Draft

NOISE STUDY REPORT

Florida Department of Transportation

District One

SR 35 (US 98) PD&E Study

Limits of Project: From North of West Socrum Loop Road to South of CR 54

Polk County, Florida

Financial Management Number: 436673-1-22-01

ETDM Number: 14334

Date: February 2022

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

DRAFT

Draft
Noise Study Report

SR 35 (US 98)
Project Development and Environment (PD&E) Study
From North of West Socrum Loop Road to South of CR 54

FPID 436673-1
ETDM Project No. 14334
Polk County, Florida

Prepared for:

Florida Department of Transportation
District One

Prepared by:
AIM Engineering and Surveying, Inc.
3802 Corporex Park Drive, Suite 225
Tampa, FL 33619

February 2022

DRAFT

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study along State Road 35/US Highway 98 (US 98) in Polk County to evaluate roadway and safety improvements along the corridor. The study limits extend for 8.7 miles from north of West Socrum Loop Road to south of County Road 54 (CR 54), near the Pasco County line. The study will evaluate the effects of widening this section of US 98 from a two-lane undivided roadway to a four-lane divided roadway and will also assess existing and future traffic operations, access management, and freight mobility.

The PD&E study is supported by preliminary engineering design activities and will determine the proposed build alternative, which will be depicted on typical roadway sections and conceptual design plans. The build alternative and the no-build, or "no action," alternative will be evaluated and compared to assess potential effects to the natural and physical environment, to determine their ability to meet the project's Purpose and Need, to obtain and consider agency and public comments, and to ensure compliance with all applicable federal and state laws. The proposed build alternative will include the construction of stormwater management facilities (SMFs) and floodplain compensation (FPC) sites. The no-build alternative will assume no improvements are made to the facility beyond routine roadway maintenance. A Type 2 Categorical Exclusion (Type 2 CE) is being prepared as the environmental document for this study.

The objectives of this noise study are to identify land uses for which there are Noise Abatement Criteria (NAC) adjacent to the US 98 project corridor, compare and evaluate predicted traffic noise levels at these sites with and without the project, and evaluate noise abatement measures where warranted. Land uses for which there are NAC are referred to as noise sensitive sites in this Noise Study Report (NSR). Additional objectives include the evaluation of construction noise and the estimation of future traffic noise level contours adjacent to the project corridor. This information will assist local officials in the development of setback requirements for future noise sensitive land uses.

This study was prepared in accordance with Title 23, Part 772 of the Code of Federal Regulations, Procedures for Abatement of Highway Traffic Noise and Construction Noise (July 13, 2010). The evaluation uses methodology established by the FDOT and documented in the PD&E Manual, Part 2, Chapter 18 (July 1, 2020), Highway Traffic Noise.

The Federal Highway Administration (FHWA) approved Traffic Noise Model (TNM) was used to predict traffic noise levels at 220 noise sensitive sites located adjacent to US 98 for the existing (2021) and future year (2045) conditions with and without the proposed improvements. Thirty-eight of the 220 noise sensitive sites are predicted to experience future noise levels with the proposed improvements to US 98 that approach, meet, or exceed the NAC for their respective Activity Category. However, none of the 220 evaluated sites are predicted to experience a substantial increase of traffic noise as a result of the proposed improvements.

DRAFT

The 38 receptors that approach, meet, or exceed the NAC for their respective Activity Category are referred to as "impacted" receptors. Of the 38 impacted receptors, 37 represent residential properties (Activity Category B) and one receptor represents a tee box at the Big Cypress Golf Club (Activity Category C).

Traffic management measures, modifications to the roadway alignment, buffer zones and noise barriers were considered as potential abatement measures at the impacted receptor locations. Noise barriers were the only potential abatement measure found to be cost reasonable and feasible. The locations of these barriers are listed below:

- Barrier 1: Cypress Lakes North
- Barrier 2: Gator Creek RV Park

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

- Detailed noise analyses during the final design process support the need, feasibility and reasonableness of providing abatement;
- Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;
- Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office; and
- Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved.

Notably, final recommendations on the construction of abatement measures is determined during the project's final design and through the public involvement process. Because of the elapsed time between when the noise study was performed and when the Environmental Document will be signed by FDOT (known as the date of Public Knowledge), the potential exists for additional building permits for noise sensitive sites to be granted subsequent to this study. The date of the PD&E land use review was September 29, 2021. Any noise analysis performed during the design phase of this project will include a review of building permit dates. Any noise sensitive site that is identified as permitted between the completion of the land use review update and the Date of Public Knowledge will be analyzed for traffic noise impacts and, if impacts are predicted, abatement considered during the design phase of the project.

DRAFT

TABLE OF CONTENTS

SECTION 1 INTRODUCTION 1-1
1.1 Project Description 1-1
1.2 Project Purpose and Need 1-2
1.3 Existing Facility and Proposed Improvements 1-4
1.3.1 Existing Facility 1-4
1.3.2 Proposed Improvements 1-5
1.4 Purpose of this Report 1-6

SECTION 2 METHODOLOGY 2-1
2.1 Noise Metrics 2-1
2.2 Traffic Data 2-2
2.3 Noise Abatement Criteria 2-3
2.4 Noise Abatement Measures 2-6
2.4.1 Traffic Management 2-6
2.4.2 Alignment Modifications 2-6
2.4.3 Buffer Zones 2-6
2.4.4 Noise Barriers 2-7

SECTION 3 TRAFFIC NOISE ANALYSIS 3-1
3.1 Model Validation 3-1
3.2 Predicted Noise Levels 3-2
3.3 Noise Abatement Analysis 3-2
3.3.1 Barriers for Single, Isolated Residences 3-3
3.3.2 Barrier 1 – Cypress Lakes North 3-4
3.3.3 Barrier 2 – Gator Creek RV Park 3-6
3.3.4 Barrier 3 – Residences North of Rock Ridge Road 3-7
3.3.5 Barrier 4 - Residences North of Lakeland Acres Road 3-8
3.3.6 Barrier 5 - Residences South of Old Dade City Road 3-9

SECTION 4 CONCLUSIONS 4-1
4.1 Statement of Likelihood 4-1

SECTION 5 CONSTRUCTION NOISE AND VIBRATION 5-1
SECTION 6 COMMUNITY COORDINATION 6-1
6.1 Public Meetings 6-1
6.2 Coordination With Local Officials 6-1

SECTION 7 REFERENCES 7-1

LIST OF FIGURES

Figure 1-1 Project Location Map 1-1
Figure 1-2 Existing US 98 Typical Section 1-5
Figure 1-3 Proposed US 98 C3R (Suburban) Typical Section 1-5
Figure 1-4 Proposed US 98 C2 (Rural) Typical Section 1-6
Figure 2-1 Noise Levels for Common Outdoor and Indoor Activities 2-1

DRAFT

LIST OF TABLES

Table 1-1 Existing Context Classification 1-4
Table 2-1 Traffic Volume Characteristics used in TNM 2-2
Table 2-2 Noise Abatement Criteria 2-3
Table 2-3 Estimated Noise Contours 2-7
Table 3-1 Noise Model Validations 3-1
Table 3-2 Noise Barrier Analysis Results – Barrier 1 (Cypress Lakes North) 3-4
Table 3-3 Barrier 1 (Cypress Lakes North) Additional Barrier Considerations 3-5
Table 3-4 Noise Barrier Analysis Results – Barrier 2 (Gator Creek RV Park) 3-6
Table 3-5 Barrier 2 (Gator Creek RV Park) Additional Barrier Considerations 3-7
Table 3-6 Noise Barrier Analysis Results – Barrier 3 (Residences North of Rock Ridge Road) 3-8
Table 3-7 Noise Barrier Analysis Results – Barrier 4 (Residences North of Lakeland Acres Road) 3-9
Table 3-8 Noise Barrier Analysis Results – Barrier 5 (Residences South of Old Dade City Road) 3-10

APPENDICES

Appendix A Traffic Data
Appendix B Predicted Noise Levels
Appendix C Aerials (with Concept Plan and Receptor Sites)

DRAFT

SECTION 1 INTRODUCTION

1.1 PROJECT DESCRIPTION

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) study to evaluate capacity and safety improvements along SR 35 (US 98) from north of West Socrum Loop Road to south of CR 54 in Polk County. Throughout the remainder of this document only the US 98 designation will be used. The project limits are shown in **Figure 1-1** and the total project length is approximately 8.7 miles. The purpose of this PD&E study is to evaluate and document the benefits, costs, and impacts of widening US 98 from the existing two-lane undivided roadway to a four-lane divided roadway. US 98 is not designated as a Strategic Intermodal System (SIS) facility. The portion from West Socrum Loop Road to just north of Rock Ridge Road is functionally classified as Urban Principal Arterial Other, while the portion from just north of Rock Ridge Road to CR 54 is functionally classified as Rural Principal Arterial Other.

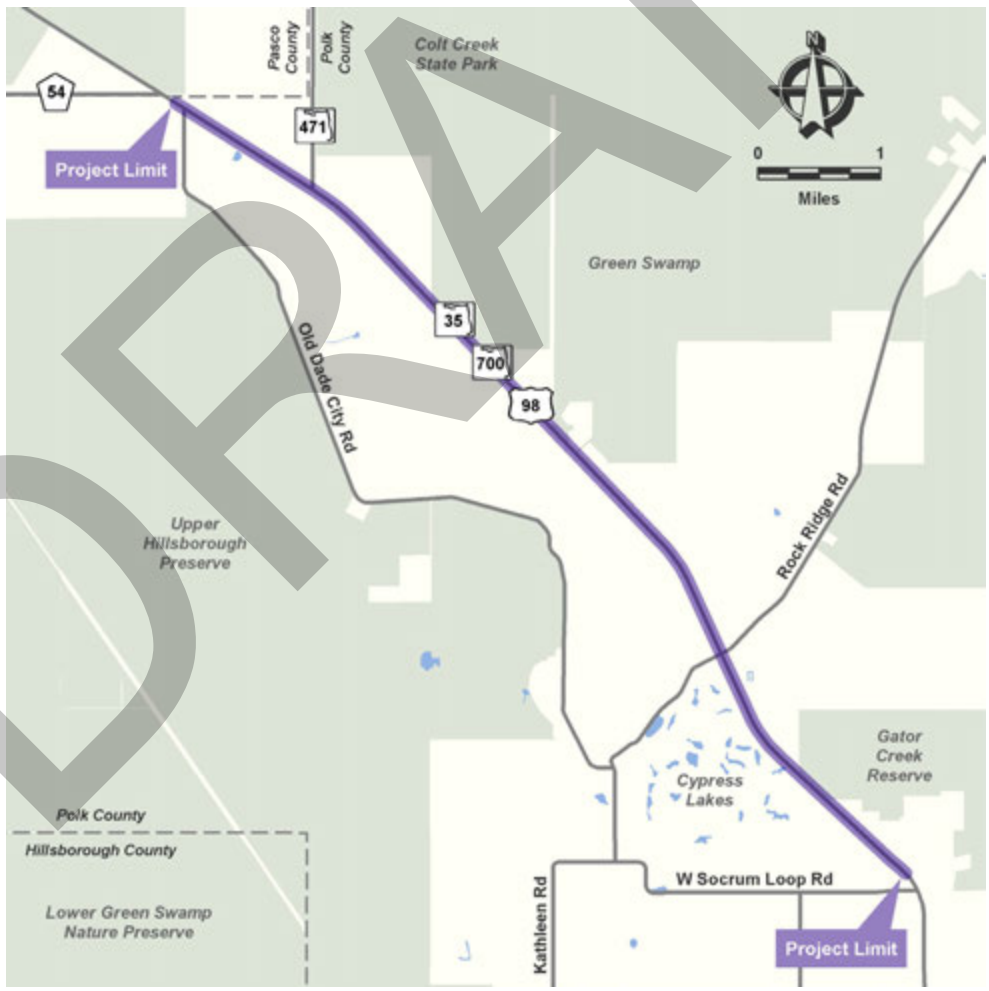


Figure 1-1 Project Location Map

DRAFT

This PD&E study will aid FDOT District One and the FDOT Office of Environmental Management (OEM) in determining the type, preliminary design, and location of the proposed improvements. This improvement is necessary to provide additional capacity to accommodate the future year travel demand generated by the projected population and employment growth in both northwest Polk County and southeast Pasco County. US 98 is a major north-south roadway that connects US 92 (Memorial Boulevard) in Lakeland to US 301 (Gall Boulevard) in Dade City and provides a critical regional connection between Polk and Pasco Counties. US 98 is a designated evacuation route and is also included in the Polk Transportation Planning Organization (TPO) Regional Freight Network.

This project was screened through the Efficient Transportation Decision Making (ETDM) process as ETDM Project Number 14334. The initial results were published in the *Preliminary Programming Screen Summary Report* on March 11, 2021, with comments provided by the Environmental Technical Advisory Team (ETAT). The ETAT evaluated the proposed project's effects on various natural, physical, and social resources. The Class of Action was determined to be a Type 2 Categorical Exclusion (Type 2 CE).

1.2 PROJECT PURPOSE AND NEED

The following Purpose and Need statement was documented in the March 11, 2021, *Preliminary Programming Screen Summary Report:*

The purpose of the project is to improve an existing traffic bottleneck along US 98 from north of West Socrum Loop Road to south of CR 54 within unincorporated Polk County. The need for the project is based on the following criteria:

AREA WIDE NETWORK/SYSTEM LINKAGE – Improve Transportation Network Connectivity

The US 98 corridor is an intraregional connecting link between Polk and Pasco Counties. The project segment of US 98 transitions from four lanes just north of West Socrum Loop Road to an undivided two-lane facility, creating a traffic bottleneck. The project is intended to enhance transportation network connectivity by:

- Maintaining a critical link to an SIS facility (i.e., I-4), and
- Providing a viable alternate route to parallel north-south arterials (i.e., Kathleen Road and Old Dade City Road).

CAPACITY/TRANSPORTATION DEMAND – Improve Operational Conditions

US 98 serves as a regional freight mobility corridor as it connects to I-4 (an SIS facility) and US 301 (a designated regional freight mobility corridor). Approximately 13.1 percent of the Average Annual Daily Traffic (AADT) volume on US 98 is composed of trucks. Defined Freight Activity Centers (FAC's) in the area (clusters of industrial land parcels) include the Kathleen Road FAC, North Combee Road FAC and West Lakeland Industrial Area FAC. Not only does this roadway facilitate truck traffic and the distribution of goods to local activity areas, but it also functions as an important north-south corridor for commuters between Pasco and Polk Counties.

DRAFT

According to Momentum 2040 (the Polk TPO's Long Range Transportation Plan (LRTP)), the northwest area of Polk County where the project corridor is located, is projected to increase in population by approximately 39,000 people and employment by approximately 11,000 employees by 2040.

Per the Polk TPO's 2020 Roadway Network Database and Momentum 2040:

2019 AADT

- From West Socrum Loop Road to Rock Ridge Road = 16,900 vehicles per day (vpd)
- From Rock Ridge Road to SR 471 = 11,900 vpd
- From SR 471 to CR 54 (Pasco County Line) = 10,400 vpd

Existing Level of Service (LOS)

- From West Socrum Loop Road to Rock Ridge Road = LOS "C"
- From Rock Ridge Road to SR 471 = LOS "C"
- From SR 471 to CR 54 (Pasco County Line) = LOS "D"

Existing Volume-to-Capacity Ratio

- From West Socrum Loop Road to Rock Ridge Road = 0.51
- From Rock Ridge Road to SR 471 = 0.64
- From SR 471 to CR 54 (Pasco County Line) = 1.11

2040 Volume-to-Capacity Ratio

- From West Socrum Loop Road to SR 471 = 1.25 – 1.50
- From SR 471 to CR 54 (Pasco County Line) = 1.00 – 1.25

It is important to note that a Volume-to-Capacity (V/C) ratio greater than 1.0 means the volume of vehicles on the roadway segment is greater than what the roadway was designed for when it was constructed. The existing V/C ratio on US 98 from SR 471 to CR 54 is 1.11. The 2040 V/C ratios for the project corridor are 1.25 – 1.50 from West Socrum Loop Road to SR 471 and 1.00 – 1.25 from SR 471 to CR 54. Conditions along the roadway are anticipated to worsen by 2040 if no improvements occur as the roadway will exceed its capacity and not be able to accommodate future travel demand. The project is anticipated to enhance operational conditions within the corridor by increasing its capacity.

SAFETY – Improve Safety Conditions

According to Polk TPO's 2020 Roadway Network Database, during the five-year period from 2014 - 2018, there were 167 total crashes. The total number of crashes per roadway segment, along with the statewide average crash rate for similar facility types, are provided below:

- From West Socrum Loop Road to Rock Ridge Road - 37 crashes
  - Actual crash rate = 0.471
  - Statewide average crash rate = 1.202 (Suburban 2-3 lanes - 2-way undivided)

DRAFT

- From Rock Ridge Road to SR 471 – 93 crashes
  - Actual crash rate = 0.841
  - Statewide average crash rate = 0.768 (Rural 2-3 lanes - 2-way undivided)
- From SR 471 to CR 54 (Pasco County Line) – 37 crashes
  - Actual crash rate = 1.336
  - Statewide average crash rate = 0.768 (Rural 2-3 lanes - 2-way undivided)

The crash rates for two of the project roadway segments exceed the statewide average crash rate. The high number of crashes may be attributed to the current roadway's operational conditions. If no improvements are made to the existing roadway, the greater the probability for vehicle-to-vehicle conflicts to occur as traffic increases along the project corridor.

The proposed project is anticipated to improve safety conditions along the roadway by:

- Reducing congestion through the provision of additional capacity, and
- Enhancing a viable parallel alternate north-south route to Kathleen Road and Old Dade City Road that will aid in emergency access and response times.

