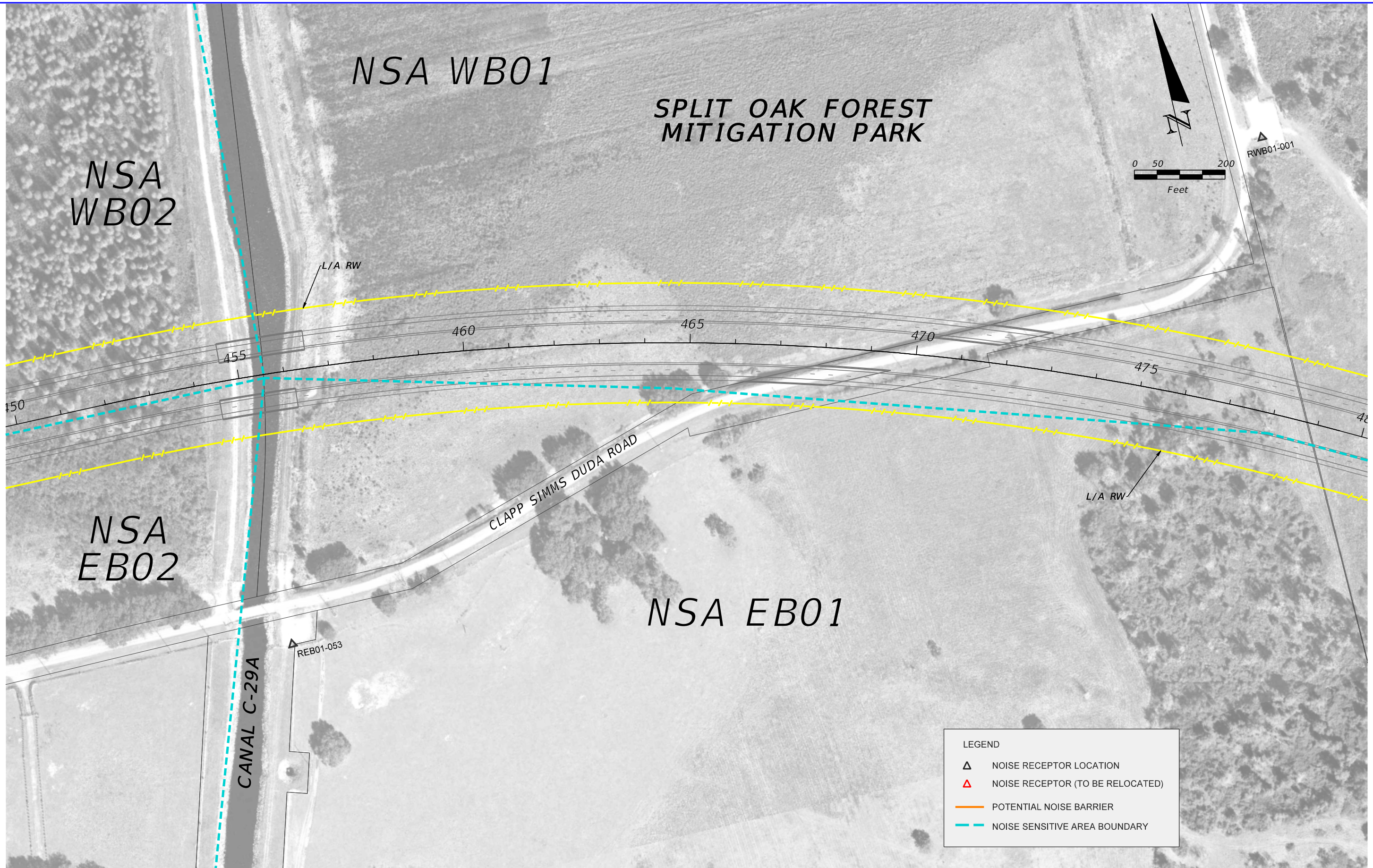


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AC-2

CLAPP SIMMS DUDA ROAD

NSA EB02

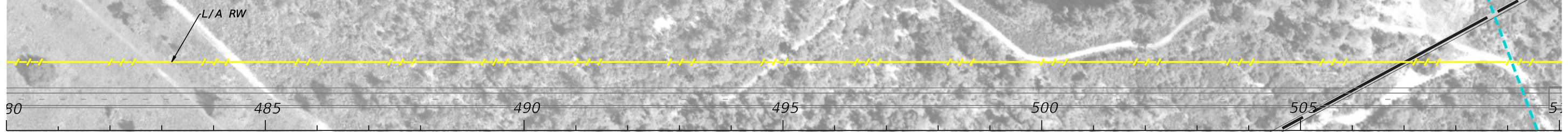
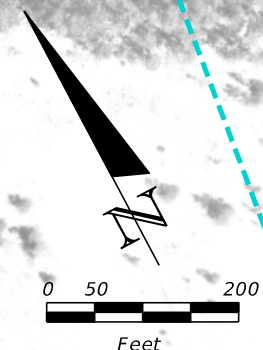
REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 12
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		



REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 13
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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**SPLIT OAK FOREST
MITIGATION PARK
WILDLIFE AND
ENVIRONMENTAL
AREA**

NSA WB01

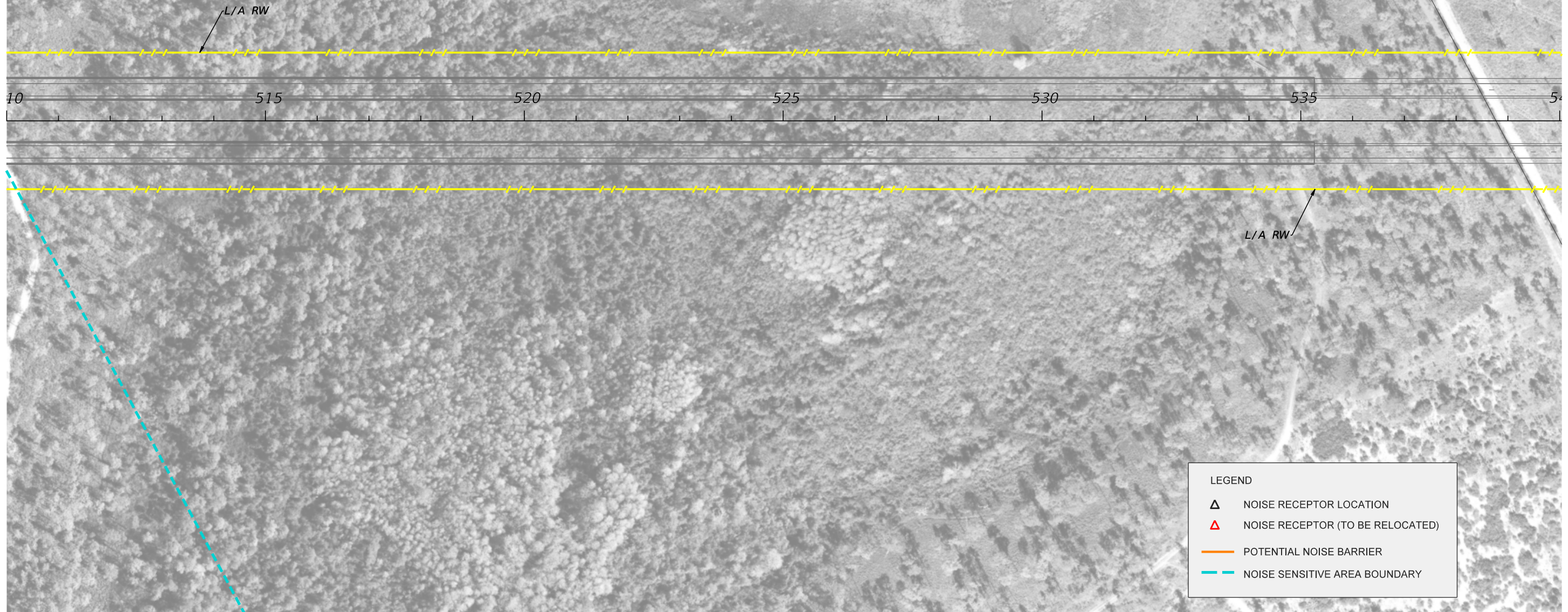
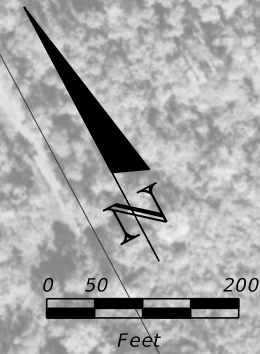


NSA EB01

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	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

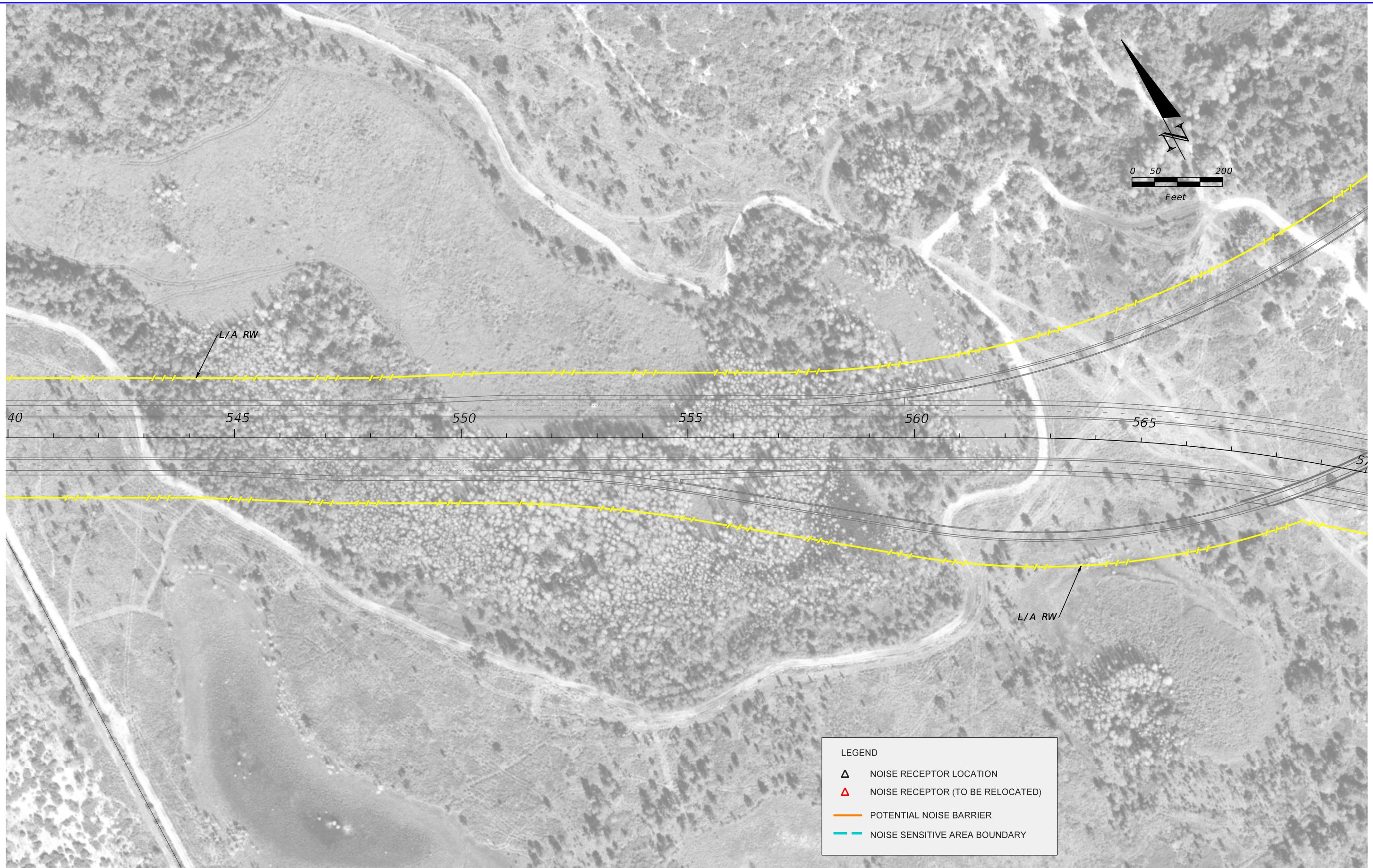
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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		

SPLIT OAK FOREST MITIGATION PARK WILDLIFE AND ENVIRONMENTAL AREA



LEGEND	
	NOISE RECEPTOR LOCATION
	NOISE RECEPTOR (TO BE RELOCATED)
	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		15
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		



LEGEND	
	NOISE RECEPTOR LOCATION
	NOISE RECEPTOR (TO BE RELOCATED)
	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

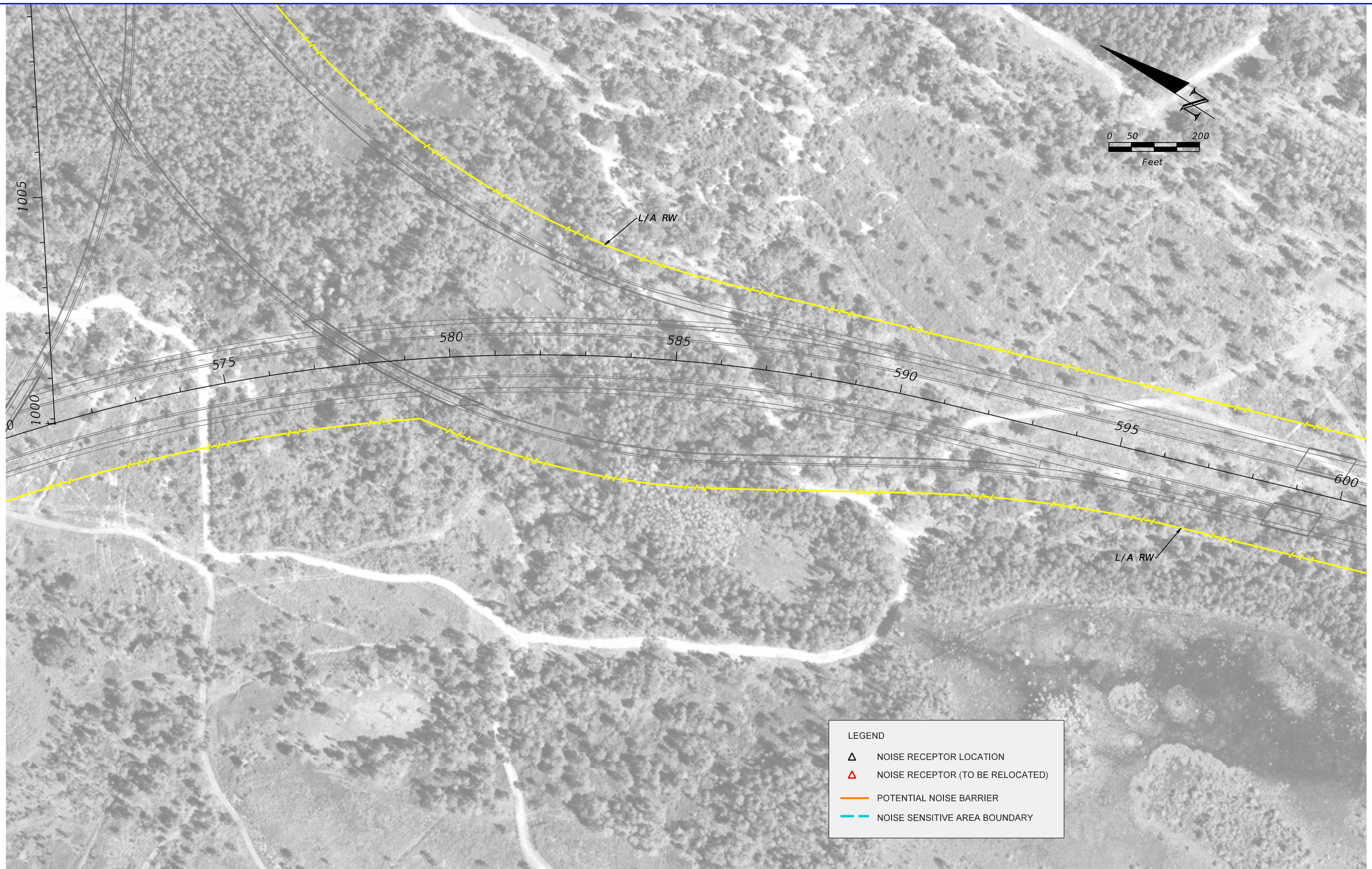
NOISE SPECIALIST
David A. Graeber, PE

Inwood Consulting Engineers, Inc.
Certificate of Authorization No. 7074
3000 Dovera Drive, Suite 200, Oviedo, Florida 32765
P 407.971.8850

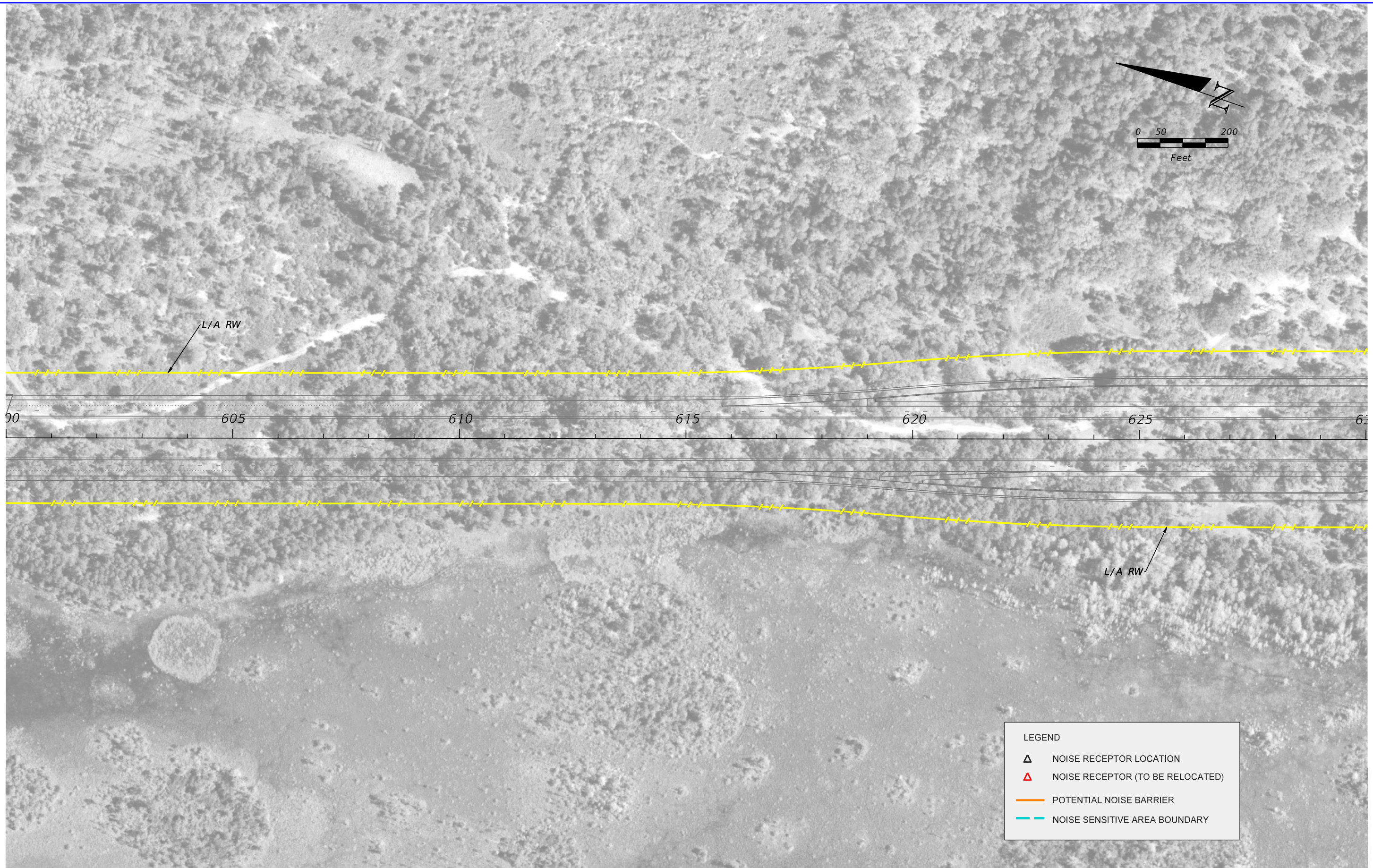
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01

NOISE STUDY REPORT
OSCEOLA PARKWAY
PROJECT AERIALS

SHEET NO.
16



REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 17
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		



LEGEND	
	NOISE RECEPTOR LOCATION
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	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

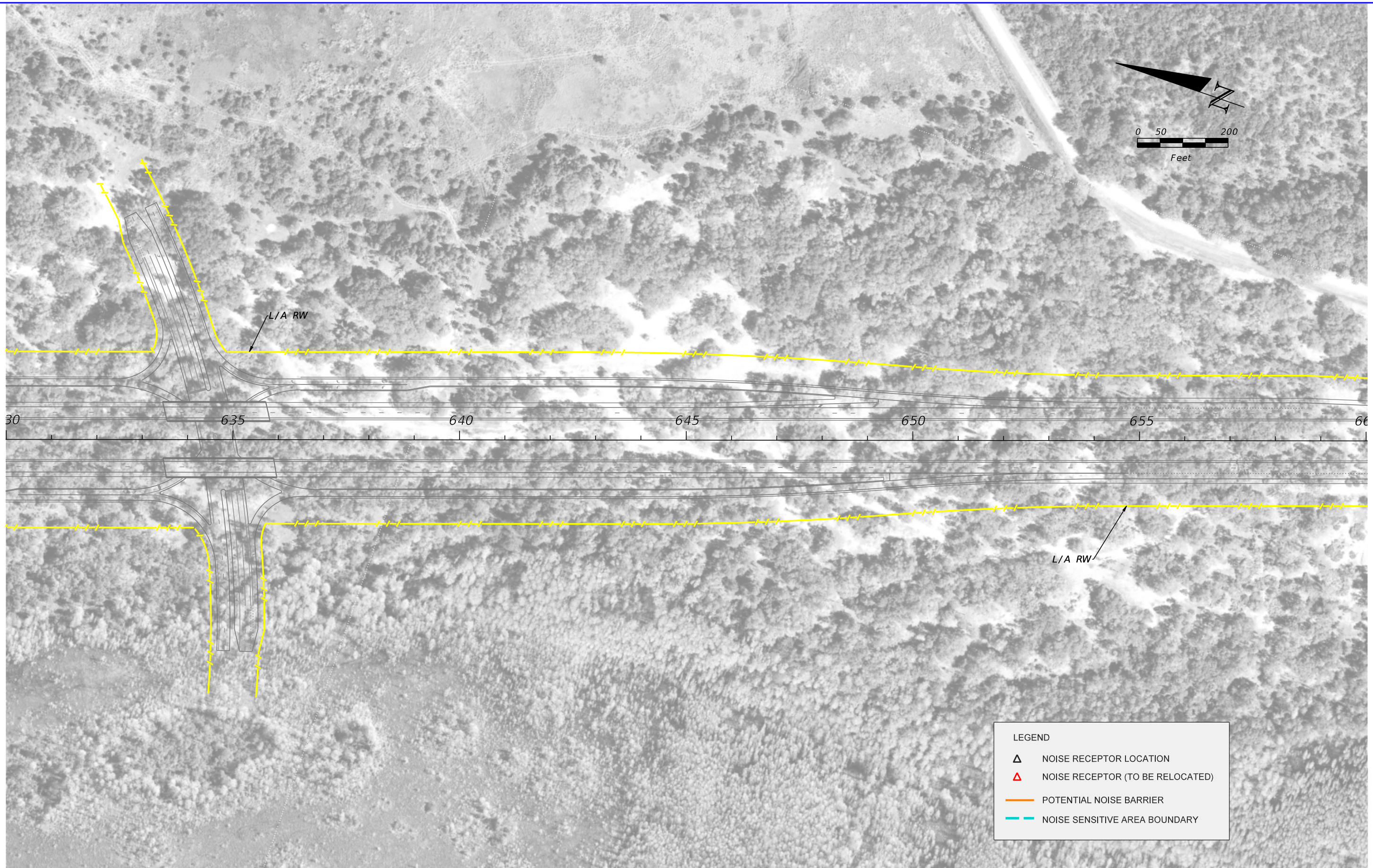
NOISE SPECIALIST
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P 407.971.8850

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01

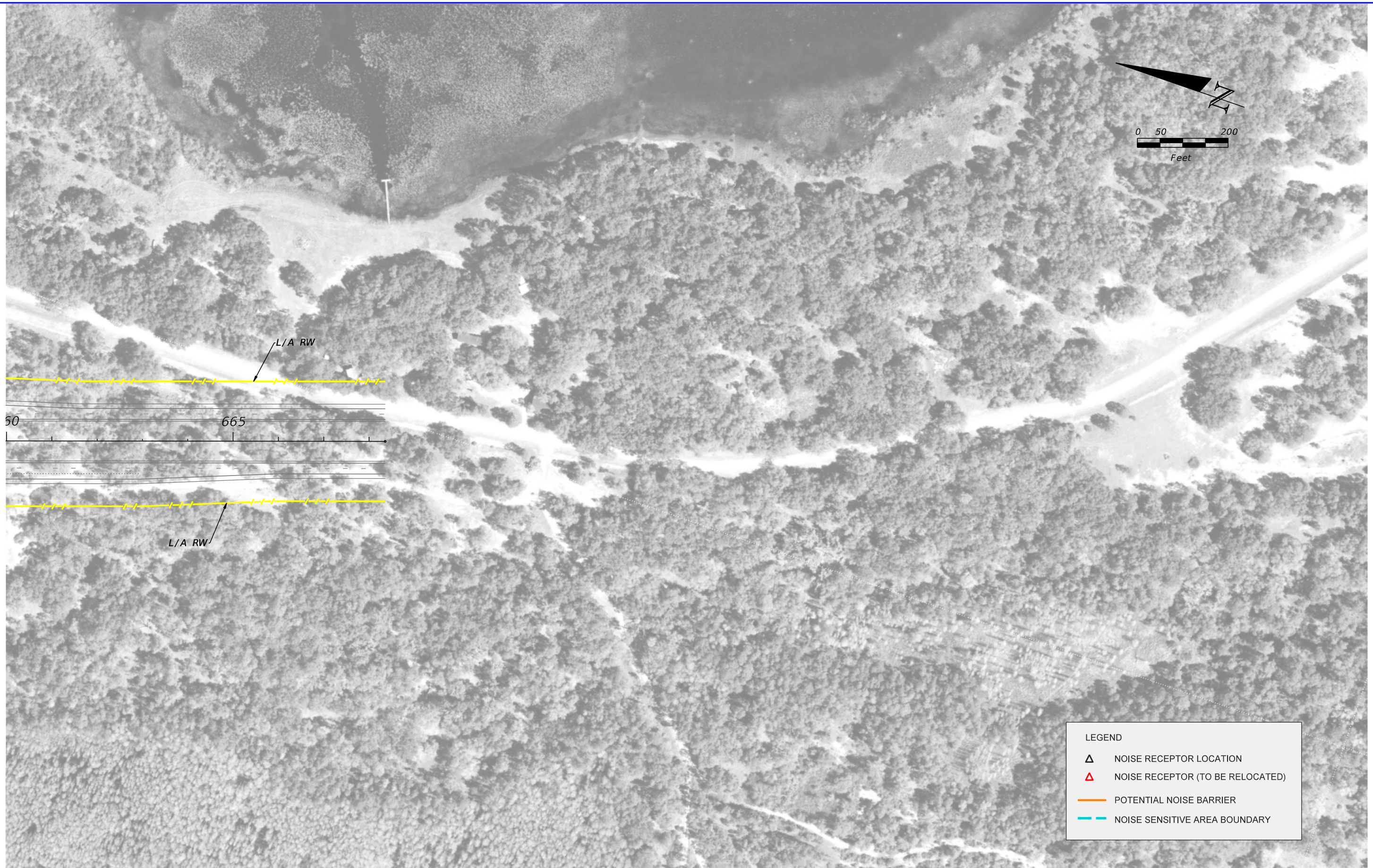
NOISE STUDY REPORT
OSCEOLA PARKWAY
PROJECT AERIALS

SHEET NO.
18



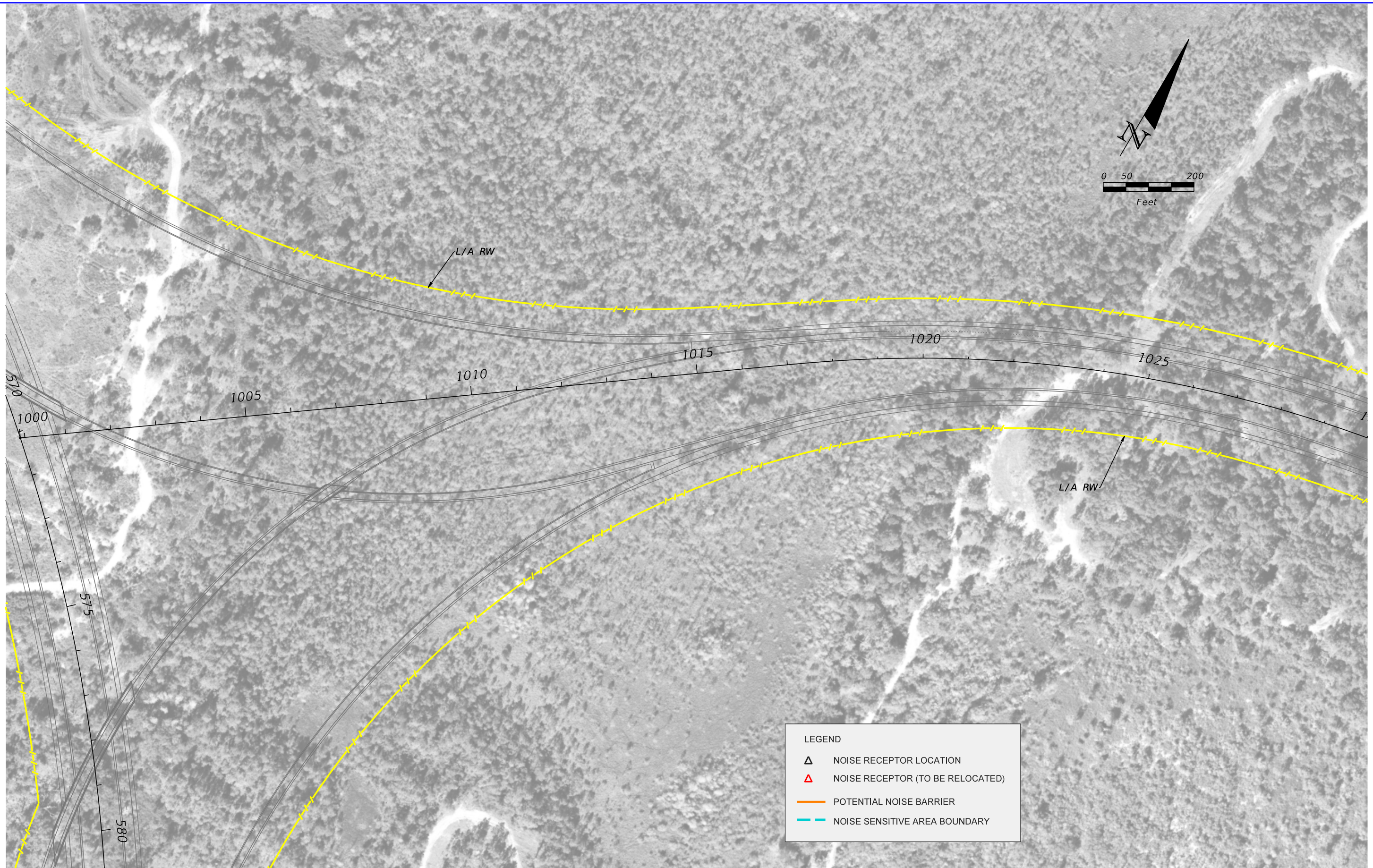
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	NOISE RECEPTOR (TO BE RELOCATED)
	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 19
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		



