

# Final Noise Study Report

For the

## Project Development and Environment Study Sarasota and Charlotte Counties, Florida

Federal Aid Project Number: FL 38 001 R  
Financial Identification Number: 200610-1  
Sarasota County Project Number: 9419 B

Prepared for

U.S. Department of Transportation  
Federal Highway Administration

and

Sarasota County Public Works

In Consultation With

Florida Department of Transportation – District 1  
Charlotte County Public Works

FEBRUARY 2003

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**ENGLEWOOD INTERSTATE CONNECTOR**

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Prepared by

Wilbur Smith Associates

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## EXECUTIVE SUMMARY

Sarasota County Public Works and the Florida Department of Transportation (FDOT) District 1 are conducting a Project Development and Environment (PD&E) study in the area of the proposed Englewood Interstate Connector. The EIC project lies in South Sarasota County and North Charlotte County. The project limits consist roughly of SR 776 in the South to I-75 in the North and Jacaranda Boulevard to the west with the Myakka River on the east. The study area covers approximately 48 square miles. The existing land use is primarily rural and low-density residential.

The EIC is a proposed north-south arterial roadway that would connect State Road 776 in the south with I-75 in the north (an approximate 12-mile route). Seven alternative alignments for the EIC were presented at the Alternatives Public Workshop. After evaluation of the alternatives and considerations of public comments, two viable alternatives were selected. The two viable alternatives are:

Alternative N – Winchester Boulevard to New Location

Alternative X – Winchester Boulevard to River Road

Alternative “N” is comprised of heading north from SR 776 on Winchester Boulevard and then crossing South River Road to the proposed Englewood Interstate Connector. The new roadway facility will then proceed north across U.S. 41, to North River Road, then turn northwest along existing River Road to I-75. Alternative “X” is comprised of heading north on Winchester Boulevard from SR 776 to South River Road and then using existing River Road alignment to the interchange with I-75 to the north. When existing roadways are used, these roadways will be expanded to four lane facilities for both alternatives.

The objective of this noise study is to identify noise sensitive sites adjacent to the project corridor, to identify noise sensitive sites that are predicted to be impacted due to traffic noise, and to evaluate the need for, and the effectiveness of, noise abatement measures. Additional objectives include the evaluation of construction noise impacts and the prediction of future noise isopleths adjacent to the corridor.

Noise sensitive land use along the EIC project falls under the category of “B” for the Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC). Category “B” land use must be considered for noise abatement if project noise levels approach or exceed 67 dBA. The FDOT uses 66 dBA as the NAC, as it considers “approach” to mean within 1 dBA of the NAC. The noise level isopleths for the no build, Alternative N and Alternative X were generated using the FDOT TNM contour computer program. Alternative N would impact 72 residences, while Alternative X would impact 83 residences. No other noise sensitive locations would be impacted by any of the alternatives.

The FHWA requires that when the noise levels of a proposed federally aided roadway project approach or exceed NAC, or when a noise sensitive receiver will experience a significant increase in traffic noise due to a project, noise abatement measures must be considered. As stated in 23 CFR Part 772, measures to be considered include traffic system management, alignment

modifications, right of way taking, land use controls and the construction of noise barriers. These measures are covered in Section 3.0 of this report.

Noise abatement was considered at all impacted noise sensitive sites. The impacted receptors are located within 5 areas of the project, namely <sup>1</sup>west of Winchester Boulevard and <sup>2</sup>east of Winchester Boulevard just north of SR 776, both in Charlotte County; <sup>3</sup>west of Winchester Boulevard, just south of River Road in Sarasota County; <sup>4</sup>west of North River Road, just north of U.S. 41; and in the <sup>5</sup>northeast quadrant of the intersection of U.S. 41 and North River Road. Using the TNM model, the six (6) locations were evaluated in detail for the implementation of noise abatement structures.

Due to the isolated nature of the noise sensitive receptors in the Sarasota County area west of Winchester Boulevard and west of North River Road, noise abatement structures were evaluated and determined to be not cost-reasonable.

After weighing the benefits of noise reduction, continuous right of way availability, and cost per benefited receptor it was found that a barrier in the Charlotte County area west of Winchester Boulevard just north of SR 776 could provide feasible and cost reasonable noise abatement. This barrier would provide at least 5 dBA reduction to 37 impacted residences (71 benefited residences total) under Alternative N, and to 29 impacted residences (63 benefited residences total) under Alternative X. This barrier is recommended to be evaluated further during the design phase of the project.

noise wall

The area east of Winchester Boulevard just north of SR 776 does not have a high population density. Therefore, the cost of a feasible noise barrier exceeds the cost reasonable criterion. In the area north of U.S. 41 along the east side of the proposed Alternative X, a noise wall could provide the minimum 5dBA reduction. However due to requirements for subdivision and driveway access, the cost of this barrier exceeds the cost reasonable criterion. Based on the noise analyses performed to date, there appears to be no apparent solutions available to mitigate the noise impacts at 35 noise sensitive locations for Alternative N, and at 54 noise sensitive locations for Alternative X.

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## 1.0 INTRODUCTION

The objective of the PD&E Study is to provide documented environmental and engineering analyses necessary for Sarasota County and FDOT to reach a decision as to the type, location, and conceptual design of the Englewood Interstate Connector (EIC), in order to accommodate future traffic demand in a safe and efficient manner within the project limits. The EIC is also to be used to improve the hurricane evacuation capability of the surrounding area. The PD&E Study also satisfies the requirements of the National Environmental Policy Act (NEPA) and the Federal Highway Administration (FHWA) in order to qualify the project for federal funding.

### 1.1 Existing Conditions

The proposed EIC project is located in southern Sarasota County and northern Charlotte County. The project study area (see **Figure 1**) is generally bounded by I-75 on the north, State Road 776 on the south, the Myakka River on the east, and east of Jacaranda Boulevard on the west. The study area is approximately 48 square miles. The existing land use in the study area is primarily rural and low-density residential.

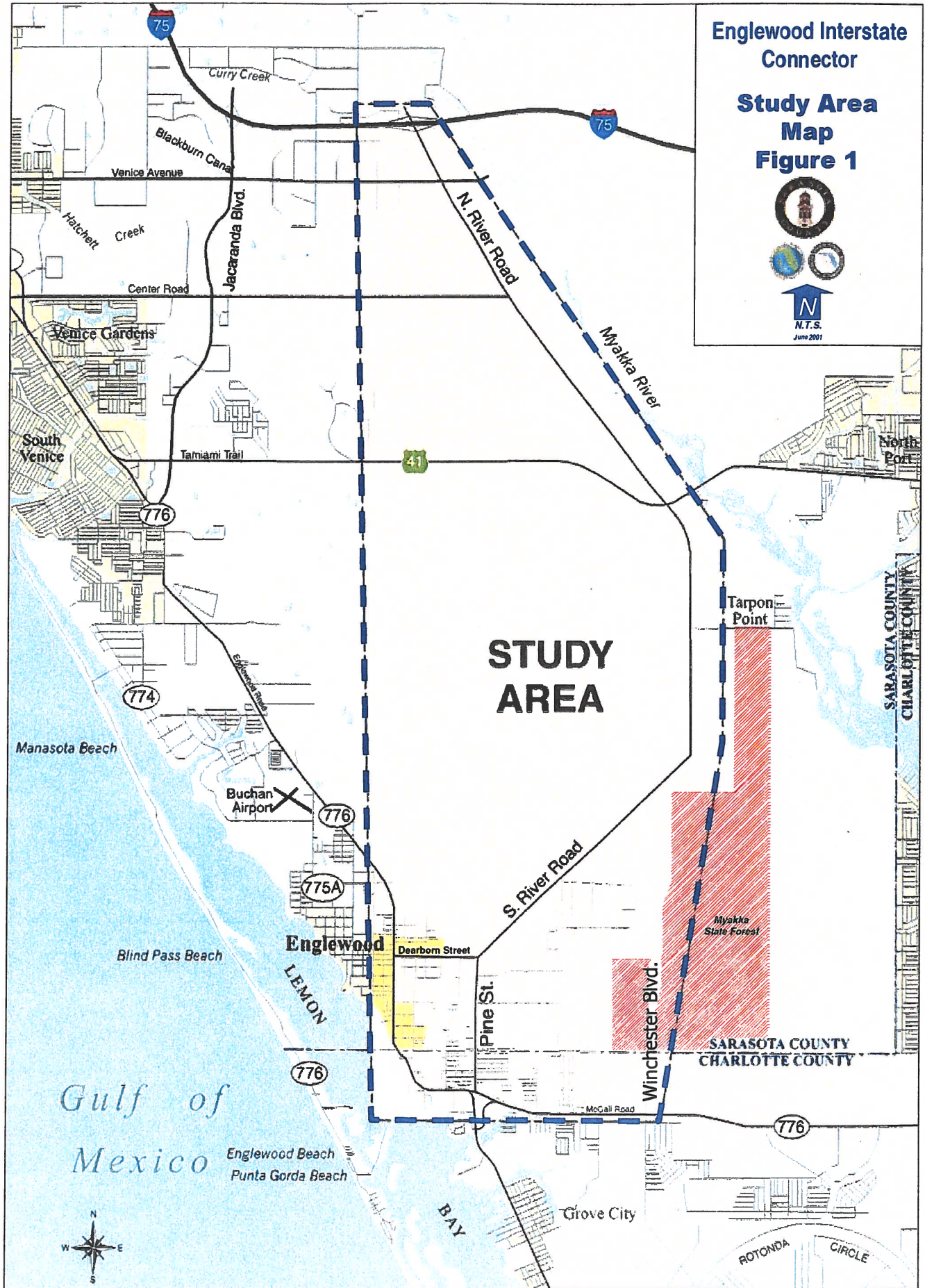
The existing land uses in the study area are generally comprised of two distinct types of uses. The first type covers the northern portion of the study area and is characterized by rural agricultural native land uses. A majority of the land in this portion of the study area is vacant or is used for agricultural purposes. A comparatively smaller portion of the study area is an urbanized higher density region located in the southern portion of the study area. This developed portion of the study area is located within both Sarasota County and Charlotte County.

### 1.2 Project Description

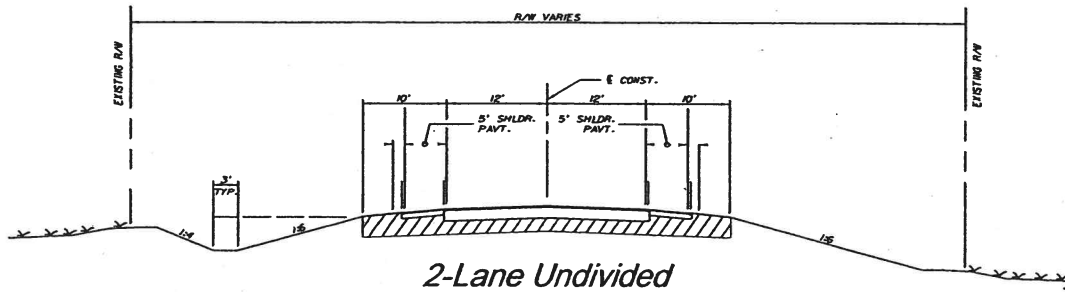
The EIC is a proposed north-south arterial roadway that would connect State Road 776 in the south with I-75 in the north (an approximate 12-mile route). Within the project limits the proposed EIC is made up of two different roadway sections. Typical sections of the facilities used in this project are located in **Figure 2**. SR 776 is four lane undivided roadway. Winchester Boulevard consists of a four lane divided roadway south of the Sarasota County line and narrows to a two lane undivided facility north of the Sarasota County Line. South River Road is a two lane undivided roadway. North River Road and U.S. 41 are both four lane divided facilities.

# Englewood Interstate Connector

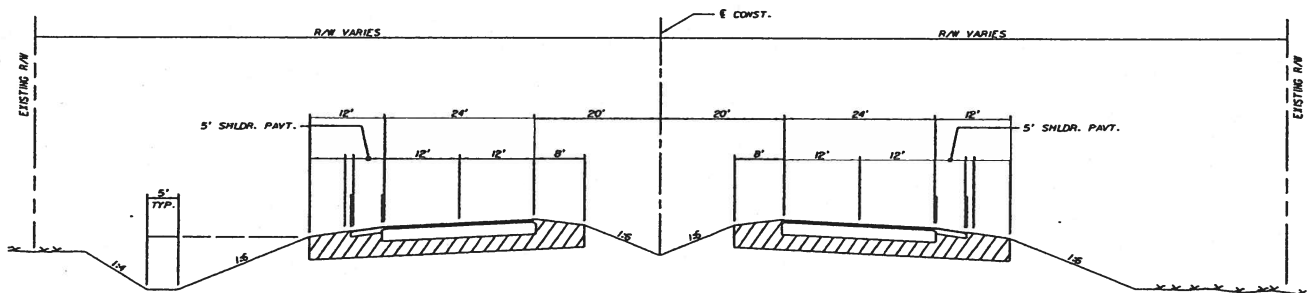
## Study Area Map Figure 1





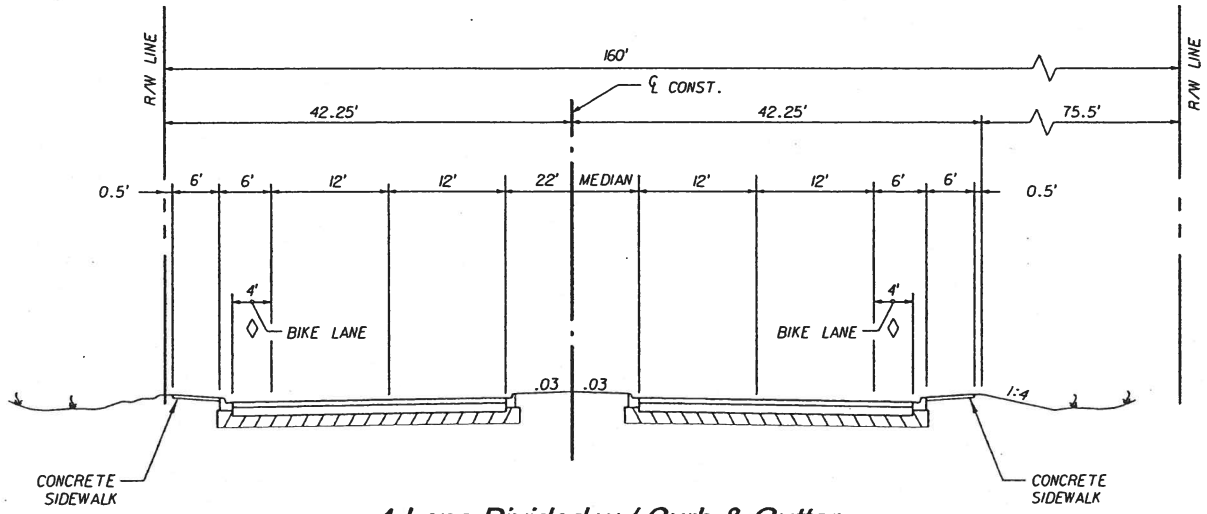


*2-Lane Undivided*  
*River Road from Dearborn St. / Pine St. to Venice Ave.*



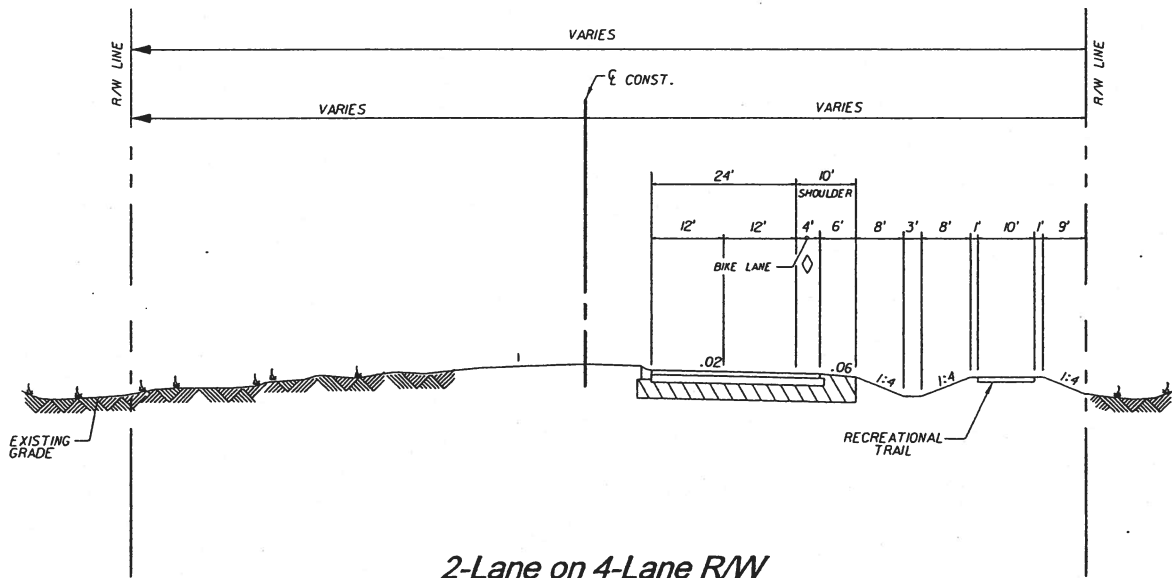
*4-Lane Divided (no Curb & Gutter)*  
*U.S. 41 from River Rd. to Jacaranda Blvd.*  
*North River Rd. from Venice Ave. to I-75*

**Figure 2**  
**Existing Typical Sections**  
 Not To Scale



4-Lane Divided w / Curb & Gutter

*Winchester Blvd. from S.R. 776 to Charlotte / Sarasota County Line*



2-Lane on 4-Lane R/W

*Winchester Blvd. from Charlotte / Sarasota County Line to River Rd.*

**Figure 2 (cont.)**  
**Existing Typical Sections**  
 Not To Scale

### **1.3 Need For Improvement**

Sarasota County has performed a number of roadway improvement studies within the study area, culminating in the “South County Traffic Circulation and Evacuation Alternative Corridor Study” completed in January 1997. That study identified the need for a north-south arterial as a high priority transportation improvement and identified several new and existing corridors that could satisfy that need. The need was based on a combination of Year 2010 capacity deficiencies on the existing roadway network and on the lack of adequate roadway hurricane evacuation capacity.

