



Appendix E: Noise Study Technical Report and Addendum

- **Noise Study Technical Report**
- **Noise Study Technical Report Addendum**

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South Veterans Parkway Traffic Noise Study Technical Report

NEPA Environmental Assessment

Project Numbers:

NH 0100(108)407 PCN 01V6 – Western to Cliff Avenue

NH 0100(110)405 PCN 01V9 – Interstate 29 to Western Avenue

NH 0100(106)409 PCN 01V7 – Cliff Avenue to Sycamore Avenue

NH 0100(107)411 PCN 01VA – Sycamore Avenue to 57th Street

Sioux Falls, South Dakota

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City of Sioux Falls
SOUTH DAKOTA





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Contents

1.0	Executive Summary.....	1
2.0	Project Introduction	1
3.0	Background	2
3.1	Characteristics of Noise	3
3.2	Applicable Regulations, Guidelines, and Tools	3
3.3	SDDOT Noise Abatement Criteria and Land Use Activity Categories.....	4
4.0	Noise Analysis Methods	5
4.1	Noise Study Area Identification	5
4.2	Land Use Identification	5
4.3	Field Noise Measurements	6
4.4	Validation of Existing Condition Model	7
4.5	TNM Model Inputs.....	8
5.0	TNM Results	9
5.1	Existing Conditions Summary	21
5.2	Proposed Action Summary	21
6.0	Noise Abatement Evaluation	21
6.1	Noise Abatement Options Considered	22
6.2	Noise Abatement: Noise Insulation	22
6.3	Noise Barrier Evaluation – Proposed Action.....	22
7.0	Statement of Likelihood	25
8.0	Construction Noise	25
8.1	Construction Noise Implications	25
8.2	Construction Noise Mitigation Strategies.....	26
9.0	Information for Local Officials	26
10.0	Sources and References	26



Tables

Table 1. Project Overview	1
Table 2. Project Background	2
Table 3. Common Noise Sources and Levels	3
Table 4. SDDOT Noise Abatement Criteria	4
Table 5. Land Use Considerations	6
Table 6. Field Noise Measurement Summary	6
Table 7. Field Noise Measurement Details	7
Table 8. Existing Condition Model Validation Summary	8
Table 9. TNM Model Inputs and Methods	9
Table 10. Modeled Noise Levels Not Considering Potential New Abatement	10
Table 11. Noise Barrier Evaluation	23
Table 12. Typical Construction Equipment Noise	25

Figures

Figure 1. South Veterans Parkway Project Vicinity	27
Figure 2. Noise Study Area and Noise Measurement Locations	28
Figure 3. TNM Model Objects for Design Year (2050) Proposed Action	33
Figure 4. Roadways and Receiver Locations for Existing Condition	34
Figure 5. Roadways and Receiver Noise Levels for Design Year (2050) Proposed Action (Impacts Identified)	45
Figure 6. Evaluated Noise Barrier Locations	56
Figure 7. Design Year (2050) Proposed Action NAC Activity Category G Noise Level Contours	64

Appendices

- Appendix A: Field Noise Measurement Data
- Appendix B: Traffic Volumes
- Appendix C: TNM Noise Modeling Results



Acronyms and Abbreviations

City	City of Sioux Falls, South Dakota
CFR	Code of Federal Regulations
dB	decibels
dBA	A-weighted decibels
EA	Environmental Assessment
EB	eastbound
FAQ	frequently asked question
FHWA	Federal Highway Administration
ft ²	square feet
Guidance	FHWA's Highway Traffic Noise: Analysis and Abatement Guidance
I-29	Interstate 29
I-90	Interstate 90
ID	identification
Leq	one-hour equivalent sound level
mph	miles per hour
NAC	Noise Abatement Criterion
NAAG	Noise Analysis and Abatement Guidance
NB	northbound
NEPA	National Environmental Policy Act
ROW	Right-of-Way
SB	southbound
SDDOT	South Dakota Department of Transportation
TNM	FHWA's Traffic Noise Model
WB	westbound



1.0 Executive Summary

This traffic noise study technical report has been prepared in support of the South Veterans Parkway project. An overview of this project's traffic noise analysis and abatement evaluation is shown in Table 1.