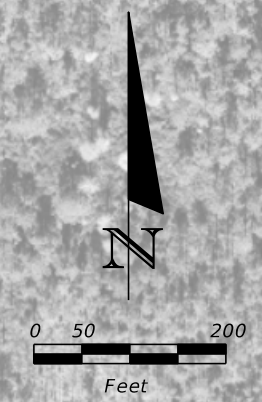
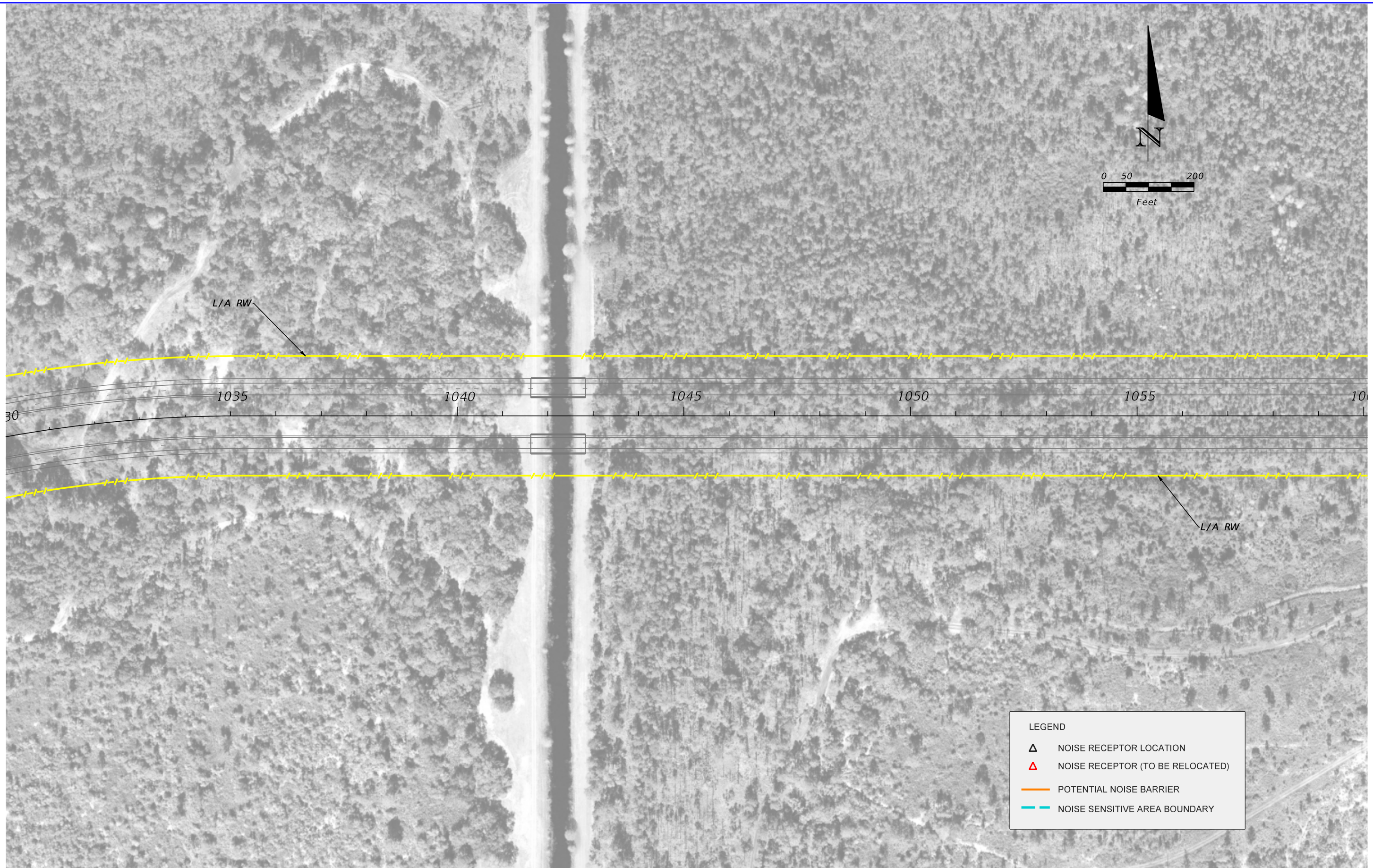
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	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 20
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LEGEND	
	NOISE RECEPTOR LOCATION
	NOISE RECEPTOR (TO BE RELOCATED)
	POTENTIAL NOISE BARRIER
	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 21
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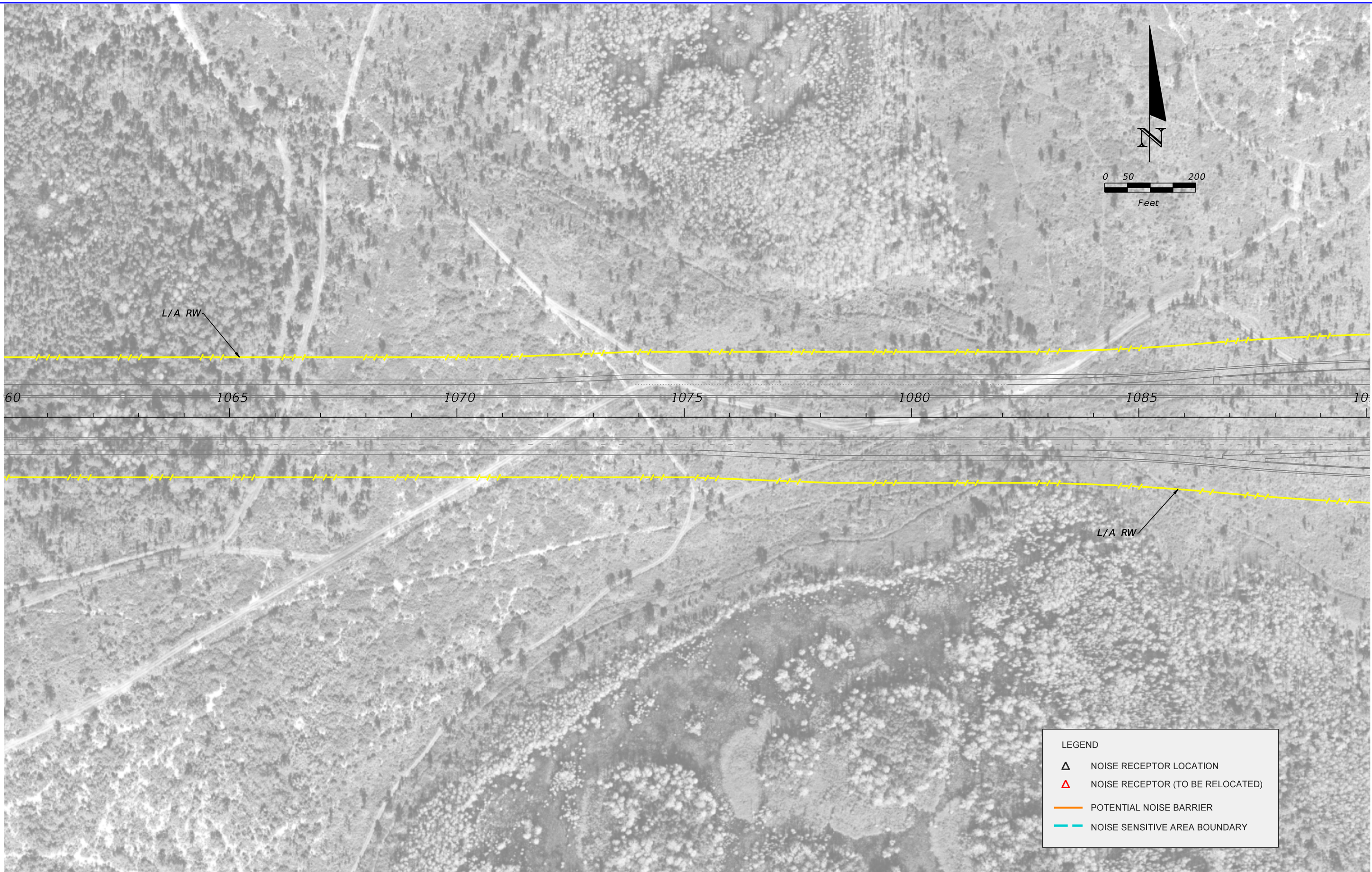


L/A RW

L/A RW

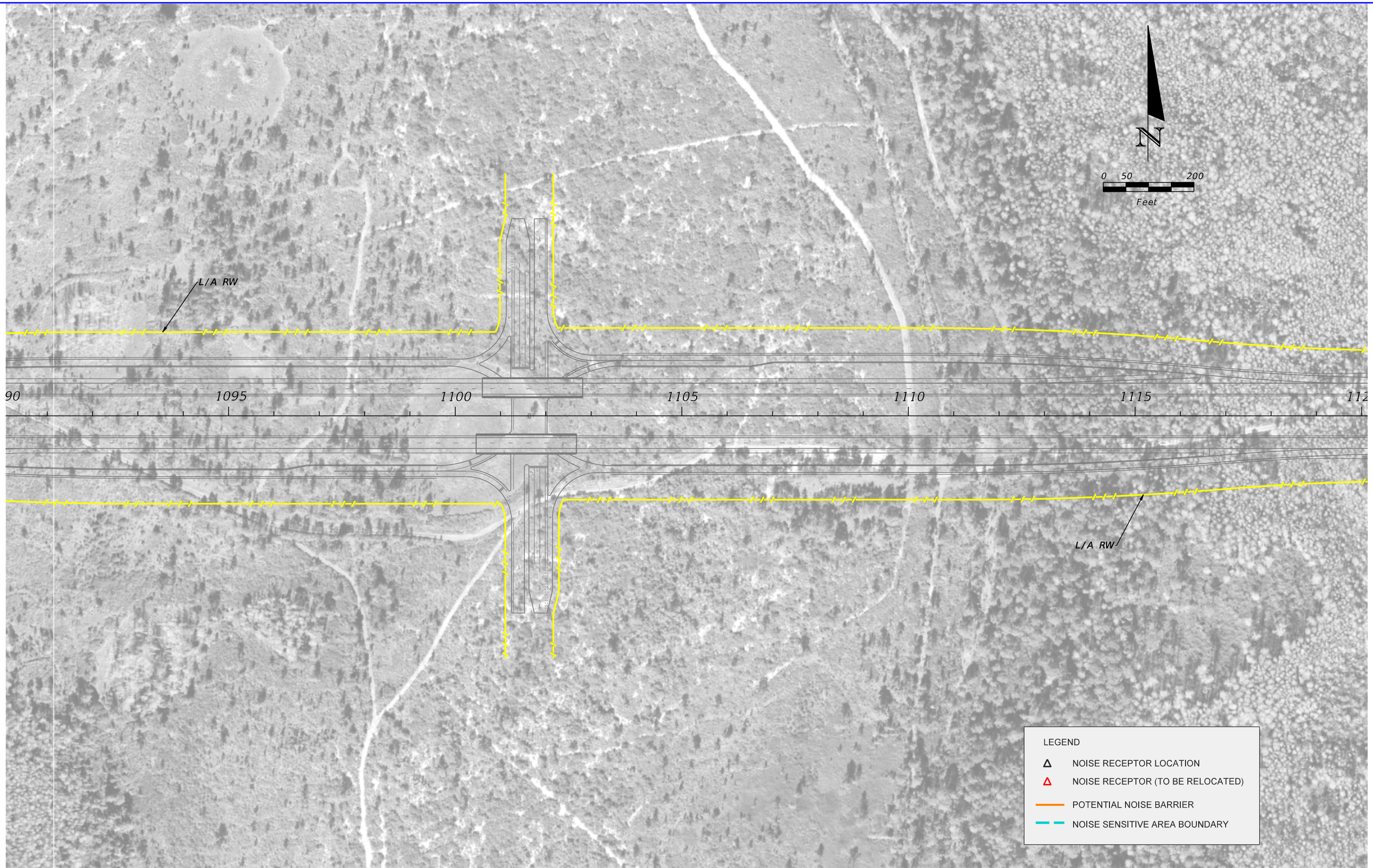
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▲	NOISE RECEPTOR (TO BE RELOCATED)
—	POTENTIAL NOISE BARRIER
—	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 22
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		



LEGEND	
▲	NOISE RECEPTOR LOCATION
▲	NOISE RECEPTOR (TO BE RELOCATED)
—	POTENTIAL NOISE BARRIER
—	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 23
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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LEGEND	
▲	NOISE RECEPTOR LOCATION
▲	NOISE RECEPTOR (TO BE RELOCATED)
—	POTENTIAL NOISE BARRIER
—	NOISE SENSITIVE AREA BOUNDARY

REVISIONS			
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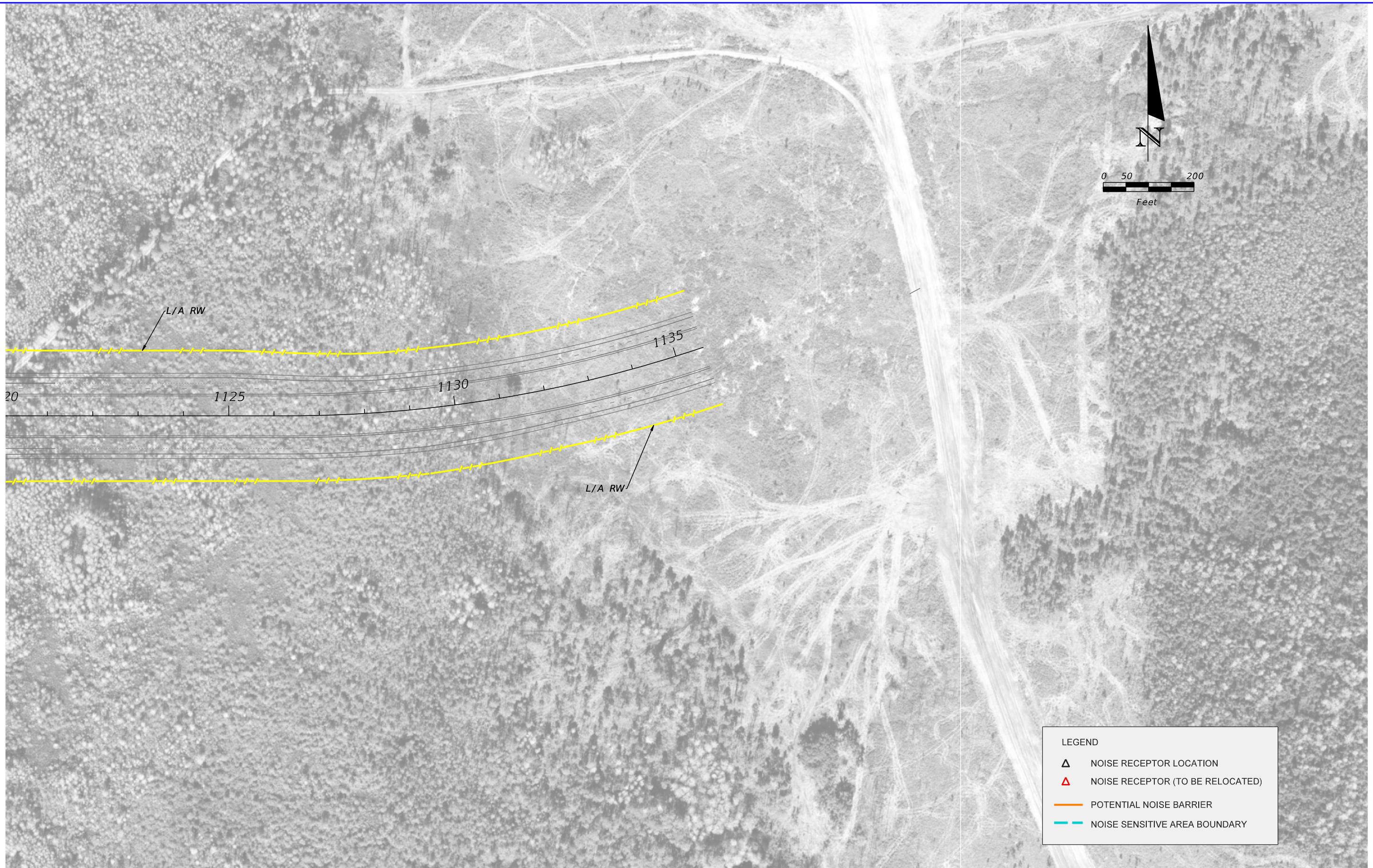
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P 407.971.8850

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01

NOISE STUDY REPORT
OSCEOLA PARKWAY
PROJECT AERIALS

SHEET NO.
24



LEGEND	
▲	NOISE RECEPTOR LOCATION
▲	NOISE RECEPTOR (TO BE RELOCATED)
—	POTENTIAL NOISE BARRIER
—	NOISE SENSITIVE AREA BOUNDARY

REVISIONS				NOISE SPECIALIST David A. Graeber, PE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			NOISE STUDY REPORT OSCEOLA PARKWAY PROJECT AERIALS	SHEET NO. 25
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				Inwood Consulting Engineers, Inc. Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200, Oviedo, Florida 32765 P 407.971.8850	417	OSCEOLA ORANGE	432134-1-22-01 432134-2-22-01		

Appendix B
Traffic Data for Design Year (2045) Build Alternative
(Tables 2.2.1 through Table 2.2.3)

Table 2.2.1: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - SR 417 (Sheet 1 of 2)

Roadway Segment	Speed Limit ¹	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Eastbound																							
SR 417	Mainline west of Off-ramp to NB Airport Access Rd	70	7,195	8,795	4	6,080	8,795	6,080	1.50%	3.50%	0.50%	0.50%	6,080	5,716	91	213	30	30	1,428	23	53	8	8
	Off-ramp to NB Airport Access Rd	50	1,685	2,065	2	-	2,065	2,065	0.75%	1.75%	0.50%	0.50%	2,065	1,994	15	36	10	10	997	8	18	5	5
	Mainline between Off-ramp to NB Airport Access Rd and Off-ramp to Boggy Creek Rd	70	5,510	6,730	4	6,080	6,730	6,080	1.50%	3.50%	0.50%	0.50%	6,080	5,716	91	213	30	30	1,428	23	53	8	8
	Off-ramp to Boggy Creek Rd	50	545	695	1	-	695	695	0.75%	1.75%	0.50%	0.50%	695	672	5	12	3	3	672	5	12	3	3
	Mainline west of Off-ramp to OPE	70	4,965	6,035	4	6,080	6,035	6,035	1.50%	3.50%	0.50%	0.50%	6,035	5,673	91	211	30	30	1,417	23	53	8	8
	Mainline east of Off-ramp to OPE	70	4,095	4,725	3	4,580	4,725	4,580	1.50%	3.50%	0.50%	0.50%	4,580	4,305	69	160	23	23	1,435	23	53	8	8
	On-ramp from SB Airport Access Rd, before Off-ramp to OPE	50	790	860	1	-	860	860	0.75%	1.75%	0.50%	0.50%	860	831	6	15	4	4	831	6	15	4	4
	On-ramp from SB Airport Access Rd, after Off-ramp to OPE	50	430	350	1	-	430	430	0.75%	1.75%	0.50%	0.50%	430	415	3	8	2	2	415	3	8	2	2
	On-ramp from Boggy Creek Rd	50	840	735	1	-	840	840	0.75%	1.75%	0.50%	0.50%	840	811	6	15	4	4	811	6	15	4	4
	Combined On-ramp from SB Airport Access Rd and Boggy Creek Rd	50	1,270	1,085	1	-	1,270	1,270	0.75%	1.75%	0.50%	0.50%	1,270	1,226	10	22	6	6	1,226	10	22	6	6
	Mainline after merge of Combined On-ramp from SB Airport Access Rd and Boggy Creek Rd	70	5,365	5,810	4	6,080	5,810	5,810	1.50%	3.50%	0.50%	0.50%	5,810	5,462	87	203	29	29	1,366	22	51	7	7
	Mainline after On-ramp from WB OPE	70	6,395	6,490	4	6,080	6,490	6,080	1.50%	3.50%	0.50%	0.50%	6,080	5,716	91	213	30	30	1,428	23	53	8	8
	Off-ramp to Lake Nona Boulevard	50	835	1,075	1	-	1,075	1,075	0.75%	1.75%	0.50%	0.50%	1,075	1,038	8	19	5	5	1,038	8	19	5	5
	Mainline between ramps at Lake Nona Boulevard	70	5,560	5,415	3	4,580	5,560	4,580	1.50%	3.50%	0.50%	0.50%	4,580	4,305	69	160	23	23	1,435	23	53	8	8
	On-ramp from Lake Nona Boulevard	50	820	1,210	1	-	1,210	1,210	0.75%	1.75%	0.50%	0.50%	1,210	1,168	9	21	6	6	1,168	9	21	6	6
Mainline between on-ramp at Lake Nona Boulevard and Off-ramp to Narcoossee Rd	70	6,380	6,625	3	4,580	6,625	4,580	1.50%	3.50%	0.50%	0.50%	4,580	4,305	69	160	23	23	1,435	23	53	8	8	

Table 2.2.1: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - SR 417 (Sheet 2 of 2)

Roadway Segment	Speed Limit ¹	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Westbound																							
SR 417	Mainline between On-ramp to Narcoossee Rd and Off-ramp at Lake Nona Boulevard	70	6,600	6,375	4	6,080	6,600	6,080	1.50%	3.50%	0.50%	0.50%	6,080	5,716	91	213	30	30	1,428	23	53	8	8
	Off-ramp to Lake Nona Boulevard	50	1,230	945	1	-	1,230	1,230	0.75%	1.75%	0.50%	0.50%	1,230	1,187	9	22	6	6	1,187	9	22	6	6
	Mainline between ramps at Lake Nona Boulevard	70	5,370	5,430	4	6,080	5,430	5,430	1.50%	3.50%	0.50%	0.50%	5,430	5,105	81	190	27	27	1,276	20	48	7	7
	On-ramp from Lake Nona Boulevard	50	1,050	925	1	-	1,050	1,050	0.75%	1.75%	0.50%	0.50%	1,050	1,014	8	18	5	5	1,014	8	18	5	5
	Mainline between On-ramp at Lake Nona Boulevard and Off-ramp to OPE	70	6,420	6,355	4	7,080	6,420	6,420	1.50%	3.50%	0.50%	0.50%	6,420	6,035	96	225	32	32	1,509	24	56	8	8
	Mainline after off-ramp to OPE	70	5,740	5,325	4	6,080	5,740	5,740	1.50%	3.50%	0.50%	0.50%	5,740	5,395	86	201	29	29	1,349	22	50	7	7
	Off-ramp to NB Airport Access Rd, before merge with ramp from OPE	50	350	430	1	-	430	430	0.75%	1.75%	0.50%	0.50%	430	415	3	8	2	2	415	3	8	2	2
	Off-ramp to NB Airport Access Rd, after merge with ramp from OPE	50	860	790	1	-	860	860	0.75%	1.75%	0.50%	0.50%	860	831	6	15	4	4	831	6	15	4	4
	Mainline between Off-ramp to NB Airport Access Rd and Off-ramp to Boggy Creek Rd	70	5,390	4,895	4	6,080	5,390	5,390	1.50%	3.50%	0.50%	0.50%	5,390	5,066	81	189	27	27	1,267	20	47	7	7
	Off-ramp to Boggy Creek Rd	50	655	850	1	-	850	850	0.75%	1.75%	0.50%	0.50%	850	821	6	15	4	4	821	6	15	4	4
	Mainline west of Off-ramp to Boggy Creek Rd	70	4,735	4,045	3	4,580	4,735	4,580	1.50%	3.50%	0.50%	0.50%	4,580	4,305	69	160	23	23	1,435	23	53	8	8
	On-ramp from Boggy Creek Rd	50	685	595	1	-	685	685	0.75%	1.75%	0.50%	0.50%	685	662	5	12	3	3	662	5	12	3	3
	On-ramp from SB Airport Access Rd	50	2,065	1,685	2	-	2,065	2,065	0.75%	1.75%	0.50%	0.50%	2,065	1,994	15	36	10	10	997	8	18	5	5
	Mainline west of WB OPE ramp merge	70	8,795	7,195	6	10,320	8,795	8,795	1.50%	3.50%	0.50%	0.50%	8,795	8,267	132	308	44	44	1,379	22	51	7	7

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Vehicle split percentages and speed limits based on recommendations from CDM Smith (emails screenshots and tables included below)

I certify that the above information is accurate and appropriate for use with the traffic noise analysis.