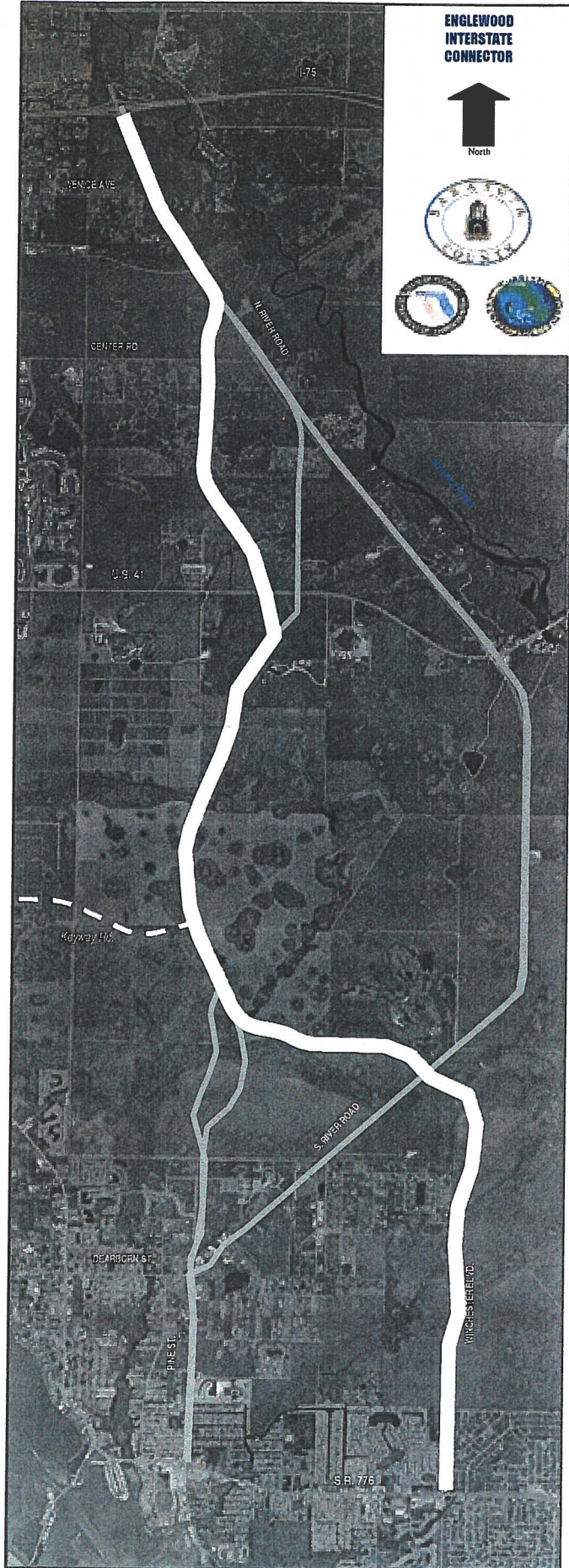
### **1.4 Proposed Alternatives**

After evaluation of numerous different routing alternatives, two viable alternative routes have been chosen for consideration (see **Figures 3 and 4**), Alternative “N” and **Alternative “X”**. Alternative “N” is comprised of heading north from SR 776 on Winchester Boulevard and then crossing South River Road to the proposed Englewood Interstate Connector. The new roadway facility will then proceed north across U.S. 41, to North River Road, then turn northwest along existing River Road to I-75. **Alternative “X” is comprised of heading north on Winchester Boulevard from SR 776 to South River Road and then using existing River Road alignment to the interchange with I-75 to the north. Alternatives “N” and “X” use portions of existing roads, which will be converted to four lanes.**

### **1.5 No-Build Alternative**

Advantages of the no-build alternative include no new construction costs, no disruption of existing traffic or land use due to construction, no right of way purchases and no disruption of wildlife. A few disadvantages of the no-build alternative are the increased chance of flooding in some areas due to a low roadway height, unacceptable levels of service on the existing roadway, increased maintenance costs and increased road user costs due to delay and existing traffic collision hazards.

**Figure 3  
Alternative N**



**Figure 4**  
**Alternative X**



## 2.0 METHODOLOGY AND ANALYSIS

### 2.1 Study Objectives

The objective of this study is to:

- Identify noise sensitive sites adjacent to the project corridor.
- Identify noise sensitive sites that are predicted to be impacted due to either experiencing a substantial increase in traffic noise or approaching the NAC for one of the build alternatives.
- Evaluate the need for and the effectiveness of noise abatement measures.
- Predict the future noise level isopleths adjacent to the corridor.
- Evaluate construction noise impacts.

### 2.2 Project Setting

The study area is in the coastal lowlands in southern Sarasota and northern Charlotte Counties. The existing noise sensitive land uses in the study area are primarily rural and low-density residential. The northern portion of the study area is characterized by rural agricultural native land uses, and is, therefore, not noise sensitive. A majority of the land in this portion of the study area is vacant or used for agricultural purposes. A comparatively smaller portion of the study area is an urbanized higher density, predominately residential region located in the southern portion of the study area. This developed portion of the study area is located in both Sarasota County and Charlotte County.

### 2.3 Noise Sensitive Sites

A noise sensitive site is any property where frequent exterior use occurs and where a lowered noise level would be of benefit. The FHWA has established noise levels at which noise abatement must be considered. Known as Noise Abatement Criteria (NAC), these levels vary according to a property's activity category (see **Table 1**).

**Table 1**  
**Federal Highway Administration**  
**Noise Abatement Criteria**

Activity Category	$L_{Aeq1h}$	Description of Activity Category
A	57 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 Exterior	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, RV parks, day care centers and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B.
D	--	Undeveloped Lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

When future predicted traffic noise levels “approach” or exceed the NAC for a build alternative, the FHWA requires that noise abatement measures be considered. For noise sensitive sites in Activity Category B, the FDOT uses 66 dBA as the NAC, as it considers “approach” to mean within 1 dBA of the NAC. The noise level isopleths for the no-build, Alternative “N” and Alternative “X” were generated using the FHWA TNM computer noise modeling program. A total of one hundred (100) noise receptors representing 243 noise sensitive locations were evaluated along the project corridor for this study. For modeling purposes the lesser of the demand traffic volume or LOS C volume was used. The results of this modeling for the no build, Alternative “N” and Alternative “X” options are found in **Table 2**.

From the table it can be seen that for the majority of the sites the noise level increases from the existing to the no-build and from the no-build to the build alternative.

#### **2.4 Measurements of Existing Noise Levels (Validation)**

Before using TNM to predict noise levels at a given location, the model’s accuracy must be verified. To accomplish this, existing traffic noise levels are measured in the field and compared against the TNM output. The input required for the TNM model are as follows; traffic volume and vehicle type, average speed of traffic, terrain surface, and distance from receptor to center of roadway. The output from the TNM model is compared to the field measured noise level to validate the model. Fourteen (14) separate field measurements were taken throughout the project area on January 2<sup>nd</sup> and 3<sup>rd</sup>, 2001 (see **Figure 5**). Locations 1 through 10 were used for calibration of the computer model. Locations 11 through 14 were used to establish ambient noise levels where no highway-related noise currently exists. All field measurements were taken in accordance with the FHWA’s Measurement of Highway-Related Noise, Final Report, May 1996. Each field measurement was taken using a *Metrosonics dB-308 Dosimeter*. The dosimeter was calibrated before and after each monitoring period using a *Metrosonics Level Calibrator*. Speeds were obtained with a *Solo Plus* hand held radar gun.

For the TNM model to be considered valid each field measured noise receptor must be within  $\pm 3$  dB of the TNM output for that particular receptor. For this project, TNM noise level calculations at locations 1 through 10 were within the required 3 dB of the field measurements, hence this model is considered valid. For a comparison of these figures, see **Table 3**. The traffic count data, traffic speed and field noise-monitoring results can be found in the **Appendix**.

#### **2.5 Noise Impact Analysis**

A total of 100 representative receptors were modeled for existing, no build, Alternative “N” and Alternative “X”. The approximate location of the receptors is found on **Figure 6** and a description of the receptors is in **Table 2**. All noise levels, measured and predicted, are expressed in decibels (dB) on the “A”-weighted scale (dBA). This scale closely approximates the response characteristics of the human ear for noise levels generated by traffic.

#### **2.6 Results**

All predictions are for exterior uses. At locations where no outdoor activity occurs, a reduction of 25 dBA from structural attenuation can be assumed to calculate the expected interior noise level. This level of structural attenuation is consistent with FHWA guidance. As shown in **Table**

2, the range of increase in predicted noise levels from the existing condition to the no-build condition is 2 to 19 dBA. The range of increase in predicted noise levels from existing to Alternative “N” is 0 to 24 decibels and 1 to 23 decibels for Alternative “X”.

A total of 72 residences would be impacted by Alternative N, and 83 residences would be impacted under Alternative X. The noise sensitive receptors expected to be impacted due to the project are located within 5 areas of the project study area.

(1) In Charlotte County, west of Winchester Boulevard just north of SR 776, 3 residences would be impacted due to the noise level approaching or exceeding the NAC, 10 residences would be impacted due to a substantial increase in traffic noise, and 24 residences would be impacted due to both criteria under Alternative N. For Alternative X, 12 residences would be impacted due to the noise level approaching or exceeding the NAC, 14 residences would be impacted due to significant increase, and 3 residences would be impacted due to both criteria.

(2) In Charlotte County, east of Winchester Boulevard and just north of SR 776, for Alternative N, 9 residences would be impacted due to substantial increase, while 8 residences would be impacted under Alternative X due to substantial increase in traffic noise.

(3) In Sarasota County, west of Winchester Boulevard and just south of River Road, one residence would be impacted due to substantial increase in noise levels from both Alternative N and Alternative X.

(4) In Sarasota County, west of River Road and just north of U.S. 41, one residence would be impacted due to the traffic noise level exceeding the NAC under Alternative X. No receptors would be impacted in this area under Alternative N.

(5) In Sarasota County, east of River Road and just north of U.S. 41, 25 residences under Alternative N and 44 residences under Alternative X would be impacted due to the noise level approaching or exceeding the NAC.



**Table 2  
TNM Noise Model Results**

Receptor	Activity Category	Comments	Number of Receptors Represented	Exist			No Build			Alt X			Alt N		
				Noise Level	Noise Level	Increase	Noise Level	Noise Level	Increase	Noise Level	Noise Level	Increase	Noise Level	Noise Level	Increase
1	B	Residence	3	57.9	68.5	10.6	Snd Lvl	69.5	11.6	70.8	12.9	Snd Lvl	70.8	12.9	Snd Lvl
2	B	Residence	4	53.6	67.2	13.6	Snd Lvl	68.4	14.8	69.8	16.2	Snd Lvl	69.8	16.2	Both
3	B	Residence	5	52.0	64.9	12.9		66.1	14.1	67.5	15.5	Snd Lvl	67.5	15.5	Both
4	B	Residence	5	48.0	63.9	15.9	Sub'l Inc	65.2	17.2	66.7	18.7	Sub'l Inc	66.7	18.7	Both
5	B	Residence	5	46.1	64.4	18.3	Sub'l Inc	65.8	19.7	67.3	21.2	Sub'l Inc	67.3	21.2	Both
6	B	Residence	2	45.8	63.4	17.6	Sub'l Inc	64.8	19.0	66.3	20.5	Sub'l Inc	66.3	20.5	Both
7	B	Residence	2	45.1	63.1	18.0	Sub'l Inc	64.4	19.3	65.9	20.8	Sub'l Inc	65.9	20.8	Sub'l Inc
8	B	Residence	3	44.6	65.9	21.3	Sub'l Inc	67.3	22.7	68.8	24.2	Both	68.8	24.2	Both
9	B	Residence	3	55.8	62.5	6.7		62.8	7.0	63.5	7.7		63.5	7.7	
10	B	Residence	3	52.8	61.0	8.2		61.5	8.7	62.5	9.7		62.5	9.7	
11	B	Residence	3	51.7	60.3	8.6		60.9	9.2	62.0	10.3		62.0	10.3	
12	B	Residence	5	47.7	59.2	11.5		60.2	12.5	61.6	13.9		61.6	13.9	
13	B	Residence	5	45.5	58.6	13.1		59.8	14.3	61.2	15.7		61.2	15.7	Sub'l Inc
14	B	Residence	3	44.9	58.5	13.6		59.7	14.8	61.1	16.2		61.1	16.2	Sub'l Inc
15	B	Residence	2	56.9	61.1	4.2		61.2	4.3	61.3	4.4		61.3	4.4	
16	B	Residence	2	52.2	58.8	6.6		59.2	7.0	60.1	7.9		60.1	7.9	
17	B	Residence	5	51.2	58.2	7.0		58.7	7.5	59.8	8.6		59.8	8.6	
18	B	Residence	6	46.8	56.7	9.9		57.8	11.0	59.1	12.3		59.1	12.3	
19	B	Residence	4	45.1	56.3	11.2		57.5	12.4	58.8	13.7		58.8	13.7	
20	B	Residence	3	44.5	56.5	12.0		57.7	13.2	59.1	14.6		59.1	14.6	
21	B	Residence	2	51.7	62.2	10.5		63.2	11.5	64.5	12.8		64.5	12.8	
22	B	Residence	1	47.1	62.3	15.2	Sub'l Inc	63.8	16.7	65.2	18.1	Sub'l Inc	65.2	18.1	Sub'l Inc
23	B	Residence	1	45.2	61.7	16.5	Sub'l Inc	63.2	18.0	64.7	19.5	Sub'l Inc	64.7	19.5	Sub'l Inc
24	B	Residence	2	43.0	61.7	18.7	Sub'l Inc	63.2	20.2	64.7	21.7	Sub'l Inc	64.7	21.7	Sub'l Inc
25	B	Residence	3	52.6	59.7	7.1		59.8	7.2	60.8	8.2		60.8	8.2	
26	B	Residence	1	51.5	58.6	7.1		58.7	7.2	59.8	8.3		59.8	8.3	
27	B	Residence	1	46.7	58.1	11.4		59.1	12.4	60.4	13.7		60.4	13.7	
28	B	Residence	2	44.0	58.6	14.6		59.7	15.7	61.1	17.1	Sub'l Inc	61.1	17.1	Sub'l Inc
29	B	Residence	1	43.2	56.7	13.5		57.8	14.6	59.2	16.0		59.2	16.0	Sub'l Inc
30	B	Residence	2	43.0	57.7	14.7		58.9	15.9	60.3	17.3	Sub'l Inc	60.3	17.3	Sub'l Inc
31	B	Residence	2	45.2	56.2	11.0		57.1	11.9	58.4	13.2		58.4	13.2	
32	B	Residence	1	43.7	55.7	12.0		56.7	13.0	58.0	14.3		58.0	14.3	
33	B	Residence	3	51.5	57.4	5.9		57.2	5.7	58.0	6.5		58.0	6.5	
34	B	Residence	5	44.2	56.2	12.0		57.3	13.1	58.7	14.5		58.7	14.5	

**Table 2  
TNM Noise Model Results**

Receptor	Activity Category	Comments	Number of Receptors Represented	Exist		No Build		Alt X'			Alt N		
				Noise Level	Impact	Noise Level	Impact	Noise Level	Impact	Increase	Noise Level	Impact	Increase
35	B	Residence	2	43.0		54.5	11.5	55.7	12.7	57.1	14.1		
36	B	Residence	3	43.0		54.2	11.2	55.5	12.5	56.9	13.9		
37	B	Residence	2	43.7		53.7	10.0	54.6	10.9	55.8	12.1		
38	B	Residence	2	43.0		52.3	9.3	53.3	10.3	54.7	11.7		
39	B	Residence	1	43.0		57.9	14.9	59.7	16.7	61.2	18.2	Sub'l Inc	Sub'l Inc
40	B	Residence	1	43.0		50.4	7.4	52.0	9.0	53.5	10.5		
41	B	Residence	1	43.0		53.8	10.8	55.5	12.5	57.0	14.0		
42	B	Residence	1	43.0		51.8	8.8	53.5	10.5	54.9	11.9		
43	B	Residence	2	43.0		50.6	7.6	52.2	9.2	53.7	10.7		
44	B	Residence	2	43.0		49.1	6.1	50.6	7.6	52.0	9.0		
45	B	Residence	3	69.5	Snd Lvl	71.5	2.0	70.6	1.1	70.2	0.7	Snd Lvl	Snd Lvl
46	B	Residence	4	70.9	Snd Lvl	72.8	1.9	71.0	0.1	71.3	0.4	Snd Lvl	Snd Lvl
47	B	Residence	3	69.2	Snd Lvl	71.1	1.9	70.0	0.8	69.7	0.5	Snd Lvl	Snd Lvl
48	B	Residence	1	68.8	Snd Lvl	70.6	1.8	69.7	0.9	69.4	0.6	Snd Lvl	Snd Lvl
49	B	Residence	3	65.1	Snd Lvl	67.4	2.3	68.4	3.3	67.1	2.0	Snd Lvl	Snd Lvl
50	B	Residence	5	63.7	Snd Lvl	65.7	2.0	66.4	2.7	64.8	1.1	Snd Lvl	Snd Lvl
51	B	Residence	2	65.0	Snd Lvl	66.9	1.9	67.2	2.2	65.8	0.8	Snd Lvl	Snd Lvl
52	B	Residence	3	67.0	Snd Lvl	69.5	2.5	71.0	4.0	69.8	2.8	Snd Lvl	Snd Lvl
53	B	Residence	5	62.3	Snd Lvl	64.7	2.4	66.1	3.8	64.5	2.2	Snd Lvl	Snd Lvl
54	B	Residence	2	63.0	Snd Lvl	65.0	2.0	65.6	2.6	64.0	1.0	Snd Lvl	Snd Lvl
55	B	Residence	8	66.0	Snd Lvl	68.5	2.5	69.9	3.9	68.6	2.6	Snd Lvl	Snd Lvl
56	B	Residence	5	60.1	Snd Lvl	62.7	2.6	64.2	4.1	62.8	2.7	Snd Lvl	Snd Lvl
57	B	Residence	2	60.0	Snd Lvl	62.2	2.2	63.7	3.7	61.6	1.6	Snd Lvl	Snd Lvl
58	B	Residence	2	59.7	Snd Lvl	61.9	2.2	63.4	3.7	61.2	1.5	Snd Lvl	Snd Lvl
59	B	Residence	7	62.5	Snd Lvl	65.1	2.6	66.9	4.4	65.3	2.8	Snd Lvl	Snd Lvl
60	B	Residence	6	58.8	Snd Lvl	61.4	2.6	63.2	4.4	61.5	2.7	Snd Lvl	Snd Lvl
61	B	Residence	2	58.1	Snd Lvl	60.3	2.2	62.4	4.3	60.0	1.9	Snd Lvl	Snd Lvl
62	B	Residence	1	63.1	Snd Lvl	65.0	1.9	74.4	11.3	64.1	1.0	Snd Lvl	Snd Lvl
63	B	Residence	1	57.3	Snd Lvl	59.8	2.5	64.1	6.8	59.2	1.9	Snd Lvl	Snd Lvl
64	B	Residence	1	57.7	Snd Lvl	59.6	1.9	61.4	3.7	58.8	1.1	Snd Lvl	Snd Lvl
65	B	Residence	2	49.5	Snd Lvl	51.8	2.3	56.9	7.4	51.5	2.0	Snd Lvl	Snd Lvl
66	B	Residence	1	48.9	Snd Lvl	51.4	2.5	56.1	7.2	51.2	2.3	Snd Lvl	Snd Lvl
67	B	Residence	1	45.9	Snd Lvl	48.9	3.0	50.4	4.5	49.1	3.2	Snd Lvl	Snd Lvl
68	B	Residence	1	45.7	Snd Lvl	48.4	2.7	50.1	4.4	48.6	2.9	Snd Lvl	Snd Lvl