Table 1. Project Overview

Project Location	Veterans Parkway is a limited-access regional roadway being planned and constructed to address future transportation system needs and is located in Sioux Falls, Lincoln County and Minnehaha County, South Dakota (see Figure 1).
Type I Status Explanation	This project is Type I because it would include construction of a new paved 8-mile roadway that will connect I-29 to the previously constructed section of Veterans Parkway north of 57 th Street.
Noise Level and Impact Overview	As this project entails construction of a roadway on new alignment, existing condition noise levels are a combination of modeling and monitoring. In those locations where there are not nearby roadways generating traffic noise, the greater of the monitored or modeled noise levels was used to establish the existing conditions. Existing condition modeled noise levels range from 36.2 to 59.0 A-weighted decibels (dBA) at 337 receivers ¹ , which represent 337 receptors. Design year (2050) modeled noise levels for the Proposed Action range from 46.4 dBA to 69.6 dBA at 337 receivers, which represent 337 receptors. The Proposed Action is expected to impact the following receivers and receptors: 107 Activity Category B receivers/107 receptors
Noise Abatement Considerations and Commitments Overview	Six noise barriers were evaluated, as shown on Figure 6. Noise barriers were not found to be feasible and reasonable (as per SDDOT Noise Policy) and will not be recommended, as shown in Table 11.
Information for Local Officials	This project's Noise Study Area includes land that is unpermitted and undeveloped (i.e., Activity Category G). Therefore, Part 772.17 of Title 23 of the Code of Federal Regulations (23 CFR 772.17) is applicable, and information needs to be provided to local officials, as described in Chapter 9.

2.0 Project Introduction

South Dakota Department of Transportation (SDDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing a Supplemental Environmental Assessment for this project. The improvements, which are described in Table 2 and hereafter called the Proposed Action, constitute a Type I project due to the construction of a highway on new location.

¹ A receiver is a modeled point that represents one or more receptors. Receptor types are listed in Table 4, in the column titled "Activity Description." A receiver that represents more than one receptor must represent receptors of the same Activity Category.



Because the project is Type I and because there is at least one Activity Category A, B, C, D, and/or E receptor within the Noise Study Area, a noise analysis is needed to determine if receptors will be impacted as a result of building the project. HDR, acting on behalf of SDDOT, conducted a noise analysis for the project and prepared this report. Table 2 includes information about this project and provides context for this traffic noise analysis.

Table 2. Project Background

Project Location	Sioux Falls, Lincoln County and Minnehaha County, South Dakota (See Figure 1)
Affected Roadways	Veterans Parkway, Tallgrass Ave, Louise Ave, Western Ave, Minnesota Ave, Cliff Ave, Southeastern Ave, Sycamore Ave, 69 th Street, SD 11, 57 th Street
Project Purpose	The purpose of the Project, as documented in the 2012 EA and carried forward for the supplemental EA, is to adequately prepare the City for future transportation system needs consistent with planning decisions and future construction of other public and private infrastructure investments. The Project would prevent roadway capacity and continuity issues that would occur by the year 2050 if nothing is done and would accommodate traffic growth in the area.
Project Need	An updated traffic analysis was completed for the year 2050 to reaffirm the capacity need for the project. Updated transportation and land use plans were also reviewed to confirm the continuity need.
Proposed Action Description	This project would include: Constructing 8 miles of new roadway from I-29 to the previously constructed section of Veterans Parkway north of 57 th Street. The proposed roadway will include 3 lanes of traffic in each direction.
Prior National Environmental Policy Act (NEPA) Approvals	This project follows prior efforts completed for: 2003 East Side Corridor EA 2012 Southern Segment Supplemental EA

3.0 Background

This noise analysis was done as required by 23 CFR 772 in accordance with SDDOT's *Noise Analysis and Abatement Guidance* (SDDOT, 2011) and FHWA's *Highway Traffic Noise: Analysis and Abatement Guidance* (Guidance) (FHWA, 2011). The analysis determines whether 2050 traffic noise levels from the Proposed Action will exceed applicable impact thresholds at properties (i.e., receptors) within the Proposed Action Noise Study Area (this area is described in Section 4.1). Traffic noise abatement is evaluated for any such impacted receptors. The analysis was conducted based on design files provided from HDR. The files were received by the noise analyst on May 18, 2021.

