

NOISE STUDY REPORT

Florida Department of Transportation

District 1

State Road (S.R.) 70 from Jefferson Avenue to County Road (C.R.) 29

Highlands County, Florida

Financial Management Number: 414506-1-22-01

ETDM Number: 3054

August 2026

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated May 26, 2022, and executed by Federal Highway Administration and FDOT.

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District 1 is preparing a Project Development and Environment (PD&E) Study evaluating proposed improvements to State Road (S.R.) 70 from beginning west of Jefferson Avenue/Placid Lakes Boulevard (Milepost (MP) 10.217) and ending at County Road (C.R.) 29 (MP 17.245), in Highlands County, a distance of approximately seven (7) miles. The proposed improvements consist of evaluating widening the existing two-lane undivided roadway to a four-lane divided roadway. Project improvements will include wildlife crossing features, roadway signing and pavement markings, a shared use path, and the construction of stormwater management facilities, including treatment ponds and floodplain compensation sites.

This PD&E Noise Study Report (NSR) presents the methodology and results of the highway traffic noise evaluation for S.R. 70 from Jefferson Avenue to C.R. 29. The purpose of this noise study is to identify noise sensitive sites that would be impacted by the preferred alternative, evaluate abatement measures at impacted noise sensitive sites, and determine where noise abatement (i.e., noise barriers) should be included with the project and re-evaluated in the Design phase.

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM), version 2.5, was utilized to predict noise levels at 67 receptor points representing 87 residences. For the year 2052 Build condition, noise levels are predicted to approach, meet, or exceed the Noise Abatement Criteria (NAC) at 31 residences within the project limits. These impacted noise sensitive sites were evaluated to determine the feasibility and reasonableness of providing barriers to reduce traffic noise. Additionally, a substantial increase of 15 dB(A) is not predicted to occur at any residence.

The noise barrier evaluation process identified that noise barriers are a feasible and reasonable form of abatement and could potentially provide at least a 5 dB(A) reduction at 28 of the 31 impacted residences at a cost below the reasonable limit. Additionally, the noise barrier achieves the Noise Reduction Design Goal (NRDG). Noise barriers were found to be potentially feasible and reasonable at the following Noise Sensitive Areas (NSA):

- Alpine Village
- Sunshine RV Resort

Noise barriers cannot provide at least a 5 dB(A) reduction to 3 impacted residences because they do not meet the criteria of feasibility and/or reasonableness to warrant the construction of a noise barrier.

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ACRONYMS

CFR	Code of Federal Regulations
CNE	Common Noise Environment
CR	County Road
dB	Decibels
dB(A)	A-weighted decibels
ER	Equivalent Residence
ETAT	Environmental Technical Advisory Team
ETDM	Efficient Transportation Decision Making
FAC	Florida Administrative Code
FDEM	Florida Division of Emergency Management
FDOT	Florida Department of Transportation
FGT	Florida Gas Transmission
FHWA	Federal Highway Administration
FM No.	Financial Management Number
FPL	Florida Power and Light
FS	Florida Statute
ft.	Feet
Leq(h)	Hourly equivalent noise levels
LOS	Level of Service
LWRWEA	Lake Wales Ridge Wildlife and Environmental Area
MP	Mile Post
mph	Miles per hour
MSE	Mechanically Stabilized Earth
MVM	Million Vehicle Miles
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NRDG	Noise Reduction Design Goal
NAA	Noise Analysis Area
NSR	Noise Study Report
OEM	Office of Environmental Management
PER	Preliminary Engineering Report
PD&E	Project Development and Environment
REDI	Rural Economic Development Initiative
ROW	Right-of-way
SCFE	South Central Florida Express
SIS	Strategic Intermodal System
SLM	Sound Level Meter

sq. ft.	Square Feet
SR	State Road
TNM	Traffic Noise Model
US	United States

SECTION 1

Introduction

1.1. Project Description

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate options for widening State Road (S.R.) 70 in Highlands County. The project limits cover approximately seven miles of S.R. 70 beginning west of Jefferson Avenue/Placid Lakes Boulevard (Milepost (MP) 10.217) and ending at County Road (C.R.) 29 (MP 17.245). Due to the length of the corridor and differing existing right-of-way (ROW) widths, the project was divided into three (3) segments to aid in the description of the corridor, the project limits and segments are shown in **Figure 1**.

S.R. 70 is a Strategic Intermodal System (SIS) facility with daily truck percentages as high as 33% and it is a designated emergency evacuation route. The PD&E study limits have been divided into two design segments due to concurrent PD&E and Design phases, with United States (U.S.) 27 as the breakline. These design segments are separate from the descriptive corridor segments identified in **Figure 1** for the PD&E study. Financial Project Identification (FPID) 414506-3 is west of U.S. 27 and FPID 414506-4 is east of U.S. 27, while the PD&E study covers both limits under 414506-1.

This PD&E Noise Study Report (NSR) presents the methodology and results of the highway traffic noise evaluation for S.R. 70 from Jefferson Avenue to C.R. 29.

The purpose of this noise study is to identify noise sensitive sites that would be impacted by the preferred alternative, evaluate abatement measures at impacted noise sensitive sites, and determine where noise abatement (i.e., noise barriers) should be included with the project and re-evaluated in the Design Phase.

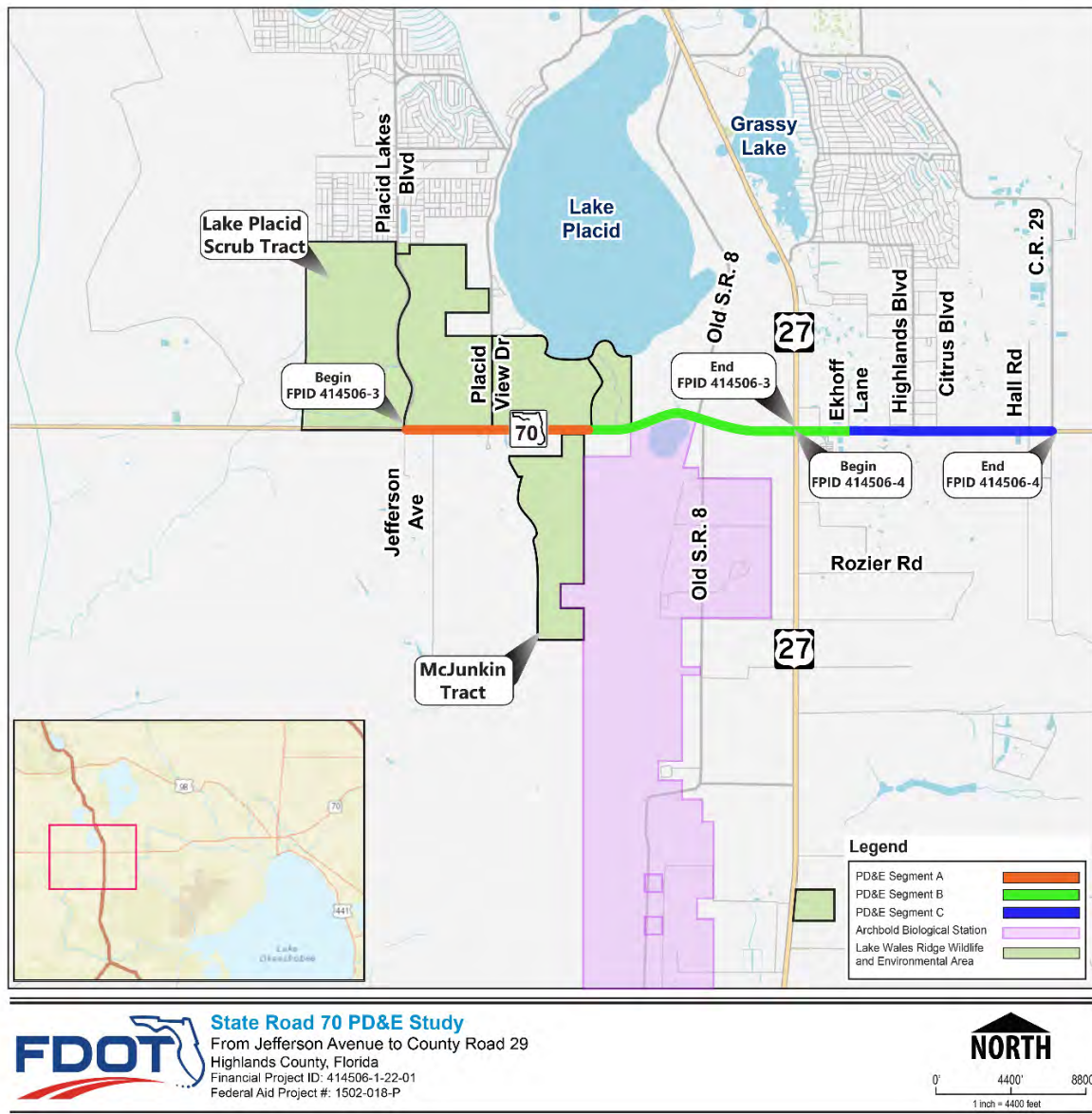
Secondary objectives of this study include the consideration of construction noise and vibration impacts as well as the development of noise contours, that can be used in the future by local municipal and county government agencies to identify compatible land uses along the project roadways.

This report also provides technical documentation for the findings described in the project's *Preliminary Engineering Report (PER)* and the *Type 2 Categorical Exclusion*.

The objective of the PD&E study is to evaluate widening the existing two-lane undivided roadway to a four-lane divided roadway. Project improvements associated with widening will also include wildlife crossing features, roadway signing and pavement markings, a shared use path, and the construction of stormwater management facilities, including treatment ponds and floodplain compensation sites.

The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process as project #3054. An ETDM Programming Screen Summary Report containing comments from the Environmental Technical Advisory Team (ETAT) was published on July 7, 2016. The ETAT evaluated the project's effects on various social, cultural, natural, and physical resources.

Figure 1: Project Location Map



1.2. Purpose & Need

The purpose of this project is to improve operational conditions for emergency evacuations along the S.R. 70 corridor from Jefferson Avenue to C.R. 29. The Florida Division of Emergency Management (FDEM) Statewide Regional Evacuation Study Program determined the segment of S.R. 70 between U.S. 27 to east of the end project limits at C.R. 29 to be a critical segment with the longest vehicle queues among all roadways in the Central Florida region. The need for the project is based on the following primary and secondary criteria:

PRIMARY CRITERIA

OPERATIONAL CONDITIONS: Improve Operational Capacity for Emergency Evacuations

This widening project is anticipated to improve traffic operations along S.R. 70 where emergency evacuation traffic modeling performed by the FDEM identified the roadway to include a critical segment with highest vehicle queues. Although nearly all roadways will have extended vehicle queues during an emergency evacuation, S.R. 70 from U.S. 27 to east of the end project limit demonstrated evacuation vehicle queues lasting among the longest time periods in the region under multiple evacuation scenarios.

Delay caused by traffic congestion contributes to prolonged clearance times. According to the Florida Statewide Regional Evacuation Study Program, key transportation improvement projects can impact the anticipated evacuation clearance times. The widening of S.R. 70 is anticipated to reduce evacuating vehicle queues and thereby reduce the clearance time during an evacuation by:

- Increasing the capacity of the roadway to accommodate evacuating vehicles, and
- Improving shoulders and roadside slopes to meet current criteria in order to better accommodate removal of disabled vehicles which can obstruct evacuating vehicles during an emergency.

SECONDARY CRITERIA

ROADWAY DEFICIENCIES: Correct Existing Inadequate Cross-Section and Substandard Geometrics

The entire project segment of S.R. 70 is included in Florida's Strategic Intermodal System (SIS). These facilities generally support major flows of interregional, interstate, and international travel and commerce. Facilities on the SIS are subject to special standards and criteria for number of lanes, design speed, access, level of service and other requirements. For SIS facilities, the minimum design speed is 65 miles per hour (mph) within C1 Natural or C2 Rural context classifications, and 50 mph within a C3C (Suburban Commercial) context classification. Cross sectional elements and geometrics along the existing S.R. 70 corridor are inadequate for a SIS facility with these context classifications.

The existing S.R. 70 facilities exhibit the following:

- Shoulder widths are required to be a minimum of 10 feet (ft.) in width with five-ft. paved. Existing S.R. 70 includes substandard eight-foot (ft.) shoulders with four-ft. paved.

- Front slopes are required at 1:6 or flatter for fill heights up to five-ft.. For significant sections of the project limits, S.R. 70 includes existing front slopes steeper than 1:6.
- A clear zone with 36-ft. of recoverable terrain free of obstructions is required from through travel lanes. Deficient existing clear zones provide recoverable areas less than 18-ft. in some segments.
- An offset of 12-ft. is required to guardrail. Existing guardrail offsets are less than seven-ft. from the travel lanes.

Further, the primary function of SIS highway components is to provide for efficient interregional traffic movements. Access is highly regulated to accommodate high-speed and high-volume facilities that support these movements. FDOT criteria state that controlled access segments of the SIS highway component shall be consistent with Access Class 2 or 3 of the Florida Administrative Code (FAC) Rule 14-97. These access classifications include restrictive medians which physically prevent vehicle crossings. The widening of S.R. 70 to a four-lane divided facility will introduce a median capable of restricting these movements.

SAFETY: Increase Vehicular Safety

Historical crash data was collected and evaluated as part of this study. Crash data was acquired for the last five (5) years (spanning from January 1, 2021 to December 31, 2025) via the Signal Four Analytics platform.

For the five-year study period from 2021 through 2025, the crash data collected within the entire PD&E study limits showed a total of 135 crashes, including 39 serious injuries and four (4) fatalities, with yearly totals varying but severity trends remaining generally consistent. The project portion from the western terminus from Placid Lakes Boulevard/Jefferson Avenue to U.S. 27 had 78 crashes and the calculated crash rate of 1.960 per million vehicle miles (MVM) in this section exceeded the statewide average crash rate of 0.588 MVM for comparable facilities (233% higher). The portion from U.S. 27 to C.R. 29 had 57 crashes and the calculated crash rate of 2.013 MVM in this section exceeded the statewide average crash rate of 0.588 MVM (242% higher).

ECONOMIC DEVELOPMENT: Rural Area of Opportunity

The Governor of the State of Florida pursuant to Florida Statute (FS) Section 228.0656(7) issued Executive Order 11-81, in 2011, which included Highlands County among six counties identified as the South-Central Rural Area of Opportunity. The Florida Department of Economic Opportunity, Rural Economic Development Initiative (REDI) established a Sebring Highlands County Catalyst industrial development project adjacent to the Sebring Airport in Highlands County. The objective of the project is to create a significant economic effect to the entire region that will result in the development of high-wage and highly skilled jobs.

The REDI Sebring Highlands County Catalyst development is consistent with the stated goals for the Florida SIS which includes strengthening the linkage between transportation and economic development, assisting rural area of opportunity and enhancing economic competitiveness. The catalyst site connects to S.R. 70 via a second SIS highway component, U.S. 27, which intersects S.R. 70 within the project limits. The S.R. 70 corridor is the nearest east-west SIS highway component providing interregional connectivity from the catalyst site directly to both coasts.

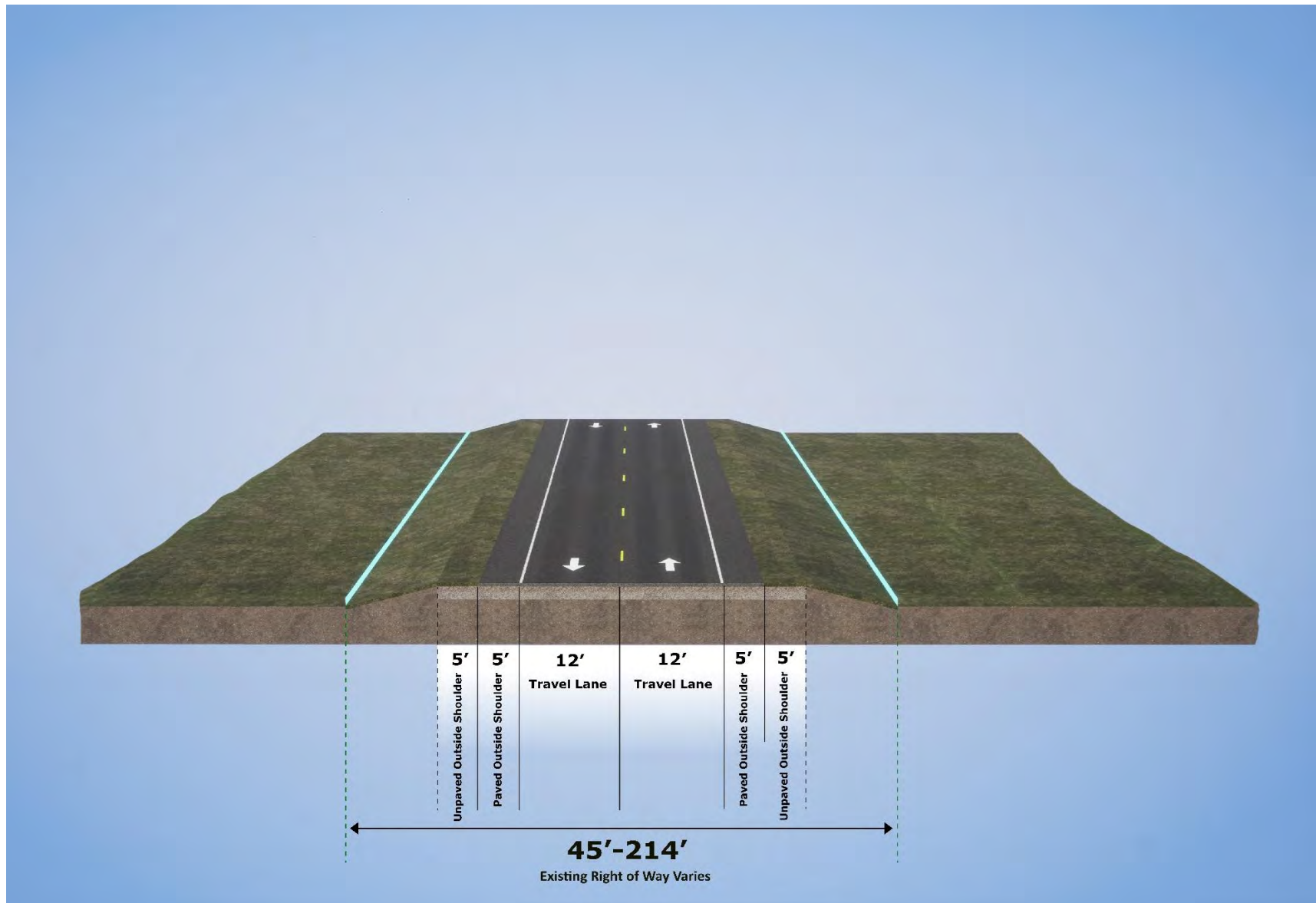
As described above, the existing project limits of the S.R. 70 are deficient for multiple criteria governing SIS highway components. Widening improvements to S.R. 70 will enhance its ability to function as a SIS highway component and accomplish SIS objectives for interregional transportation linked to economic development

1.3. Existing Facility

1.3.1. Existing Typical Section

S.R. 70 is designated as a rural principal arterial highway, a SIS highway, and an evacuation route throughout the limits of this study. The context classification of the entire project limits, extending from Jefferson Avenue to C.R. 29, is C2-Rural. The existing S.R. 70 facility consists of a two-lane undivided roadway with 12-ft. travel lanes, five-ft. paved shoulders and open roadside ditches within varying existing ROW widths from 45-ft. to 214-ft. as shown in **Figure 2**.