Prepared By: Brian Kirkpatrick
Print Name

Date: 11/17/2019

Table 2.2.2: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - Osceola Parkway Extension (Sheet 1 of 3)

Roadway Segment	Speed Limit ¹	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Eastbound																							
Osceola Parkway Extension	On-ramp from Airport Access Road	50	360	510	1	-	510	510	0.50%	1.50%	0.50%	0.50%	510	493	3	8	3	3	493	3	8	3	3
	On-ramp from EB SR 417	50	870	1,310	1	-	1,310	1,310	0.50%	1.50%	0.50%	0.50%	1,310	1,269	7	20	7	7	1,269	7	20	7	7
	On-ramp from WB SR 417	50	680	1,030	1	-	1,030	1,030	0.50%	1.50%	0.50%	0.50%	1,030	1,000	5	15	5	5	1,000	5	15	5	5
	Mainline after merge of Airport Access Road On-ramp and EB SR 417 On-ramp	50	1,230	1,820	2	-	1,820	1,820	0.50%	1.50%	0.50%	0.50%	1,820	1,766	9	27	9	9	881	5	14	5	5
	Mainline after merge of Airport Access Road On-ramp, EB SR 417 On-ramp, and WB SR 417 On-ramp	70	1,910	2,850	2	3,020	2,850	2,850	1.00%	3.00%	0.50%	0.50%	2,850	2,707	29	86	14	14	1,353	15	43	7	7
	On-ramp from Lake Nona Boulevard	50	445	675	1	-	675	675	0.50%	1.50%	0.50%	0.50%	675	656	3	10	3	3	656	3	10	3	3
	Mainline between On-ramp from Lake Nona Boulevard and Off-ramp to Simpson Road	70	2,355	3,525	2	4,020	3,525	3,525	1.00%	3.00%	0.50%	0.50%	3,525	3,348	35	106	18	18	1,674	18	53	9	9
	Off-ramp to Simpson Road	50	720	480	1	-	720	720	0.50%	1.50%	0.50%	0.50%	720	697	4	11	4	4	697	4	11	4	4
	Mainline between Off-ramp and On-ramp at Simpson Road	70	1,635	3,045	2	3,020	3,045	3,020	1.00%	3.00%	0.50%	0.50%	3,020	2,869	30	91	15	15	1,433	15	46	8	8
	On-ramp from Simpson Road	50	340	520	1	-	520	520	0.50%	1.50%	0.50%	0.50%	520	503	3	8	3	3	503	3	8	3	3
	Mainline between On-ramp from Simpson Road and Off-ramp to Narcoossee Road	70	1,975	3,565	2	3,020	3,565	3,020	1.00%	3.00%	0.50%	0.50%	3,020	2,869	30	91	15	15	1,433	15	46	8	8
	Off-ramp to Narcoossee Road	50	760	920	1	-	920	920	0.50%	1.50%	0.50%	0.50%	920	891	5	14	5	5	891	5	14	5	5
	Mainline between Off-ramp and On-ramp at Narcoossee Road	70	1,215	2,645	2	3,020	2,645	2,645	1.00%	3.00%	0.50%	0.50%	2,645	2,514	26	79	13	13	1,256	13	40	7	7
	On-ramp from Narcoossee Road	50	1,130	1,390	1	-	1,390	1,390	0.50%	1.50%	0.50%	0.50%	1,390	1,348	7	21	7	7	1,348	7	21	7	7
	Mainline between Boggy Creek Road and Cyrils Drive	70	2,345	4,035	2	3,020	4,035	3,020	1.00%	3.00%	0.50%	0.50%	3,020	2,869	30	91	15	15	1,433	15	46	8	8
	Off-ramp to Cyrils Drive	50	1,055	1,570	1	-	1,570	1,570	0.50%	1.50%	0.50%	0.50%	1,570	1,522	8	24	8	8	1,522	8	24	8	8
	Mainline between Off-ramp and On-ramp at Cyrils Dr	70	1,290	2,465	2	3,020	2,465	2,465	1.00%	3.00%	0.50%	0.50%	2,465	2,342	25	74	12	12	1,171	13	37	6	6
On-ramp from Cyrils Drive	50	115	175	1	-	175	175	0.50%	1.50%	0.50%	0.50%	175	169	1	3	1	1	169	1	3	1	1	
Mainline after Cyrils Drive	70	1,405	2,640	2	3,020	2,640	2,640	1.00%	3.00%	0.50%	0.50%	2,640	2,509	26	79	13	13	1,253	13	40	7	7	

Table 2.2.2: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - Osceola Parkway Extension (Sheet 2 of 3)

Roadway Segment	Speed Limit ¹	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Westbound																							
Osceola Parkway Extension	Mainline before Cyrils Drive	70	2,640	1,405	2	3,020	2,640	2,640	1.00%	3.00%	0.50%	0.50%	2,640	2,509	26	79	13	13	1,253	13	40	7	7
	Off-ramp to Cyrils Drive	50	175	115	1	-	175	175	0.50%	1.50%	0.50%	0.50%	175	169	1	3	1	1	169	1	3	1	1
	Mainline between On-ramp and Off-ramp at Cyrils Dr	70	2,465	1,290	2	3,020	2,465	2,465	1.00%	3.00%	0.50%	0.50%	2,465	2,342	25	74	12	12	1,171	13	37	6	6
	On-ramp from Cyrils Drive	50	1,570	1,055	1	-	1,570	1,570	0.50%	1.50%	0.50%	0.50%	1,570	1,522	8	24	8	8	1,522	8	24	8	8
	Mainline between Cyrils Drive and Boggy Creek Road	70	4,035	2,345	2	3,020	4,035	3,020	1.00%	3.00%	0.50%	0.50%	3,020	2,869	30	91	15	15	1,433	15	46	8	8
	Off-ramp to Narcoossee Road	50	1,390	1,130	1	-	1,390	1,390	0.50%	1.50%	0.50%	0.50%	1,390	1,348	7	21	7	7	1,348	7	21	7	7
	Mainline between On-ramp and Off-ramp at Narcoossee Road	70	2,645	1,215	2	3,020	2,645	2,645	1.00%	3.00%	0.50%	0.50%	2,645	2,514	26	79	13	13	1,256	13	40	7	7
	On-ramp from Narcoossee Road	50	920	760	1	-	920	920	0.50%	1.50%	0.50%	0.50%	920	891	5	14	5	5	891	5	14	5	5
	Mainline between On-ramp from Narcoossee Road and Off-ramp to Simpson Road and	70	3,565	1,975	2	3,020	3,565	3,020	1.00%	3.00%	0.50%	0.50%	3,020	2,869	30	91	15	15	1,433	15	46	8	8
	Off-ramp to Simpson Road	50	520	340	1	-	520	520	0.50%	1.50%	0.50%	0.50%	520	503	3	8	3	3	503	3	8	3	3
	Mainline between On-ramp and Off-ramp at Simpson Road	70	3,045	1,635	2	3,020	3,045	3,020	1.00%	3.00%	0.50%	0.50%	3,020	2,869	30	91	15	15	1,433	15	46	8	8
	On-ramp from Simpson Road	50	480	720	1	-	720	720	0.50%	1.50%	0.50%	0.50%	720	697	4	11	4	4	697	4	11	4	4
	Mainline between On-ramp form Simpson Road and Off-ramp to Lake Nona Boulevard	70	3,525	2,355	2	4,020	3,525	3,525	1.00%	3.00%	0.50%	0.50%	3,525	3,348	35	106	18	18	1,674	18	53	9	9
	Off-ramp to Lake Nona Boulevard	50	675	445	1	-	675	675	0.50%	1.50%	0.50%	0.50%	675	656	3	10	3	3	656	3	10	3	3
	Mainline after Lake Nona Boulevard	70	2,850	1,910	2	3,020	2,850	2,850	1.00%	3.00%	0.50%	0.50%	2,850	2,707	29	86	14	14	1,353	15	43	7	7
	Off-ramp to merge with EB SR 417	50	1,030	680	1	-	1,030	1,030	0.50%	1.50%	0.50%	0.50%	1,030	1,000	5	15	5	5	1,000	5	15	5	5
Mainline before Off-ramp to Airport Access Road	50	1,820	1,230	2	-	1,820	1,820	0.50%	1.50%	0.50%	0.50%	1,820	1,766	9	27	9	9	881	5	14	5	5	
Off-ramp to Airport Access Road	50	510	360	1	-	510	510	0.50%	1.50%	0.50%	0.50%	510	493	3	8	3	3	493	3	8	3	3	

Table 2.2.2: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - Osceola Parkway Extension (Sheet 3 of 3)

Roadway Segment	Speed Limit ¹	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Osceola Parkway Extension	Mainline after Off-ramp to Airport Access Road	50	1,310	870	2	-	1,310	1,310	0.50%	1.50%	0.50%	0.50%	1,310	1,269	7	20	7	7	633	4	10	4	4
	Mainline before merge with SR 417	70	4,060	3,150	3	4,580	4,060	4,060	1.00%	3.00%	0.50%	0.50%	4,060	3,857	41	122	20	20	1,284	14	41	7	7

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Vehicle split percentages and speed limits based on recommendations from CDM Smith (emails screenshots and tables included below)

I certify that the above information is accurate and appropriate for use with the traffic noise analysis.

Prepared By: Brian Kirkpatrick
Print Name

Date: 11/17/2019

Table 2.2.3: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - Arterials (Sheet 1 of 3)

Roadway Segment	Speed Limit	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Eastbound / Northbound																							
Northbound - Boggy Creek Rd	North of WB SR 417 Ramp Terminal Intersection	45	1,960	1,615	2	1,719	1,960	1,719	1.50%	4.00%	0.50%	0.70%	1,719	1,603	26	69	9	12	801	13	35	5	6
	Between WB SR 417 Ramp Terminal Intersection and EB SR 417 Ramp Terminal Intersection	45	1,990	1,615	2	1,719	1,990	1,719	1.50%	4.00%	0.50%	0.70%	1,719	1,603	26	69	9	12	801	13	35	5	6
	Between EB SR 417 Ramp Terminal Intersection and Lake Nona Boulevard	45	2,290	1,765	2	1,805	2,290	1,805	1.50%	4.00%	0.50%	0.70%	1,805	1,684	27	72	9	13	840	14	36	5	7
	South of Lake Nona Boulevard	45	1,995	1,535	1	784	1,995	784	1.50%	4.00%	0.50%	0.70%	784	732	12	31	4	5	732	12	31	4	5
Eastbound - Lake Nona Boulevard	West of Boggy Creek Rd	45	1,250	900	2	1,719	1,250	1,250	1.50%	4.00%	0.50%	0.70%	1,250	1,166	19	50	6	9	582	10	25	3	5
	East of Boggy Creek Rd	45	1,615	1,520	2	1,719	1,615	1,615	1.50%	4.00%	0.50%	0.70%	1,615	1,507	24	65	8	11	753	12	33	4	6
Eastbound - Laureate Boulevard	West of EB OPE Ramp Terminal Intersection	35	285	335	1	266	335	266	1.50%	4.00%	0.50%	0.70%	266	248	4	11	1	2	248	4	11	1	2
	Between EB OPE Ramp Terminal Intersection and WB OPE Ramp Terminal Intersection	35	200	200	1	266	200	200	1.50%	4.00%	0.50%	0.70%	200	187	3	8	1	1	187	3	8	1	1
	East of WB OPE Ramp Terminal Intersection	35	740	560	1	266	740	266	1.50%	4.00%	0.50%	0.70%	266	248	4	11	1	2	248	4	11	1	2
Eastbound - Simpson Rd	West of EB OPE Ramp Terminal Intersection	45	745	1,040	2	1,719	1,040	1,040	1.50%	4.00%	0.50%	0.70%	1,040	970	16	42	5	7	484	8	21	3	4
	Between EB OPE Ramp Terminal Intersection and WB OPE Ramp Terminal Intersection	45	825	915	2	1,719	915	915	1.50%	4.00%	0.50%	0.70%	915	853	14	37	5	6	426	7	19	3	3
	East of WB OPE Ramp Terminal Intersection	45	740	615	2	1,719	740	740	1.50%	4.00%	0.50%	0.70%	740	690	11	30	4	5	344	6	15	2	3
Northbound -Lake Nona Boulevard	North of WB SR 417 Ramp Terminal Intersection	35	595	875	2	657	875	657	1.50%	4.00%	0.50%	0.70%	657	613	10	26	3	5	306	5	13	2	3
	Between WB SR 417 Ramp Terminal Intersection and EB SR 417 Ramp Terminal Intersection	35	1,310	1,370	2	657	1,370	657	1.50%	4.00%	0.50%	0.70%	657	613	10	26	3	5	306	5	13	2	3
	South of EB SR 417 Ramp Terminal Intersection	30	1,755	2,260	2	690	2,260	690	1.50%	4.00%	0.50%	0.70%	690	644	10	28	3	5	321	5	14	2	3
Northbound - Narcoossee Rd	North of OPE SPUI	45	3,170	2,560	3	2,646	3,170	2,646	1.50%	4.00%	0.50%	0.70%	2,646	2,468	40	106	13	19	824	13	35	4	6
	South of OPE SPUI / North of Boggy Creek Rd	45	2,955	2,445	3	2,778	2,955	2,778	1.50%	4.00%	0.50%	0.70%	2,778	2,592	42	111	14	19	864	14	37	5	6
	South of Boggy Creek Rd	45	2,780	2,260	2	1,719	2,780	1,719	1.50%	4.00%	0.50%	0.70%	1,719	1,603	26	69	9	12	801	13	35	5	6

Table 2.2.3: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - Arterials (Sheet 2 of 3)

Roadway Segment		Speed Limit	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane
			AM	PM																			
Eastbound - Boggy Creek Rd	West of Narcoossee Rd	55	1,185	1,090	1	747	1,185	747	1.50%	4.00%	0.50%	0.70%	747	697	11	30	4	5	697	11	30	4	5
	East of Narcoossee Rd	45	210	245	1	598	245	245	1.50%	4.00%	0.50%	0.70%	245	228	4	10	1	2	228	4	10	1	2
Eastbound - Cyrils Dr	West of OPE Ramp Terminal Intersection	45	1,215	1,490	2	1,719	1,490	1,490	1.50%	4.00%	0.50%	0.70%	1,490	1,391	22	60	7	10	695	11	30	4	5
	East of OPE Ramp Terminal Intersection	45	925	1,655	2	1,719	1,655	1,655	1.50%	4.00%	0.50%	0.70%	1,655	1,544	25	66	8	12	772	13	33	4	6
Westbound / Southbound																							
Southbound - Boggy Creek Rd	North of WB SR 417 Ramp Terminal Intersection	45	1,550	1,990	2	1,805	1,990	1,805	1.50%	4.00%	0.50%	0.70%	1,805	1,684	27	72	9	13	840	14	36	5	7
	Between WB SR 417 Ramp Terminal Intersection and EB SR 417 Ramp Terminal Intersection	45	1,550	2,245	2	1,719	2,245	1,719	1.50%	4.00%	0.50%	0.70%	1,719	1,603	26	69	9	12	801	13	35	5	6
	Between EB SR 417 Ramp Terminal Intersection and Lake Nona Boulevard	45	1,555	2,355	2	1,805	2,355	1,805	1.50%	4.00%	0.50%	0.70%	1,805	1,684	27	72	9	13	840	14	36	5	7
	South of Lake Nona Boulevard	45	1,120	2,055	1	784	2,055	784	1.50%	4.00%	0.50%	0.70%	784	732	12	31	4	5	732	12	31	4	5
Westbound - Lake Nona Boulevard	West of Boggy Creek Rd	45	945	1,155	2	1,805	1,155	1,155	1.50%	4.00%	0.50%	0.70%	1,155	1,078	17	46	6	8	539	9	23	3	4
	East of Boggy Creek Rd	45	1,170	1,705	2	1,805	1,705	1,705	1.50%	4.00%	0.50%	0.70%	1,705	1,590	26	68	9	12	795	13	34	5	6
Westbound - Laureate Boulevard	West of EB OPE Ramp Terminal Intersection	35	335	285	1	266	335	266	1.50%	4.00%	0.50%	0.70%	266	248	4	11	1	2	248	4	11	1	2
	Between EB OPE Ramp Terminal Intersection and WB OPE Ramp Terminal Intersection	35	695	825	1	266	825	266	1.50%	4.00%	0.50%	0.70%	266	248	4	11	1	2	248	4	11	1	2
	East of WB OPE Ramp Terminal Intersection	35	560	740	1	266	740	266	1.50%	4.00%	0.50%	0.70%	266	248	4	11	1	2	248	4	11	1	2
Westbound - Simpson Rd	West of EB OPE Ramp Terminal Intersection	45	985	730	2	1,719	985	985	1.50%	4.00%	0.50%	0.70%	985	919	15	39	5	7	458	8	20	3	4
	Between EB OPE Ramp Terminal Intersection and WB OPE Ramp Terminal Intersection	45	685	645	2	1,719	685	685	1.50%	4.00%	0.50%	0.70%	685	640	10	27	3	5	319	5	14	2	3
	East of WB OPE Ramp Terminal Intersection	45	560	725	2	1,719	725	725	1.50%	4.00%	0.50%	0.70%	725	676	11	29	4	5	337	6	15	2	3

Table 2.2.3: Traffic Data for Design Year (2045) Build Alternative Noise Modeling for Osceola Parkway Extension from SR 417 to Cyrils Drive - Arterials (Sheet 3 of 3)

Roadway Segment	Speed Limit	2045 Build Traffic (vph)		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks ¹	Percent Medium Trucks ¹	Percent Buses ¹	Percent Motorcycles ¹	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM																				
Southbound -Lake Nona Boulevard	North of WB SR 417 Ramp Terminal Intersection	35	890	680	2	657	890	657	1.50%	4.00%	0.50%	0.70%	657	613	10	26	3	5	306	5	13	2	3
	Between WB SR 417 Ramp Terminal Intersection and EB SR 417 Ramp Terminal Intersection	35	1,785	1,195	2	657	1,785	657	1.50%	4.00%	0.50%	0.70%	657	613	10	26	3	5	306	5	13	2	3
	South of EB SR 417 Ramp Terminal Intersection	30	2,245	1,950	3	1,106	2,245	1,106	1.50%	4.00%	0.50%	0.70%	1,106	1,031	17	44	6	8	343	6	15	2	3
Southbound - Narcoossee Rd	North of OPE SPUI	45	2,135	3,265	3	2,778	3,265	2,778	1.50%	4.00%	0.50%	0.70%	2,778	2,592	42	111	14	19	864	14	37	5	6
	South of OPE SPUI / North of Boggy Creek Rd	45	2,020	3,050	3	2,778	3,050	2,778	1.50%	4.00%	0.50%	0.70%	2,778	2,592	42	111	14	19	864	14	37	5	6
	South of Boggy Creek Rd	45	2,045	2,515	2	1,719	2,515	1,719	1.50%	4.00%	0.50%	0.70%	1,719	1,603	26	69	9	12	801	13	35	5	6
Westbound - Boggy Creek Rd	West of Narcoossee Rd	55	1,010	1,385	1	784	1,385	784	1.50%	4.00%	0.50%	0.70%	784	732	12	31	4	5	732	12	31	4	5
	East of Narcoossee Rd	45	235	190	1	598	235	235	1.50%	4.00%	0.50%	0.70%	235	219	4	9	1	2	219	4	9	1	2
Westbound - Cyrils Dr	West of OPE Ramp Terminal Intersection	45	1,320	1,510	2	1,719	1,510	1,510	1.50%	4.00%	0.50%	0.70%	1,510	1,408	23	60	8	11	703	12	30	4	6
	East of OPE Ramp Terminal Intersection	45	1,485	1,220	2	1,805	1,485	1,485	1.50%	4.00%	0.50%	0.70%	1,485	1,387	22	59	7	10	693	11	30	4	5

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Vehicle split percentages based on recommendations from CDM Smith (emails screenshots and tables included below)

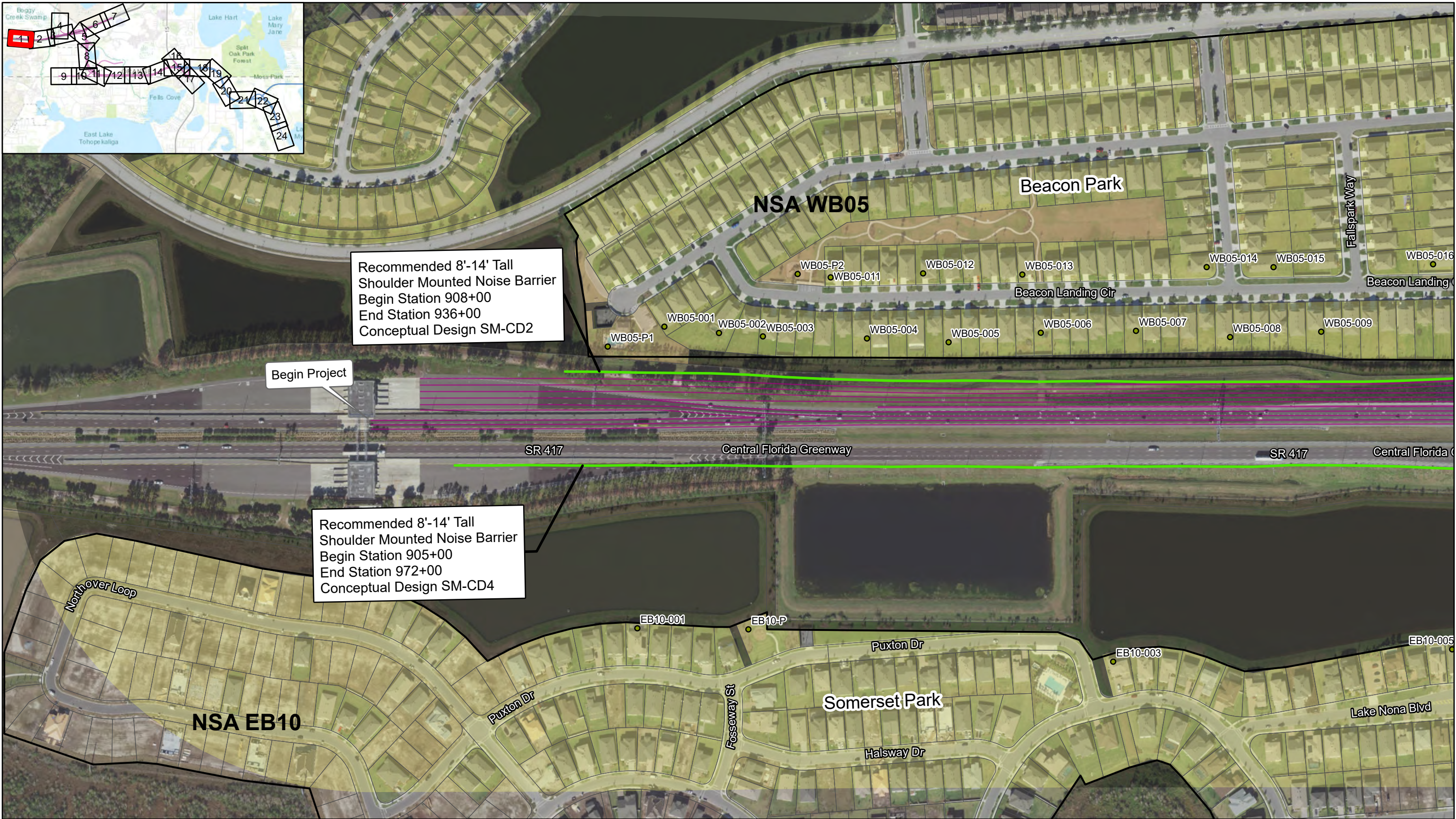
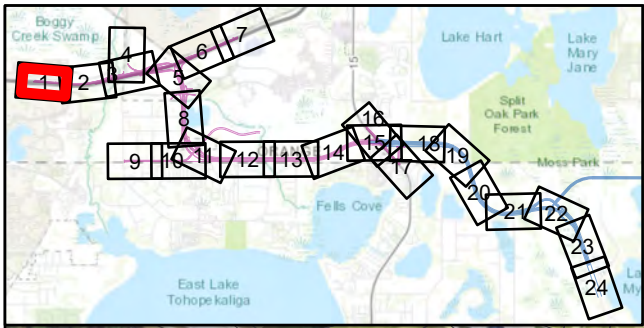
I certify that the above information is accurate and appropriate for use with the traffic noise analysis.

Prepared By: Brian Kirkpatrick
 Print Name

Date: 11/17/2019

Appendix C

Figure 3.1.1: Noise Analysis Map



Recommended 8'-14' Tall
Shoulder Mounted Noise Barrier
Begin Station 908+00
End Station 936+00
Conceptual Design SM-CD2

Begin Project

Recommended 8'-14' Tall
Shoulder Mounted Noise Barrier
Begin Station 905+00
End Station 972+00
Conceptual Design SM-CD4

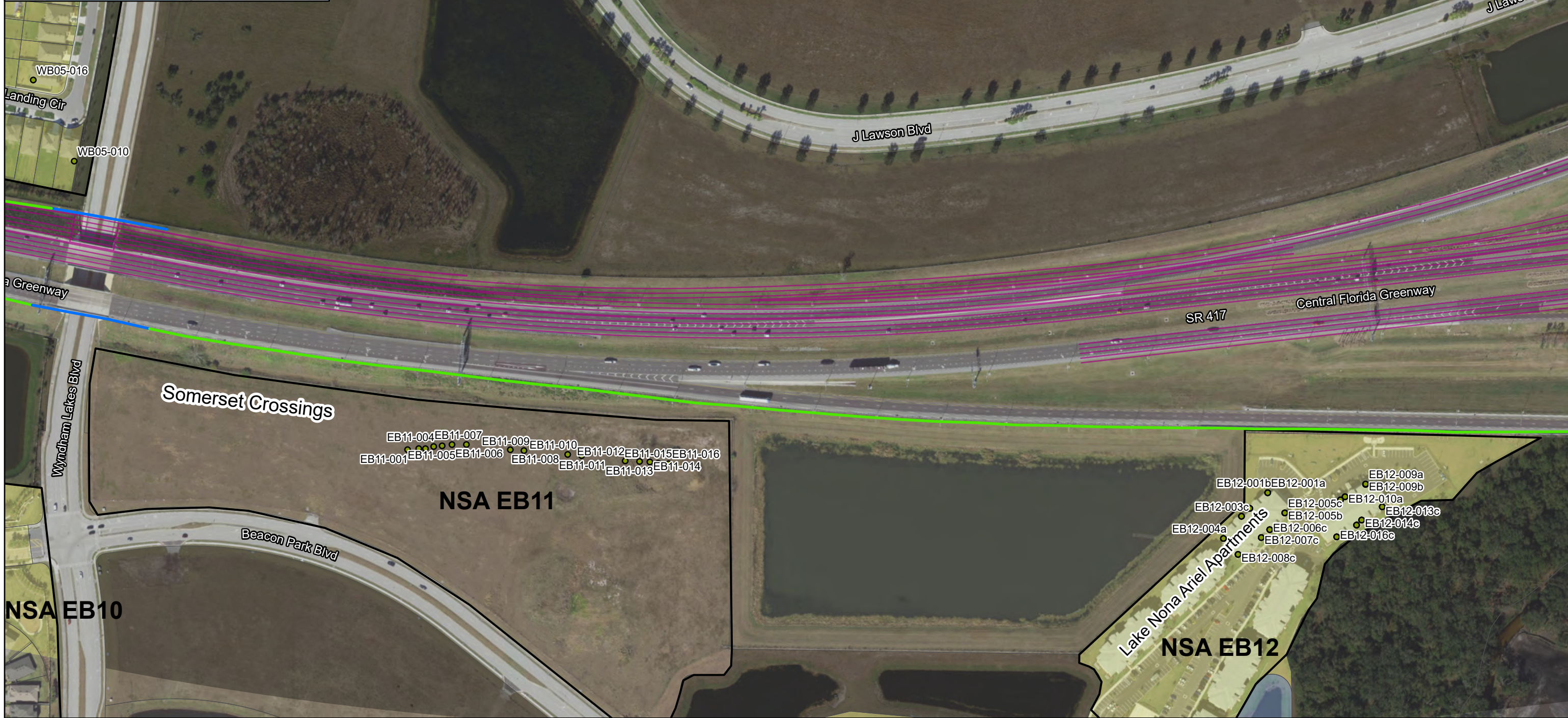
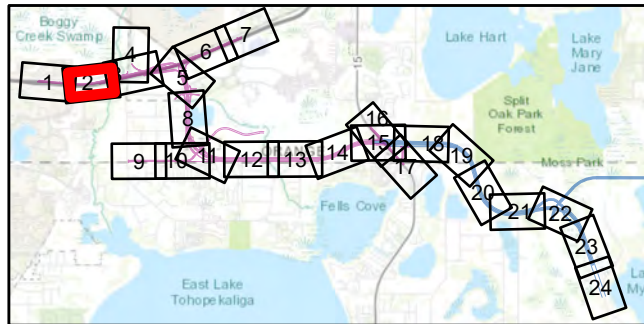
SR 417/Osceola Parkway Extension Project
Development and Environment (PD&E)
Study Near Bogy Creek Rd. in Orange
County, Florida and Cyrils Dr. in Osceola
County, Florida
Contract No.: 001250

**CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY**
Date: November 2019

<ul style="list-style-type: none"> ● Receptor Sites ▭ Noise Study Areas ▭ Parcels Proposed Improvements — Lake Nona 	<ul style="list-style-type: none"> — Lake Nona - Proposed ROW — Split Oak — Split Oak - Proposed ROW Land Use by Noise Activity Category ■ B: Residential 	<ul style="list-style-type: none"> ■ C: Other Sensitive Lands ■ D: Institutional: (Interior) ■ E: Sensitive Commercial ■ F: Non-Sensitive Developed ■ G: Vacant 	<ul style="list-style-type: none"> Proposed Noise Barriers Height (ft) — 8 — 14 — 18 — 20 — 22 	
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0 125 250 500 Feet

Figure 3.1.1
Noise Analysis Map
Page 1 of 24



SR 417/Osceola Parkway Extension Project
 Development and Environment (PD&E)
 Study Near Boggy Creek Rd. in Orange
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- Receptor Sites
- ▭ Noise Study Areas
- ▭ Parcels
- Proposed Improvements**
- Lake Nona
- Lake Nona - Proposed ROW
- Split Oak
- Split Oak - Proposed ROW
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- F: Non-Sensitive Developed
- G: Vacant
- Proposed Noise Barriers**
- Height (ft)**
- 8
- 14
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- 20
- 22