This noise analysis included the following tasks:

- Conducting field measurements of existing condition sound levels (see Section 4.3)
- Validating an existing condition noise model using field measurement results (see Section 4.4)
- Modeling existing condition noise levels for existing roadways (see Chapter 5)
- Modeling Proposed Action noise levels for design roadways (see Chapter 5)



- Evaluating noise abatement (see Chapter 6)
- Modeling noise contour lines for unpermitted, undeveloped land (see Chapter 9)

3.1 Characteristics of Noise

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities, such as sleep, work, speech, or recreation. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Noise levels from highway traffic are affected by three factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, traffic noise increases commensurate with these three factors.

Noise is measured in decibels (dB) – a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more “weight.” The A-weighted scale corresponds to the sensitivity range for human hearing. Therefore, noise levels are measured in dBA, the A-weighted sound level in decibels. When noise levels change 3-dBA, the change is considered barely perceptible to human hearing. However, a 5-dBA change in noise level is clearly noticeable. A 10-dBA change in noise levels is perceived as a doubling or halving of noise loudness, while a 20-dBA change is considered a dramatic change in loudness. Table 3 shows noise levels associated with common, everyday sources and helps the reader more fully understand the magnitude of noise levels discussed in this report.

Table 3. Common Noise Sources

Sound Pressure Level (dB)	Typical Sources
120	Jet aircraft takeoff at 100 feet
110	Same aircraft at 400 feet
90	Motorcycle at 400 feet
80	Garbage disposal
70	City street corner
60	Conversational speech
50	Typical office
40	Living room (without TV)
30	Quiet bedroom at night

3.2 Applicable Regulations, Guidelines, and Tools

The following regulation, guidelines, and tools were used to complete this noise analysis:

- **23 CFR Part 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise)** (23 CFR §772, 2010): Federal highway noise standard that must be followed in analyzing and abating highway traffic noise. This regulation required states to adopt state-specific guidelines, which included adopting specific parameters such as the noise reduction design goal.
- **SDDOT NAAG** (SDDOT, 2020): Fulfilled Federal requirement to adopt state-specific guidelines. Provides South Dakota’s procedural and technical requirements for analyzing highway project traffic noise and evaluating noise abatement.



- **FHWA Guidance** (FHWA, 2011): Provides FHWA guidance for applying 23 CFR Part 772 in the analysis and abatement of highway traffic noise.
- **Noise Measurement Handbook** (FHWA, 2018): Includes procedures for measuring highway noise.
- **FHWA Traffic Noise Model (TNM) Version 2.5** (FHWA, February 2004): Model used to determine existing condition and design year noise levels.

3.3 SDDOT Noise Abatement Criteria and Land Use Activity Categories

A traffic noise impact occurs if either of the following conditions is met:

- Predicted design year traffic noise level approaches (i.e. within 1 dB) or exceeds SDDOT Noise Analysis and Abatement Guidance (SDDOT, 2011) Noise Abatement Criteria (NAC) at any receptor.
- Predicted design year traffic noise level substantially exceeds the existing condition highway traffic noise level at any receptor. “Substantial” is defined as a noise increase of 15 dB or more between the existing condition and design year noise levels.

Table 4 shows SDDOT’s NAC. The SDDOT NAAG requires that the one-hour equivalent sound level (Leq) be used in the analysis.

The NAC for Activity Category D applies to interior areas of frequent human use. All other NACs apply to exterior areas of frequent human use. Examples of exterior areas include yards for Activity Category B, park activity areas for Activity Category C, and exterior restaurant dining areas for Activity Category E.

Undeveloped lands for which development has been permitted before the Date of Public Knowledge must be treated as though the development has already been constructed. SDDOT considers a proposed development to be permitted when a formal building permit has been issued to the developer.

