

# **Draft Noise Study Report**

Florida Department of Transportation

District 1

Fort Hamer Road

From North of Upper Manatee River road to US 301

Manatee County, Florida

Manatee County Project Number: 6054767, 6054768

ETDM Number: 14536

October 4, 2024

# DRAFT NOISE STUDY REPORT

## Fort Hamer Road PD&E Study

Upper Manatee River Road to US 301

Manatee County, Florida



CIP #: 6054767 & 6054768

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## Executive Summary

Manatee County is conducting a Project Development & Environment (PD&E) Study to evaluate a 3.8-mile segment of Fort Hamer Road from Upper Manatee River Road to US 301 in Manatee County, Florida. The purpose of this project is to enhance safety, improve traffic operations, provide multimodal access, and meet future transportation demand. The study will include options for widening the existing 2-lane roadway to a 4-lane roadway with a raised median and enhanced multimodal accommodations for all users.

This Noise Study Report (NSR) documents the results of an analysis that was performed for the PD&E Study to identify land uses for which there are Noise Abatement Criteria (NAC) that would be impacted by highway traffic noise in the design year with the improved roadway. Traffic noise levels were predicted for the existing conditions (2023), and future conditions (2050) without the proposed improvements (the No-Build Alternative) and with the improvements (the Build Alternative).

The purpose of this NSR is to identify land uses adjacent to the project corridor for which there are NAC, to evaluate future traffic noise levels at the properties with and without the proposed improvements, and to evaluate the need for, and effectiveness of, noise abatement measures. Additional objectives include the consideration of potential construction noise impacts and the identification of noise impact “contours” adjacent to the corridor.

The analysis was performed following the Florida Department of Transportation’s (FDOT) procedures that comply with Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772), Procedures for Abatement of Highway Traffic Noise and Construction Noise. The evaluation uses methodologies established by the FDOT’s traffic noise policy in the FDOT PD&E Manual – Highway Traffic Noise.

The results of the highway traffic noise analysis indicate that 15 residences are predicted to have noise levels that approach, meet, or exceed the NAC in the future with the Preferred Alternative. The results of the analysis also indicate that when compared to existing conditions, traffic noise levels with the proposed improvements would not increase more than 4.1 dB(A) at any receptor. As such, the project would not substantially increase highway traffic noise (i.e., an increase of 15 dB(A) or more). Noise abatement measures were considered for the impacted properties.

The FDOT and Manatee County are committed to the construction of feasible and reasonable noise abatement measures at noise-impacted locations 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; and
5. Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved.

Based on the results of the PD&E Study, a noise barrier is a potentially reasonable and feasible noise abatement measure for the impacted receptors within the Kingsfield subdivision. At barrier heights ranging from 10 to 22 feet, all 8 impacted receptors would be benefited by the noise barrier, the NRDG of achieving a 7 dB(A) reduction for at least one of the benefited receptors would be achieved, and the barrier costs would be below the cost per benefited receptor criterion. Also based on the results of the evaluation, there appear to be no feasible and reasonable solutions to abate the predicted traffic noise impacts at the remaining 7 receptors.

Section 4.0 of this NSR provides distances from the edge of the nearest travel lane with the proposed improvements at which noise levels are predicted to approach, meet, or exceed the NAC for the land uses designated as Activity Category A, B/C, and E for the project. This information is provided to assist local officials and developers in promoting noise compatible land uses.

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## 1.0 PROJECT SUMMARY

The purpose of this Noise Study Report (NSR) is to identify noise sensitive land uses, which are properties adjacent to the project corridor for which there are Noise Abatement Criteria (NAC); to evaluate future traffic noise levels at the properties with and without the proposed improvements, and to evaluate the need for and effectiveness of noise abatement measures. Additional objectives include the consideration of potential construction noise impacts and the identification of noise impact contours adjacent to the corridor. This chapter includes a summary of the project, purpose & need, alternatives analysis, and a description of the preferred alternative.

### 1.1 Project Description

The project involves the potential widening of the existing two-lane, undivided Fort Hamer Road up to four lanes from Upper Manatee River Road to US 301, approximately four miles, within unincorporated Manatee County (**Figure 1-1**). The bridge (Bridge #134123) included within the project limits, carrying Fort Hamer Road across the Manatee River, is also proposed to be widened up to four lanes. Fort Hamer Road provides a crucial north-south connection across the Manatee River as one of four crossings of the river. It also runs adjacent and parallel to I-75, serving as a potential north-south alternate route to I-75 during periods of congestion and major traffic-related incidents.

Fort Hamer Road is classified as "Minor Arterial" and consists of two undivided 12-foot lanes along most of the corridor.<sup>1</sup> An open drainage system with grass swales provides stormwater conveyance along both sides of the existing roadway. The posted speed limit is 45 miles per hour (mph), and the context classification is C3R-Suburban Residential. The existing fixed span bridge along Fort Hamer Road consists of two undivided 12-foot lanes. It was constructed in 2017 and is in good condition. The existing clearances of the main bridge span include a minimum 26-foot vertical clearance above mean high water and a minimum 75-foot horizontal clearance measured perpendicular to the navigable channel of the Manatee River. The proposed project is not anticipated to alter the existing navigable channel required clearances.

A continuous five-foot sidewalk is present on the east side of Fort Hamer Road from the southern project limit across the bridge. North of the bridge, a continuous five-foot sidewalk is present on the west side of the road to the northern project limit. Intermittent sidewalks also occur on the east side of the road north of the bridge. Designated five-foot bicycle lanes are present along the road and bridge for the length of the project. The Sarasota-Manatee Metropolitan Planning Organization's (MPO) Active Transportation Plan includes Fort Hamer Road in the Alignment Vision Network. As such, bicycle, and pedestrian facilities (including, sidewalks/marked bicycle lanes/shared-use paths) are proposed to be accommodated as part of the project.

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<sup>1</sup> FDOT, 2013. Federal Functional Classification / Urban Boundaries map. Accessed on July 19, 2023 from <https://www.fdot.gov/statistics/hwysys/cubfc.shtm>



The existing roadway right of way (ROW) varies from 84 feet to more than 120 feet. Additional ROW is anticipated to accommodate the proposed improvements. ROW needs will be determined during the PD&E Study.

## 1.2 Description of Preferred Alternative

Based on the engineering and environmental comparative analysis documented during this PD&E study, the Preferred Alternative for Fort Hamer Road is Alternative 2 with roundabout intersections (see **Figure 1-2 and Figure 1-3**). Alternative 2 best meets the project purpose with:

- Additional travel lanes for vehicle capacity
- New roundabout intersections for enhanced operations and safety
- New raised median for improved safety
- Additional sidewalk for accessibility
- New shared use path for multimodal accommodations