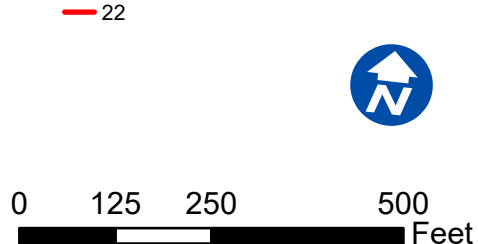
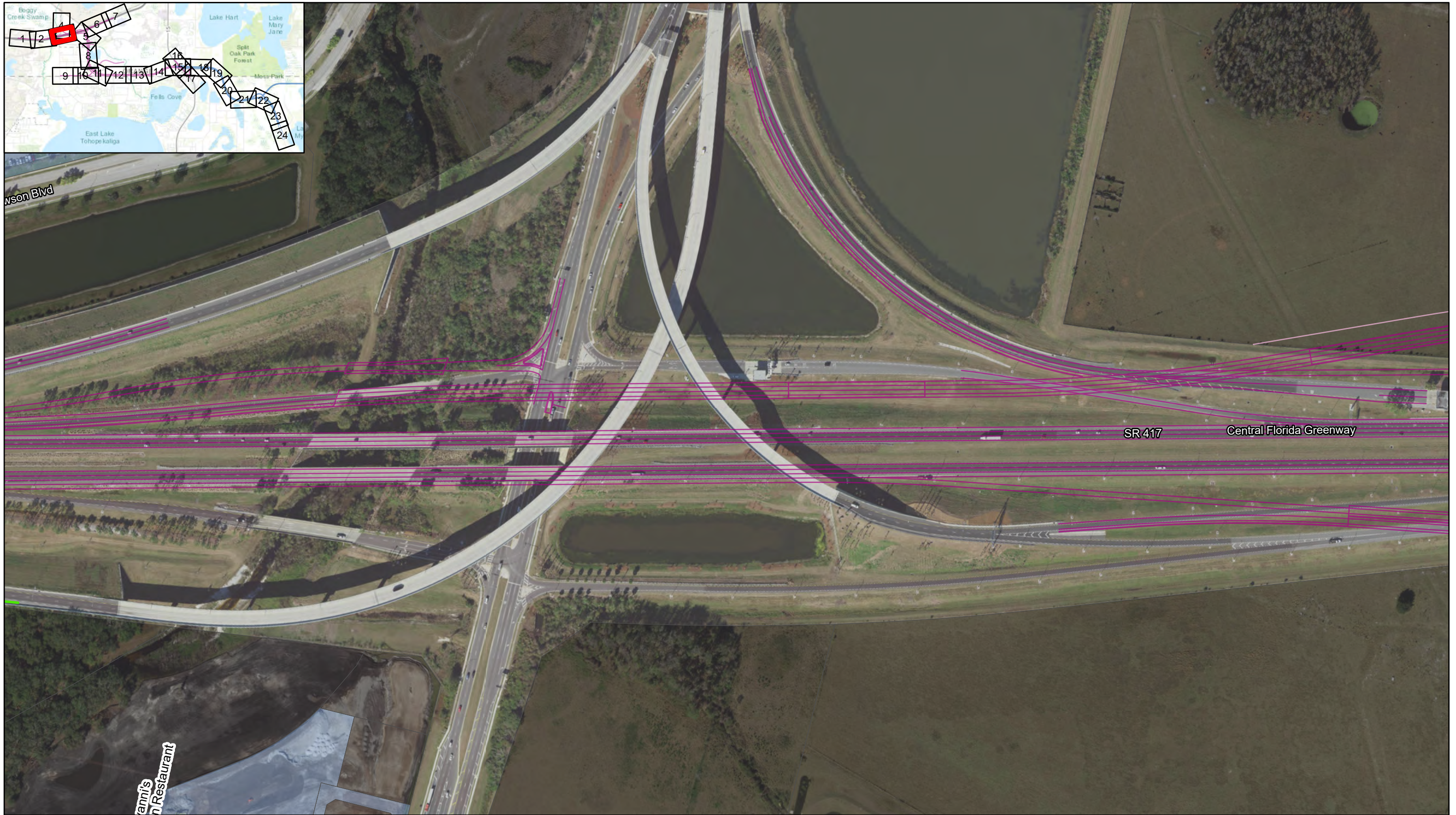


Figure 3.1.1
 Noise Analysis Map
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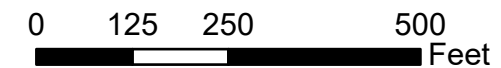
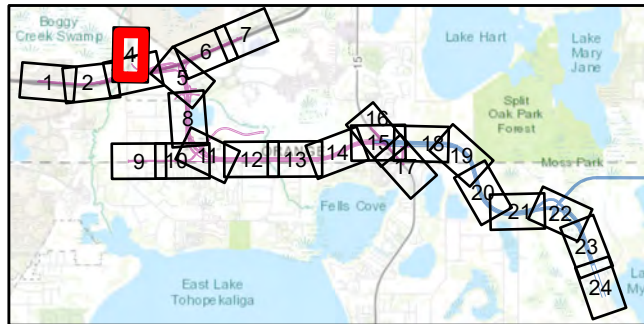


Figure 3.1.1
 Noise Analysis Map
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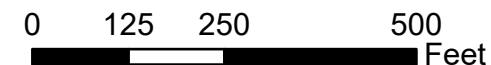
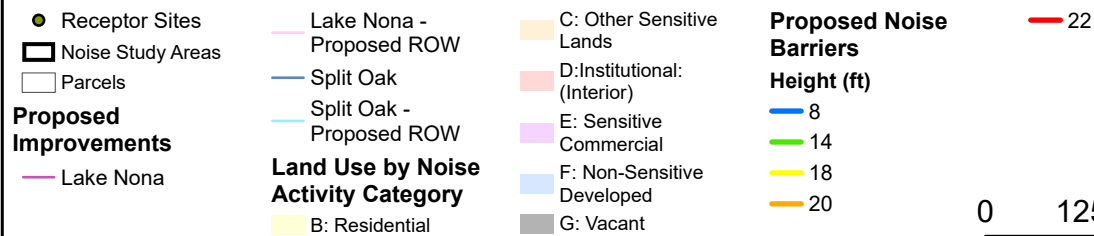
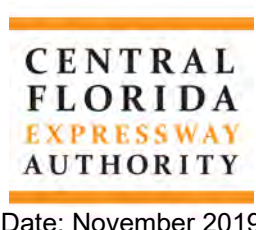


Figure 3.1.1
 Noise Analysis Map
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SR 417/Osceola Parkway Extension Project
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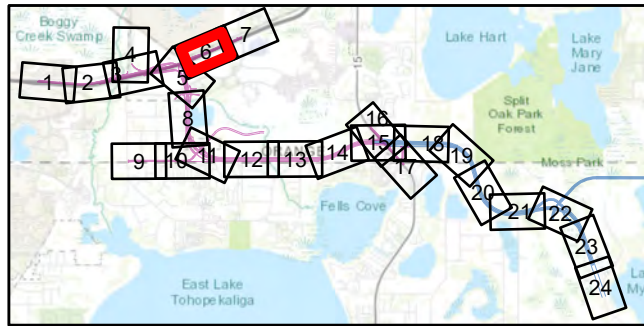


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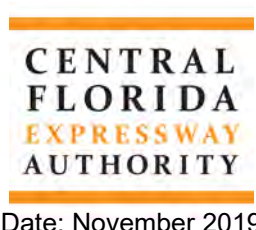
- Receptor Sites
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- Split Oak - Proposed ROW
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Figure 3.1.1
 Noise Analysis Map
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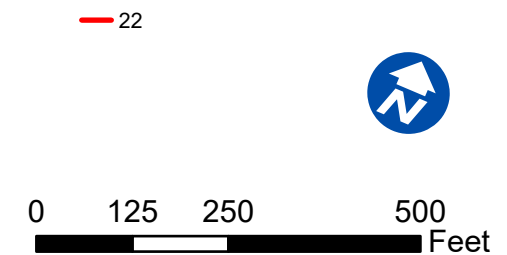
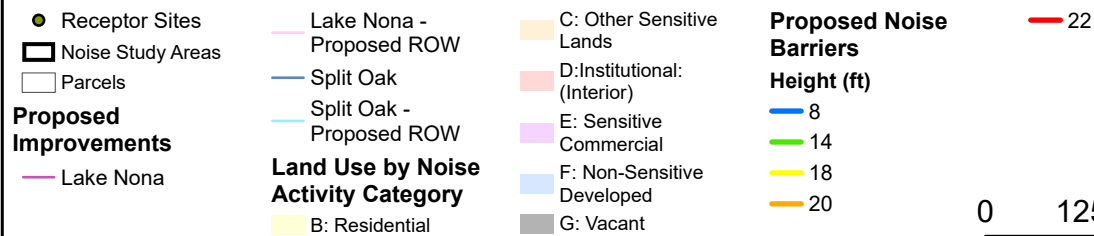
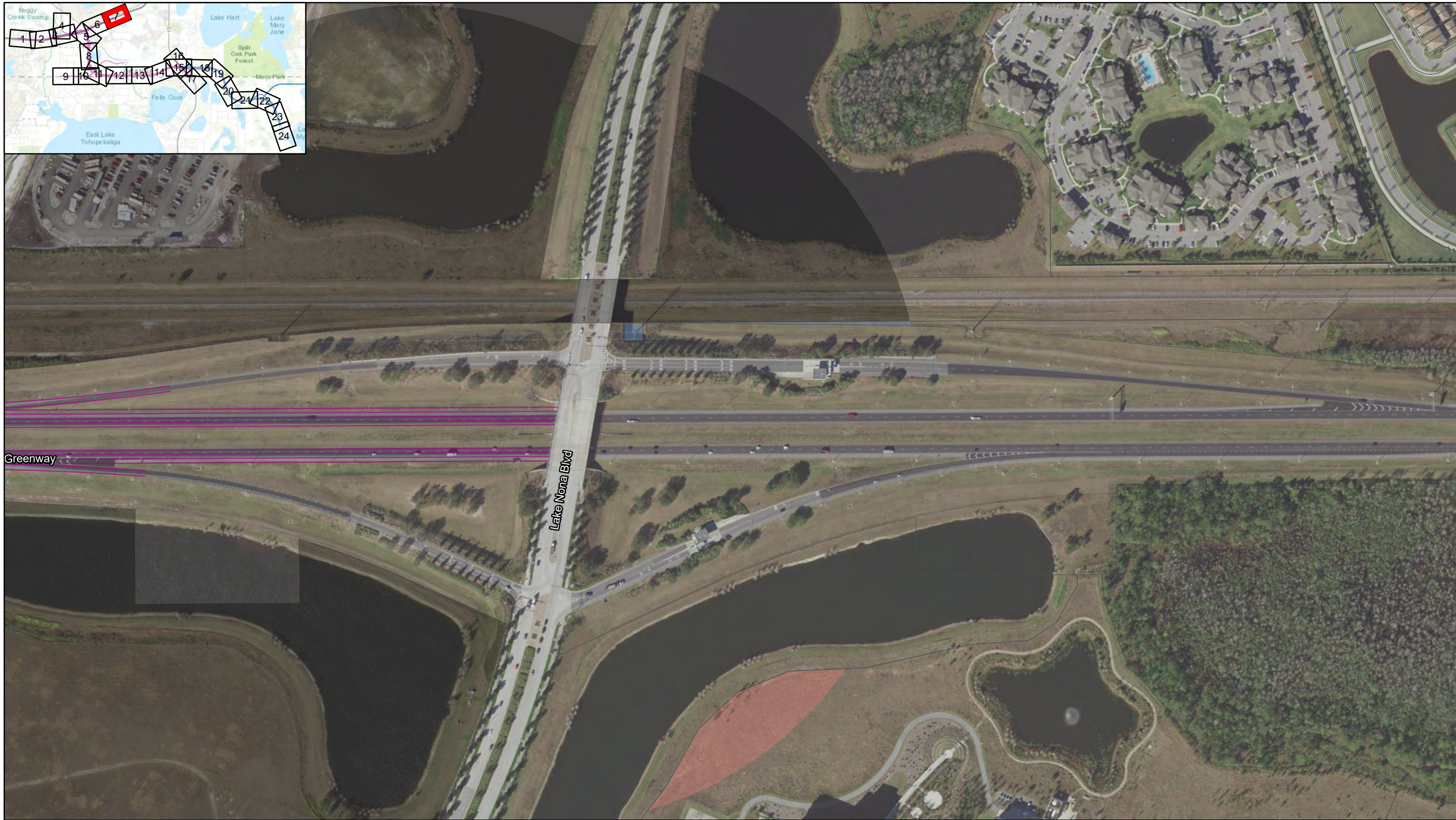
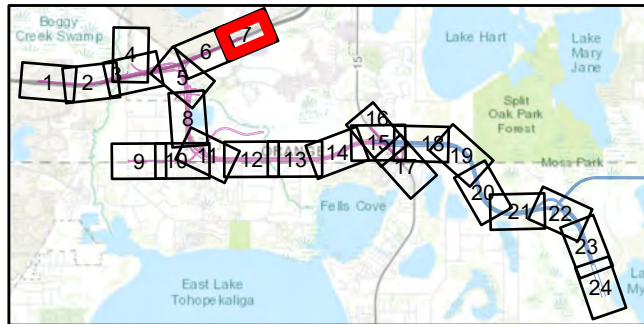


Figure 3.1.1
 Noise Analysis Map
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SR 417/Osceola Parkway Extension Project
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- Receptor Sites
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- Parcels
- Proposed Improvements**
- Lake Nona

- Lake Nona - Proposed ROW
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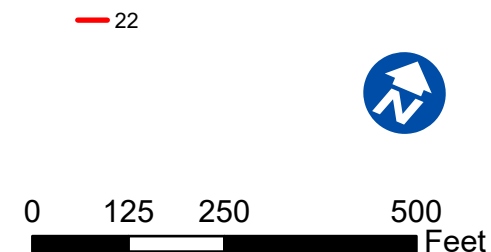
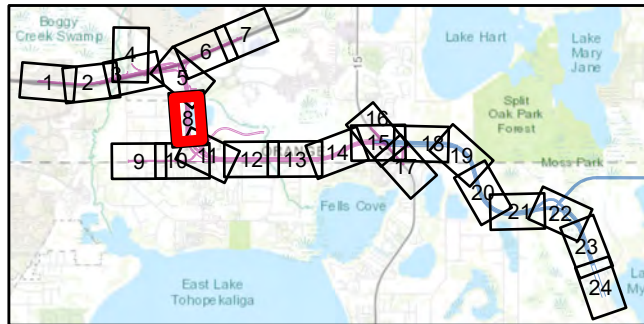


Figure 3.1.1
 Noise Analysis Map
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SR 417/Osceola Parkway Extension Project
 Development and Environment (PD&E)
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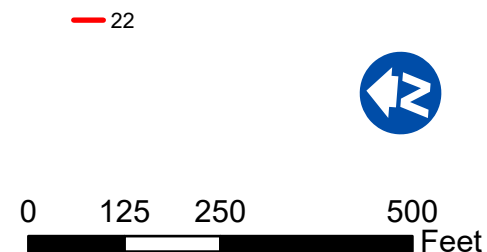
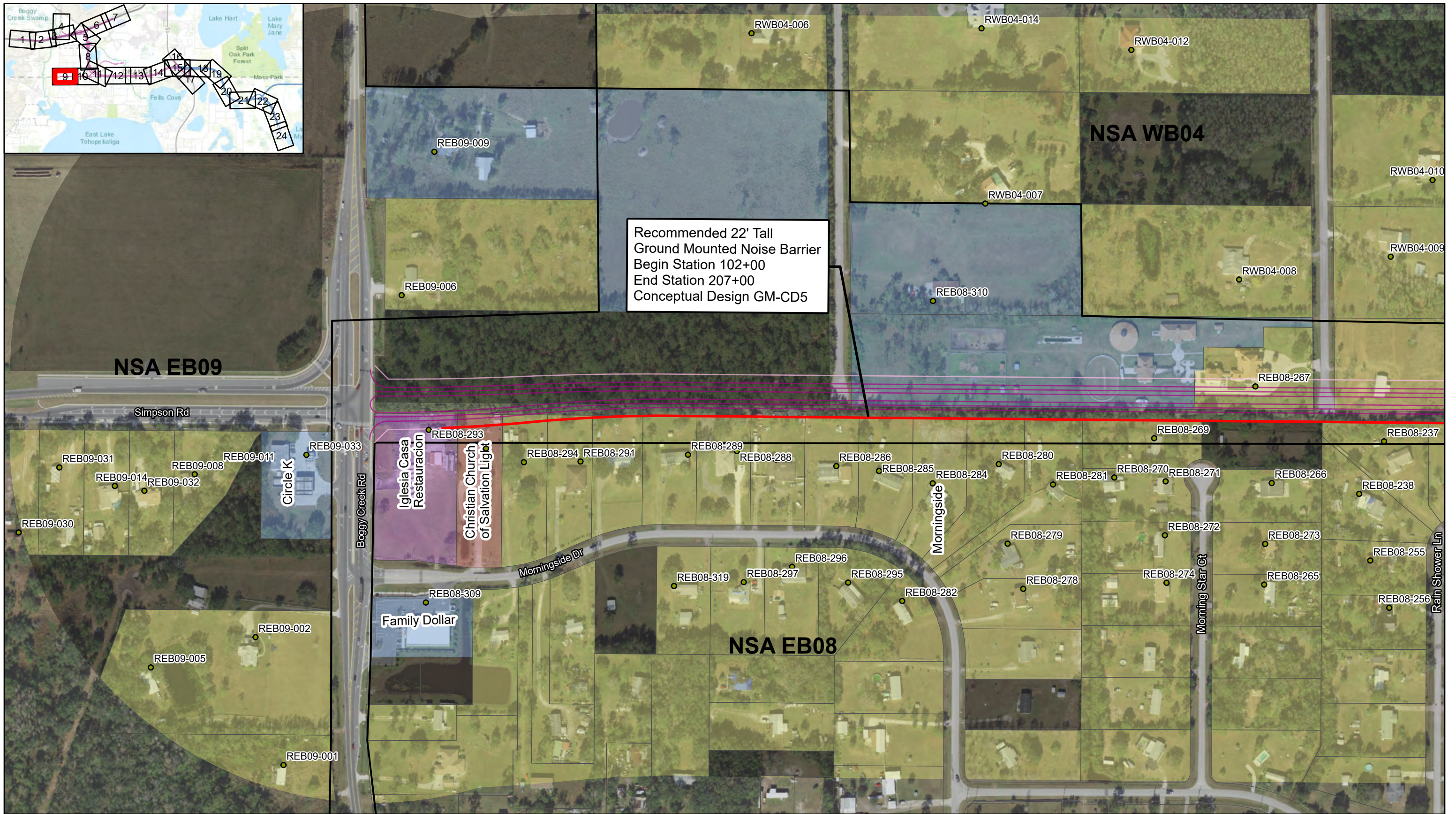
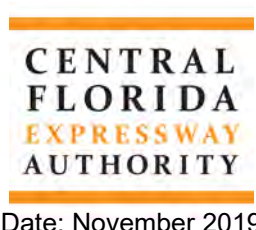


Figure 3.1.1
 Noise Analysis Map
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Recommended 22' Tall
Ground Mounted Noise Barrier
Begin Station 102+00
End Station 207+00
Conceptual Design GM-CD5

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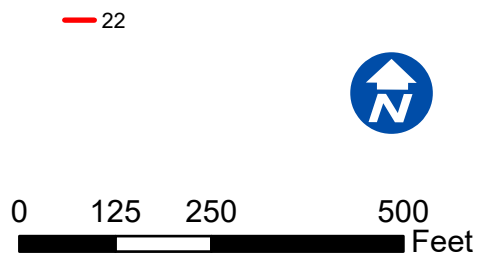
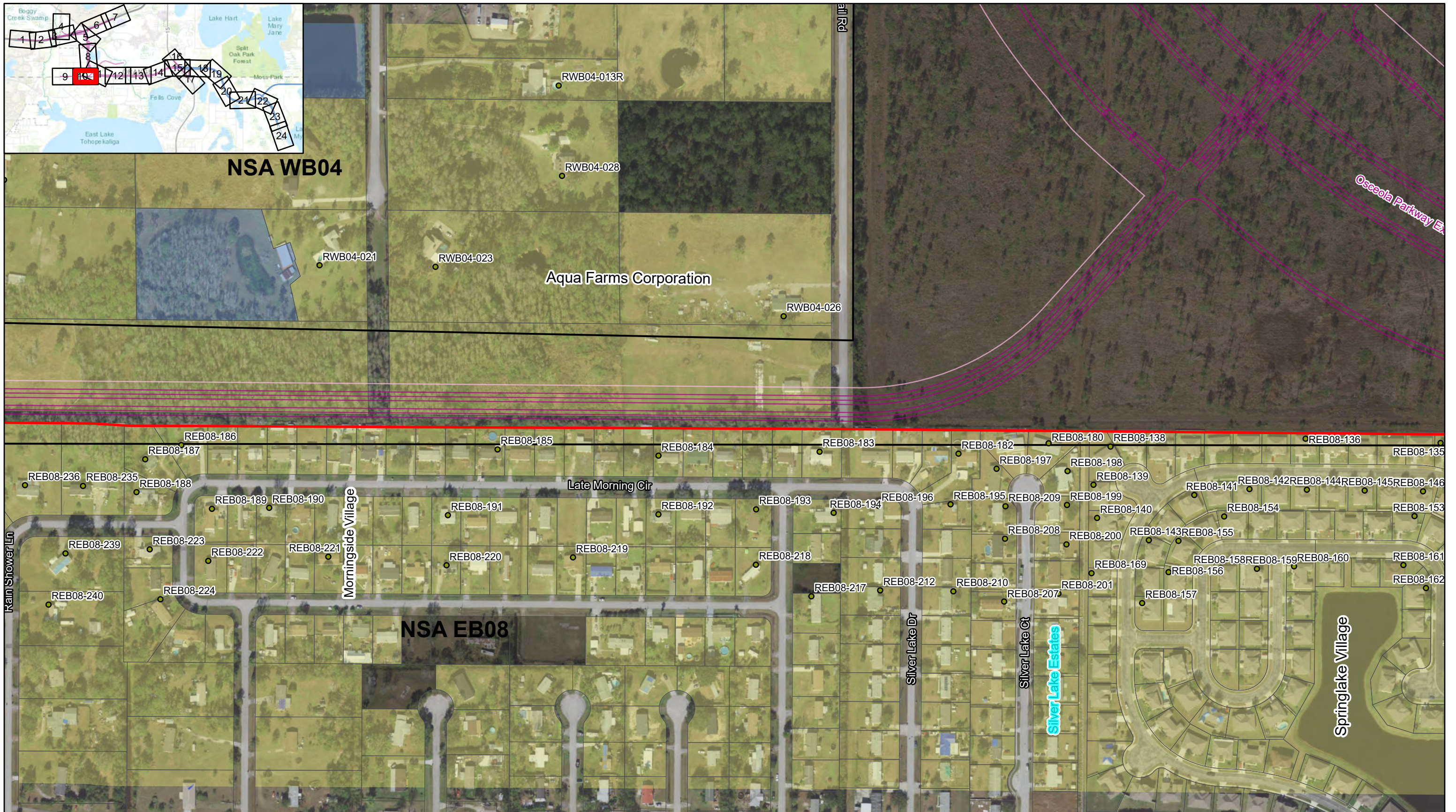


Figure 3.1.1
Noise Analysis Map
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 Study Near Boggy Creek Rd. in Orange
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**CENTRAL
 FLORIDA
 EXPRESSWAY
 AUTHORITY**
 Date: November 2019

- Receptor Sites
- ▭ Noise Study Areas
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- Proposed Improvements**
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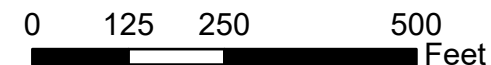
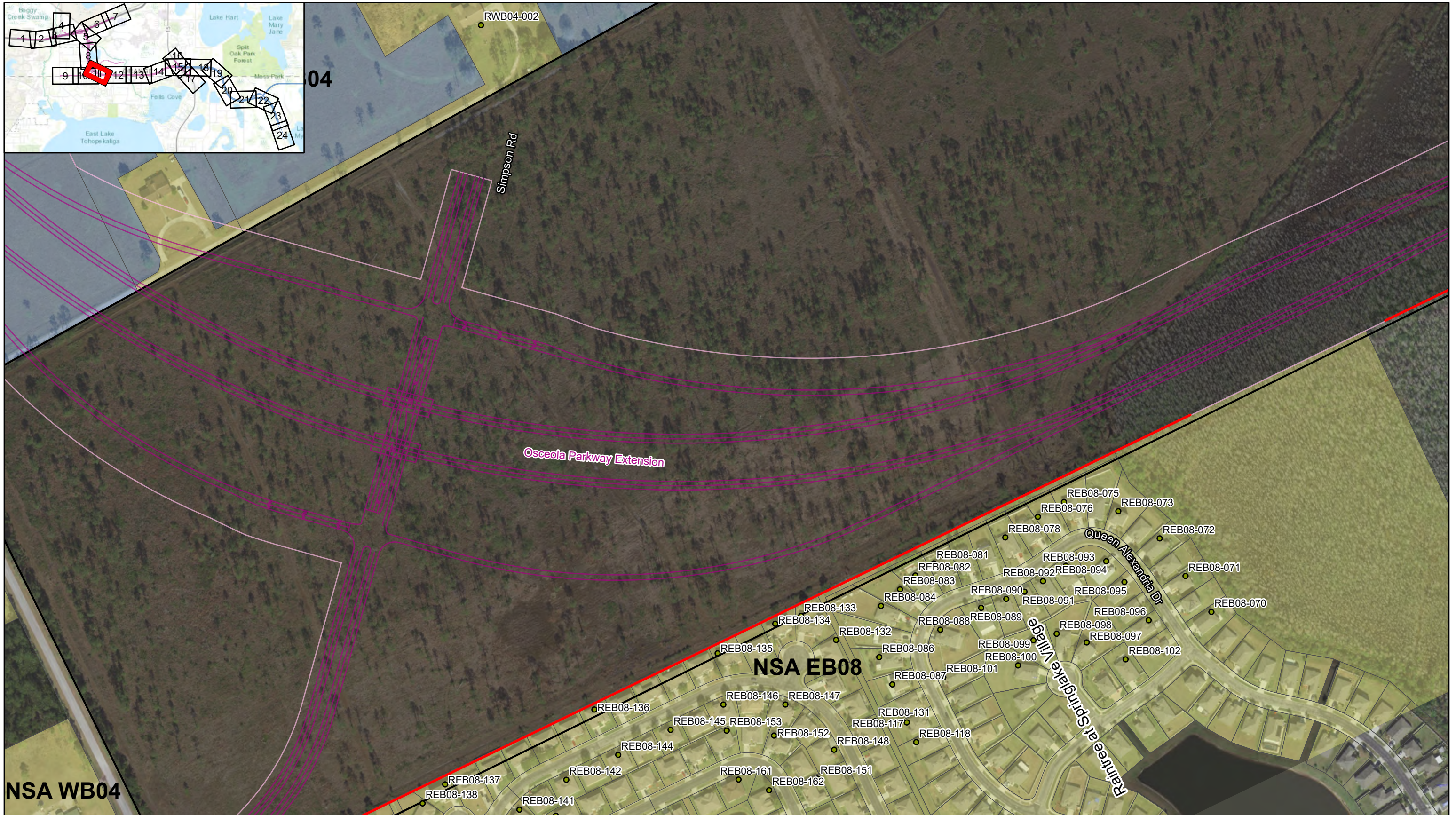