Table 4. SDDOT Noise Abatement Criteria

Activity Category	Activity Leq (dBA) ^{1, 2}	Evaluation Location	Activity Description
A	56.0	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 ³	66.0	Exterior	Residential
C ³	66.0	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas,



Activity Category	Activity L_{eq} (dBA) ^{1, 2}	Evaluation Location	Activity Description
			Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	51.0	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E ³	71.0	Exterior	Hotels, motels, time-share resorts ⁴ , offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	Not Applicable	Not Applicable	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, ship yards, utilities (water resources, water treatment, electrical), warehousing, malls ⁵ , stores ⁵ , shops ⁵ , and Government managed land. ^{4, 6}
G	Not Applicable	Not Applicable	Undeveloped lands that are not permitted.
¹ Table 1 of 23 CFR 772 allows state highways agencies to use either $L_{eq}(h)$ or $L_{10}(h)$ on a project, but not both. SDDOT uses $L_{eq}(h)$, which is an Hourly A-weighted sound level in dBA. ² NACs are for impact determination only. They are not design standards for noise abatement measures. ³ Includes undeveloped lands permitted for this activity category. ⁴ This activity description is not listed in Table 1 of 23 CFR 772. ⁵ This activity description is not listed in Table 1 of 23 CFR 772, but is in FHWA's FAQ D7. ⁶ Areas of frequent human use within the Government (Federal, State, and County) managed land will be treated as the appropriate land use (e.g., a campground would be Activity Category C, as described in Section 3.5.4 of the SDDOT NAAG).			

4.0 Noise Analysis Methods

The noise analysis includes identifying the Noise Study Area, identifying the land uses within the Noise Study Area, taking noise measurements within the Noise Study Area, validating the existing condition noise model, and inputting several parameters into the noise model. These steps are described in this chapter.

4.1 Noise Study Area Identification

The Noise Study Area for this project extends 500 feet in all directions from the proposed edge of travel lanes throughout the project extent, as shown on Figure 2.

4.2 Land Use Identification

Table 5 identifies the land use categories, receivers, and receptors included in the noise analysis.



Table 5. Land Use Considerations

Receiver Activity Category Summary (see Table 9)	<p>Receivers with the following Activity Categories were modeled in the existing condition and design year scenarios:</p> <ul style="list-style-type: none"> Activity Category B: 335 receivers representing 335 receptors Activity Category C: 1 receiver representing 1 receptor Activity Category E: 1 receiver representing 1 receptor
Other Considerations	<ul style="list-style-type: none"> The Noise Study Area contains Activity Category F activities and Activity Category G land. Activity Category F activities and Activity Category G land are not considered noise sensitive, so receivers are not required for these locations. However, contour lines must be provided for Activity Category G lands. These are shown on Figure 7.

4.3 Field Noise Measurements

Field noise measurements performed for this analysis are summarized in Tables 6 and 7. As this project entails construction of a roadway on new alignment, existing condition noise levels are a combination of modeling and monitoring. Noise measurements were performed at different locations, as shown on Figure 2 to acquire data for validation of the existing condition model. Associated traffic counts and speeds are listed on the field noise measurement data sheets in Appendix A. In those locations where there are not nearby roadways generating traffic noise, the greater of the monitored or modeled noise levels was used to establish the existing conditions.

Table 6. Field Noise Measurement Summary

Measurement Location ID	Location	Date	Time (a.m. or p.m.)		Length (minutes)
			Start	Stop	
A	Big Country Motors	June 8, 2021	2:16 p.m.	2:31 p.m.	15
B	47156 271st Street	June 8, 2021	2:57 p.m.	3:04 p.m.	17
C	27086 Louise Ave	June 8, 2021	3:16 p.m.	3:31 p.m.	15
D	Endeavor Elementary School	June 8, 2021	3:52 p.m.	4:07 p.m.	15
E	Harrisburg N Middle School	June 8, 2021	4:21 p.m.	4:36 p.m.	15
F	271st/Western Ave	June 8, 2021	5:06 p.m.	5:21 p.m.	15
G	77th Street Cul-du-Sac	June 9, 2021	2:02 p.m.	2:17 p.m.	15
H	Edgewater Villas Apartments	June 9, 2021	5:31 p.m.	5:51 p.m.	20
I	85th Street	June 9, 2021	8:38 a.m.	8:53 a.m.	15
J	77th Street	June 9, 2021	5:00 p.m.	5:20 p.m.	20
K	Silver Pond Place	June 9, 2021	9:23 a.m.	9:38 a.m.	15
L	Cliff Avenue	June 9, 2021	10:54 a.m.	11:14 a.m.	20
M	Spring Creek Apartments	June 9, 2021	10:22 a.m.	10:37 a.m.	15