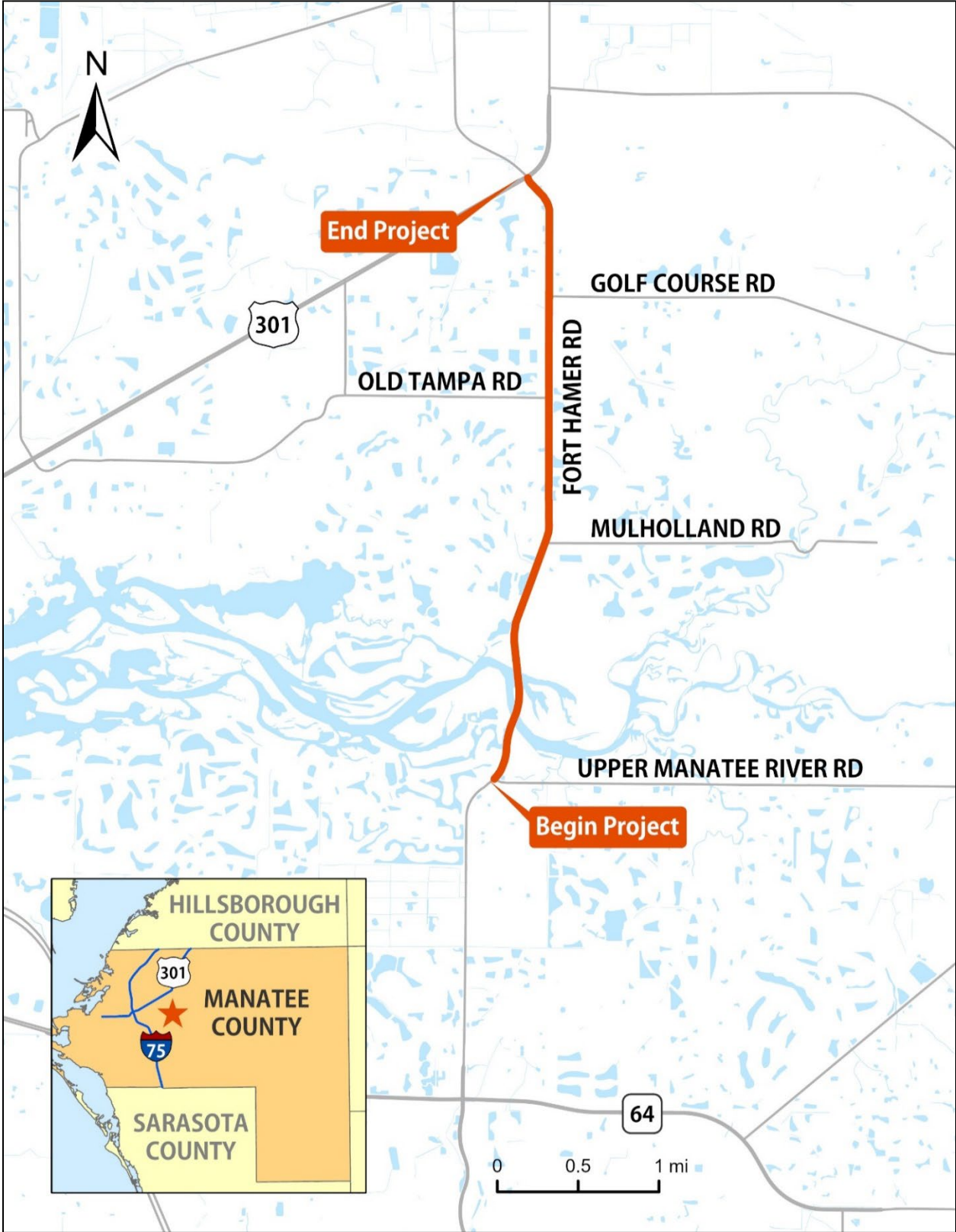


Figure 1-1: Project location

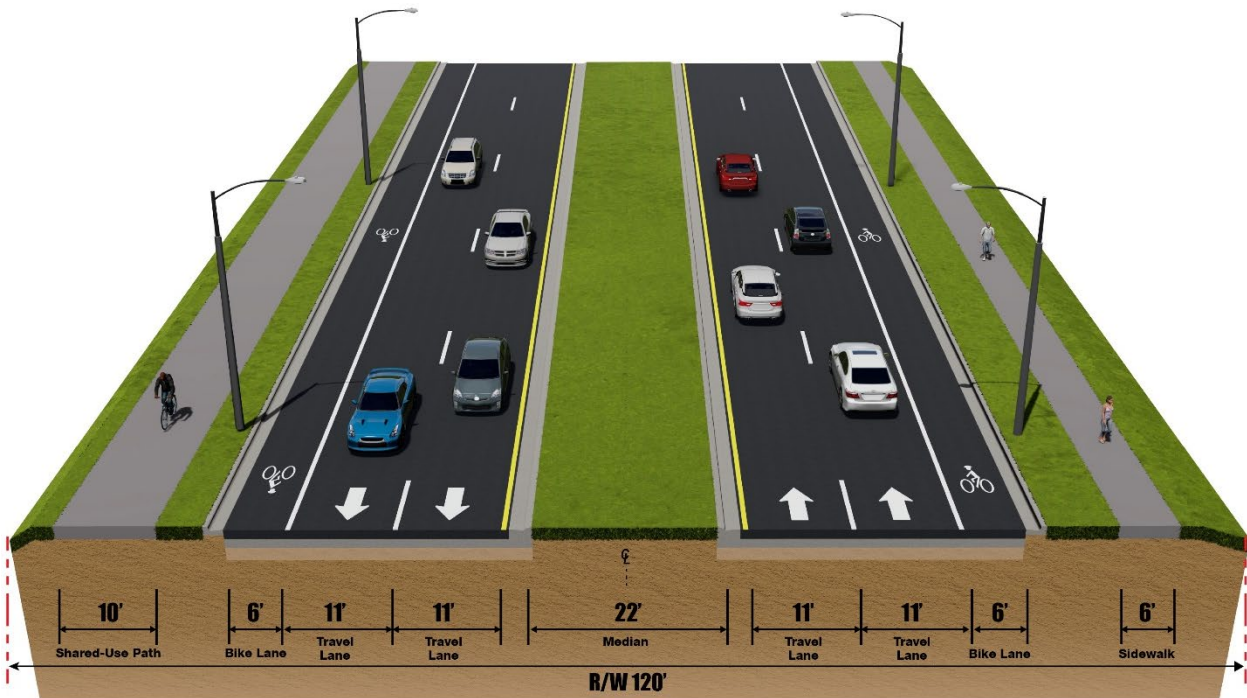


Figure 1-2: Preferred Alternative roadway typical section

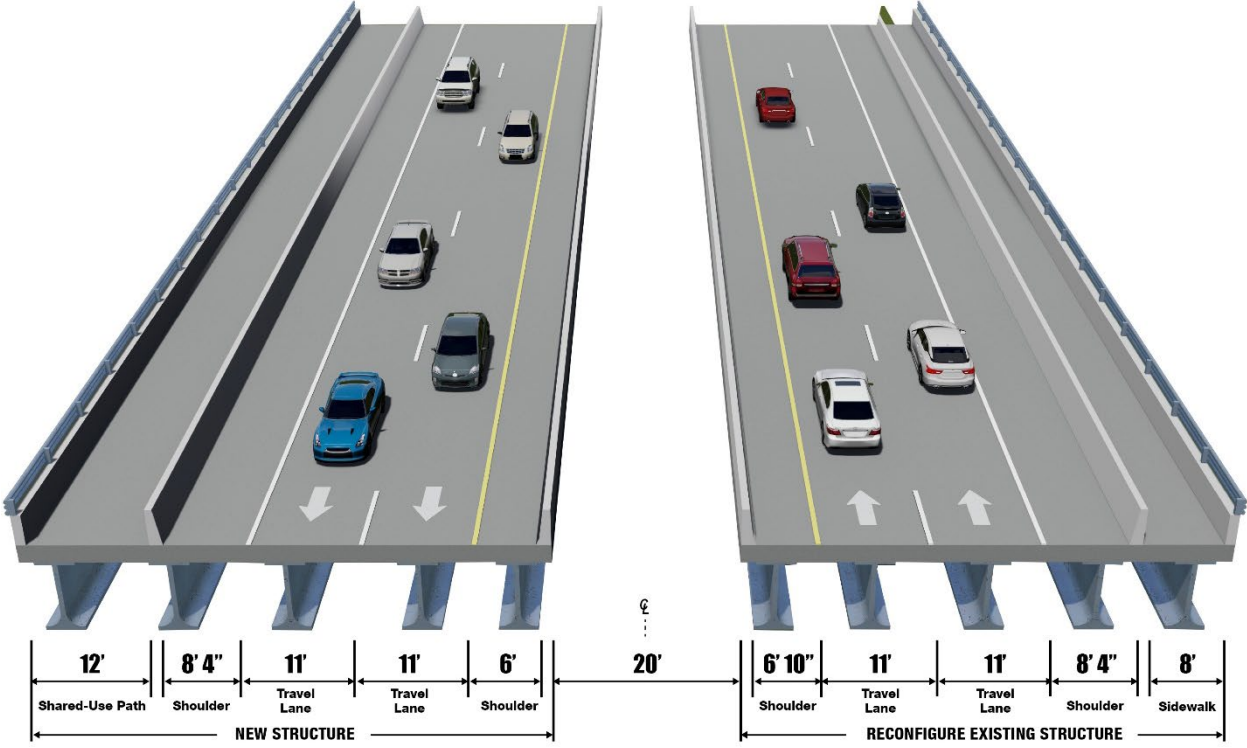


Figure 1-3: Preferred Alternative bridge typical section

## 2.0 METHODOLOGY

The methodologies used to prepare the highway traffic noise analysis are documented in Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772), the Florida Department of Transportation's (FDOT) Noise Policy (FDOT PD&E Manual – Highway Traffic Noise), and the FDOT's Traffic Noise Modeling and Analysis Practitioners Handbook.

This NSR section describes the sound level metrics and motor vehicle traffic data that were used to prepare the analysis and the criteria used to determine if a future design year (2050) traffic noise level with the new roadway would be considered an impact. Potential noise abatement measures are also described.

### 2.1 Noise Metrics

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

### 2.2 Traffic Data

Highway traffic noise levels are low when traffic volumes are low and operating conditions are good (Level of Service [LOS] A or B). Highway traffic noise levels are also low when traffic is so congested that movement is slow (LOS D, E, or F). Generally, the maximum hourly noise level occurs between these two conditions (i.e., LOS C). For these reasons, when demand volumes are forecast to be less than LOS C conditions, LOS A or B conditions are modeled (because the demand volume is not forecast to reach the LOS C level). Conversely, when demand volumes are forecast to be greater than LOS C conditions, LOS C conditions are modeled because use of the LOS C data provides conservative results.

The traffic data (i.e., vehicle volume, fleet mix, and motor vehicle speeds) that was used to predict existing year (2023) and future year (2050) conditions both with and without the proposed improvements for Fort Hamer Road are provided in **Appendix A** of this NSR.

### 2.3 Noise Abatement Criteria

To evaluate highway traffic noise, the Federal Highway Administration (FHWA) established Noise Abatement Criteria (NAC). As shown in **Table 2-1**, these criteria vary according to a land use's activity category. For comparative purposes, typical sound levels produced by common indoor and outdoor activities are provided in **Table 2-2**. Following Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772), highway traffic noise is predicted to impact a land use for which there is a NAC when design year traffic noise levels with a roadway improvement approach, meet, or exceed the NAC or when design year levels with an improvement increase substantially when compared to existing levels. FDOT's Noise Policy considers a NAC to be "approached" when a traffic noise level is predicted to be within 1 dB(A) of the NAC and a substantial increase is predicted when future highway traffic noise levels with a roadway improvement increase 15 dB(A) or more when compared to existing levels.

*Table 2-1: FHWA and FDOT Noise Abatement Criteria*

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

Sources: Table 1 of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) and Figure 18-1 of Chapter 18 of the FDOT's PD&E Manual (dated July 1, 2023).

<sup>1</sup> The Leq(h) activity criteria values are for impact determination only and are not design standards for noise abatement measures.

<sup>2</sup> 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 2-2: Typical Sound Levels*

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

Source: California Dept. of Transportation Technical Noise Supplement, November 2009, Page 2-21.



### 3.0 TRAFFIC NOISE ANALYSIS

This section discusses sound level measurements that were obtained within the study area to validate the Traffic Noise Model (TNM) and provides the results of the traffic noise analysis for the land uses within the project limits for which there are NAC. The on-site land use review for this project was conducted on April 25, 2024.

#### 3.1 Model Validation

The purpose of model validation is to ensure that motor vehicle traffic is the primary source of noise within a project's study area and to verify that the TNM predicts existing traffic noise levels that are within an acceptable range. The validation process involves obtaining sound level measurements adjacent to the existing roadway and during each measurement period noting the average vehicle travel speeds, vehicle counts, and fleet identification (e.g., automobiles, trucks, buses, and motorcycles), and site conditions (e.g., topography and distance from the roadway). Sources of sound other than motor vehicles (e.g., aircraft flyovers, birds, barking dogs, etc.) are also noted during each measurement period because the presence of such sound sources could result in measured levels exceeding the modeled levels. These data are then used to create input for the TNM, and the model is executed. Following FDOT's methodology, the TNM is considered valid to predict existing conditions if the field measured sound levels are within +/- 3.0 dB(A) of the TNM predicted highway traffic noise levels.

Field measurements were conducted in accordance with the FHWA's Noise Measurement Handbook (FHWA-HEP-18-065). The measurements were obtained using a Larson Davis (LD) 831 Type 1 integrating sound level meter (SLM), and the SLM was calibrated before and after each period with an LD CAL200 calibrator.