Figure 3.1.1
 Noise Analysis Map
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 Development and Environment (PD&E)
 Study Near Boggy Creek Rd. in Orange
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- Receptor Sites
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- Height (ft)
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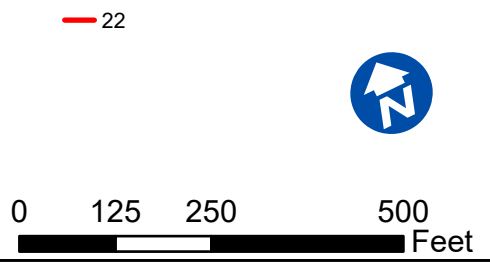
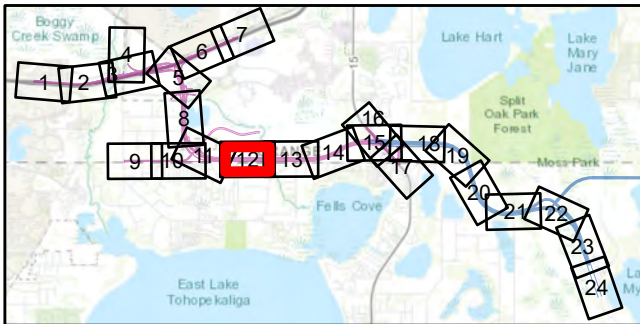
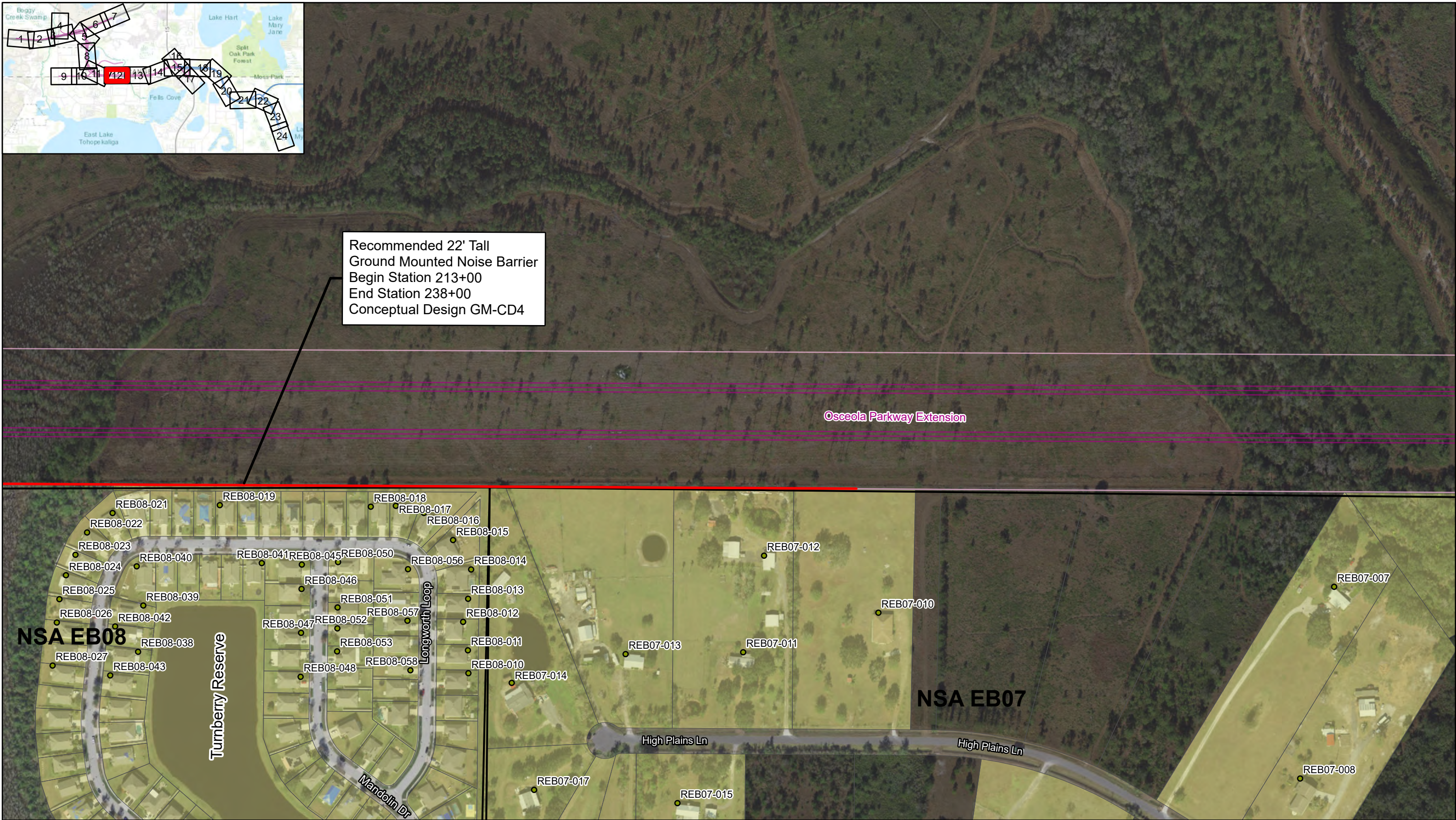


Figure 3.1.1
 Noise Analysis Map
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Recommended 22' Tall
Ground Mounted Noise Barrier
Begin Station 213+00
End Station 238+00
Conceptual Design GM-CD4



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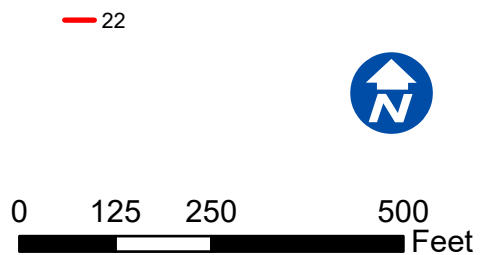
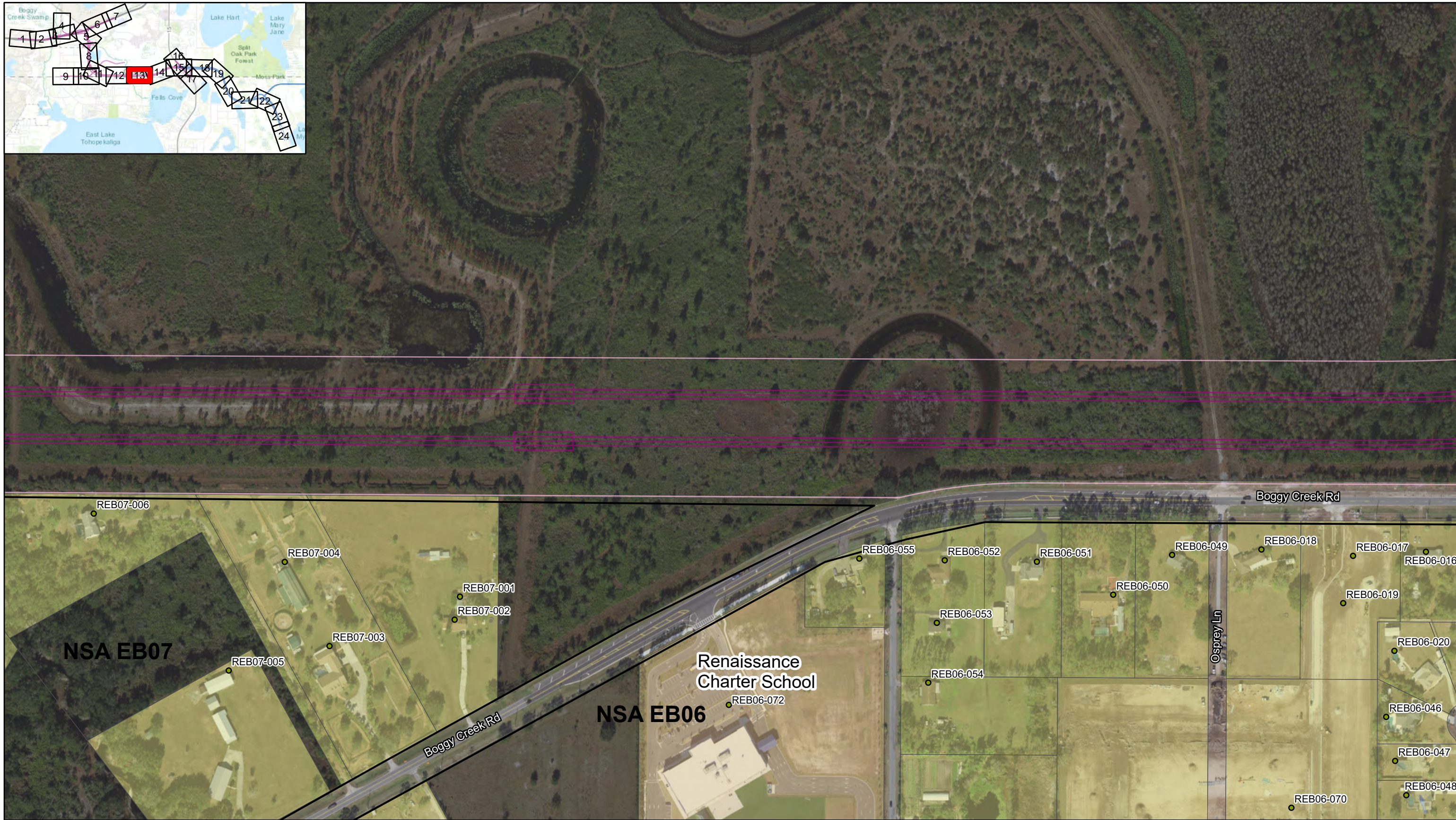
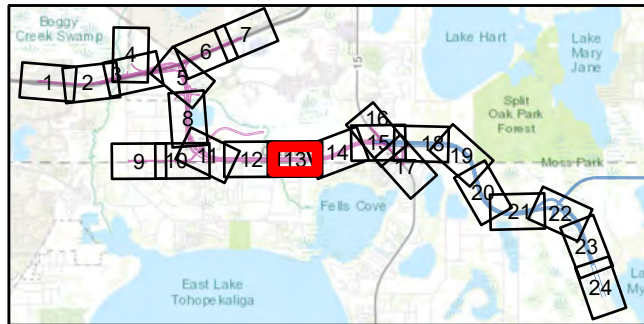


Figure 3.1.1
Noise Analysis Map
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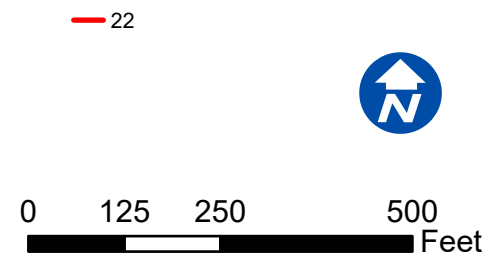
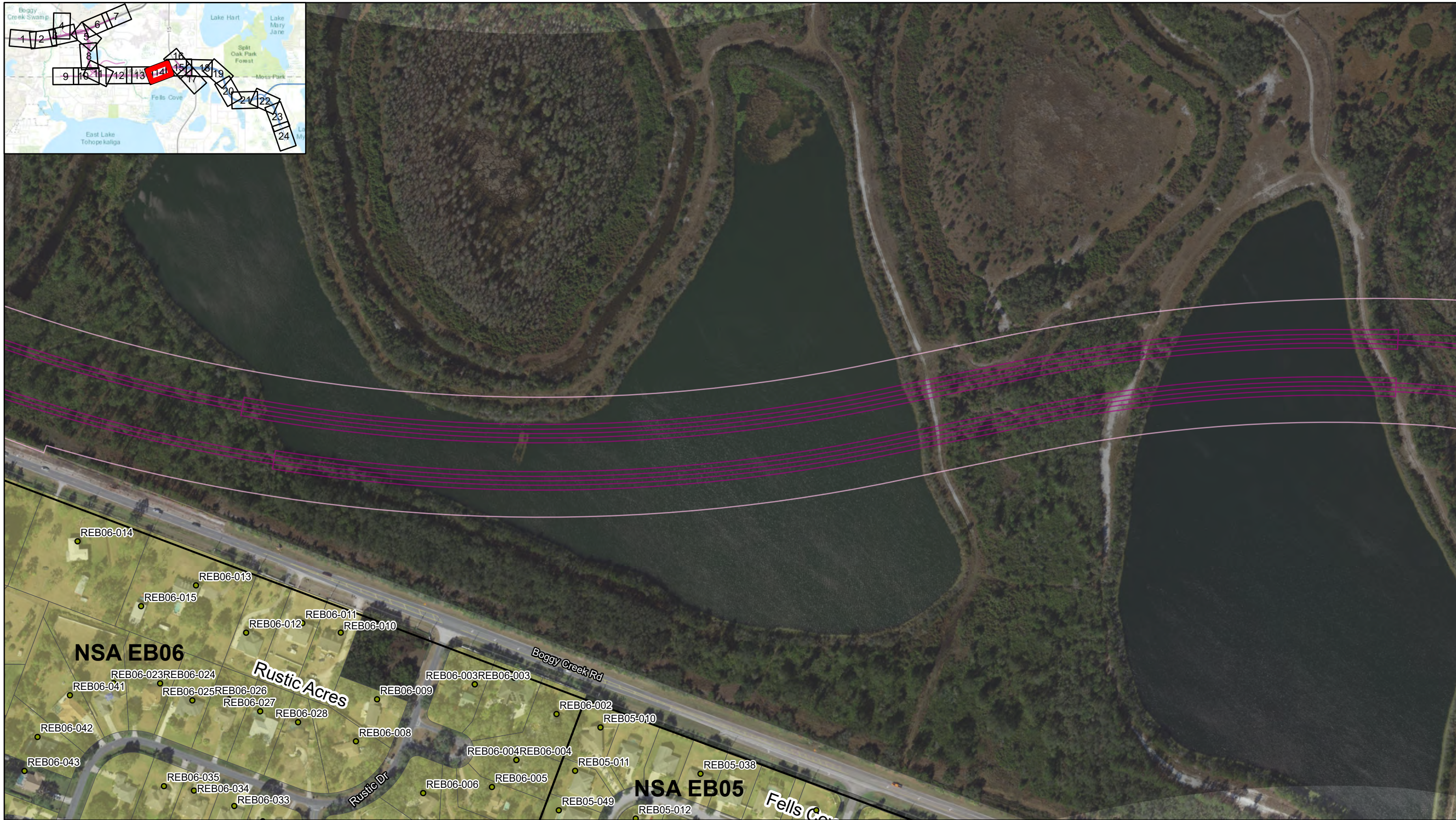
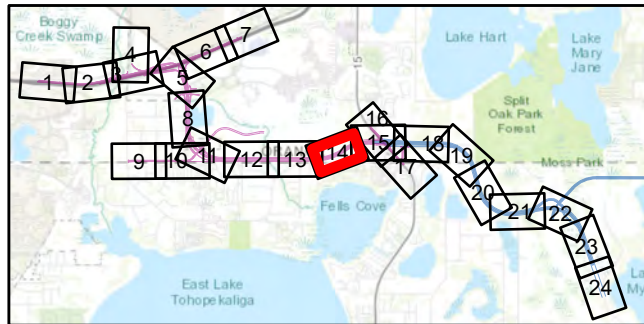


Figure 3.1.1
 Noise Analysis Map
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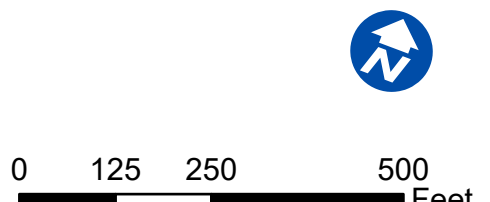
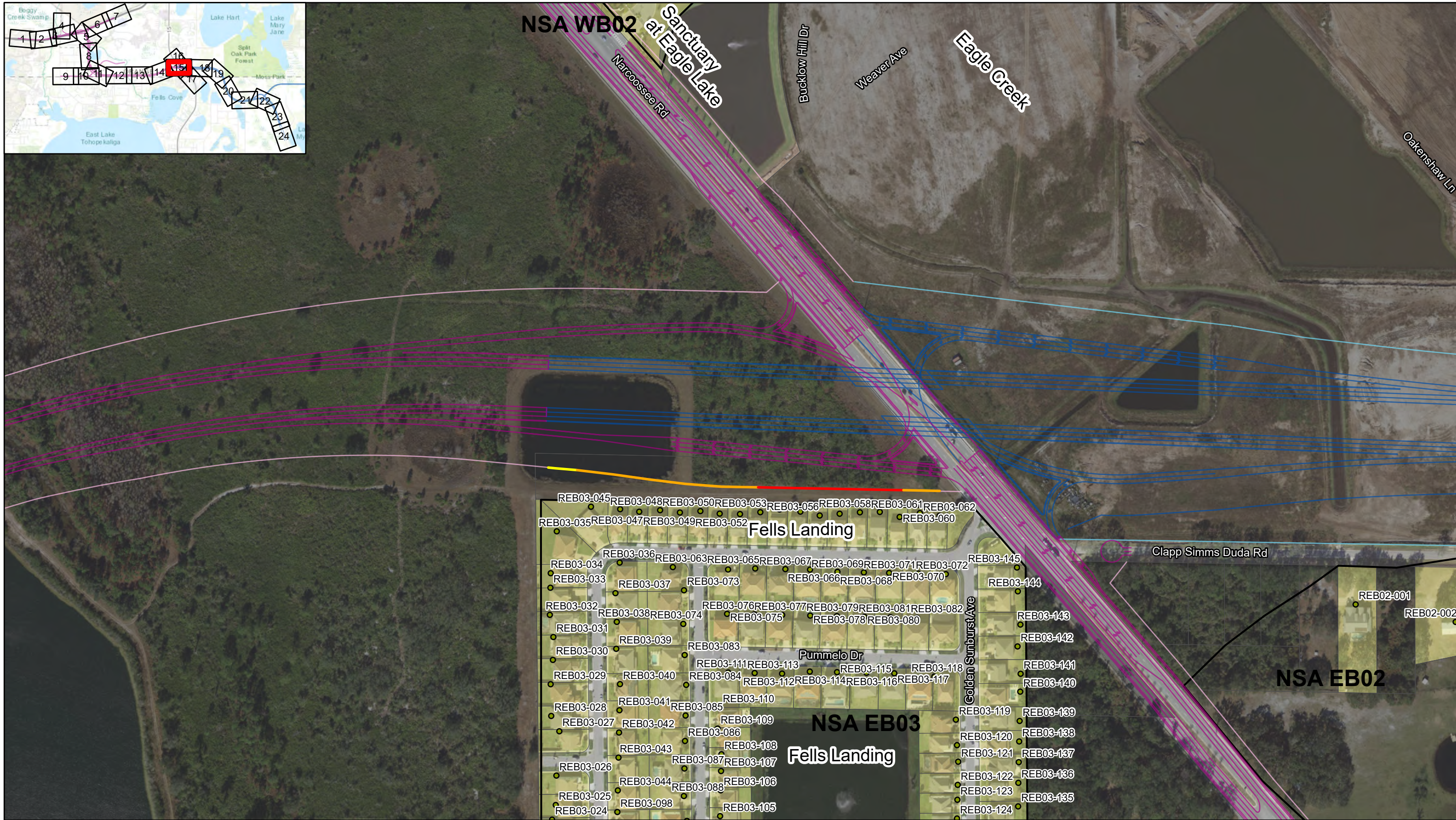
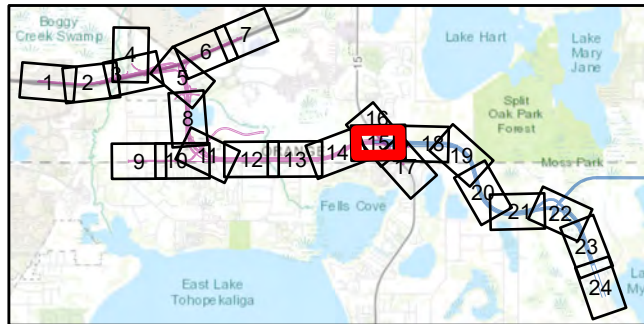


Figure 3.1.1
 Noise Analysis Map
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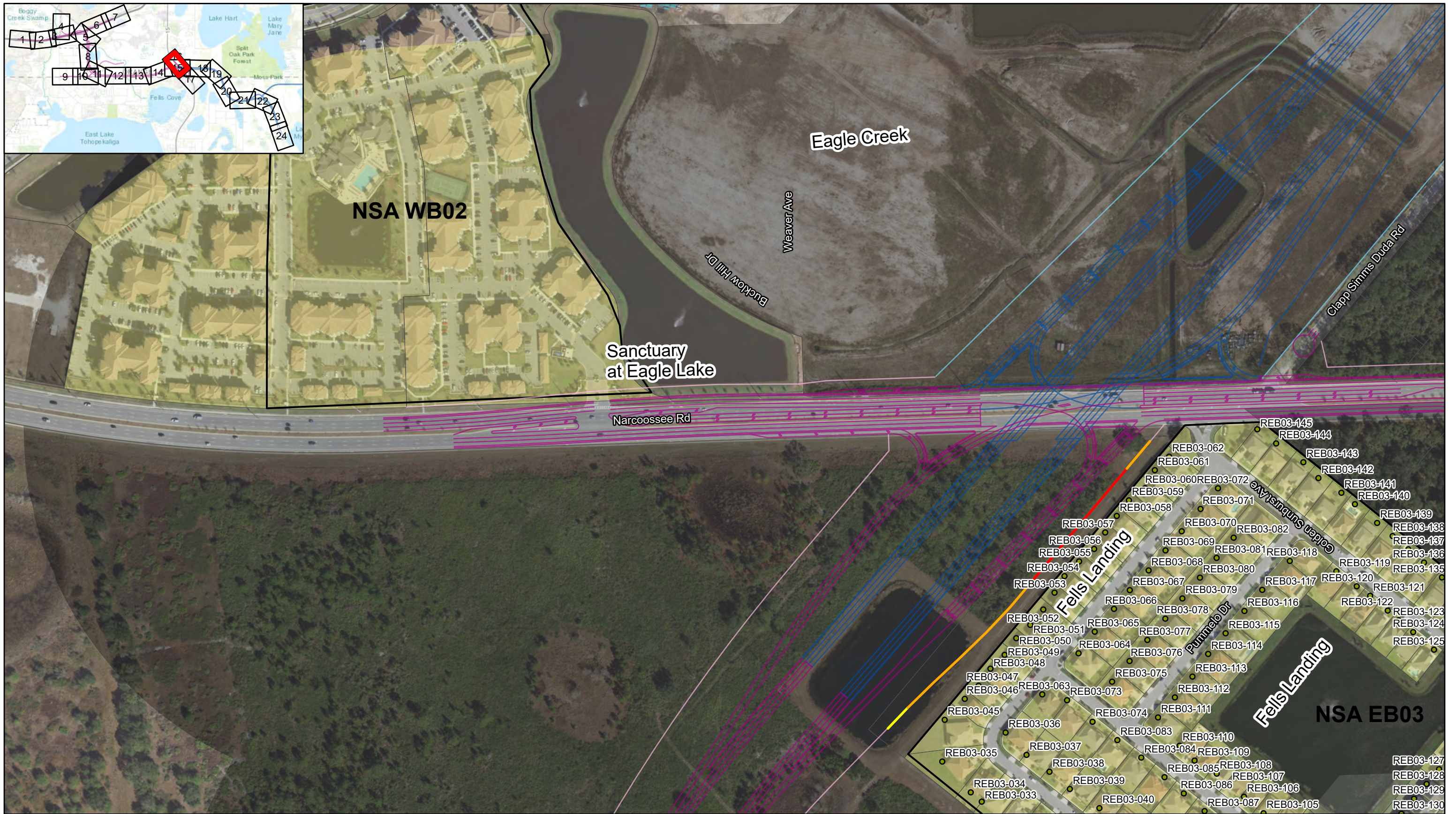
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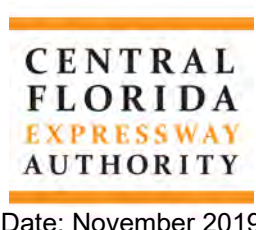
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<ul style="list-style-type: none"> ● Receptor Sites ▭ Noise Study Areas ▭ Parcels <p>Proposed Improvements</p> <ul style="list-style-type: none"> — Lake Nona 	<ul style="list-style-type: none"> — Lake Nona - Proposed ROW — Split Oak — Split Oak - Proposed ROW <p>Land Use by Noise Activity Category</p> <ul style="list-style-type: none"> ■ B: Residential 	<ul style="list-style-type: none"> ■ C: Other Sensitive Lands ■ D: Institutional: (Interior) ■ E: Sensitive Commercial ■ F: Non-Sensitive Developed ■ G: Vacant 	<p>Proposed Noise Barriers</p> <p>Height (ft)</p> <ul style="list-style-type: none"> — 8 — 14 — 18 — 20 — 22 	<p>0 125 250 500 Feet</p>	
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Figure 3.1.1
 Noise Analysis Map
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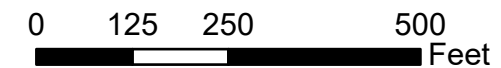


Figure 3.1.1
 Noise Analysis Map
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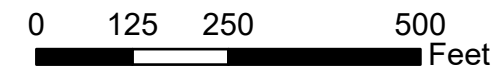
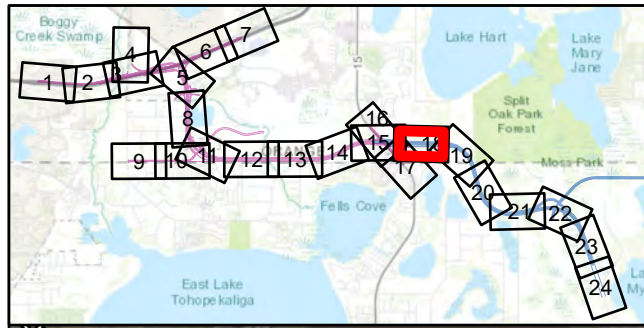


Figure 3.1.1
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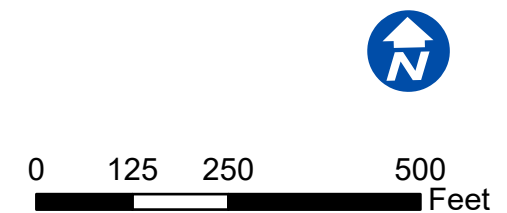
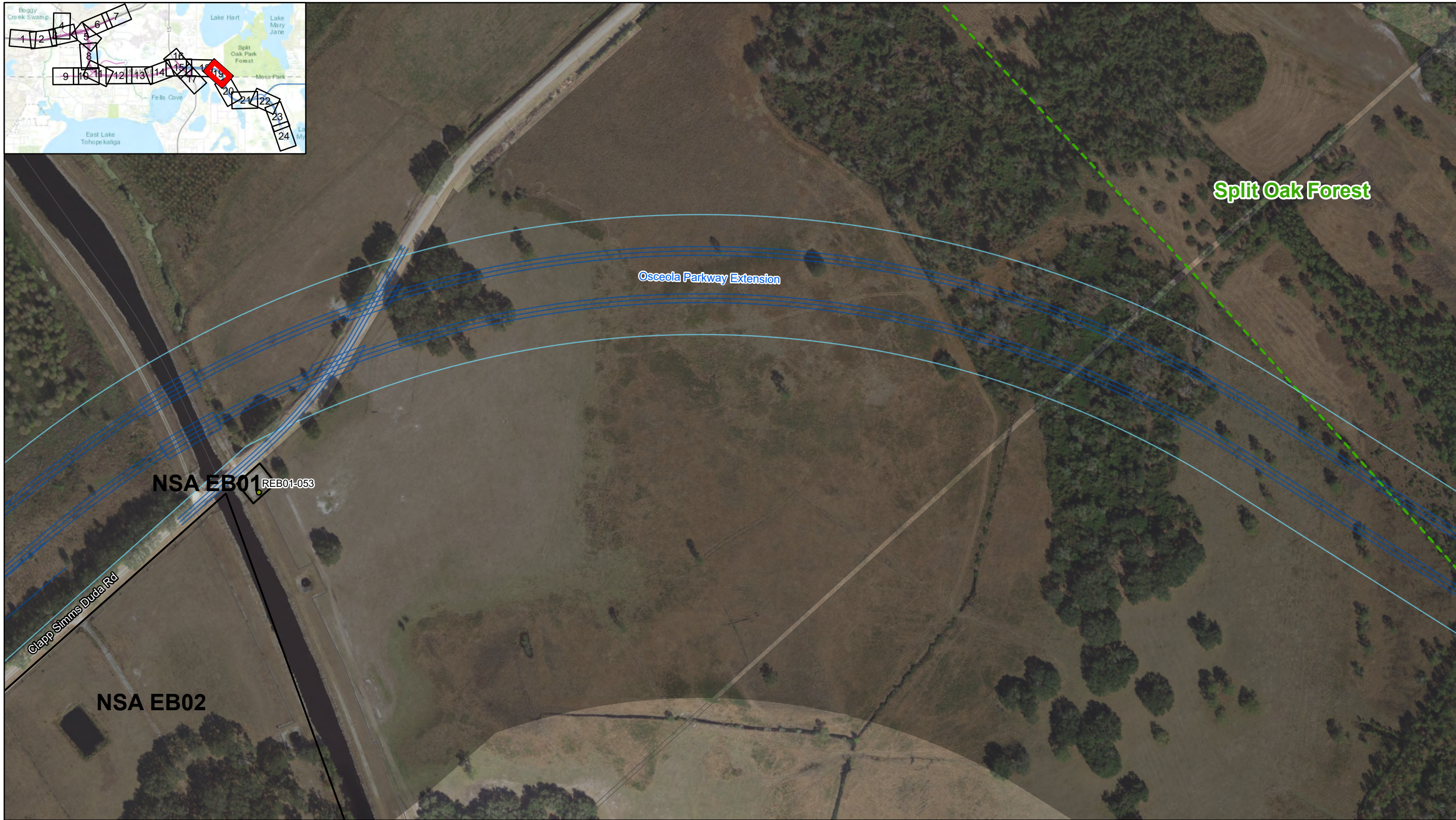
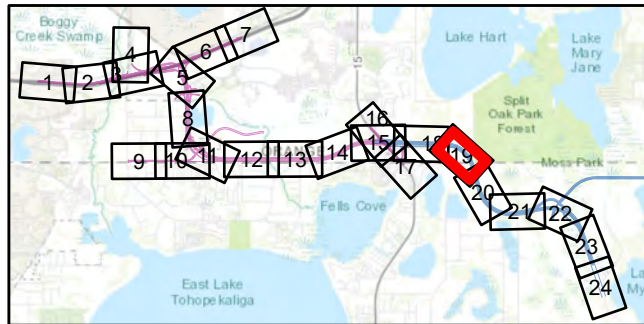