Figure 2: Existing Typical Section



The MP ranges along with a description of the existing segments are as follows:

Segment A- Jefferson Avenue/Placid Lakes Boulevard (MP 10.217) to East of Placid View Drive (MP 12.349)

Segment A begins at the western project limit at Jefferson Avenue/Placid Lakes Boulevard (MP 10.217) and extends 2.1 miles to approximately 1.18 miles east of Placid View Drive (MP 12.349). The eastern half of Segment A is located within the Lake Placid urban area buffer beginning just west of Placid View Drive and extending 1.2 miles through the eastern limit of the segment. This segment contains a narrow, existing ROW corridor with a width ranging from 60 to 66-ft..

The entirety of Segment A runs parallel to the Florida Gas Transmission (FGT) gas pipeline easement, located approximately 30-ft. south of the ROW, and by both a Florida Power & Light (FPL) overhead transmission easement and the Lake Wales Ridge Wildlife and Environmental Area (LWRWEA) to the north. The properties bordering Segment A are a mix of agricultural, residential, and conservation parcels.

Segment B – East of Placid View Drive (MP 12.349) to Ekhoﬀ Lane (MP 15.090)

Segment B begins approximately 1.18 miles east of Placid View Drive (MP 12.349) and extends 2.7 miles to Ekhoﬀ Lane (MP 15.090). Segment B is typically located within the Lake Placid urban area except for the section from just east of Old S.R. 8 through U.S. 27. This segment contains an existing ROW corridor with a typical width of 200-ft.. There is an approximately 750-ft. segment of the roadway located east of U.S. 27 where the existing ROW varies from 164 to 214-ft..

The western end of this segment is bordered to the south by an existing FGT gas pipeline easement. The FGT easement crosses underneath S.R. 70 just west of Nursery Lane and proceeds east along the northern side of S.R. 70 up until the Old S.R. 8 intersection. At Old S.R. 8, the FGT easement once again crosses underneath S.R. 70 and continues south along the southern leg of Old S.R. 8. There are also existing FPL overhead electric transmission lines located along the northern edge of the existing ROW throughout the entirety of the segment.

Segment B is bordered along its northern side by the LWRWEA for approximately 2,000-ft. from the beginning segment limits to just west of Nursery Lane. Segment B is also bordered to the south by the Archbold Biological Station from just west of Nursery Lane to the South Central Florida Express (SCFE) railroad crossing (Crossing No. 627642Y).

The western limits of Segment B typically contain a combination of agricultural and conservation parcels while the eastern limits are a combination of residential, agricultural, and industrial parcels. Segment B also contains a major intersection with U.S. 27, which is a SIS component and a designated evacuation route.

Segment C – Ekhoﬀ Lane (MP 15.090) to C.R. 29 (MP 17.245)

Segment C begins at Ekhoﬀ Lane (MP 15.090) and extends 2.2 miles to the eastern project limit at C.R. 29 (MP 17.245). Nearly all of Segment C is located within the Lake Placid urban area buffer. The urban buffer limits continue 1.9 miles from the western boundary of the segment to just east of Hall Road. The existing ROW is typically 200-ft. in width from Ekhoﬀ Lane to 1,600-ft. west of Hall Road (MP 16.691). The existing ROW varies from 45 to 65-ft. from MP 16.691 to the end project limit at C.R. 29.

Segment C also contains existing FPL overhead electric transmission lines along the northern edge of the existing ROW from the beginning of the segment limit to approximately 400-ft. east of Citrus Boulevard.

The adjacent land use along the north side of Segment C is predominantly low density residential. There is an existing parallel local road network providing access to most of these residential parcels. The adjacent land use along the south side of Segment C is predominantly citrus groves and other agricultural uses.

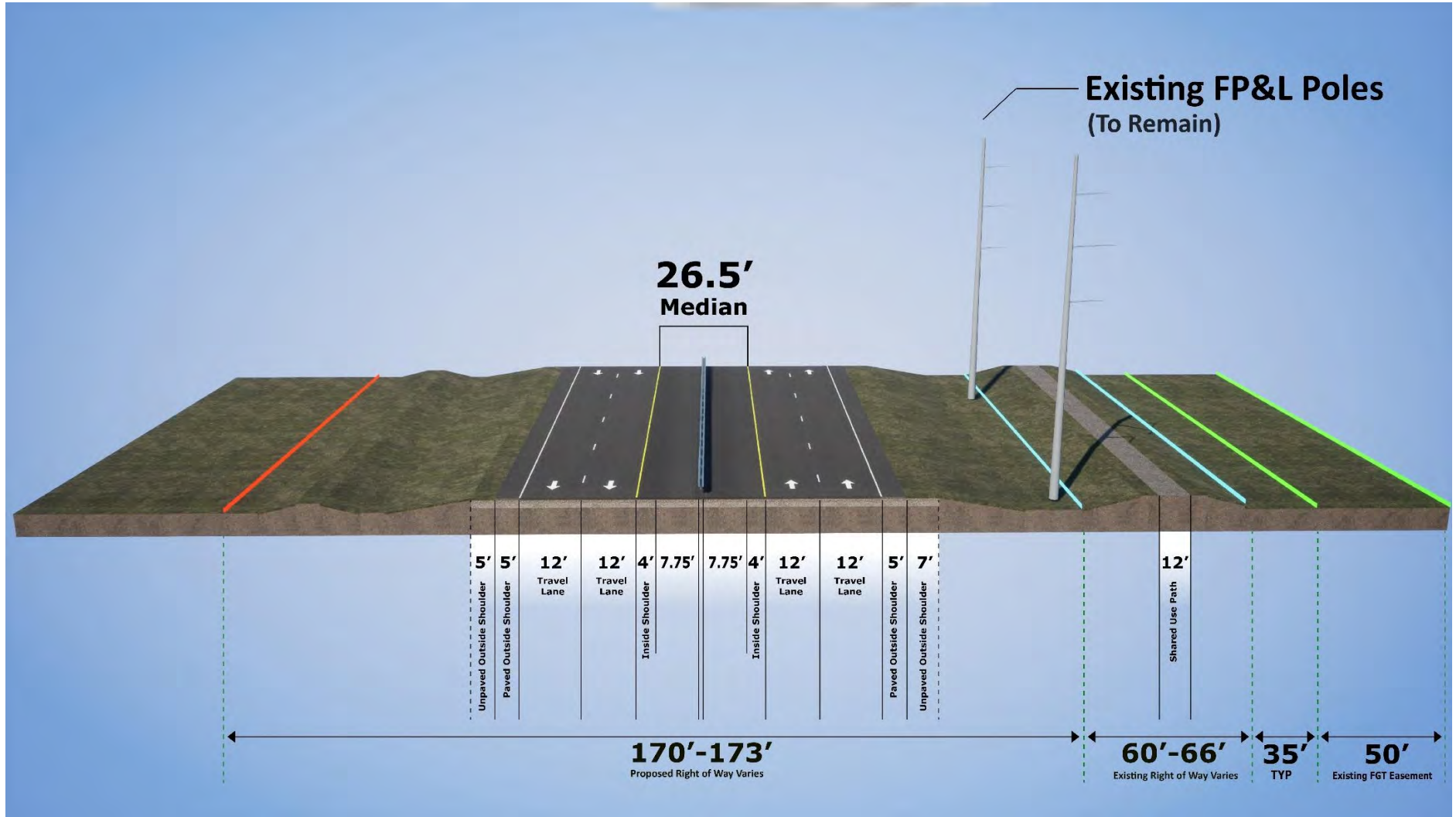
1.4. Proposed Improvements

To meet the project Purpose and Need, the Preferred Alternative will widen S.R. 70 from two to four lanes throughout the study limits. A description of the proposed corridor through each segment is provided within the sections below. For more information regarding the Preferred Alternative please see the *Preliminary Engineering Report* (PER) located in the project file.

1.4.1. Segment A - Jefferson Avenue/Placid Lakes Boulevard (MP 10.217) to East of Placid View Drive (MP 12.349)

Segment A is a four-lane typical section with median guardrail that maintains the existing southern S.R. 70 ROW boundary and realigns the roadway to the far north (See **Figure 3**) to avoid impacting the existing FPL poles. The typical section consists of a 26.5-ft. paved median. The roadway features 12-ft. travel lanes, a 12-ft. shared use path within the existing ROW, and open roadside ditches/linear stormwater treatment ponds. The design, target, and posted speeds are 65 mph. A median width variation has been approved for this segment. The proposed ROW for this typical section varies from 170 to 173-ft..

Figure 3: Segment A Preferred Alternative Typical Section

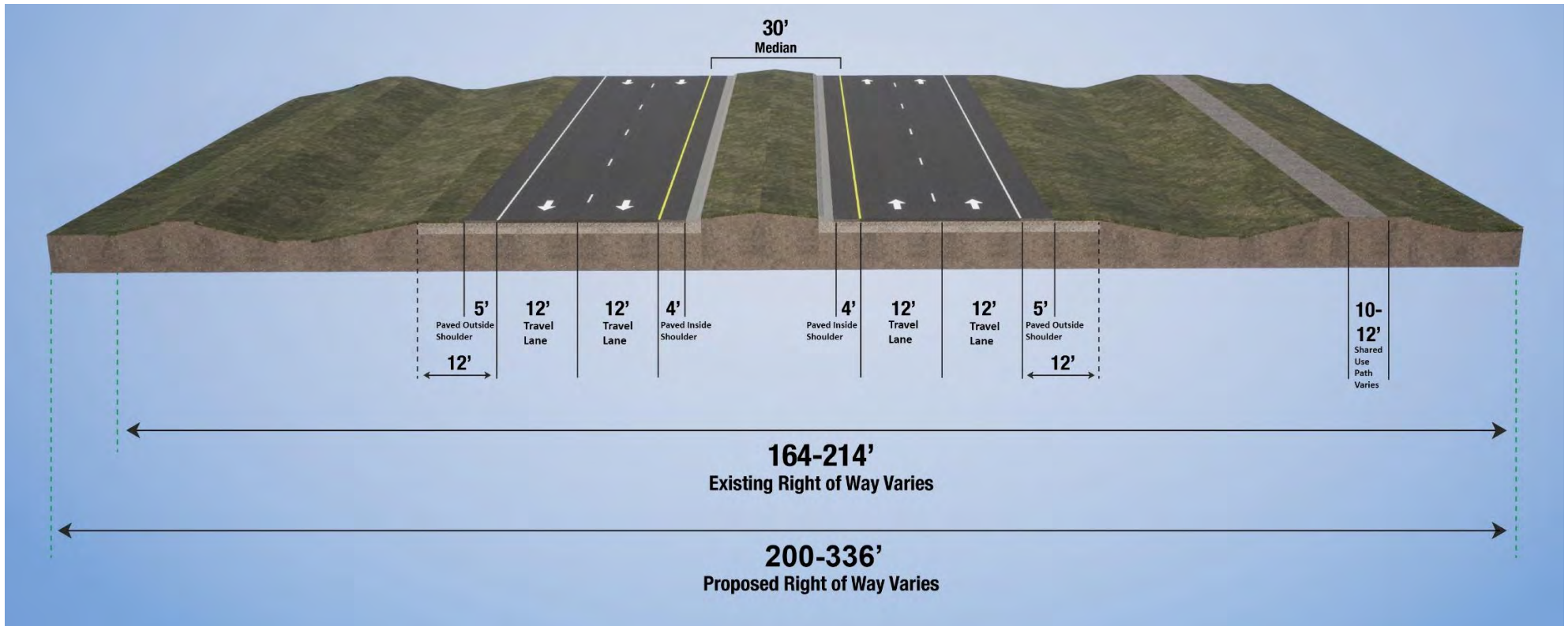


This alternative impacts the LWRWEA and existing FPL easement located on the north side of the roadway; however, this alternative avoids impacts to the FGT easement along the south side of the corridor. Based on coordination with Florida Fish and Wildlife Conservation (FWC), FDOT will mitigate for the loss of approximately 46.37 acres of impacts to the LWRWEA and further evaluate the wildlife crossings within this segment during the design phase of this project.

1.4.2. Segment B - East of Placid View Drive (MP 12.349) to Ekhoﬀ Lane (MP 15.090)

Segment B includes 12-ft. travel lanes, a 30-ft. grass median including four-ft. paved median shoulders, and a Type E curb and gutter. A 10 to 12-ft. shared use path is proposed on the south side of the roadway (See **Figure 4**). The design, target, and posted speeds are 55 mph; a SIS design speed variation has been approved for this segment. The total proposed ROW width is 200 to 336-ft.. The existing ROW varies from 164 to 214-ft.. This typical section typically fits within the existing ROW, however, near U.S. 27, the available ROW is narrower, and additional ROW acquisition ranging from 0 to 136-ft. will be required.

Figure 4: MP Segment B Preferred Alternative Typical Section



1.4.3. Segment C - Ekhoﬀ Lane (MP 15.090) to C.R. 29 (MP 17.245)

Segment C has two typical sections, the first is from MP 15.090 to MP 16.845. This typical section consists of a 40-ft. grass median, 12-ft. travel lanes, and open roadside ditches. A 12-ft. shared use path is included on the south side. The total proposed ROW width varies from 215 to 359-ft., (See **Figure 5**) with the existing ROW being 45 to 200-ft.. The widening will occur to the south. The design, target, and posted speeds are 65 mph.

From MP 16.845 to MP 17.245, there is a canal located on the south side of the existing corridor. The proposed typical section accommodates the canal in the proposed ROW. The total proposed ROW is 313 to 322-ft., widening to the south. The existing ROW is 45 to 65-ft.. The typical section with the canal consists of a 40-ft. grass median, 12-ft. travel lanes, open roadside ditches, and a 12-ft. shared use path on the south side (See **Figure 6**).

Figure 5: Segment C Preferred Alternative Typical Section (MP 15.090 to MP 16.845)

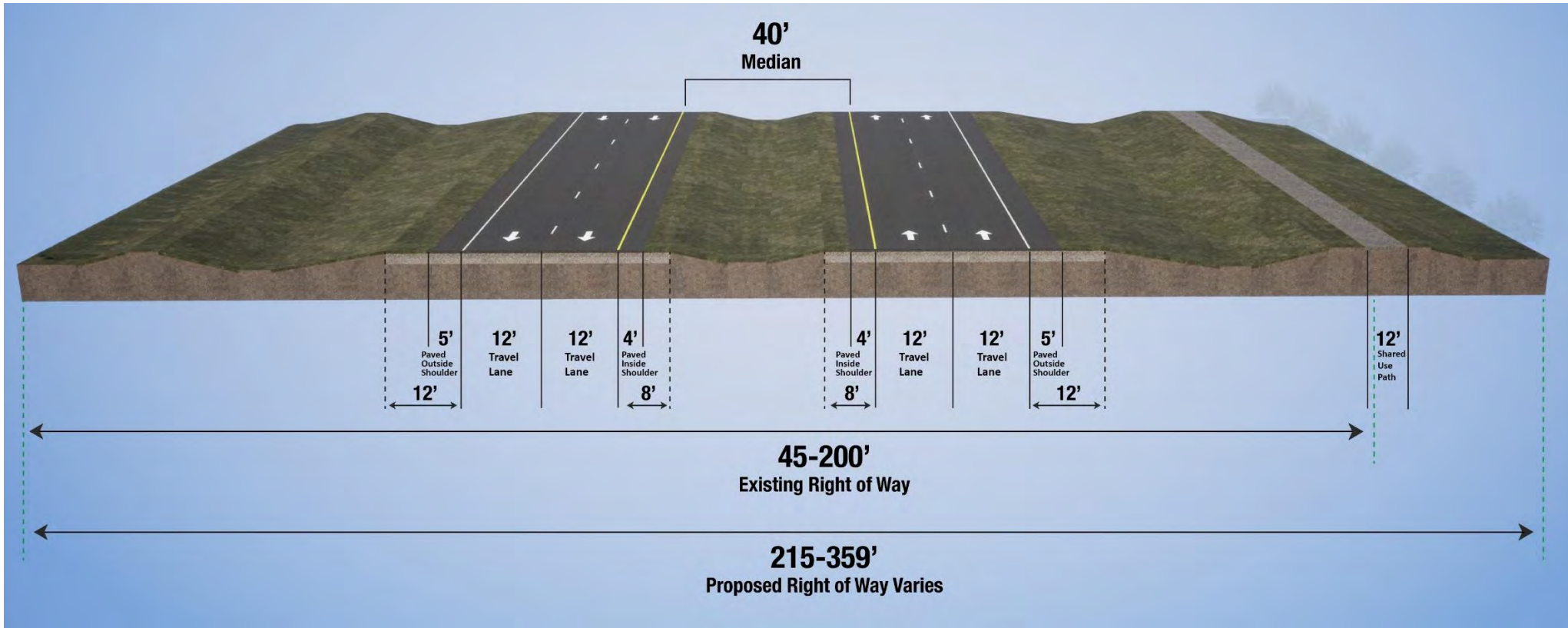
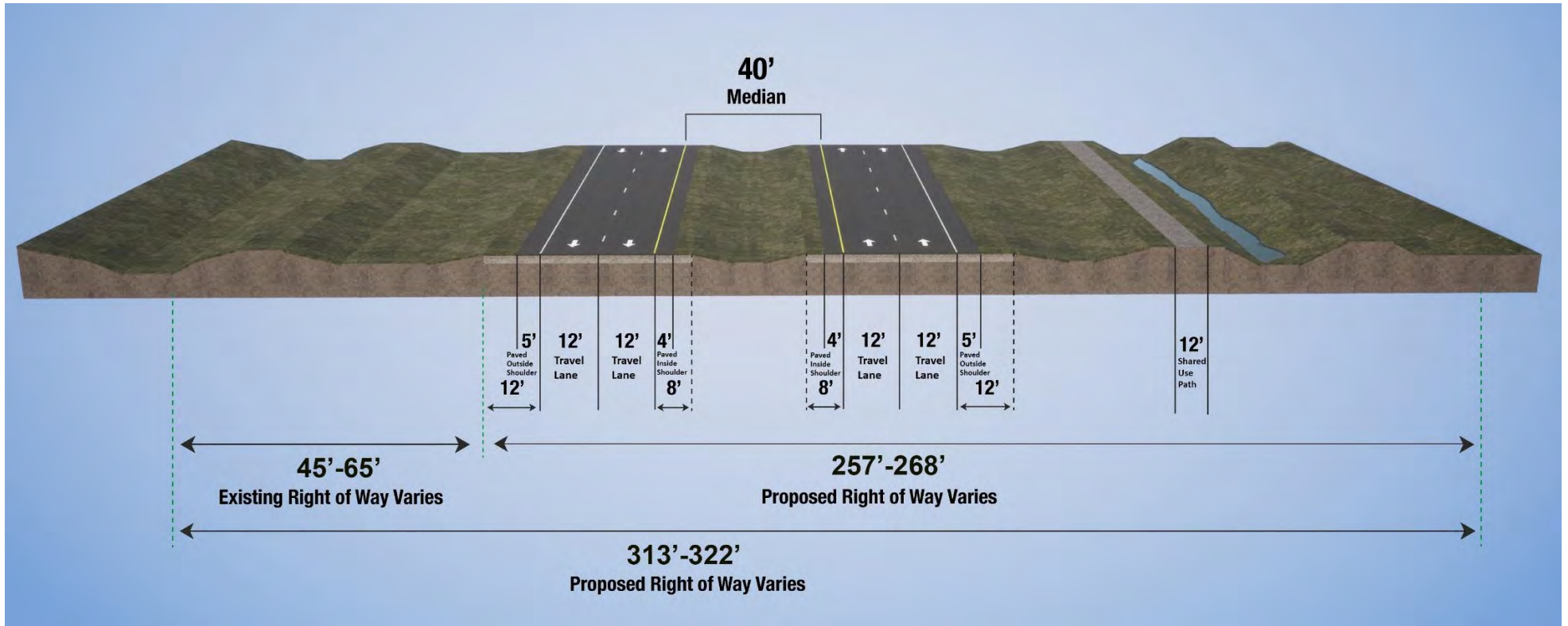