Based on the field measurements and validation results the ability of TNM to predict traffic noise levels for the project was confirmed (see **Table 3-1**). Measured levels were slightly higher than the modeled levels for almost all of the measurement periods due to the SLM measuring both traffic noise and background noise (aircraft flyovers, insects, and birds), whereas the modeled levels represent only traffic noise. Documentation in support of the validation is provided in **Appendix B** of this NSR. The locations at which the measurements were obtained are illustrated on project aerials in **Appendix C**.

*Table 3-1: Noise Validation Summary*

Location		Measurement Period	Measured dB(A)	Modeled dB(A)	Difference dB(A)
Site 1	75 ft from edge of pavement	1	64.3	62.1	2.2
		2	62.5	61.3	1.2
		3	62.8	61.9	0.9
Site 2	85 ft from edge of pavement	1	60.0	58.6	1.4
		2	59.5	59.5	0.0
		3	62.8	60.5	2.3

### 3.2 Predicted Noise Levels and Abatement Analysis

Traffic noise levels were predicted at properties with land uses for which there are NAC in proximity to Fort Hamer Road. A total of 126 noise sensitive sites were evaluated. The locations of the receptors representing these sites are depicted on aerials in **Appendix C**. These 126 receptors represent 121 residences, two schools, a place of worship, a park, and a golf course. Receptors were predicted to be impacted by traffic noise if the TNM results with the proposed improvements were equal to or greater than 66 dB(A) for NAC B and C properties. There were no NAC A, D, or E properties identified within the project limits. There were no building permits issued at the new development locations on the east side of Fort Hamer Road and north and south of Golf Course Road at the time the land use review for this project was conducted.

The predicted traffic noise levels for each of the evaluated receptors are provided in **Appendix D**. In addition to predicting future (2050) traffic noise with the Preferred Alternative (i.e., the Build Alternative), traffic noise was predicted for the existing year (2023) with the existing roadway geometry (i.e., the Existing Alternative) and for the future without the proposed improvements (i.e., the No-Build Alternative).

In the existing year (2023), traffic noise with the existing conditions is predicted to range from 51.8 to 67.0 dB(A). The project’s design year (2050) with the No-Build Alternative traffic noise is also predicted to range from 51.8 to 67.0 dB(A). In the design year with the Build Alternative traffic noise is predicted to range from 53.8 to 68.0 dB(A), exceeding the NAC at 15 residential receptors. As also shown in Appendix D, traffic noise along the project corridor is not predicted to increase substantially from existing levels with the maximum increase being 4.1 dB(A).

### 3.3 Noise Abatement Measures

#### 3.3.1 Traffic Management

Some traffic management measures can reduce motor vehicle-related noise. For example, trucks can be prohibited from certain streets and roads, or be permitted to only use certain streets and roads during daylight hours. The timing of traffic lights can also be changed to smooth out the flow of traffic and eliminate the need for frequent stops and starts. Reducing speed limits and increasing enforcement of speed limits is also an effective method of reducing motor vehicle noise.



### 3.3.2 Alignment Modifications

Modifying the alignment of a roadway can also be an effective traffic noise mitigation measure. When the horizontal alignment is shifted away from a noise sensitive land use, the sound level is reduced for the land uses that are farther from the roadway than before the shift. In certain circumstances, when a change is made to the vertical alignment (i.e., shifting the alignment so that it is below or above the elevation of a land use), highway traffic noise may be reduced due to shielding.

### 3.3.3 Buffer Zones

Providing a buffer between a roadway and future noise sensitive land uses is an abatement measure that can minimize/eliminate noise impacts in areas of future development. To encourage use of this abatement measure through local land use planning, noise contours have been developed and are further discussed in Section 4 of this NSR. To abate traffic noise for an existing land use using this abatement measure, the property would have to be acquired.

### 3.3.4 Noise Barriers

Noise barriers have the potential to reduce traffic noise by interrupting the sound path between the motor vehicles on a roadway and a noise sensitive land use next to the roadway. To effectively reduce traffic noise, a barrier must be relatively long, continuous, and sufficiently tall. Use of noise barriers is the most common traffic noise abatement measure. Generally, noise barriers are most effective when placed as close to the noise source or as close to the noise receptor as possible.

### 3.3.5 Feasible and Reasonable Abatement Measures

For PD&E studies, a measure is considered a potential noise abatement measure if the following criteria are met:

- **Minimum Noise Reduction** – To meet the minimum noise reduction criteria, an abatement measure must provide at least a 5 dB(A) reduction in traffic noise for two or more impacted receptors and provide a 7 dB(A) reduction, the FDOT's Noise Reduction Design Goal (NRDG), for one or more benefited receptors. Failure of a measure to provide at least a 5 dB(A) reduction for two or more impacted receptors results in a measure being deemed not feasible. Failure to achieve the NRDG results in a measure being deemed not reasonable.
- **Cost Effectiveness Criterion** – Based on FDOT's Noise Policy, to be considered a reasonable abatement measure for a residence, the measure should cost no more than \$64,000 per benefited receptor (i.e., per benefited property for which the land use has a NAC). The FDOT currently uses an estimated cost of \$40 per square foot for noise barrier-related materials and labor.

If the results of an abatement measure evaluation indicate that a measure would provide at least the minimum required reduction in traffic noise at a cost that is less than the cost effectiveness criterion, additional factors are considered. Depending on the measure, feasibility factors relate to design and construction (i.e., given site-specific details, can an abatement measure be implemented), safety, accessibility, ROW requirements, maintenance, and impacts on utilities and/or drainage. Because the analysis is performed on conceptual designs for roadway improvements, noise abatement measures are only identified as being potentially feasible and reasonable at the conclusion of a project's PD&E phase.

For such measures, the FDOT makes a commitment to perform detailed analysis in the project's design phase (including obtaining the viewpoints of the property owners and/or residents of the benefited properties) when the final construction plans for an improvement are prepared.

### **3.4 Abatement Considerations**

As previously stated, when traffic noise impacts are predicted, noise abatement measures are considered for the impacted properties. The following discusses the FDOT's consideration of each of the measures for the impacted receptors with the improvements to Fort Hamer Road.

#### **3.4.1 Traffic Management**

Reducing traffic speeds and/or the traffic volume or changing the motor vehicle fleet is inconsistent with the goal of increasing operational capacity of the roadway. Therefore, traffic management is not considered to be a reasonable measure to abate the predicted traffic noise impacts for the Fort Hamer Road Project.

#### **3.4.2 Alignment Modification**

As discussed in Section 1.0, the project is planned to improve operational capacity (i.e., widening from two to four lanes) along the existing roadway. A significant change in the alignment (i.e., a doubling of the distance between the roadway and the receptor) would be needed to provide a 3 dB(A) change in noise level and the alignment change would require the acquisition of additional ROW for the improvement. A review of data from the Manatee County Property Appraiser indicates that the cost to acquire the additional ROW would exceed the cost-effective limit. Additionally, there are noise sensitive sites on both sides of Fort Hamer Road. It would not be possible to shift the alignment to alleviate potential impacts at all sites. Therefore, a modification of the alignment of the roadway is not considered to be a reasonable noise abatement measure.

#### **3.4.3 Buffer Zones**

As previously stated, to abate predicted traffic noise at an existing noise sensitive land use, the impacted property would have to be acquired. As also previously stated, to be considered a cost-effective measure, the cost of abatement should cost no more than \$64,000 per benefited residential receptor. A review of data from the Manatee County Property Appraiser indicates that the cost to acquire the impacted properties adjacent to the Fort Hamer Road Project would exceed the cost-effective limit. Therefore, creating a buffer zone by acquiring the properties is not considered to be a reasonable noise abatement measure.

#### **3.4.4 Noise Barriers**

The TNM was used to evaluate the potential for noise barriers to reduce traffic noise levels for the impacted receptors. The noise barrier results are presented for the two barriers evaluated for the impacted receptors within the River Wilderness subdivision (west side of Fort Hamer Road between Mulholland Road and Old Tampa Road) and the Kingsfield subdivision (west side of Fort Hamer Road between Old Tampa Road and Golf Course Road).

The lengths of the barriers were optimized in an attempt to benefit all of the impacted receptors. Once optimized, the reduction in traffic noise at each impacted receptor was reviewed to determine if the acoustic feasibility requirement (i.e., a reduction of at least 5 dB(A) for two impacted receptors) and the acoustic reasonableness requirement (i.e., a reduction of at least 7 dB(A) for one benefited receptor) could be achieved. If the noise reduction requirements were met, the cost reasonableness of providing a noise barrier as an abatement measure was also considered (i.e., not to exceed \$64,000 per benefited receptor).

FDOT's noise policy states that the number of impacted receptors required to achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible will be two or greater. Therefore, noise barriers were not evaluated for isolated impacted receptors. Based on the noise analyses, there appear to be no feasible mitigation solutions available for the impacted isolated residential receptors W2-1, W4-4, W7-5, E5-4, and E5-11.

*Noise Barrier: River Wilderness Subdivision*

A noise barrier was evaluated for the two impacted residences represented by receptors W5-3 and W5-11. The barrier was evaluated 12 feet within the FDOT ROW. The barrier was evaluated at a minimum height of 8 feet to the maximum allowable height of 22 feet in two-foot increments. The results of the barrier evaluation are shown in **Table 3-2**. As shown, the barrier could not reduce traffic noise by at least 5 dB(A) at both impacted receptors at any height. This is attributed to the loss of barrier effectiveness due to a gap in the barrier to accommodate the direct access driveway in front of receptor W5-3. Since only one impacted receptor received a noise reduction of at least 5 dB(A), the barrier is not considered a feasible noise abatement measure at this location.

*Table 3-2: Noise Barrier: River Wilderness Subdivision*

Noise Barrier		Number of Impacted Receptors	Noise Reduction at Impacted Receptors (dB(A)) <sup>1</sup>		Number of Benefited Receptors <sup>2</sup>			Total Estimated Cost <sup>3</sup>	Cost per Benefited Receptor <sup>4</sup>	Cost Reasonable Yes/No
Height (feet)	Length (feet)		5 – 6.9	≥7	Impacted	Not Impacted	Total			
8	1,340	2	1	0	1	1	2	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
10	1,340		1	0	1	7	8	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
12	1,340		0	1	1	9	10	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
14	1,340		0	1	1	9	10	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
16	1,340		0	1	1	9	10	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
18	1,340		0	1	1	9	10	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
20	1,340		0	1	1	9	10	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
22	1,340		0	1	1	9	10	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>

<sup>1</sup> Receptors with a predicted noise level of 66 dB(A) or greater.