Figure 3.1.1
 Noise Analysis Map
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SR 417/Osceola Parkway Extension Project
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- 22

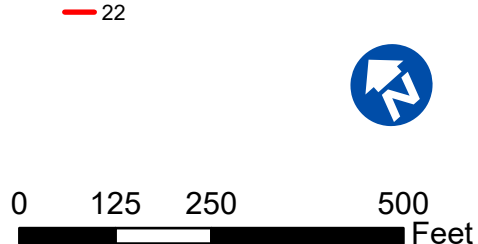
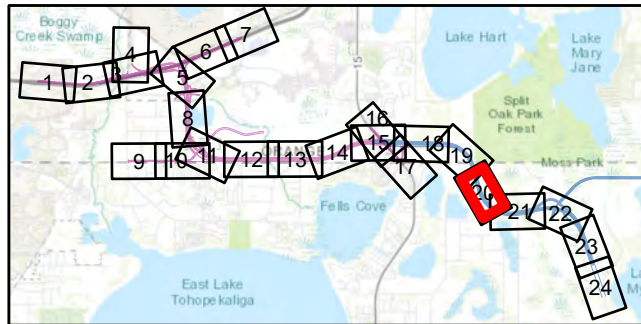
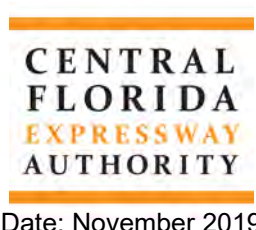


Figure 3.1.1
 Noise Analysis Map
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SR 417/Osceola Parkway Extension Project
 Development and Environment (PD&E)
 Study Near Boggy Creek Rd. in Orange
 County, Florida and Cyrils Dr. in Osceola
 County, Florida
 Contract No.: 001250



Date: November 2019

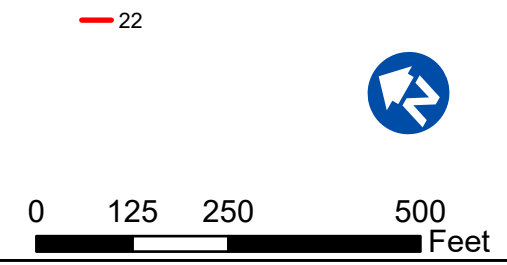
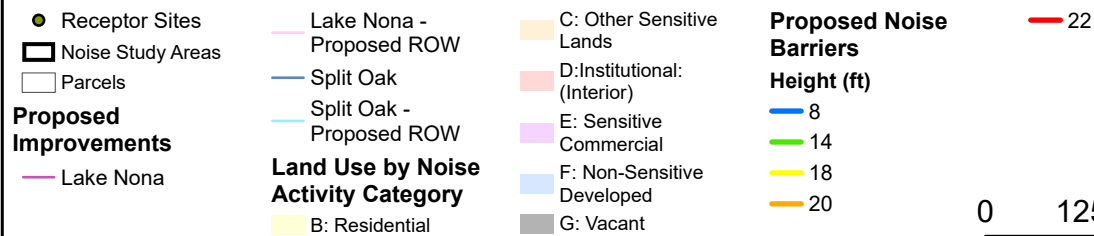
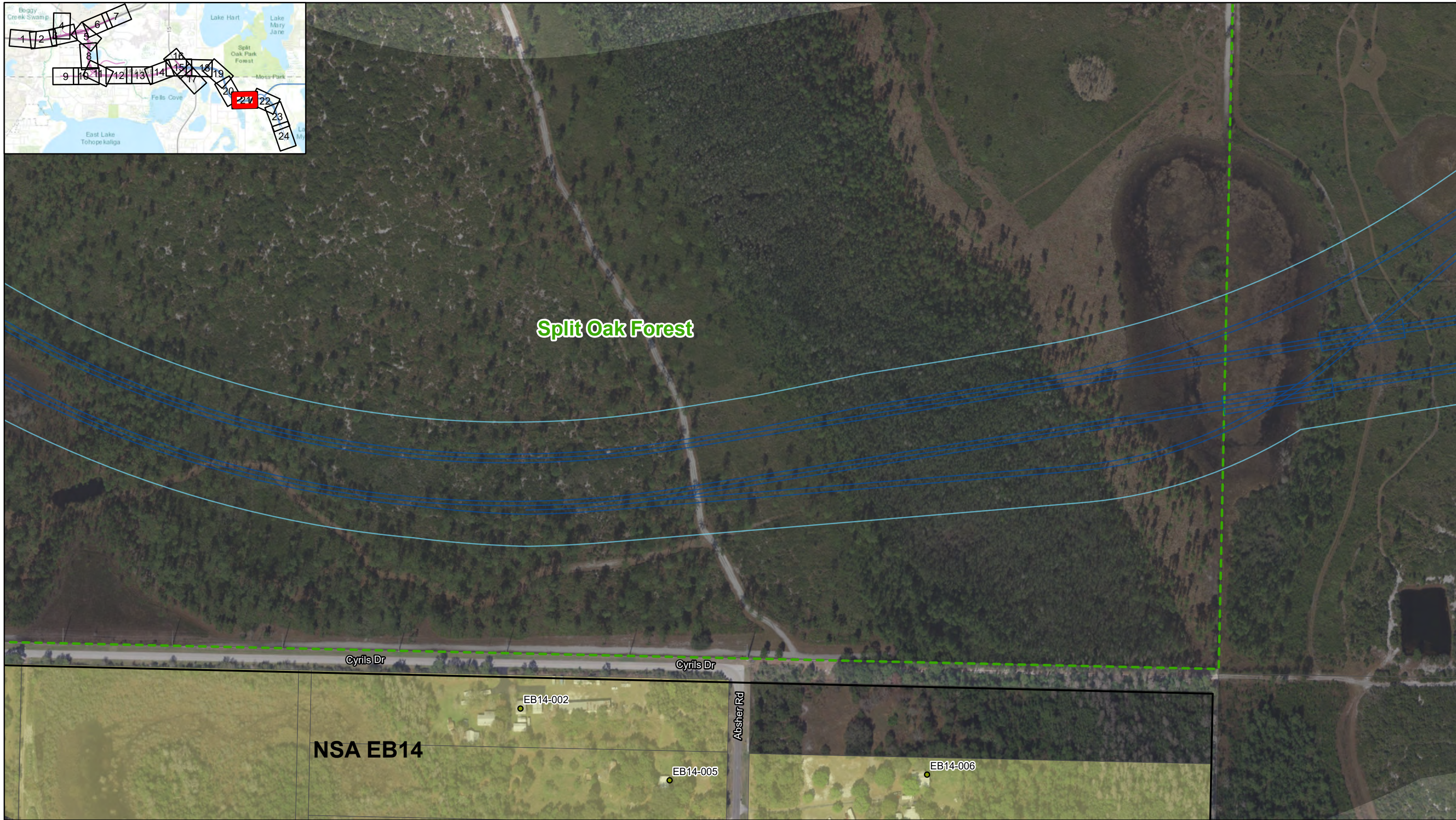
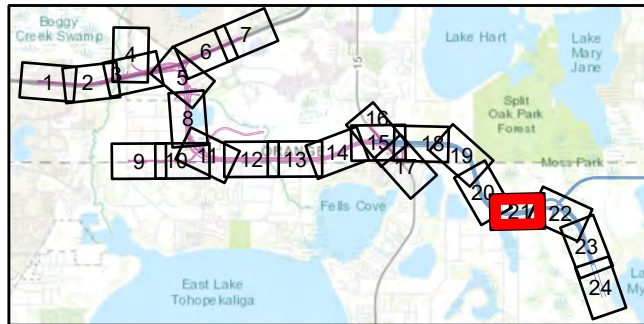


Figure 3.1.1
 Noise Analysis Map
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 Study Near Bogy Creek Rd. in Orange
 County, Florida and Cyrils Dr. in Osceola
 County, Florida
 Contract No.: 001250



Date: November 2019

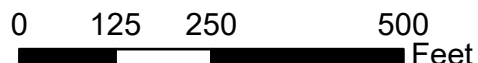
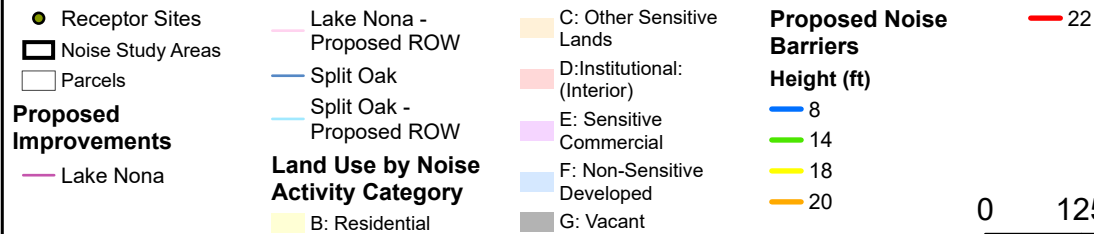
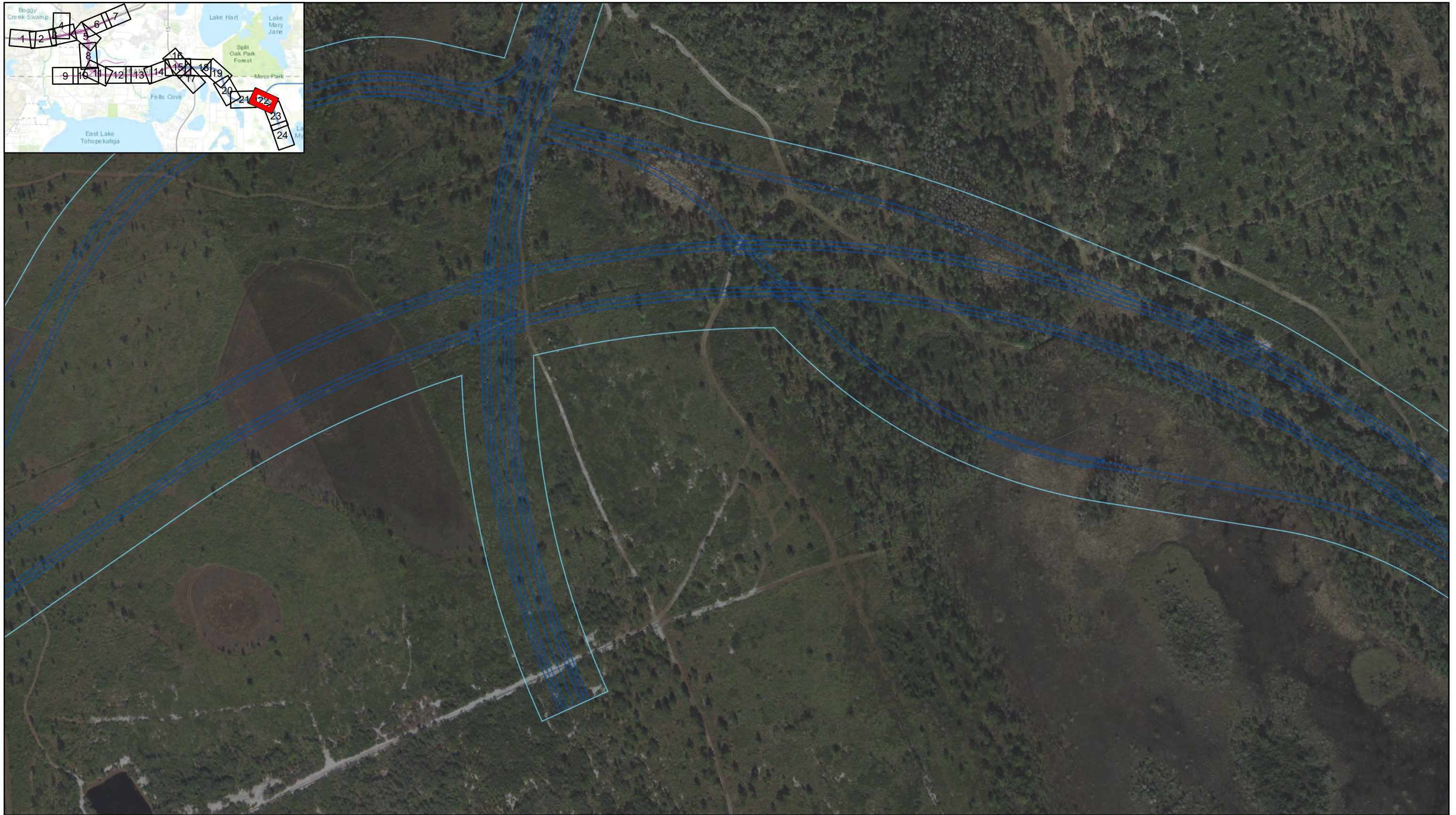
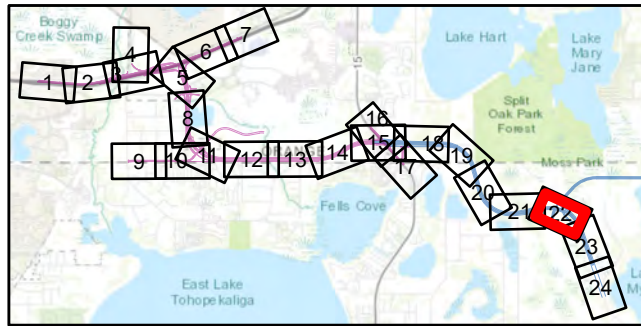
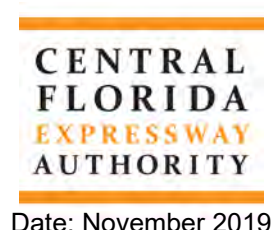


Figure 3.1.1
 Noise Analysis Map
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- Receptor Sites
- ▭ Noise Study Areas
- ▭ Parcels
- Proposed Improvements**
- Lake Nona
- Lake Nona - Proposed ROW
- Split Oak
- Split Oak - Proposed ROW
- Land Use by Noise Activity Category**
- B: Residential
- C: Other Sensitive Lands
- D: Institutional: (Interior)
- E: Sensitive Commercial
- F: Non-Sensitive Developed
- G: Vacant
- Proposed Noise Barriers Height (ft)**
- 8
- 14
- 18
- 20
- 22

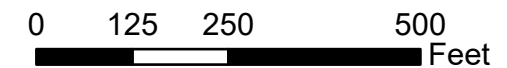
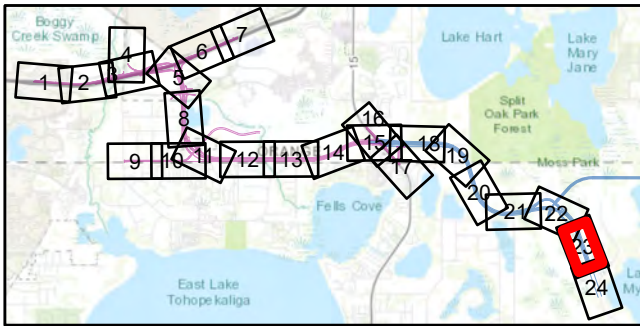
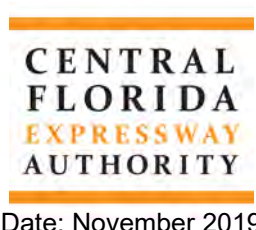


Figure 3.1.1
 Noise Analysis Map
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Date: November 2019

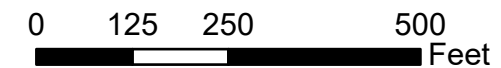
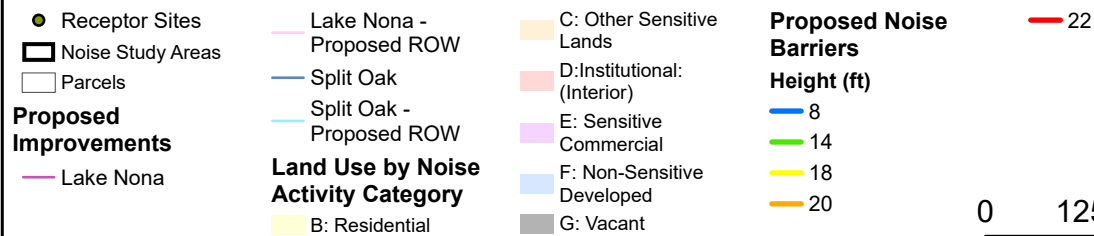
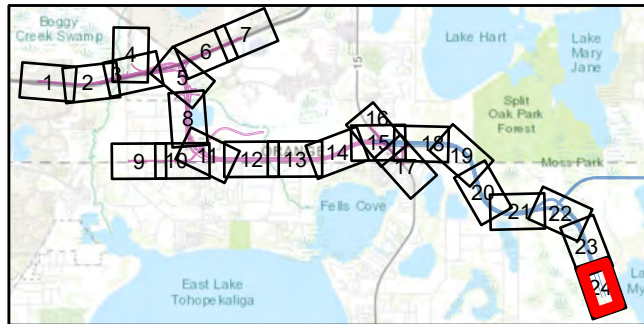


Figure 3.1.1
 Noise Analysis Map
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 County, Florida
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Date: November 2019

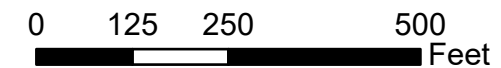
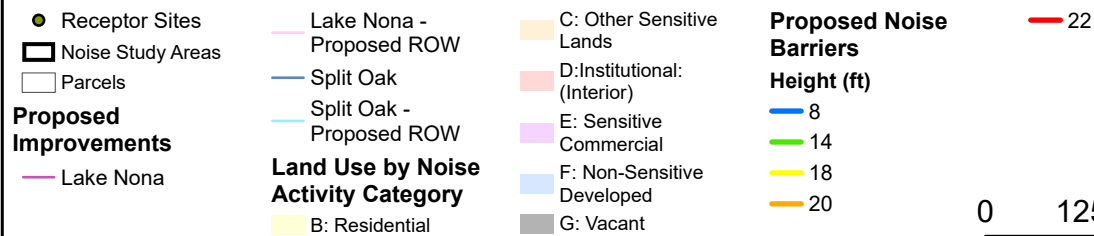


Figure 3.1.1
 Noise Analysis Map
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Appendix D

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 1 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
SR 417 from Toll Plaza to Lake Nona Boulevard (Segment 1)							
Beacon Park (NSA WB05) - North of SR 417 and West of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)							
Beacon Park / [NAC B - 66 dB(A)]	WB05-001	Single Family Residence	2	---	73.9	N/A	Exceeds / Yes
	WB05-002	Single Family Residence	2	---	74.4	N/A	Exceeds / Yes
	WB05-003	Single Family Residence	5	---	74.6	N/A	Exceeds / Yes
	WB05-004	Single Family Residence	5	---	74.6	N/A	Exceeds / Yes
	WB05-005	Single Family Residence	5	---	73.6	N/A	Exceeds / Yes
	WB05-006	Single Family Residence	5	---	70.3	N/A	Exceeds / Yes
	WB05-007	Single Family Residence	5	---	68.0	N/A	Exceeds / Yes
	WB05-008	Single Family Residence	5	---	65.9	N/A	Below / No
	WB05-009	Single Family Residence	5	---	65.2	N/A	Below / No
	WB05-010	Single Family Residence	5	---	66.0	N/A	Approaches / Yes
	WB05-011	Single Family Residence	5	---	67.7	N/A	Exceeds / Yes
	WB05-012	Single Family Residence	5	---	67.5	N/A	Exceeds / Yes
	WB05-013	Single Family Residence	1	---	67.3	N/A	Exceeds / Yes
	WB05-014	Single Family Residence	4	---	65.0	N/A	Below / No
	WB05-015	Single Family Residence	2	---	64.7	N/A	Below / No
	WB05-016	Single Family Residence	2	---	64.3	N/A	Below / No
Beacon Park / [NAC C - 66 dB(A)]	WB05-P1	Community Pool	1	---	75.8	N/A	Exceeds / Yes
	WB05-P2	Community Playground	1	---	67.6	N/A	Exceeds / Yes
				Minimum	64.3	---	---
				Maximum	75.8	---	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					45	---	---
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)					2	---	---
Somerset Park (NSA EB10) - South of SR 417 and West of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)							
Somerset Park / [NAC B - 66 dB(A)]	EB10-001	Single Family Residence	10	---	68.0	N/A	Exceeds / Yes
	EB10-002	Single Family Residence	5	---	67.1	N/A	Exceeds / Yes
	EB10-003	Single Family Residence	6	---	67.0	N/A	Meets / Yes
	EB10-004	Single Family Residence	4	---	66.2	N/A	Approaches / Yes
	EB10-005	Single Family Residence	7	---	65.6	N/A	Below / No
	EB10-006	Single Family Residence	1	---	65.1	N/A	Below / No
	EB10-007	Single Family Residence	4	---	66.4	N/A	Approaches / Yes
	EB10-008	Single Family Residence	4	---	67.7	N/A	Exceeds / Yes
	EB10-009	Single Family Residence	9	---	65.3	N/A	Below / No
	EB10-010	Single Family Residence	3	---	65.4	N/A	Below / No
Somerset Park / [NAC C - 66 dB(A)]	EB10-P	Community Playground	1	---	67.9	N/A	Exceeds / Yes
				Minimum	65.1	---	---
				Maximum	68.0	---	---
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)					33	---	---
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)					1	---	---
Somerset Crossings Residential Development Ongoing Construction (NSA EB11) - South of SR 417 and East of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)							
Somerset Crossings / [NAC B - 66 dB(A)]	EB11-001	Multi-Family Residence	1	---	65.1	N/A	Below / No
	EB11-002	Multi-Family Residence	1	---	65.2	N/A	Below / No
	EB11-003	Multi-Family Residence	1	---	65.3	N/A	Below / No
	EB11-004	Multi-Family Residence	1	---	65.4	N/A	Below / No
	EB11-005	Multi-Family Residence	1	---	65.5	N/A	Below / No
	EB11-006	Multi-Family Residence	1	---	65.7	N/A	Below / No
	EB11-007	Multi-Family Residence	3	---	66.0	N/A	Approaches / Yes
	EB11-008	Multi-Family Residence	3	---	66.8	N/A	Approaches / Yes
	EB11-009	Multi-Family Residence	3	---	66.9	N/A	Approaches / Yes
	EB11-010	Multi-Family Residence	3	---	67.1	N/A	Exceeds / Yes
	EB11-011	Multi-Family Residence	3	---	67.2	N/A	Exceeds / Yes
	EB11-012	Multi-Family Residence	3	---	67.3	N/A	Exceeds / Yes

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 2 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Somerset Crossings / [NAC B - 66 dB(A)]	EB11-013	Multi-Family Residence	1	---	67.4	N/A	Exceeds / Yes
	EB11-014	Multi-Family Residence	1	---	67.5	N/A	Exceeds / Yes
	EB11-015	Multi-Family Residence	1	---	67.5	N/A	Exceeds / Yes
	EB11-016	Multi-Family Residence	1	---	67.6	N/A	Exceeds / Yes
				Minimum	65.1	---	---
				Maximum	67.6	---	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					22	---	---
Lake Nona Ariel Apartments (NSA EB12) - South of SR 417 and East of Wyndham Lakes Boulevard (Not Included in May 2017 Noise Study Report)							
Lake Nona Ariel Apartments / [NAC B - 66 dB(A)]	EB12-001a	Multi-Family Residence - First Floor	1	---	62.6	N/A	Below / No
	EB12-001b	Multi-Family Residence - Second Floor	1	---	68.0	N/A	Exceeds / Yes
	EB12-001c	Multi-Family Residence - Third Floor	1	---	71.8	N/A	Exceeds / Yes
	EB12-002a	Multi-Family Residence - First Floor	1	---	60.9	N/A	Below / No
	EB12-002b	Multi-Family Residence - Second Floor	1	---	66.4	N/A	Approaches / Yes
	EB12-002c	Multi-Family Residence - Third Floor	1	---	70.6	N/A	Exceeds / Yes
	EB12-003a	Multi-Family Residence - First Floor	1	---	60.4	N/A	Below / No
	EB12-003b	Multi-Family Residence - Second Floor	1	---	66.1	N/A	Approaches / Yes
	EB12-003c	Multi-Family Residence - Third Floor	1	---	70.4	N/A	Exceeds / Yes
	EB12-004a	Multi-Family Residence - First Floor	1	---	60.3	N/A	Below / No
	EB12-004b	Multi-Family Residence - Second Floor	1	---	65.0	N/A	Below / No
	EB12-004c	Multi-Family Residence - Third Floor	1	---	68.4	N/A	Exceeds / Yes
	EB12-005a	Multi-Family Residence - First Floor	1	---	60.1	N/A	Below / No
	EB12-005b	Multi-Family Residence - Second Floor	1	---	64.2	N/A	Below / No
	EB12-005c	Multi-Family Residence - Third Floor	1	---	68.5	N/A	Exceeds / Yes
	EB12-006a	Multi-Family Residence - First Floor	1	---	54.4	N/A	Below / No
	EB12-006b	Multi-Family Residence - Second Floor	1	---	59.3	N/A	Below / No
	EB12-006c	Multi-Family Residence - Third Floor	1	---	63.1	N/A	Below / No
	EB12-007a	Multi-Family Residence - First Floor	1	---	53.6	N/A	Below / No
	EB12-007b	Multi-Family Residence - Second Floor	1	---	59.6	N/A	Below / No
	EB12-007c	Multi-Family Residence - Third Floor	1	---	62.2	N/A	Below / No
	EB12-008a	Multi-Family Residence - First Floor	1	---	57.4	N/A	Below / No
	EB12-008b	Multi-Family Residence - Second Floor	1	---	62.1	N/A	Below / No
	EB12-008c	Multi-Family Residence - Third Floor	1	---	64.5	N/A	Below / No
	EB12-009a	Multi-Family Residence - First Floor	1	---	64.0	N/A	Below / No
	EB12-009b	Multi-Family Residence - Second Floor	1	---	66.8	N/A	Approaches / Yes
	EB12-009c	Multi-Family Residence - Third Floor	1	---	71.1	N/A	Exceeds / Yes
	EB12-010a	Multi-Family Residence - First Floor	1	---	62.4	N/A	Below / No
	EB12-010b	Multi-Family Residence - Second Floor	1	---	66.3	N/A	Approaches / Yes
	EB12-010c	Multi-Family Residence - Third Floor	1	---	70.7	N/A	Exceeds / Yes
	EB12-011a	Multi-Family Residence - First Floor	1	---	62.2	N/A	Below / No
	EB12-011b	Multi-Family Residence - Second Floor	1	---	66.1	N/A	Approaches / Yes
	EB12-011c	Multi-Family Residence - Third Floor	1	---	70.6	N/A	Exceeds / Yes
	EB12-012a	Multi-Family Residence - First Floor	1	---	60.9	N/A	Below / No
	EB12-012b	Multi-Family Residence - Second Floor	1	---	65.0	N/A	Below / No
	EB12-012c	Multi-Family Residence - Third Floor	1	---	69.3	N/A	Exceeds / Yes
EB12-013a	Multi-Family Residence - First Floor	1	---	57.0	N/A	Below / No	
EB12-013b	Multi-Family Residence - Second Floor	1	---	60.8	N/A	Below / No	
EB12-013c	Multi-Family Residence - Third Floor	1	---	65.0	N/A	Below / No	
EB12-014a	Multi-Family Residence - First Floor	1	---	53.9	N/A	Below / No	
EB12-014b	Multi-Family Residence - Second Floor	1	---	58.0	N/A	Below / No	
EB12-014c	Multi-Family Residence - Third Floor	1	---	60.7	N/A	Below / No	
EB12-015a	Multi-Family Residence - First Floor	1	---	54.1	N/A	Below / No	
EB12-015b	Multi-Family Residence - Second Floor	1	---	58.3	N/A	Below / No	
EB12-015c	Multi-Family Residence - Third Floor	1	---	61.0	N/A	Below / No	
EB12-016a	Multi-Family Residence - First Floor	1	---	53.6	N/A	Below / No	
EB12-016b	Multi-Family Residence - Second Floor	1	---	57.3	N/A	Below / No	
EB12-016c	Multi-Family Residence - Third Floor	1	---	59.7	N/A	Below / No	
				Minimum	53.6	---	---
				Maximum	71.8	---	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					15	---	---

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 3 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No	
Special Land Uses Along Lake Nona Boulevard (NSA EB13) - South of SR 417 Between Lake Nona Boulevard and Laureate Boulevard								
University of Florida Research and Academic Center / [NAC D - 51 dB(A)]	EB13-001	College Interior Use	1	---	27.2	N/A	Below / No	
Lake Nona Innovation Center / [NAC C - 66 dB(A)]	EB13-002	Office Building Exterior Use	1	---	50.2	N/A	Below / No	
Sanford Burnham Institute / [NAC D - 51 dB(A)]	EB13-003	College Interior Use	1	---	23.6	N/A	Below / No	
					Minimum	23.6	---	---
					Maximum	50.2	---	---
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)						0	---	---