Figure 6: Segment C Preferred Typical Section (MP 16.845 to MP 17.245)



SECTION 2

Methodology

This highway traffic noise study was completed in accordance with Title 23, Code of Federal Regulations, Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise* following methodology and procedures established by the FDOT in the PD&E Manual, Part 2, Chapter 18, *Highway Traffic Noise* (May 2026), and the FDOT *Traffic Noise Modeling and Analysis Practitioner's Handbook* (September 2025).

The Federal Highway Administration (FHWA)'s Traffic Noise Model (TNM), version 2.5, was used to predict existing and future traffic noise levels and to analyze the effectiveness of noise barriers, where warranted. This model estimates the acoustic intensity at noise sensitive receptor sites from a series of roadway segments (the source). Model-predicted noise levels are influenced by several factors, such as vehicle speed and distribution of vehicle types. Noise levels are also affected by characteristics of the source-to-receptor site path, including the effects of intervening barriers, structures (houses, trees, etc.), ground surface type (hard or soft), topography.

Representative receptor sites were used as inputs to the TNM to estimate noise levels associated with existing and future conditions within the project limits. These sites were chosen based on noise sensitivity, roadway proximity, anticipated impacts from the proposed project, and homogeneity (i.e., the site is representative of other nearby sites). For single-family residences, traffic noise levels were predicted at the edge of the dwelling unit closest to the nearest primary roadway. For other noise sensitive sites that may be impacted, traffic noise levels were predicted where the exterior activity occurs. For the prediction of interior noise levels, receptor sites were placed ten ft. inside the building at the edge closest to the roadway. Building noise reduction factors identified in Figure 18-3 in Part 2, Chapter 18 of the PD&E Manual and window conditions were used to estimate noise reduction due to the physical structure.

2.1. Noise Metrics

Noise levels developed for this traffic noise study are expressed in decibels (dB) using an "A"-scale [dB(A)] weighting. This scale most closely approximates the response characteristics of the human ear to typical traffic noise levels. All reported noise levels are hourly equivalent noise levels [Leq(h)], unless otherwise specified. The Leq(h) is defined as the equivalent steady-state sound level that, in an hourly period, contains the same acoustic energy as the time-varying sound level

for the same hourly period. Use of these metrics is consistent with the requirements of 23 CFR 772.

2.2. Traffic Data

Traffic data is of primary importance in a traffic noise prediction model. FDOT traffic data for the existing 2022, No-Build 2052 and Build 2052 Alternatives were obtained from FDOT District 1. The traffic data were reviewed to identify forecasted traffic volumes that would yield the highest traffic noise impact. Following requirements of the FDOT's *PD&E Manual* for roadway segments, where the predicted peak hour Design year traffic volumes equal or exceed Level of Service (LOS) C, LOS C hourly traffic was utilized. For roadway segments where the predicted peak hour traffic demand is less than LOS C traffic volumes, the predicted hourly demand volumes were utilized. Demand traffic volumes for the 2052 Build conditions were modeled for S.R. 70. LOS C volumes were modeled for S.R. 70.

The total vehicle volume was divided between five classifications: automobiles, medium trucks, heavy trucks, buses, and motorcycles. The percentages of each vehicle type were obtained from FDOT District 1 and are summarized in **Appendix A – Traffic Data** along with the traffic data (including volume of traffic per vehicle type category and associated speeds) utilized during the roadway modeling in this traffic noise study report.

2.3. Noise Abatement Criteria

Noise sensitive land uses are areas where there is frequent human use that may be impacted by traffic noise levels that approach, meet, or exceed the Noise Abatement Criteria (NAC) – levels established by the FHWA at which abatement must be considered. Typical noise sensitive land uses include residences, schools, places of worship, commercial properties with outdoor areas of use, and recreational areas. As shown in **Table 1**, the NAC varies by activity category.

The FDOT criteria are defined as being within one dB(A) of the FHWA's NAC to reflect values that "approach" the FHWA criteria. For perspective on the decibel values listed in **Table 2**, **Table 2** provides typical noise levels of common indoor and outdoor activities.

Noise abatement measures must also be considered when a substantial increase in traffic noise is predicted to occur as a direct result of a transportation project. FDOT defines a substantial increase as 15 dB(A) or more above existing conditions. A substantial increase typically occurs in areas where traffic noise is a minor component of the existing noise environment but would become a major component after the project is constructed (e.g., new alignment project).

Table 1: Noise Abatement Criteria

Activity Category	Activity Leq(h)		Evaluation Location	Description of Land Use 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	67	66	Exterior	Residential.
C	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, recreation 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	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A – D or F.
F	-----	-----	-----	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	-----	-----	-----	Undeveloped lands that are not permitted.

(Based on Table 1 of 23 CFR 772 and FDOT PD&E Manual Chapter 18)

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. When this occurs, the requirement for abatement consideration will be followed.

Table 2: Typical Noise Levels

Common Outdoor Activities	Noise Level dB(A)	Common Indoor Activities
Jet Fly-over at 1000 ft.	---110---	Rock Band
Gas Lawn Mower at 3 ft.	---100---	
Diesel Truck at 50 ft., at 50 mph	---90---	Food Blender at 3 ft.
Noise Urban Area (Daytime)	---80---	Garbage Disposal at 3 ft.
Gas Lawn Mower at 100 ft.	---70---	Vacuum Cleaner at 10 ft.
Commercial Area	---60---	Normal Speech at 3 ft.
Heavy Traffic at 300 ft.	---	
Quiet Urban Daytime	---50---	Large Business Office
Quiet Urban Nighttime	---40---	Dishwasher Next Room
Quiet Suburban Nighttime	---	
Quiet Rural Nighttime	---30---	Theater, Large Conference Room (Background)
	---	Library
	---20---	Bedroom at Night, Concert Hall (Background)

	---10---	
Lowest Threshold of Human Hearing	---0---	Lowest Threshold of Human Hearing

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

2.4. Noise Abatement Measures

Noise abatement is considered at all noise sensitive sites predicted to approach, meet, or exceed the NAC or which have a substantial increase in noise, as stipulated by 23 CFR 772. Abatement measures considered include traffic management, alignment modifications, noise buffer zones through application of land use controls, and noise barriers. Each of these abatement measures are discussed further in the following sections.

2.4.1. Traffic Management

Traffic management techniques can be used to abate traffic noise. For example, the timing of traffic lights could be altered to eliminate frequent stopping, heavy trucks could be limited to certain hours of the day on specific roads, and speed limits could be reduced. S.R. 70 serves as an East/West route for the movement of freight. Limiting heavy truck operations would affect the

movement of materials and goods over an extensive area. Therefore, prohibiting or limiting heavy truck traffic on S.R. 70 is not considered a reasonable abatement measure for this project. A substantial speed reduction on S.R. 70 would lower traffic noise levels. However, the capacity of the roadway to service traffic would also be reduced with a reduction of speed. Therefore, speed reduction is not a reasonable abatement measure for this project.

2.4.2. Alignment Modifications

Modifying the horizontal alignment and/or vertical profile of a roadway can influence highway traffic noise levels and can therefore be an effective abatement measure. However, the existing alignment of S.R. 70 has already established the proposed horizontal and vertical alignment. Project costs and detrimental effects on land use are minimized by making use of the existing corridor. The cost of acquiring additional property for the sole purpose of abating highway traffic noise may exceed the cost reasonable limit of \$64,000 per benefited receptor (defined as a noise sensitive site receiving at least a 5 dB(A) noise reduction from the abatement measure). Therefore, an alignment modification that could provide a substantial noise reduction is not a feasible or reasonable abatement measure.

2.4.3. Buffer Zones

Providing a buffer space (i.e., an area of undeveloped land) between a highway and future noise sensitive development can minimize or eliminate noise impacts.

Buffer zones can be implemented through local land use planning. The distances between the proposed highway and noise sensitive sites (where predicted traffic noise levels approach, meet or exceed the NAC for Activity Categories A, B, C and E) are determined to facilitate future land use planning that is compatible with the traffic noise environment. For the proposed conceptual Design, the distance between the nearest edge of pavement of S.R. 70 and the location where traffic noise levels would approach a particular NAC is provided in **SECTION 6 Community Coordination**. Local officials can use the information in **Table 1** to establish buffer zones for future projects, thereby minimizing or avoiding noise impacts at sensitive land uses. The distances do not account for any reduction in noise levels that may be provided by berms, privacy walls or intervening structures in the noise propagation path. These buffer zone contours also do not account for any increase in noise resulting from increased highway elevation (e.g., overpasses) or elevated noise sensitive sites (e.g., second floor patios).

2.4.4. Noise Barriers

Noise barriers reduce noise levels by interrupting the sound path between a highway and noise sensitive site. Barriers can cause sound waves to bend around and over the barrier (diffraction) which produces a "shadow zone" behind the barrier itself. To effectively reduce traffic noise, a barrier must be relatively long, continuous (with no intermittent gaps), and of sufficient height. A noise barrier must be considered a feasible and reasonable noise abatement measure to be

suggested for inclusion into the project. Feasibility factors are related to the acoustical and engineering properties of an abatement measure. Reasonableness factors are related to the economic, environmental, and social properties. For a noise barrier to be considered feasible and cost reasonable, the following minimum conditions should be met (**Table 3**):

Table 3: Feasible and Reasonable Requirements for a Noise Barrier

Feasible	Reasonable
At least two impacted receptors must be provided a noise reduction of 5 dB(A).	A noise barrier must also attain the Noise Reduction Design Goal (NRDG), which states that a minimum noise reduction of 7 dB(A) for at least one benefited receptor must be achieved. This receptor may also have been previously identified as meeting the feasibility requirement of receiving a 5 dB(A) reduction.
Engineering factors (design/construction, safety, access, ROW, maintenance, drainage, and utility) must be considered, and all conflicts must be resolved.	The cost of the noise barriers should not exceed \$64,000 per benefited receptor. This is the upper cost limit established by FDOT. A benefited receptor is defined as a recipient of an abatement measure that experiences at least a 5 dB(A) reduction as a result of providing a noise barrier. The current unit cost used to evaluate cost reasonableness is \$40 per square foot (sq. ft.).
--	The viewpoint of benefited receptors must be considered.

Within the project limits, noise barrier locations are evaluated as follows:

- ROW noise barriers located outside the clear zone, which is defined in the FDOT Design Manual as 'the amount of recoverable area beyond the traveled way' but within the ROW, are initially considered at heights ranging from 8 ft. to 22 ft. in 2 ft. increments. According to the FDOT Design Manual, noise barriers outside the clear zone shall not exceed a maximum height of 22 ft..
- If an ROW barrier cannot provide at least a 5 dB(A) reduction to an impacted receptor or the barrier is not feasible due to construction limitations, then a shoulder barrier is evaluated. According to the FDOT Design Manual, shoulder barriers shall not exceed 14 ft.

in height when on embankment and 8 ft. in height when on structure or Mechanically Stabilized Earth (MSE).

The length and height of the noise barriers are optimized based on the benefit provided to noise sensitive sites with predicted noise levels that approach, meet, or exceed the NAC.

2.5. Noise Model

Noise level predictions were produced using the FHWA's TNM. This model calculates estimated noise levels at noise sensitive receptor sites based upon highway traffic parameters that are input to the model. Model-predicted noise levels are influenced by several factors including vehicle speed and types, the distance between the noise source and receptor, the effects of intervening structures (buildings, barriers, etc.), ground surface type, and topography.

2.5.1. Model Validation

To validate the accuracy of the computer noise model for the project area, field measurements were taken following procedures documented in FHWA's Noise Measurement Handbook. All monitoring events were a minimum of 30 minutes (3 repetitions of 10 minutes each) in duration, consistent with FDOT procedures. Noise monitoring was performed on July 29, 2025 using a Larson Davis SoundExpert 821 ENV Type I sound level meter (SLM). Prior to taking noise measurements, the SLM was calibrated using a Larson Davis Cal 200 calibrator. TNM model validation was performed at 3 sites along the project corridor. The validation sites were located along the ROW of the existing highway. Traffic volumes by vehicle classification were noted during each monitoring event. A Bushnell radar gun was used to obtain average operating speeds. Field notes for each monitoring event are provided in **Appendix D – Model Validation Field Sheets**. Locations of monitoring sites are depicted in aerials provided in **Appendix B – Project Aerials**.

2.5.2. Model Validation Results

The results for each monitoring event are provided in **Table 4**. The FDOT PD&E manual states that the model is validated if the existing field measured highway traffic noise levels and predicted highway traffic noise levels for the existing condition are within +/- 3.0 dB(A). The variance between measured and predicted noise levels was less than 3 dB(A). Therefore, the noise model is predicting within the level of accuracy specified in FDOT's PD&E Manual, Part 2, Chapter 18.

Table 4: Noise Model Validation

Location	Run #	Date	Start Time	Field Measured Level dB(A)	Computer Predicted Level dB(A)	Decibel Difference dB(A)
Validation Site #1 ~65.5' from Edge of Pavement	1	07/29/25	11:03am	62.1	60.9	-1.2
	2		11:17am	64.4	64.7	0.3
	3		11:31am	62.4	60.6	-1.8
Validation Site #2 ~55' from Edge of Pavement	1	07/29/25	11:55am	68.5	66.8	-1.7
	2		12:08pm	64.9	63.3	-1.6
	3		12:20pm	66.9	66.1	-0.8
Validation Site #3 ~53' from Edge of Pavement	1	07/29/25	1:04pm	67.0	66.8	-0.2
	2		1:16pm	66.1	65.8	-0.3
	3		1:27pm	64.4	63.9	-0.5

2.6. Noise Sensitive Sites

Highway traffic noise levels were predicted at 67 receptors representing 87 residences potentially affected by highway traffic noise. Receptors representing noise sensitive land uses were established by a field review performed on July 29, 2025, and verified using data from the County Property Appraiser¹. Within the project limits, the noise sensitive land uses along S.R. 70 for which there is a NAC include:

- Activity Category B (residential areas) – 87 residences

The receptors representing noise sensitive sites are located in accordance with 23 CFR 772, FDOT's PD&E Manual, Part 2, Chapter 18 and the FDOT *Traffic Noise Modeling & Analysis Practitioners Handbook* as follows:

- Activity Category B receptors were located at the edge of the dwellings/buildings that is closest to S.R. 70.
- Ground-floor receptor points were modeled at five ft. above the ground elevation.

¹ Highlands County Property Appraiser website accessed between July 21st and August 8th, 2025 – www.hcpao.org

The locations of the receptors are depicted on aerials in **Appendix B – Project Aerials**. The alphanumeric identification for each receptor point was formulated as follows:

- Receptor points representing residential land uses (Activity Category B) are specified with an “R”.
- The numeric portion of the receptor identification identifies a specific receptor point and generally increased from west to east.
- Although numbering is sequential, some receptors were deleted from the study due to being too far away from where impacted receptors were already benefited, and their inclusion in a cost or benefit calculation would not change the results of the barrier analysis.

2.6.1. Common Noise Environments and Noise Analysis Areas

Common Noise Environments (CNEs) are defined as a group of receptors representing noise sensitive sites within the same activity category that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features, according to 23 CFR Part 772. Generally, CNEs occur between two secondary noise sources, such as interchanges, intersections, cross-roads.