<sup>2</sup> Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.

<sup>3</sup> Based on a unit cost of \$40 per square foot.

<sup>4</sup> The FDOT cost reasonable criterion is \$64,000 per benefited receptor.

<sup>5</sup> A reduction of at least 5 dB(A) for two or more impacted receptors could not be achieved at any length at this height.

*Noise Barrier: Kingsfield Subdivision*

A noise barrier was evaluated for the 8 impacted residences represented by receptors W6-2, W6-3, W6-5, W6-6, W6-16, W6-19, W6-20, and W6-23. Due to limited ROW at this location, the barrier was evaluated at the back of the proposed shared-use path. The barrier was evaluated at a minimum height of 8 feet to the maximum allowable height of 22 feet in two-foot increments. The results of the barrier evaluation are shown in **Table 3-3**. As shown, the barrier could reduce traffic noise by at least 5 dB(A) at all the impacted receptors and achieve the NRDG of 7 dB(A) to at least one benefited receptor at heights ranging from 10 to 22 feet. The cost of the noise barrier would be below the FDOT’s cost reasonable criterion of \$64,000 per benefited receptor.

*Table 3-3: Noise Barrier: Kingsfield Subdivision*

Noise Barrier		Number of Impacted Receptors	Noise Reduction at Impacted Receptors (dB(A)) <sup>1</sup>		Number of Benefited Receptors <sup>2</sup>			Total Estimated Cost <sup>3</sup>	Cost per Benefited Receptor <sup>4</sup>	Cost Reasonable Yes/No
Height (feet)	Length (feet)		5 – 6.9	≥7	Impacted	Not Impacted	Total			
8	NA <sup>5</sup>	8	7	0	7	4	11	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>
10	1,815		1	7	8	15	23	\$726,000	\$31,565	Yes
12	1,786		1	7	8	16	24	\$857,280	\$35,720	Yes
14	1,786		1	7	8	19	27	\$1,000,160	\$37,043	Yes
16	1,786		1	7	8	24	32	\$1,143,040	\$35,720	Yes
18	1,766		1	7	8	28	36	\$1,271,520	\$35,320	Yes
20	1,766		1	7	8	29	37	\$1,412,800	\$38,184	Yes
22	1,766		1	7	8	30	38	\$1,554,080	\$40,897	Yes

<sup>1</sup> Receptors with a predicted noise level of 66 dB(A) or greater.

<sup>2</sup> Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.

<sup>3</sup> Based on a unit cost of \$40 per square foot.

<sup>4</sup> The FDOT cost reasonable criterion is \$64,000 per benefited receptor.

<sup>5</sup> The NRDG could not be achieved at any length at this height.

## 4.0 NOISE CONTOURS

The land uses in Table 2-1 of this NSR are considered incompatible with highway noise levels that approach, meet, or exceed the NAC. To reduce the potential for these land uses to be permitted for construction in areas where traffic noise impacts have been predicted with the proposed improvements noise contours were developed. The contours delineate a distance from the improved roadway’s edge-of-pavement where a traffic noise level of 56 dB(A)—the FDOT approach criteria for land uses classified as Activity Category A, 66 dB(A)—the approach criteria for land uses classified as Activity Category B and C, and 71 dB(A)—the approach criteria for land uses classified as Activity Category E, are predicted.

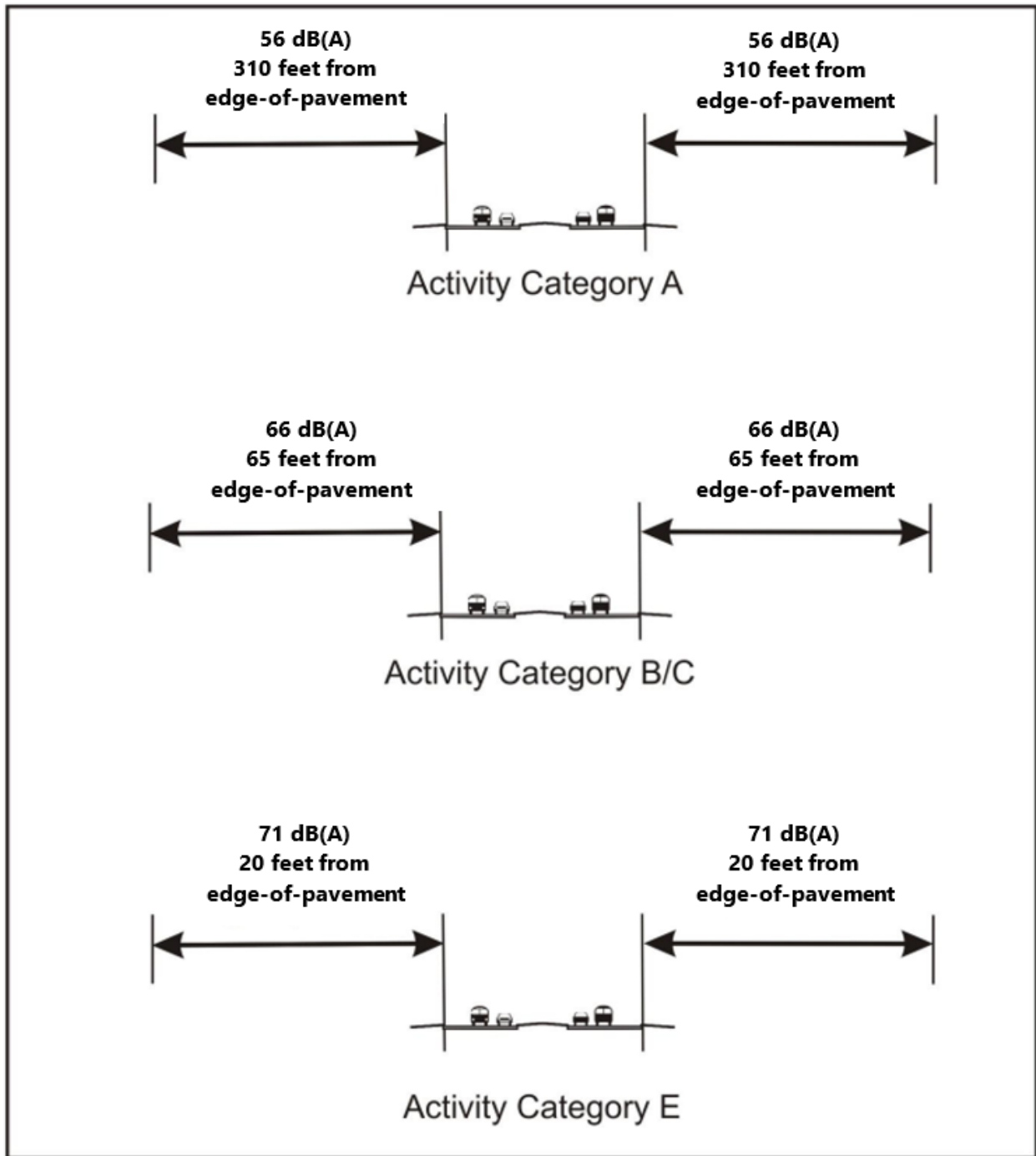
The distance at which the NAC would be approached for each Activity Category is shown in **Table 4-1** and the noise contours are shown in **Figure 4-1**.

*Table 4-1: Distance at Which the NAC Would be Approached, Met, or Exceeded*

Distance From Improved Roadway’s Edge-of-Pavement (feet)*		
Activity Category A 56 dB(A)	Activity Category B/C 66 dB(A)	Activity Category E 71 dB(A)
310	65	20

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

Figure 4-1: Noise Contours





## 5.0 CONSTRUCTION NOISE AND VIBRATION

The residences, the schools, the church, and the park within the project limits are considered to be construction noise sensitive sites. Additionally, the residences are also considered to be vibration sensitive sites. Construction of the roadway improvements is not expected to have a substantial noise or vibration impact. If noise-sensitive land uses develop adjacent to the roadway prior to construction, additional impacts could result. It is anticipated that application of the FDOT Standard Plans 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 coordination with the District and/or County Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

## 6.0 COMMUNITY COORDINATION

The FDOT conducted an Alternatives Public Meeting for the Fort Hamer Road PD&E Study on January 25, 2024, at the Parrish United Methodist Church. A virtual public meeting was conducted on February 1, 2024. A Public Hearing is anticipated to be held late 2024. The hearing will inform the public of the results of the PD&E Study and provide the opportunity for the public to express their views regarding specific location, design, socio-economic effects, and environmental impacts associated with the No-Build and the Preferred Alternative.

Upon approval of the project's environmental document, a copy of the final NSR will be provided to the Manatee County Community Development Services office for their use associated with planning for development after the date of public knowledge. Noise contours are discussed in Section 4.0 and shown in Table 4-1 and in Figure 4-1 to assist planning and zoning with a best estimate on distances from the proposed edge-of-pavement at which traffic noise levels would meet or exceed the FDOT's NAC.

## 7.0 CONCLUSIONS

This NSR documents the results of a highway traffic noise analysis that was performed for the PD&E Study for Fort Hamer Road. Traffic noise levels were predicted for the existing conditions (2023), and future conditions (2050) without the proposed improvements (i.e., the No-Build Alternative) and with the improvements (i.e., the Build Alternative).

The results of the highway traffic noise analysis indicate that 15 residences are predicted to have noise levels that approach, meet, or exceed the NAC in the future with the Preferred Alternative. The results of the analysis also indicate that when compared to existing conditions, traffic noise levels with the proposed improvements would not increase more than 4.1 dB(A) at any receptor. As such, the project would not substantially increase highway traffic noise (i.e., an increase of 15 dB(A) or more). Noise abatement measures were considered for the impacted properties.

The FDOT and Manatee County are committed to the construction of feasible and reasonable noise abatement measures at noise-impacted locations 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; and
5. Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved.

Based on the results of the PD&E Study, a noise barrier is a potentially reasonable and feasible noise abatement measure for the impacted receptors within the Kingsfield subdivision. At heights ranging from 10 to 22 feet, all eight impacted receptors would be benefited by the noise barrier, the NRDG of achieving a 7 dB(A) reduction for at least one of the benefited receptors would be achieved, and the barrier costs would be below the cost per benefited receptor criterion. Also based on the results of the evaluation, there appear to be no feasible and reasonable solutions to abate the predicted traffic noise impacts at the remaining seven receptors.