Measurement Location ID	Location	Date	Time (a.m. or p.m.)		Length (minutes)
			Start	Stop	
N	Southeastern Avenue	June 10, 2021	8:34 a.m.	8:49 a.m.	15
O	Site O was inaccessible due to construction. Q appears to have a similar noise environment to O.				
P	Sycamore Avenue	June 9, 2021	4:22 p.m.	4:37 p.m.	15
Q	69th Street	June 9, 2021	3:40 p.m.	3:55 p.m.	15
R	SD 11	June 10, 2021	9:57 a.m.	10:12 p.m.	15
S	SD 11	June 10, 2021	9:25 a.m.	9:40 a.m.	15
T	E 57th Street & SD 11	June 9, 2021	3:11 p.m.	3:26 p.m.	15

Table 7. Field Noise Measurement Details

Number of Field Measurement Locations	19
Field Measurement Locations	Traffic noise field measurement locations are shown on Figure 2. These measurement locations were selected to represent nearby noise sensitive receptors.
Method to Estimate Traffic Volume During Field Measurement	Traffic was counted and classified using a traffic counting board.
Method to Estimate Traffic Speed	Used laser gun.
Weather Conditions Summary (See Appendix A)	Field measurements were made during acceptable weather conditions according to FHWA guidance (FHWA, 2018). Weather conditions, including wind speed, were monitored during the measurements.
Sound Level Meter Used	Larson Davis 824; Type I
Field Calibrator Used	Larson Davis Cal 200 Calibrations traceable to the United States National Institute of Standards and Technology were performed in the field before each set of measurements and checked in the field after each set of measurements.
Height of Noise Measurement Above Grade	5 feet

4.4 Validation of Existing Condition Model

Existing condition noise levels were measured in the field, as described in Section 4.3, and compared to computer noise level predictions that were based on traffic data measured in the field. This was done to verify the accuracy of the existing condition noise model. This process is called validation of the existing condition noise model. The model may be described as being an initial existing condition model during the validation process because it is not required to include any receivers except those representing the noise measurement locations.



If predicted and measured noise levels are within ± 3.0 dB of each another, the existing condition noise model is within the accepted level of accuracy and is considered to have been validated. Measured noise levels, corresponding modeled noise levels, and the differences between the two are presented in Table 8.

Table 8. Existing Condition Model Validation Summary

Noise Measurement Location ID	Location (see Figure 2)	Measured Leq (dBA)	Modeled Leq (dBA)	Difference (dB)
A	Big Country Motors	61.1	61.3	+0.2
B	47156 271st Street	49.6	Note 1	
C	27086 Louise Ave	61.6	61.6	0.0
D	Endeavor Elementary School	49.7	Note 1	
E	Harrisburg N Middle School	48.9	Note 1	
F	271st/Western Ave	61.7	61.2	-0.5
G	77th Street Cul-du-Sac	43.1	40.3	-2.8
H	Edgewater Villas Apartments	41.1	Note 1	
I	85th Street	51.9	54.0	+2.1
J	77th Street	42.8	Note 1	
K	Silver Pond Place	43.3	Note 1	
L	Cliff Avenue	55.8	58.3	+2.5
M	Spring Creek Apartments	43.9	Note 1	
N	Southeastern Avenue	54.0	55.9	+1.9
O	Site O was inaccessible due to construction. Q has a similar noise environment to O.			
P	Sycamore Avenue	36.2	Note 1	
Q	69th Street	43.8	Note 1	
R	SD 11	59.0	57.6	-1.4
S	SD 11	54.2	52.9	-1.3
T	E 57th Street & SD 11	67.6	67.1	-0.5

¹ These measurement locations were used to establish background noise levels in areas that are not near an existing roadway noise source.

Differences between measured and predicted levels are all within the allowable ± 3.0 dB tolerance. Therefore, the existing condition noise model is considered to be validated for this project.

4.5 TNM Model Inputs

The noise model software being used on this project was TNM Version 2.5. It was used to analyze existing condition and design year (2050) noise levels. As part of the analysis, the model calculated noise levels at receivers that are in the Noise Study Area. Each receiver



represented one receptor. Modeling results represent predicted traffic conditions during worst-hour noise periods. Table 9 describes model inputs and methods.