**Table 2  
TNM Noise Model Results**

Receptor	Activity Category	Comments	Number of Receptors Represented	Exist		No Build		Alt X		Alt N	
				Noise Level	Impact	Noise Level	Increase	Noise Level	Increase	Noise Level	Increase
69	B	Residence	2	53.6		55.6	2.0	58.2	4.6	54.6	1.0
70	B	Residence	2	54.4		56.3	1.9	58.9	4.5	55.4	1.0
71	B	Residence	1	56.4		58.3	1.9	60.7	4.3	57.2	0.8
72	B	Residence	3	55.6		57.5	1.9	60.0	4.4	56.4	0.8
73	B	Residence	1	54.7		56.6	1.9	59.3	4.6	55.6	0.9
74	B	Residence	1	56.9		58.7	1.8	61.1	4.2	57.7	0.8
75	B	Residence	4	55.3		57.2	1.9	59.7	4.4	56.2	0.9
76	B	Residence	2	54.9		56.8	1.9	59.4	4.5	55.9	1.0
77	B	Residence	4	53.9		55.8	1.9	58.5	4.6	55.0	1.1
78	B	Residence	4	52.7		54.6	1.9	57.6	4.9	53.9	1.2
79	B	Residence	3	53.7		55.6	1.9	58.3	4.6	54.8	1.1
80	B	Residence	2	52.8		54.7	1.9	57.6	4.8	54.0	1.2
81	B	Residence	1	52.4		54.8	2.4	57.0	4.6	56.5	4.1
82	B	Residence	1	50.6		53.0	2.4	55.7	5.1	55.6	5.0
83	B	Residence	1	49.5		51.9	2.4	55.7	6.2	55.1	5.6
84	B	Residence	1	49.2		51.7	2.5	55.9	6.7	55.7	6.5
85	B	Residence	2	43.7		47.6	3.9	46.7	3.0	56.0	12.3
86	B	Residence	1	54.6		57.8	3.2	60.4	5.8	59.7	5.1
87	B	Residence	1	51.2		54.6	3.4	57.5	6.3	56.9	5.7

**Figure 5**  
**Field Verification Locations**



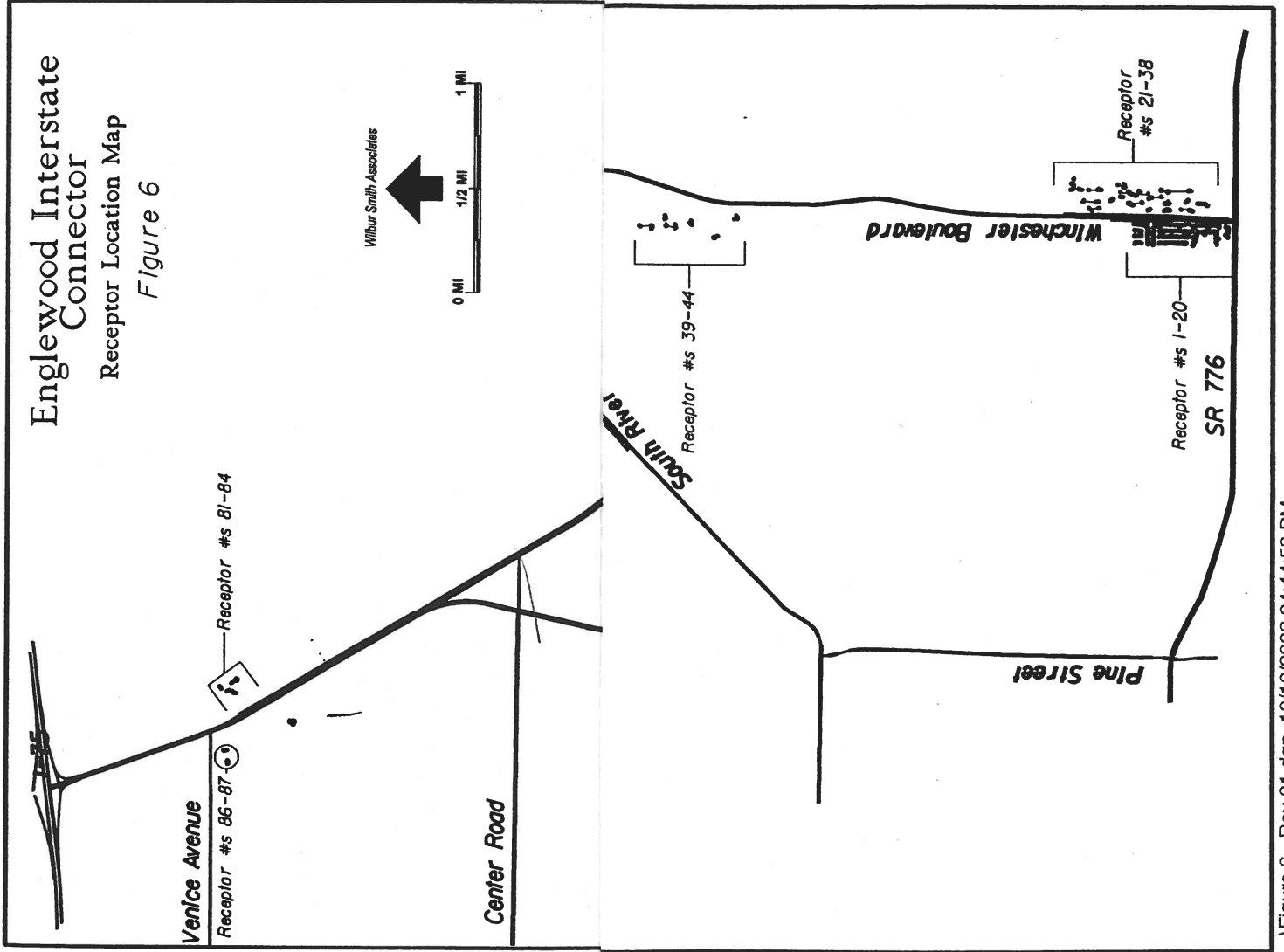
**TABLE 3**  
**Validation of Field Measurements**

<b>LOCATION</b>	<b>TIME OF DAY</b>	<b>FIELD MEASUREMENT</b>	<b>COMPUTER VALIDATION</b>	<b>DIFFERENCE</b>
1	1:35 PM	65.7	64.3	1.4
2	2:09 PM	58.6	59.9	-1.3
3	2:29 PM	58.1	61.1	-3.0
4	3:12 PM	64.0	63.4	0.6
5	3:36 PM	66.3	68.0	-1.7
6	4:26 PM	67.4	68.9	-1.5
7	4:49 PM	69.1	72.1	-3.0
8	10:21 AM	61.8	60.9	0.9
9	10:44 AM	67.0	69.6	-2.6
10	11:06 AM	61.9	63.0	-1.1

# Englewood Interstate Connector

Receptor Location Map

Figure 6



### 3.0 EVALUATION OF ABATEMENT ALTERNATIVES

The FHWA requires that when noise levels from a proposed federally aided roadway project approach or exceed NAC, or when a receptor is expected to experience a substantial increase in traffic noise levels, noise abatement measures must be considered. A total of 72 residences would be impacted by Alternative N, and 83 residences would be impacted under Alternative X. Impacts are expected to occur in five areas along the project corridor:

(1) In Charlotte County, west of Winchester Boulevard just north of SR 776: For Alternative N - 3 residences would be impacted due to the noise level approaching or exceeding the NAC, 10 residences would be impacted due to a substantial increase in traffic noise, and 24 residences would be impacted due to both criteria. For Alternative X, 12 residences would be impacted due to the noise level approaching or exceeding the NAC, 14 residences would be impacted due to significant increase, and 3 residences would be impacted due to both criteria.

(2) In Charlotte County, east of Winchester Boulevard and just north of SR 776: For Alternative N, 9 residences would be impacted due to substantial increase, while 8 residences would be impacted under Alternative X due to substantial increase in traffic noise.

(3) In Sarasota County, west of Winchester Boulevard and just south of River Road: For both Alternatives N and X one residence would be impacted due to substantial increase in noise levels.

(4) In Sarasota County, west of River Road and just north of U.S. 41: For Alternative N, no receptors would be impacted in this area. For Alternative X, one residence would be impacted due to the traffic noise level exceeding the NAC.

(5) In Sarasota County, east of River Road and just north of U.S. 41: 25 residences under Alternative N and 44 residences under Alternative X would be impacted due to the noise level approaching or exceeding the NAC.

As outlined in 23 CFR Part 772, possible noise abatement measures include traffic system management, alignment modifications, property acquisition, land use controls and noise barriers.

#### 3.1 Traffic System Management Measures

Traffic system management measures limit vehicle speeds and reduce traffic volumes along a specified corridor. This proposed project's main goals include increasing traffic flow, reducing congestion and acting as an evacuation route in the event of a hurricane. Initiating traffic system management measures would greatly diminish the ability of the facility to meet the goals of the planned improvements.

Measures that reduce truck traffic on major roadways can be an effective noise reduction technique. However, the Englewood Interstate Connector is a major arterial and preventing large trucks from using this corridor would put a heavy burden on surrounding smaller roads. Therefore, traffic system management is not a reasonable abatement measure for this project.

#### 3.2 Alignment Modification

Alignment modification involves moving a roadway with predicted high noise levels away from areas that are sensitive to sound to minimize noise impacts. Noise levels were taken into account when designing the new proposed sections of the Englewood Interstate Connector, but it is

generally not economically feasible to realign existing roadways where sound levels are a factor. Engineering considerations and environmental factors, including traffic noise, were used in evaluating alignment alternatives. Based on this evaluation, Alternatives N and X were identified as the most viable alignments.

### **3.3 Property Acquisition**

Property acquisition programs involve buying noise buffer zones or space for noise barrier construction. Acquiring noise buffer zones is not a viable alternative for this project due to the high cost and the limited amount of land between the roadway and the noise sensitive sites.

### **3.4 Land Use Controls**

The proper application of zoning and land use controls to minimize future impacts is a form of noise abatement. Local governmental and planning agencies will have access to this report for assistance in development of policies that deter the future development of noise sensitive facilities in areas where the noise levels are predicted to be within the 66 dBA noise isopleth. These distances are shown in **Table 4**.

**Table 4**  
**66 dBA Noise Contour for Year 2030 Build Alternatives**

<b>Alternative</b>	<b>Location</b>	<b>Distance to 66 dBA Contour from centerline of roadway</b>
N	Along Winchester Boulevard	155 feet
N	South of Keyway Road	182 feet
N	Between Keyway and Center	191 feet
N	North of Center Road	197 feet
X	Along Winchester Boulevard	130 feet
X	South of U.S. 41	200 feet
X	Between U.S. 41 and Center	235 feet
X	North of Center Road	205 feet

### **3.5 Noise Barriers**

Noise barriers reduce sound levels by blocking the sound path between a roadway and noise sensitive sites. To be effective in reducing traffic noise impacts, a barrier must be of adequate height and length, and be continuous, or at least have minimum opening for driveway entrances or other right of way issues. Theoretically, for optimum performance the barrier should be four times longer than the distance from the receptor to the barrier without interruptions. However, this is just a starting point from which FHWA TNM is used to optimize barrier lengths.

According to FDOT criteria, for a barrier to be considered cost reasonable and feasible it must provide a minimum noise reduction of 5 dBA for first row receptors and the cost should not exceed \$30,000 per benefited receiver unless extenuating circumstances exist. However, factors such as community desires, land use and barrier construction constraints may also be involved in noise barrier consideration.



The implementation of noise barriers was reviewed at five areas containing impacted receptors along the proposed corridor. The northeast corner of U.S. 41 and North River Road and the east and west sides of Winchester Boulevard north of SR 776 have been studied due to the predicted road noise and density of residences in those areas. Comparison of noise levels between existing, the no-build, and build Alternative “X” and Alternative “N” were undertaken at all locations in the project area.

Receptors 1 through 20 lie on the west side of Winchester Boulevard north of SR 776. These densely grouped home sites were studied for both Alternative “N” and Alternative “X”. From field reviews it has been found that there is no direct access to Winchester Boulevard from this neighborhood. Therefore a continuous noise wall could be constructed along the right-of-way to mitigate traffic noise from Winchester Boulevard. For both Alternative “N” and “X” a reduction of over 10 dBA was achieved for the first row receptors. Second and third row receptors would realize 5 to 8 dBA reduction due to a noise wall at the right-of-way line. Additionally, due to the dense spacing of the homes each alternative wall could be constructed for a cost of approximately \$17,000 per benefited receptor. These walls are considered cost reasonable and feasible, and are recommended to be advanced to design for further evaluation. **Table 5** lists the pertinent data for the walls as studied in this analysis.

The receptors located on the east side of Winchester Boulevard north of SR 776 are labeled receptor nos. 21-38 on **Figure 6**. These receptors were studied for Alternative “X” because of the increase in traffic generated by this design. If a wall was to be constructed in this area it would have to incorporate two existing street access points that lead to Winchester Boulevard. These street entrances would greatly decrease the effectiveness of a wall. The receptors in this area consist of isolated homes. Twenty-two (22) noise sensitive locations could realize the minimum 5 dBA attenuation with the construction of a noise wall, at a cost of approximately \$1,300,000. At a cost of over \$59,000 per benefited receptor, the cost of this noise barrier exceeds the reasonable criterion of \$30,000. This wall is not considered cost reasonable due to the low density of the residences and the need to provide access openings. (see **Table 5**)

For the area west of Winchester Boulevard just south of River Road (Englewood Farm Acres, receptor nos. 39-44), a barrier could be constructed which could provide the minimum 5 dBA reduction for the single isolated impacted noise sensitive receptor (receptor no. 39), at a cost of approximately \$234,000. This wall is not considered cost-reasonable. (see **Table 5**)

The isolated, impacted noise sensitive receptor west of River Road north of U.S. 41 (no. 62) could realize the minimum 5dBA reduction in noise by the construction of a wall costing approximately \$62,500. This wall is not considered cost-reasonable. (see **Table 5**)

A gas station/convenience store (not modeled – Activity Category C) exists on the northeast corner of U.S. 41 and North River Road. Driveway access for this facility, combined with access to the nearby mobile home park (Receptors 45 thru 61), would greatly reduce the effectiveness of a noise barrier. In this area, the difference between the existing and future build conditions is generally less than 4 dBA. A noise wall could be constructed in this area that would provide the minimum 5 dBA reduction for 19 noise sensitive receptors, at a cost of approximately \$847,200. This wall would cost approximately \$44,600 per benefitted receptor and therefore does not meet the cost reasonable criterion. This wall is not considered cost reasonable due to the height and length required to compensate for the access openings. (see **Table 5**)

**Table 5**  
**Cost vs. Benefit for Sound Barrier Walls**

Alt.	Location	Wall Length (feet)	Wall Height (feet)	Average Height (feet)	Wall Cost	Number of Benefited Receptors	Cost per Benefited Receptor
N	Lemon Bay Isles, West Side of Winchester Blvd.	2,902	6-20	16.52	\$1,198,300	71	\$16,900
X	Lemon Bay Isles, West Side of Winchester Blvd.	2,663	6-22	16.17	\$1,076,400	63	\$17,100
N, X	East Side of Winchester Blvd. in Charlotte Co.	4,106	8-12	12.68	\$1,301,600	22	\$59,200
N, X	Englewood Farm Acres, West Side of Winchester	692	6-18	13.54	\$234,200	1	\$234,200
X	West Side of River Road, North of U.S. 41	400	6-8	6.25	\$62,500	1	\$62,500
X	Mobile Home Park, East of River Road, North of U.S. 41	1,606	14-22	21.10	\$847,200	19	\$44,600

#### 4.0 CONSTRUCTION NOISE

Construction activities may cause minor, short-term noise impacts from both stationary and mobile construction equipment. These impacts will be temporary at any one location.

Construction noise will be controlled by adherence to all state and local regulations and to the latest edition of the FDOT Standard Specifications for Road and Bridge Construction.

The Construction Engineer in cooperation with the appropriate FDOT District Environmental Specialist will address specific noise impact problems that may arise during construction of the wall.

#### 5.0 AGENCY COORDINATION

In an effort to prevent future traffic noise impacts on currently undeveloped lands, FDOT has provided information in this report that can be used by local officials to avoid incompatible development. Local agencies play an important role by ensuring that future residential development does not occur in projected noise impact areas.

This report delineates a contour line which parallels the roadway (see Table 4). In the area between the roadway and the contour line, 66 dBA noise levels are predicted to occur for the project design year. Local agencies and officials have an opportunity to prevent future land development from becoming incompatible with anticipated highway noise levels by deterring residential development in the impacted areas.

Coordination with local agencies has been conducted during the development of this study and a copy of the Final Noise Study Report will be provided to appropriate local planning authorities in order to assist in the development of compatible future land uses.

## 6.0 CONCLUSIONS

Along the proposed Englewood Interstate Connector route, 87 representative receptor sites were modeled for existing and future noise levels. Modeling was performed using the FHWA TNM computer model. A total of 225 noise sensitive receptor locations were evaluated. The range of increase in predicted noise levels from the existing condition to the build condition is 1 to 24 dBA.

The FHWA requires that before a federally funded roadway is to be built, noise abatement measures must be considered at areas that approach or exceed the NAC and in areas where noise sensitive receptors are expected to realize a significant increase in noise levels due to the proposed project. A total of 72 residences would be impacted by Alternative N, and 83 residences would be impacted by Alternative X. These residences are located within 5 areas of the project corridor. Traffic system management, alignment modifications and property acquisition were determined to not be feasible and/or reasonable abatement measures. Because most of the surrounding area is considered rural, local planning authorities can use the information in this report to prevent noise sensitive structures from being built too close to the roadway.

Three separate sites were studied in detail using the TNM computer model for construction of sound walls. The northeast corner of U.S. 41 and North River Road and the east side of Winchester Boulevard north of SR 776 sites were found to be neither feasible nor reasonable areas to construct noise abatement structures. A wall was found to be cost reasonable and feasible for both Alternative N and Alternative X for the area west of EIC (along Winchester Boulevard) just north of SR 776. For Alternative N, 37 impacted residences (71 benefitted residences total) would be benefitted by this wall, while 29 impacted residences (63 benefitted residences total) would realize at least 5 dBA reduction due to this wall under Alternative X. The appropriate wall for the Preferred Alternative is recommended to be advanced to design for further study.