1.3 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

1.3.1 Existing Facility

US 98 is a two-lane undivided facility with a posted speed limit of 60 miles per hour (mph) throughout the project limits. The roadway is centered within 160 feet of existing right-of-way (ROW) and consists of one 12-foot travel lane in each direction and eight-foot outside shoulders (four feet paved). There are no existing designated bicycle or pedestrian facilities. Stormwater runoff is collected in roadside ditches that outfall to adjacent wetlands and ultimately convey to the Hillsborough and Withlacoochee River watersheds. There are 22 cross drains within the project limits, including bridge culverts at Main Stream, Fox Branch, and Cypress Run. The US 98 intersection with Rock Ridge Road is signalized and there is a flashing signal at the intersection with SR 471. Overhead utilities are located throughout the project limits and conservation lands are present along portions of the corridor. The assigned US 98 Context Classifications within the project limits are shown in **Table 1-1** and the existing typical roadway section is depicted in **Figure 1-2**.

Table 1-1 Existing Context Classification

Begin Limit	End Limit	Context Classification
North of West Socrum Loop Road	Rock Ridge Road	C3R – Suburban Residential
Rock Ridge Road	CR 54	C2 – Rural

DRAFT

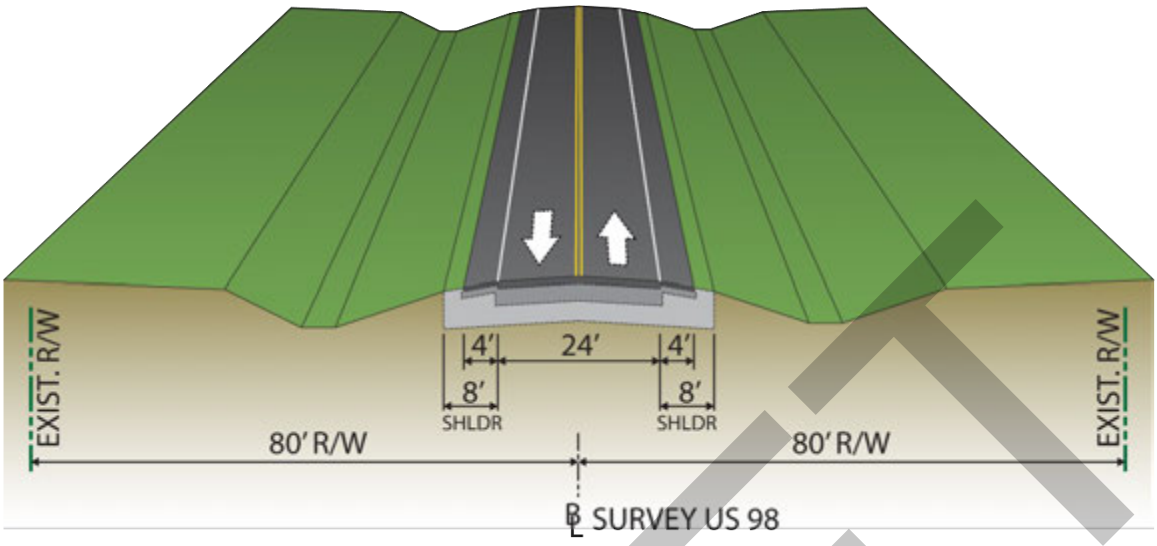


Figure 1-2 Existing US 98 Typical Section

1.3.2 Proposed Improvements

The proposed build alternative is a four-lane divided roadway throughout the project limits. The typical section for the portion of US 98 from north of West Socrum Loop Road to Rock Ridge Road includes 12-foot travel lanes, curb and gutter along the inside and outside edges of pavement, a 22-foot grassed median, and 10-foot shared use paths on both sides of the roadway, as shown in **Figure 1-3**. Design, target, and posted speeds of 45 mph are proposed for this 2.3-mile section of the project.

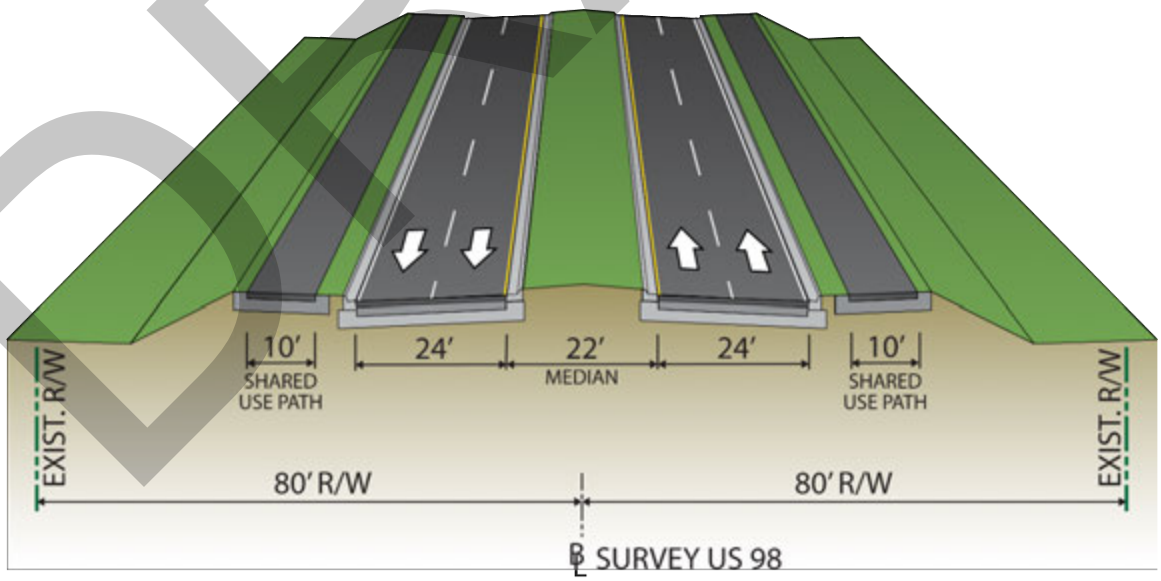


Figure 1-3 Proposed US 98 C3R (Suburban) Typical Section

DRAFT

The typical section for the portion of US 98 from Rock Ridge Road to CR 54 includes 11-foot travel lanes, four-foot paved shoulders with curb and gutter on the inside, ten-foot outside shoulders (five feet paved), and a 30-foot grassed median, as shown in **Figure 1-4**. Design, target, and posted speeds of 55 mph are proposed for this 6.4-mile section of the project.

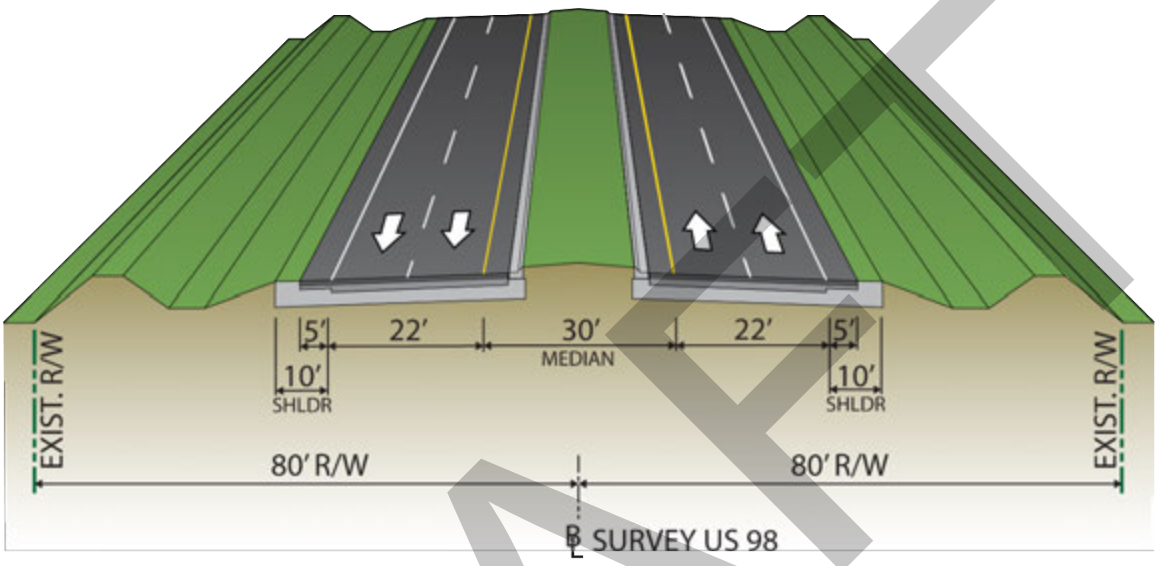


Figure 1-4 Proposed US 98 C2 (Rural) Typical Section

Both typical sections can be accommodated within the existing ROW. Stormwater runoff will be collected and conveyed to stormwater management facilities (SMFs) that will be constructed along the corridor and impacts to adjacent floodplains will be mitigated through the construction of floodplain compensation (FPC) sites.

1.4 PURPOSE OF THIS REPORT

The objectives of this noise study are to identify land uses for which there are Noise Abatement Criteria (NAC) adjacent to the US 98 project corridor, compare and evaluate predicted traffic noise levels at these sites with and without the project, and evaluate noise abatement measures where warranted. Land uses for which there are NAC are referred to as noise sensitive sites in this Noise Study Report (NSR). Additional objectives include the evaluation of construction noise and the estimation of future traffic noise level contours adjacent to the project corridor. This information will assist local officials in the development of setback requirements for future noise sensitive land uses.

DRAFT

SECTION 2 METHODOLOGY

This study was prepared in accordance with Title 23, Part 772 of the Code of Federal Regulations, Procedures for Abatement of Highway Traffic Noise and Construction Noise (July 13, 2010). The evaluation uses methodology established by the FDOT and documented in the PD&E Manual, Part 2, Chapter 18 (July 1, 2020), Highway Traffic Noise. Part 2, Chapter 18 of the PD&E Manual is the FDOT's official traffic noise policy.

The prediction of existing and future traffic noise levels with and without the preferred build alternative was performed using FHWA's computer model for highway traffic noise prediction and analysis - TNM version 2.5. TNM predicts sound energy, in one-third octave bands, between highways and nearby receptors while considering the intervening ground's acoustical characteristics and topography. TNM was used to predict traffic noise levels at land uses for which there are NAC along the US 98 project corridor.

2.1 NOISE METRICS

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

Noise is typically defined as unwanted sound. It is emitted from many sources including airplanes, factories, railroads, power generation plants, daily community activities and vehicles. Noise levels for common outdoor and indoor activities are shown in **Figure 2-1**.

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

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

Figure 2-1 Noise Levels for Common Outdoor and Indoor Activities

DRAFT

A receptor is defined as a discrete or representative location of a noise sensitive area(s) for any of the land use categories listed in FHWA's NAC. Receptors representing the noise sensitive sites adjacent to US 98 were mapped in TNM in accordance with the FDOT PD&E Manual, Part 2, Chapter 18 (July 1, 2020), Highway Traffic Noise.

TNM receptor locations for the residential sites were placed at the edge of the dwelling unit closest to the major traffic noise source. Receptor locations for other noise sensitive land uses were placed at the location of exterior activity closest to the major traffic noise source.

2.2 TRAFFIC DATA

Traffic characteristics that would yield the highest traffic noise impact for the design year were used to ensure "worst-case" traffic noise conditions in the analysis.[1] The maximum peak-hour traffic volume representing Level of Service (LOS) "C" was used in TNM unless the traffic analysis showed that LOS "C" will not be reached.[2] If LOS "C" will not be reached, then demand volumes were used. **Table 2-1** presents the traffic volume characteristics used in TNM for the roadway segments of the US 98 project study area in the 2021 existing and 2045 no-build and build conditions.

Table 2-1 Traffic Volume Characteristics used in TNM

US 98 Traffic Segment	Traffic Volume Characteristics		
	Existing (2021)	No-Build (2045)	Build (2045)
South of Big Cypress Boulevard	LOS "C"	LOS "C"	Demand
Big Cypress Boulevard to Pioneer Drive	Demand	LOS "C"	Demand
Pioneer Drive to Little Cypress Drive	Demand	LOS "C"	Demand
Little Cypress Drive to Rock Ridge Road	Demand	LOS "C"	Demand
Rock Ridge Road to Lakeland Acres Road	Demand	LOS "C"	Demand
Lakeland Acres Road to SR 471	Demand	LOS "C"	Demand
SR 471 to Old Dade City Road	Demand	LOS "C"	Demand
Old Dade City Road to CR 54	Demand	LOS "C"	Demand
North of CR 54	Demand	Demand	Demand

[1] Florida Department of Transportation Project Development and Environment Manual Part 2, Chapter 18, Highway Traffic Noise, July 1, 2020.
[2] Florida Department of Transportation, Traffic Noise Modeling and Analysis Practitioners Handbook, December 31, 2018.

DRAFT

All traffic data used in the noise analysis are documented in the Traffic Data for Noise Studies Summary Output signed/approved on October 20, 2021 and provided in **Appendix A**. Traffic data for the 2021 existing, 2045 no-build and 2045 build conditions are presented in this output file along with the peak direction factor (D-factor) and truck factors (T-factor) used to divide hourly volumes between cars, medium trucks, heavy trucks, buses and motorcycles to obtain the number of each vehicle type as required for TNM input. The vehicle speeds used in TNM are based on existing posted speed limits and the proposed posted speed for the build alternative.

2.3 NOISE ABATEMENT CRITERIA

To evaluate traffic noise, the FHWA has established noise levels at which abatement must be considered. These noise levels are referred to as the Noise Abatement Criteria. The NAC are noise impact thresholds for considering abatement measures. As shown in **Table 2-2**, NAC vary according to land use activity. A noise sensitive site is therefore considered any land use that may fall within the description of a NAC Activity Category.

Table 2-2 Noise Abatement Criteria

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 Title 23, Part 772 of the Code of Federal Regulations)

1. The Leq(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.
2. Includes undeveloped lands permitted for this activity category.

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.

DRAFT

Traffic noise impacts occur when predicted future traffic noise levels associated with the proposed improvements approach, meet, or exceed the NAC or when predicted future traffic noise levels substantially exceed the existing condition noise levels.[3] FDOT defines "approach" to mean within one dB(A) of the NAC. A substantial increase in noise is defined as an increase of 15 or more decibels above the existing noise level as a direct result of the transportation improvement project.

For example, Activity Category B (residential) applies to a majority of the noise sensitive land uses within the study limits. Under Activity Category B, noise abatement measures are considered if the predicted future exterior levels from the proposed improvements are 66 dB(A) or higher, or if the predicted future traffic noise levels with the improvements exceed the existing condition noise levels by 15 dB(A) or more.

Common noise environments are defined in the PD&E Manual, Part 2, Chapter 18 (July 1, 2020) as groups of receptors within the same activity category of FHWA's NAC that are exposed to similar noise sources and levels, traffic volumes, traffic mix, speed, and topographic features. The developed lands along the project corridor include both noise sensitive and non-noise sensitive sites. A land use field review within the project limits revealed 220 noise sensitive sites in the vicinity of the US 98 project corridor that have the potential to be impacted by traffic noise. The locations of these sites are mapped on the aerials (with concept plan and receptor sites) provided in **APPENDIX C**.

Activity Category A

Activity Category A focuses on the exterior impact criteria for 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 for the area to continue to serve its intended purpose. The approach NAC level for this activity category is 56 dB(A). No Activity Category A land uses are located within the US 98 study limits.

Activity Category B

Activity Category B includes the exterior impact criteria for single-family (including mobile home parks) and multi-family residences. This may include units above ground level. The approach NAC level for this activity category is 66 dB(A). There are 207 residences within the US 98 study limits that were evaluated as part of this traffic noise analysis.

Activity Category C

Activity Category C includes the exterior impact criteria for a variety of land use facilities. The approach NAC level for this activity category is 66 dB(A). Examples of this activity category include 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, recreation areas, golf courses, Section 4(f) resources, schools, television studios, trails, and trail

[3] Title 23, Part 772 of the Code of Federal Regulations, Procedures for Abatement of Highway Traffic Noise and Construction Noise, Federal Register, Vol. 75, No. 133, Tuesday, July 13, 2010

DRAFT

crossings. Note that these criteria apply only to the exterior areas of Activity Category C. There are two Activity Category C land uses (Central Florida Paintball and the Big Cypress Golf Course) located adjacent to the US 98 study limits. These land uses are represented by 11 receptors designated as 1-05 through 1-07, 4-46, 4-47 and 4-85 through 4-90. The locations of these receptors are mapped on the aerials provided in **APPENDIX C**.

Activity Category D

Activity Category D applies to the interior traffic noise levels at a variety of noise sensitive land uses that include 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.. The approach NAC level for this activity category is 51 dB(A). No Activity Category D land uses are located within the US 98 study limits.

Activity Category E

Activity Category E includes the exterior impact criteria for developed lands that are less sensitive to highway traffic noise. The approach NAC level for this activity category is 71 dB(A) in exterior areas of frequent human use. Examples of this activity category include hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in Activity Category A-D or F. Two Activity Category E land uses (outdoor seating areas at the VFW Post #8002 and the Big Cypress Golf Course clubhouse) are located adjacent to the study limits of the US 98 project and are represented by receptors 2-07 and 4-84 respectively. The locations of these receptors are mapped on the aerials provided in **APPENDIX C**.

Activity Category F

Activity Category F land uses include 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. There is no NAC level for this activity category since the FHWA considers these land uses as not sensitive to highway traffic noise; therefore, no noise analysis is required for these locations.

Activity Category G

Activity Category G includes undeveloped lands that are not permitted for construction. There are no NAC for Activity Category G. Although consideration of mitigation is not required, the FDOT must determine and document highway traffic noise levels and provide this information to local governments. Noise contours are developed to illustrate the best estimate of the distance from the edge of the nearest travel lane at which traffic noise would approach or exceed the NAC for Activity Categories A, B, C, D and E. Land use controls and noise contours are discussed further in **Section 2-4** and will assist local officials in planning and permitting future noise compatible land uses on the undeveloped parcels.

DRAFT

2.4 NOISE ABATEMENT MEASURES

FDOT considers noise abatement measures when future traffic noise levels attributed to a proposed roadway improvement approach, meet, or exceed the NAC, or when levels increase substantially. These measures may include traffic management, alignment modifications, land use controls, and noise barriers.[4] The following discusses the feasibility (i.e., amount of noise reduction, engineering considerations) and/or reasonableness (i.e., number of noise sensitive sites benefited, absolute noise levels, cost, etc.) of these measures.