Table 9. TNM Model Inputs and Methods

Noise Sensitive Receptors	Noise sensitive receptors are defined according to Table 4. Receivers (modeled points) have been selected to represent these receptors within the Noise Study Area.
Receivers	Receivers are listed in Table 10 and shown on Figures 4 and 5.
Modeled Roadways	<p>The following roadways were modeled:</p> <ul style="list-style-type: none"> • Veterans Parkway (for the Proposed Action only) • 271st Street/Lincoln CR 106 • 471st Avenue • 472nd Avenue • Western Avenue • 85th Street • Cliff Avenue • Southeastern Avenue • Sycamore Street • 69th Street • 478th Avenue/SD 11 • 57th Street <p>For the Proposed Action, the analysis included roads that would be changed or newly built by the project, would have substantially different traffic volumes, or would be important local traffic noise sources.</p>
TNM Objects and Elevations	The following objects were modeled: receivers, roadways, terrain lines and buildings modeled as noise barriers. These are shown on Figure 3.
Existing Noise Barriers	The Noise Study Area does not contain any existing noise barriers.
Modeled Pavement Type	Average
Default Ground Type	Lawn
Traffic Data (See Appendix B)	<ul style="list-style-type: none"> • Roadway coordinates were generated from GIS and aerial photographs. • Traffic data was calculated and provided by HDR.

5.0 TNM Results

Modeled noise levels for the existing condition and design year scenarios are shown in Table 10. This data was used to identify which, if any, receptors would be impacted as a result of the Proposed Action.



Table 10. Modeled Noise Levels Not Considering Potential New Abatement

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
1	B	66	1	49.6	59.2	9.6	No
2	B	66	1	49.7	56.4	6.7	No
3	B	66	1	49.7	59.3	9.6	No
4	B	66	1	49.7	60.9	11.2	No
5	B	66	1	49.7	59.7	10.0	No
6	B	66	1	49.7	55.6	5.9	No
7	B	66	1	49.7	63.1	13.4	No
8	B	66	1	49.7	60.4	10.7	No
9	B	66	1	48.9	59.2	10.3	No
10	B	66	1	48.9	62.0	13.1	No
11	B	66	1	48.9	63.7	14.8	No
12	B	66	1	48.9	65.3	16.4	Yes
13	B	66	1	58.1	63.7	5.6	No
14	B	66	1	46.0	59.8	13.8	No
15	B	66	1	43.4	58.9	15.5	Yes
16	B	66	1	43.1	58.2	15.1	Yes
17	B	66	1	45.0	60.3	15.3	Yes
18	B	66	1	44.3	60.0	15.7	Yes