The FDOT is committed to the construction of feasible noise abatement measures at the noise-impacted area of Receptors 1-22 contingent upon the following:

1. Detailed noise analyses during the final design process supports the need for abatement.
2. Reasonable cost analysis indicates that the economic cost of the barrier will not exceed the FDOT guidelines.
3. Community input regarding desires, types, heights and locations of barriers has been solicited by the District Office.
4. Local officials have addressed preferences regarding compatibility with adjacent land uses.
5. Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed.

Based upon the noise analyses performed to date, there appears to be no apparent solutions available to mitigate the noise impacts at 35 impacted residences under Alternative N, and at 54 impacted residences under Alternative X in the locations identified in Section 3.0 of this report.

## 7.0 REFERENCES

Title 23 CFR, Part 772, Federal Highway Administration, U.S. Department of Transportation, Procedures for Abatement of Highway Traffic Noise and Construction Noise, October 16, 1997 Edition.

FHWA Measurement of Highway-Related Noise, Final Report, May 1996.

Florida Department of Transportation, Project Development and Environment Manual, Part 2, Chapter 17 – Noise, Revised November 20, 2001.

APOXSEE, The Sarasota County Comprehensive Plan, Updated July 14, 1998.

Charlotte County Comprehensive Plan 1997 - 2010, October 7, 1997.

Sarasota-Manatee Metropolitan Planning Organization, Year 2025 Financially Feasible Transportation Plan, URS Corporation Southern/Powell, Fragala & Associates, February 26, 2001.

Charlotte County-Punta Gorda Metropolitan Planning Organization, 2020 Long Range Transportation Plan Update, December 11, 2000.

# APPENDICES

**APPENDIX A**  
**TNM INPUT DATA AND RUNS**

RESULTS: SOUND LEVELS

9 July 2001  
TNM 1.1  
Calculated with TNM 1.1

WSA for FDOT  
rdo (TNM 52141)

RESULTS: SOUND LEVELS  
PROJECT/CONTRACT:  
RUN:  
BARRIER DESIGN:  
ATMOSPHERICS:

339018  
Aln N Contours  
INPUT HEIGHTS  
68 deg F, 50% RH

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal	
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	Noise Reduction		
			dBA	dBA	dBA	dBA	dB		dBA	dB	dB	
Winchester 50ft	20	1	0.0	77.5	66	77.5	10	Snd Lvl	77.5	0.0	8	-8.0
100ft	21	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
200ft	22	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
400ft	23	1	0.0	59.0	66	59.0	10	----	59.0	0.0	8	-8.0
800ft	24	1	0.0	54.0	66	54.0	10	----	54.0	0.0	8	-8.0
South of Keyway Road 100ft	25	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
200ft	26	1	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0
400ft	27	1	0.0	59.4	66	59.4	10	----	59.4	0.0	8	-8.0
800ft	28	1	0.0	53.6	66	53.6	10	----	53.6	0.0	8	-8.0
Keyway Road to Center Road 100ft	29	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
200ft	30	1	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
400ft	31	1	0.0	60.0	66	60.0	10	----	60.0	0.0	8	-8.0
800ft	32	1	0.0	55.0	66	55.0	10	----	55.0	0.0	8	-8.0
North of Center Road 100ft	33	1	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
200ft	34	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
400ft	35	1	0.0	60.3	66	60.3	10	----	60.3	0.0	8	-8.0
800ft	36	1	0.0	54.7	66	54.7	10	----	54.7	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		17	0.0	0.0	0.0							
All Impacted		5	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							



RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

7 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

339018

RUN: Exist Englewood Interstate Connector

BARRIER DESIGN: INPUT HEIGHTS

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal	
				LAeq1h	Crit'n	Calculated	Crit'n Sub'l Inc		LAeq1h	Noise Reduction		
			dBA	dBA	dBA	dBA	dB		dBA	dB	dB	
1	1	1	0.0	65.8	66	65.8	15	----	65.8	0.0	5	-5.0
2 Act. Cat. C	2	1	0.0	65.5	71	65.5	15	----	65.5	0.0	5	-5.0
3	3	3	0.0	57.9	66	57.9	15	----	57.9	0.0	5	-5.0
4	4	4	0.0	53.6	66	53.6	15	----	53.6	0.0	5	-5.0
5	5	5	0.0	52.0	66	52.0	15	----	52.0	0.0	5	-5.0
6	5	5	0.0	48.0	66	48.0	15	----	48.0	0.0	5	-5.0
7	5	5	0.0	46.1	66	46.1	15	----	46.1	0.0	5	-5.0
8	2	2	0.0	45.8	66	45.8	15	----	45.8	0.0	5	-5.0
9	2	2	0.0	45.1	66	45.1	15	----	45.1	0.0	5	-5.0
10	3	3	0.0	44.6	66	44.6	15	----	44.6	0.0	5	-5.0
11	3	3	0.0	55.8	66	55.8	15	----	55.8	0.0	5	-5.0
12	3	3	0.0	52.8	66	52.8	15	----	52.8	0.0	5	-5.0
13	3	3	0.0	51.7	66	51.7	15	----	51.7	0.0	5	-5.0
14	5	5	0.0	47.7	66	47.7	15	----	47.7	0.0	5	-5.0
15	5	5	0.0	45.5	66	45.5	15	----	45.5	0.0	5	-5.0
16	3	3	0.0	44.9	66	44.9	15	----	44.9	0.0	5	-5.0
17	2	2	0.0	56.9	66	56.9	15	----	56.9	0.0	5	-5.0
18	2	2	0.0	52.2	66	52.2	15	----	52.2	0.0	5	-5.0
19	5	5	0.0	51.2	66	51.2	15	----	51.2	0.0	5	-5.0
20	6	6	0.0	46.8	66	46.8	15	----	46.8	0.0	5	-5.0
21	4	4	0.0	45.1	66	45.1	15	----	45.1	0.0	5	-5.0
22	3	3	0.0	44.5	66	44.5	15	----	44.5	0.0	5	-5.0
23	2	2	0.0	51.7	66	51.7	15	----	51.7	0.0	5	-5.0
24	1	1	0.0	47.1	66	47.1	15	----	47.1	0.0	5	-5.0

RESULTS: SOUND LEVELS

339018

Dwelling Units	# DUs	Noise Reduction			66	60.0	66	15	60.0	15	60.0	0.0	5	-5.0
		Min	Avg	Max										
All Selected	243	dB	dB	dB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
66	2	0.0	0.0	60.0	66	60.0	15	60.0	15	60.0	0.0	5	-5.0	
67	2	0.0	0.0	59.7	66	59.7	15	59.7	15	59.7	0.0	5	-5.0	
68	7	0.0	0.0	62.5	66	62.5	15	62.5	15	62.5	0.0	5	-5.0	
69	6	0.0	0.0	58.8	66	58.8	15	58.8	15	58.8	0.0	5	-5.0	
70	2	0.0	0.0	58.1	66	58.1	15	58.1	15	58.1	0.0	5	-5.0	
71	1	0.0	0.0	63.1	66	63.1	15	63.1	15	63.1	0.0	5	-5.0	
72	1	0.0	0.0	57.3	66	57.3	15	57.3	15	57.3	0.0	5	-5.0	
73	1	0.0	0.0	57.7	66	57.7	15	57.7	15	57.7	0.0	5	-5.0	
74	2	0.0	0.0	49.5	66	49.5	15	49.5	15	49.5	0.0	5	-5.0	
75	1	0.0	0.0	48.9	66	48.9	15	48.9	15	48.9	0.0	5	-5.0	
76	1	0.0	0.0	45.9	66	45.9	15	45.9	15	45.9	0.0	5	-5.0	
77	1	0.0	0.0	45.7	66	45.7	15	45.7	15	45.7	0.0	5	-5.0	
78	2	0.0	0.0	53.6	66	53.6	15	53.6	15	53.6	0.0	5	-5.0	
79	2	0.0	0.0	54.4	66	54.4	15	54.4	15	54.4	0.0	5	-5.0	
80	1	0.0	0.0	56.4	66	56.4	15	56.4	15	56.4	0.0	5	-5.0	
81 Outdoor Rec?	5	0.0	0.0	67.0	66	67.0	15	67.0	15	67.0	0.0	5	-5.0	
82 Clubhouse?	1	0.0	0.0	59.6	66	59.6	15	59.6	15	59.6	0.0	5	-5.0	
83	3	0.0	0.0	55.6	66	55.6	15	55.6	15	55.6	0.0	5	-5.0	
84	1	0.0	0.0	54.7	66	54.7	15	54.7	15	54.7	0.0	5	-5.0	
85 Swimming Pool and Bathroom	2	0.0	0.0	60.6	66	60.6	15	60.6	15	60.6	0.0	5	-5.0	
86	1	0.0	0.0	56.9	66	56.9	15	56.9	15	56.9	0.0	5	-5.0	
87	4	0.0	0.0	55.3	66	55.3	15	55.3	15	55.3	0.0	5	-5.0	
88	2	0.0	0.0	54.9	66	54.9	15	54.9	15	54.9	0.0	5	-5.0	
89	4	0.0	0.0	53.9	66	53.9	15	53.9	15	53.9	0.0	5	-5.0	
90	4	0.0	0.0	52.7	66	52.7	15	52.7	15	52.7	0.0	5	-5.0	
91	3	0.0	0.0	53.7	66	53.7	15	53.7	15	53.7	0.0	5	-5.0	
92	2	0.0	0.0	52.8	66	52.8	15	52.8	15	52.8	0.0	5	-5.0	
93	1	0.0	0.0	52.4	66	52.4	15	52.4	15	52.4	0.0	5	-5.0	
94	1	0.0	0.0	50.6	66	50.6	15	50.6	15	50.6	0.0	5	-5.0	
95	1	0.0	0.0	49.5	66	49.5	15	49.5	15	49.5	0.0	5	-5.0	
96	1	0.0	0.0	49.2	66	49.2	15	49.2	15	49.2	0.0	5	-5.0	
97	2	0.0	0.0	43.7	66	43.7	15	43.7	15	43.7	0.0	5	-5.0	
98 Act Cat C	1	0.0	0.0	50.0	71	50.0	15	50.0	15	50.0	0.0	5	-5.0	
99	1	0.0	0.0	54.6	66	54.6	15	54.6	15	54.6	0.0	5	-5.0	
100	1	0.0	0.0	51.2	66	51.2	15	51.2	15	51.2	0.0	5	-5.0	

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

7 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 339018

RUN: EIC No Build Northbound Peak

BARRIER DESIGN: BARRIER HEIGHTS

ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction	
			L <sub>Aeq</sub> 1h dBA	Crit'n dBA	L <sub>Aeq</sub> 1h Calculated dBA	Crit'n dBA	Calculated dB	Sub'l Inc dB		L <sub>Aeq</sub> 1h Calculated dBA	Calculated dB	Goal dB	Calculated minus Goal dB
	1	1	65.8	66	69.5	66	3.7	15	Snd Lvl	69.5	0.0	5	-5.0
	2	1	65.5	71	68.1	71	2.6	15	----	68.1	0.0	5	-5.0
	3	3	57.9	66	67.5	66	9.6	15	Snd Lvl	67.5	0.0	5	-5.0
	4	4	53.6	66	66.1	66	12.5	15	Snd Lvl	66.1	0.0	5	-5.0
	5	5	52.0	66	64.1	66	12.1	15	----	64.1	0.0	5	-5.0
	6	5	48.0	66	63.1	66	15.1	15	Sub'l Inc	63.1	0.0	5	-5.0
	7	5	46.1	66	63.6	66	17.5	15	Sub'l Inc	63.6	0.0	5	-5.0
	8	2	45.8	66	62.6	66	16.8	15	Sub'l Inc	62.6	0.0	5	-5.0
	9	2	45.1	66	62.3	66	17.2	15	Sub'l Inc	62.3	0.0	5	-5.0
	10	3	44.6	66	65.0	66	20.4	15	Sub'l Inc	65.0	0.0	5	-5.0
	11	3	55.8	66	61.9	66	6.1	15	----	61.9	0.0	5	-5.0
	12	3	52.8	66	60.3	66	7.5	15	----	60.3	0.0	5	-5.0
	13	3	51.7	66	59.6	66	7.9	15	----	59.6	0.0	5	-5.0
	14	5	47.7	66	58.6	66	10.9	15	----	58.6	0.0	5	-5.0
	15	5	45.5	66	58.0	66	12.5	15	----	58.0	0.0	5	-5.0
	16	3	44.9	66	57.9	66	13.0	15	----	57.9	0.0	5	-5.0
	17	2	56.9	66	60.8	66	3.9	15	----	60.8	0.0	5	-5.0
	18	2	52.2	66	58.4	66	6.2	15	----	58.4	0.0	5	-5.0
	19	5	51.2	66	57.7	66	6.5	15	----	57.7	0.0	5	-5.0
	20	6	46.8	66	56.2	66	9.4	15	----	56.2	0.0	5	-5.0
	21	4	45.1	66	55.8	66	10.7	15	----	55.8	0.0	5	-5.0
	22	3	44.5	66	56.0	66	11.5	15	----	56.0	0.0	5	-5.0
	23	2	51.7	66	61.7	66	10.0	15	----	61.7	0.0	5	-5.0
	24	1	47.1	66	61.9	66	14.8	15	----	61.9	0.0	5	-5.0

RESULTS: SOUND LEVELS

339018

Dwelling Units	# DUs	Noise Reduction			66	2.2	15	62.2	0.0	5	-5.0
		Min	Avg	Max							
All Selected	243	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0	
66	2	60.0	62.2	66	2.2	15	62.2	0.0	5	-5.0	
67	2	59.7	61.9	66	2.2	15	61.9	0.0	5	-5.0	
68	7	62.5	65.1	66	2.6	15	65.1	0.0	5	-5.0	
69	6	58.8	61.4	66	2.6	15	61.4	0.0	5	-5.0	
70	2	58.1	60.3	66	2.2	15	60.3	0.0	5	-5.0	
71	1	63.1	65.0	66	1.9	15	65.0	0.0	5	-5.0	
72	1	57.3	59.8	66	2.5	15	59.8	0.0	5	-5.0	
73	1	57.7	59.6	66	1.9	15	59.6	0.0	5	-5.0	
74	2	49.5	51.8	66	2.3	15	51.8	0.0	5	-5.0	
75	1	48.9	51.4	66	2.5	15	51.4	0.0	5	-5.0	
76	1	45.9	48.9	66	3.0	15	48.9	0.0	5	-5.0	
77	1	45.7	48.4	66	2.7	15	48.4	0.0	5	-5.0	
78	2	53.6	55.6	66	2.0	15	55.6	0.0	5	-5.0	
79	2	54.4	56.3	66	1.9	15	56.3	0.0	5	-5.0	
80	1	56.4	58.3	66	1.9	15	58.3	0.0	5	-5.0	
81 Outdoor Rec?	5	67.0	68.8	66	1.8	15	68.8	0.0	5	-5.0	
82 Clubhouse?	1	59.6	61.4	66	1.8	15	61.4	0.0	5	-5.0	
83	3	55.6	57.5	66	1.9	15	57.5	0.0	5	-5.0	
84	1	54.7	56.6	66	1.9	15	56.6	0.0	5	-5.0	
85 Swimming Pool and Bathroom	2	60.6	62.4	66	1.8	15	62.4	0.0	5	-5.0	
86	1	56.9	58.7	66	1.8	15	58.7	0.0	5	-5.0	
87	4	55.3	57.2	66	1.9	15	57.2	0.0	5	-5.0	
88	2	54.9	56.8	66	1.9	15	56.8	0.0	5	-5.0	
89	4	53.9	55.8	66	1.9	15	55.8	0.0	5	-5.0	
90	4	52.7	54.6	66	1.9	15	54.6	0.0	5	-5.0	
91	3	53.7	55.6	66	1.9	15	55.6	0.0	5	-5.0	
92	2	52.8	54.7	66	1.9	15	54.7	0.0	5	-5.0	
93	1	52.4	54.8	66	2.4	15	54.8	0.0	5	-5.0	
94	1	50.6	53.0	66	2.4	15	53.0	0.0	5	-5.0	
95	1	49.5	51.9	66	2.4	15	51.9	0.0	5	-5.0	
96	1	49.2	51.7	66	2.5	15	51.7	0.0	5	-5.0	
97	2	43.7	47.6	66	3.9	15	47.6	0.0	5	-5.0	
98 Act Cat C	1	50.0	52.4	71	2.4	15	52.4	0.0	5	-5.0	
99	1	54.6	57.8	66	3.2	15	57.8	0.0	5	-5.0	
100	1	51.2	54.6	66	3.4	15	54.6	0.0	5	-5.0	
Dwelling Units		Noise Reduction									
		Min	Avg	Max							
		dB	dB	dB							
All Selected		243	0.0	0.0							

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

7 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 339018

RUN: EIC No Build Southbound Peak

BARRIER DESIGN: INPUT HEIGHTS

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB
			L <sub>Aeq</sub> 1h dBA	Crit'n	L <sub>Aeq</sub> 1h dBA	Crit'n	Calculated dB	Sub'l Inc dB		Calculated L <sub>Aeq</sub> 1h dBA	Noise Reduction Calculated dB	
	1	1	65.8	66	69.9	66	4.1	15	Snd Lvl	69.9	0.0	5
	2	1	65.5	71	68.3	71	2.8	15	----	68.3	0.0	5
	3	3	57.9	66	68.5	66	10.6	15	Snd Lvl	68.5	0.0	5
	4	4	53.6	66	67.2	66	13.6	15	Snd Lvl	67.2	0.0	5
	5	5	52.0	66	64.9	66	12.9	15	----	64.9	0.0	5
	6	5	48.0	66	63.9	66	15.9	15	Sub'l Inc	63.9	0.0	5
	7	5	46.1	66	64.4	66	18.3	15	Sub'l Inc	64.4	0.0	5
	8	2	45.8	66	63.4	66	17.6	15	Sub'l Inc	63.4	0.0	5
	9	2	45.1	66	63.1	66	18.0	15	Sub'l Inc	63.1	0.0	5
	10	3	44.6	66	65.9	66	21.3	15	Sub'l Inc	65.9	0.0	5
	11	3	55.8	66	62.5	66	6.7	15	----	62.5	0.0	5
	12	3	52.8	66	61.0	66	8.2	15	----	61.0	0.0	5
	13	3	51.7	66	60.3	66	8.6	15	----	60.3	0.0	5
	14	5	47.7	66	59.2	66	11.5	15	----	59.2	0.0	5
	15	5	45.5	66	58.6	66	13.1	15	----	58.6	0.0	5
	16	3	44.9	66	58.5	66	13.6	15	----	58.5	0.0	5
	17	2	56.9	66	61.1	66	4.2	15	----	61.1	0.0	5
	18	2	52.2	66	58.8	66	6.6	15	----	58.8	0.0	5
	19	5	51.2	66	58.2	66	7.0	15	----	58.2	0.0	5
	20	6	46.8	66	56.7	66	9.9	15	----	56.7	0.0	5
	21	4	45.1	66	56.3	66	11.2	15	----	56.3	0.0	5
	22	3	44.5	66	56.5	66	12.0	15	----	56.5	0.0	5
	23	2	51.7	66	62.2	66	10.5	15	----	62.2	0.0	5
	24	1	47.1	66	62.3	66	15.2	15	Sub'l Inc	62.3	0.0	5