## 8.0 REFERENCES

FDOT. Project Development and Environment Manual, Part 2, Chapter 18 – Highway Traffic Noise, July 31, 2024.

<https://www.fdot.gov/environment/pubs/pdeman/pdeman-current>

FDOT. Traffic Noise Modeling and Analysis Practitioners Handbook, December 2018.

<https://www.fdot.gov/environment/publications.shtm>

FHWA. Report FHWA-HEP-10-025, Highway Traffic Noise: Analysis and Abatement Guidance, December 2011.

[https://www.fhwa.dot.gov/environment/noise/regulations\\_and\\_guidance/analysis\\_and\\_abatement\\_guidance/revguidance.pdf](https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf)

FHWA. Report FHWA-HEP-18-065, Noise Measurement Handbook: Final Report, June 2018.

<https://www.fhwa.dot.gov/environment/noise/measurement/fhwahep18065.pdf>

Title 23 CFR § 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise, Tuesday, July 13, 2010.

[http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr772\\_main\\_02.tpl](http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr772_main_02.tpl)

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

<https://dot.ca.gov/programs/environmental-analysis/noise-vibration>

FHWA. Report Number FHWA-PD-96-009, FHWA Traffic Noise Model User's Guide (Version 2.5 Addendum). April 2004.

[http://www.fhwa.dot.gov/environment/noise/traffic\\_noise\\_model/tnm\\_v25/users\\_manual/index.cfm](http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/tnm_v25/users_manual/index.cfm)

FDOT. Standard Plans for Road and Bridge Construction. July 2024.

<https://www.fdot.gov/design/standardplans/default.shtm>

## **Appendix A – Traffic Data**

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT  
FDOT DISTRICT 1


Federal Aid Number(s):	-
FPID Number(s):	-
State/Federal Route No.:	-
Road Name:	Ft. Hamer Road
Project Description:	Ft. Hamer Road PD&E Study
Segment Description:	Upper Manatee River Road to Rive Isle Run
Section Number:	13000009
Mile Post To/From:	-

Existing Facility:		D =	63.80%	%
Year:	2023	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1097	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

No Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1585	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	1530	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	2492	MT =	1.15%	% of Design Hour Volume
Posted Speed:	40	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

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

Prepared By: Cris Schooley  Date: 3/14/2024  
Print Name Signature

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

FDOT Reviewer: Brittany Nichols  Date: 06/06/2024 | 7:15 AM EDT  
Print Name Signature

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT  
FDOT DISTRICT 1


Federal Aid Number(s):	-
FPID Number(s):	-
State/Federal Route No.:	-
Road Name:	Ft. Hamer Road
Project Description:	Ft. Hamer Road PD&E Study
Segment Description:	Rive Isle Run to Mulholland Road
Section Number:	13000009
Mile Post To/From:	-

Existing Facility:		D =	63.80%	%
Year:	2023	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1097	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

No Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1034	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	1530	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1837	MT =	1.15%	% of Design Hour Volume
Posted Speed:	40	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

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FDOT Reviewer: Brittany Nichols  Date: 06/06/2024 | 7:15 AM EDT  
Print Name Signature



TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT  
FDOT DISTRICT 1


Federal Aid Number(s):	-
FPID Number(s):	-
State/Federal Route No.:	-
Road Name:	Ft. Hamer Road
Project Description:	Ft. Hamer Road PD&E Study
Segment Description:	Mulholland Road to Old Tampa Road
Section Number:	13000008
Mile Post To/From:	-

Existing Facility:		D =	63.80%	%
Year:	2023	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1097	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

No Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1102	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	1530	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1912	MT =	1.15%	% of Design Hour Volume
Posted Speed:	40	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

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

Prepared By: Cris Schooley  Date: 3/14/2024

Print Name Signature

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

FDOT Reviewer: Brittany Nichols  Date: 06/06/2024 | 7:15 AM EDT

Print Name Signature

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT  
FDOT DISTRICT 1


Federal Aid Number(s):	-
FPID Number(s):	-
State/Federal Route No.:	-
Road Name:	Ft. Hamer Road
Project Description:	Ft. Hamer Road PD&E Study
Segment Description:	Old Tampa Road to Golf Course Road
Section Number:	13000008
Mile Post To/From:	-

Existing Facility:		D =	63.80%	%
Year:	2023	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1097	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

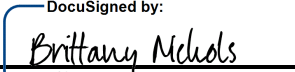
No Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1280	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	1530	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1797	MT =	1.15%	% of Design Hour Volume
Posted Speed:	40	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

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

Prepared By: Cris Schooley  Date: 3/14/2024  
Print Name Signature

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FDOT Reviewer: Brittany Nichols  Date: 06/06/2024 | 7:15 AM EDT  
Print Name Signature

TRAFFIC DATA FOR NOISE STUDIES - SUMMARY OUTPUT  
FDOT DISTRICT 1


Federal Aid Number(s):	-
FPID Number(s):	-
State/Federal Route No.:	-
Road Name:	Ft. Hamer Road
Project Description:	Ft. Hamer Road PD&E Study
Segment Description:	Golf Course Road to US 301
Section Number:	13000008
Mile Post To/From:	-

Existing Facility:		D =	63.80%	%
Year:	2023	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1097	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

No Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	873	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	1573	MT =	1.15%	% of Design Hour Volume
Posted Speed:	45	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

Build Alternative (Design Year):		D =	63.80%	%
Year:	2050	T24 =	4.60%	% of 24 Hour Volume
LOS C Peak Hour Directional Volume:	1530	Tpeak =	2.30%	% of Design Hour Volume
Demand Peak Hour Volume:	2125	MT =	1.15%	% of Design Hour Volume
Posted Speed:	40	HT =	1.15%	% of Design Hour Volume
		B =	0.57%	% of Design Hour Volume
		MC =	0.88%	% of Design Hour Volume

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

Prepared By: Cris Schooley  Date: 3/14/2024  
 Print Name Signature

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

FDOT Reviewer: Brittany Nichols  Date: 06/06/2024 | 7:15 AM EDT  
 Print Name Signature

# **Appendix B – Validation Documentation**

## NOISE MEASUREMENT DATA SHEET

Measurements Taken By: WA, LB, and JH Date: 4-25-24  
 Time Run 1 Started: 12:40 pm Time Run 1 Ended: 12:50 pm  
 Time Run 2 Started: 12:56 pm Time Run 2 Ended: 1:06 pm  
 Time Run 3 Started: 1:13 pm Time Run 3 Ended: 1:23 pm

**Project Identification:**

Financial Project ID: 444937-1-22-01  
 Project Location: Ft Hamer Road  
 Site Identification: Site 1 - East side of Ft Hamer Rd at Williams Elementary School

**Weather Conditions:**

Sky: Clear Partly Cloudy  Cloudy Other  
 Temperature 87 F Wind Speed 1.0 mph Wind Direction from NE Humidity 58%

**Equipment:**

**Sound Level Meter:**

Type: Larson Davis 831  
 Did you check the battery? Yes   
 Calibration Readings: Start 114.0 End 114.0  
 Response Settings: Slow  
 Weighting: A

**Calibrator:**

Type: LD CAL200  
 Did you check the battery? Yes

### TRAFFIC DATA (Run 1/Run 2/Run 3)

Roadway Identification	Ft Hamer Rd NB		Ft Hamer Rd SB	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	97/102/121	42/45/41	127/85/122	44/43/42
Medium Trucks	5/0/1	37/na/43	3/2/2	41/41/43
Heavy Trucks	0/1/3	na/19/38	2/1/1	39/43/41
Buses	0/0/0	na/na/na	0/0/0	na/na/na
Motorcycles	1/0/0	42/na/na	2/1/0	38/42/na
Duration	Three 10-minute sample periods		Three 10-minute sample periods	

### RESULTS [dB(A)]

L<sub>EQ</sub> 64.3 (Run 1), 62.5 (Run 2), 62.8 (Run 3)

Primary Noise: Traffic on Ft. Hamer Road.  
 Background Noise: Aircraft flyover and insects.

## NOISE MEASUREMENT DATA SHEET

Measurements Taken By: WA, LB, and JH Date: 4-25-24  
 Time Run 1 Started: 11:27 am Time Run 1 Ended: 11:37 am  
 Time Run 2 Started: 11:45 am Time Run 2 Ended: 11:55 pm  
 Time Run 3 Started: 12:00 pm Time Run 3 Ended: 12:10 pm

**Project Identification:**

Financial Project ID: 444937-1-22-01  
 Project Location: Ft Hamer Road  
 Site Identification: Site 2 - Ft Hamer Rd at North River Church

**Weather Conditions:**

Sky: Clear Partly Cloudy  Cloudy Other  
 Temperature 80 F Wind Speed 5.0 mph Wind Direction from S Humidity 62%

**Equipment:**

**Sound Level Meter:**

Type: Larson Davis 831  
 Did you check the battery? Yes   
 Calibration Readings: Start 114.0 End 114.0  
 Response Settings: Slow  
 Weighting: A

**Calibrator:**

Type: LD CAL200  
 Did you check the battery? Yes

### TRAFFIC DATA (Run 1/Run 2/Run 3)

Roadway Identification	Ft Hamer Rd NB		Ft Hamer Rd SB	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	73/56/71	44/44/42	54/47/69	44/46/44
Medium Trucks	3/6/6	36/37/41	6/2/3	40/48/43
Heavy Trucks	0/1/0	na/31/na	0/2/5	na/44/40
Buses	0/0/0	na/na/na	0/0/0	na/na/na
Motorcycles	0/2/1	na/41/45	0/0/0	na/na/na
Duration	Three 10-minute sample periods		Three 10-minute sample periods	

### RESULTS [dB(A)]

L<sub>EQ</sub> 60.0 (Run 1), 59.5 (Run 2), 62.8 (Run 3)

Primary Noise: Traffic on Ft. Hamer Road.  
 Background Noise: Single-engine aircraft, birds, and insects.