2.4.1 Traffic Management

Traffic control measures that limit motor vehicle speeds and restrict certain vehicle types can be effective noise mitigation measures. However, these measures may also negate a project's ability to meet the need of the facility. For example, prohibiting heavy trucks from using US 98 would lower traffic noise levels; however, it would also eliminate the ability to efficiently move people and goods through the study limits. Therefore, this method of noise mitigation is not considered reasonable.

2.4.2 Alignment Modifications

Alignment modification involves shifting the roadway alignment at sufficient distances from noise sensitive areas to minimize traffic noise. Since this project involves lane additions to the existing road, the existing alignment dictates the proposed horizontal alignment. Several alternatives were analyzed. Because of limited right-of-way, shifting the US 98 alignment to reduce traffic noise impacts would likely result in more severe impacts, including property acquisitions, residential and business relocations, and other environmental impacts. For these reasons, shifting the US 98 alignment to reduce traffic noise impacts would result in other undesirable impacts and is not a reasonable measure to reduce noise levels associated with this project.

2.4.3 Buffer Zones

Another noise abatement measure is to use land use controls to minimize impacts to future development. Providing a buffer between a highway and future noise sensitive land uses is an abatement measure that can minimize/eliminate traffic noise impacts in areas of future development. To encourage use of this abatement measure through local land use planning, noise contours have been developed.

Noise contours were developed to illustrate the best estimate of the distance from the edge of the nearest travel lane at which traffic noise would approach the NAC for Activity Categories A, B, C, D and E. These noise contours, which delineate points of equal traffic noise level, do not consider any shielding of noise provided by structures between the noise sensitive site and the roadway. **Table 2-3** will assist local officials in planning and permitting future noise compatible land uses adjacent to US 98.

[4] Florida Department of Transportation Project Development and Environment Manual Part 2, Chapter 18, Highway Traffic Noise, July 1, 2020.

DRAFT

Table 2-3 Estimated Noise Contours

US 98 Traffic Segment	NAC Activity Category			
	A – 56 dB(A)	B/C – 66 dB(A)	D – 51 dB(A)*	E – 71 dB(A)
South of Big Cypress Boulevard	461 feet	114 feet	< 15 feet	49 feet
Big Cypress Boulevard to Pioneer Drive	446 feet	107 feet	< 15 feet	47 feet
Pioneer Drive to Little Cypress Drive	443 feet	105 feet	< 15 feet	46 feet
Little Cypress Drive to Rock Ridge Road	433 feet	102 feet	< 15 feet	45 feet
Rock Ridge Road to Lakeland Acres Road	663 feet	195 feet	40 feet	102 feet
Lakeland Acres Road to SR 471	665 feet	199 feet	40 feet	106 feet
SR 471 to Old Dade City Road	608 feet	171 feet	31 feet	88 feet
Old Dade City Road to CR 54	620 feet	178 feet	33 feet	92 feet
North of CR 54	491 feet	137 feet	15 feet	60 feet

*Represents an interior noise level

2.4.4 Noise Barriers

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

- Acoustically Feasible and Reasonable Criteria – To be acoustically feasible, a barrier must provide at least a 5 dB(A) reduction in traffic noise for two or more impacted noise sensitive receptors. To be acoustically reasonable, a barrier must provide at least a 7 dB(A) reduction (i.e., the FDOT's Noise Reduction Design Goal) for at least one benefited receptor (a benefited

DRAFT

receptor is a receptor that receives at least a 5 dB(A) reduction in noise from a mitigation measure).

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

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

DRAFT

SECTION 3 TRAFFIC NOISE ANALYSIS

3.1 MODEL VALIDATION

To validate the accuracy of TNM as a prediction model, traffic noise levels were measured on September 29th and 30th, 2021, at four locations adjacent to US 98. The locations are shown on the aerials (with concept plan and receptor sites) provided in **APPENDIX C**. The locations were selected because they provide a clear view of the passing vehicles traveling at free-flow conditions in each direction in close proximity to noise sensitive sites.

Traffic data including vehicle volumes by type, vehicle speeds, and meteorological conditions were recorded during each measurement period. The measurements were taken following procedures documented in the Noise Measurement Handbook (FHWA-HEP-18-065, 2018) using a Casella CEL-246 Type I sound level meter. The sound level meter was calibrated using a Casella CEL-120/1 acoustic calibrator. Speeds of passing vehicles were recorded with a Stalker Sport radar gun. The recorded traffic data were used as input in TNM to determine if, given the topography and actual site conditions of the area, the computer model could "recreate" the measured levels with the existing roadway.

Table 3-1 presents the field measurements and the validation results for all four locations adjacent to US 98. Following FDOT's traffic noise policy, a noise prediction model is considered within the accepted level of accuracy if the measured and predicted noise levels are within a tolerance standard of three dB(A). As shown, the ability of the model to predict noise levels within the FDOT limits of three dB(A) for the project was confirmed. The noise model usually predicts noise levels higher than measured levels, however, there are certain instances where background noises (i.e., birds, insects, lawn equipment, etc.) combined with vehicle volumes during a measurement period will cause measured levels to be slightly higher than those predicted. These instances occurred during all validation runs at measurement locations 2, 3 and 4 with the predominant background noise being cicadas in the trees along US 98.

Table 3-1 Noise Model Validations

Site	Run	Predicted Leq (h)	Measured Leq (h)	Differences
Validation Measurement #1 VFW Post 8002 - 9398 US Highway 98 N	1	70.0	70.0	0.0
	2	68.7	67.8	0.9
	3	69.9	69.7	0.2
Validation Measurement #2 10315 US Highway 98 N	1	67.2	68.9	-1.7
	2	67.4	69.5	-2.1
	3	67.4	70.2	-2.8
Validation Measurement #3 Old Soldier Road and US Highway 98 N	1	68.1	69.5	-1.4
	2	68.8	71.0	-2.2
	3	68.1	69.4	-1.3
Validation Measurement #4 14070 US Highway 98 N	1	65.8	68.4	-2.6
	2	66.5	68.9	-2.4
	3	66.2	68.3	-2.1

DRAFT

3.2 PREDICTED NOISE LEVELS

The predicted traffic noise levels modeled for 220 noise sensitive sites adjacent to US 98 are shown in the Predicted Noise Level table located in **APPENDIX B**. The existing (2021) and future year (2045) noise levels with and without the proposed improvements are provided. The existing condition traffic noise levels are predicted to range from 51.9 to 70.2 dB(A) for Activity Category B and C land uses and 62.1 to 64.7 dB(A) for Category E. The no-build condition future year traffic noise levels are predicted to range from 53.3 to 71.0 dB(A) for Activity Category B and C and 62.1 to 65.6 dB(A) for Category E. The proposed build alternative is predicted to result in traffic noise levels ranging from 55.4 to 71.3 dB(A) for Activity Category B and C and 62.9 to 63.2 dB(A) for Category E.

Thirty-eight of the 220 noise sensitive sites evaluated in the future year build condition are predicted to experience future noise levels with the proposed improvements to US 98 that approach, meet, or exceed the NAC for their respective Activity Category. However, none of the 220 evaluated sites are predicted to experience a substantial increase of traffic noise as a result of the proposed improvements. The maximum increase between the existing condition and the proposed build alternative is 5.6 dB(A) at receptor 8-05. The 38 receptors representing 38 noise sensitive sites are referred to as "impacted" receptors. Of the 38 impacted receptors, 37 represent residential properties (Activity Category B) and one receptor represents a tee box at the Big Cypress Golf Club (Activity Category C).

Notably, the predicted traffic noise levels in the build condition at many receptors located south of Rock Ridge Road are less than the levels predicted for the existing condition at these receptors, showing a negative value in the substantial increase column in the Predicted Noise Level table located in **APPENDIX B**. This negative value can be explained by the modeling of a 60 mph posted speed for all vehicles in the existing condition compared to the modeling of the proposed 45 mph posted speed in the build condition for all traffic segments south of Rock Ridge Road.

Noise barriers were evaluated as abatement measures for the impacted receptors that were predicted to experience future traffic noise levels that approach, meet, or exceed the NAC with the proposed improvements. The results of the evaluation are provided in the following section.

3.3 NOISE ABATEMENT ANALYSIS

The TNM was used to evaluate the effectiveness of noise barriers for the 37 residences that are predicted to experience traffic noise levels that exceed the NAC for Activity Category B. Noise barriers were modeled at all locations where two or more impacted residences were found in close proximity to each other. At each noise barrier location, the ability to meet noise reduction requirements was first assessed. If noise reduction requirements were met, the cost reasonableness was evaluated. All barriers were modeled in TNM at a location five feet inside of the proposed ROW.

DRAFT

3.3.1 Barriers for Single, Isolated Residences

As discussed in **Section 2.4.4**, for a noise barrier to be acoustically feasible, a barrier must provide at least a 5 dB(A) reduction in traffic noise for two or more impacted noise sensitive receptors. For several impacted, single, isolated residences adjacent to US 98 this is not achievable because they are not close enough to other impacted noise sensitive sites. Noise barriers for these impacted receptors are not considered a feasible noise abatement measure. These receptors and their locations are listed below:

- Receptor 3-48 – residence located 400 feet south of the Rock Ridge Road intersection adjacent to the northbound lanes of US 98;
- Receptor 5-08 – residence located 50 feet south of Earnest Road adjacent to the northbound lanes of US 98;
- Receptor 6-07 – residence located approximately 0.75 miles south of the Keen Road intersection adjacent to the southbound lanes of US 98;
- Receptor 5-17 – residence located approximately 0.50 miles south of the Keen Road intersection adjacent to the northbound lanes of US 98;
- Receptor 5-21 – residence located at the Keen Road intersection adjacent to the northbound lanes of US 98;
- Receptor 6-09 – residence located 600 feet north of the Keen Road intersection adjacent to the southbound lanes of US 98;
- Receptor 6-12 – residence located 300 feet south of the Lakeland Acres Road intersection adjacent to the southbound lanes of US 98;
- Receptor 6-18 – residence located approximately 0.50 miles north of the Lakeland Acres Road intersection adjacent to the southbound lanes of US 98;
- Receptor 6-20 – residence located 200 feet north of where the overhead electric transmission lines/utility corridor crosses US 98, adjacent to the southbound lanes of US 98;
- Receptor 6-22 – residence located 1,000 feet north of where the overhead electric transmission lines/utility corridor crosses US 98, adjacent to the southbound lanes of US 98;
- Receptor 8-04 – residence located approximately 0.50 miles north of the SR 471 intersection adjacent to the southbound lanes of US 98;
- Receptor 8-14 - residence located 150 feet south of the Old Dade City Road intersection adjacent to the southbound lanes of US 98.

DRAFT

3.3.2 Barrier 1 – Cypress Lakes North

A noise barrier was evaluated for the eight impacted residences located in Cypress Lakes North (receptors 4-63 through 4-65 and 4-69 through 4-73) adjacent to the southbound lanes of US 98. To maintain access to US 98 for these residences, a system of two barrier segments was evaluated both north and south of Little Cypress Drive five feet inside of the proposed FDOT ROW. The locations of these receptors and modeled barrier are shown on sheet 7 of the aerials in **APPENDIX C**.

The lengths of the barrier segments were optimized using the TNM to successfully achieve the minimum noise reduction requirements of 5 dB(A) at two impacted residences and 7 dB(A) at one benefited residence at barrier heights from 10 to 22 feet in increments of two feet. The results of the evaluation are shown in **Table 3-2**.

Table 3-2 Noise Barrier Analysis Results – Barrier 1 (Cypress Lakes North)

Barrier Height (feet)	Barrier Length (feet)	Noise Reduction at Impacted Receptors (dB[A])			Number of Benefited Receptors[1]			Total Estimated Cost [2]	Cost Per Benefited Receptor	Cost Reasonable Yes/No [3]
		5-5.9	6-6.9	≥7	Impacted	Not impacted	Total			
8	1,527	0	1	0	N/A	N/A	N/A	N/A	N/A	N/A
10	412	2	0	1	3	0	3	$123,600	$41,200	Yes
12	698	2	1	4	7	0	7	$251,280	$35,897	Yes
14	677	2	2	6	8	2	10	$284,340	$28,434	Yes
16	657	4	1	8	8	5	13	$315,360	$24,258	Yes
18	657	5	0	9	8	6	14	$354,780	$25,341	Yes
20	657	4	1	9	8	6	14	$394,200	$28,157	Yes
22	657	3	2	9	8	6	14	$433,620	$30,973	Yes

[1] Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.
[2] Based on a unit cost of $30 per square foot.
[3] FDOT cost reasonable criterion is $42,000 per benefited receptor.

As shown in the table above, at heights of 14 to 22 feet, a noise barrier is predicted to provide the necessary noise reduction for all eight of the impacted receptors located in Cypress Lakes North. The noise barrier will also provide this reduction for up to six additional residences that are not predicted to be impacted by traffic noise levels from the proposed build alternative. Because this barrier is predicted to provide the required noise reduction at a cost below the reasonable guideline for all heights between 10 and 22 feet, the barrier was evaluated further. The results of the evaluation are provided in **Table 3-3**.

DRAFT

Table 3-3 Barrier 1 (Cypress Lakes North) Additional Barrier Considerations

Feasibility and Reasonableness Factors	Comments
Noise Reduction	All eight impacted residences are predicted to receive at least a 5 dB(A) insertion loss and as many as six non-impacted residences are predicted to receive at least a 5 dB(A) insertion loss.
Design and Construction	The constructability of the barrier will be reviewed in greater detail as part of the design process. Consideration should be given to any existing landscaping, and any utilities within the right-of-way. The noise barrier system was evaluated within the right-of-way line offset from the proposed shared-use path.
Safety	The barrier would be located at the back of the shared-use path for a short distance near Little Cypress Drive and the safety of pedestrians and bicyclists traveling adjacent to the modeled barrier should be considered. A final review will be made during the design phase of the project that includes line of sight considerations.
Accessibility	The barrier will not have an impact on accessibility to adjacent properties.
Right-of-Way	It does not appear that additional right-of-way would need to be acquired to accommodate the modeled noise barrier.
Maintenance	Maintenance access between the proposed right-of-way and the modeled noise barrier will be considered during the final design phase of the project.
Drainage	The potential for drainage of stormwater along the modeled barrier will be evaluated during the final design phase to determine if special accommodations are necessary.
Utility	Potential lighting and buried utility conflicts associated with the construction of the barrier will be evaluated in greater detail as part of the design process.
Viewpoint of Benefited Receptors	Viewpoints of the public regarding traffic noise will be documented as received from the community meetings, public hearing or other mediums to be referenced during the design phase. Public support or opposition by property owners affected by a specific noise barrier should be established in the design phase of the project.
Cost Effectiveness	The cost is within FDOT's cost reasonable guideline of $42,000 per benefited site.
Noise Reduction Design Goal	The evaluated barrier meets the design goal of a 7 dB(A) reduction for at least one receptor at barrier heights between 10 and 22 feet.

The Cypress Lakes Community also includes a golf course adjacent to US 98 (Big Cypress Golf Club) and eight receptors were evaluated at locations spread throughout five different holes. Receptor 4-85 represents a tee box located just north of Little Cypress Drive and was the only receptor to have a predicted noise level that approaches, meets or exceeds the NAC for Activity Category C at 67.9 dB(A). The same noise barrier system that was evaluated for the impacted residences located south of Little Cypress Drive (detailed above) was also evaluated for the tee box surrounding receptor 4-85 utilizing the FDOT's *Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations FL-ER-65-97.* The location of receptor 4-85 and modeled barrier are shown on sheet 7 of the aerials in **APPENDIX C**.

The results of the evaluation showed the required noise reduction goal of 7dB(A) could not be reached at any impacted receptors on the tee box, therefore the barrier system is not considered to be a

DRAFT

reasonable abatement measure. The ineffectiveness of a barrier at this location can be attributed to the proximity of the tee box to the break in the barrier needed for access to US 98 from Little Cypress Drive. The break in the barrier required to maintain this access would significantly reduce the noise reduction of a noise barrier.

3.3.3 Barrier 2 – Gator Creek RV Park

A noise barrier was evaluated for the nine impacted residences located in the Gator Creek RV Park (receptors 3-09 through 3-17) adjacent to the northbound lanes of US 98. To maintain access to US 98 for these residences, a system of two barrier segments was evaluated both north and south of the Park's entrance road, five feet inside of the proposed FDOT ROW. The locations of these receptors and modeled barrier are shown on sheet 8 of the aerials in **APPENDIX C**.

The lengths of the barrier segments were optimized using the TNM to successfully achieve the minimum noise reduction requirements of 5 dB(A) at two impacted residences and 7 dB(A) at one benefited residence at barrier heights from 10 to 22 feet in increments of two feet. The results of the evaluation are shown in **Table 3-4**.

Table 3-4 Noise Barrier Analysis Results – Barrier 2 (Gator Creek RV Park)

Barrier Height (feet)	Barrier Length (feet)	Noise Reduction at Impacted Receptors (dB[A])			Number of Benefited Receptors[1]			Total Estimated Cost [2]	Cost Per Benefited Receptor	Cost Reasonable Yes/No [3]
		5-5.9	6-6.9	≥7	Impacted	Not impacted	Total			
8	1,129	6	1	0	N/A	N/A	N/A	N/A	N/A	N/A
10	433	1	3	4	8	0	8	$129,900	$16,238	Yes
12	304	1	1	6	8	0	8	$109,440	$13,680	Yes
14	727	3	1	7	9	2	11	$305,340	$27,758	Yes
16	476	2	1	7	9	1	10	$228,480	$22,848	Yes
18	413	2	1	6	9	0	9	$223,020	$24,780	Yes
20	370	2	1	6	9	0	9	$222,000	$24,667	Yes
22	349	2	1	6	9	0	9	$230,340	$25,593	Yes

[1] Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.
[2] Based on a unit cost of $30 per square foot.
[3] FDOT cost reasonable criterion is $42,000 per benefited receptor.