RESULTS: SOUND LEVELS

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66		66	2	60.0	62.2	66	2.2	15	----	62.2	0.0	5	-5.0
67		67	2	59.7	61.9	66	2.2	15	----	61.9	0.0	5	-5.0
68		68	7	62.5	65.1	66	2.6	15	----	65.1	0.0	5	-5.0
69		69	6	58.8	61.4	66	2.6	15	----	61.4	0.0	5	-5.0
70		70	2	58.1	60.3	66	2.2	15	----	60.3	0.0	5	-5.0
71		71	1	63.1	65.0	66	1.9	15	----	65.0	0.0	5	-5.0
72		72	1	57.3	59.8	66	2.5	15	----	59.8	0.0	5	-5.0
73		73	1	57.7	59.6	66	1.9	15	----	59.6	0.0	5	-5.0
74		74	2	49.5	51.8	66	2.3	15	----	51.8	0.0	5	-5.0
75		75	1	48.9	51.4	66	2.5	15	----	51.4	0.0	5	-5.0
76		76	1	45.9	48.9	66	3.0	15	----	48.9	0.0	5	-5.0
77		77	1	45.7	48.4	66	2.7	15	----	48.4	0.0	5	-5.0
78		78	2	53.6	55.6	66	2.0	15	----	55.6	0.0	5	-5.0
79		79	2	54.4	56.3	66	1.9	15	----	56.3	0.0	5	-5.0
80		80	1	56.4	58.3	66	1.9	15	----	58.3	0.0	5	-5.0
81	Outdoor Rec?	81	5	67.0	68.8	66	1.8	15	Snd Lvl	68.8	0.0	5	-5.0
82	Clubhouse?	82	1	59.6	61.4	66	1.8	15	----	61.4	0.0	5	-5.0
83		83	3	55.6	57.5	66	1.9	15	----	57.5	0.0	5	-5.0
84		84	1	54.7	56.6	66	1.9	15	----	56.6	0.0	5	-5.0
85	Swimming Pool and Bathhouse	85	2	60.6	62.4	66	1.8	15	----	62.4	0.0	5	-5.0
86		86	1	56.9	58.7	66	1.8	15	----	58.7	0.0	5	-5.0
87		87	4	55.3	57.2	66	1.9	15	----	57.2	0.0	5	-5.0
88		88	2	54.9	56.8	66	1.9	15	----	56.8	0.0	5	-5.0
89		89	4	53.9	55.8	66	1.9	15	----	55.8	0.0	5	-5.0
90		90	4	52.7	54.6	66	1.9	15	----	54.6	0.0	5	-5.0
91		91	3	53.7	55.6	66	1.9	15	----	55.6	0.0	5	-5.0
92		92	2	52.8	54.7	66	1.9	15	----	54.7	0.0	5	-5.0
93		93	1	52.4	54.8	66	2.4	15	----	54.8	0.0	5	-5.0
94		94	1	50.6	53.0	66	2.4	15	----	53.0	0.0	5	-5.0
95		95	1	49.5	51.9	66	2.4	15	----	51.9	0.0	5	-5.0
96		96	1	49.2	51.7	66	2.5	15	----	51.7	0.0	5	-5.0
97		97	2	43.7	47.6	66	3.9	15	----	47.6	0.0	5	-5.0
98	Act Cat C	98	1	50.0	52.4	71	2.4	15	----	52.4	0.0	5	-5.0
99		99	1	54.6	57.8	66	3.2	15	----	57.8	0.0	5	-5.0
100		100	1	51.2	54.6	66	3.4	15	----	54.6	0.0	5	-5.0

Dwelling Units	# DUs	Noise Reduction	
		Min dB	Max dB
All Selected	243	0.0	0.0

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

7 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 339018

RUN: EIC Build Alt N NB Peak

BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

Receiver	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB
			L <sub>Aeq</sub> 1h	dBA	L <sub>Aeq</sub> 1h	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated	Goal	
	1	1	65.8	66	70.0	66	4.2	15	Snd Lvl	70.0	0.0	5
	2	1	65.5	71	67.5	71	2.0	15	----	67.5	0.0	5
	3	3	57.9	66	70.2	66	12.3	15	Snd Lvl	70.2	0.0	5
	4	4	53.6	66	69.3	66	15.7	15	Both	69.3	0.0	5
	5	5	52.0	66	67.2	66	15.2	15	Both	67.2	0.0	5
	6	5	48.0	66	66.4	66	18.4	15	Both	66.4	0.0	5
	7	5	46.1	66	66.9	66	20.8	15	Both	66.9	0.0	5
	8	2	45.8	66	66.0	66	20.2	15	Both	66.0	0.0	5
	9	2	45.1	66	65.7	66	20.6	15	Sub'l Inc	65.7	0.0	5
	10	3	44.6	66	68.4	66	23.8	15	Both	68.4	0.0	5
	11	3	55.8	66	63.5	66	7.7	15	----	63.5	0.0	5
	12	3	52.8	66	62.5	66	9.7	15	----	62.5	0.0	5
	13	3	51.7	66	62.0	66	10.3	15	----	62.0	0.0	5
	14	5	47.7	66	61.6	66	13.9	15	----	61.6	0.0	5
	15	5	45.5	66	61.2	66	15.7	15	Sub'l Inc	61.2	0.0	5
	16	3	44.9	66	61.1	66	16.2	15	Sub'l Inc	61.1	0.0	5
	17	2	56.9	66	61.3	66	4.4	15	----	61.3	0.0	5
	18	2	52.2	66	60.1	66	7.9	15	----	60.1	0.0	5
	19	5	51.2	66	59.8	66	8.6	15	----	59.8	0.0	5
	20	6	46.8	66	59.1	66	12.3	15	----	59.1	0.0	5
	21	4	45.1	66	58.8	66	13.7	15	----	58.8	0.0	5
	22	3	44.5	66	59.1	66	14.6	15	----	59.1	0.0	5
	23	2	51.7	66	64.5	66	12.8	15	----	64.5	0.0	5
	24	1	47.1	66	65.2	66	18.1	15	Sub'l Inc	65.2	0.0	5

RESULTS: SOUND LEVELS

339018

Dwelling Units	# DUs	Noise Reduction			66	60.0	61.6	66	1.6	15	---	61.6	0.0	5	-5.0
		Min dB	Avg dB	Max dB											
66	2			66	60.0	61.6	66	1.6	15	---	61.6	0.0	5	-5.0	
67	2			66	59.7	61.2	66	1.5	15	---	61.2	0.0	5	-5.0	
68	7			66	62.5	65.3	66	2.8	15	---	65.3	0.0	5	-5.0	
69	6			66	58.8	61.5	66	2.7	15	---	61.5	0.0	5	-5.0	
70	2			66	58.1	60.0	66	1.9	15	---	60.0	0.0	5	-5.0	
71	1			66	63.1	64.1	66	1.0	15	---	64.1	0.0	5	-5.0	
72	1			66	57.3	59.2	66	1.9	15	---	59.2	0.0	5	-5.0	
73	1			66	57.7	58.8	66	1.1	15	---	58.8	0.0	5	-5.0	
74	2			66	49.5	51.5	66	2.0	15	---	51.5	0.0	5	-5.0	
75	1			66	48.9	51.2	66	2.3	15	---	51.2	0.0	5	-5.0	
76	1			66	45.9	49.1	66	3.2	15	---	49.1	0.0	5	-5.0	
77	1			66	45.7	48.6	66	2.9	15	---	48.6	0.0	5	-5.0	
78	2			66	53.6	54.6	66	1.0	15	---	54.6	0.0	5	-5.0	
79	2			66	54.4	55.4	66	1.0	15	---	55.4	0.0	5	-5.0	
80	1			66	56.4	57.2	66	0.8	15	---	57.2	0.0	5	-5.0	
81 Outdoor Rec?	5			66	67.0	67.5	66	0.5	15	Snd Lvl	67.5	0.0	5	-5.0	
82 Clubhouse?	1			66	59.6	60.2	66	0.6	15	---	60.2	0.0	5	-5.0	
83	3			66	55.6	56.4	66	0.8	15	---	56.4	0.0	5	-5.0	
84	1			66	54.7	55.6	66	0.9	15	---	55.6	0.0	5	-5.0	
85 Swimming Pool and Bathhouse	2			66	60.6	61.2	66	0.6	15	---	61.2	0.0	5	-5.0	
86	1			66	56.9	57.7	66	0.8	15	---	57.7	0.0	5	-5.0	
87	4			66	55.3	56.2	66	0.9	15	---	56.2	0.0	5	-5.0	
88	2			66	54.9	55.9	66	1.0	15	---	55.9	0.0	5	-5.0	
89	4			66	53.9	55.0	66	1.1	15	---	55.0	0.0	5	-5.0	
90	4			66	52.7	53.9	66	1.2	15	---	53.9	0.0	5	-5.0	
91	3			66	53.7	54.8	66	1.1	15	---	54.8	0.0	5	-5.0	
92	2			66	52.8	54.0	66	1.2	15	---	54.0	0.0	5	-5.0	
93	1			66	52.4	56.5	66	4.1	15	---	56.5	0.0	5	-5.0	
94	1			66	50.6	55.5	66	4.9	15	---	55.5	0.0	5	-5.0	
95	1			66	49.5	54.8	66	5.3	15	---	54.8	0.0	5	-5.0	
96	1			66	49.2	55.3	66	6.1	15	---	55.3	0.0	5	-5.0	
97	2			66	43.7	56.0	66	12.3	15	---	56.0	0.0	5	-5.0	
98 Act Cat C	1			71	50.0	56.0	71	6.0	15	---	56.0	0.0	5	-5.0	
99	1			66	54.6	59.6	66	5.0	15	---	59.6	0.0	5	-5.0	
100	1			66	51.2	56.9	66	5.7	15	---	56.9	0.0	5	-5.0	
All Selected	243			0.0	0.0	0.0	0.0								



RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

7 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

RUN: 339018

BARRIER DESIGN:

EIC Build Alt X NB Peak  
INPUT HEIGHTS

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB
			L Aeq1h	dB	L Aeq1h	dB	Calculated	Crit'n		Calculated	dB	
	1	1	65.8	70.2	66	4.4	15	Snd Lvl	70.2	0.0	5	-5.0
	2	1	65.5	68.2	71	2.7	15	----	68.2	0.0	5	-5.0
	3	3	57.9	69.0	66	11.1	15	Snd Lvl	69.0	0.0	5	-5.0
	4	4	53.6	67.9	66	14.3	15	Snd Lvl	67.9	0.0	5	-5.0
	5	5	52.0	65.8	66	13.8	15	----	65.8	0.0	5	-5.0
	6	5	48.0	65.0	66	17.0	15	Sub'l Inc	65.0	0.0	5	-5.0
	7	5	46.1	65.5	66	19.4	15	Sub'l Inc	65.5	0.0	5	-5.0
	8	2	45.8	64.5	66	18.7	15	Sub'l Inc	64.5	0.0	5	-5.0
	9	2	45.1	64.2	66	19.1	15	Sub'l Inc	64.2	0.0	5	-5.0
	10	3	44.6	66.9	66	22.3	15	Both	66.9	0.0	5	-5.0
	11	3	55.8	62.8	66	7.0	15	----	62.8	0.0	5	-5.0
	12	3	52.8	61.4	66	8.6	15	----	61.4	0.0	5	-5.0
	13	3	51.7	60.9	66	9.2	15	----	60.9	0.0	5	-5.0
	14	5	47.7	60.2	66	12.5	15	----	60.2	0.0	5	-5.0
	15	5	45.5	59.8	66	14.3	15	----	59.8	0.0	5	-5.0
	16	3	44.9	59.7	66	14.8	15	----	59.7	0.0	5	-5.0
	17	2	56.9	61.2	66	4.3	15	----	61.2	0.0	5	-5.0
	18	2	52.2	59.2	66	7.0	15	----	59.2	0.0	5	-5.0
	19	5	51.2	58.7	66	7.5	15	----	58.7	0.0	5	-5.0
	20	6	46.8	57.8	66	11.0	15	----	57.8	0.0	5	-5.0
	21	4	45.1	57.5	66	12.4	15	----	57.5	0.0	5	-5.0
	22	3	44.5	57.7	66	13.2	15	----	57.7	0.0	5	-5.0
	23	2	51.7	63.2	66	11.5	15	----	63.2	0.0	5	-5.0
	24	1	47.1	63.8	66	16.7	15	Sub'l Inc	63.8	0.0	5	-5.0

RESULTS: SOUND LEVELS

339018

	66	2	60.0	63.7	66	3.7	15	63.7	0.0	5	-5.0
66											
67		2	59.7	63.4	66	3.7	15	63.4	0.0	5	-5.0
68		7	62.5	66.9	66	4.4	15	66.9	0.0	5	-5.0
69		6	58.8	63.2	66	4.4	15	63.2	0.0	5	-5.0
70		2	58.1	62.4	66	4.3	15	62.4	0.0	5	-5.0
71		1	63.1	73.6	66	10.5	15	73.6	0.0	5	-5.0
72		1	57.3	63.8	66	6.5	15	63.8	0.0	5	-5.0
73		1	57.7	61.4	66	3.7	15	61.4	0.0	5	-5.0
74		2	49.5	56.3	66	6.8	15	56.3	0.0	5	-5.0
75		1	48.9	55.5	66	6.6	15	55.5	0.0	5	-5.0
76		1	45.9	50.4	66	4.5	15	50.4	0.0	5	-5.0
77		1	45.7	50.1	66	4.4	15	50.1	0.0	5	-5.0
78		2	53.6	58.2	66	4.6	15	58.2	0.0	5	-5.0
79		2	54.4	58.9	66	4.5	15	58.9	0.0	5	-5.0
80		1	56.4	60.7	66	4.3	15	60.7	0.0	5	-5.0
81	Outdoor Rec?	5	67.0	68.4	66	1.4	15	68.4	0.0	5	-5.0
82	Clubhouse?	1	59.6	63.0	66	3.4	15	63.0	0.0	5	-5.0
83		3	55.6	60.0	66	4.4	15	60.0	0.0	5	-5.0
84		1	54.7	59.3	66	4.6	15	59.3	0.0	5	-5.0
85	Swimming Pool and Bathroom	2	60.6	63.8	66	3.2	15	63.8	0.0	5	-5.0
86		1	56.9	61.1	66	4.2	15	61.1	0.0	5	-5.0
87		4	55.3	59.7	66	4.4	15	59.7	0.0	5	-5.0
88		2	54.9	59.4	66	4.5	15	59.4	0.0	5	-5.0
89		4	53.9	58.5	66	4.6	15	58.5	0.0	5	-5.0
90		4	52.7	57.5	66	4.8	15	57.5	0.0	5	-5.0
91		3	53.7	58.3	66	4.6	15	58.3	0.0	5	-5.0
92		2	52.8	57.6	66	4.8	15	57.6	0.0	5	-5.0
93		1	52.4	57.0	66	4.6	15	57.0	0.0	5	-5.0
94		1	50.6	55.6	66	5.0	15	55.6	0.0	5	-5.0
95		1	49.5	55.4	66	5.9	15	55.4	0.0	5	-5.0
96		1	49.2	55.5	66	6.3	15	55.5	0.0	5	-5.0
97		2	43.7	46.7	66	3.0	15	46.7	0.0	5	-5.0
98	Act Cat C	1	50.0	56.4	71	6.4	15	56.4	0.0	5	-5.0
99		1	54.6	60.4	66	5.8	15	60.4	0.0	5	-5.0
100		1	51.2	57.5	66	6.3	15	57.5	0.0	5	-5.0

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	243	0.0	0.0	0.0

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

7 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

RUN: 339018

BARRIER DESIGN: EIC Build Alt X SB Peak

ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB	
			L <sub>Aeq</sub> 1h dBA	Crit'n	L <sub>Aeq</sub> 1h dBA	Crit'n	Calculated dB	Sub'l Inc dB		Calculated L <sub>Aeq</sub> 1h dBA	Noise Reduction Calculated dB		Goal dB
1	1		65.8		70.2	66	4.4	15	Snd Lvl	70.2	0.0	5	-5.0
2	1		65.5		68.2	71	2.7	15	----	68.2	0.0	5	-5.0
3	3		57.9		69.5	66	11.6	15	Snd Lvl	69.5	0.0	5	-5.0
4	4		53.6		68.4	66	14.8	15	Snd Lvl	68.4	0.0	5	-5.0
5	5		52.0		66.1	66	14.1	15	Snd Lvl	66.1	0.0	5	-5.0
6	5		48.0		65.2	66	17.2	15	Sub'l Inc	65.2	0.0	5	-5.0
7	5		46.1		65.8	66	19.7	15	Sub'l Inc	65.8	0.0	5	-5.0
8	2		45.8		64.8	66	19.0	15	Sub'l Inc	64.8	0.0	5	-5.0
9	2		45.1		64.4	66	19.3	15	Sub'l Inc	64.4	0.0	5	-5.0
10	3		44.6		67.3	66	22.7	15	Both	67.3	0.0	5	-5.0
11	3		55.8		62.8	66	7.0	15	----	62.8	0.0	5	-5.0
12	3		52.8		61.5	66	8.7	15	----	61.5	0.0	5	-5.0
13	3		51.7		60.8	66	9.1	15	----	60.8	0.0	5	-5.0
14	5		47.7		60.2	66	12.5	15	----	60.2	0.0	5	-5.0
15	5		45.5		59.7	66	14.2	15	----	59.7	0.0	5	-5.0
16	3		44.9		59.6	66	14.7	15	----	59.6	0.0	5	-5.0
17	2		56.9		61.1	66	4.2	15	----	61.1	0.0	5	-5.0
18	2		52.2		59.1	66	6.9	15	----	59.1	0.0	5	-5.0
19	5		51.2		58.6	66	7.4	15	----	58.6	0.0	5	-5.0
20	6		46.8		57.6	66	10.8	15	----	57.6	0.0	5	-5.0
21	4		45.1		57.3	66	12.2	15	----	57.3	0.0	5	-5.0
22	3		44.5		57.5	66	13.0	15	----	57.5	0.0	5	-5.0
23	2		51.7		62.9	66	11.2	15	----	62.9	0.0	5	-5.0
24	1		47.1		63.4	66	16.3	15	Sub'l Inc	63.4	0.0	5	-5.0