Noise Analysis Areas (NAA) are groups of CNEs that are geographically near one another and therefore influenced by the same noise sources. CNEs within an NAA may be grouped based on if a single noise barrier (or continuous noise barrier system) could be designed for all CNEs in the NAA, otherwise a noise barrier (or continuous noise barrier system) should be designed for each CNE based on reasonable assumptions. Each CNE is discussed separately in this report.

2.7. Existing Noise Levels

The FHWA’s TNM was used to predict existing noise levels for receptors located near roadways and where traffic noise is dominant. As noted in Traffic Data, existing traffic data for 2052 was obtained from FDOT District 1. **Appendix C – Predicted Noise Levels** lists the existing noise level for each receptor.

SECTION 3

Traffic Noise Analysis Results

The following section provides the results of the traffic noise analysis, including the identification of impacted noise sensitive sites and the evaluation of abatement measures.

3.1. Substantial Increase in Noise

An evaluation of substantial increases was performed for this PD&E phase analysis. Each noise sensitive site was assigned an existing noise level based on TNM predicted existing noise levels and is provided in **Appendix C – Predicted Noise Levels**. As shown in **Appendix C – Predicted Noise Levels**, substantial increases in traffic noise are not expected as a result of this project.

3.2. Noise Abatement Criteria Evaluation

An evaluation of noise sensitive sites that may be impacted by traffic noise levels that approach, meet, or exceed the NAC was performed. Each noise sensitive site was modeled in TNM and a future noise level was predicted (**Appendix C – Predicted Noise Levels**). Noise abatement was considered at all noise sensitive sites found to be impacted. Each NAA is discussed separately.

3.3. Noise Analysis Areas (NAAs)

3.3.1. NAA-1

NAA-1 is located north of S.R. 70 (**Appendix B – Project Aerials**, Aerial Sheet 3a-3i) between west of S Jefferson Avenue and U.S. 27. NAA-1 is composed of 2 isolated residences. None of the residences were impacted by the Build project. The residences are discussed below.

NOISE SENSITIVE SITES

Isolated Residences between S Jefferson Avenue and U.S. 27

Two isolated residences from S Jefferson Avenue to U.S. 27 (**Appendix B – Project Aerials**, Aerial Sheet 3f and 3h) are represented by 2 receptor points representing 2 residences (R-1 & R-2). Exterior traffic noise levels are predicted to range from 56.5 to 57.7 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). Furthermore, noise abatement is not considered for isolated residences. Therefore, a noise barrier for these residences was not evaluated further.

3.3.2. NAA-2

NAA-2 was subdivided into NAA-2(a) and NAA-2(b). NAA-2(a) is a single CNE. The majority of residences east of NAA-2(a) are isolated residences and were grouped into NAA-2(b).

NOISE SENSITIVE SITES

3.3.3. NAA-2(a)

NAA-2(a) is located north of S.R. 70 (**Appendix B – Project Aerials**, Aerial Sheets 3i-3j) between U.S. 27 and N Edge. NAA-2(a) is composed of 14 residences. The residential area is discussed in the section below.

Alpine Village (CNE-1)

Residences from U.S. 27 to N Edge in Alpine Village (**Appendix B – Project Aerials**, Aerial Sheet 3j) are represented by 9 receptor points representing 14 residences (R-6 & R-6, R-9 & R-10, R-11, R14 & R-15, R-18 & R-19). Exterior traffic noise levels are predicted to range from 64.5 to 68.4 dB(A) for the Design year and approaches, meets or exceeds the NAC at six residences. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). Therefore, a noise barrier for these residences was evaluated further.

3.3.4. NAA-2(b)

NAA-2(b) is located north of S.R. 70 (**Appendix B – Project Aerials**, Aerial Sheets 3j-3o) between N Edge and east of C.R. 29. NAA-2 is composed of 25 residences. The residential areas are discussed in the section below.

Isolated Residence on Ekhoﬀ Lane

Residence along Ekhoﬀ Lane (**Appendix B – Project Aerials**, Aerial Sheet 3j) are represented by 1 receptor point representing 1 residence (R-20). Exterior traffic noise levels are predicted to be 63.9 dB(A) for the Design year and does not approach, meet or exceed the NAC at the residence. Furthermore, the residence is not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). Therefore, a noise barrier for this residence was not evaluated further.

Residences along Flagler Street between Brevard Avenue and Highlands Boulevard

Residences along Flagler Street, paralleling S.R. 70, (**Appendix B – Project Aerials**, Aerial Sheet 3k) are represented by 12 receptor points representing 12 residences (R-21 to R-32). Exterior traffic noise levels are predicted to range from 57.9 to 69.1 dB(A) for the Design year and approaches, meets or exceeds the NAC at one residence. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise**

Levels). FDOT policy requires two or more receptors to approach or exceed the NAC to be considered for noise abatement. Therefore, a noise barrier for this residence was not evaluated further.

Residences between west of Dade Avenue and east of C.R. 29

Residences from west of Dade Avenue to east of C.R. 29 (**Appendix B – Project Aerials**, Aerial Sheet 3m) are represented by 12 receptor points representing 12 residences (R-33 to R-44). Exterior traffic noise levels are predicted to range from 55.9 to 67.0 dB(A) for the Design year and approaches, meets or exceeds the NAC at two isolated residences. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). FDOT policy requires two or more receptors to approach or exceed the NAC to be considered for noise abatement. The two impacted residences are isolated. Therefore, a noise barrier for these residences was not evaluated further.

3.3.5. NAA-3

NAA-3 is located south of S.R. 70 (**Appendix B – Project Aerials**, Aerial Sheet 3a-3i) between west of S Jefferson Avenue and U.S. 27. NAA-3 is composed of 3 residences, one of which is isolated. None of the residences were impacted by the Build project.

NOISE SENSITIVE SITES

Residences west of S Jefferson Avenue to U.S. 27

Residences west of S Jefferson Avenue (**Appendix B – Project Aerials**, Aerial Sheet 3b and 3d) are represented by 3 receptor points representing 3 residences (R-45 to R-47). Two residences (R-45 and R-46) are west of Jefferson Avenue, and R-47 is an isolated residence east of Placid View Drive (Aerial Sheet 3d). Exterior traffic noise levels are predicted to range from 55.3 to 58.3 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). Therefore, a noise barrier for these residences was not evaluated further.

3.3.6. NAA-4

NAA-4 was subdivided into NAA-4(a) and NAA-4(b). NAA-4(a) is a single CNE. The residences east of NAA-4(a) are isolated residences. Therefore, the residences east of NAA-4(a) were grouped into NAA-4(b).

3.3.7. NAA-4(a)

NAA-4(a) is located south of S.R. 70 (**Appendix B – Project Aerials**, Aerial Sheets 3i-3j) between U.S. 27 and N Edge. NAA-4(a) is composed of 41 residences. The residential area is discussed in the section below.

NOISE SENSITIVE SITES

Sunshine RV Resort (CNE-2)

Residences from U.S. 27 to Ekhoﬀ Lane in Sunshine RV Resort (**Appendix B – Project Aerials**, Aerial Sheet 3j) are represented by 26 receptor points representing 41 residences (R-51 to R-53, R-59 & R-60, R-62, R-68, R-73 & R-74, R-85, R-91, R-93, R-97 to R-99, R-103, R-105, R-108, R-112, R-116, R-119 to R-124). Exterior traffic noise levels are predicted to range from 61.9 to 70.1 dB(A) for the Design year and approaches, meets or exceeds the NAC at twenty-two residences. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). Therefore, a noise barrier for these residences was evaluated further.

3.3.8. NAA-4(b)

NAA -(b) is located south of S.R. 70 (**Appendix B – Project Aerials**, Aerial Sheets 3j-3o) between N Edge and east of C.R. 9. NAA-4(b) is composed of 2 residences. The residences are discussed in the section below.

NOISE SENSITIVE SITES

Isolated Residences between Sunshine RV Resort and east of C.R. 29

Residences from Sunshine RV Resort to east of C.R. 29 (**Appendix B – Project Aerials**, Aerial Sheet 3m) are represented by 2 receptor points representing 2 residences (R-125 and R-126). Exterior traffic noise levels are predicted to range from 59 to 65.2 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Furthermore, the residences are not expected to have a substantial increase of 15 dB(A) over existing conditions (see **Appendix C – Predicted Noise Levels**). Therefore, a noise barrier for these residences was not evaluated further.

3.4. NOISE BARRIER EVALUATION

Noise barriers were evaluated for CNEs where there are two or more impacted non-isolated receptors and those impacted receptors would benefit from a single noise barrier or noise barrier system. During the PD&E phase, noise barriers are evaluated to determine the height and length which would benefit the most impacted receptors in the CNE. Non-impacted receptors who are also benefited (receive a 5 dB(A) reduction in sound) are included in a cost-per-benefited

calculation as previously described. A noise barrier is then recommended based on preliminary reasonable and feasible results. The preliminary proposed barriers are shown in this report pending further evaluation in future phases that involve engineering review and public opinion of the benefited receptors which may affect the constructability or desire of the benefited receptors to build the noise barrier.

3.4.1. NAA-2(a)

3.4.1.1. Alpine Village (CNE-1)

A ROW noise barrier was evaluated at a maximum height of 22 ft., stepping down in 2 ft. increments. The noise barrier evaluation, shown in **Table 5** found that ROW noise barriers ranging from 10 ft. to 22 ft. in height would provide a benefit to at least two impacted residences, would meet the NRDG, and would be cost reasonable. A 32 ft. gap separates the two noise barriers in the noise barrier system to accommodate an access road. An engineering review in the Design phase of the project will evaluate the terminus of each barrier based on safety and engineering factors. Barriers ranging from 12 ft. to 22 ft. provides a benefit to all six impacted residences at a cost-per-benefited ration below the allowable limit. The 16 ft. tall barrier was selected as the recommended noise barrier to move forward for further evaluation in future phases of the project as this is the minimum height barrier found to be feasible and cost reasonable at the location across S.R. 70 from Alpine Village, and therefore would be uniform in the overall design. The recommended barrier is highlighted in **Table 5** and the extent is shown in Figure 3j, located in **Appendix B – Project Aerials**.

3.4.2. NAA-4(a)

3.4.2.1. Sunshine RV Resort (CNE-2)

A ROW noise barrier was evaluated at a maximum height of 22 ft., stepping down in 2 ft. increments. The noise barrier evaluation, shown in **Table 6** found that ROW noise barriers ranging from 8 ft. to 22 ft. in height would provide a benefit to at least two impacted residences, would meet the NRDG, and would be cost reasonable. A 41 ft. gap separates the two noise barriers in the noise barrier system to accommodate an access road. An engineering review in the Design phase of the project will evaluate the terminus of each barrier based on safety and engineering factors. A 16 ft. tall barrier provides a benefit to all 22 impacted residences at a cost-per-benefited ration below the allowable limit. Therefore the 16 ft. tall barrier was selected as the recommended noise barrier to move forward for further evaluation in future phases of the project. The recommended barrier is highlighted in **Table 6** and the extent is shown in Figure 3j, located in **Appendix B – Project Aerials**.

Table 5: Noise Barrier Analysis –Alpine Village (CNE-1)

Barrier ID	Barrier Location	Approximate Barrier XY/Extent (Stationing)	Barrier Height ¹ (feet)	Barrier Length ² (feet)	Number of Impacted Residences	Number of Impacted Residences Within a Noise Reduction Range			Number of Benefited Residences				Maximum Reduction dB(A)	Total Estimated Cost ⁵ (\$)	Cost Per Benefited Receptor (\$)	Cost Reasonable?
						5-5.9 dB(A)	6-6.9 dB(A)	≥7 dB(A)	Impacted ³	Other ⁴	Total	Average Reduction dB(A)				
1	ROW	1280+37.79/1293+20.00	8	1280	6	0	0	0	0	0	0	NA	NA	NA	NA	NA
	ROW	1293+51.25/1296+14.75	8	334												
2	ROW	1288+20.00/1293+20.00	10	500	6	1	0	4	5	0	5	6.9	8	\$264,000	\$52,800	Yes
	ROW	1293+51.25/1295+11.25	10	160												
3	ROW	1289+00.00/1293+20.00	12	420	6	2	0	4	6	6	12	6.3	9	\$288,000	\$24,000	Yes
	ROW	1293+51.25/1295+31.25	12	180												
4	ROW	1289+00.00/1293+20.00	14	420	6	2	0	4	6	6	12	6.9	9.8	\$291,200	\$24,266	Yes
	ROW	1293+51.25/1294+51.25	14	100												
5	ROW	1289+00.00/1293+20.00	16	420	6	2	0	4	6	6	12	6.9	10.1	\$320,000	\$26,666	Yes
	ROW	1293+51.25/1294+31.25	16	80												
6	ROW	1289+00.00/1293+20.00	18	420	6	2	0	4	6	6	12	7.8	10.5	\$345,600	\$28,800	Yes
	ROW	1293+51.25/1294+11.25	18	60												
7	ROW	1289+00.00/1293+20.00	20	420	6	2	0	4	6	6	12	8	10.8	\$384,000	\$32,000	Yes
	ROW	1293+51.25/1294+11.25	20	60												
8	ROW	1289+00.00/1293+20.00	22	420	6	2	0	4	6	6	12	8.2	11.1	\$422,400	\$35,200	Yes
	ROW	1293+51.25/1294+11.25	22	60												

¹ Full height is for the length indicated. If a shoulder noise barrier location is indicated, the length of vertical height tapers at the shoulder barrier's terminus (See FDOT Standard Plans) would be in addition to the length indicated.

² Variation in the barrier length is a result of optimizing the length for a particular height.

³ Benefited residences with a predicted noise level that approaches or exceeds the NAC.

⁴ Benefited residences with a predicted noise level that does not approach the NAC.

⁵ Unit cost of \$40 per square foot of noise barrier.

Table 6: Noise Barrier Analysis – Sunshine RV Resort (CNE-2)

Barrier ID	Barrier Location	Approximate Barrier XY/Extent (Stationing)	Barrier Height ¹ (feet)	Barrier Length ² (feet)	Number of Impacted Residences	Number of Impacted Residences Within a Noise Reduction Range			Number of Benefited Residences				Maximum Reduction dB(A)	Total Estimated Cost ⁵ (\$)	Cost Per Benefited Receptor (\$)	Cost Reasonable?
						5-5.9 dB(A)	6-6.9 dB(A)	≥7 dB(A)	Impacted ³	Other ⁴	Total	Average Reduction dB(A)				
1	ROW	1281+50.11/ 1293+28.89	8	1180	22	5	1	12	18	0	18	7.4	10.4	\$ 377,600	\$20,977	Yes
2	ROW	1281+70.11/ 1293+28.89	10	1160	22	4	4	17	20	5	25	8.1	12.3	\$ 464,000	\$18,560	Yes
3	ROW	1282+30.11/ 1293+08.89	12	1080	22	3	12	20	20	15	35	8.2	13.5	\$ 518,400	\$14,811	Yes
4	ROW	1282+30.11/ 1293+08.90	14	1080	22	4	5	27	20	16	36	9.2	14.5	\$ 604,800	\$16,800	Yes
5	ROW	1282+30.11/ 1293+48.89	16	1120	22	5	3	33	22	19	41	10	15.7	\$ 832,000	\$20,292	Yes
	ROW	1293+89.47/ 1295+69.47	16	180												
6	ROW	1282+30.11/ 1293+48.89	18	1120	22	6	2	33	22	19	41	9.9	16.6	\$ 892,800	\$21,775	Yes
	ROW	1293+89.47/ 1295+09.47	18	120												
7	ROW	1282+50.11/ 1293+48.89	20	1100	22	6	1	33	22	18	40	10.5	17.2	\$ 960,000	\$24,000	Yes
	ROW	1293+89.47/ 1294+89.47	20	100												
8	ROW	1282+50.11/ 1293+48.89	22	1100	22	4	2	34	22	18	40	10.9	17.7	\$1,056,000	\$26,400	Yes
	ROW	1293+89.47/ 1294+89.47	22	100												

¹ Full height is for the length indicated. If a shoulder noise barrier location is indicated, the length of vertical height tapers at the shoulder barrier's terminus (See FDOT Standard Plans) would be in addition to the length indicated.

² Variation in the barrier length is a result of optimizing the length for a particular height.

³ Benefited residences with a predicted noise level that approaches or exceeds the NAC.

⁴ Benefited residences with a predicted noise level that does not approach the NAC.

⁵ Unit cost of \$40 per square foot of noise barrier.

SECTION 4

Conclusions

4.1. Impacted Noise Sensitive Sites

Noise levels were predicted at 67 receptor points representing 87 residences. For the year 2052 Build condition, noise levels are predicted to approach, meet, or exceed the NAC at 31 residences within the project limits. These impacted noise sensitive sites were evaluated to determine the feasibility and cost reasonableness of providing barriers to reduce traffic noise. Additionally, a substantial increase of 15 dB(A) is not predicted to occur at any residence (shown in **Appendix C – Predicted Noise Levels**).

4.2. Recommended Noise Barriers

The noise barrier evaluation identified that noise barriers cannot provide at least a 5 dB(A) reduction to 3 impacted residences because they do not meet the criteria of feasibility and/or reasonableness to warrant the construction of a noise barrier. Based on the noise analyses performed to date, there are no feasible solutions available to mitigate the noise impacts at these 3 locations identified in **3.2**.

The noise barrier evaluation identified that noise barriers are a feasible and reasonable form of abatement and could potentially provide at least a 5 dB(A) reduction at 28 of the 28 impacted residences in Alpine Village and Sunshine RV Resort at a cost below the reasonable limit. Noise barriers were found to be potentially feasible and reasonable at the NSAs listed in **Table 7**.