As shown in the table above, at heights of 14 to 22 feet, a noise barrier is predicted to provide the necessary noise reduction at all nine of the impacted receptors located in the Gator Creek RV Park. The noise barrier will also provide this reduction for up to two additional residences that are not predicted to be impacted by traffic noise levels from the proposed build alternative. Because this barrier is predicted to provide the required noise reduction at a cost below the reasonable guideline for all heights between 10 and 22 feet, the barrier was evaluated further. The results of the evaluation are provided in **Table 3-5**.

DRAFT

Table 3-5 Barrier 2 (Gator Creek RV Park) Additional Barrier Considerations

Feasibility and Reasonableness Factors	Comments
Noise Reduction	All nine impacted residences are predicted to receive at least a 5 dB(A) insertion loss and as many as two non-impacted residences are predicted to receive at least a 5 dB(A) insertion loss.
Design and Construction	The constructability of the barrier will be reviewed in greater detail as part of the design process. Consideration should be given to any existing landscaping, and any utilities within the right-of-way. The noise barrier system was evaluated within the right-of-way line offset from the proposed shared-use path.
Safety	A final review will be made during the design phase of the project that includes line of sight considerations for the Park's entrance road.
Accessibility	The barrier will not have an impact on accessibility to adjacent properties.
Right-of-Way	It does not appear that additional right-of-way would need to be acquired to accommodate the modeled noise barrier.
Maintenance	Maintenance access between the proposed right-of-way and the modeled noise barrier will be considered during the final design phase of the project.
Drainage	The potential for drainage of stormwater along the modeled barrier will be evaluated during the final design phase to determine if special accommodations are necessary.
Utility	Potential lighting and buried utility conflicts associated with the construction of the barrier will be evaluated in greater detail as part of the design process.
Viewpoint of Benefited Receptors	Viewpoints of the public regarding traffic noise will be documented as received from the community meetings, public hearing or other mediums to be referenced during the design phase. Public support or opposition by property owners affected by a specific noise barrier should be established in the design phase of the project.
Cost Effectiveness	The cost is within FDOT's cost reasonable guideline of $42,000 per benefited site. All of the impacted sites are occupied more than 51% of the calendar year by "permanent" residents.
Noise Reduction Design Goal	The evaluated barrier meets the design goal of a 7 dB(A) reduction for at least one receptor at barrier heights between 10 and 22 feet.

3.3.4 Barrier 3 – Residences North of Rock Ridge Road

A noise barrier was evaluated for the three impacted residences located north of Rock Ridge Road (receptors 5-04 through 5-06) adjacent to the northbound lanes of US 98. To maintain the access to US 98 for these residences, the barrier was evaluated in segments between each of the driveways five feet inside of the proposed FDOT ROW. The locations of these receptors and modeled barrier are shown on sheet 9 of the aerials in **APPENDIX C**.

The lengths of the barrier segments were optimized using the TNM to successfully achieve the minimum noise reduction requirements of 5 dB(A) at two impacted residences and 7 dB(A) at one benefited residence at barrier heights of 20 and 22 feet. The results of the evaluation are shown in **Table 3-6**.

DRAFT

Table 3-6 Noise Barrier Analysis Results – Barrier 3 (Residences North of Rock Ridge Road)

Barrier Height (feet)	Barrier Length (feet)	Noise Reduction at Impacted Receptors (dB[A])			Number of Benefited Receptors[1]			Total Estimated Cost [2]	Cost Per Benefited Receptor	Cost Reasonable Yes/No [3]
		5-5.9	6-6.9	≥7	Impacted	Not impacted	Total			
8	721	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
10	721	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
12	721	1	0	0	N/A	N/A	N/A	N/A	N/A	N/A
14	721	3	0	0	N/A	N/A	N/A	N/A	N/A	N/A
16	721	0	3	0	N/A	N/A	N/A	N/A	N/A	N/A
18	721	0	3	0	N/A	N/A	N/A	N/A	N/A	N/A
20	721	0	2	1	3	0	3	$432,600	$144,200	No
22	680	0	2	1	3	0	3	$448,800	$149,600	No

[1] Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.
[2] Based on a unit cost of $30 per square foot.
[3] FDOT cost reasonable criterion is $42,000 per benefited receptor.

As shown in the table above, the goal of reducing predicted traffic noise levels the required amount could be achieved at heights of 20 and 22 feet. However, the range in cost per benefited receptor is $144,200 to $149,600 at these heights and exceeds the cost reasonable limit of $42,000 per benefited receptor. Since the cost per benefited receptor exceeds the cost reasonable guideline, the barrier system is not considered a reasonable noise abatement measure at this location. The ineffectiveness of a barrier at this location can be attributed to the driveway connections needed for residential access to US 98. The breaks in the barrier required to maintain this access would significantly reduce the noise reduction of a noise barrier.

3.3.5 Barrier 4 - Residences North of Lakeland Acres Road

A noise barrier was evaluated for the two impacted residences located north of Lakeland Acres Road (receptors 6-16 and 6-17) adjacent to the southbound lanes of US 98. To maintain the access to US 98 for these residences, the barrier was evaluated in segments between each of the driveways and Lakeland Acres Road, five feet inside of the proposed FDOT ROW. The locations of these receptors and modeled barrier are shown on sheet 16 of the aerials in **APPENDIX C**.

The lengths of the barrier segments were optimized using the TNM to successfully achieve the minimum noise reduction requirements of 5 dB(A) at two impacted residences and 7 dB(A) at one benefited residence at barrier heights between 14 and 22 feet in increments of two feet. The results of the evaluation are shown in **Table 3-7**.

DRAFT

Table 3-7 Noise Barrier Analysis Results – Barrier 4 (Residences North of Lakeland Acres Road)

Barrier Height (feet)	Barrier Length (feet)	Noise Reduction at Impacted Receptors (dB[A])			Number of Benefited Receptors[1]			Total Estimated Cost [2]	Cost Per Benefited Receptor	Cost Reasonable Yes/No [3]
		5-5.9	6-6.9	≥7	Impacted	Not impacted	Total			
8	756	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
10	756	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
12	756	1	1	0	N/A	N/A	N/A	N/A	N/A	N/A
14	663	1	0	1	2	0	2	$278,460	$139,230	No
16	538	1	0	1	2	0	2	$258,240	$129,120	No
18	496	1	0	1	2	0	2	$267,840	$133,920	No
20	429	1	0	1	2	0	2	$257,400	$128,700	No
22	408	1	0	1	2	0	2	$269,280	$134,640	No

[1] Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.
[2] Based on a unit cost of $30 per square foot.
[3] FDOT cost reasonable criterion is $42,000 per benefited receptor.

As shown in the table above, the goal of reducing predicted traffic noise levels the required amount could be achieved at heights between 14 and 22 feet in increments of two feet. However, the range in cost per benefited receptor is $128,700 to $139,230 at these heights and exceeds the cost reasonable limit of $42,000 per benefited receptor. Since the cost per benefited receptor exceeds the cost reasonable guideline, the barrier system is not considered a reasonable noise abatement measure at this location. The ineffectiveness of a barrier at this location can be attributed to the driveway connections needed for residential access to US 98 and the proximity to Lakeland Acres Road. The breaks in the barrier required to maintain access to US 98 would significantly reduce the noise reduction of a noise barrier.

3.3.6 Barrier 5 - Residences South of Old Dade City Road

A noise barrier was evaluated for the two impacted residences located south of Old Dade City Road (receptors 8-09 and 8-10) adjacent to the southbound lanes of US 98. To maintain the access to US 98 for these residences, the barrier was evaluated in segments between each of the driveways, five feet inside of the proposed FDOT ROW. The locations of these receptors and modeled barrier are shown on sheet 27 of the aerials in **APPENDIX C**.

The lengths of the barrier segments were optimized using the TNM to successfully achieve the minimum noise reduction requirements of 5 dB(A) at two impacted residences and 7 dB(A) at one benefited residence at only the 22 foot barrier height. The results of the evaluation are shown in **Table 3-8**.

DRAFT

Table 3-8 Noise Barrier Analysis Results – Barrier 5 (Residences South of Old Dade City Road)

Barrier Height (feet)	Barrier Length (feet)	Noise Reduction at Impacted Receptors (dB[A])			Number of Benefited Receptors[1]			Total Estimated Cost [2]	Cost Per Benefited Receptor	Cost Reasonable Yes/No [3]
		5-5.9	6-6.9	≥7	Impacted	Not impacted	Total			
8	955	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
10	955	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
12	955	1	0	0	N/A	N/A	N/A	N/A	N/A	N/A
14	955	0	1	0	N/A	N/A	N/A	N/A	N/A	N/A
16	955	0	1	0	N/A	N/A	N/A	N/A	N/A	N/A
18	955	0	1	0	N/A	N/A	N/A	N/A	N/A	N/A
20	955	1	1	0	N/A	N/A	N/A	N/A	N/A	N/A
22	789	1	0	1	2	0	2	$520,740	$260,370	No

[1] Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.
[2] Based on a unit cost of $30 per square foot.
[3] FDOT cost reasonable criterion is $42,000 per benefited receptor.

As shown in the table above, the goal of reducing predicted traffic noise levels the required amount could only be achieved at the 22-foot barrier height. However, the cost per benefited receptor is $260,370 at this height and exceeds the cost reasonable limit of $42,000 per benefited receptor. Since the cost per benefited receptor exceeds the cost reasonable guideline, the barrier system is not considered a reasonable noise abatement measure at this location. The ineffectiveness of a barrier at this location can be attributed to the driveway connections needed for residential access to US 98. The breaks in the barrier required to maintain access to US 98 would significantly reduce the noise reduction of a noise barrier.

DRAFT

SECTION 4 CONCLUSIONS

The FHWA approved TNM was used to predict traffic noise levels at 220 noise sensitive sites located adjacent to US 98 for the existing (2021) and future year (2045) conditions with and without the proposed improvements. Thirty-eight of the 220 noise sensitive sites evaluated in the future year build condition are predicted to experience future noise levels with the proposed improvements to US 98 that approach, meet, or exceed the NAC for their respective Activity Category. However, none of the 220 evaluated sites are predicted to experience a substantial increase in traffic noise as a result of the proposed improvements.

The 38 receptors that approach, meet, or exceed the NAC for their respective Activity Category are referred to as "impacted" receptors. Of the 38 impacted receptors, 37 represent residential properties (Activity Category B) and one receptor represents a tee box at the Big Cypress Golf Club (Activity Category C).

Traffic management measures, modifications to the roadway alignment, buffer zones and noise barriers were considered as potential abatement measures at the impacted receptor locations. Noise barriers were the only potential abatement measure found to be cost reasonable and feasible. The locations of these barriers are listed below:

- Barrier 1: Cypress Lakes North
- Barrier 2: Gator Creek RV Park

Because of the elapsed time between when the noise study was performed and when the Environmental Document will be signed by FDOT (known as the Date of Public Knowledge), the potential exists for additional building permits for noise sensitive sites to be granted subsequent to this study. The date of the PD&E land use review was September 29, 2021. Any noise analysis performed during the design phase of this project will include a review of building permit dates. Any noise sensitive site that is identified as permitted between the completion of the land use review update and the Date of Public Knowledge will be analyzed for traffic noise impacts and, if impacts are predicted, abatement will be considered during the design phase of the project.

4.1 STATEMENT OF LIKELIHOOD

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

- Detailed noise analyses conducted during the final design process support the need, feasibility and reasonableness of providing abatement;

- Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;

DRAFT

- Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office; and

- Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved.

Final recommendations on the construction of abatement measures is determined during the project's final design and through the public involvement process. The locations of the two barriers are listed below:

- Barrier 1: Cypress Lakes North
- Barrier 2: Gator Creek RV Park

DRAFT

SECTION 5 CONSTRUCTION NOISE AND VIBRATION

Construction of the proposed roadway improvements is not expected to have any significant noise and vibration impact. The only type of land use that is identified as being potentially sensitive to construction noise and vibration along the US 98 corridor is residences. If additional sensitive land uses develop adjacent to the roadway prior to construction, increased potential for noise and vibration impacts could result. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate potential construction noise and vibration impacts. However, should unanticipated noise and vibration issues arise during the construction process, the Project Engineer, in coordination with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

DRAFT

SECTION 6 COMMUNITY COORDINATION

6.1 PUBLIC MEETINGS

Information from the public hearing will be included in this section as an update after the hearing is complete and when the comment period has elapsed.

6.2 COORDINATION WITH LOCAL OFFICIALS

Local officials can promote compatibility between land development and highways. FDOT will send copies of this report, which includes the noise contours described in **Section 2.4.3**, to Polk County to assist them in permitting future noise-compatible land uses along US 98.

DRAFT

SECTION 7 REFERENCES

- Title 23, Part 772 of the Code of Federal Regulations , Procedures for Abatement of Highway Traffic Noise and Construction Noise, Federal Register, Vol. 75, No. 133, Tuesday, July 13, 2010; pages 39834-39839. Available from FHWA.
- Florida Department of Transportation Project Development and Environment Manual Part 2, Chapter 18, Highway Traffic Noise, July 1, 2020. Available from FDOT.
- Federal Highway Administration Report Number FHWA-PD-96-009, FHWA Traffic Noise Model, Version 1.0 User's Guide. January 1998, 192 pages + supplements. Available from McTrans Center, University of Florida, Gainesville, Florida.
- Florida Statute 335.17, State Highway Construction; Means of Noise Abatement. 1989; 1 page. Available from FDOT.
- Federal Highway Administration Report Number FHWA-HEP-18-065, Noise Measurement Handbook – Final Report (2018).
- Florida Department of Transportation Design Manual (Topic No. 625-000-002), Chapter 264, Noise Walls, and Perimeter Walls. January 1, 2018. Available from FDOT.
- Florida Department of Transportation Standard Specifications for Road and Bridge Construction. July 2018. Available from FDOT
- Florida Department of Transportation, Traffic Noise Modeling and Analysis Practitioners Handbook, December 31, 2018.
- FHWA. Report FHWA-HEP-10-025, Highway Traffic Noise: Analysis and Abatement Guidance, December 2011
- Florida Department of Transportation, A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations (FL-ER-65-97), July 2009

DRAFT

APPENDICES

Appendix A Traffic Data

Appendix B Predicted Noise Levels

Appendix C Aerials (with Concept Plan and Receptor Sites)

DRAFT

APPENDIX A

Traffic Data

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	South of Big Cypress Boulevard
Section Number:	1
Mile Post To/From:	9.005 to 10.181

Existing Facility:

Year:	**2021**	D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**710**	Tpeak =	**10.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**769**	MT =	**3.02%**	% of Design Hour Volume
Posted Speed:	**60**	HT =	**6.78%**	% of Design Hour Volume
		B =	**0.20%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

No Build Alternative (Design Year):

Year:	**2045**	D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**710**	Tpeak =	**10.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1480**	MT =	**3.02%**	% of Design Hour Volume
Posted Speed:	**60**	HT =	**6.78%**	% of Design Hour Volume
		B =	**0.20%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

Build Alternative (Design Year):

Year:	**2045**	D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**1740**	Tpeak =	**10.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1674**	MT =	**3.02%**	% of Design Hour Volume
Posted Speed:	**45**	HT =	**6.78%**	% of Design Hour Volume
		B =	**0.20%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	Big Cypress Boulevard to Pioneer Drive
Section Number:	2
Mile Post To/From:	10.181 to 10.491

Existing Facility:

Year:	**2021**	D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**746**	Tpeak =	**11.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**685**	MT =	**3.32%**	% of Design Hour Volume
Posted Speed:	**60**	HT =	**7.46%**	% of Design Hour Volume
		B =	**0.22%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

No Build Alternative (Design Year):

Year:	**2045**	D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**746**	Tpeak =	**11.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1287**	MT =	**3.32%**	% of Design Hour Volume
Posted Speed:	**60**	HT =	**7.46%**	% of Design Hour Volume
		B =	**0.22%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

Build Alternative (Design Year):

Year:	**2045**	D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**1827**	Tpeak =	**11.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1485**	MT =	**3.32%**	% of Design Hour Volume
Posted Speed:	**45**	HT =	**7.46%**	% of Design Hour Volume
		B =	**0.22%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	Pioneer Drive to Little Cypress Drive
Section Number:	3
Mile Post To/From:	10.491 to 10.731

Existing Facility:		D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
Year:	**2021**	Tpeak =	**11.00%**	% of Design Hour Volume
		MT =	**3.32%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**710**	HT =	**7.46%**	% of Design Hour Volume
Demand Peak Hour Volume:	**668**	B =	**0.22%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.00%**	% of Design Hour Volume

No Build Alternative (Design Year):		D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**11.00%**	% of Design Hour Volume
		MT =	**3.32%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**710**	HT =	**7.46%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1274**	B =	**0.22%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.00%**	% of Design Hour Volume

Build Alternative (Design Year):		D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**11.00%**	% of Design Hour Volume
		MT =	**3.32%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1740**	HT =	**7.46%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1472**	B =	**0.22%**	% of Design Hour Volume
Posted Speed:	**45**	MC =	**2.00%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpson (Print Name) Christopher Simpson (Signature) Date: 10/20/2021

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	Little Cypress Drive to Rock Ridge Road
Section Number:	4
Mile Post To/From:	10.731 to 11.211

Existing Facility:		D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
Year:	**2021**	Tpeak =	**11.00%**	% of Design Hour Volume
		MT =	**3.32%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**746**	HT =	**7.46%**	% of Design Hour Volume
Demand Peak Hour Volume:	**676**	B =	**0.22%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.00%**	% of Design Hour Volume

No Build Alternative (Design Year):		D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**11.00%**	% of Design Hour Volume
		MT =	**3.32%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**746**	HT =	**7.46%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1222**	B =	**0.22%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.00%**	% of Design Hour Volume

Build Alternative (Design Year):		D =	**55.00%**	%
		T24 =	**15.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**11.00%**	% of Design Hour Volume
		MT =	**3.32%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1827**	HT =	**7.46%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1411**	B =	**0.22%**	% of Design Hour Volume
Posted Speed:	**45**	MC =	**2.00%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	Rock Ridge Road to Lakeland Acres Road
Section Number:	5
Mile Post To/From:	11.211 to 13.471