**Appendix C –  
Project Aerials**



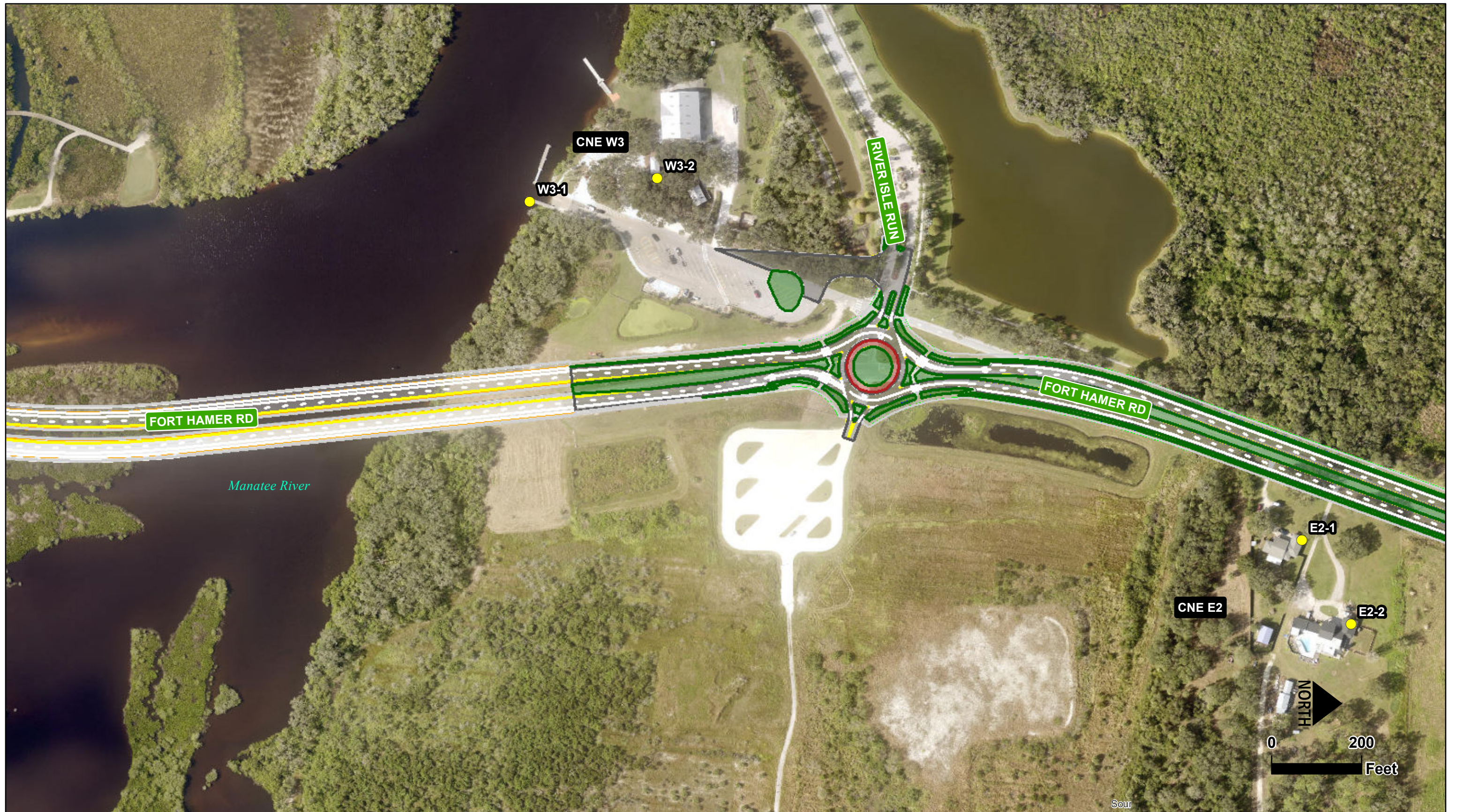


Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend	
● (Red)	Noise Sensitive Receptor - Impacted + Not Benefited
● (Green)	Noise Sensitive Receptor - Impacted + Benefited
● (Yellow)	Noise Sensitive Receptor - Not Impacted + Not Benefited
● (Orange)	Noise Sensitive Receptor - Not Impacted + Benefited
■ (Black with white text)	CNE 1 Common Noise Environments
— (Pink dashed)	Potential Noise Barriers
★ (Blue)	Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 1 of 7



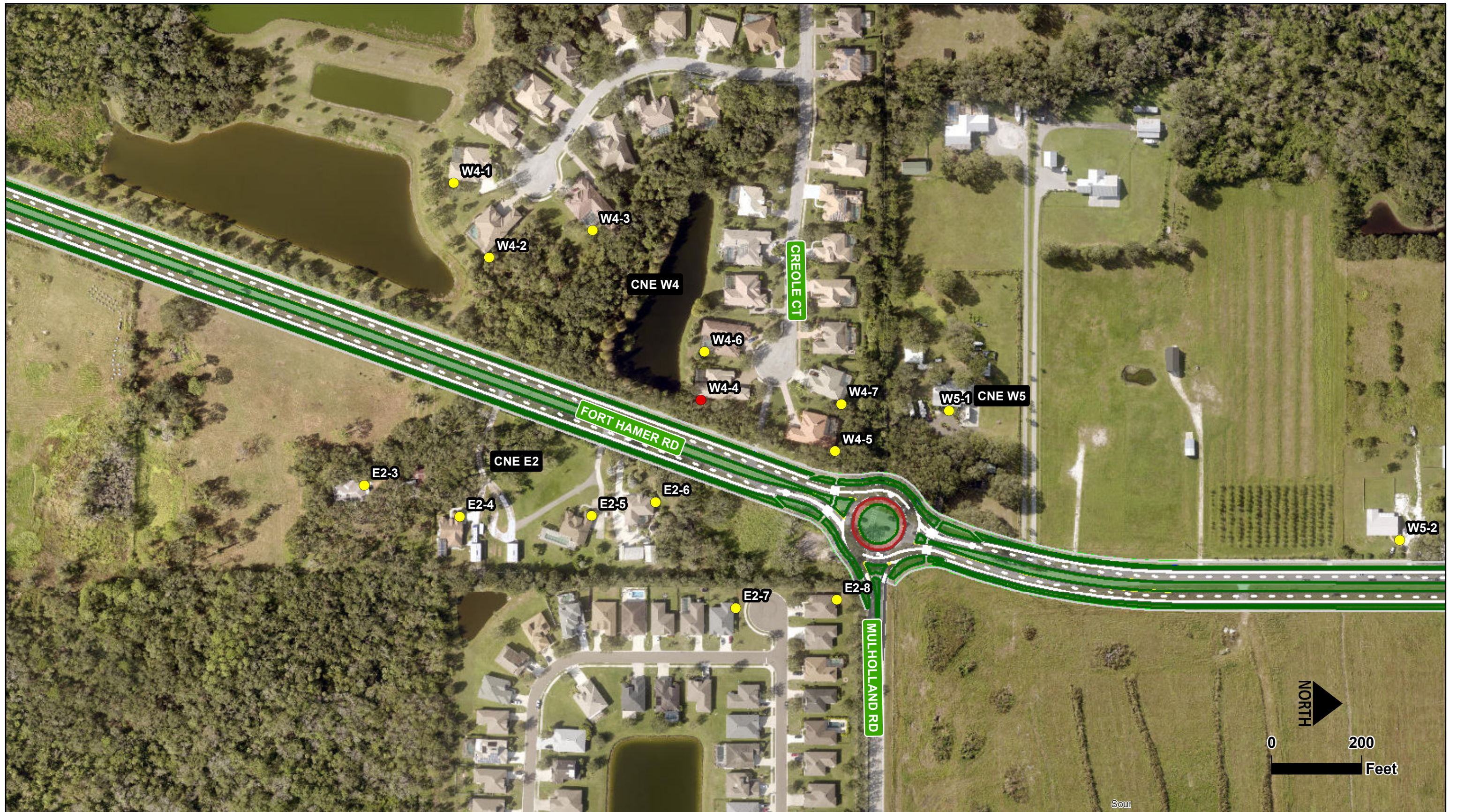


Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend	
● (Red)	Noise Sensitive Receptor - Impacted + Not Benefited
● (Green)	Noise Sensitive Receptor - Impacted + Benefited
● (Yellow)	Noise Sensitive Receptor - Not Impacted + Not Benefited
● (Orange)	Noise Sensitive Receptor - Not Impacted + Benefited
■ (Black)	CNE1 Common Noise Environments
— (Pink dashed)	Potential Noise Barriers
★ (Blue)	Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 2 of 7





Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend

- Noise Sensitive Receptor - Impacted + Not Benefited
- Noise Sensitive Receptor - Impacted + Benefited
- Noise Sensitive Receptor - Not Impacted + Not Benefited
- Noise Sensitive Receptor - Not Impacted + Benefited
- CNE 1 Common Noise Environments
- Potential Noise Barriers
- ★ Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 3 of 7





Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend

- Noise Sensitive Receptor - Impacted + Not Benefited
- Noise Sensitive Receptor - Impacted + Benefited
- Noise Sensitive Receptor - Not Impacted + Not Benefited
- Noise Sensitive Receptor - Not Impacted + Benefited
- CNE1 Common Noise Environments
- Potential Noise Barriers
- ★ Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 4 of 7