4.3. Statement of Likelihood

The Florida Department of Transportation is committed to the construction of feasible and reasonable noise abatement measures at the noise impacted locations identified in **4.2** and listed in **Table 7** contingent upon the following conditions:

1. Final recommendations on the construction of abatement measures are determined during the project's final design and through the public involvement process;
2. Detailed noise analyses during the final design process support the need, feasibility and reasonableness of providing abatement;
3. Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;
4. Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office;

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

Table 7: Potentially Reasonable and Feasible Noise Barriers

Barrier ID	Common Noise Environments	Barrier Location	Barrier Height (ft.)	Barrier Length ¹ (ft.)	Barrier Total Cost ² (\$)	Approximate Barrier XY Extent (Stationing)	Benefited Impacted Residences	Benefited Non-Impacted Residences	Total Benefited Residences	Cost per Benefited Residence	Cost Reasonable?
1	Alpine Village	ROW	16	420	\$ 320,000	1289+00.00/ 1293+20.00	6	6	12	\$ 26,666	Yes
		ROW	16	80		1293+51.250/ 1295+31.25					
2	Sunshine RV Resort	ROW	16	1120	\$ 832,000	1282+30.11/ 1293+48.89	22	19	41	\$ 20,292	Yes
		ROW	16	180		1293+89.47/ 1295+69.47					
Totals	-----	-----	-----	-----	\$ 1,152,000.00	-----	28	25	53	-----	-----

¹Barrier length refers to the total length at the ROW, Shoulder, or on Structure.

²Assumes \$40 per square foot.

SECTION 5

Construction Noise and Vibration

Based on the existing land use within the limits of this project, construction of the proposed roadway improvements will have noise or vibration impacts. If noise sensitive land uses develop adjacent to the roadway prior to construction, additional impacts could result. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate most of the potential construction noise and vibration impacts. However, should unanticipated noise or vibration issues arise during the construction process, the Project Manager, in concert with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

SECTION 6

Community Coordination

Coordination with local agencies, officials and the general public is ongoing. The public has had the opportunity to comment on the proposed project at public meetings and other outreach efforts. The following outreach efforts have occurred, or will occur:

- Alternatives Public Meeting - Tuesday, March 28, 2017, at the Lake Placid Camp and Conference Center, 2665 Placid View Drive, Lake Placid, FL 33852, at 5 p.m.
 - o Public comments: 19 comments with topics including right-of-way acquisition, accommodating truck traffic, environmental impacts, and proposed pedestrian facilities. Alpine Village, a community at the eastern limits, asked if there were planned noise walls and spoke with a representative from KB Environmental
- Public Hearing - Fall 2026
 - o Public comments: This section will be updated with information about the date, location, and hearing materials following the public hearing

A copy of the final NSR will be circulated to the appropriate local planning/zoning officials for their use upon approval of the Environmental Document. Planning/zoning officials should reference **Table 8** below to plan appropriate noise buffer zones.

Table 8: Noise Abatement Criteria Contours

Roadway Segment	Distance (ft.) ¹		
	Activity Category A [56 dB(A)]	Activity Category B & C [66 dB(A)]	Activity Category E [71 dB(A)]
S Jefferson Ave to West of Monroe St	491	136	71
West of Monroe St to US27	449	117	55
US27 to East of Ekhoﬀ Ln	434	114	52
East of Ekhoﬀ Ln to C.R. 29	503	140	75

¹Distance references to the edge of pavement. Distance does not account for any reduction in noise levels that may be provided by berms, privacy walls or intervening structures.

REFERENCES

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

Florida Department of Transportation. "Highway Traffic Noise", Part 2, Chapter 18. Project Development and Environment Manual, Florida Department of Transportation, Tallahassee, May 2026

Florida Department of Transportation Design Manual Volume 1, Chapter 264, "Noise Walls and Perimeter Walls", 2026

Florida Department of Transportation "Standard Specifications for Road and Bridge Construction", 2026

Florida Department of Transportation, "2020 FDOT Quality/Level of Service Handbook"; Tallahassee, Florida; January 2020.

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

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

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

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

Federal Highway Administration Report FHWA-HEP-18-065, "Noise Measurement Handbook". June 1, 2018; 205 pages.

Federal Highway Administration. "Consideration of Existing Noise Barrier in a Type I Noise Analysis FHWA-HEP-12-051."
https://www.fhwa.dot.gov/ENVIRONMENT/noise/noise_barriers/abatement/existing.cfm

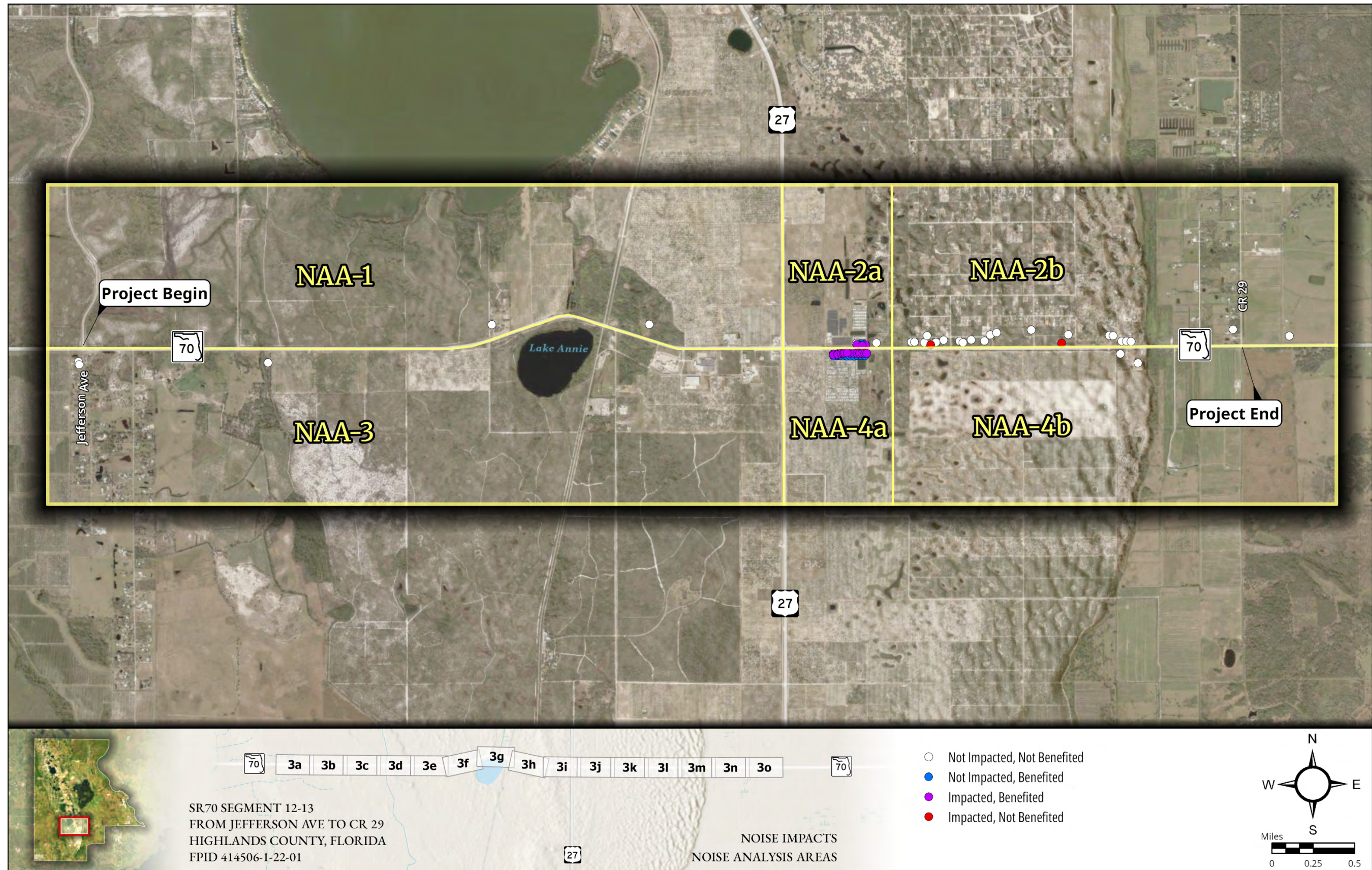
Appendix A – Traffic Data

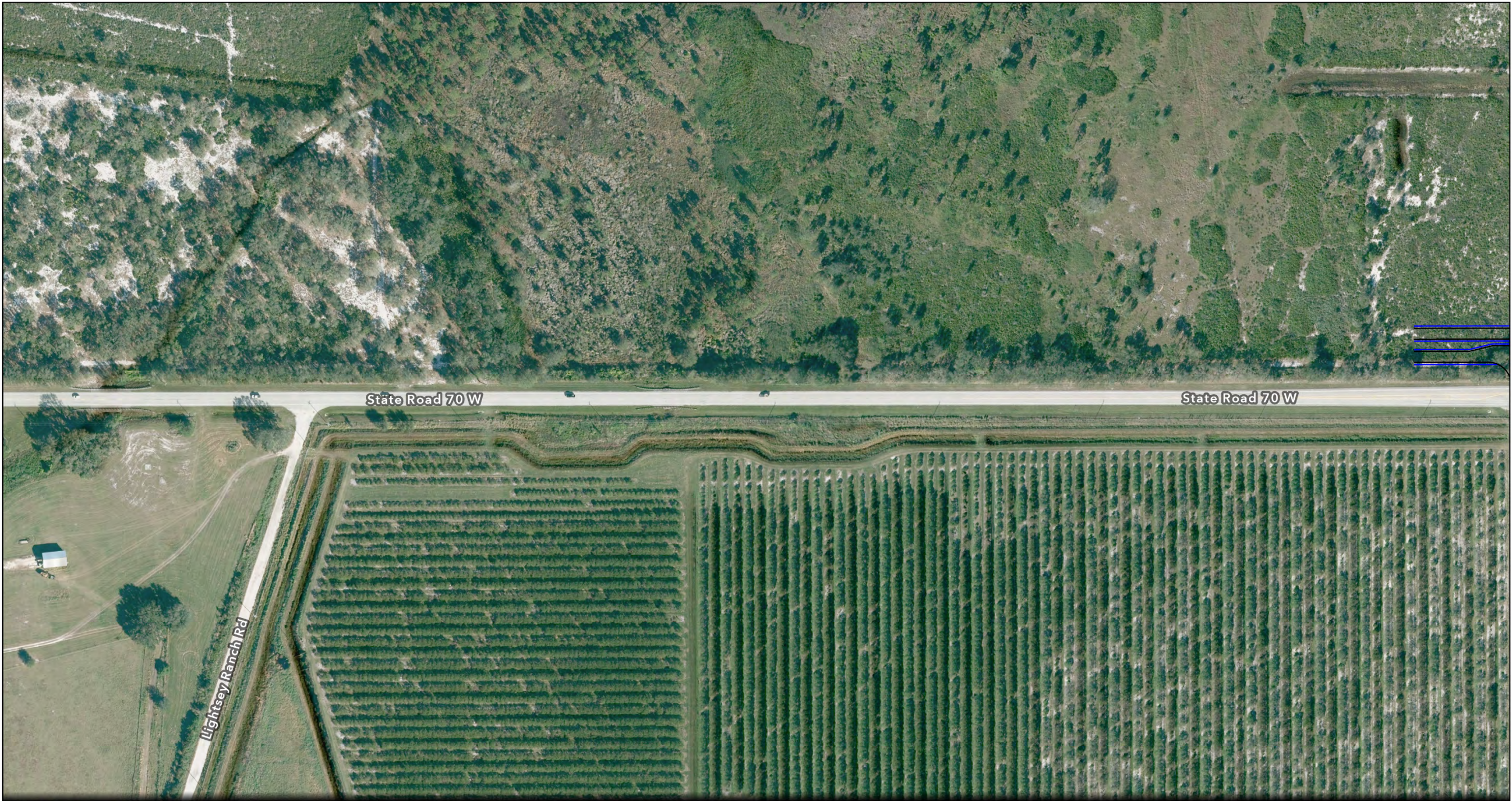
Project/Data Information	Highway Traffic Noise: Traffic Data																				
	Project Name	PD&E Study from West of S Jefferson Avenue to East of CR 29																			
	Project Number	414506-1-22-01																			
	Condition	Existing																			
	Year	2022																			
	Source	PTAR																			
	Preparer (Traffic Engineer)	Rakesh Rangaswamy																			
	Prepared Date	3/18/2026																			
	Notes	Existing Conditions																			
Roadway Details						Traffic Details												Raw Traffic Data Selection & Off-Peak Calculation			
Traffic Segment Number	Roadway Name	From	To	Roadway Type	Number of Lanes *In 1 direction	Two-Way LOS C AADT	LOS C Peak Hour Peak Direction (PHPD)	Demand Two-Way AADT	Demand Hourly Volumes (DHV) Peak Hour Peak Direction (PHPD)	% Autos	% Medium Trucks	% Heavy Trucks	% Buses	% Motorcycles	Standard K-factor	D-factor	Posted Speed (mph)	LOS C vs. DHV Comparison	Peak Direction Volume* *Used on both sides for LOS C	Off-Peak Direction Volume* *DHV only	
1	SR 70	S Jefferson Ave	West of Monroe St	Mainline	1		430		290	83.04%	4.29%	12.03%	0.17%	0.47%	9.50%	59.90%	60	DHV	290	194	
2	SR 70	West of Monroe St	US 27	Mainline	1		430		290	83.04%	4.29%	12.03%	0.17%	0.47%	9.50%	59.90%	45-60	DHV	290	194	
3	SR 70	US 27	East of Ekhoﬀ Ln	Mainline	1		430		319	84.66%	3.49%	11.09%	0.12%	0.64%	9.50%	59.90%	55-60	DHV	319	214	
4	SR 70	East of Ekhoﬀ Ln	CR 29	Mainline	1		430		319	84.66%	3.49%	11.09%	0.12%	0.64%	9.50%	59.90%	60	DHV	319	214	

Project/Data Information	Highway Traffic Noise: Traffic Data																		
	Project Name	PD&E Study from West of S Jefferson Avenue to East of CR 29																	
	Project Number	414506-1-22-01																	
	Condition	No-Build																	
	Year	2052																	
	Source	PTAR																	
	Preparer [Traffic Engineer]	Rakesh Rangaswamy																	
	Prepared Date	3/18/2026																	
	Notes	No Build																	
	Roadway Details						Traffic Details										Raw Traffic Data Selection & Off-Peak Calculation		
Traffic Segment Number	Roadway Name	From	To	Roadway Type	Number of Lanes *In 1 direction	LOS C Peak Hour Peak Direction (PHPD)	Demand Hourly Volumes (DHV) Peak Hour Peak Direction (PHPD)	% Autos	% Medium Trucks	% Heavy Trucks	% Buses	% Motorcycles	Standard K-factor	D-factor	Posted Speed (mph)	LOS C vs. DHV Comparison	Peak Direction Volume* *Used on both sides for LOS C	Off-Peak Direction Volume* *DHV only	
1	SR 70	S Jefferson Ave	West of Monroe St	Mainline	1	430	598	83.04%	4.29%	12.03%	0.17%	0.47%	9.50%	59.90%	60	LOS C	430	N/A	
2	SR 70	West of Monroe St	US 27	Mainline	1	430	626	83.04%	4.29%	12.03%	0.17%	0.47%	9.50%	59.90%	45-60	LOS C	430	N/A	
3	SR 70	US 27	East of Ekhoﬀ Ln	Mainline	1	430	558	84.66%	3.49%	11.09%	0.12%	0.64%	9.50%	59.90%	55-60	LOS C	430	N/A	
4	SR 70	East of Ekhoﬀ Ln	CR 29	Mainline	1	430	558	84.66%	3.49%	11.09%	0.12%	0.64%	9.50%	59.90%	60	LOS C	430	N/A	

Project/Data Information	Highway Traffic Noise: Traffic Data																		
	Project Name	PD&E Study from West of S Jefferson Avenue to East of CR 29																	
	Project Number	414506-1-22-01																	
	Condition	Build																	
	Year	2052																	
	Source	PTAR																	
	Preparer [Traffic Engineer]	Rakesh Rangaswamy																	
	Prepared Date	3/18/2026																	
	Notes	Build																	
	Roadway Details						Traffic Details										Raw Traffic Data Selection & Off-Peak Calculation		
Traffic Segment Number	Roadway Name	From	To	Roadway Type	Number of Lanes *In 1 direction	LOS C Peak Hour Peak Direction (PHPD)	Demand Hourly Volumes (DHV) Peak Hour Peak Direction (PHPD)	% Autos	% Medium Trucks	% Heavy Trucks	% Buses	% Motorcycles	Standard K-factor	D-factor	Posted Speed (mph)	LOS C vs. DHV Comparison	Peak Direction Volume* *Used on both sides for LOS C	Off-Peak Direction Volume* *DHV only	
1	SR 70	S Jefferson Ave	West of Monroe St	Mainline	2	2,390	716	83.04%	4.29%	12.03%	0.17%	0.47%	9.50%	59.90%	65	DHV	716	479	
2	SR 70	West of Monroe St	US 27	Mainline	2	2,390	844	83.04%	4.29%	12.03%	0.17%	0.47%	9.50%	59.90%	55	DHV	844	565	
3	SR 70	US 27	East of Ekhoﬀ Ln	Mainline	2	2,390	847	84.66%	3.49%	11.09%	0.12%	0.64%	9.50%	59.90%	55	DHV	847	567	
4	SR 70	East of Ekhoﬀ Ln	CR 29	Mainline	2	2,390	808	84.66%	3.49%	11.09%	0.12%	0.64%	9.50%	59.90%	65	DHV	808	541	

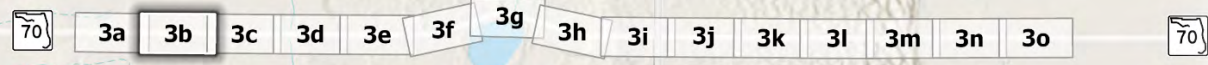
Appendix B – Project Aerials





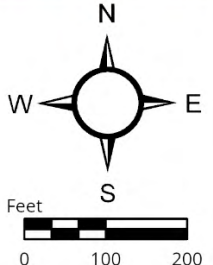


SR70 SEGMENT 12-13
FROM JEFFERSON AVE TO CR 29
HIGHLANDS COUNTY, FLORIDA
FPID 414506-1-22-01



NOISE IMPACTS
FIGURE 3B

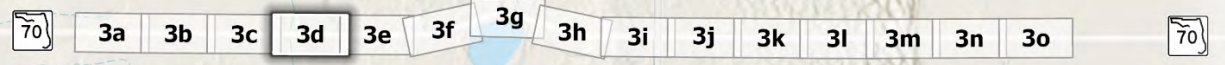
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| ● Not Impacted, Benefited | — Shoulder |
| ● Impacted, Benefited | — Preliminary Proposed Barrier |
| ● Impacted, Not Benefited | |
| ● Validation | |