Existing Facility:

Year:	**2021**	D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
		Tpeak =	**20.00%**	% of Design Hour Volume
		MT =	**5.37%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**14.13%**	% of Design Hour Volume
Demand Peak Hour Volume:	**567**	B =	**0.51%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.80%**	% of Design Hour Volume

No Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**20.00%**	% of Design Hour Volume
		MT =	**5.37%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**14.13%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1138**	B =	**0.51%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.80%**	% of Design Hour Volume

Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**20.00%**	% of Design Hour Volume
		MT =	**5.37%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1607**	HT =	**14.13%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1456**	B =	**0.51%**	% of Design Hour Volume
Posted Speed:	**55**	MC =	**2.80%**	% of Design Hour Volume

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	Lakeland Acres Road to SR 471
Section Number:	6
Mile Post To/From:	13.471 to 16.311

Existing Facility:

Year:	**2021**	D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
		Tpeak =	**20.00%**	% of Design Hour Volume
		MT =	**4.71%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**14.98%**	% of Design Hour Volume
Demand Peak Hour Volume:	**564**	B =	**0.31%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.70%**	% of Design Hour Volume

No Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**20.00%**	% of Design Hour Volume
		MT =	**4.71%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**14.98%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1136**	B =	**0.31%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.70%**	% of Design Hour Volume

Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**20.00%**	% of Design Hour Volume
		MT =	**4.71%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1607**	HT =	**14.98%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1457**	B =	**0.31%**	% of Design Hour Volume
Posted Speed:	**55**	MC =	**2.70%**	% of Design Hour Volume

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	SR 471 to Old Dade City Road
Section Number:	7
Mile Post To/From:	16.311 to 17.551

Existing Facility:

Year:	**2021**	D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
		Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**670**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**470**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.10%**	% of Design Hour Volume

No Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**670**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1051**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.10%**	% of Design Hour Volume

Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1530**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1328**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**55**	MC =	**2.10%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	Old Dade City Road to CR 54
Section Number:	8
Mile Post To/From:	17.551 to 17.771

Existing Facility:

Year:	**2021**	D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
		Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**496**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.10%**	% of Design Hour Volume

No Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1123**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.10%**	% of Design Hour Volume

Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1607**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**1419**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**55**	MC =	**2.10%**	% of Design Hour Volume

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	98
Road Name:	US 98
Project Description:	US 98 PD&E Study
Segment Description:	North of CR 54
Section Number:	9
Mile Post To/From:	17.771 to 18.271

Existing Facility:

Year:	**2021**	D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
		Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**234**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.10%**	% of Design Hour Volume

No Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**704**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**568**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**60**	MC =	**2.10%**	% of Design Hour Volume

Build Alternative (Design Year):

		D =	**52.00%**	%
		T24 =	**20.00%**	% of 24 Hour Volume
Year:	**2045**	Tpeak =	**17.00%**	% of Design Hour Volume
		MT =	**5.22%**	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	**1607**	HT =	**11.45%**	% of Design Hour Volume
Demand Peak Hour Volume:	**790**	B =	**0.33%**	% of Design Hour Volume
Posted Speed:	**55**	MC =	**2.10%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	N/A
Road Name:	Big Cypress Boulevard
Project Description:	US 98 PD&E Study
Segment Description:	West of US 98
Section Number:	1
Mile Post To/From:	N/A

Existing Facility:

Year:	**2021**	D =	**74.00%**	%
		T24 =	**2.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**312**	Tpeak =	**1.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**107**	MT =	**0.30%**	% of Design Hour Volume
Posted Speed:	**25**	HT =	**0.68%**	% of Design Hour Volume
		B =	**0.02%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

No Build Alternative (Design Year):

Year:	**2045**	D =	**74.00%**	%
		T24 =	**2.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**312**	Tpeak =	**1.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**233**	MT =	**0.30%**	% of Design Hour Volume
Posted Speed:	**25**	HT =	**0.68%**	% of Design Hour Volume
		B =	**0.02%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

Build Alternative (Design Year):

Year:	**2045**	D =	**74.00%**	%
		T24 =	**2.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**312**	Tpeak =	**1.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**233**	MT =	**0.30%**	% of Design Hour Volume
Posted Speed:	**25**	HT =	**0.68%**	% of Design Hour Volume
		B =	**0.02%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	N/A
Road Name:	Little Cypress Drive
Project Description:	US 98 PD&E Study
Segment Description:	West of US 98
Section Number:	1
Mile Post To/From:	N/A

Existing Facility:

Year:	**2021**	D =	**79.00%**	%
		T24 =	**2.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**312**	Tpeak =	**0.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**46**	MT =	**0.00%**	% of Design Hour Volume
Posted Speed:	**25**	HT =	**0.00%**	% of Design Hour Volume
		B =	**0.00%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

No Build Alternative (Design Year):

Year:	**2045**	D =	**79.00%**	%
		T24 =	**2.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**312**	Tpeak =	**0.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**94**	MT =	**0.00%**	% of Design Hour Volume
Posted Speed:	**25**	HT =	**0.00%**	% of Design Hour Volume
		B =	**0.00%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

Build Alternative (Design Year):

Year:	**2045**	D =	**79.00%**	%
		T24 =	**2.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**312**	Tpeak =	**0.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**99**	MT =	**0.00%**	% of Design Hour Volume
Posted Speed:	**25**	HT =	**0.00%**	% of Design Hour Volume
		B =	**0.00%**	% of Design Hour Volume
		MC =	**2.00%**	% of Design Hour Volume

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

DRAFT

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	N/A
Road Name:	Lakeland Acres Road
Project Description:	US 98 PD&E Study
Segment Description:	West of US 98
Section Number:	1
Mile Post To/From:	N/A

Existing Facility:

Year:	**2021**	D =	**75.00%**	%
		T24 =	**10.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**483**	Tpeak =	**8.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**13**	MT =	**2.15%**	% of Design Hour Volume
Posted Speed:	**40**	HT =	**5.65%**	% of Design Hour Volume
		B =	**0.20%**	% of Design Hour Volume
		MC =	**2.80%**	% of Design Hour Volume

No Build Alternative (Design Year):

Year:	**2045**	D =	**75.00%**	%
		T24 =	**10.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**483**	Tpeak =	**8.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**25**	MT =	**2.15%**	% of Design Hour Volume
Posted Speed:	**40**	HT =	**5.65%**	% of Design Hour Volume
		B =	**0.20%**	% of Design Hour Volume
		MC =	**2.80%**	% of Design Hour Volume

Build Alternative (Design Year):

Year:	**2045**	D =	**75.00%**	%
		T24 =	**10.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**483**	Tpeak =	**8.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**28**	MT =	**2.15%**	% of Design Hour Volume
Posted Speed:	**40**	HT =	**5.65%**	% of Design Hour Volume
		B =	**0.20%**	% of Design Hour Volume
		MC =	**2.80%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT
FDOT DISTRICT 1

Federal Aid Number(s):	N/A
FPID Number(s):	436673-1-22-01
State/Federal Route No.:	N/A
Road Name:	Old Dade City Road
Project Description:	US 98 PD&E Study
Segment Description:	West of US 98
Section Number:	1
Mile Post To/From:	N/A

Existing Facility:

Year:	**2021**	D =	**63.00%**	%
		T24 =	**10.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**483**	Tpeak =	**7.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**40**	MT =	**2.15%**	% of Design Hour Volume
Posted Speed:	**45**	HT =	**4.72%**	% of Design Hour Volume
		B =	**0.14%**	% of Design Hour Volume
		MC =	**2.10%**	% of Design Hour Volume

No Build Alternative (Design Year):

Year:	**2045**	D =	**63.00%**	%
		T24 =	**10.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**483**	Tpeak =	**7.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**88**	MT =	**2.15%**	% of Design Hour Volume
Posted Speed:	**45**	HT =	**4.72%**	% of Design Hour Volume
		B =	**0.14%**	% of Design Hour Volume
		MC =	**2.10%**	% of Design Hour Volume

Build Alternative (Design Year):

Year:	**2045**	D =	**63.00%**	%
		T24 =	**10.00%**	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	**483**	Tpeak =	**7.00%**	% of Design Hour Volume
Demand Peak Hour Volume:	**111**	MT =	**2.15%**	% of Design Hour Volume
Posted Speed:	**45**	HT =	**4.72%**	% of Design Hour Volume
		B =	**0.14%**	% of Design Hour Volume
		MC =	**2.10%**	% of Design Hour Volume

DRAFT

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

Prepared By: Brian Kirkpatrick (Print Name) _____ (Signature) Date: 10/18/2021

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer: Christopher Simpron (Print Name) Christopher Simpron (Signature) Date: 10/20/2021

APPENDIX B

Predicted Noise Levels

DRAFT

US 98 from West Socrum Loop Rd to CR 54 Traffic Noise Level Results Table								
Receiver ID	Aerial Plan Sheet	Dwelling Units	NAC	Existing (2021) Predicted Noise Level - dB(A)	No Build (2045) Predicted Noise Level - dB(A)	Build (2045) Predicted Noise Level - dB(A)	Increase Over Existing Noise Level - dB(A)	Impact
East of US 98 - South of Big Cypress Boulevard								
1-01	1	1	B	57.8	57.8	59.0	1.2	No
1-02	1	1	B	63.7	63.7	63.1	-0.6	No
1-03	1	1	B	65.3	65.3	65.3	0.0	No
1-04	1	1	B	56.6	56.6	56.8	0.2	No
1-05	2	0	C	56.8	56.8	58.6	1.8	No
1-06	2	0	C	57.5	57.5	59.5	2.0	No
1-07	2	0	C	58.4	58.4	60.4	2.0	No
1-08	3	1	B	55.6	55.6	57.3	1.7	No
1-09	3	1	B	53.3	53.3	55.4	2.1	No
West of US 98 - South of Big Cypress Boulevard								
2-01	1 and 2	1	B	56.9	56.9	58.2	1.3	No
2-02	1 and 2	1	B	59.0	59.0	60.2	1.2	No
2-03	2	1	B	56.3	56.3	57.6	1.3	No
2-04	2	1	B	59.7	59.7	60.8	1.1	No
2-05	2	1	B	57.0	57.0	58.4	1.4	No
2-06	2	1	B	57.7	57.7	59.2	1.5	No
2-07	2	0	E	62.1	62.1	63.2	1.1	No
2-08	2	1	B	58.9	58.9	60.5	1.6	No
East of US 98 - Between Big Cypress Boulevard and Rock Ridge Road								
3-01	5	1	B	66.4	66.4	65.5	-0.9	No
3-02	5	1	B	65.4	65.5	64.8	-0.6	No
3-03	6	1	B	63.8	64.7	64.5	0.7	No
3-04	6	1	B	61.3	62.2	62.8	1.5	No
3-06	7	1	B	65.2	66.0	65.8	0.6	No
3-07	7	1	B	62.6	63.6	62.5	-0.1	No
3-08	7	1	B	63.4	64.4	63.0	-0.4	No
3-09	8	1	B	69.4	70.3	69.0	-0.4	Yes
3-10	8	1	B	69.3	70.2	68.9	-0.4	Yes
3-11	8	1	B	69.2	70.2	68.7	-0.5	Yes
3-12	8	1	B	69.3	70.2	68.8	-0.5	Yes
3-13	8	1	B	69.1	70.1	68.7	-0.4	Yes
3-14	8	1	B	69.6	70.5	69.2	-0.4	Yes
3-15	8	1	B	69.3	70.3	68.9	-0.4	Yes
3-16	8	1	B	68.5	69.5	68.0	-0.5	Yes
3-17	8	1	B	67.3	68.4	66.7	-0.6	Yes
3-18	8	1	B	63.4	64.4	64.2	0.8	No
3-19	8	1	B	62.9	63.9	63.8	0.9	No
3-20	8	1	B	59.7	60.7	61.6	1.9	No
3-21	8	1	B	59.1	60.1	61.0	1.9	No
3-22	8	1	B	58.5	59.4	60.4	1.9	No
3-23	8	1	B	57.9	58.9	59.9	2.0	No

DRAFT

Receiver ID	Aerial Plan Sheet	Dwelling Units	NAC	Existing (2021) Predicted Noise Level - dB(A)	No Build (2045) Predicted Noise Level - dB(A)	Build (2045) Predicted Noise Level - dB(A)	Increase Over Existing Noise Level - dB(A)	Impact
3-24	8	1	B	57.4	58.3	59.4	2.0	No
3-25	8	1	B	56.9	57.8	58.9	2.0	No
3-26	8	1	B	56.3	57.3	58.4	2.1	No
3-27	8	1	B	55.9	56.8	57.9	2.0	No
3-28	8	1	B	55.5	56.5	57.6	2.1	No
3-29	8	1	B	55.0	56.0	57.2	2.2	No
3-30	8	1	B	54.6	55.5	56.8	2.2	No
3-31	8	1	B	54.2	55.1	56.5	2.3	No
3-32	8	1	B	63.6	64.6	64.3	0.7	No
3-33	8	1	B	62.6	63.6	63.6	1.0	No
3-34	8	1	B	61.4	62.4	62.7	1.3	No
3-35	8	1	B	60.5	61.5	62.1	1.6	No
3-36	8	1	B	59.9	60.9	61.7	1.8	No
3-37	8	1	B	59.1	60.1	61.0	1.9	No
3-38	8	1	B	60.9	61.9	62.4	1.5	No
3-39	8	1	B	59.8	60.8	61.6	1.8	No
3-40	8	1	B	58.9	59.9	60.8	1.9	No
3-41	8	1	B	57.7	58.7	59.8	2.1	No
3-42	8	1	B	56.5	57.5	58.7	2.2	No
3-43	8	1	B	55.9	56.8	58.1	2.2	No
3-44	8	1	B	55.4	56.3	57.6	2.2	No
3-45	8	1	B	54.9	55.9	57.2	2.3	No
3-46	8	1	B	54.5	55.5	56.9	2.4	No
3-47	8	1	B	61.6	62.6	62.4	0.8	No
3-48	8	1	B	68.0	68.9	67.4	-0.6	Yes
3-49	8	1	B	56.1	57.2	58.5	2.4	No
3-50	8	1	B	58.8	59.8	60.7	1.9	No
3-51	8 and 9	1	B	60.8	61.9	62.5	1.7	No
West of US 98 - Between Big Cypress Boulevard and Rock Ridge Road								
4-01	5	1	B	54.3	54.4	56.1	1.8	No
4-02	5	1	B	55.6	55.6	57.1	1.5	No
4-03	5	1	B	56.9	56.9	58.3	1.4	No
4-04	5	1	B	57.0	57.0	58.4	1.4	No
4-05	5	1	B	57.1	57.2	58.5	1.4	No
4-06	5	1	B	55.7	55.8	57.2	1.5	No
4-07	5	1	B	54.9	55.0	56.4	1.5	No
4-08	5	1	B	54.6	54.7	56.2	1.6	No
4-09	5	1	B	55.3	55.4	56.7	1.4	No
4-10	5	1	B	56.5	56.6	58.0	1.5	No
4-11	5	1	B	58.3	58.4	59.5	1.2	No
4-12	5	1	B	54.4	54.7	56.0	1.6	No
4-13	5	1	B	54.4	54.7	56.0	1.6	No
4-14	5	1	B	54.8	55.1	56.4	1.6	No
4-15	5	1	B	55.3	55.5	56.8	1.5	No

DRAFT

Receiver ID	Aerial Plan Sheet	Dwelling Units	NAC	Existing (2021) Predicted Noise Level - dB(A)	No Build (2045) Predicted Noise Level - dB(A)	Build (2045) Predicted Noise Level - dB(A)	Increase Over Existing Noise Level - dB(A)	Impact
4-16	5	1	B	56.2	56.3	57.6	1.4	No
4-17	5	1	B	57.4	57.6	58.7	1.3	No
4-18	5	1	B	57.5	57.7	58.8	1.3	No
4-19	5	1	B	57.4	57.6	58.7	1.3	No
4-20	5	1	B	57.2	57.5	58.5	1.3	No
4-21	5	1	B	57.4	57.6	58.7	1.3	No
4-22	5	1	B	57.4	57.8	58.6	1.2	No
4-23	5	1	B	56.3	56.7	57.6	1.3	No
4-24	5	1	B	55.2	55.6	56.7	1.5	No
4-25	5	1	B	60.9	60.9	61.6	0.7	No
4-26	5	1	B	60.2	60.3	61.0	0.8	No
4-27	5	1	B	60.1	60.2	61.0	0.9	No
4-28	5	1	B	60.1	60.2	61.0	0.9	No
4-29	5	1	B	60.4	60.5	61.2	0.8	No
4-30	5	1	B	60.2	60.4	61.1	0.9	No
4-31	5	1	B	60.2	60.4	61.1	0.9	No
4-32	5	1	B	59.3	59.8	60.3	1.0	No
4-33	5	1	B	57.9	58.4	58.8	0.9	No
4-34	5	1	B	56.6	57.1	57.7	1.1	No
4-35	5	1	B	55.6	56.1	56.8	1.2	No
4-36	5 and 6	1	B	55.1	55.7	56.0	0.9	No
4-37	6	1	B	56.3	57.0	56.9	0.6	No
4-38	6	1	B	56.6	57.3	57.2	0.6	No
4-39	6	1	B	56.4	57.1	57.0	0.6	No
4-40	6	1	B	56.2	57.0	57.0	0.8	No
4-41	6	1	B	56.0	56.8	56.9	0.9	No
4-42	6	1	B	56.4	57.2	57.3	0.9	No
4-43	6	1	B	56.5	57.3	57.4	0.9	No
4-44	6	1	B	56.1	56.9	57.2	1.1	No
4-45	6	1	B	55.2	56.0	56.4	1.2	No
4-46	6	0	C	55.0	55.8	56.5	1.5	No
4-47	6	0	C	61.2	62.0	62.4	1.2	No
4-48	6 and 7	1	B	57.3	58.1	58.8	1.5	No
4-49	6 and 7	1	B	56.1	56.9	57.6	1.5	No
4-50	7	1	B	54.9	55.6	56.5	1.6	No
4-51	7	1	B	55.6	56.4	56.9	1.3	No
4-52	7	1	B	56.6	57.4	57.8	1.2	No
4-53	7	1	B	57.3	58.1	58.3	1.0	No
4-54	7	1	B	58.4	59.3	59.2	0.8	No
4-55	7	1	B	58.6	59.4	59.3	0.7	No
4-56	7	1	B	58.8	59.7	59.4	0.6	No
4-57	7	1	B	58.8	59.6	59.2	0.4	No
4-58	7	1	B	59.5	60.3	59.7	0.2	No
4-59	7	1	B	60.9	61.8	60.7	-0.2	No