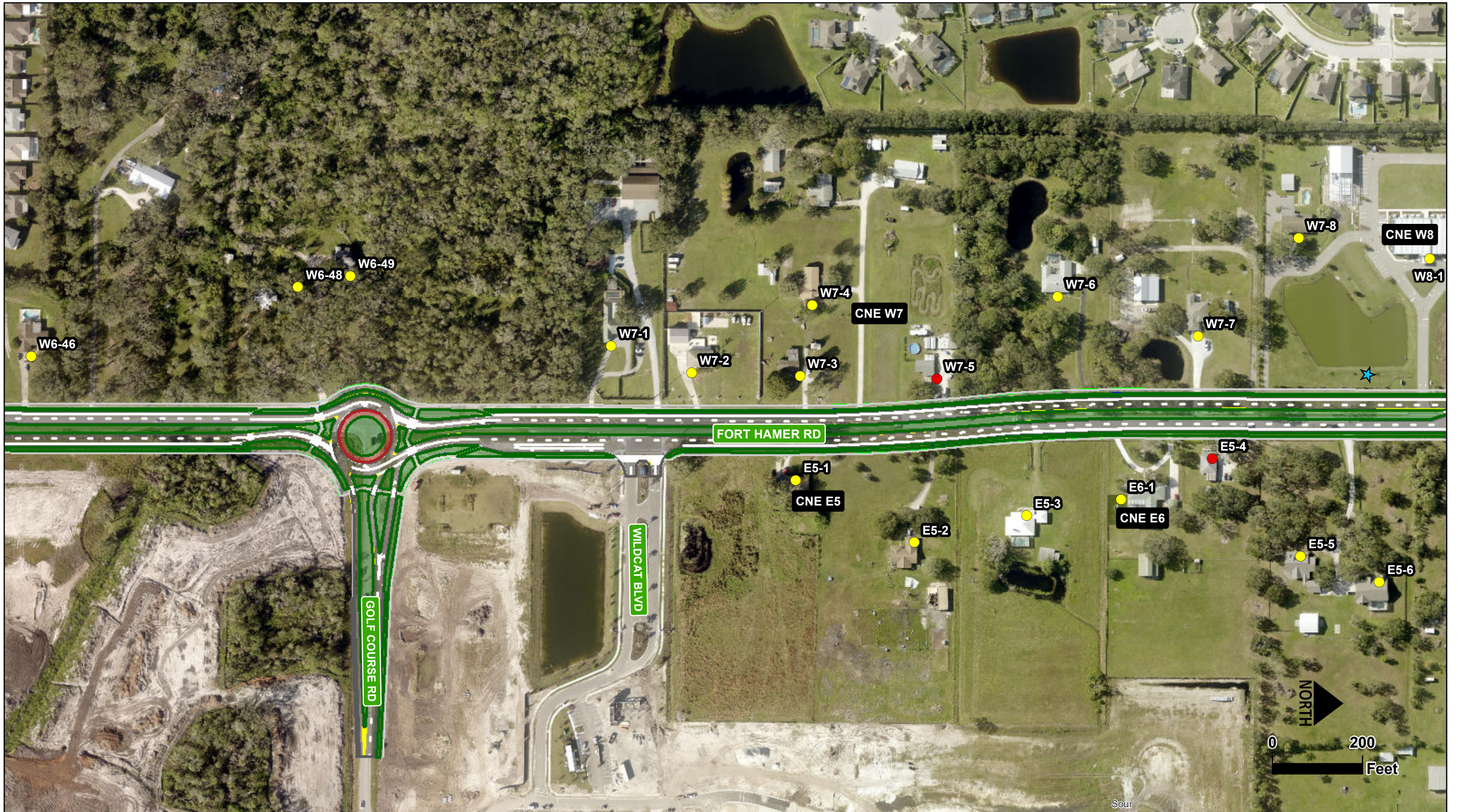
Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend

- Noise Sensitive Receptor - Impacted + Not Benefited
- Noise Sensitive Receptor - Impacted + Benefited
- Noise Sensitive Receptor - Not Impacted + Not Benefited
- Noise Sensitive Receptor - Not Impacted + Benefited
- CNE 1 Common Noise Environments
- Potential Noise Barriers
- ★ Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 5 of 7





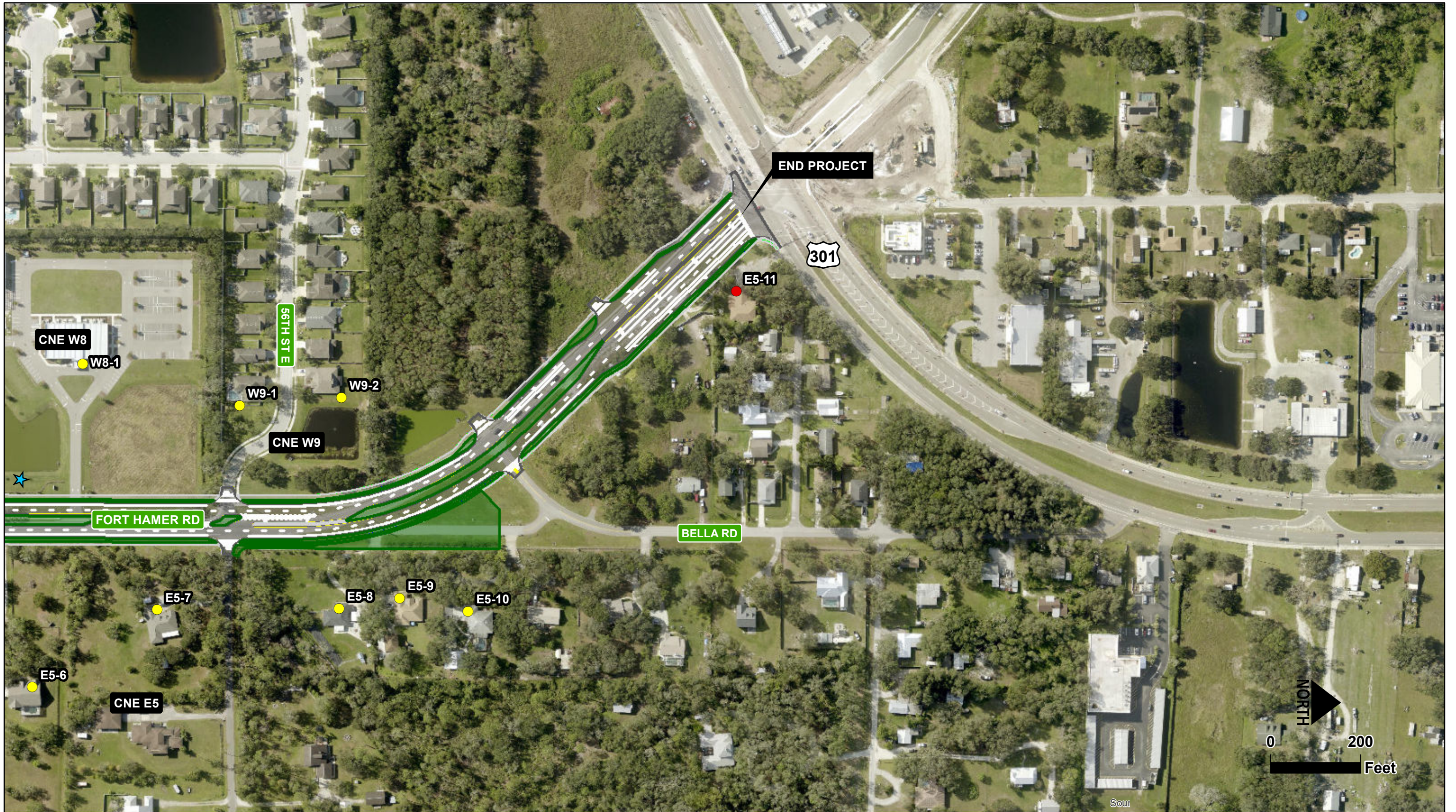
Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend

- Noise Sensitive Receptor - Impacted + Not Benefited
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- Noise Sensitive Receptor - Not Impacted + Benefited
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- Potential Noise Barriers
- ★ Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 6 of 7





Fort Hamer Road from Upper Manatee River Road to US 301  
 Project Development & Environment (PD&E) Study  
 CIP: 6054767 & 6054768

Legend

- Noise Sensitive Receptor - Impacted + Not Benefited
- Noise Sensitive Receptor - Impacted + Benefited
- Noise Sensitive Receptor - Not Impacted + Not Benefited
- Noise Sensitive Receptor - Not Impacted + Benefited
- CNE 1 Common Noise Environments
- - - Potential Noise Barriers
- ★ Validation Locations

Appendix C  
 Noise Sensitive Receptors  
 Sheet 7 of 7



# **Appendix D – Predicted Traffic Noise Levels**



Receptor ID#	Activity Category	Impact Criteria	Description of Activity Category	No. of Noise Sensitive Sites Represented	No. of Dwelling Units	Predicted Traffic Noise Level (Leq(h)) [Expressed as dB(A)]				
						Existing (2023)	No-Build (2050)	Build (2050)	Increase from Existing	Build Approaches, Meets, or Exceeds the NAC?
W1-1	C	66	Golf Course at Waterlefe Golf & River Club	1	0	60.7	60.7	64.8	4.1	--
W1-2	C	66	Golf Course at Waterlefe Golf & River Club	0	0	59.4	59.4	62.2	2.8	--
W1-3	C	66	Golf Course at Waterlefe Golf & River Club	0	0	61.8	61.8	65.7	3.9	--
W1-4	C	66	Golf Course at Waterlefe Golf & River Club	0	0	61.3	61.3	65.1	3.8	--
W1-5	C	66	Golf Course at Waterlefe Golf & River Club	0	0	61.4	61.4	65.1	3.7	--
W1-6	C	66	Golf Course at Waterlefe Golf & River Club	0	0	61.4	61.4	65.0	3.6	--
W1-7	C	66	Golf Course at Waterlefe Golf & River Club	0	0	62.2	62.2	65.9	3.7	--
W1-8	C	66	Golf Course at Waterlefe Golf & River Club	0	0	59.2	59.2	62.5	3.3	--
W1-9	C	66	Golf Course at Waterlefe Golf & River Club	0	0	59.0	59.0	60.4	1.4	--
W1-10	C	66	Golf Course at Waterlefe Golf & River Club	0	0	58.4	58.4	59.9	1.5	--
W1-11	C	66	Golf Course at Waterlefe Golf & River Club	0	0	58.5	58.5	60.0	1.5	--
W1-12	C	66	Golf Course at Waterlefe Golf & River Club	0	0	58.0	58.0	59.5	1.5	--
W2-1	B	66	Waterlefe Golf & River Club	1	1	62.3	62.3	66.2	3.9	yes
W2-2	B	66	Waterlefe Golf & River Club	1	1	56.2	56.2	58.2	2.0	--
W2-3	B	66	Waterlefe Golf & River Club	1	1	58.3	58.3	60.4	2.1	--
W2-4	B	66	Waterlefe Golf & River Club	1	1	55.8	55.8	58.2	2.4	--
W2-5	B	66	Waterlefe Golf & River Club	1	1	57.9	57.9	59.6	1.7	--
W2-6	B	66	Waterlefe Golf & River Club	1	1	53.0	53.0	55.6	2.6	--
W2-7	B	66	Waterlefe Golf & River Club	1	1	52.7	52.7	55.3	2.6	--
W2-8	B	66	Waterlefe Golf & River Club	1	1	52.6	52.6	55.2	2.6	--
W2-9	B	66	Waterlefe Golf & River Club	1	1	53.0	53.0	54.8	1.8	--
W3-1	C	66	Fort Hamer Park	1	0	53.7	53.7	56.2	2.5	--
W3-2	C	66	Fort Hamer Park	0	0	52.9	52.9	55.3	2.4	--
W4-1	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	53.3	53.3	56.0	2.7	--
W4-2	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	55.6	55.6	58.2	2.6	--
W4-3	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	52.5	52.5	55.4	2.9	--
W4-4	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	63.3	63.3	66.4	3.1	yes
W4-5	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	63.5	63.5	65.3	1.8	--
W4-6	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	58.1	58.1	60.2	2.1	--
W4-7	B	66	River Wilderness from Rive Isle Run to Mulholland Rd	1	1	59.1	59.1	59.6	0.5	--
W5-1	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	57.1	57.1	56.6	-0.5	--
W5-2	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	64.6	64.6	65.8	1.2	--
W5-3	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	65.8	65.8	66.7	0.9	yes
W5-4	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	61.1	61.1	62.1	1.0	--
W5-5	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	64.1	64.1	64.9	0.8	--
W5-6	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	63.9	63.9	64.7	0.8	--
W5-7	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	61.4	61.4	62.5	1.1	--
W5-8	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	60.3	60.3	61.3	1.0	--
W5-9	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	61.8	61.8	63.4	1.6	--
W5-10	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	63.9	63.9	65.5	1.6	--
W5-11	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	64.3	64.3	66.1	1.8	yes
W5-12	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	62.0	62.0	63.6	1.6	--
W5-13	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	54.9	54.9	56.2	1.3	--
W5-14	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	58.5	58.5	59.2	0.7	--
W5-15	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	60.2	60.2	62.3	2.1	--
W5-16	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	60.2	60.2	62.4	2.2	--
W5-17	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	57.7	57.7	58.4	0.7	--