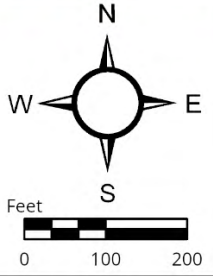


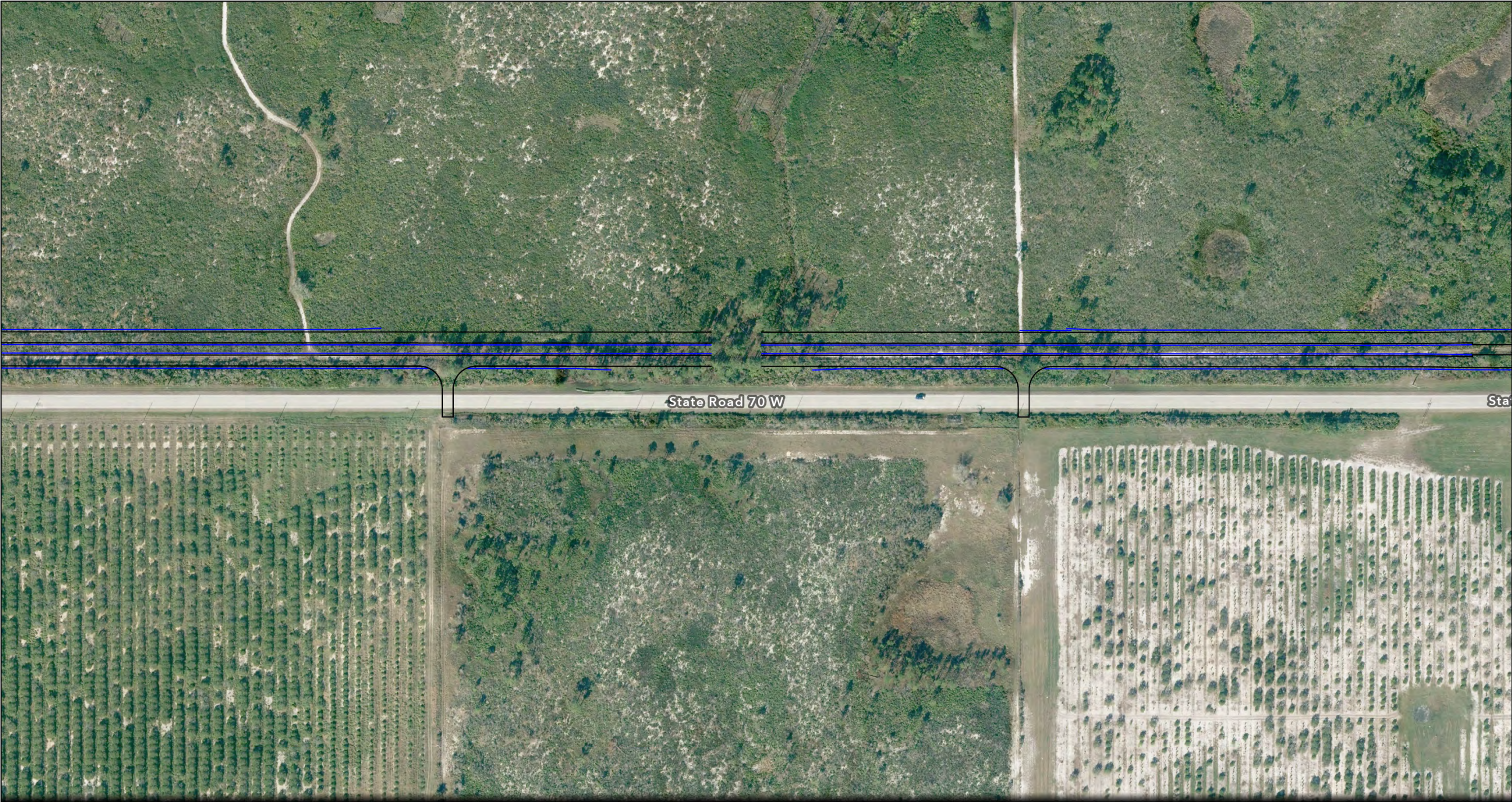
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FROM JEFFERSON AVE TO CR 29
HIGHLANDS COUNTY, FLORIDA
FPID 414506-1-22-01



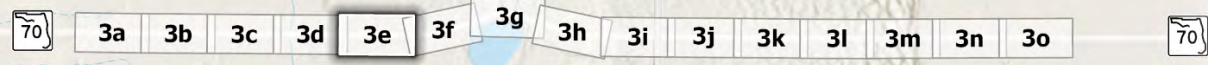
NOISE IMPACTS
FIGURE 3D

- | | |
|-------------------------------|--------------------------------|
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| ● Impacted, Benefited | — Preliminary Proposed Barrier |
| ● Impacted, Not Benefited | |



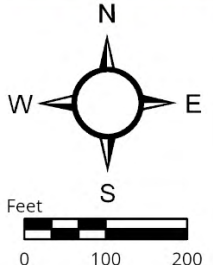


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FROM JEFFERSON AVE TO CR 29
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NOISE IMPACTS
FIGURE 3E

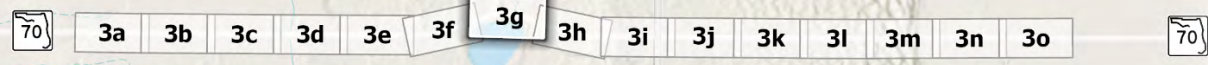
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- Impacted, Benefited
- Impacted, Not Benefited
- Pavement
- Shoulder
- Preliminary Proposed Barrier





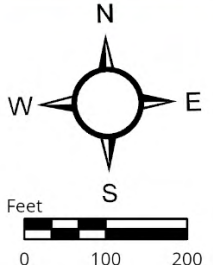


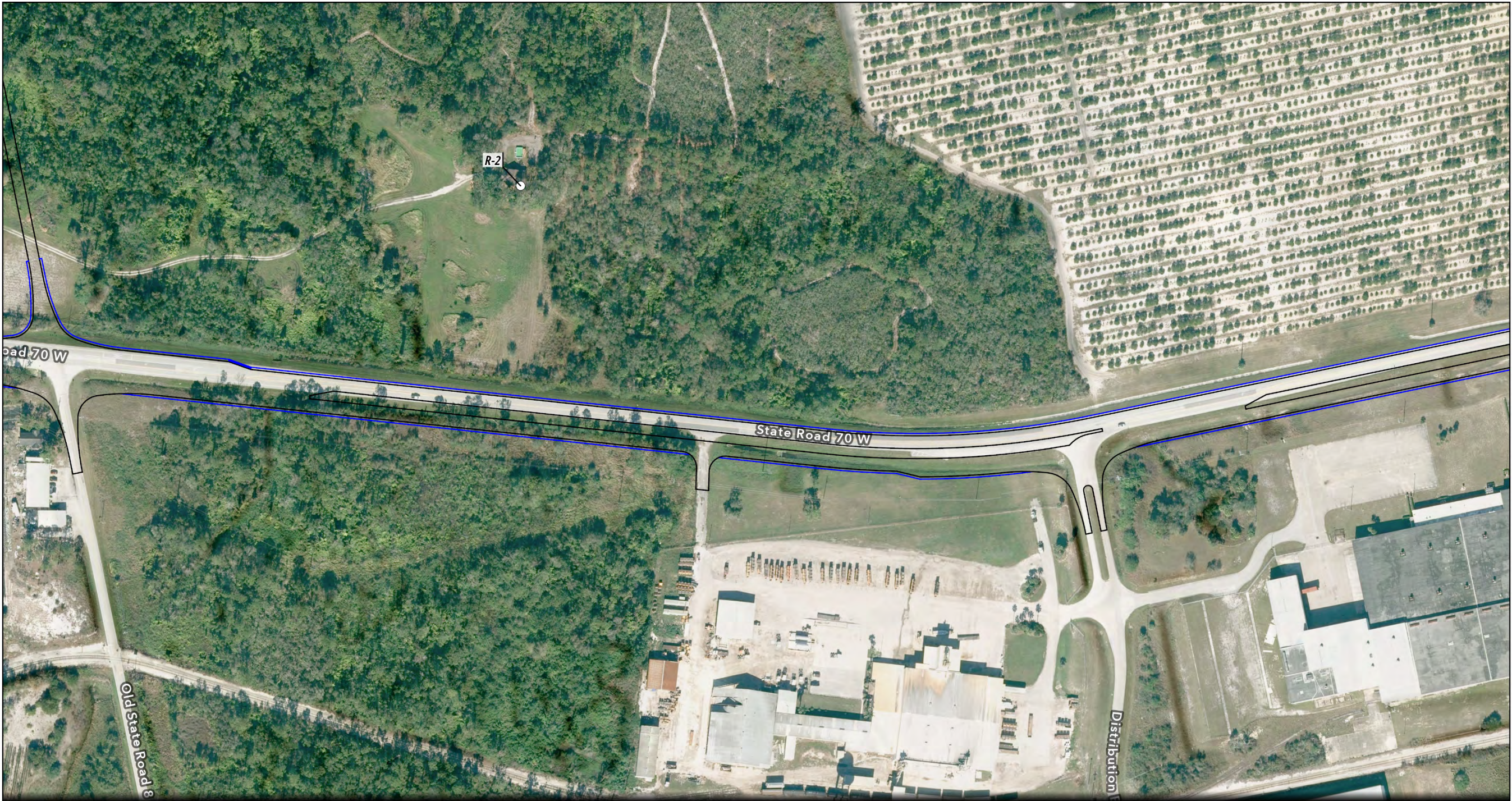
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HIGHLANDS COUNTY, FLORIDA
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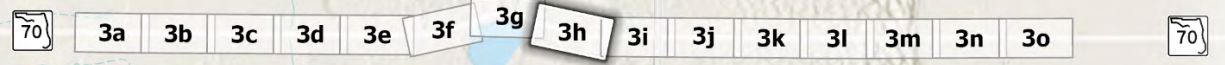
NOISE IMPACTS
FIGURE 3G

- Not Impacted, Not Benefited
- Not Impacted, Benefited
- Impacted, Benefited
- Impacted, Not Benefited
- Pavement
- Shoulder
- Preliminary Proposed Barrier



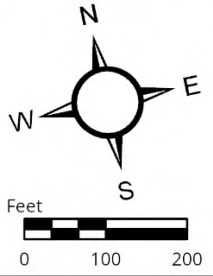


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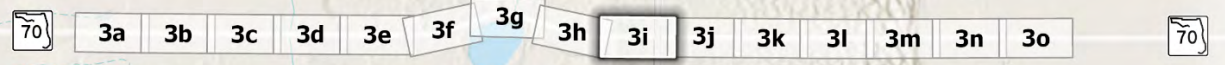
NOISE IMPACTS
FIGURE 3H

- | | |
|-------------------------------|--------------------------------|
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| ● Impacted, Benefited | — Preliminary Proposed Barrier |
| ● Impacted, Not Benefited | |



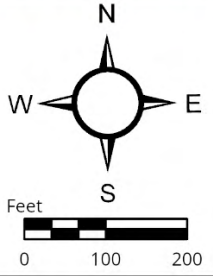


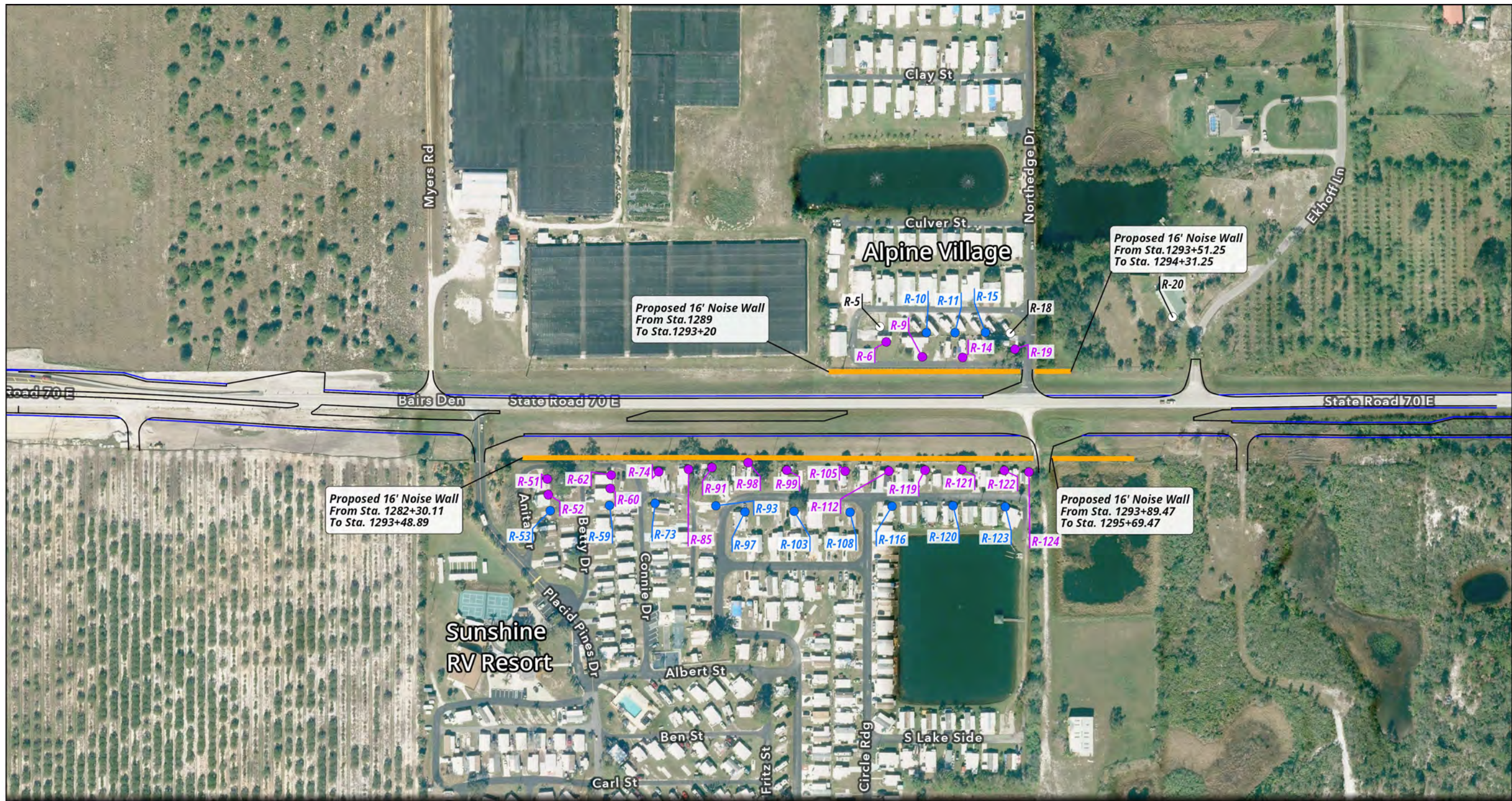
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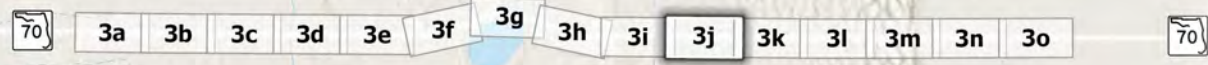
NOISE IMPACTS
FIGURE 3I

- | | |
|-------------------------------|--------------------------------|
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| ● Impacted, Benefited | — Preliminary Proposed Barrier |
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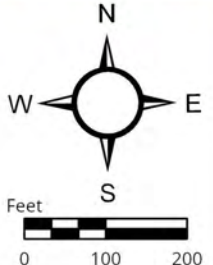