RESULTS: SOUND LEVELS

339018

66		66	2	60.0	63.5	66	3.5	15	----	63.5	0.0	5	-5.0
67		67	2	59.7	63.2	66	3.5	15	----	63.2	0.0	5	-5.0
68		68	7	62.5	66.8	66	4.3	15	Snd Lvl	66.8	0.0	5	-5.0
69		69	6	58.8	63.1	66	4.3	15	----	63.1	0.0	5	-5.0
70		70	2	58.1	62.4	66	4.3	15	----	62.4	0.0	5	-5.0
71		71	1	63.1	74.4	66	11.3	15	Snd Lvl	74.4	0.0	5	-5.0
72		72	1	57.3	64.1	66	6.8	15	----	64.1	0.0	5	-5.0
73		73	1	57.7	61.2	66	3.5	15	----	61.2	0.0	5	-5.0
74		74	2	49.5	56.9	66	7.4	15	----	56.9	0.0	5	-5.0
75		75	1	48.9	56.1	66	7.2	15	----	56.1	0.0	5	-5.0
76		76	1	45.9	50.4	66	4.5	15	----	50.4	0.0	5	-5.0
77		77	1	45.7	50.0	66	4.3	15	----	50.0	0.0	5	-5.0
78		78	2	53.6	58.2	66	4.6	15	----	58.2	0.0	5	-5.0
79		79	2	54.4	58.9	66	4.5	15	----	58.9	0.0	5	-5.0
80		80	1	56.4	60.6	66	4.2	15	----	60.6	0.0	5	-5.0
81	Outdoor Rec?	81	5	67.0	67.9	66	0.9	15	Snd Lvl	67.9	0.0	5	-5.0
82	Clubhouse?	82	1	59.6	62.7	66	3.1	15	----	62.7	0.0	5	-5.0
83		83	3	55.6	59.9	66	4.3	15	----	59.9	0.0	5	-5.0
84		84	1	54.7	59.2	66	4.5	15	----	59.2	0.0	5	-5.0
85	Swimming Pool and Bathroom	85	2	60.6	63.5	66	2.9	15	----	63.5	0.0	5	-5.0
86		86	1	56.9	61.0	66	4.1	15	----	61.0	0.0	5	-5.0
87		87	4	55.3	59.7	66	4.4	15	----	59.7	0.0	5	-5.0
88		88	2	54.9	59.4	66	4.5	15	----	59.4	0.0	5	-5.0
89		89	4	53.9	58.5	66	4.6	15	----	58.5	0.0	5	-5.0
90		90	4	52.7	57.6	66	4.9	15	----	57.6	0.0	5	-5.0
91		91	3	53.7	58.3	66	4.6	15	----	58.3	0.0	5	-5.0
92		92	2	52.8	57.6	66	4.8	15	----	57.6	0.0	5	-5.0
93		93	1	52.4	57.0	66	4.6	15	----	57.0	0.0	5	-5.0
94		94	1	50.6	55.7	66	5.1	15	----	55.7	0.0	5	-5.0
95		95	1	49.5	55.7	66	6.2	15	----	55.7	0.0	5	-5.0
96		96	1	49.2	55.9	66	6.7	15	----	55.9	0.0	5	-5.0
97		97	2	43.7	46.7	66	3.0	15	----	46.7	0.0	5	-5.0
98	Act Cat C	98	1	50.0	56.4	71	6.4	15	----	56.4	0.0	5	-5.0
99		99	1	54.6	60.4	66	5.8	15	----	60.4	0.0	5	-5.0
100		100	1	51.2	57.4	66	6.2	15	----	57.4	0.0	5	-5.0
Dwelling Units													
		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		243	0.0	0.0	0.0								

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

8 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 339018

RUN: Alt N West Wall

BARRIER DESIGN: min 5dBA reduction

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction		Calculated minus Goal dB
			L <sub>Aeq</sub> 1h	dBA	L <sub>Aeq</sub> 1h	Crit'n	Calculated	Crit'n		Calculated	Sub'l Inc	Calculated	Goal	
	1	1	65.8	70.1	66	15	4.3	15	Snd Lvl	68.9	1.2	5	-3.8	
	2	1	65.5	67.5	71	15	2.0	15	----	67.2	0.3	5	-4.7	
	3	3	57.9	70.9	66	15	13.0	15	Snd Lvl	60.9	10.0	5	5.0	
	4	4	53.6	69.8	66	15	16.2	15	Both	59.2	10.6	5	5.6	
	5	5	52.0	67.5	66	15	15.5	15	Both	57.4	10.1	5	5.1	
	6	5	48.0	66.7	66	15	18.7	15	Both	56.4	10.3	5	5.3	
	7	5	46.1	67.3	66	15	21.2	15	Both	56.9	10.4	5	5.4	
	8	2	45.8	66.3	66	15	20.5	15	Both	56.2	10.1	5	5.1	
	9	2	45.1	66.0	66	15	20.9	15	Both	56.0	10.0	5	5.0	
	10	3	44.6	68.9	66	15	24.3	15	Both	57.4	11.5	5	6.5	
	11	3	55.8	63.4	66	15	7.6	15	----	58.4	5.0	5	0.0	
	12	3	52.8	62.6	66	15	9.8	15	----	56.2	6.4	5	1.4	
	13	3	51.7	61.9	66	15	10.2	15	----	54.9	7.0	5	2.0	
	14	5	47.7	61.5	66	15	13.8	15	----	53.9	7.6	5	2.6	
	15	5	45.5	61.1	66	15	15.6	15	Sub'l Inc	53.6	7.5	5	2.5	
	16	3	44.9	61.0	66	15	16.1	15	Sub'l Inc	54.0	7.0	5	2.0	
	17	2	56.9	61.2	66	15	4.3	15	----	58.9	2.3	5	-2.7	
	18	2	52.2	60.0	66	15	7.8	15	----	54.4	5.6	5	0.6	
	19	5	51.2	59.7	66	15	8.5	15	----	53.8	5.9	5	0.9	
	20	6	46.8	58.9	66	15	12.1	15	----	52.5	6.4	5	1.4	
	21	4	45.1	58.6	66	15	13.5	15	----	52.5	6.1	5	1.1	
	22	3	44.5	58.9	66	15	14.4	15	----	53.4	5.5	5	0.5	

Dwelling Units

#DUs	Noise Reduction	
	Min	Max
	Avg	

RESULTS: BARRIER DESCRIPTIONS

339018

WSA for FDOT  
rdo (TNM 52141)

8 July 2001  
TNM 1.1

RESULTS: BARRIER DESCRIPTIONS

PROJECT/CONTRACT: 339018

RUN: Alt N West Wall

BARRIER DESIGN: min 5dBA reduction

Barriers

Name	Type	Heights along Barrier			Length	If Wall		If Berm			Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise		
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$	
West Side Winchester Barrier	W	6.00	16.52	20.00	2902	47932				1198300	
<b>Total Cost</b>										<b>1198300</b>	

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

	point28	28	18.00	18.00	18.00	18.00	18.00	18.00	54	972				24300
	3007	7	18.00	18.00	18.00	18.00	18.00	18.00	53	961				24000
	point29	29	18.00	18.00	18.00	18.00	18.00	18.00	53	961				24000
	point30	30	18.00	18.00	18.00	18.00	18.00	18.00	53	961				24000
	point31	31	18.00	18.00	18.00	18.00	18.00	18.00	53	961				24000
	point32	32	18.00	18.00	18.00	18.00	18.00	18.00	53	961				24000
	3008	8	18.00	18.00	18.00	18.00	18.00	18.00	48	862				21500
	point33	33	18.00	18.00	18.00	18.00	18.00	18.00	48	862				21600
	point34	34	18.00	18.00	18.00	18.00	18.00	18.00	48	862				21500
	point35	35	18.00	18.00	18.00	18.00	18.00	18.00	48	862				21600
	point36	36	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point37	37	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point38	38	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point39	39	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point40	40	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point41	41	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point42	42	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point43	43	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point44	44	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point45	45	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point46	46	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point47	47	20.00	20.00	20.00	20.00	20.00	20.00	48	958				23900
	point48	48	18.00	18.00	18.00	18.00	18.00	18.00	48	862				21500
	point49	49	14.00	14.00	14.00	14.00	14.00	14.00	48	671				16800
	point50	50	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point51	51	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point52	52	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point53	53	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point54	54	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point55	55	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point56	56	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point57	57	12.00	12.00	12.00	12.00	12.00	12.00	48	575				14400
	point58	58	8.00	8.00	8.00	8.00	8.00	8.00	48	383				9600
	point59	59	6.00	6.00	6.00	6.00	6.00	6.00	48	287				7200

RESULTS: SOUND LEVELS

339018

	dB	dB	dB
All Selected	75	0.3	6.9
All Impacted	30	0.9	9.4
All that meet NR Goal	66	5.0	8.2
			11.5
			11.5
			11.5



RESULTS: BARRIER-SEGMENT DESCRIPTIONS

339018

WSA for FDOT  
rdo (TNM 52141)

8 July 2001  
TNM 1.1

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

PROJECT/CONTRACT:

339018

RUN:

Alt X West Wall (Rec 1-22)

BARRIER DESIGN:

min 5dBA reduction

Segments												
Barriers Name	Type	Name	No.	Heights		Average	Second Point	Length	If Wall		If Berm Volume	Cost
				First Point	ft				Area	On Struc?		
				ft	ft	ft	ft	ft	sq ft			
West Side Winchester Barrier	W	3001	1	16.00	16.00	16.00	16.00	51	808			20200
		point10	10	18.00	18.00	18.00	18.00	51	909			22700
		3002	2	22.00	22.00	22.00	22.00	50	1108			27700
		point11	11	24.00	24.00	24.00	24.00	50	1209			30200
		3003	3	24.00	24.00	24.00	24.00	50	1207			30200
		point12	12	24.00	24.00	24.00	24.00	50	1207			30200
		point13	13	24.00	24.00	24.00	24.00	50	1207			30200
		point14	14	24.00	24.00	24.00	24.00	50	1207			30200
		3004	4	24.00	24.00	24.00	24.00	50	1204			30100
		point15	15	24.00	24.00	24.00	24.00	50	1205			30100
		point16	16	24.00	24.00	24.00	24.00	50	1204			30100
		point17	17	20.00	20.00	20.00	20.00	50	1004			25100
		point18	18	20.00	20.00	20.00	20.00	50	1004			25100
		point19	19	20.00	20.00	20.00	20.00	50	1004			25100
		point20	20	18.00	18.00	18.00	18.00	50	903			22600
		point21	21	18.00	18.00	18.00	18.00	50	904			22600
		point22	22	18.00	18.00	18.00	18.00	50	903			22600
		3005	5	18.00	18.00	18.00	18.00	56	1006			25200
		point23	23	20.00	20.00	20.00	20.00	56	1118			27900
		point24	24	20.00	20.00	20.00	20.00	56	1118			28000
		point25	25	20.00	20.00	20.00	20.00	56	1118			27900
		3006	6	20.00	20.00	20.00	20.00	54	1080			27000
		point26	26	20.00	20.00	20.00	20.00	54	1080			27000
		point27	27	20.00	20.00	20.00	20.00	54	1080			27000

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

8 July 2001  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 339018

RUN: Alt X East Wall (Rec 23-40)

BARRIER DESIGN: min 5dBA reduction

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver	Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB	
				L <sub>Aeq</sub> 1h	dBA	L <sub>Aeq</sub> 1h	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated	Goal		Calculated
		23	2	51.7	66	63.2	66	11.5	15	----	57.4	5.8	5	0.8
		24	1	47.1	66	63.8	66	16.7	15	Sub'l Inc	57.0	6.8	5	1.8
		25	1	45.2	66	63.2	66	18.0	15	Sub'l Inc	55.7	7.5	5	2.5
		26	2	43.0	66	63.3	66	20.3	15	Sub'l Inc	56.5	6.8	5	1.8
		27	3	52.6	66	59.8	66	7.2	15	----	56.4	3.4	5	-1.6
		28	1	51.5	66	58.8	66	7.3	15	----	55.0	3.8	5	-1.2
		29	1	46.7	66	59.1	66	12.4	15	----	53.8	5.3	5	0.3
		30	2	44.0	66	59.7	66	15.7	15	Sub'l Inc	53.9	5.8	5	0.8
		31	1	43.2	66	57.8	66	14.6	15	----	52.3	5.5	5	0.5
		32	2	43.0	66	58.9	66	15.9	15	Sub'l Inc	53.3	5.6	5	0.6
		33	2	45.2	66	57.0	66	11.8	15	----	52.0	5.0	5	0.0
		34	1	43.7	66	56.6	66	12.9	15	----	51.5	5.1	5	0.1
		35	3	51.5	66	56.9	66	5.4	15	----	54.1	2.8	5	-2.2
		36	5	44.2	66	56.6	66	12.4	15	----	51.3	5.3	5	0.3
		37	2	43.0	66	55.3	66	12.3	15	----	50.3	5.0	5	0.0
		38	3	43.0	66	55.1	66	12.1	15	----	52.0	3.1	5	-1.9
		39	2	43.7	66	54.2	66	10.5	15	----	49.8	4.4	5	-0.6
		40	2	43.0	66	53.1	66	10.1	15	----	50.5	2.6	5	-2.4

Dwelling Units	# DUs	Noise Reduction	
		Min dB	Max dB
All Selected	36	2.6	7.5
All Impacted	8	5.6	7.5

RESULTS: BARRIER DESCRIPTIONS

339018

WSA for FDOT  
rdo (TNM 52141)

8 July 2001  
TNM 1.1

RESULTS: BARRIER DESCRIPTIONS

PROJECT/CONTRACT:

339018

RUN:

Alt X East Wall (Rec 23-40)

BARRIER DESIGN:

min 5dBA reduction

Barriers

Name	Type	Heights along Barrier			Length	If Wall		If Berm		Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
East Side Winchester Barrier	W	8.00	12.68	16.00	4106	52055				1301400
									<b>Total Cost</b>	<b>1301400</b>

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

339018

	3016	6	12.00	12.00	12.00	12.00	12.00	53	637			15900
	point28	28	12.00	12.00	12.00	12.00	12.00	53	638			15900
	point29	29	12.00	12.00	12.00	12.00	12.00	53	637			15900
	point30	30	12.00	12.00	12.00	12.00	12.00	53	638			15900
	point31	31	12.00	12.00	12.00	12.00	12.00	53	637			15900
	3017	7	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point32	32	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point33	33	12.00	12.00	12.00	12.00	12.00	52	620			15500
	point34	34	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point35	35	16.00	16.00	16.00	16.00	16.00	52	826			20600
	point36	36	16.00	16.00	16.00	16.00	16.00	52	826			20600
	point37	37	16.00	16.00	16.00	16.00	16.00	52	826			20600
	point38	38	16.00	16.00	16.00	16.00	16.00	52	826			20600
	point39	39	16.00	16.00	16.00	16.00	16.00	52	826			20700
	point40	40	16.00	16.00	16.00	16.00	16.00	52	826			20600
	point41	41	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point42	42	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point43	43	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point44	44	12.00	12.00	12.00	12.00	12.00	52	620			15500
	point45	45	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point46	46	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point47	47	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point48	48	12.00	12.00	12.00	12.00	12.00	52	619			15500
	point49	49	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point50	50	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point51	51	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point52	52	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point53	53	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point54	54	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point55	55	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point56	56	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point57	57	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point58	58	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point59	59	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point60	60	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point61	61	14.00	14.00	14.00	14.00	14.00	52	723			18100
	point62	62	14.00	14.00	14.00	14.00	14.00	52	723			18100

RESULTS: SOUND LEVELS

339018

WSA for FDOT  
rdo (TNM 52141)

17 December 2002  
TNM 1.1  
Calculated with TNM 1.1

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

339018

RUN: EIC Build Alt N Wall 1 (Isolated)  
BARRIER DESIGN: alternative min feasible

Average pavement type shall be used unless  
a State highway agency substantiates the use  
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver		Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.										
Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB
			L <sub>Aeq1h</sub>	dBA	L <sub>Aeq1h</sub>	Calculated	Crit'n	Calculated		Goal	Calculated	
41	1	43.0	61.2	66	18.2	15	Sub'l Inc	56.2	5.0	5	0.0	
42	1	43.0	53.0	66	10.0	15	----	52.3	0.7	5	-4.3	
43	1	43.0	56.3	66	13.3	15	----	56.1	0.2	5	-4.8	
44	1	43.0	54.6	66	11.6	15	----	54.5	0.1	5	-4.9	
45	2	43.0	53.3	66	10.3	15	----	53.1	0.2	5	-4.8	
46	2	43.0	51.9	66	8.9	15	----	51.7	0.2	5	-4.8	
Dwelling Units		Noise Reduction										
		Min	Avg	Max								
		dB	dB	dB								
All Selected	8	0.1	1.1	5.0								
All Impacted	1	5.0	5.0	5.0								
All that meet NR Goal	1	5.0	5.0	5.0								

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

339018

WSA for FDOT  
rdo (TNM 52141)

17 December 2002  
TNM 1.1

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

PROJECT/CONTRACT:

339018

RUN: EIC Build Alt N Wall 1 (Isolated)  
BARRIER DESIGN: alternative min feasible

Barriers																		
Name	Type	Segments	Name	No.	Heights			Length	If Wall		Important Reflections?	If Berm Volume	Cost					
					First Point	Average	Second Point		Area	On Struc?								
					ft	ft	ft	sq ft	cu yd	\$								
Barrier1	W		point1	1	0.00	0.00	0.00	0	0			0	0					
			point12	12	0.00	0.00	0.00	0	0				0	0				
			point13	13	0.00	0.00	0.00	0	0					0	0			
			point14	14	0.00	0.00	0.00	0	0						0	0		
			point15	15	0.00	0.00	0.00	0	0							0	0	
			point16	16	0.00	0.00	0.00	0	0								0	0
			point17	17	6.00	6.00	6.00	80	480								12000	
			point18	18	10.00	10.00	10.00	80	800								20000	
			point19	19	18.00	18.00	18.00	80	1440								36000	
			point20	20	18.00	18.00	18.00	80	1440								36000	
			point2	2	18.00	18.00	18.00	93	1675								41900	
			point21	21	18.00	18.00	18.00	93	1675								41900	
			point22	22	12.00	12.00	12.00	93	1116								27900	
			point23	23	8.00	8.00	8.00	93	744								18600	
			point3	3	0.00	0.00	0.00	0	0								0	
			point24	24	0.00	0.00	0.00	0	0								0	
			point25	25	0.00	0.00	0.00	0	0								0	
			point26	26	0.00	0.00	0.00	0	0								0	
			point4	4	0.00	0.00	0.00	0	0								0	
			point27	27	0.00	0.00	0.00	0	0								0	
			point28	28	0.00	0.00	0.00	0	0								0	
			point29	29	0.00	0.00	0.00	0	0								0	
			point30	30	0.00	0.00	0.00	0	0								0	
			point31	31	0.00	0.00	0.00	0	0								0	