Receptor ID#	Activity Category	Impact Criteria	Description of Activity Category	No. of Noise Sensitive Sites Represented	No. of Dwelling Units	Predicted Traffic Noise Level (Leq(h)) [Expressed as dB(A)]				
						Existing (2023)	No-Build (2050)	Build (2050)	Increase from Existing	Build Approaches, Meets, or Exceeds the NAC?
W5-18	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	58.8	58.8	60.9	2.1	--
W5-19	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	56.8	56.8	58.1	1.3	--
W5-20	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	57.7	57.7	59.0	1.3	--
W5-21	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	55.7	55.7	56.6	0.9	--
W5-22	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	53.2	53.2	54.0	0.8	--
W5-23	B	66	River Wilderness and scattered residential from Mulholland Rd to Old Tampa Rd	1	1	55.5	55.5	55.5	0.0	--
W6-1	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	61.4	61.4	61.2	-0.2	--
W6-2	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	66.0	66.0	66.8	0.8	yes
W6-3	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.9	64.9	66.9	2.0	yes
W6-4	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	59.0	59.0	60.5	1.5	--
W6-5	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.1	64.1	66.6	2.5	yes
W6-6	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	65.3	65.3	68.0	2.7	yes
W6-7	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.0	64.0	64.7	0.7	--
W6-8	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.6	64.6	65.5	0.9	--
W6-9	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.3	64.3	64.7	0.4	--
W6-10	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.3	64.3	64.8	0.5	--
W6-11	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.0	64.0	65.7	1.7	--
W6-12	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.0	64.0	64.5	0.5	--
W6-13	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	63.8	63.8	64.4	0.6	--
W6-14	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	61.9	61.9	63.7	1.8	--
W6-15	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	61.7	61.7	63.5	1.8	--
W6-16	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	65.1	65.1	66.4	1.3	yes
W6-17	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.0	64.0	64.7	0.7	--
W6-18	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	63.7	63.7	64.7	1.0	--
W6-19	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	65.3	65.3	67.0	1.7	yes
W6-20	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.3	64.3	66.0	1.7	yes
W6-21	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	63.1	63.1	64.4	1.3	--
W6-22	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.2	64.2	65.7	1.5	--
W6-23	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	65.2	65.2	66.5	1.3	yes
W6-24	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	64.5	64.5	65.7	1.2	--
W6-25	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	57.6	57.6	56.4	-1.2	--
W6-26	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.3	54.3	55.6	1.3	--

Receptor ID#	Activity Category	Impact Criteria	Description of Activity Category	No. of Noise Sensitive Sites Represented	No. of Dwelling Units	Predicted Traffic Noise Level (Leq(h)) [Expressed as dB(A)]				
						Existing (2023)	No-Build (2050)	Build (2050)	Increase from Existing	Build Approaches, Meets, or Exceeds the NAC?
W6-27	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.9	54.9	56.5	1.6	--
W6-28	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.8	54.8	56.4	1.6	--
W6-29	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.7	54.7	56.3	1.6	--
W6-30	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.6	54.6	56.1	1.5	--
W6-31	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.5	54.5	55.8	1.3	--
W6-32	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.6	54.6	56.1	1.5	--
W6-33	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.1	54.1	55.3	1.2	--
W6-34	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.3	54.3	55.6	1.3	--
W6-35	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.1	54.1	55.4	1.3	--
W6-36	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.1	54.1	55.3	1.2	--
W6-37	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.3	54.3	55.6	1.3	--
W6-38	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.3	54.3	55.6	1.3	--
W6-39	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.6	54.6	55.8	1.2	--
W6-40	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	54.7	54.7	55.9	1.2	--
W6-41	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	55.0	55.0	56.0	1.0	--
W6-42	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	55.1	55.1	56.1	1.0	--
W6-43	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	58.9	58.9	60.0	1.1	--
W6-44	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	61.9	61.9	63.6	1.7	--
W6-45	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	63.2	63.2	65.0	1.8	--
W6-46	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	60.5	60.5	62.7	2.2	--
W6-47	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	53.6	53.6	55.4	1.8	--
W6-48	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	56.3	56.3	56.4	0.1	--
W6-49	B	66	Kingsfield and scattered residential from Old Tampa Rd to Golf Course Rd	1	1	55.9	55.9	56.5	0.6	--
W7-1	B	66	Scattered residential north of Golf Course Rd	1	1	59.9	59.9	61.0	1.1	--
W7-2	B	66	Scattered residential north of Golf Course Rd	1	1	62.6	62.6	64.2	1.6	--
W7-3	B	66	Scattered residential north of Golf Course Rd	1	1	63.2	63.2	64.8	1.6	--
W7-4	B	66	Scattered residential north of Golf Course Rd	1	1	56.5	56.5	57.1	0.6	--
W7-5	B	66	Scattered residential north of Golf Course Rd	1	1	64.3	64.3	66.1	1.8	yes
W7-6	B	66	Scattered residential north of Golf Course Rd	1	1	54.8	54.8	57.2	2.4	--
W7-7	B	66	Scattered residential north of Golf Course Rd	1	1	57.6	57.6	61.5	3.9	--
W7-8	B	66	Scattered residential north of Golf Course Rd	1	1	51.8	51.8	55.2	3.4	--
W8-1	C	66	North River Church	1	0	52.2	52.2	55.7	3.5	--
W9-1	B	66	Lakeside Preserve	1	1	54.4	54.4	57.9	3.5	--
W9-2	B	66	Lakeside Preserve	1	1	55.5	55.5	58.6	3.1	--
E1-1	B	66	Residential south of the Manatee River	1	1	56.3	56.3	57.6	1.3	--
E1-2	B	66	Residential south of the Manatee River	1	1	56.0	56.0	57.0	1.0	--
E2-1	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	59.8	59.8	62.6	2.8	--
E2-2	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	54.1	54.1	56.6	2.5	--
E2-3	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	53.8	53.8	56.1	2.3	--

Receptor ID#	Activity Category	Impact Criteria	Description of Activity Category	No. of Noise Sensitive Sites Represented	No. of Dwelling Units	Predicted Traffic Noise Level (Leq(h)) [Expressed as dB(A)]				
						Existing (2023)	No-Build (2050)	Build (2050)	Increase from Existing	Build Approaches, Meets, or Exceeds the NAC?
E2-4	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	54.2	54.2	56.4	2.2	--
E2-5	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	58.4	58.4	59.6	1.2	--
E2-6	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	63.1	63.1	64.1	1.0	--
E2-7	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	56.8	56.8	56.9	0.1	--
E2-8	B	66	River Plantation & scattered residential from River Island Run to Mulholland Rd	1	1	60.8	60.8	59.7	-1.1	--
E3-1	B	66	Chelsea Oaks (from Mulholland Rd to Old Tampa Rd)	1	1	57.1	57.1	58.6	1.5	--
E3-2	B	66	Chelsea Oaks (from Mulholland Rd to Old Tampa Rd)	1	1	53.6	53.6	55.7	2.1	--
E4-1	C	66	Williams Elementary School	1	0	51.8	51.8	53.8	2.0	--
E5-1	B	66	Scattered residential from Golf Course Rd to US 301	1	1	62.4	62.4	65.3	2.9	--
E5-2	B	66	Scattered residential from Golf Course Rd to US 301	1	1	55.6	55.6	57.5	1.9	--
E5-3	B	66	Scattered residential from Golf Course Rd to US 301	1	1	58.1	58.1	59.1	1.0	--
E5-4	B	66	Scattered residential from Golf Course Rd to US 301	1	1	67.0	67.0	66.0	-1.0	yes
E5-5	B	66	Scattered residential from Golf Course Rd to US 301	1	1	54.3	54.3	56.0	1.7	--
E5-6	B	66	Scattered residential from Golf Course Rd to US 301	1	1	52.9	52.9	55.0	2.1	--
E5-7	B	66	Scattered residential from Golf Course Rd to US 301	1	1	59.0	59.0	60.0	1.0	--
E5-8	B	66	Scattered residential from Golf Course Rd to US 301	1	1	57.9	57.9	60.1	2.2	--
E5-9	B	66	Scattered residential from Golf Course Rd to US 301	1	1	57.1	57.1	59.9	2.8	--
E5-10	B	66	Scattered residential from Golf Course Rd to US 301	1	1	53.6	53.6	56.7	3.1	--
E5-11	B	66	Scattered residential from Golf Course Rd to US 301	1	1	63.3	63.3	66.0	2.7	yes
E6-1	C	66	Discover Montessori Academy	1	0	59.5	59.5	60.4	0.9	--

**Appendix E –  
Traffic Noise Model (TNM) Files (provided  
electronically)**





## **Fort Hamer Road PD&E Study**

County Project Manager: Tony Russo, P.E.

Manatee County Public Works

1022 26th Avenue East

Bradenton, FL 34206-3926