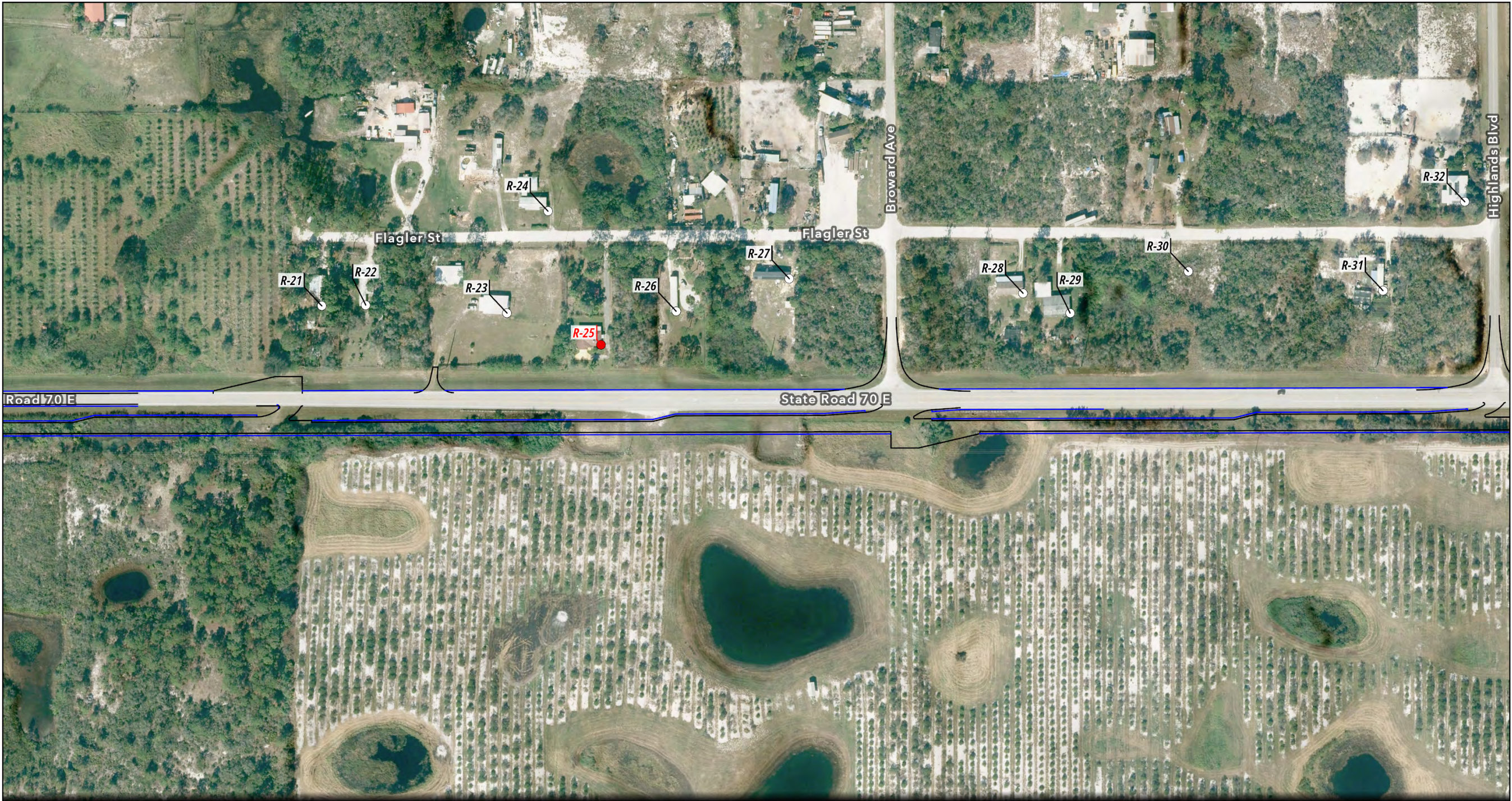
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HIGHLANDS COUNTY, FLORIDA
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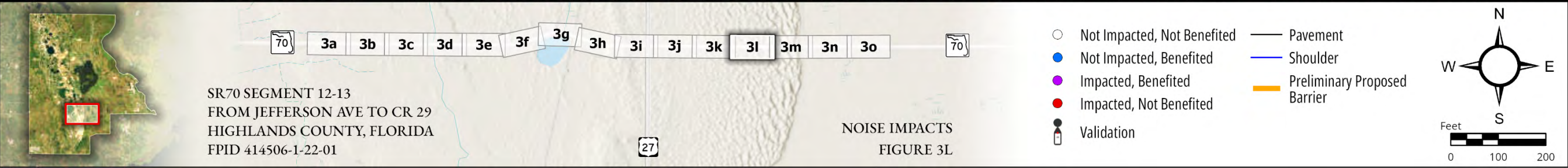
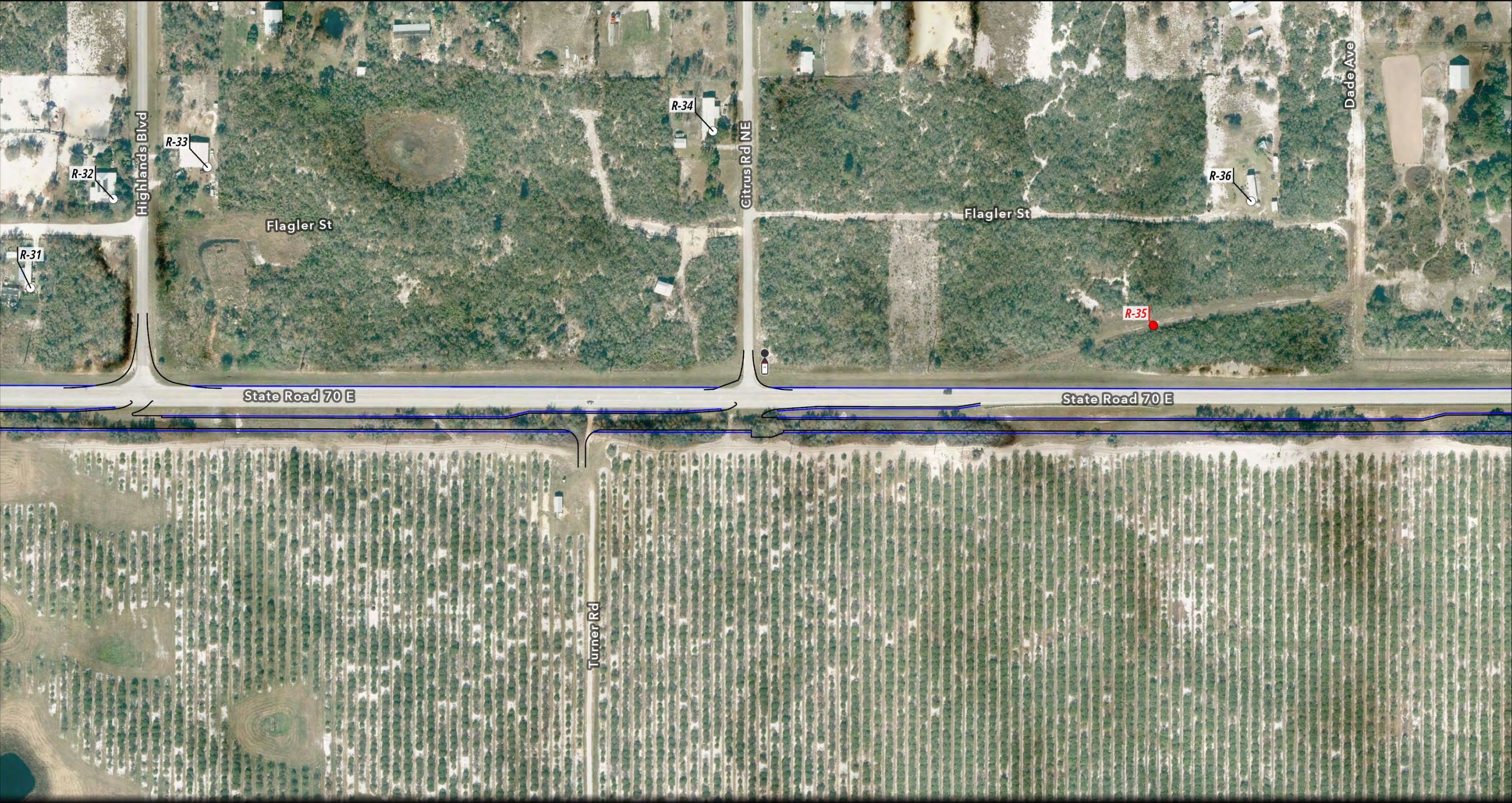


NOISE IMPACTS
FIGURE 3J

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- Not Impacted, Benefited
- Impacted, Benefited
- Impacted, Not Benefited
- Pavement
- Shoulder
- Preliminary Proposed Barrier

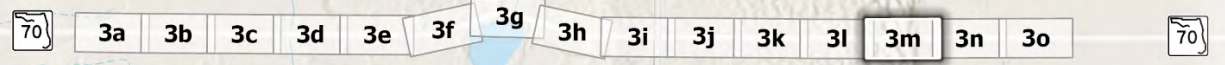






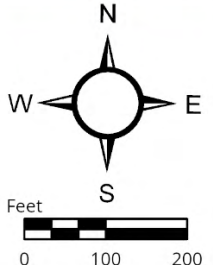


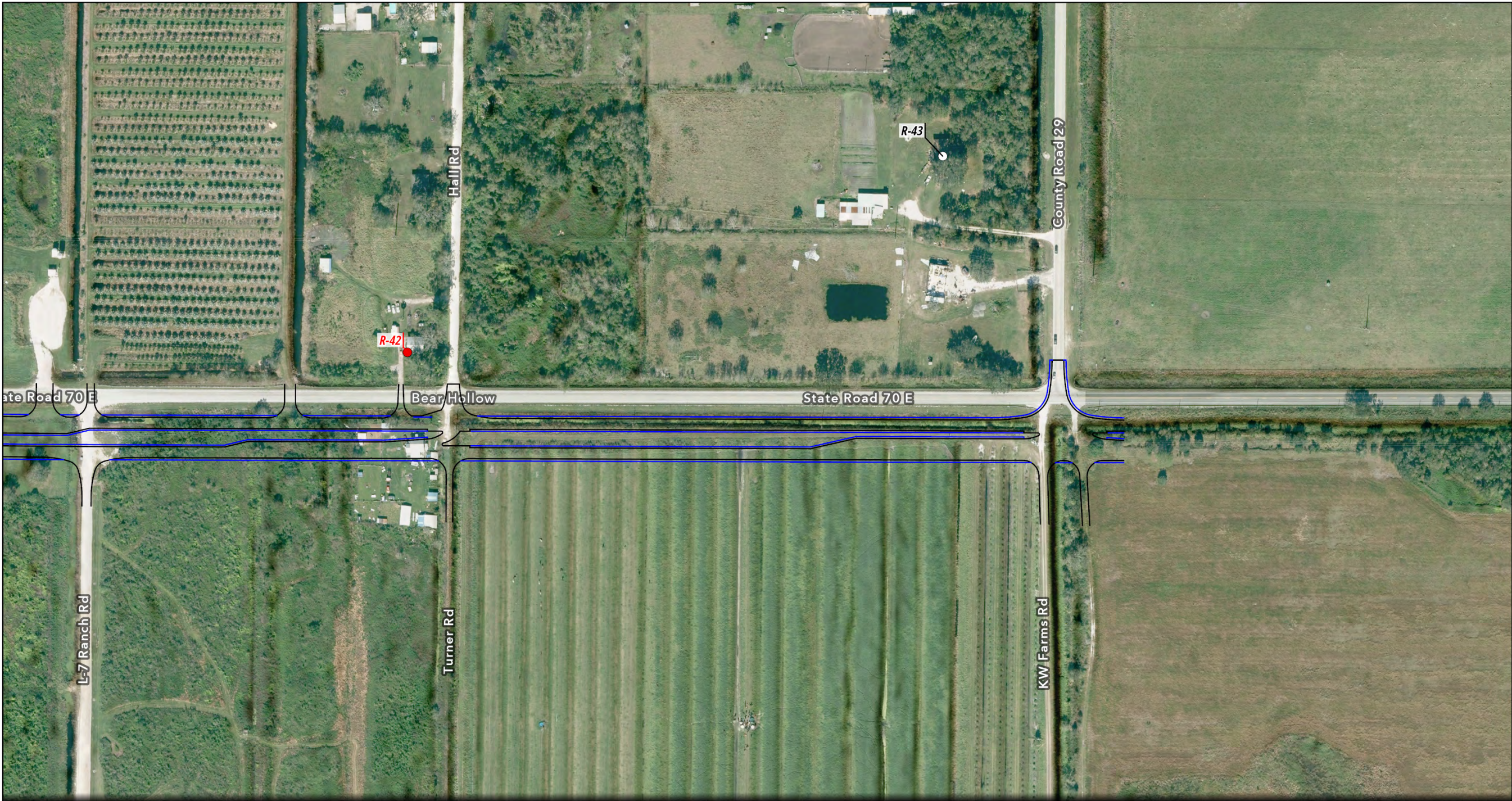
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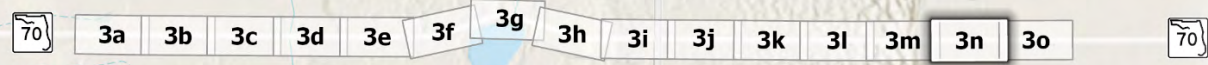
NOISE IMPACTS
FIGURE 3M

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- Impacted, Benefited
- Impacted, Not Benefited
- Pavement
- Shoulder
- Preliminary Proposed Barrier



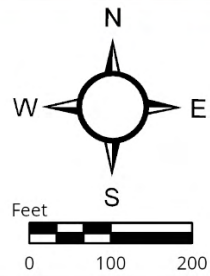


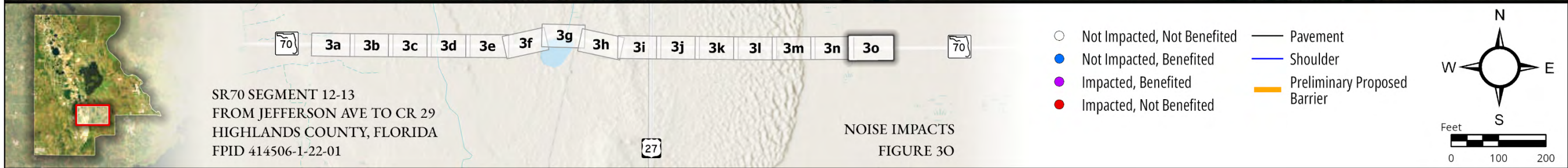
SR70 SEGMENT 12-13
FROM JEFFERSON AVE TO CR 29
HIGHLANDS COUNTY, FLORIDA
FPID 414506-1-22-01



NOISE IMPACTS
FIGURE 3N

- Not Impacted, Not Benefited
- Not Impacted, Benefited
- Impacted, Benefited
- Impacted, Not Benefited
- Pavement
- Shoulder
- Preliminary Proposed Barrier





Appendix C – Predicted Noise Levels

Modeled Noise Receptor Locations and Noise Analysis Results										
Representative Model Receptor ID	Representative Receptor Description	Noise Abatement Activity Category	NAC dB(A)	FDOT Noise Abatement Approach Criteria [dB(A)]	Number of Noise Sensitive Sites Represented	Predicted Noise Levels [L _{eq(h)} , dB(A)]			Difference between Existing and Build dB(A)	NAC Approached or Exceeded in Build Condition or Substantial Increase [+15 dB(A)]
						Existing (2022)	Design Year (2052)			
							No-Build	Build		
Noise Analysis Area 1										
Isolated Residences between S Jefferson Avenue and U.S. 27										
R-1	Residence	B	67	66	1	51.9	54.4	57.7	5.8	NO
R-2	Residence	B	67	66	1	50.9	53.5	56.5	5.6	NO
Noise Analysis Area 2(a)										
Alpine Village (CNE-1)										
R-5	Residence	B	67	66	1	57.4	59.3	64.5	7.1	NO
R-6	Residence	B	67	66	1	59.6	61.6	66.5	6.9	YES
R-9	Residence	B	67	66	1	62	63.9	68.3	6.3	YES
R-10	Residence	B	67	66	2	58.2	60.2	65	6.8	NO
R-11	Residence	B	67	66	2	58.3	60.3	65.3	7	NO
R-14	Residence	B	67	66	3	62.2	64.2	68.4	6.2	YES
R-15	Residence	B	67	66	2	58.5	60.5	65.5	7	NO
R-18	Residence	B	67	66	1	58.6	60.5	65.5	6.9	NO
R-19	Residence	B	67	66	1	60.7	62.6	67.1	6.4	YES
Noise Analysis Area 2(b)										
Isolated Residence on Ekhoﬀ Lane										
R-20	Residence	B	67	66	1	57.3	59	63.9	6.6	NO
Residences along Flagler Street between Brevard Avenue and Highlands Boulevard										
R-21	Residence	B	67	66	1	58.9	61.1	65.1	6.2	NO
R-22	Residence	B	67	66	1	58.9	61.1	64.6	5.7	NO
R-23	Residence	B	67	66	1	59.6	61.9	65	5.4	NO
R-24	Residence	B	67	66	1	52.3	54.3	57.9	5.6	NO
R-25	Residence	B	67	66	1	63.7	65.9	69.1	5.4	YES
R-26	Residence	B	67	66	1	59.5	61.7	65.1	5.6	NO
R-27	Residence	B	67	66	1	56.6	58.7	62.4	5.8	NO
R-28	Residence	B	67	66	1	57.2	59.3	62.6	5.4	NO
R-29	Residence	B	67	66	1	60.1	62.3	65.5	5.4	NO
R-30	Residence	B	67	66	1	56.6	58.8	61.8	5.2	NO
R-31	Residence	B	67	66	1	59	61.2	64	5	NO
R-32	Residence	B	67	66	1	52.7	54.7	58.1	5.4	NO
Residences between west of Dade Avenue and east of C.R. 29										
R-33	Residence	B	67	66	1	52	54.1	57.5	5.5	NO
R-34	Residence	B	67	66	1	51.7	53.7	56.9	5.2	NO
R-35	Residence	B	67	66	1	61.4	63.5	66.5	5.1	YES

Modeled Noise Receptor Locations and Noise Analysis Results										
Representative Model Receptor ID	Representative Receptor Description	Noise Abatement Activity Category	NAC dB(A)	FDOT Noise Abatement Approach Criteria [dB(A)]	Number of Noise Sensitive Sites Represented	Predicted Noise Levels [L _{eq(h)} , dB(A)]			Difference between Existing and Build dB(A)	NAC Approached or Exceeded in Build Condition or Substantial Increase [+15 dB(A)]
						Existing (2022)	Design Year (2052)			
							No-Build	Build		
R-36	Residence	B	67	66	1	53.2	55.2	58	4.8	NO
R-37	Residence	B	67	66	1	53.2	55.2	58.3	5.1	NO
R-38	Residence	B	67	66	1	53.4	55.3	58.8	5.4	NO
R-39	Residence	B	67	66	1	59	61	64.5	5.5	NO
R-40	Residence	B	67	66	1	59.2	61.2	64.6	5.4	NO
R-41	Residence	B	67	66	1	59.5	61.5	64.7	5.2	NO
R-42	Residence	B	67	66	1	65	66.9	67	2	YES
R-43	Residence	B	67	66	1	50.5	52.5	55.9	5.4	NO
R-44	Residence	B	67	66	1	55.4	57.4	59.2	3.8	NO
Noise Analysis Area 3										
Residences west of S Jefferson Avenue to U.S. 27										
R-45	Residence	B	67	66	1	53.8	56.2	58.3	4.5	NO
R-46	Residence	B	67	66	1	50.8	53.2	55.3	4.5	NO
R-47	Residence	B	67	66	1	52	54.4	57.3	5.3	NO
Noise Analysis Area 4(a)										
Sunshine RV Resort (CNE-2)										
R-51	Residence	B	67	66	1	57.8	59.9	67.9	10.1	YES
R-52	Residence	B	67	66	1	56.3	58.4	66.1	9.8	YES
R-53	Residence	B	67	66	1	55	57	64.2	9.2	NO
R-59	Residence	B	67	66	1	54.5	56.5	64.1	9.6	NO
R-60	Residence	B	67	66	1	56.4	58.4	66.4	10	YES
R-62	Residence	B	67	66	1	57.9	59.9	68.3	10.4	YES
R-68	Residence	B	67	66	1	55.9	57.9	65	9.1	NO
R-73	Residence	B	67	66	1	53.3	55.3	62.8	9.5	NO
R-74	Residence	B	67	66	1	58.2	60.2	68.5	10.3	YES
R-85	Residence	B	67	66	1	58.5	60.5	68.9	10.4	YES
R-91	Residence	B	67	66	1	58.7	60.7	69.2	10.5	YES
R-93	Residence	B	67	66	1	52.8	54.8	61.9	9.1	NO
R-97	Residence	B	67	66	2	54.5	56.5	63.9	9.4	NO
R-98	Residence	B	67	66	1	59.3	61.3	70.1	10.8	YES
R-99	Residence	B	67	66	2	58.3	60.3	68.8	10.5	YES
R-103	Residence	B	67	66	3	55	57	64.5	9.5	NO
R-105	Residence	B	67	66	2	58.3	60.3	68.8	10.5	YES
R-108	Residence	B	67	66	2	55.3	57.2	64.9	9.6	NO
R-112	Residence	B	67	66	2	58.3	60.3	68.7	10.4	YES
R-116	Residence	B	67	66	2	55.4	57.3	65.2	9.8	NO
R-119	Residence	B	67	66	2	58.4	60.4	68.8	10.4	YES
R-120	Residence	B	67	66	3	55.2	57.2	64.9	9.7	NO
R-121	Residence	B	67	66	2	58.5	60.4	68.9	10.4	YES
R-122	Residence	B	67	66	2	58.4	60.3	68.8	10.4	YES