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 4 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Osceola Parkway Extension from South of SR 417 to Simpson Road and Simpson Road to Tindall Acres Road (Segment 2)							
Scattered Residences Along High Plains Lane (NSA EB07) - South of Osceola Parkway Extension and to the East of Turnberry Reserve							
High Plains Somerset Crossings / [NAC B - 66 dB(A)]	REB07-001	Single Family Residence	1	51.9	61.2	9.3	Below / No
	REB07-002	Single Family Residence	1	53.2	60.4	7.2	Below / No
	REB07-003	Single Family Residence	1	51.0	59.4	8.4	Below / No
	REB07-004	Single Family Residence	1	48.5	62.5	14.0	Below / No
	REB07-005	Single Family Residence	1	48.8	58.2	9.4	Below / No
	REB07-006	Single Family Residence	1	48.5	66.2	17.7	Approaches / Yes
	REB07-007	Single Family Residence	1	48.5	64.0	15.5	Substantial Increase/Yes
	REB07-008	Single Family Residence	1	48.5	54.1	5.6	Below / No
	REB07-009	Single Family Residence	1	48.5	52.7	4.2	Below / No
	REB07-010	Single Family Residence	1	48.5	60.2	11.7	Below / No
	REB07-011	Single Family Residence	1	48.5	58.4	9.9	Below / No
	REB07-012	Single Family Residence	1	48.5	64.1	15.6	Substantial Increase/Yes
	REB07-013	Single Family Residence	1	48.5	58.2	9.7	Below / No
	REB07-014	Single Family Residence	1	48.5	57.3	8.8	Below / No
	REB07-015	Single Family Residence	1	48.5	52.7	4.2	Below / No
	REB07-016	Single Family Residence	1	48.5	50.0	1.5	Below / No
	REB07-017	Single Family Residence	1	48.5	52.7	4.2	Below / No
	REB07-018	Single Family Residence	1	48.5	51.2	2.7	Below / No
				Minimum	50.0	1.5	---
				Maximum	66.2	17.7	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					3	---	---
Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods (NSA EB08) - South of Osceola Parkway Extension from Boggy Creek Road to the West of Turnberry Reserve							
Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods / [NAC B - 66 dB(A)]	REB08-001	Single Family Residence	1	48.5	45.7	-2.8	Below / No
	REB08-010	Single Family Residence	1	48.5	56.1	7.6	Below / No
	REB08-011	Single Family Residence	1	48.5	57.2	8.7	Below / No
	REB08-012	Single Family Residence	1	48.5	58.5	10.0	Below / No
	REB08-013	Single Family Residence	1	48.5	60.6	12.1	Below / No
	REB08-014	Single Family Residence	1	48.5	64.7	16.2	Substantial Increase / Yes
	REB08-015	Single Family Residence	1	48.5	67.5	19.0	Exceeds / Yes
	REB08-016	Single Family Residence	1	48.5	69.2	20.7	Exceeds / Yes
	REB08-017	Single Family Residence	1	48.5	69.9	21.4	Exceeds / Yes
	REB08-018	Single Family Residence	5	48.5	69.6	21.1	Exceeds / Yes
	REB08-019	Single Family Residence	4	48.5	69.7	21.2	Exceeds / Yes
	REB08-020	Single Family Residence	3	48.5	70.1	21.6	Exceeds / Yes
	REB08-021	Single Family Residence	1	48.5	69.2	20.7	Exceeds / Yes
	REB08-022	Single Family Residence	1	48.5	67.5	19.0	Exceeds / Yes
	REB08-023	Single Family Residence	1	48.5	64.9	16.4	Substantial Increase / Yes
	REB08-024	Single Family Residence	1	48.5	61.8	13.3	Below / No
	REB08-025	Single Family Residence	1	48.5	58.9	10.4	Below / No
	REB08-026	Single Family Residence	1	48.5	56.8	8.3	Below / No
	REB08-027	Single Family Residence	1	48.5	54.1	5.6	Below / No
	REB08-038	Single Family Residence	1	48.5	56.6	8.1	Below / No
	REB08-039	Single Family Residence	1	48.5	57.1	8.6	Below / No
	REB08-040	Single Family Residence	3	48.5	63.5	15.0	Substantial Increase / Yes
	REB08-041	Single Family Residence	3	48.5	64.9	16.4	Substantial Increase / Yes
	REB08-042	Single Family Residence	1	48.5	58.8	10.3	Below / No
	REB08-043	Single Family Residence	1	48.5	55.5	7.0	Below / No
	REB08-045	Single Family Residence	1	48.5	64.9	16.4	Substantial Increase / Yes
	REB08-046	Single Family Residence	1	48.5	62.0	13.5	Below / No
	REB08-047	Single Family Residence	1	48.5	58.4	9.9	Below / No
	REB08-048	Single Family Residence	1	48.5	55.8	7.3	Below / No
	REB08-050	Single Family Residence	1	48.5	64.9	16.4	Substantial Increase / Yes
	REB08-051	Single Family Residence	1	48.5	60.3	11.8	Below / No
	REB08-052	Single Family Residence	1	48.5	58.5	10.0	Below / No
REB08-053	Single Family Residence	1	48.5	57.1	8.6	Below / No	
REB08-056	Single Family Residence	1	48.5	63.9	15.4	Substantial Increase / Yes	
REB08-057	Single Family Residence	1	48.5	59.9	11.4	Below / No	
REB08-058	Single Family Residence	1	48.5	57.1	8.6	Below / No	
REB08-070	Single Family Residence	1	48.5	55.4	6.9	Below / No	

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 5 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods / [NAC B - 66 dB(A)]	REB08-071	Single Family Residence	1	48.5	56.4	7.9	Below / No
	REB08-072	Single Family Residence	1	48.5	60.0	11.5	Below / No
	REB08-073	Single Family Residence	1	48.5	64.9	16.4	Substantial Increase / Yes
	REB08-074	Single Family Residence	1	48.5	67.5	19.0	Exceeds / Yes
	REB08-075	Single Family Residence	1	48.5	67.4	18.9	Exceeds / Yes
	REB08-076	Single Family Residence	1	48.5	66.6	18.1	Approaches / Yes
	REB08-077	Single Family Residence	1	48.5	65.8	17.3	Substantial Increase / Yes
	REB08-078	Single Family Residence	1	48.5	65.4	16.9	Substantial Increase / Yes
	REB08-079	Single Family Residence	1	48.5	65.0	16.5	Substantial Increase / Yes
	REB08-080	Single Family Residence	1	48.5	64.7	16.2	Substantial Increase / Yes
	REB08-081	Single Family Residence	1	48.5	64.1	15.6	Substantial Increase / Yes
	REB08-082	Single Family Residence	1	48.5	63.5	15.0	Substantial Increase / Yes
	REB08-083	Single Family Residence	1	48.5	62.7	14.2	Below / No
	REB08-084	Single Family Residence	1	48.5	62.0	13.5	Below / No
	REB08-085	Single Family Residence	1	48.5	60.5	12.0	Below / No
	REB08-086	Single Family Residence	1	48.5	59.1	10.6	Below / No
	REB08-087	Single Family Residence	1	48.5	57.2	8.7	Below / No
	REB08-088	Single Family Residence	1	48.5	59.2	10.7	Below / No
	REB08-089	Single Family Residence	1	48.5	60.0	11.5	Below / No
	REB08-090	Single Family Residence	1	48.5	60.3	11.8	Below / No
	REB08-091	Single Family Residence	1	48.5	60.4	11.9	Below / No
	REB08-092	Single Family Residence	1	48.5	60.4	11.9	Below / No
	REB08-093	Single Family Residence	1	48.5	60.7	12.2	Below / No
	REB08-094	Single Family Residence	1	48.5	60.4	11.9	Below / No
	REB08-095	Single Family Residence	1	48.5	57.2	8.7	Below / No
	REB08-096	Single Family Residence	1	48.5	55.1	6.6	Below / No
	REB08-097	Single Family Residence	1	48.5	56.4	7.9	Below / No
	REB08-098	Single Family Residence	1	48.5	57.3	8.8	Below / No
	REB08-099	Single Family Residence	1	48.5	57.1	8.6	Below / No
	REB08-100	Single Family Residence	1	48.5	57.1	8.6	Below / No
	REB08-101	Single Family Residence	1	48.5	57.3	8.8	Below / No
	REB08-102	Single Family Residence	1	48.5	55.6	7.1	Below / No
	REB08-117	Single Family Residence	1	48.5	55.8	7.3	Below / No
	REB08-118	Single Family Residence	1	48.5	55.1	6.6	Below / No
	REB08-131	Single Family Residence	1	48.5	56.4	7.9	Below / No
	REB08-132	Single Family Residence	3	48.5	60.4	11.9	Below / No
	REB08-133	Single Family Residence	1	48.5	62.1	13.6	Below / No
	REB08-134	Single Family Residence	2	48.5	61.8	13.3	Below / No
	REB08-135	Single Family Residence	3	48.5	60.8	12.3	Below / No
	REB08-136	Single Family Residence	6	48.5	59.6	11.1	Below / No
	REB08-137	Single Family Residence	3	48.5	58.8	10.3	Below / No
	REB08-138	Single Family Residence	1	48.5	58.5	10.0	Below / No
	REB08-139	Single Family Residence	1	48.5	55.8	7.3	Below / No
	REB08-140	Single Family Residence	1	48.5	53.4	4.9	Below / No
	REB08-141	Single Family Residence	2	48.5	56.7	8.2	Below / No
	REB08-142	Single Family Residence	3	48.5	57.2	8.7	Below / No
	REB08-143	Single Family Residence	2	48.5	55.1	6.6	Below / No
	REB08-144	Single Family Residence	1	48.5	57.5	9.0	Below / No
	REB08-145	Single Family Residence	2	48.5	58.0	9.5	Below / No
	REB08-146	Single Family Residence	3	48.5	58.5	10.0	Below / No
	REB08-147	Single Family Residence	2	48.5	58.6	10.1	Below / No
	REB08-148	Single Family Residence	1	48.5	56.6	8.1	Below / No
	REB08-151	Single Family Residence	1	48.5	53.5	5.0	Below / No
	REB08-152	Single Family Residence	2	48.5	54.7	6.2	Below / No
	REB08-153	Single Family Residence	4	48.5	53.9	5.4	Below / No
	REB08-154	Single Family Residence	4	48.5	53.2	4.7	Below / No
	REB08-155	Single Family Residence	1	48.5	53.3	4.8	Below / No
	REB08-156	Single Family Residence	1	48.5	52.2	3.7	Below / No
	REB08-157	Single Family Residence	1	48.5	51.8	3.3	Below / No
	REB08-158	Single Family Residence	1	48.5	52.1	3.6	Below / No
	REB08-159	Single Family Residence	1	48.5	52.5	4.0	Below / No
REB08-160	Single Family Residence	1	48.5	52.7	4.2	Below / No	
REB08-161	Single Family Residence	1	48.5	53.6	5.1	Below / No	

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 6 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods / [NAC B - 66 dB(A)]	REB08-162	Single Family Residence	1	48.5	53.5	5.0	Below / No
	REB08-169	Single Family Residence	1	48.5	52.3	3.8	Below / No
	REB08-180	Single Family Residence	1	48.5	59.3	10.8	Below / No
	REB08-181	Single Family Residence	1	48.5	60.6	12.1	Below / No
	REB08-182	Single Family Residence	3	48.5	61.5	13.0	Below / No
	REB08-183	Single Family Residence	5	48.5	64.4	15.9	Substantial Increase / Yes
	REB08-184	Single Family Residence	5	48.5	64.2	15.7	Substantial Increase / Yes
	REB08-185	Single Family Residence	7	48.5	64.1	15.6	Substantial Increase / Yes
	REB08-186	Single Family Residence	6	48.5	63.7	15.2	Substantial Increase / Yes
	REB08-187	Single Family Residence	1	48.5	60.9	12.4	Below / No
	REB08-188	Single Family Residence	1	48.5	56.5	8.0	Below / No
	REB08-189	Single Family Residence	2	48.5	55.9	7.4	Below / No
	REB08-190	Single Family Residence	4	48.5	56.0	7.5	Below / No
	REB08-191	Single Family Residence	5	48.5	56.3	7.8	Below / No
	REB08-192	Single Family Residence	4	48.5	57.2	8.7	Below / No
	REB08-193	Single Family Residence	2	48.5	57.4	8.9	Below / No
	REB08-194	Single Family Residence	2	48.5	57.3	8.8	Below / No
	REB08-195	Single Family Residence	3	48.5	57.0	8.5	Below / No
	REB08-196	Single Family Residence	3	48.5	57.8	9.3	Below / No
	REB08-197	Single Family Residence	1	48.5	58.4	9.9	Below / No
	REB08-198	Single Family Residence	1	48.5	57.4	8.9	Below / No
	REB08-199	Single Family Residence	1	48.5	55.7	7.2	Below / No
	REB08-200	Single Family Residence	1	48.5	54.3	5.8	Below / No
	REB08-201	Single Family Residence	1	48.5	52.9	4.4	Below / No
	REB08-207	Single Family Residence	1	48.5	52.9	4.4	Below / No
	REB08-208	Single Family Residence	1	48.5	55.0	6.5	Below / No
	REB08-209	Single Family Residence	1	48.5	56.3	7.8	Below / No
	REB08-210	Single Family Residence	1	48.5	53.4	4.9	Below / No
	REB08-212	Single Family Residence	1	48.5	53.3	4.8	Below / No
	REB08-217	Single Family Residence	1	48.5	52.7	4.2	Below / No
	REB08-218	Single Family Residence	3	48.5	54.3	5.8	Below / No
	REB08-219	Single Family Residence	5	48.5	53.0	4.5	Below / No
	REB08-220	Single Family Residence	4	48.5	52.2	3.7	Below / No
	REB08-221	Single Family Residence	4	48.5	52.4	3.9	Below / No
	REB08-222	Single Family Residence	3	48.5	52.4	3.9	Below / No
	REB08-223	Single Family Residence	1	48.5	53.6	5.1	Below / No
	REB08-224	Single Family Residence	1	48.5	50.8	2.3	Below / No
	REB08-235	Single Family Residence	1	48.5	57.2	8.7	Below / No
	REB08-236	Single Family Residence	1	48.5	57.3	8.8	Below / No
	REB08-237	Single Family Residence	1	48.5	64.5	16.0	Substantial Increase / Yes
	REB08-238	Single Family Residence	1	48.5	56.6	8.1	Below / No
	REB08-239	Single Family Residence	1	48.5	53.3	4.8	Below / No
	REB08-240	Single Family Residence	1	48.5	50.8	2.3	Below / No
	REB08-255	Single Family Residence	1	48.5	52.9	4.4	Below / No
	REB08-256	Single Family Residence	1	48.5	50.7	2.2	Below / No
	REB08-265	Single Family Residence	1	48.5	51.6	3.1	Below / No
	REB08-266	Single Family Residence	1	48.5	57.3	8.8	Below / No
	REB08-269	Single Family Residence	1	48.5	64.4	15.9	Substantial Increase / Yes
REB08-270	Single Family Residence	1	48.5	57.8	9.3	Below / No	
REB08-271	Single Family Residence	1	48.5	57.5	9.0	Below / No	
REB08-272	Single Family Residence	1	48.5	54.1	5.6	Below / No	
REB08-273	Single Family Residence	1	48.5	53.7	5.2	Below / No	
REB08-274	Single Family Residence	1	48.5	51.6	3.1	Below / No	
REB08-278	Single Family Residence	1	48.5	51.1	2.6	Below / No	
REB08-279	Single Family Residence	1	48.5	53.5	5.0	Below / No	
REB08-280	Single Family Residence	1	48.5	59.3	10.8	Below / No	
REB08-281	Single Family Residence	1	48.5	57.1	8.6	Below / No	
REB08-282	Single Family Residence	1	48.5	50.5	2.0	Below / No	
REB08-284	Single Family Residence	1	48.5	56.9	8.4	Below / No	
REB08-285	Single Family Residence	1	48.5	57.9	9.4	Below / No	
REB08-286	Single Family Residence	1	48.5	58.1	9.6	Below / No	
REB08-287	Single Family Residence	1	48.5	59.3	10.8	Below / No	
REB08-288	Single Family Residence	1	48.5	60.8	12.3	Below / No	

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 7 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Morningside, Morningside Village, Silver Lake Estates, Springlake Village, Raintree at Springlake Village, and Turnberry Reserve Neighborhoods / [NAC B - 66 dB(A)]	REB08-289	Single Family Residence	1	48.5	60.2	11.7	Below / No
	REB08-290	Single Family Residence	1	50.1	60.5	10.4	Below / No
	REB08-291	Single Family Residence	1	51.3	59.5	8.2	Below / No
	REB08-292	Single Family Residence	1	56.2	63.0	6.8	Below / No
	REB08-294	Single Family Residence	1	53.7	59.8	6.1	Below / No
	REB08-295	Single Family Residence	1	48.5	51.4	2.9	Below / No
	REB08-296	Single Family Residence	1	48.5	52.1	3.6	Below / No
	REB08-297	Single Family Residence	1	49.7	51.3	1.6	Below / No
	REB08-310	Single Family Residence	1	48.5	56.3	7.8	Below / No
	REB08-319	Single Family Residence	1	48.5	51.0	2.5	Below / No
Minimum					45.7	-2.8	---
Maximum					70.1	21.6	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					63	---	---
Scattered Residences Along Boggy Creek Road (NSA EB09) - East of Osceola Parkway Extension between Beacon Park Boulevard and Simpson Road (Community Located Outside the Limits of the Proposed Project Improvements along Boggy Creek Road)							
Scattered Residences Along Boggy Creek Road / [NAC B - 66 dB(A)]	REB09-001	Single Family Residence	1	48.5	---	---	---
	REB09-002	Single Family Residence	1	48.5	---	---	---
	REB09-003	Single Family Residence	1	48.5	---	---	---
	REB09-005	Single Family Residence	1	48.5	---	---	---
	REB09-006	Single Family Residence	1	48.5	---	---	---
	REB09-008	Single Family Residence	1	48.5	---	---	---
	REB09-009	Single Family Residence	1	48.5	---	---	---
	REB09-011	Single Family Residence	1	48.5	---	---	---
	REB09-012	Single Family Residence	1	48.5	---	---	---
	REB09-014	Single Family Residence	1	48.5	---	---	---
	REB09-014	Single Family Residence	1	48.5	---	---	---
	REB09-017	Single Family Residence	1	48.5	---	---	---
	REB09-018	Single Family Residence	1	48.5	---	---	---
	REB09-019	Single Family Residence	1	48.5	---	---	---
	REB09-020	Single Family Residence	1	48.5	---	---	---
	REB09-021	Single Family Residence	1	48.5	---	---	---
	REB09-022	Single Family Residence	1	48.5	---	---	---
	REB09-023	Single Family Residence	1	48.5	---	---	---
	REB09-024	Single Family Residence	1	48.5	---	---	---
	REB09-026	Single Family Residence	1	48.5	---	---	---
	REB09-027	Single Family Residence	1	48.5	---	---	---
	REB09-028	Single Family Residence	1	48.5	---	---	---
	REB09-030	Single Family Residence	1	48.5	---	---	---
	REB09-031	Single Family Residence	1	48.5	---	---	---
	REB09-032	Single Family Residence	1	48.5	---	---	---
	REB09-034	Single Family Residence	1	48.5	---	---	---
	REB09-035	Single Family Residence	1	48.5	---	---	---
	REB09-301	Single Family Residence	1	48.5	---	---	---
	REB09-302	Single Family Residence	1	48.5	---	---	---
	REB09-303	Single Family Residence	1	48.5	---	---	---
	REB09-304	Single Family Residence	1	48.5	---	---	---
	REB09-305	Single Family Residence	1	48.5	---	---	---
	REB09-306	Single Family Residence	1	48.5	---	---	---
	REB09-307	Single Family Residence	1	48.5	---	---	---
	REB09-308	Single Family Residence	1	48.5	---	---	---
	REB09-309	Single Family Residence	1	48.5	---	---	---
	REB09-310	Single Family Residence	1	48.5	---	---	---
	REB09-311	Single Family Residence	1	48.5	---	---	---
	REB09-312	Single Family Residence	1	48.5	---	---	---
	REB09-324	Single Family Residence	1	48.5	---	---	---
	REB09-325	Single Family Residence	1	48.5	---	---	---
	REB09-401	Single Family Residence	1	48.5	---	---	---
REB09-421	Single Family Residence	1	48.5	---	---	---	
REB09-422	Single Family Residence	1	48.5	---	---	---	
REB09-423	Single Family Residence	1	48.5	---	---	---	

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 8 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Lock Haven Baptist Church / [NAC C - 66 dB(A)]	REB09-007	Place of Worship Exterior Use	1	48.5	---	---	---
	REB09-010		1	48.5	---	---	
	REB09-013		1	48.5	---	---	
Worship & Praise Center / [NAC C - 66 dB(A)]	REB09-016	Place of Worship Exterior Use	1	48.5	---	---	---
Minimum					---	---	---
Maximum					---	---	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					---	---	---
Orlando Kissimmee Farms (NSA WB04) - South of SR 417 between Beacon Park Boulevard and Hidden Trail Road							
Orlando Kissimmee Farms / [NAC B - 66 dB(A)]	RWB04-001R	Single Family Residence	1	48.5	68.8	20.3	Exceeds / Yes
	RWB04-002R	Single Family Residence	1	48.5	67.5	19.0	Exceeds / Yes
	RWB04-003R	Single Family Residence	1	48.5	66.8	18.3	Approaches / Yes
	RWB04-004R	Single Family Residence	1	48.5	66.3	17.8	Approaches / Yes
	RWB04-005R	Single Family Residence	1	48.5	59.8	11.3	Below / No
	RWB04-006R	Single Family Residence	1	48.5	58.3	9.8	Below / No
	RWB04-007R	Single Family Residence	1	48.5	57.7	9.2	Below / No
	RWB04-008R	Single Family Residence	1	48.5	54.4	5.9	Below / No
	RWB04-009R	Single Family Residence	1	48.5	55.9	7.4	Below / No
	RWB04-010R	Single Family Residence	1	48.5	53.6	5.1	Below / No
	RWB04-011R	Single Family Residence	1	48.5	53.6	5.1	Below / No
	RWB04-012R	Single Family Residence	1	48.5	53.3	4.8	Below / No
	RWB04-013R	Single Family Residence	1	48.5	52.2	3.7	Below / No
	RWB04-014R	Single Family Residence	1	48.5	52.1	3.6	Below / No
	RWB04-015R	Single Family Residence	1	48.5	52.0	3.5	Below / No
	RWB04-016R	Single Family Residence	1	48.5	51.5	3.0	Below / No
	RWB04-017R	Single Family Residence	1	48.5	52.4	3.9	Below / No
	RWB04-018R	Single Family Residence	1	48.5	51.4	2.9	Below / No
	RWB04-019R	Single Family Residence	1	48.5	51.5	3.0	Below / No
Minimum					51.4	2.9	---
Maximum					68.8	20.3	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					4	---	---

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 9 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No	
East of Tindall Acres Road to West of Narcoossee Road (Segment 3)								
Fells Landing (NSA EB03) - East of Osceola Parkway Extension and West of Narcoossee Road								
Fells Landing / [NAC B - 66 dB(A)]	REB03-033	Single Family Residence	1	48.5	61.3	12.8	Below / No	
	REB03-034	Single Family Residence	1	48.5	62.3	13.8	Below / No	
	REB03-035	Single Family Residence	1	48.5	66.1	17.6	Approaches / Yes	
	REB03-036	Single Family Residence	1	48.5	61.3	12.8	Below / No	
	REB03-037	Single Family Residence	1	48.5	58.7	10.2	Below / No	
	REB03-045	Single Family Residence	1	48.5	67.0	18.5	Meets / Yes	
	REB03-046	Single Family Residence	1	48.9	66.7	17.8	Approaches / Yes	
	REB03-047	Single Family Residence	1	49.3	66.6	17.3	Approaches / Yes	
	REB03-048	Single Family Residence	1	49.8	66.4	16.6	Approaches / Yes	
	REB03-049	Single Family Residence	1	50.3	66.3	16.0	Approaches / Yes	
	REB03-050	Single Family Residence	1	51.0	66.5	15.5	Approaches / Yes	
	REB03-051	Single Family Residence	1	51.5	66.5	15.0	Approaches / Yes	
	REB03-052	Single Family Residence	1	52.2	66.5	14.3	Approaches / Yes	
	REB03-053	Single Family Residence	1	53.2	66.7	13.5	Approaches / Yes	
	REB03-054	Single Family Residence	1	54.0	66.8	12.8	Approaches / Yes	
	REB03-055	Single Family Residence	1	54.9	66.9	12.0	Approaches / Yes	
	REB03-056	Single Family Residence	1	55.5	66.9	11.4	Approaches / Yes	
	REB03-057	Single Family Residence	1	56.4	67.3	10.9	Exceeds / Yes	
	REB03-058	Single Family Residence	1	57.5	67.7	10.2	Exceeds / Yes	
	REB03-059	Single Family Residence	1	58.9	68.2	9.3	Exceeds / Yes	
	REB03-060	Single Family Residence	1	60.0	68.5	8.5	Exceeds / Yes	
	REB03-061	Single Family Residence	1	62.3	69.6	7.3	Exceeds / Yes	
	REB03-062	Single Family Residence	1	64.2	70.7	6.5	Exceeds / Yes	
	REB03-063	Single Family Residence	1	47.8	61.4	13.6	Below / No	
	REB03-064	Single Family Residence	1	48.7	61.7	13.0	Below / No	
	REB03-065	Single Family Residence	1	49.3	61.8	12.5	Below / No	
	REB03-066	Single Family Residence	1	50.1	61.8	11.7	Below / No	
	REB03-067	Single Family Residence	1	50.8	62.0	11.2	Below / No	
	REB03-068	Single Family Residence	1	51.5	62.1	10.6	Below / No	
	REB03-069	Single Family Residence	1	52.5	62.5	10.0	Below / No	
	REB03-070	Single Family Residence	1	53.7	63.1	9.4	Below / No	
	REB03-071	Single Family Residence	1	55.9	64.1	8.2	Below / No	
	REB03-072	Single Family Residence	1	59.2	65.9	6.7	Below / No	
	REB03-073	Single Family Residence	1	48.5	60.6	12.1	Below / No	
	REB03-074	Single Family Residence	1	48.5	58.9	10.4	Below / No	
	REB03-075	Single Family Residence	1	48.5	58.8	10.3	Below / No	
	REB03-076	Single Family Residence	1	48.5	59.0	10.5	Below / No	
	REB03-077	Single Family Residence	1	48.5	59.3	10.8	Below / No	
	REB03-078	Single Family Residence	1	49.2	59.6	10.4	Below / No	
	REB03-079	Single Family Residence	1	49.8	59.6	9.8	Below / No	
	REB03-080	Single Family Residence	1	50.8	60.0	9.2	Below / No	
	REB03-081	Single Family Residence	1	51.5	60.2	8.7	Below / No	
	REB03-082	Single Family Residence	1	52.5	60.5	8.0	Below / No	
	REB03-136	Single Family Residence	1	55.0	60.8	5.8	Below / No	
	REB03-137	Single Family Residence	1	55.7	61.3	5.6	Below / No	
REB03-138	Single Family Residence	1	56.3	61.8	5.5	Below / No		
REB03-139	Single Family Residence	1	57.0	62.4	5.4	Below / No		
REB03-140	Single Family Residence	1	58.3	63.7	5.4	Below / No		
REB03-141	Single Family Residence	1	59.3	64.6	5.3	Below / No		
REB03-142	Single Family Residence	1	60.8	66.1	5.3	Approaches / Yes		
REB03-143	Single Family Residence	1	62.9	68.0	5.1	Exceeds / Yes		
REB03-144	Single Family Residence	1	65.8	71.0	5.2	Exceeds / Yes		
REB03-145	Single Family Residence	1	63.6	74.2	10.6	Exceeds / Yes		
					Minimum	58.7	5.1	---
					Maximum	74.2	18.5	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)						23	---	---