DRAFT

Receiver ID	Aerial Plan Sheet	Dwelling Units	NAC	Existing (2021) Predicted Noise Level - dB(A)	No Build (2045) Predicted Noise Level - dB(A)	Build (2045) Predicted Noise Level - dB(A)	Increase Over Existing Noise Level - dB(A)	Impact
4-60	7	1	B	62.3	63.2	61.7	-0.6	No
4-61	7	1	B	61.1	61.9	61.4	0.3	No
4-62	7	1	B	63.6	64.5	63.3	-0.3	No
4-63	7	1	B	67.1	67.9	66.0	-1.1	Yes
4-64	7	1	B	68.0	68.8	66.9	-1.1	Yes
4-65	7	1	B	67.9	68.7	66.8	-1.1	Yes
4-66	7	1	B	66.7	67.5	65.5	-1.2	No
4-67	7	1	B	64.1	65.0	63.2	-0.9	No
4-68	7	1	B	67.2	68.0	65.8	-1.4	No
4-69	7	1	B	68.3	69.0	66.5	-1.8	Yes
4-70	7	1	B	69.3	69.9	67.4	-1.9	Yes
4-71	7	1	B	69.4	70.1	67.6	-1.8	Yes
4-72	7	1	B	69.2	69.9	67.7	-1.5	Yes
4-73	7	1	B	70.2	71.0	69.6	-0.6	Yes
4-74	7	1	B	63.9	64.7	62.8	-1.1	No
4-75	7	1	B	64.1	64.9	62.9	-1.2	No
4-76	7	1	B	64.0	64.8	62.8	-1.2	No
4-77	7	1	B	63.9	64.8	62.8	-1.1	No
4-78	7	1	B	58.5	59.5	58.7	0.2	No
4-79	7	1	B	56.9	57.8	57.4	0.5	No
4-80	7	1	B	57.2	58.1	57.4	0.2	No
4-81	7	1	B	58.6	59.5	58.7	0.1	No
4-82	7	1	B	59.9	60.8	59.5	-0.4	No
4-83	7	1	B	61.5	62.5	60.7	-0.8	No
4-84	7	0	E	64.7	65.6	62.9	-1.8	No
4-85	7	0	C	69.2	70.0	67.9	-1.3	Yes
4-86	8	0	C	56.5	57.5	57.8	1.3	No
4-87	8	0	C	60.8	61.8	61.4	0.6	No
4-88	8	0	C	60.4	61.4	61.4	1.0	No
4-89	8	0	C	57.8	58.8	59.7	1.9	No
4-90	8	0	C	65.5	66.5	65.4	-0.1	No
East of US 98 - Between Rock Ridge Road and SR 471								
5-01	9	1	B	61.1	62.2	63.8	2.7	No
5-02	9	1	B	56.7	57.8	60.2	3.5	No
5-03	9	1	B	59.9	61.0	63.3	3.4	No
5-04	9	1	B	65.9	67.1	68.5	2.6	Yes
5-05	9	1	B	65.2	66.3	68.0	2.8	Yes
5-06	9	1	B	64.8	65.9	67.9	3.1	Yes
5-07	9	1	B	59.7	60.9	63.9	4.2	No
5-08	9 and 10	1	B	62.6	63.7	66.6	4.0	Yes
5-09	10	1	B	59.5	60.7	64.2	4.7	No
5-10	10	1	B	56.4	57.5	61.2	4.8	No
5-11	10	1	B	61.2	62.4	64.8	3.6	No
5-12	11	1	B	58.1	59.2	62.9	4.8	No

DRAFT

Receiver ID	Aerial Plan Sheet	Dwelling Units	NAC	Existing (2021) Predicted Noise Level - dB(A)	No Build (2045) Predicted Noise Level - dB(A)	Build (2045) Predicted Noise Level - dB(A)	Increase Over Existing Noise Level - dB(A)	Impact
5-13	11	1	B	60.7	61.8	65.2	4.5	No
5-14	11	1	B	58.4	59.5	63.4	5.0	No
5-15	11	1	B	54.6	55.8	60.1	5.5	No
5-16	13	1	B	59.6	60.7	63.7	4.1	No
5-17	13	1	B	65.6	66.8	68.9	3.3	Yes
5-18	13	1	B	59.0	60.1	63.8	4.8	No
5-19	14	1	B	55.5	56.6	60.7	5.2	No
5-20	14	1	B	59.5	60.6	63.7	4.2	No
5-21	14	1	B	65.2	66.3	68.9	3.7	Yes
5-22	15	1	B	62.1	63.3	65.9	3.8	No
5-23	15	1	B	57.3	58.4	62.3	5.0	No
5-24	15	1	B	56.3	57.4	61.0	4.7	No
5-25	15	1	B	55.5	56.6	60.2	4.7	No
5-26	16	1	B	57.6	58.7	62.5	4.9	No
5-27	16	1	B	60.2	61.4	64.5	4.3	No
West of US 98 - Between Rock Ridge Road and SR 471								
6-01	11	1	B	54.2	55.3	59.3	5.1	No
6-02	11 and 12	1	B	57.4	58.5	62.7	5.3	No
6-03	12	1	B	55.2	56.3	60.4	5.2	No
6-04	12	1	B	59.0	60.1	64.0	5.0	No
6-05	12	1	B	58.0	59.1	62.7	4.7	No
6-06	12	1	B	58.5	59.6	63.0	4.5	No
6-07	12	1	B	63.0	64.1	66.6	3.6	Yes
6-08	15	1	B	57.4	58.6	62.4	5.0	No
6-09	15	1	B	65.5	66.7	68.9	3.4	Yes
6-10	15	1	B	59.3	60.4	63.5	4.2	No
6-11	15	1	B	57.1	58.2	61.8	4.7	No
6-12	15	1	B	64.2	65.4	68.0	3.8	Yes
6-13	15	1	B	57.8	59.0	62.7	4.9	No
6-15	16	1	B	55.6	56.8	60.6	5.0	No
6-16	16	1	B	68.2	69.4	71.3	3.1	Yes
6-17	16	1	B	67.7	68.9	71.1	3.4	Yes
6-18	17	1	B	64.5	65.7	68.3	3.8	Yes
6-19	17 and 18	1	B	58.9	60.0	63.4	4.5	No
6-20	18	1	B	66.1	67.3	69.1	3.0	Yes
6-21	18 and 19	1	B	57.3	58.4	62.6	5.3	No
6-22	19	1	B	65.7	66.9	69.7	4.0	Yes
East of US 98 - North of SR 471								
7-01	26	1	B	51.9	53.6	57.3	5.4	No
West of US 98 - North of SR 471								
8-01	25	1	B	60.0	61.7	64.1	4.1	No
8-02	26	1	B	61.3	63.0	65.3	4.0	No
8-03	26	1	B	60.5	62.2	64.6	4.1	No
8-04	26	1	B	64.6	66.3	68.0	3.4	Yes

DRAFT

Receiver ID	Aerial Plan Sheet	Dwelling Units	NAC	Existing (2021) Predicted Noise Level - dB(A)	No Build (2045) Predicted Noise Level - dB(A)	Build (2045) Predicted Noise Level - dB(A)	Increase Over Existing Noise Level - dB(A)	Impact
8-05	27	1	B	53.6	55.3	59.2	5.6	No
8-06	27	1	B	59.3	61.1	63.9	4.6	No
8-07	27	1	B	60.4	62.1	64.8	4.4	No
8-08	27	1	B	59.7	61.4	64.4	4.7	No
8-09	27	1	B	67.2	69.0	71.1	3.9	Yes
8-10	27	1	B	65.0	66.7	69.1	4.1	Yes
8-11	27	1	B	58.7	60.4	63.5	4.8	No
8-12	27 and 28	1	B	59.9	61.6	64.3	4.4	No
8-13	28	1	B	56.9	58.6	62.1	5.2	No
8-14 1	28	1	B	62.9	64.6	67.1	4.2	Yes
8-14 2	28		B	65.2	66.9	68.7	3.5	Yes

DRAFT

APPENDIX C

Aerials

(with Concept Plan and Receptor Sites)

DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

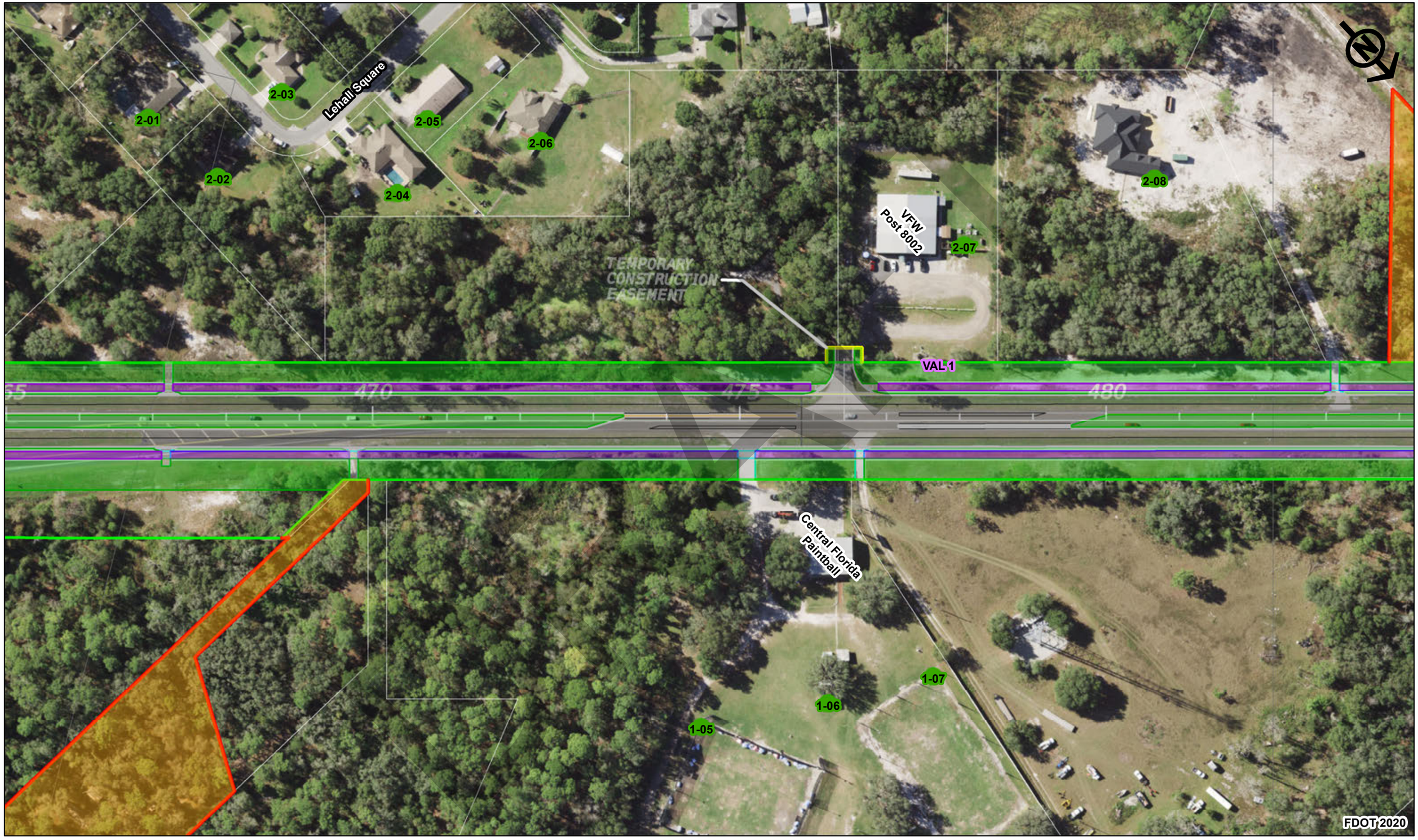
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND
No Impact Impact Validation
Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
2 of 29

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

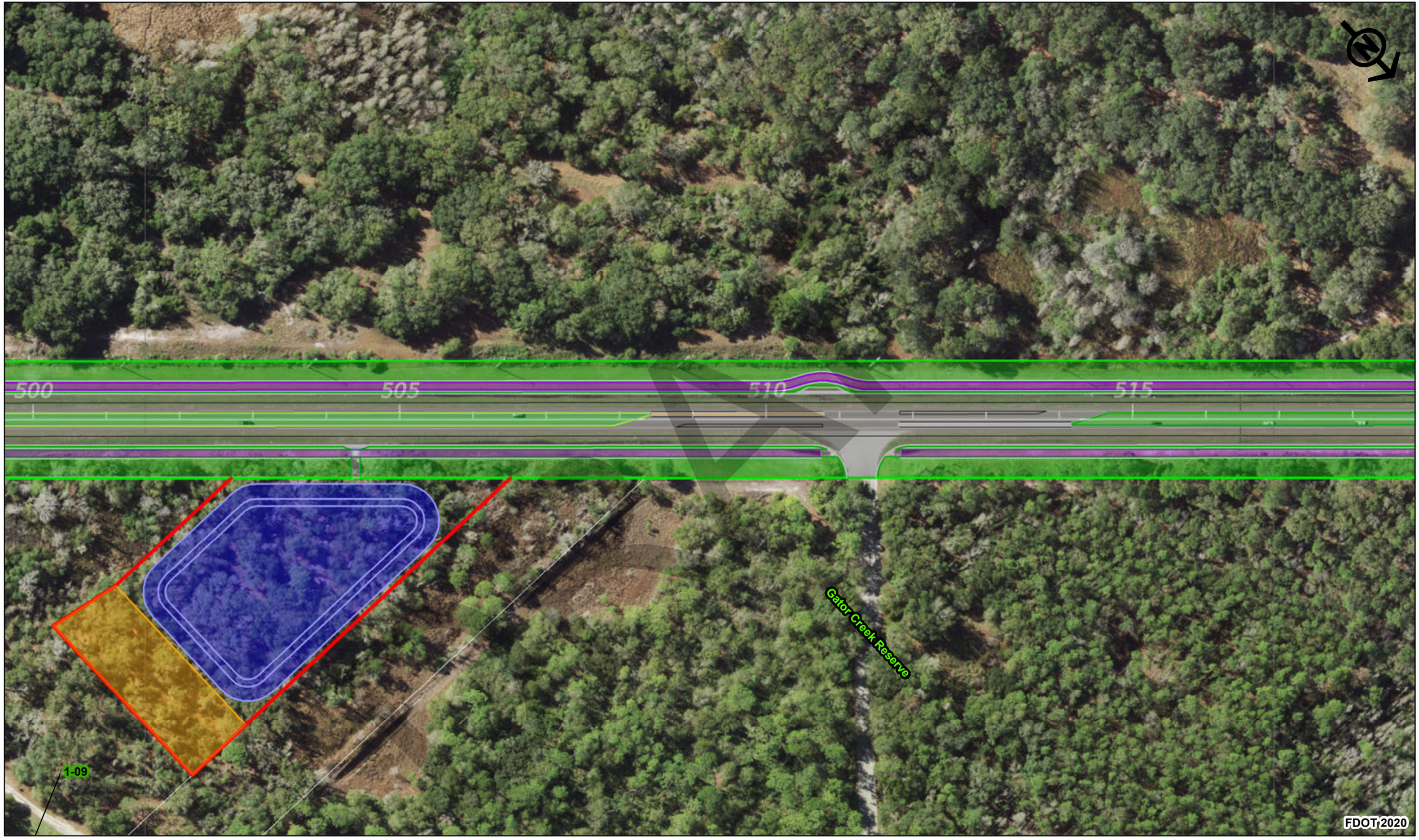
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact | Impact | Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact | Impact | Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
6 of 29

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

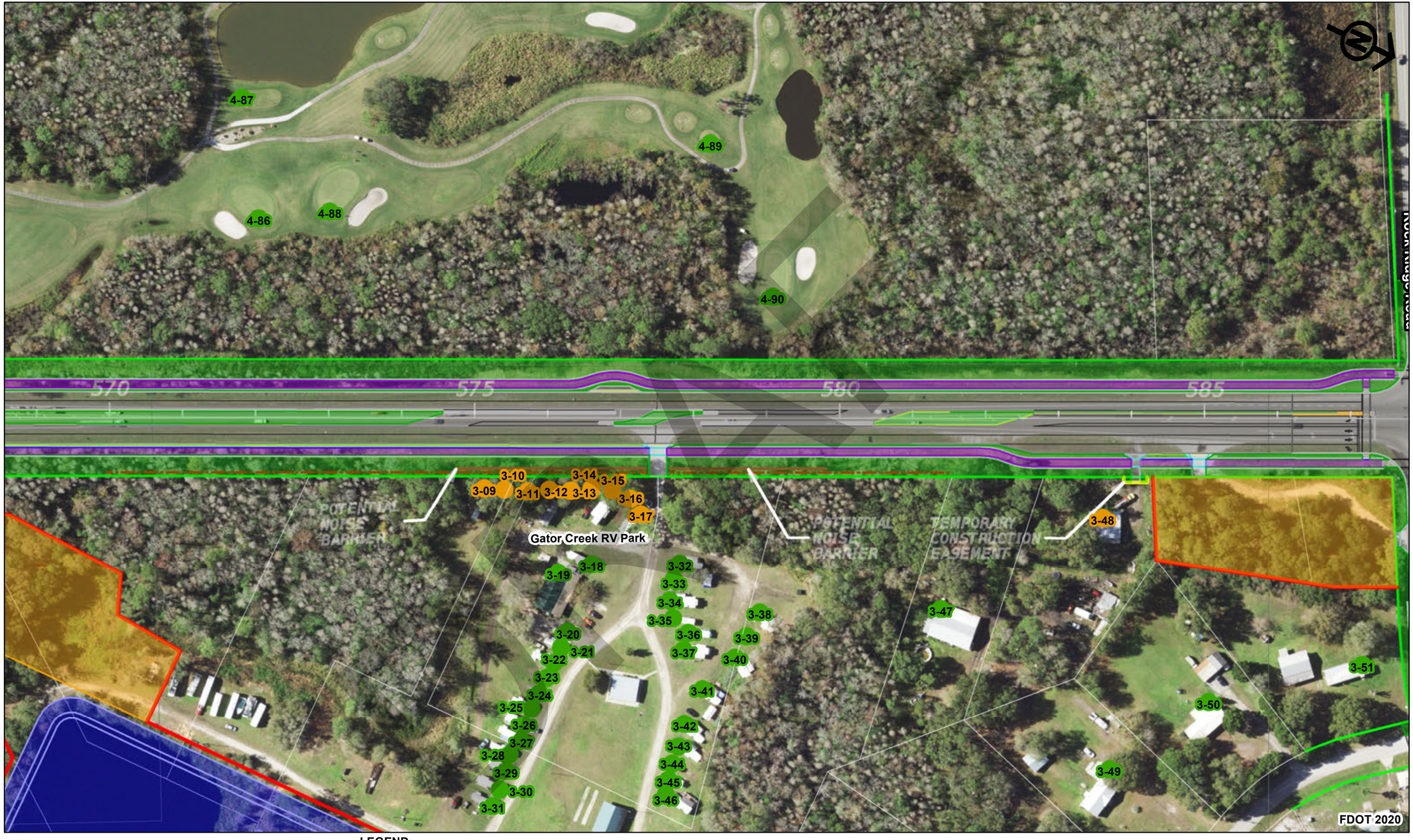
No Impact | Impact | Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
7 of 29