Modeled Noise Receptor Locations and Noise Analysis Results										
Representative Model Receptor ID	Representative Receptor Description	Noise Abatement Activity Category	NAC dB(A)	FDOT Noise Abatement Approach Criteria [dB(A)]	Number of Noise Sensitive Sites Represented	Predicted Noise Levels [L _{eq(h)} , dB(A)]			Difference between Existing and Build dB(A)	NAC Approached or Exceeded in Build Condition or Substantial Increase [+15 dB(A)]
						Existing (2022)	Design Year (2052)			
							No-Build	Build		
R-123	Residence	B	67	66	2	55.1	57.1	64.6	9.5	NO
R-124	Residence	B	67	66	2	58.2	60.1	68.5	10.3	YES
Noise Analysis Area 4(b)										
Isolated Residences between Sunshine RV Resort and east of C.R. 29										
R-125	Residence	B	67	66	1	59	60.9	65.2	6.2	NO
R-126	Residence	B	67	66	1	52	54	59	7	NO

Appendix D – Model Validation Field Sheets

NOISE FIELD DATA SHEET

HNTB

Project name: SR 70 Seg 12-13
 Project ID#: 75614
 Measurement taken by: Todd Bogner
 Additional staff: Miles Oliver
 Date: 8/29/25 Time: 11:03 Location#: VPI Run#: 1
 Site description: Intersection of Parkland and 70 East
 SLM GPS - LAT: _____ LON: _____
 Run file #: _____ Distance from edge of pavement (Ft): 65.5"

Weather Conditions: Clear Partly Cloudy Cloudy Other: _____

Temperature (F): Start: 92.6 End: _____
 Wind Direction: Start: SE End: _____
 Humidity (%): Start: 65 End: _____
 Wind Speed (Start) (MPH): Min: 1.5 Max: 1.5 Avg: _____
 Wind Speed (End) (MPH): Min: _____ Max: _____ Avg: _____

Equipment Data: SLM: LD SoundExpert 821 Serial number: 40123
 Date of last traceable calibration: 6-29-25 Calibration by: TM1
 Calibrator: LD CAL 200 Serial number: 22132
 Calibration: Start: 114.6 End: _____ Difference: _____
 Battery: Start: A End: _____ Counter used: _____
 Weighting scale: A Response: Fast / Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: 62.1
 Major noise source(s): _____
 Background noise source(s): _____
 Notes/Observations: _____

Airplane @ 3:30m

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	3	Auto	11
Motorcycle	0	Motorcycle	0
Bus	0	Bus	0
H. Truck	0	H. Truck	6
M. Truck	0	M. Truck	1

Observed traffic data:

Average speed (MPH): N or E: 53

S or W: 53

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR 70 Seg 12-13

Project ID#: 75614

Measurement taken by: TODD BOGNET

Additional staff: Miles Oliveri

Date: 8/29/25

Time: 11:17

Location#: VP 1

Run#: 2

Site description: Same as Run #1

SLM GPS - LAT:

LON:

Run file #:

Distance from edge of pavement (Ft): 65.5

Weather Conditions: Clear

Partly Cloudy

Cloudy

Other:

Temperature (F):

Start: 92.6

End:

Wind Direction:

Start: SE

End:

Humidity (%):

Start: 65.0

End:

Wind Speed (Start) (MPH):

Min: 1.5

Max: 1.5

Avg:

Wind Speed (End) (MPH):

Min:

Max:

Avg:

Equipment Data: SLM: LD SoundExpert 821

Serial number: 40173

Date of last traceable calibration: 6-29-25

Calibration by: TM 1

Calibrator: LD CAL 200

Serial number: 22132

Calibration: Start: 114.6

End:

Difference:

Battery: Start:

End:

Counter used:

Weighting scale: A

Response: Fast / Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: 64.4

Major noise source(s):

Background noise source(s):

Notes/Observations:

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	19	Auto	8
Motorcycle		Motorcycle	0
Bus		Bus	0
H. Truck	6	H. Truck	6
M. Truck	2	M. Truck	2

Observed traffic data:

Average speed (MPH): N or E: 53 S or W: 53

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR70 Seg 12-13

Project ID#: 75614

Measurement taken by: Todd Bogner

Additional staff: Wiles Oliver

Date: 7/29/25

Time: 11:31

Location#: VP1

Run#: 3

Site description: Same as Run #1

SLM GPS - LAT:

LON:

Run file #:

Distance from edge of pavement (Ft): 65.5

Weather Conditions: Clear

Partly Cloudy

Cloudy

Other:

Temperature (F):

Start: 92.6

End:

Wind Direction:

Start: SE

End:

Humidity (%):

Start: 65.0

End:

Wind Speed (Start) (MPH):

Min: 1.5

Max:

Avg:

Wind Speed (End) (MPH):

Min:

Max:

Avg:

Equipment Data:

SLM: LD Sound Expert 821

Serial number: 40173

Date of last traceable calibration: 6-29-25

Calibration by: TMI

Calibrator: LD CAL 200

Serial number: 22132

Calibration:

Start: 114.0

End:

Difference:

Battery:

Start:

End:

Counter used:

Weighting scale: A

Response: Fast / Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq:

Major noise source(s):

Background noise source(s):

Notes/Observations:

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	16	Auto	
Motorcycle	0	Motorcycle	
Bus	0	Bus	
H. Truck	4	H. Truck	
M. Truck	0	M. Truck	

Observed traffic data:

Average speed (MPH): N or E: 53

S or W: 53

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR70 Seg 12-13
 Project ID#: 75214
 Measurement taken by: Todd Bognar
 Additional staff: Miles Oliver
 Date: 11:55 7/29/25 Time: 11:55 Location#: VP2 Run#: 1
 Site description:
 SLM GPS - LAT: LON:
 Run file #: Distance from edge of pavement (Ft): 55

Weather Conditions: Clear Partly Cloudy Cloudy Other: _____

Temperature (F): Start: 98.9 End: _____
 Wind Direction: Start: NA End: _____
 Humidity (%): Start: 56.5 End: _____
 Wind Speed (Start) (MPH): Min: 0 Max: _____ Avg: _____
 Wind Speed (End) (MPH): Min: 0 Max: _____ Avg: _____

Equipment Data: SLM: LD SoundExpert 821 Serial number: 40173
 Date of last traceable calibration: 6-29-25 Calibration by: TMI
 Calibrator: LD CAL 800 Serial number: 22132
 Calibration: Start: 113.9 End: _____ Difference: _____
 Battery: Start: _____ End: _____ Counter used: _____
 Weighting scale: A Response: Fast Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: 63.5

Major noise source(s): _____

Background noise source(s): _____

Notes/Observations: Drilling/Hammering on trailer ~ 150ft away: 11:58, drilling @ 12:02, drilling @ 12:04

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E: E	Vehicle Type	Volume S or W: W
Auto	18 30	Auto	18
Motorcycle	0	Motorcycle	0
Bus	0	Bus	0
H. Truck	10 10	H. Truck	10
M. Truck	0 2	M. Truck	0

Observed traffic data:

Average speed (MPH): N or E: 52

S or W: 52

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR270 Seg 12-13

Project ID#: 75614

Measurement taken by: Todd Bogner

Additional staff: Miles Oliver

Date: 7/29/23

Time: 12:08

Location#: VP2

Run#: 2

Site description:

SLM GPS - LAT:

LON:

Run file #:

Distance from edge of pavement (Ft): 55

Weather Conditions: Clear

Partly Cloudy

Cloudy

Other:

Temperature (F):

Start: 98.9

End:

Wind Direction:

Start: NA

End:

Humidity (%):

Start: 56.5

End:

Wind Speed (Start) (MPH):

Min: 0

Max:

Avg:

Wind Speed (End) (MPH):

Min:

Max:

Avg:

Equipment Data:

SLM: LD SoundExpert 821

Serial number: 40173

Date of last traceable calibration: 6-29-25

Calibration by: TMI

Calibrator: LD CAL 200

Serial number: 22132

Calibration:

Start: 114.0

End:

Difference:

Battery:

Start:

End:

Counter used:

Weighting scale: A

Response: Fast Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)):

Leq: 64.9

Major noise source(s):

Background noise source(s):

Notes/Observations: Work on Trailer ~ 150ft away - 12:13, 12:15 Hummer (6:50-7:00)

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	5	Auto	10
Motorcycle	0	Motorcycle	0
Bus	0	Bus	0
H. Truck	1	H. Truck	6
M. Truck	0	M. Truck	4

Observed traffic data:

Average speed (MPH): N or E: _____ S or W: _____

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR70 Seg 12-13

Project ID#: 75614

Measurement taken by: Todd Bogner

Additional staff: Miles Oliveri

Date: 7/29/25 Time: 12:20 Location#: VP3 Run#: 3

Site description: _____

SLM GPS - LAT: _____ LON: _____

Run file #: _____ Distance from edge of pavement (Ft): 55

Weather Conditions: Clear Partly Cloudy Cloudy Other: _____

Temperature (F): Start: 98.9 End: _____

Wind Direction: Start: N/A End: _____

Humidity (%): Start: 56.5 End: _____

Wind Speed (Start) (MPH): Min: 0 Max: _____ Avg: _____

Wind Speed (End) (MPH): Min: 0 Max: _____ Avg: _____

Equipment Data: SLM: LD SoundExpert 821 Serial number: 40173

Date of last traceable calibration: 6-29-25 Calibration by: TMI

Calibrator: LD CAL 200 Serial number: 22132

Calibration: Start: 113.9 End: _____ Difference: _____

Battery: Start: _____ End: _____ Counter used: _____

Weighting scale: A Response: Fast / Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: 66.9

Major noise source(s): _____

Background noise source(s): _____

Notes/Observations: _____

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	28	Auto	10
Motorcycle	6	Motorcycle	0
Bus	1	Bus	0
H. Truck	8	H. Truck	8
M. Truck	5	M. Truck	0

Observed traffic data:

Average speed (MPH): **N or E:** _____ **S or W:** _____

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR70 from Seg 12-13

Project ID#: 75614

Measurement taken by: TODD BOGNER

Additional staff: MILES OLIVER

Date: 12/29 Time: 104 Location#: 4P3 VP3 Run#: 1

Site description: _____

SLM GPS - LAT: _____ LON: _____

Run file #: _____ Distance from edge of pavement (Ft): 53

Weather Conditions: Clear Partly Cloudy Cloudy Other:

Temperature (F): Start: 96.7 End: _____

Wind Direction: Start: 20 SE End: _____

Humidity (%): Start: 49.8 End: _____

Wind Speed (Start) (MPH): Min: 2.0 Max: _____ Avg: _____

Wind Speed (End) (MPH): Min: _____ Max: _____ Avg: _____

Equipment Data: SLM: LD Sound Expert 801 Serial number: 40173

Date of last traceable calibration: 6-29-25 Calibration by: TMR

Calibrator: LD CAL 200 Serial number: 22132

Calibration: Start: 113.9 End: _____ Difference: _____

Battery: Start: _____ End: _____ Counter used: _____

Weighting scale: A Response: Fast Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: 67

Major noise source(s): _____

Background noise source(s): light generator/engine noise

Notes/Observations: _____

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	18	Auto	20
Motorcycle	2	Motorcycle	
Bus	0	Bus	
H. Truck	4	H. Truck	7
M. Truck	1	M. Truck	7

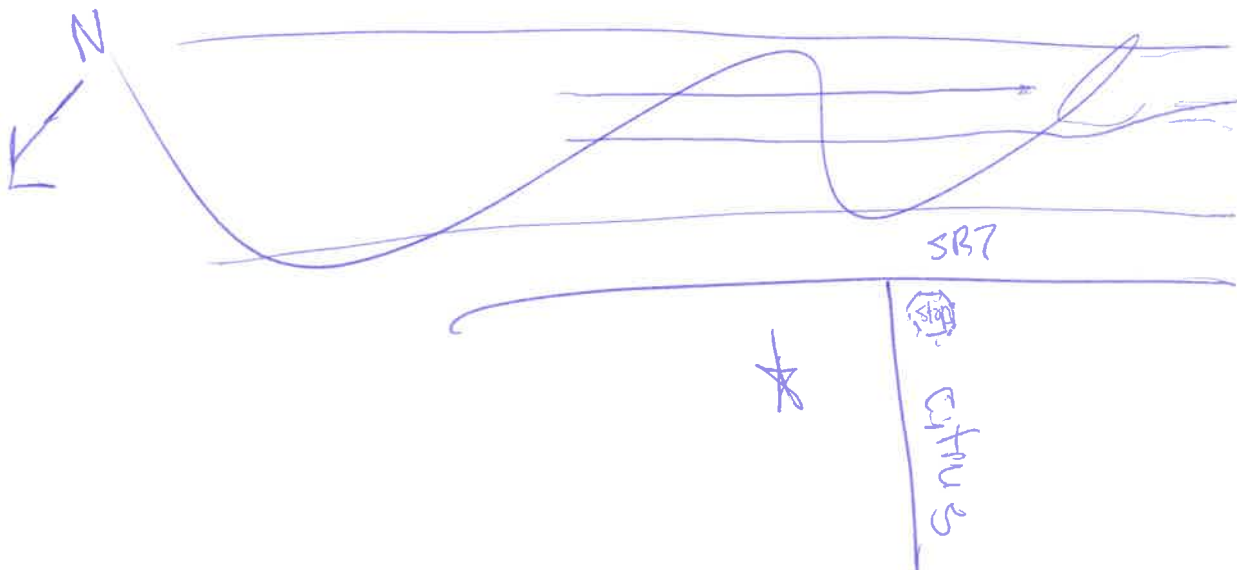
Observed traffic data:

Average speed (MPH): N or E: 52

S or W: 52

This space is intended for any additional information.

Site sketch below



Project name: SR270 Seg 12-13

Project ID#: 75614

Measurement taken by: Todd Begner

Additional staff: Miles Duvall

Date: Time: 11:00 Location#: VP43 Run#: 2

Site description: Grass/Sandy area NE of Intersection

SLM GPS - LAT: LON:

Run file #: Distance from edge of pavement (Ft): 53

Weather Conditions: Clear Partly Cloudy Cloudy Other:

Temperature (F):	Start: 96.7	End:	
Wind Direction:	Start: SE	End:	
Humidity (%):	Start: 49.8	End:	
Wind Speed (Start) (MPH):	Min: 2.0	Max:	Avg:
Wind Speed (End) (MPH):	Min:	Max:	Avg:

Equipment Data:		SLM: LD SandExpert 881	Serial number:	40173
Date of last traceable calibration:		6-29-25	Calibration by:	JM1
Calibrator:		LD CAL 200	Serial number:	22132
Calibration:	Start:	114.0	End:	Difference:
Battery:	Start:		End:	Counter used:
Weighting scale:	A	Response:	Fast / Slow	

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: 106.1

Major noise source(s): _____

Background noise source(s): Generator - 106.1

Notes/Observations: _____

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E: <u>6</u>	Vehicle Type	Volume S or W: <u>6</u>
Auto	<u>17</u>	Auto	<u>17</u>
Motorcycle	<u>0</u>	Motorcycle	<u>0</u>
Bus	<u>1</u>	Bus	<u>0</u>
H. Truck	<u>7</u>	H. Truck	<u>3</u>
M. Truck	<u>3</u>	M. Truck	<u>4</u>

Observed traffic data:

Average speed (MPH): N or E: 52 S or W: 52

This space is intended for any additional information.

Site sketch below



NOISE FIELD DATA SHEET

HNTB

Project name: SR70 Seg 12-13
 Project ID#: 75614
 Measurement taken by: Todd Bognet
 Additional staff: Miles Oliveri
 Date: _____ Time: 1:27 Location#: VP4 3 Run#: 3
 Site description: _____
 SLM GPS - LAT: _____ LON: _____
 Run file #: _____ Distance from edge of pavement (Ft): 52

Weather Conditions: Clear Partly Cloudy Cloudy Other: _____

Temperature (F): Start: 96.7 End: _____
 Wind Direction: Start: SE End: _____
 Humidity (%): Start: 49.8 End: _____
 Wind Speed (Start) (MPH): Min: 2.0 Max: _____ Avg: _____
 Wind Speed (End) (MPH): Min: _____ Max: _____ Avg: _____

Equipment Data: SLM: LD SoundExpert 821 Serial number: 410173
 Date of last traceable calibration: 6-29-25 Calibration by: TM1
 Calibrator: LD CAL 200 Serial number: 22132
 Calibration: Start: 114 End: _____ Difference: _____
 Battery: Start: _____ End: _____ Counter used: _____
 Weighting scale: A Response: Fast / Slow

Meter height set to 5'. Meter location set a minimum of 50' from edge of pavement and 15' from structures

Results (dB(A)): Leq: ~~64~~ 64.4
 Major noise source(s): _____
 Background noise source(s): _____
 Notes/Observations: _____

NOISE FIELD DATA SHEET



Vehicle Type	Volume N or E:	Vehicle Type	Volume S or W:
Auto	19	Auto	12
Motorcycle	0	Motorcycle	0
Bus	0	Bus	0
H. Truck	4	H. Truck	2
M. Truck	2	M. Truck	2

Observed traffic data:

Average speed (MPH): N or E: 52

S or W: 52

This space is intended for any additional information.

Site sketch below