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 10 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Fells Cove Neighborhood (NSA EB05) - East of Osceola Parkway Extension and South of Boggy Creek Road							
Fells Cove Neighborhood / [NAC B - 66 dB(A)]	REB05-009	Single Family Residence	3	57.7	64.6	6.9	Below / No
	REB05-010	Single Family Residence	3	58.3	65.6	7.3	Below / No
	REB05-038	Single Family Residence	3	57.3	64.5	7.2	Below / No
Minimum					64.5	6.9	---
Maximum					65.6	7.3	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					0	---	---
Rustic Acres Neighborhood (NSA EB06) - South of Boggy Creek Road and West of Rustic Road							
Rustic Acres / [NAC B - 66 dB(A)]	REB06-001	Single Family Residence	1	60.8	69.7	8.9	Exceeds / Yes
	REB06-002	Single Family Residence	1	57.7	64.9	7.2	Below / No
	REB06-003	Single Family Residence	1	57.5	64.6	7.1	Below / No
	REB06-010	Single Family Residence	1	61.2	65.7	4.5	Below / No
	REB06-011	Single Family Residence	1	60.9	65.5	4.6	Below / No
	REB06-012	Single Family Residence	1	56.8	62.8	6.0	Below / No
	REB06-013	Single Family Residence	1	59.9	65.2	5.3	Below / No
	REB06-014	Single Family Residence	1	59.4	66.1	6.7	Approaches / Yes
	REB06-015	Single Family Residence	1	54.7	62.5	7.8	Below / No
	REB06-016	Single Family Residence	1	60.0	67.1	7.1	Exceeds / Yes
	REB06-017	Single Family Residence	1	59.2	67.4	8.2	Exceeds / Yes
	REB06-018	Single Family Residence	1	60.3	68.9	8.6	Exceeds / Yes
	REB06-019	Single Family Residence	1	53.5	63.6	10.1	Below / No
	REB06-020	Single Family Residence	1	50.3	60.7	10.4	Below / No
	REB06-021	Single Family Residence	1	50.1	60.3	10.2	Below / No
	REB06-022	Single Family Residence	1	49.5	59.5	10.0	Below / No
	REB06-029	Single Family Residence	1	48.5	55.5	7.0	Below / No
	REB06-030	Single Family Residence	1	48.5	54.9	6.4	Below / No
	REB06-031	Single Family Residence	1	48.5	54.6	6.1	Below / No
	REB06-049	Single Family Residence	1	59.3	68.8	9.5	Exceeds / Yes
	REB06-050	Single Family Residence	1	54.4	65.3	10.9	Below / No
	REB06-051	Single Family Residence	1	58.6	68.1	9.5	Exceeds / Yes
	REB06-052	Single Family Residence	1	60.6	67.5	6.9	Exceeds / Yes
	REB06-053	Single Family Residence	1	53.5	64.2	10.7	Below / No
	REB06-054	Single Family Residence	1	50.0	61.4	11.4	Below / No
REB06-055	Single Family Residence	1	65.7	70.0	4.3	Exceeds / Yes	
Minimum					54.6	4.3	---
Maximum					70.0	11.4	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					9	---	---
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)					0	---	---
Sanctuary at Eagle Creek (NSA WB02) - West of Osceola Parkway Extension and East of Narcoossee Road (Community Located Outside the Limits of the Proposed Project Improvements along Narcoossee Road)							
Sanctuary at Eagle Creek / [NAC B - 66 dB(A)]	RWB02-008a	First Floor Multi-Family Residence	1	55.6	---	---	---
	RWB02-008b	Second Floor Multi-Family Residence - Balcony	1	58.6	---	---	---
	RWB02-008c	Third Floor Multi-Family Residence - Balcony	1	59.8	---	---	---
	RWB02-009b	Second Floor Multi-Family Residence - Balcony	1	59.7	---	---	---
	RWB02-009c	Third Floor Multi-Family Residence - Balcony	1	60.9	---	---	---
	RWB02-010a	First Floor Multi-Family Residence - Patio	1	57.7	---	---	---
	RWB02-010b	Second Floor Multi-Family Residence - Balcony	1	60.8	---	---	---
	RWB02-010c	Third Floor Multi-Family Residence - Balcony	1	62.1	---	---	---
	RWB02-011a	First Floor Multi-Family Residence - Patio	1	53.0	---	---	---
	RWB02-011b	Second Floor Multi-Family Residence - Balcony	1	55.9	---	---	---
	RWB02-011c	Third Floor Multi-Family Residence - Balcony	1	57.0	---	---	---
	RWB02-012a	First Floor Multi-Family Residence - Patio	1	56.1	---	---	---
	RWB02-012b	Second Floor Multi-Family Residence - Balcony	1	59.2	---	---	---
	RWB02-012c	Third Floor Multi-Family Residence - Balcony	1	60.4	---	---	---
	RWB02-0130a	First Floor Multi-Family Residence - Patio	12	51.8	---	---	---
	RWB02-0130b	Second Floor Multi-Family Residence - Balcony	12	53.0	---	---	---
	RWB02-0130c	Third Floor Multi-Family Residence - Balcony	12	53.9	---	---	---
	RWB02-013a	First Floor Multi-Family Residence - Patio	1	50.5	---	---	---
	RWB02-013b	Second Floor Multi-Family Residence - Balcony	1	53.3	---	---	---
	RWB02-013c	Third Floor Multi-Family Residence - Balcony	1	54.5	---	---	---
	RWB02-014a	First Floor Multi-Family Residence - Patio	1	54.9	---	---	---
	RWB02-014b	Second Floor Multi-Family Residence - Balcony	1	57.9	---	---	---

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 11 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Sanctuary at Eagle Creek / [NAC B - 66 dB(A)]	RWB02-014c	Third Floor Multi-Family Residence - Balcony	1	59.1	---	---	---
	RWB02-017a	First Floor Multi-Family Residence - Patio	1	53.4	---	---	---
	RWB02-017b	Second Floor Multi-Family Residence - Balcony	1	56.4	---	---	---
	RWB02-017c	Third Floor Multi-Family Residence - Balcony	1	57.5	---	---	---
	RWB02-020a	First Floor Multi-Family Residence - Patio	1	54.1	---	---	---
	RWB02-020b	Second Story Multi-Family Residence - Balcony	1	57.1	---	---	---
	RWB02-020c	Third Floor Multi-Family Residence - Balcony	1	58.3	---	---	---
	RWB02-021b	Second Story Multi-Family Residence - Balcony	1	59.4	---	---	---
	RWB02-021c	Third Floor Multi-Family Residence - Balcony	1	60.7	---	---	---
	RWB02-022a	First Floor Multi-Family Residence - Patio	1	60.1	---	---	---
	RWB02-022b	Second Story Multi-Family Residence - Balcony	1	62.9	---	---	---
	RWB02-022c	Third Floor Multi-Family Residence - Balcony	1	63.7	---	---	---
	RWB02-023a	First Floor Multi-Family Residence - Patio	1	50.0	---	---	---
	RWB02-023b	Second Story Multi-Family Residence - Balcony	1	52.8	---	---	---
	RWB02-023c	Third Floor Multi-Family Residence - Balcony	1	54.1	---	---	---
	RWB02-024a	First Floor Multi-Family Residence - Patio	1	59.5	---	---	---
	RWB02-024b	Second Story Multi-Family Residence - Balcony	1	62.3	---	---	---
	RWB02-024c	Third Floor Multi-Family Residence - Balcony	1	63.3	---	---	---
	RWB02-025a	First Floor Multi-Family Residence - Patio	1	50.1	---	---	---
	RWB02-025b	Second Story Multi-Family Residence - Balcony	1	52.8	---	---	---
	RWB02-025c	Third Floor Multi-Family Residence - Balcony	1	54.0	---	---	---
	RWB02-026a	First Floor Multi-Family Residence - Patio	1	59.5	---	---	---
	RWB02-026b	Second Story Multi-Family Residence - Balcony	1	62.3	---	---	---
	RWB02-026c	Third Floor Multi-Family Residence - Balcony	1	63.2	---	---	---
	RWB02-027a	First Floor Multi-Family Residence - Patio	1	50.8	---	---	---
	RWB02-027b	Second Story Multi-Family Residence - Balcony	1	53.4	---	---	---
	RWB02-027c	Third Floor Multi-Family Residence - Balcony	1	54.5	---	---	---
	RWB02-028b	Second Story Multi-Family Residence - Balcony	1	57.3	---	---	---
	RWB02-028c	Third Floor Multi-Family Residence - Balcony	1	58.6	---	---	---
	RWB02-029a	First Floor Multi-Family Residence - Patio	1	59.8	---	---	---
	RWB02-029b	Second Story Multi-Family Residence - Balcony	1	62.6	---	---	---
	RWB02-029c	Third Floor Multi-Family Residence - Balcony	1	63.5	---	---	---
	RWB02-034a	First Floor Multi-Family Residence - Patio	1	67.0	---	---	---
	RWB02-034b	Second Floor Multi-Family Residence - Balcony	1	68.5	---	---	---
	RWB02-034c	Third Floor Multi-Family Residence - Balcony	1	68.3	---	---	---
	RWB02-035a	First Floor Multi-Family Residence - Patio	1	66.8	---	---	---
	RWB02-035b	Second Floor Multi-Family Residence - Balcony	1	68.4	---	---	---
	RWB02-035c	Third Floor Multi-Family Residence - Balcony	1	68.2	---	---	---
	RWB02-036a	First Floor Multi-Family Residence - Patio	1	62.6	---	---	---
	RWB02-036b	Second Floor Multi-Family Residence - Balcony	1	64.9	---	---	---
	RWB02-036c	Third Floor Multi-Family Residence - Balcony	1	65.4	---	---	---
	RWB02-037a	First Floor Multi-Family Residence - Patio	1	63.6	---	---	---
	RWB02-037b	Second Floor Multi-Family Residence - Balcony	1	65.7	---	---	---
	RWB02-037c	Third Floor Multi-Family Residence - Balcony	1	66.0	---	---	---
RWB02-038a	First Floor Multi-Family Residence - Patio	1	59.4	---	---	---	
RWB02-038b	Second Floor Multi-Family Residence - Balcony	1	62.1	---	---	---	
RWB02-038c	Third Floor Multi-Family Residence - Balcony	1	62.9	---	---	---	
RWB02-039a	First Floor Multi-Family Residence - Patio	1	59.7	---	---	---	
RWB02-039b	Second Floor Multi-Family Residence - Balcony	1	62.1	---	---	---	
RWB02-039c	Third Floor Multi-Family Residence - Balcony	1	63.0	---	---	---	
RWB02-040a	First Floor Multi-Family Residence - Patio	1	57.6	---	---	---	
RWB02-040b	Second Floor Multi-Family Residence - Balcony	1	60.0	---	---	---	
RWB02-040c	Third Floor Multi-Family Residence - Balcony	1	61.1	---	---	---	
RWB02-041a	First Floor Multi-Family Residence - Patio	1	56.6	---	---	---	
RWB02-041b	Second Floor Multi-Family Residence - Balcony	1	59.4	---	---	---	
RWB02-041c	Third Floor Multi-Family Residence - Balcony	1	60.7	---	---	---	
RWB02-042a	First Floor Multi-Family Residence - Patio	1	53.6	---	---	---	
RWB02-042b	Second Floor Multi-Family Residence - Balcony	1	56.5	---	---	---	
RWB02-042c	Third Floor Multi-Family Residence - Balcony	1	57.9	---	---	---	
RWB02-043a	First Floor Multi-Family Residence - Patio	1	55.5	---	---	---	
RWB02-043b	Second Floor Multi-Family Residence - Balcony	1	58.1	---	---	---	
RWB02-043c	Third Floor Multi-Family Residence - Balcony	1	59.2	---	---	---	
RWB02-044a	First Floor Multi-Family Residence - Patio	1	54.2	---	---	---	

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 12 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Sanctuary at Eagle Creek / [NAC B - 66 dB(A)]	RWB02-044b	Second Floor Multi-Family Residence - Balcony	1	56.9	---	---	---
	RWB02-044c	Third Floor Multi-Family Residence - Balcony	1	58.0	---	---	---
	RWB02-045a	First Floor Multi-Family Residence - Patio	1	51.8	---	---	---
	RWB02-045b	Second Floor Multi-Family Residence - Balcony	1	54.6	---	---	---
	RWB02-045c	Third Floor Multi-Family Residence - Balcony	1	55.8	---	---	---
Minimum					---	---	---
Maximum					---	---	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					---	---	---

Table 3.1.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 13 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No	
Osceola Parkway Extension from East of Narcoossee Road to Project End (Segment 4)								
Split Oak Forest Trailhead Area (NSA EB01) - West of Osceola Parkway Extension and East of Clapp Simms Duda Road								
Split Oak Forest Trailhead Area / [NAC C - 66 dB(A)]	REB01-053	Trailhead	1	---	64.9	---	Below / No	
				Minimum	64.9	---	---	
				Maximum	64.9	---	---	
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)					0	---	---	
Lake Ajay Village (NSA EB02) - East of Osceola Parkway Extension between Narcoossee Road and Canal C-29A								
Lake Ajay Village / [NAC B - 66 dB(A)]	REB02-001	Single Family Residence	1	56.0	64.6	8.6	Below / No	
	REB02-002	Single Family Residence	1	56.0	62.8	6.8	Below / No	
	REB02-003	Single Family Residence	1	56.0	50.1	-5.9	Below / No	
	REB02-004	Single Family Residence	1	56.0	50.4	-5.6	Below / No	
	REB02-005	Single Family Residence	1	56.0	51.8	-4.2	Below / No	
	REB02-006	Single Family Residence	1	56.0	50.7	-5.3	Below / No	
	REB02-007	Single Family Residence	1	56.0	51.2	-4.8	Below / No	
	REB02-008	Single Family Residence	1	56.0	51.4	-4.6	Below / No	
	REB02-009	Single Family Residence	1	56.0	53.0	-3.0	Below / No	
	REB02-010	Single Family Residence	1	56.0	54.5	-1.5	Below / No	
	REB02-011	Single Family Residence	1	56.0	54.5	-1.5	Below / No	
	REB02-012	Single Family Residence	1	56.0	53.2	-2.8	Below / No	
	REB02-013	Single Family Residence	1	56.0	53.5	-2.5	Below / No	
	REB02-014	Single Family Residence	1	56.0	49.0	-7.0	Below / No	
	REB02-015	Single Family Residence	1	56.0	48.6	-7.4	Below / No	
	REB02-016	Single Family Residence	1	56.0	49.3	-6.7	Below / No	
	REB02-023	Single Family Residence	1	56.0	57.1	1.1	Below / No	
	REB02-024	Single Family Residence	1	56.0	55.0	-1.0	Below / No	
	REB02-025	Single Family Residence	1	56.0	52.8	-3.2	Below / No	
	REB02-026	Single Family Residence	1	56.0	52.3	-3.7	Below / No	
	REB02-027	Single Family Residence	1	56.0	53.7	-2.3	Below / No	
	REB02-028	Single Family Residence	1	56.0	53.4	-2.6	Below / No	
	REB02-029	Single Family Residence	1	56.0	59.9	3.9	Below / No	
	REB02-030	Single Family Residence	1	56.0	52.1	-3.9	Below / No	
	REB02-031	Single Family Residence	1	56.0	51.6	-4.4	Below / No	
	REB02-032	Single Family Residence	1	56.0	51.4	-4.6	Below / No	
	REB02-033	Single Family Residence	1	56.0	51.3	-4.7	Below / No	
	REB02-034	Single Family Residence	1	56.0	51.1	-4.9	Below / No	
	REB02-035	Single Family Residence	1	56.0	50.5	-5.5	Below / No	
	REB02-036	Single Family Residence	1	56.0	50.5	-5.5	Below / No	
	REB02-037	Single Family Residence	1	56.0	50.2	-5.8	Below / No	
	REB02-038	Single Family Residence	1	56.0	50.9	-5.1	Below / No	
	REB02-039	Single Family Residence	1	56.0	49.6	-6.4	Below / No	
	REB02-040	Single Family Residence	1	56.0	49.1	-6.9	Below / No	
	REB02-041	Single Family Residence	1	56.0	49.1	-6.9	Below / No	
	REB02-042	Single Family Residence	1	56.0	49.2	-6.8	Below / No	
	REB02-043	Single Family Residence	1	56.0	48.8	-7.2	Below / No	
	REB02-044	Single Family Residence	1	56.0	48.8	-7.2	Below / No	
	REB02-045	Single Family Residence	1	56.0	49.2	-6.8	Below / No	
	REB02-046	Single Family Residence	1	56.0	48.8	-7.2	Below / No	
	REB02-047	Single Family Residence	1	56.0	49.1	-6.9	Below / No	
					Minimum	48.6	-7.4	---
					Maximum	64.6	8.6	---
	Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					0	---	---
	Scattered Residences Along Cyrils Drive (NSA EB14) - East of Narcoossee Road and South of Cyrils Road (Not Included in May 2017 Noise Study Report)							
	Scattered Residences Along Cyrils Drive / [NAC B - 66 dB(A)]	EB14-001	Single Family Residence	1	56.0	55.0	-1.0	Below / No
		EB14-002	Single Family Residence	1	56.0	58.7	2.7	Below / No
EB14-003		Single Family Residence	1	56.0	50.3	-5.7	Below / No	
EB14-004		Single Family Residence	1	56.0	52.1	-3.9	Below / No	
EB14-005		Single Family Residence	1	56.0	56.5	0.5	Below / No	
EB14-006		Single Family Residence	1	56.0	56.4	0.4	Below / No	
EB14-007		Single Family Residence	1	56.0	47.6	-8.4	Below / No	

Table 3.1.1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Impact Analysis Results (Sheet 14 of 14)

Name of Noise Sensitive Site/Area [Noise Abatement Activity Category - FDOT's Noise Abatement Criteria Category dB(A)]	Representative Noise Receptor Site Designation	Noise Sensitive Site Description	Number of Noise Sensitive Sites Represented	Existing 2016 Noise Levels (May 2017 Noise Study Report)	TNM Predicted Design Year (2045) Noise Levels dB(A) with Proposed Roadway Design Concept	Substantial Noise Level Increase [15 dB(A) or Greater]	Noise Abatement Criteria Status / Consideration of Noise Abatement Warranted? Yes or No
Scattered Residences Along Cyrils Drive / [NAC B - 66 dB(A)]	EB14-008	Single Family Residence	1	56.0	54.4	-1.6	Below / No
	EB14-009	Single Family Residence	1	56.0	54.2	-1.8	Below / No
	EB14-010	Single Family Residence	1	56.0	58.7	2.7	Below / No
Minimum					47.6	-8.4	---
Maximum					58.7	2.7	---
Total Number of Residential Sites Equal to or Greater than the Noise Abatement Criteria (NAC) of 66 dB(A)					0	---	---
Split Oak Forest Trailhead Area (NSA WB01) - West of Osceola Parkway Extension and East of Narcoossee Road							
Split Oak Forest Trailhead Area / [NAC C - 66 dB(A)]	RWB01-001	Trailhead	1	---	50.8	---	Below / No
Minimum					50.8	---	---
Maximum					50.8	---	---
Total Number of Non-Residential / Special Land Use Receptor Sites Equal to or Greater than the Noise Abatement Criteria (NAC)					0	---	---

Note: Green highlighted cells represent impacted receptor sites [i.e., approach [within 1 dB(A)] or exceed the Noise Abatement Criteria of 67 dB(A) for residential and other sensitive land uses.

Appendix E

Noise Barrier Analyses Tables (3.1.1.1 through 3.1.5.1)

Table 3.1.1.1: Noise Barrier Analyses for Noise Sensitive Area EB10 (Somerset Park)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments		
NSA EB10 (From SR 417 Toll Booths to Wyndham Lakes Blvd / Station 904+00 to Station 944+00)	SM-CD1	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	8	3,100	905+00	936+00	33	14	12	26	5.3	5.5	\$744,000	\$28,615	No	---		
	SM-CD2	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	8	300	933+00	936+00	33	33	20	53	7.9	8.7	\$1,248,000	\$23,547	Yes	---		
				14	2,800	905+00	933+00												
	SM/GM-CD3	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	1,700	910+00	927+00	33	29	10	39	6.8	8.6	\$1,836,000	\$47,077	NO	---		
				Ground Mounted	Southern Right-of-Way Line of Eastbound SR 417	22	600											907+00	913+00
					Southern Right-of-Way Line of Eastbound SR 417	22	1,100											922+00	933+00
Represents the Optimal Conceptual Noise Barrier Design that Spans Multiple NSAs that were Initially Evaluated Separately																			
NSAs EB10 / EB11 / EB12 (From the Toll Booth at SR 417 to Off Ramp to NB Boggy Creek/Station 900+00 to 975+00)	SM-CD4	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	2,800	905+00	933+00	70	70	37	107	7.6	10.8	\$2,760,000	\$25,794	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.		
				8	300	933+00	936+00												
				14	3,600	936+00	972+00												

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Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.1.2: Noise Barrier Analyses for Noise Sensitive Area EB11 (Somerset Crossings)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA EB11 (From Wydnam Lakes Road to just East of Proposed Off Ramp to SR 530/ Station 933+00 to Station 950+00)	CD-1	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	2,440	935+00	959+00	22	22	0	22	5.6	6.0	\$1,024,800	\$46,582	NO	--
	CD-2	Ground Mounted	Southern Right-of-Way Line of Eastbound SR 417	22	1,750	936+00	951+00	22	0	0	0	--	4.5	\$1,155,000	--	NO	--
	CD-3	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	1,630	941+00	957+00	22	22	6	28	9.7	11	\$1,839,600	\$65,700	NO	--
		Ground Mounted	Southern Right-of-Way Line of Eastbound SR 417	22	1,750	936+00	951+00										
Represents the Optimal Conceptual Noise Barrier Design that Spans Multiple NSAs that were Initially Evaluated Separately																	
NSAs EB10 / EB11 / EB12 (From the Toll Booth at SR 417 to Off Ramp to NB Boggy Creek/Station 900+00 to 975+00)	SM-CD4	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	2,800	905+00	933+00	70	70	37	107	7.6	10.8	\$2,760,000	\$25,794	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.
				8	300	933+00	936+00										
				14	3,600	936+00	972+00										

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 Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.1.3: Noise Barrier Analyses for Noise Sensitive Area EB 12 (Lake Nona Ariel Apartments)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA EB12 (From just East of NB Off-Ramp to Creek Road to just East of Silver Lake Court/ Station 100+00 to Station 160+00)	SM-CD1	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	8	1,920	953+00	972+00	15	14	7	21	6.5	8.2	\$460,800	\$21,943	YES	---
	SM-CD2	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	1,920	953+00	972+00	15	6	21	27	7.8	10.8	\$806,400	\$29,867	YES	---
	GM-CD3	Ground Mounted	Southern Right-of-Way Line of Eastbound SR 417	22	1,920	964+00	982+00	15	0	0	0	0.0	0.0	\$1,267,200	--	NO	---
Represents the Optimal Conceptual Noise Barrier Design that Spans Multiple NSAs that were Initially Evaluated Separately																	
NSAs EB10 / EB11 / EB12 (From the Toll Booth at SR 417 to Off Ramp to NB Boggy Creek/Station 900+00 to 975+00)	SM-CD4	Shoulder Mounted	Outside Shoulder of Eastbound SR 417	14	2,800	905+00	933+00	70	70	37	107	7.6	10.8	\$2,760,000	\$25,794	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.
				8	300	933+00	936+00										
				14	3,600	936+00	972+00										

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 Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.2.1: Noise Barrier Analyses for Noise Sensitive Area WB05 (Beacon Park)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA WB05 (From SR 417 Toll Booths to Wyndham Lakes Blvd / Station 904+00 to Station 944+00)	SM-CD1	Shoulder Mounted	Outside Shoulder of Westbound SR 417	8	2,800	909+00	936+00	45	21	0	21	6.9	7.6	\$672,000	\$32,000	YES	---
	SM-CD2	Shoulder Mounted	Outside Shoulder of Westbound SR 417	8	300	933+00	936+00	45	42	0	42	8.6	11.0	\$1,122,000	\$26,714	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.
			Outside Shoulder of Westbound SR 417	14	2,500	908+00	933+00										
	GM-CD1	Ground Mounted	Northern Right-of-Way Line of Westbound SR 417	16	2,600	908+00	934+00	45	34	0	34	8.1	12.6	\$1,248,000	\$36,706	YES	---
	GM-CD2	Ground Mounted	Northern Right-of-Way Line of Westbound SR 417	18	2,600	908+00	934+00	45	34	0	34	8.9	13.6	\$1,404,000	\$41,294	YES	---
	GM-CD3	Ground Mounted	Northern Right-of-Way Line of Westbound SR 417	20	2,600	908+00	934+00	45	36	0	36	9.7	14.3	\$1,560,000	\$43,333	NO	---
	GM-CD4	Ground Mounted	Northern Right-of-Way Line of Westbound SR 417	22	2,600	908+00	934+00	45	42	0	42	9.6	14.8	\$1,716,000	\$40,857	YES	---

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 Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.3.1: Noise Barrier Analyses for Noise Sensitive Area NSA EB08 (Morningside Village, Silver Lake Estates, Springlake Village and Raintree at Springlake Village / From Boggy Creek Road to just East of Queen Alexandria Drive)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA EB08 (From Boggy Creek Road to just East of Queen Alexandria Drive / Station 100+00 to Station 190+00)	GM-CD1	Ground Mounted	Right-of-Way Line of Proposed Eastbound Roadway Connecting Boggy Creek Road to Osceola Parkway Extension	14	8,200	102+00 (Simpson Rd Extension)	207+00 (OPE)	33	30	53	83	6.8	10.1	\$3,444,000	\$41,494	YES	---
	GM-CD2	Ground Mounted	Right-of-Way Line of Proposed Eastbound Roadway Connecting Boggy Creek Road to Osceola Parkway Extension	16	8,200	102+00 (Simpson Rd Extension)	207+00 (OPE)	33	30	78	108	7.1	10.9	\$3,936,000	\$36,444	YES	---
	GM-CD3	Ground Mounted	Right-of-Way Line of Proposed Eastbound Roadway Connecting Boggy Creek Road to Osceola Parkway Extension	18	8,200	102+00 (Simpson Rd Extension)	207+00 (OPE)	33	30	87	117	7.5	11.6	\$4,428,000	\$37,846	YES	---
	GM-CD4	Ground Mounted	Right-of-Way Line of Proposed Eastbound Roadway Connecting Boggy Creek Road to Osceola Parkway Extension	20	8,200	102+00 (Simpson Rd Extension)	207+00 (OPE)	33	30	107	137	7.7	12.3	\$4,920,000	\$35,912	YES	---
	GM-CD5	Ground Mounted	Right-of-Way Line of Proposed Eastbound Roadway Connecting Boggy Creek Road to Osceola Parkway Extension	22	8,200	102+00 (Simpson Rd Extension)	207+00 (OPE)	33	30	116	146	8	12.9	\$5,412,000	\$37,068	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.

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 Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.3.2: Noise Barrier Analyses for Noise Sensitive Area NSA EB08 & EB07 (Turnberry Reserve & Homes West)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA EB08 & EB07 (West of Longwood Loop to East of Longwood Loop / Station 210+00 to Station 240+00)	GM-CD1	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	16	2,600	213+00	238+00	33	29	2	31	7.7	10.6	\$1,248,000	\$40,258	YES	---
	GM-CD2	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	18	2,600	213+00	238+00	33	29	7	36	7.8	11.5	\$1,404,000	\$39,000	YES	---
	GM-CD3	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	20	2,600	213+00	238+00	33	29	13	42	7.8	12.1	\$1,560,000	\$37,143	YES	---
	GM-CD4	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	22	2,600	213+00	238+00	33	28	15	43	8.3	12.7	\$1,716,000	\$39,907	YES	*Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.

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Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.4.1: Noise Barrier Analyses for Noise Sensitive Area EB05 & EB06 (Fells Cove & Scattered Residences along Eastbound Boggy Creek Road and Rustic Acres Neighborhood)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA EB05 & EB06 (South of Boggy Creek Road to Narcoossee Road / Station 263+00 to Station 330+00)	SM-CD1	Shoulder Mounted	Proposed Outside Shoulder of Eastbound Osceola Parkway Extension	14	4,200	272+00	312+00	9	2	3	5	5.4	5.9	\$1,764,000	\$352,800	NO	---
	GM-CD1	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	20	4,200	272+00	312+00	9	0	0	0	0.0	4.9	\$2,520,000	--	NO	---
	GM-CD2	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	22	4,200	272+00	312+00	9	2	0	2	5.1	5.1	\$2,772,000	\$1,386,000	NO	The conceptual design does not meet FDOT's 7.0 dB(A) Noise Reduction Design Goal, or the Reasonableness Cost Criteria. A noise barrier is not recommended for further consideration or public input during the project's design phase at this location.

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 Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.

Table 3.1.5.1: Noise Barrier Analyses for Noise Sensitive Area NSA EB03 (Fells Landing Single Family Residences)

Noise Sensitive Area (General Location/Station Range)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Noise Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Comments
NSA EB03 (From EB Off-ramp of OPE to Narcoosse Drive Connector Interchange / Station 345+00 to Station 360+00)	GM-CD1	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	16	1,484	349+20	360+00	23	7	0	7	5.7	5.9	\$712,320	\$101,760	NO	---
	GM-CD2	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	18	1,484	909+00	936+00	23	15	0	15	5.5	6.2	\$801,360	\$53,424	NO	---
	GM-CD4	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	20	1,484	345+00	360+00	23	15	0	15	6.1	6.6	\$890,400	\$59,360	NO	---
	GM-CD5	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	22	1,484	345+00	360+00	23	17	0	17	6.8	7.5	\$979,440	\$57,614	NO	---
	GM-CD3	Ground Mounted	Proposed Right-of-Way Line of Eastbound Osceola Parkway Extension	18	80	349+20	350+00	23	16	0	16	6.1	7.2	\$667,890	\$41,743	YES	Represents the optimal conceptual noise barrier design and is recommended for further consideration and public input in the project's design phase.
				20	500	350+00	355+00										
				22	400	355+00	359+00										
				20	100	359+00	360+00										

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 Represents the Optimal Conceptual Noise Barrier Design and is Recommended for Further Consideration and Public Input in the Final Design phase.