19	B	66	1	43.1	53.4	10.3	No
20	B	66	1	43.1	47.6	4.5	No
21	B	66	1	43.1	47.6	4.5	No
22	B	66	1	43.1	47.7	4.6	No
23	B	66	1	43.9	60.5	16.6	Yes
24	B	66	1	43.8	60.9	17.1	Yes
25	B	66	1	43.8	61.4	17.6	Yes
26	B	66	1	43.8	62.0	18.2	Yes
27	B	66	1	43.9	63.1	19.2	Yes
28	B	66	1	43.1	59.0	15.9	Yes
29	B	66	1	43.1	56.5	13.4	No
30	B	66	1	43.1	55.1	12.0	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
31	B	66	1	43.1	54.0	10.9	No
32	B	66	1	43.1	52.8	9.7	No
33	B	66	1	43.1	52.0	8.9	No
34	B	66	1	43.1	51.3	8.2	No
35	B	66	1	43.1	50.6	7.5	No
36	B	66	1	43.1	59.7	16.6	Yes
37	B	66	1	43.1	57.6	14.5	No
38	B	66	1	43.1	55.9	12.8	No
39	B	66	1	43.1	54.6	11.5	No
40	B	66	1	43.1	52.9	9.8	No
41	B	66	1	43.1	52.4	9.3	No
42	B	66	1	43.1	51.3	8.2	No
43	B	66	1	43.1	51.1	8.0	No
44	B	66	1	43.1	47.1	4.0	No
45	B	66	1	43.1	46.8	3.7	No
46	B	66	1	43.1	46.6	3.5	No
47	B	66	1	43.1	46.4	3.3	No
48	B	66	1	43.1	46.5	3.4	No
49	B	66	1	43.1	49.4	6.3	No
50	B	66	1	43.1	47.7	4.6	No
51	B	66	1	43.1	47.7	4.6	No
52	B	66	1	43.1	64.3	21.2	Yes
53	B	66	1	43.1	63.0	19.9	Yes
54	B	66	1	43.1	61.8	18.7	Yes
55	B	66	1	43.1	60.4	17.3	Yes
56	B	66	1	43.1	59.4	16.3	Yes
57	B	66	1	43.1	58.8	15.7	Yes
58	B	66	1	43.1	58.1	15.0	Yes
59	B	66	1	43.1	52.4	9.3	No
60	B	66	1	43.1	49.5	6.4	No
61	B	66	1	42.8	55.5	12.7	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
62	B	66	1	42.8	56.7	13.9	No
63	B	66	1	42.8	58.6	15.8	Yes
64	B	66	1	42.8	57.9	15.1	Yes
65	B	66	1	42.8	57.4	14.6	No
66	B	66	1	42.8	57.8	15.0	Yes
67	B	66	1	42.8	58.6	15.8	Yes
68	B	66	1	42.8	60.8	18.0	Yes
69	B	66	1	42.8	61.9	19.1	Yes
70	B	66	1	42.8	57.1	14.3	No
71	B	66	1	42.8	57.4	14.6	No
72	B	66	1	42.8	57.4	14.6	No
73	B	66	1	42.8	57.5	14.7	No
74	B	66	1	42.8	57.3	14.5	No
75	B	66	1	42.8	57.3	14.5	No
76	B	66	1	42.8	57.3	14.5	No
77	B	66	1	42.8	57.3	14.5	No
78	B	66	1	42.8	57.0	14.2	No
79	B	66	1	42.8	56.4	13.6	No
80	B	66	1	42.8	62.7	19.9	Yes
81	B	66	1	42.8	62.7	19.9	Yes
82	B	66	1	42.8	62.2	19.4	Yes
83	B	66	1	42.8	62.0	19.2	Yes
84	B	66	1	42.8	61.2	18.4	Yes
85	B	66	1	42.8	60.5	17.7	Yes
86	B	66	1	42.8	58.6	15.8	Yes
87	B	66	1	42.8	57.5	14.7	No
88	B	66	1	42.8	55.9	13.1	No
89-1	B	66	1	44.6	60.6	16.0	Yes
89-2	B	66	1	47.6	64.0	16.4	Yes
90-1	B	66	1	44.8	60.3	15.5	Yes
90-2	B	66	1	47.8	63.4	15.6	Yes