RESULTS: BARRIER-SEGMENT DESCRIPTIONS

339018

	point66	66	0.00	0.00	0.00	0.00	0.00	0.00	0	0												0	
	point67	67	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point68	68	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point69	69	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point8	8	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point83	83	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point84	84	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point85	85	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point86	86	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point87	87	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point9	9	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point70	70	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point71	71	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point72	72	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point73	73	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point74	74	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point10	10	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point75	75	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point76	76	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point77	77	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point78	78	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point79	79	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point80	80	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point81	81	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0
	point82	82	0.00	0.00	0.00	0.00	0.00	0.00	0	0													0

**RESULTS: BARRIER DESCRIPTIONS**

339018

WSA for FDOT  
rdo (TNM 52141)

17 December 2002  
TNM 1.1

**RESULTS: BARRIER DESCRIPTIONS**

**PROJECT/CONTRACT:**

339018

**RUN:** EIC Build Alt X Wall 2 (Isolated)  
**BARRIER DESIGN:** min feasible

Name	Type	Heights along Barrier			Length	If Wall		If Berm		Cost
		Min	Avg	Max		Area	Volume	Top Width	Run:Rise	
		ft	ft	ft	ft	sq ft	cu yd	ft	ft:ft	\$
Barrier1	W	6.00	6.25	8.00	400	2500				62500
									<b>Total Cost</b>	62500



RESULTS: BARRIER-SEGMENT DESCRIPTIONS

339018

	point26	26	0.00	0.00	0.00	0.00	0.00	0.00	0												0	
	point27	27	0.00	0.00	0.00	0.00	0.00	0.00	0													0
	point28	28	0.00	0.00	0.00	0.00	0.00	0.00	0													0
	point29	29	0.00	0.00	0.00	0.00	0.00	0.00	0													0
	point30	30	0.00	0.00	0.00	0.00	0.00	0.00	0													0
	point31	31	0.00	0.00	0.00	0.00	0.00	0.00	0													0

**APPENDIX B**  
**FIELD VERIFICATION INFORMATION**

\* \* \* \* CASE INFORMATION \* \* \* \*

Location 1 SR776 1/2/01 1:35pm

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	2070.0
Average automobile speed (mph):	43.0
Medium truck volume (v/h):	24.0
Average medium truck speed (mph):	41.0
Heavy truck volume (v/h):	12.0
Average heavy truck speed (mph):	39.0
Bus volume (v/h):	.0
Motorcycle volume (v/h):	12.0
Average motorcycle speed (mph):	41.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

1

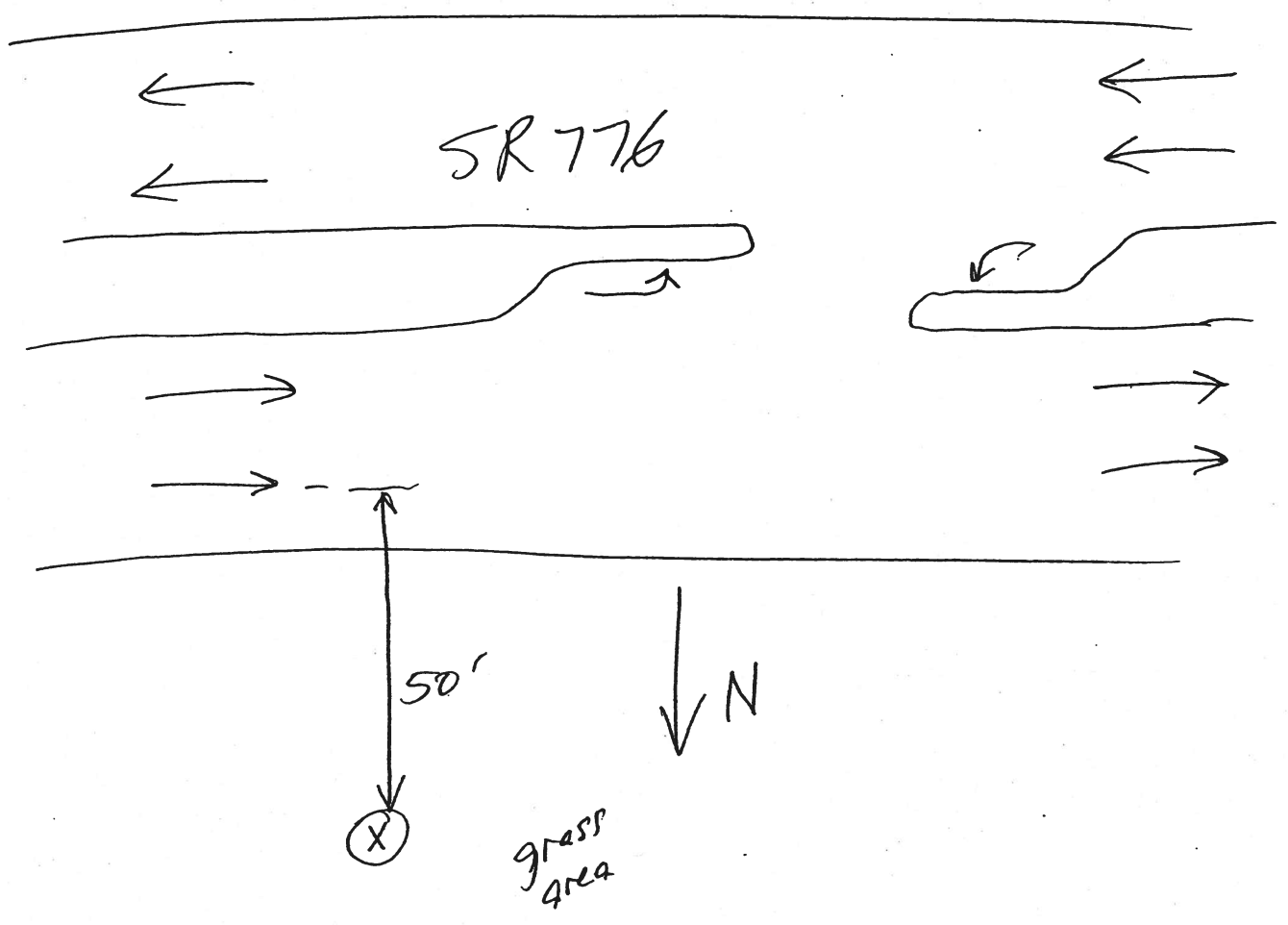
Distance from center of roadway (ft): 89.0

Hourly Equivalent Sound Level without Barrier (dB): 64.3

Field Measured Noise 65.7

Used 42ft median.... 21ft (half median)  
 + 12ft (inside travel lane)  
 + 6ft (half outside travel lane)  
 + 50ft (distance from center of near travel lane)  
 = 89ft (distance from center of roadway)

≈ 1/4 mi. to Winchester Blvd.



## \* \* \* \* CASE INFORMATION \* \* \* \*

Location 2 Pine St. 1/2/01 2:09pm

## \* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	1146.0
Average automobile speed (mph):	42.0
Medium truck volume (v/h):	36.0
Average medium truck speed (mph):	44.0
Heavy truck volume (v/h):	24.0
Average heavy truck speed (mph):	41.0

## \* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

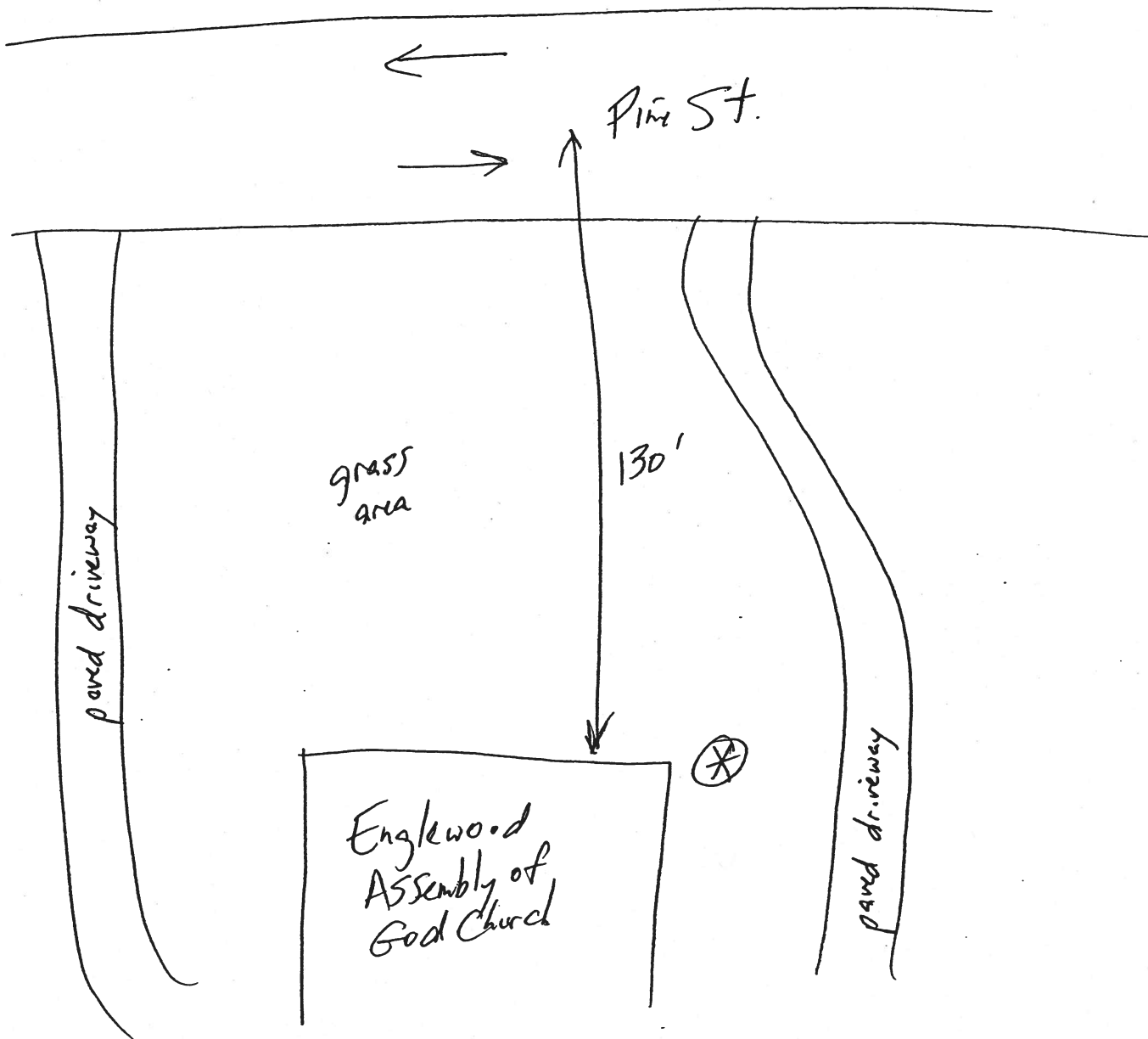
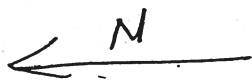
## \* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

1

Distance from center of roadway (ft):	130.0
Hourly Equivalent Sound Level without Barrier (dB):	59.9

Field Measured Noise 58.6



Pine St.

grass area

130'

paved driveway

paved driveway

Englewood  
Assembly of  
God Church



\* \* \* \* CASE INFORMATION \* \* \* \*

Location 3 Pine St. 1/3/01 2:29pm

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	888.0
Average automobile speed (mph):	40.0
Medium truck volume (v/h):	24.0
Average medium truck speed (mph):	43.0
Heavy truck volume (v/h):	24.0
Average heavy truck speed (mph):	40.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

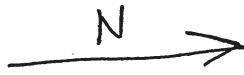
\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

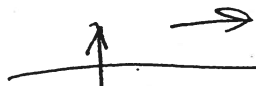
1

Distance from center of roadway (ft):	94.0
Hourly Equivalent Sound Level without Barrier (dB):	61.1

Field Measured Noise 58.1



Pine St. ←



94'



grass

grass



Parking  
area





\* \* \* \* CASE INFORMATION \* \* \* \*

Location 4 River Road 1/2/01 3:12pm

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	1002.0
Average automobile speed (mph):	40.0
Medium truck volume (v/h):	24.0
Average medium truck speed (mph):	41.0
Heavy truck volume (v/h):	18.0
Average heavy truck speed (mph):	41.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

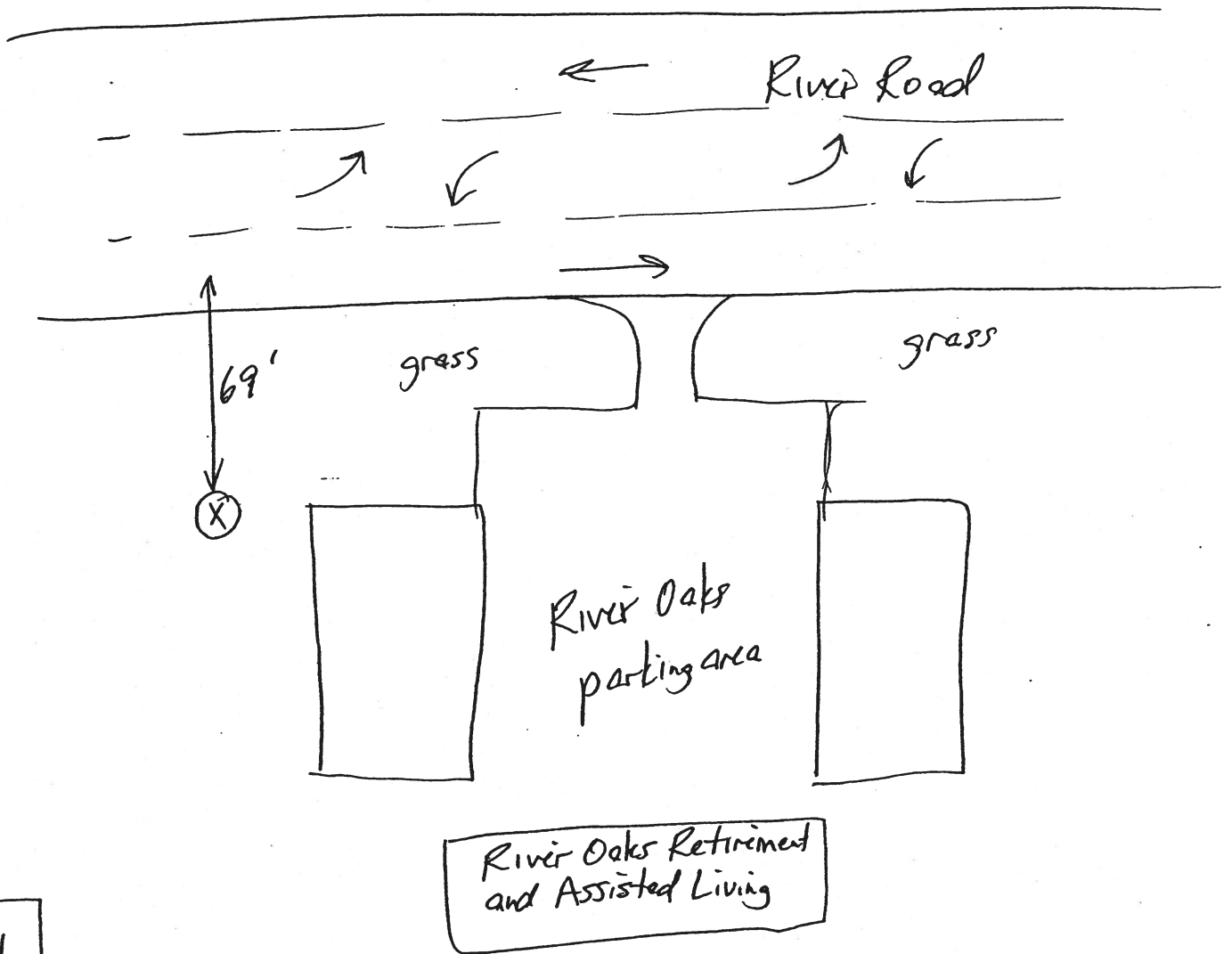
DESCRIPTION OF RECEIVER # 1

1

Distance from center of roadway (ft):	69.0
Hourly Equivalent Sound Level without Barrier (dB):	63.4

Field Measured Noise 64.0

US Post Office



Church

\* \* \* \* CASE INFORMATION \* \* \* \*

Location 5 River Road 1/2/01 3:36pm

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	750.0
Average automobile speed (mph):	53.0
Medium truck volume (v/h):	30.0
Average medium truck speed (mph):	48.0
Heavy truck volume (v/h):	6.0
Average heavy truck speed (mph):	49.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

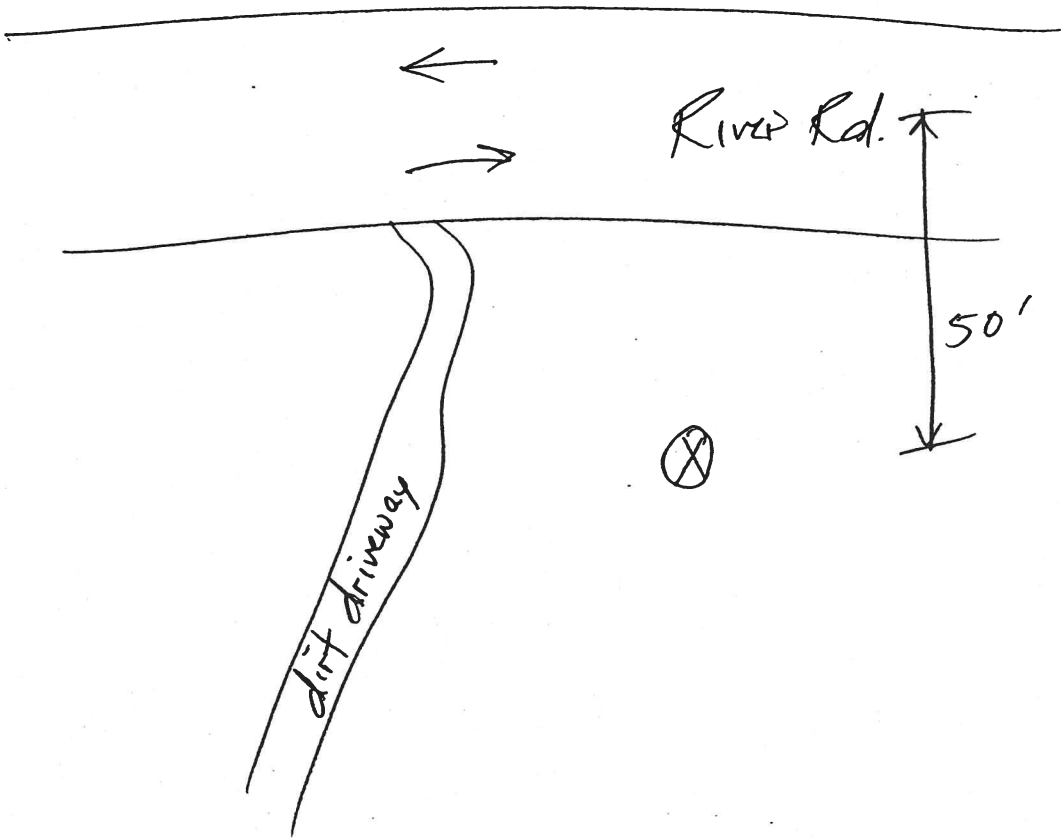
1

Distance from center of roadway (ft):	50.0
Hourly Equivalent Sound Level without Barrier (dB):	68.0