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact · Impact · Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

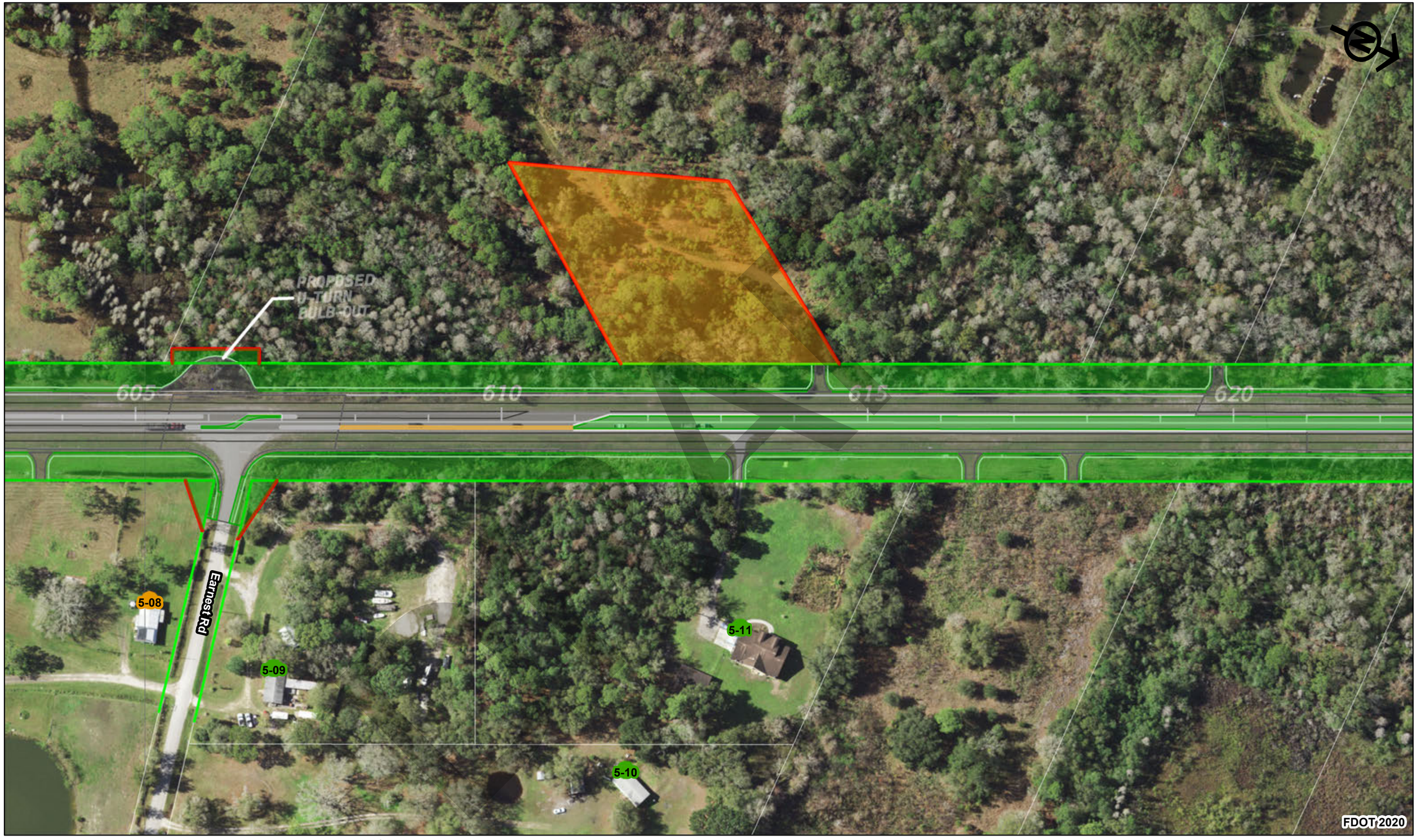
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

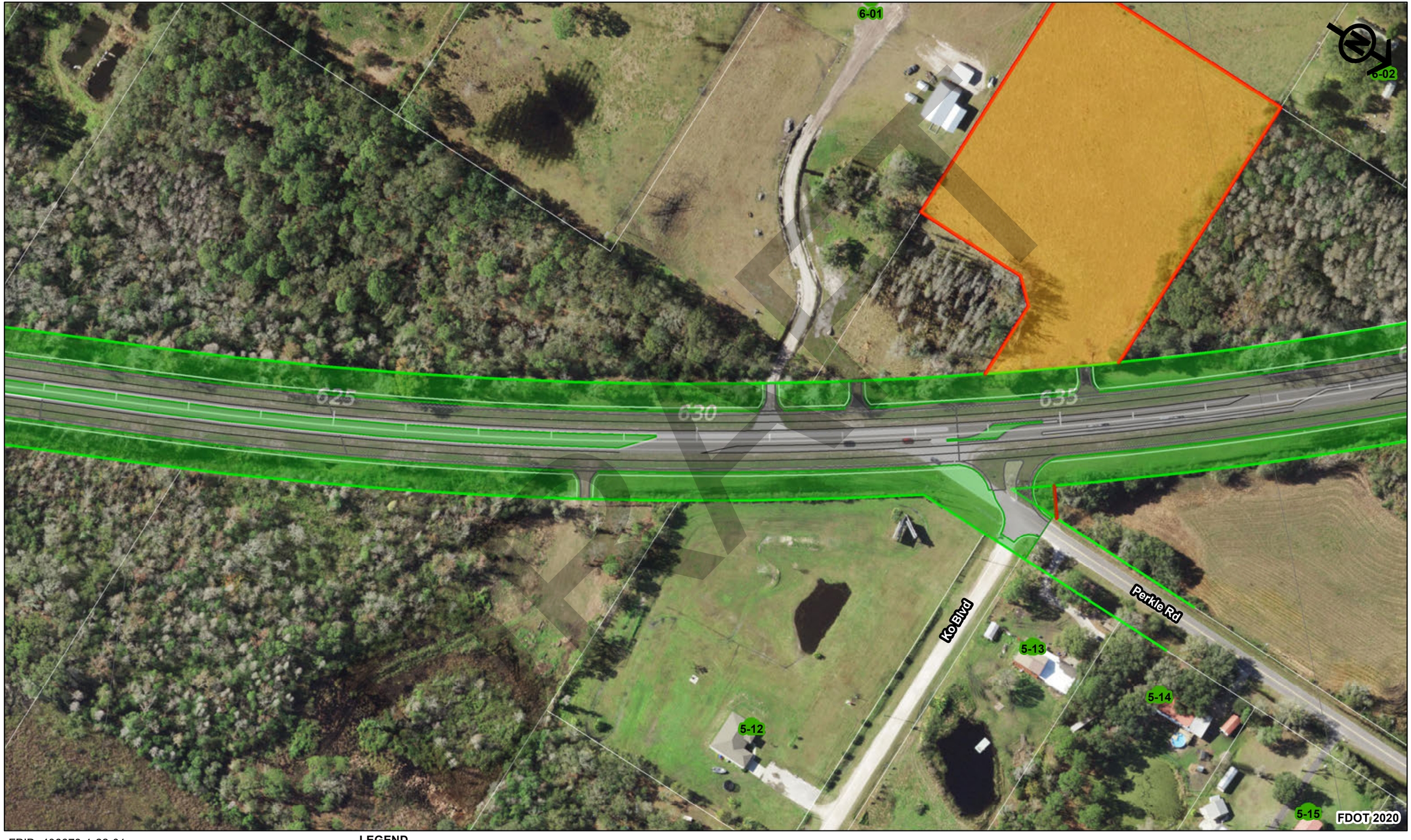
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

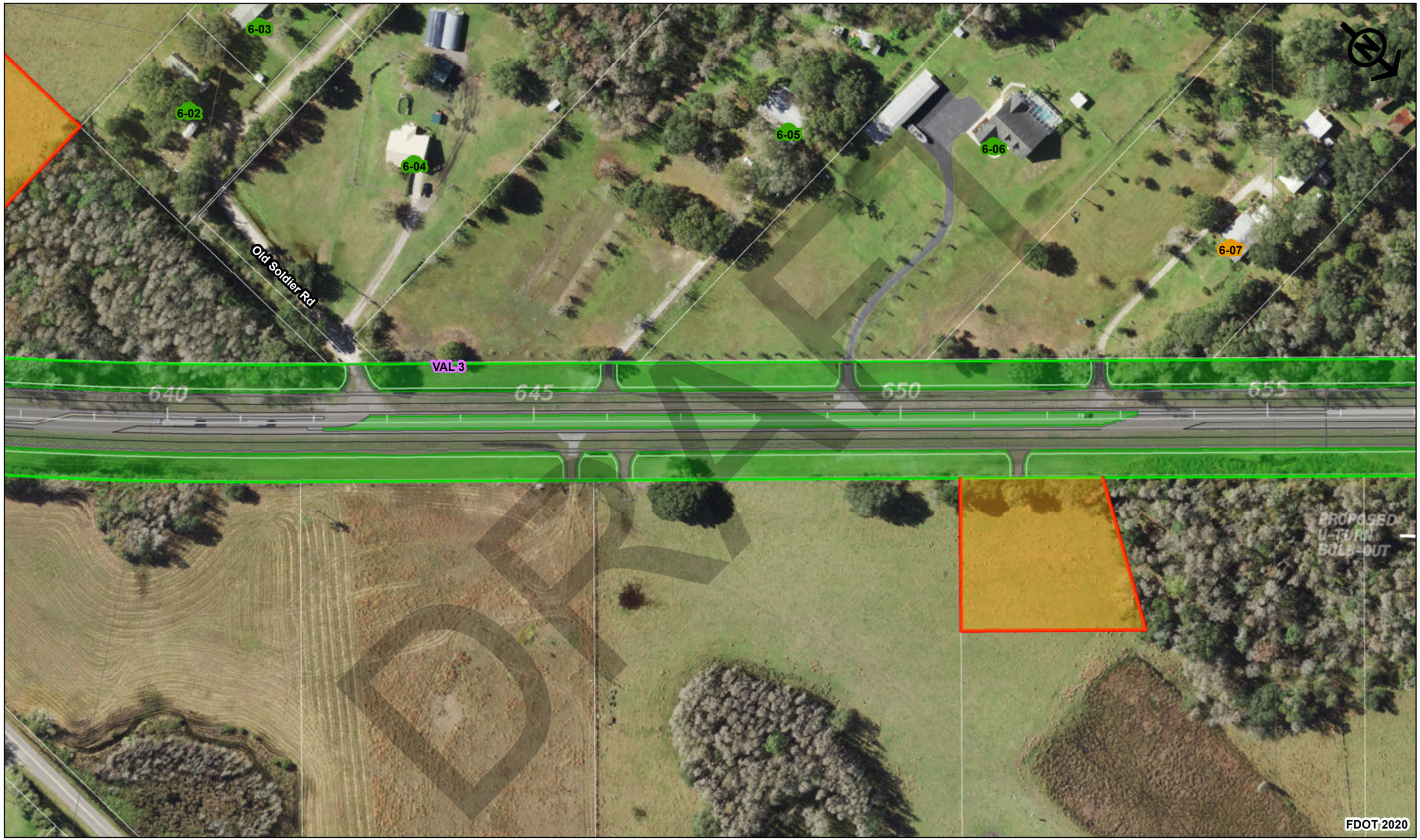
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

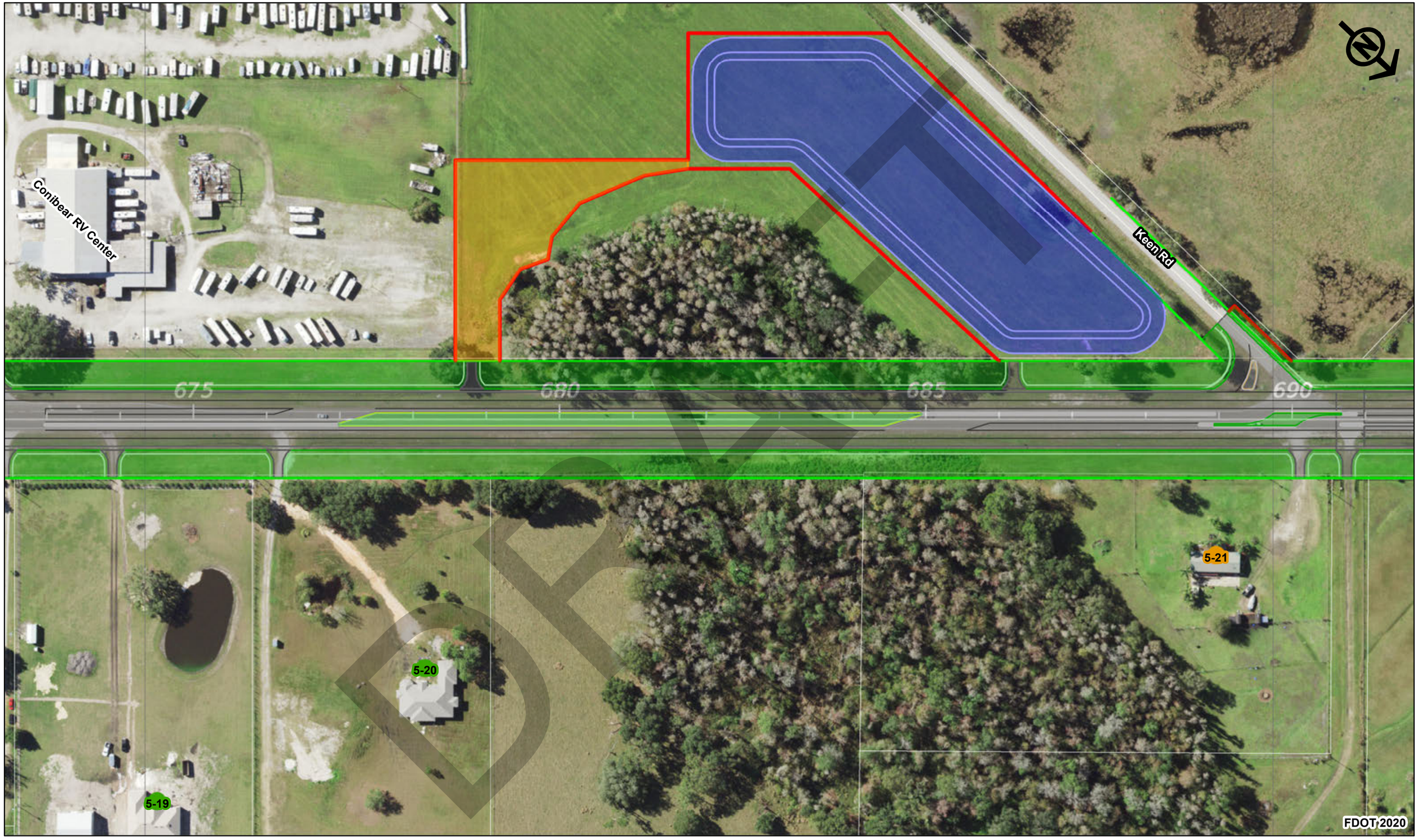
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