Field Measured Noise 66.3

Englewood  
Sports  
Complex

N



1530 AM  
Radio  
Station  
(The Wave)

# FIELD NOISE MEASUREMENT FORM

(Complete all information for Verification - only partial information required for Ambient)

Project Name:	Englewood Interstate Connector	Date:	1/2/01
Project Number:	339010	Location No.:	6
Purpose of measurement (circle one):	Verification <u>Ambient</u>	Road Name:	Buckskin Dr. / Ct.
Weather Conditions (circle all that apply):	Hot <u>Mild</u> Cold Breezy    Windy    Rainy	Time/Duration:	3:55 p.m. / 10 min.
		Noise Meter:	Metrosonics dB-308
		Operator:	S. Ferrell

Distance from roadway centerline:		Barrier/buffer information (trees, berms, structures, etc.):
Width of roadway:		
Number of lanes:		
Roadway grade:		Variations in terrain between the receptor and the source?:
Receptor height:		
Type of propagation path (circle one):	Hard    Soft	

### Vehicle counts during verification noise measurement

	Autos	Med. Trucks	Heavy Trucks	Motorcycles	Buses
Direction (circle):    N    S    E    W					
Avg. vehicle speed:					
<b>TOTALS:</b>					
Direction (circle):    N    S    E    W					
Avg. vehicle speed:					
<b>TOTALS:</b>					

Unusual Noises (aircraft, trains, dogs, etc.):

Noise Meter Reading (dBA): 43.3

\* \* \* \* CASE INFORMATION \* \* \* \*

Location 7 river Road 1/2/01 4:26pm

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	948.0
Average automobile speed (mph):	54.0
Medium truck volume (v/h):	12.0
Average medium truck speed (mph):	45.0
Heavy truck volume (v/h):	6.0
Average heavy truck speed (mph):	44.0
Bus volume (v/h):	.0
Motorcycle volume (v/h):	6.0
Average motorcycle speed (mph):	45.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

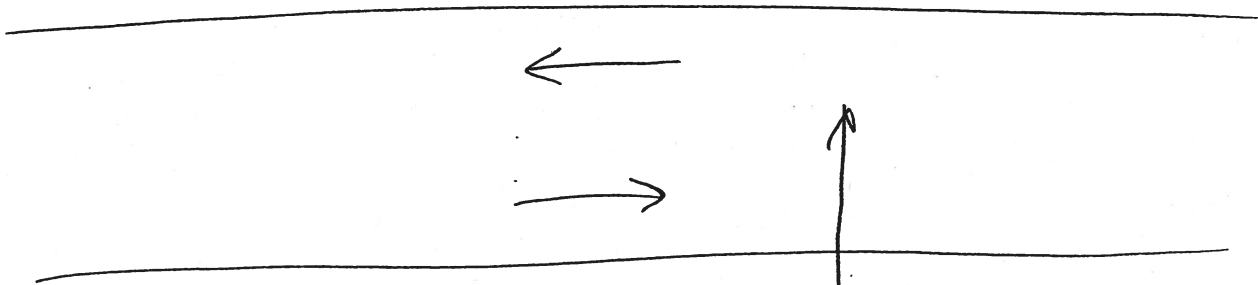
1

Distance from center of roadway (ft):	50.0
Hourly Equivalent Sound Level without Barrier (dB):	68.9

Field Measured Noise 67.4

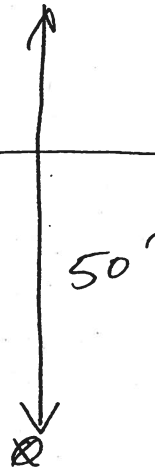


River Road



←  
~ 1/4 mi. to U.S. 41

grass/ditch



\* \* \* \* CASE INFORMATION \* \* \* \*

Location 8 US41 1/2/01 4:49pm

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	1482.0
Average automobile speed (mph):	58.0
Medium truck volume (v/h):	18.0
Average medium truck speed (mph):	54.0
Heavy truck volume (v/h):	6.0
Average heavy truck speed (mph):	68.0
Bus volume (v/h):	.0
Motorcycle volume (v/h):	12.0
Average motorcycle speed (mph):	60.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

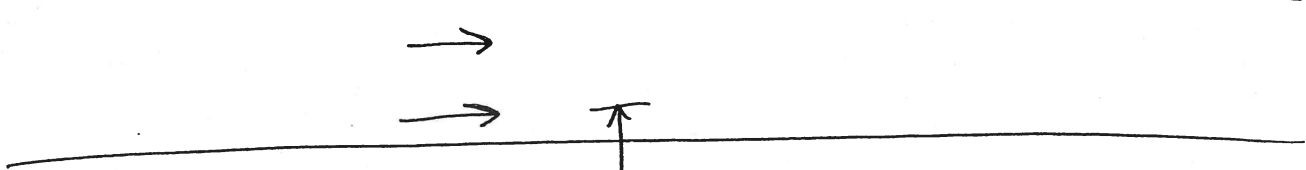
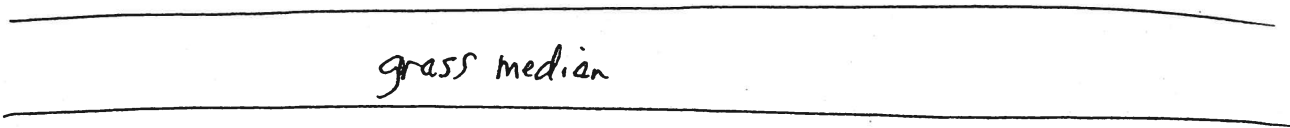
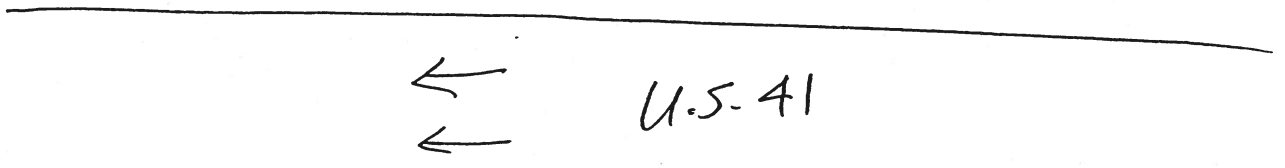
DESCRIPTION OF RECEIVER # 1

1

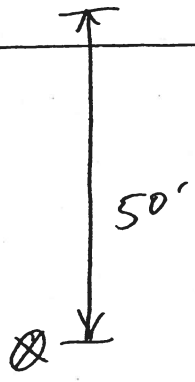
Distance from center of roadway (ft):	50.0
Hourly Equivalent Sound Level without Barrier (dB):	72.1

Field Measured Noise 69.1





grass  
area



→  
≈ 1 mi. to River Rd.

# FIELD NOISE MEASUREMENT FORM

(Complete all information for Verification - only partial information required for Ambient)

Project Name:

Englewood Interstate Connector

Date:

1/3/01

Project Number:

339010

Location No.:

9

Purpose of measurement (circle one):

Verification

Ambient

Road Name:

Weather Conditions (circle all that apply):

Hot

Mild

Cold

Breezy

Windy

Rainy

Time/Duration:

8:35 a.m. / 10 min.

Noise Meter:

Metrosonics dB-308

Operator:

S. Ferrell

Englewood United Methodist Church

Distance from roadway centerline:

Barrier/buffer information (trees, berms, structures, etc.):

Width of roadway:

Number of lanes:

Roadway grade:

Variations in terrain between the receptor and the source?:

Receptor height:

Type of propagation path (circle one):

Hard Soft

## Vehicle counts during verification noise measurement

Autos

Med. Trucks

Heavy Trucks

Motorcycles

Buses

Direction (circle): N S E W

Avg. vehicle speed:

<b>TOTALS:</b>				

Direction (circle): N S E W

Avg. vehicle speed:

<b>TOTALS:</b>				

Unusual Noises (aircraft, trains, dogs, etc.):

Noise Meter Reading (dBA):

45.9

# FIELD NOISE MEASUREMENT FORM

(Complete all information for Verification - only partial information required for Ambient)

Project Name:	Englewood Interstate Connector	Date:	1/3/01
Project Number:	339010	Location No.:	10
Purpose of measurement (circle one):	Verification <span style="margin-left: 20px;"><u>Ambient</u></span>	Road Name:	
Weather Conditions (circle all that apply):	Hot      Mild <u>Cold</u> Breezy      Windy      Rainy	Time/Duration:	<del>9:00</del> 9:12 a.m. / 10 min.
		Noise Meter:	Metrosonics dB-308
		Operator:	S. Ferrell

*E. end of Park Forest Blvd.*

Distance from roadway centerline:	Barrier/buffer information (trees, berms, structures, etc.):
Width of roadway:	
Number of lanes:	
Roadway grade:	Variations in terrain between the receptor and the source?:
Receptor height:	
Type of propagation path (circle one):	<i>Hard</i> Soft

## Vehicle counts during verification noise measurement

	Autos	Med. Trucks	Heavy Trucks	Motorcycles	Buses
Direction (circle):	N	S	E	W	
Avg. vehicle speed:					
<b>TOTALS:</b>					

Direction (circle):	N	S	E	W	
Avg. vehicle speed:					
<b>TOTALS:</b>					

Unusual Noises (aircraft, trains, dogs, etc.):

Noise Meter Reading (dBA): 47.4

# FIELD NOISE MEASUREMENT FORM

(Complete all information for Verification - only partial information required for Ambient)

Project Name:

Englewood Interstate Connector

Date:

1/3/01

Project Number:

339010

Location No.:

11

Purpose of measurement (circle one): Verification Ambient

Road Name:

Weather Conditions (circle all that apply):

Time/Duration:

9:48 a.m. / 10 min.

Hot

Mild

Cold

Noise Meter:

Metrosonics dB-308

Breezy

Windy

Rainy

Operator:

S. Ferrell

(Health Complex)

South County Resource Center - Taylor Ranch

Distance from roadway centerline:

Barrier/buffer information (trees, berms, structures, etc.):

Width of roadway:

Number of lanes:

Roadway grade:

Variations in terrain between the receptor and the source?:

Receptor height:

Type of propagation path (circle one): Hard Soft

## Vehicle counts during verification noise measurement

Autos    Med. Trucks    Heavy Trucks    Motorcycles    Buses

Direction (circle): N S E W

Avg. vehicle speed:

	Autos	Med. Trucks	Heavy Trucks	Motorcycles	Buses
<b>TOTALS:</b>					

Direction (circle): N S E W

Avg. vehicle speed:

	Autos	Med. Trucks	Heavy Trucks	Motorcycles	Buses
<b>TOTALS:</b>					

Unusual Noises (aircraft, trains, dogs, etc.):

Noise Meter Reading (dBA):

46.7

\* \* \* \* CASE INFORMATION \* \* \* \*

Location 12 Center Road 1/3/01 10:21am

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	222.0
Average automobile speed (mph):	48.0
Medium truck volume (v/h):	6.0
Average medium truck speed (mph):	42.0
Heavy truck volume (v/h):	.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

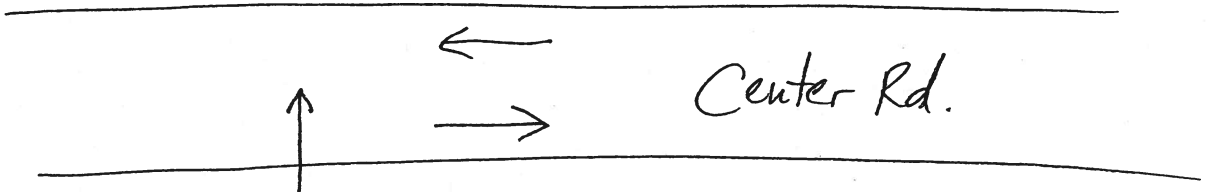
1

Distance from center of roadway (ft):	50.0
Hourly Equivalent Sound Level without Barrier (dB):	60.9

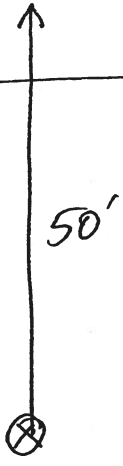
Field Measured Noise 61.8



grass



Center Rd.



50'

grass

\* \* \* \* CASE INFORMATION \* \* \* \*

Location 13 River Road 1/3/01 10:44am

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	576.0
Average automobile speed (mph):	55.0
Medium truck volume (v/h):	66.0
Average medium truck speed (mph):	56.0
Heavy truck volume (v/h):	18.0
Average heavy truck speed (mph):	53.0
Bus volume (v/h):	.0
Motorcycle volume (v/h):	6.0
Average motorcycle speed (mph):	68.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

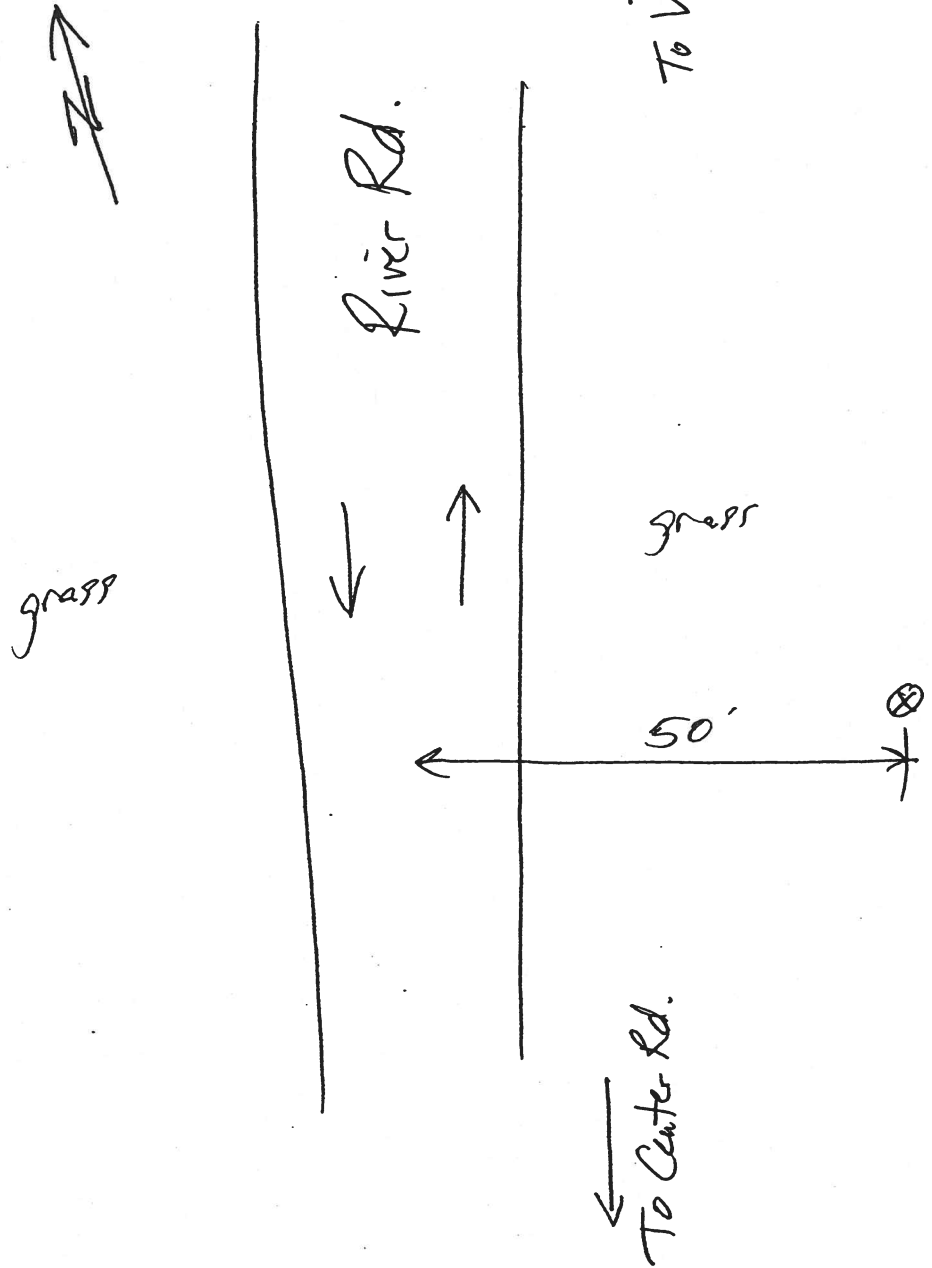
\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

1

Distance from center of roadway (ft):	50.0
Hourly Equivalent Sound Level without Barrier (dB):	69.6

Field Measured Noise 67.0





\* \* \* \* CASE INFORMATION \* \* \* \*

Location 14 Venice Ave 1/3/01 11:06am

\* \* \* \* TRAFFIC VOLUME/SPEED INFORMATION \* \* \* \*

Automobile volume (v/h):	186.0
Average automobile speed (mph):	45.0
Medium truck volume (v/h):	12.0
Average medium truck speed (mph):	40.0
Heavy truck volume (v/h):	18.0
Average heavy truck speed (mph):	41.0

\* \* \* \* TERRAIN SURFACE INFORMATION \* \* \* \*

Terrain surface: soft

\* \* \* \* RECEIVER INFORMATION \* \* \* \*

DESCRIPTION OF RECEIVER # 1

1

Distance from center of roadway (ft):	50.0
Hourly Equivalent Sound Level without Barrier (dB):	63.0

Field Measured Noise 61.9