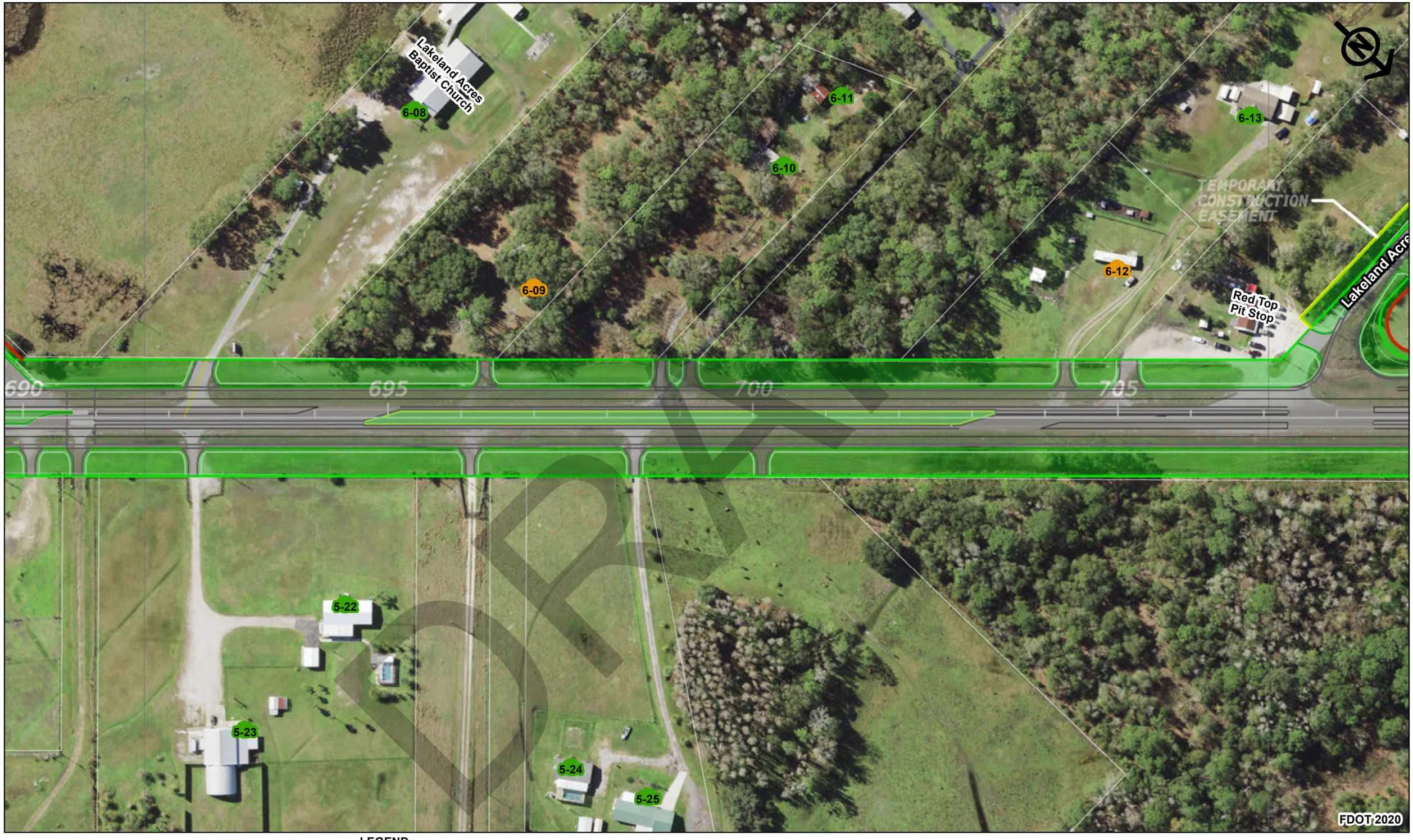
No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
14 of 29



DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact | Impact | Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
16 of 29

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

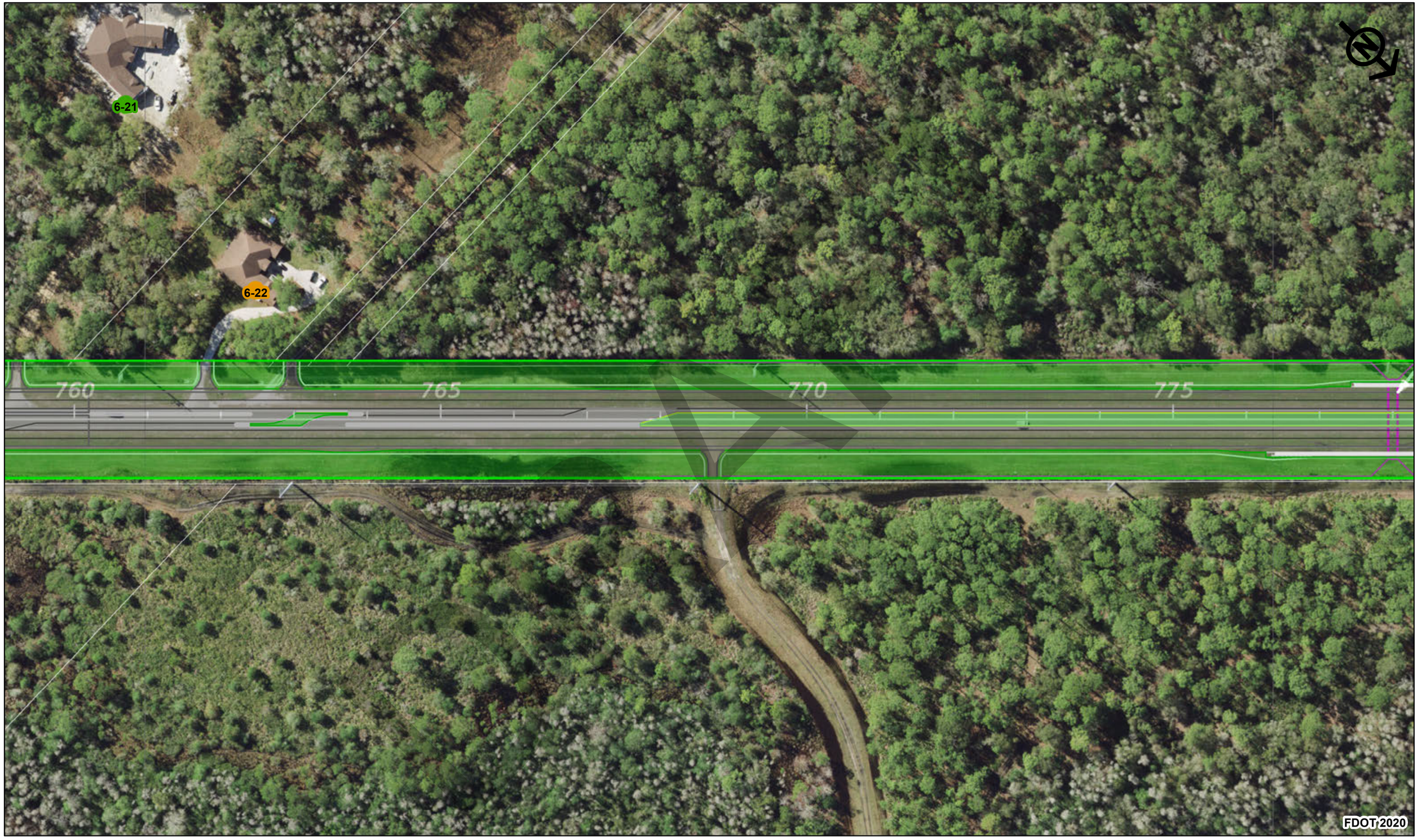
100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND
No Impact Impact Validation
Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

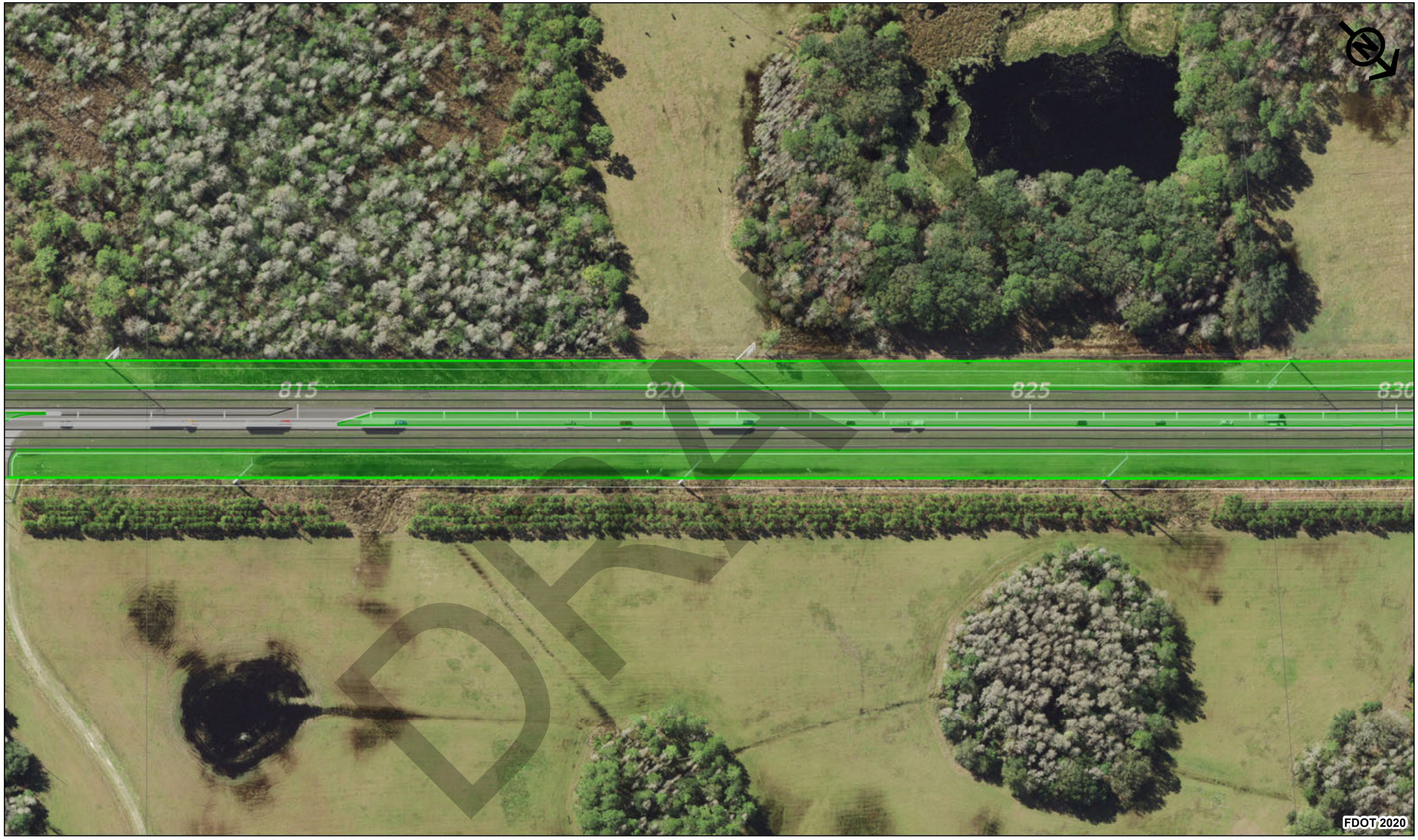
No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
21 of 29



DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

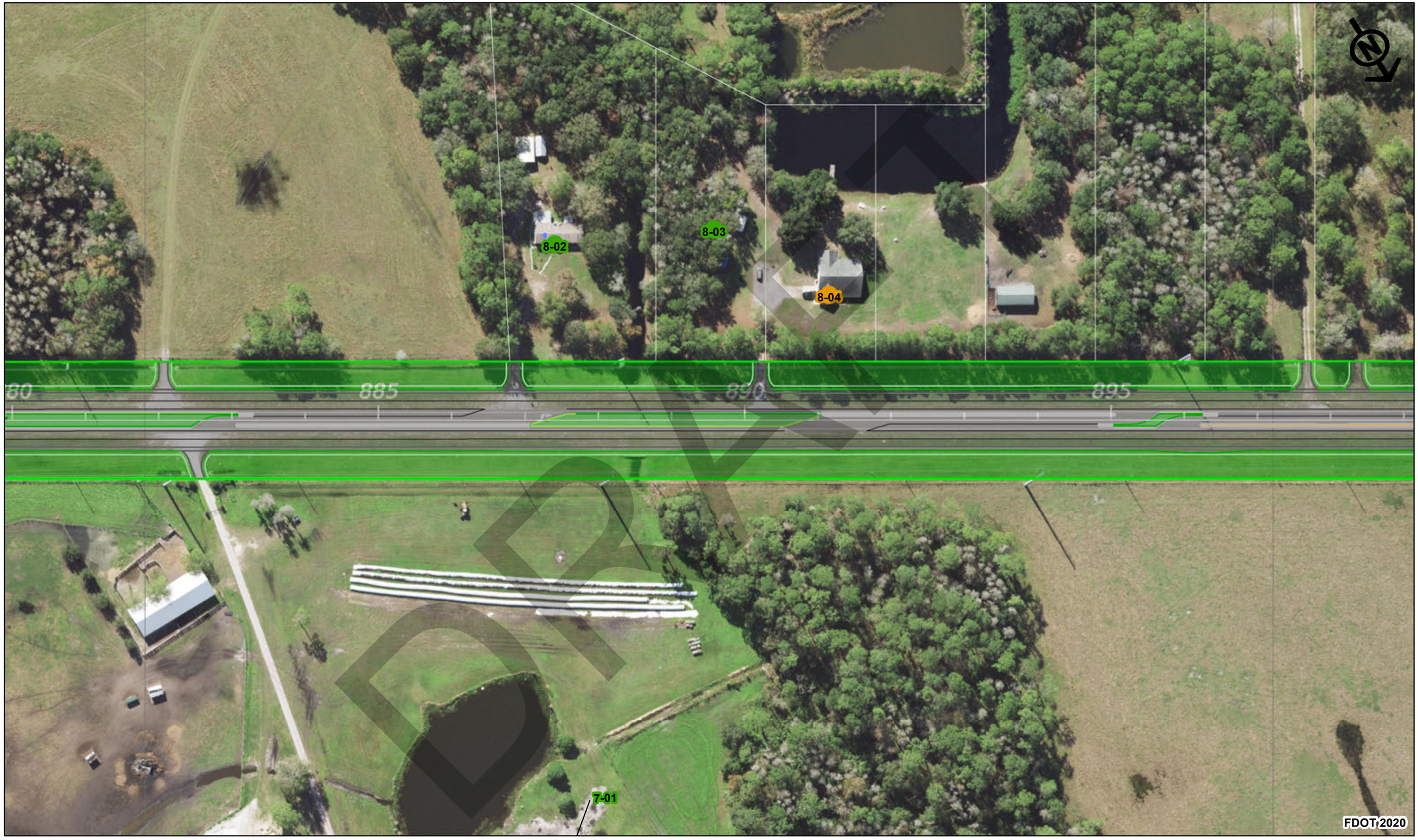
FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND
No Impact Impact Validation
Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

SHEET
25 of 29



DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

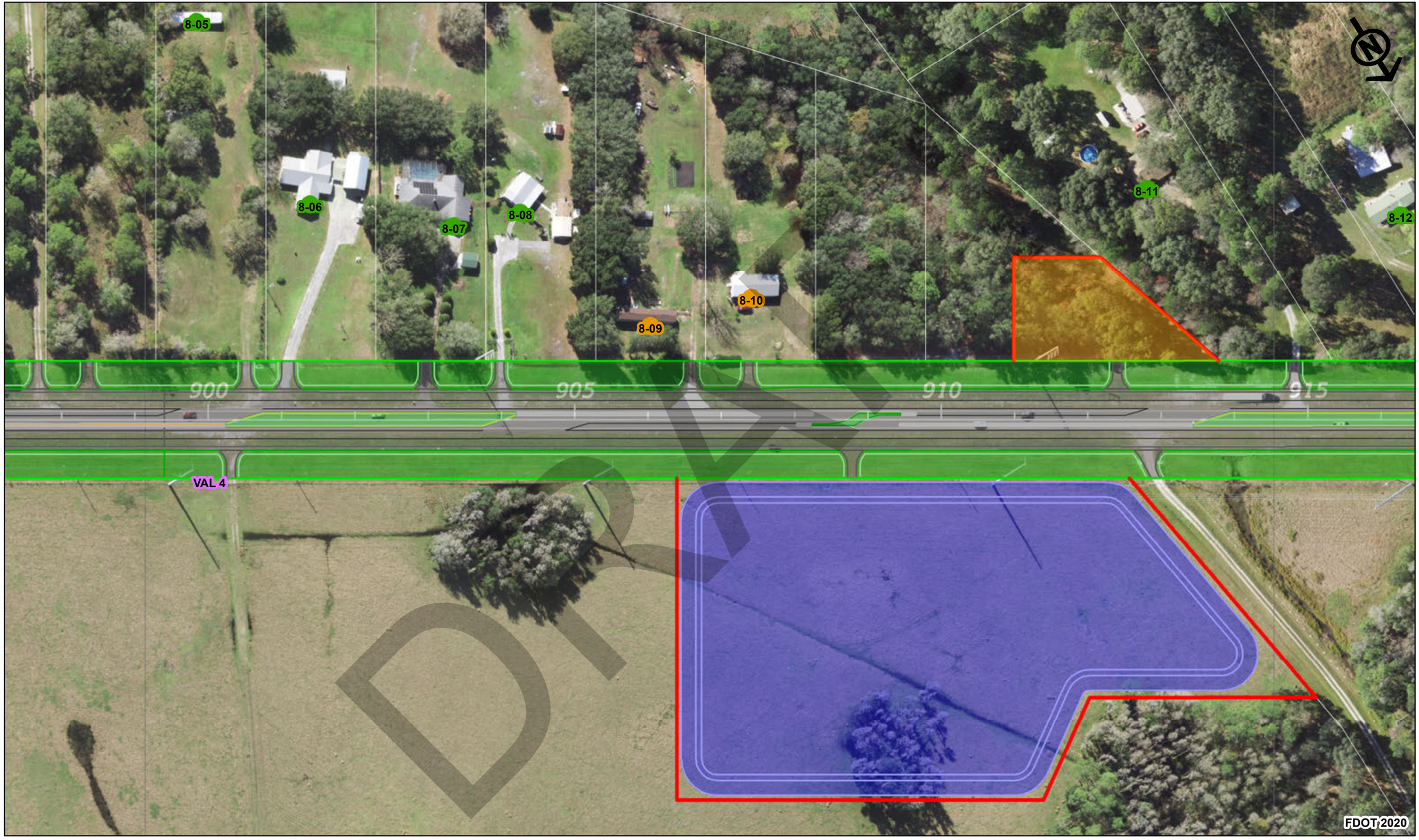
LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet



DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

DRAFT

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet

FPID: 436673-1-22-01
SR 35 (US 98)
from N. of W. Socrum Loop Rd. to S. of CR 54
Polk County, Florida

LEGEND

No Impact Impact Validation

Potentially Feasible and Reasonable Noise Barrier

APPENDIX C AERIALS
(with Concept Plans and Receptor Sites)

100 50 0 100
Feet