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
91-1	B	66	1	45.2	59.8	14.6	No
91-2	B	66	1	48.3	62.4	14.1	No
92-1	B	66	1	45.3	59.7	14.4	No
92-2	B	66	1	48.4	62.2	13.8	No
93-1	B	66	1	45.8	59.3	13.5	No
93-2	B	66	1	49.0	61.7	12.7	No
94-1	B	66	1	45.9	59.1	13.2	No
94-2	B	66	1	49.2	61.5	12.3	No
95-1	B	66	1	46.6	58.7	12.1	No
95-2	B	66	1	50.0	61.1	11.1	No
96-1	B	66	1	46.9	58.7	11.8	No
96-2	B	66	1	50.3	61.0	10.7	No
97-1	B	66	1	41.1	58.7	17.6	Yes
97-2	B	66	1	41.1	62.4	21.3	Yes
98-1	B	66	1	41.1	57.8	16.7	Yes
98-2	B	66	1	41.1	61.4	20.3	Yes
99-1	B	66	1	41.1	55.9	14.8	No
99-2	B	66	1	41.1	58.8	17.7	Yes
100-1	B	66	1	41.1	55.5	14.4	No
100-2	B	66	1	41.1	58.3	17.2	Yes
101-1	B	66	1	41.1	54.4	13.3	No
101-2	B	66	1	41.1	57.0	15.9	Yes
102-1	B	66	1	41.1	54.1	13.0	No
102-2	B	66	1	41.1	56.6	15.5	Yes
103-1	B	66	1	41.1	52.3	11.2	No
103-2	B	66	1	41.1	54.9	13.8	No
104-1	B	66	1	41.1	52.1	11.0	No
104-2	B	66	1	41.1	54.6	13.5	No
105-1	B	66	1	41.1	50.7	9.6	No
105-2	B	66	1	41.1	51.2	10.1	No
106-1	B	66	1	41.1	50.9	9.8	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
106-2	B	66	1	41.1	51.3	10.2	No
107-1	B	66	1	41.1	51.2	10.1	No
107-2	B	66	1	41.1	51.7	10.6	No
108-1	B	66	1	41.1	51.3	10.2	No
108-2	B	66	1	41.1	51.6	10.5	No
109-1	B	66	1	41.1	51.3	10.2	No
109-2	B	66	1	41.1	51.9	10.8	No
110-1	B	66	1	41.1	51.3	10.2	No
110-2	B	66	1	41.1	51.9	10.8	No
111-1	B	66	1	41.1	51.2	10.1	No
111-2	B	66	1	41.1	52.0	10.9	No
112-1	B	66	1	41.1	51.1	10.0	No
112-2	B	66	1	41.1	52.2	11.1	No
113-1	B	66	1	41.1	52.8	11.7	No
113-2	B	66	1	41.1	54.5	13.4	No
114-1	B	66	1	41.1	51.7	10.6	No
114-2	B	66	1	41.1	53.0	11.9	No
115-1	B	66	1	41.1	51.5	10.4	No
115-2	B	66	1	41.1	52.2	11.1	No
116-1	B	66	1	41.1	51.5	10.4	No
116-2	B	66	1	41.1	52.3	11.2	No
117-1	B	66	1	41.1	51.7	10.6	No
117-2	B	66	1	41.1	52.6	11.5	No
118-1	B	66	1	41.1	51.7	10.6	No
118-2	B	66	1	41.1	52.6	11.5	No
119-1	B	66	1	41.1	51.8	10.7	No
119-2	B	66	1	41.1	52.8	11.7	No
120-1	B	66	1	41.1	51.8	10.7	No
120-2	B	66	1	41.1	52.9	11.8	No
121-1	B	66	1	46.9	53.9	7.0	No
121-2	B	66	1	50.3	56.6	6.3	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
122-1	B	66	1	46.5	53.3	6.8	No
122-2	B	66	1	50.0	55.9	5.9	No
123-1	B	66	1	45.7	51.7	6.0	No
123-2	B	66	1	49.0	54.4	5.4	No
124-1	B	66	1	45.4	51.5	6.1	No
124-2	B	66	1	48.7	54.1	5.4	No
125-1	B	66	1	43.6	50.2	6.6	No
125-2	B	66	1	46.7	52.7	6.0	No
126-1	B	66	1	43.1	49.9	6.8	No
126-2	B	66	1	46.2	52.3	6.1	No
127-1	B	66	1	41.4	49.2	7.8	No
127-2	B	66	1	44.0	51.1	7.1	No
128-1	B	66	1	41.1	49.0	7.9	No
128-2	B	66	1	43.1	50.8	7.7	No
129-1	B	66	1	41.1	48.6	7.5	No
129-2	B	66	1	41.1	50.2	9.1	No
130-1	B	66	1	41.1	48.7	7.6	No
130-2	B	66	1	41.1	50.3	9.2	No
131-1	B	66	1	41.1	49.0	7.9	No
131-2	B	66	1	41.4	50.9	9.5	No
132-1	B	66	1	41.1	49.0	7.9	No
132-2	B	66	1	41.5	50.9	9.4	No
133-1	B	66	1	41.1	49.2	8.1	No
133-2	B	66	1	41.9	51.2	9.3	No
134-1	B	66	1	41.1	49.3	8.2	No
134-2	B	66	1	42.0	51.3	9.3	No
135-1	B	66	1	41.1	49.2	8.1	No
135-2	B	66	1	42.0	51.1	9.1	No
136-1	B	66	1	41.1	49.3	8.2	No
136-2	B	66	1	42.0	51.5	9.5	No
137-1	B	66	1	41.1	48.8	7.7	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
137-2	B	66	1	41.1	50.8	9.7	No
138-1	B	66	1	41.1	47.8	6.7	No
138-2	B	66	1	41.1	49.6	8.5	No
139-1	B	66	1	41.1	51.4	10.3	No
139-2	B	66	1	41.1	52.6	11.5	No
140-1	B	66	1	41.1	51.7	10.6	No
140-2	B	66	1	41.1	52.6	11.5	No
141-1	B	66	1	41.1	52.1	11.0	No
141-2	B	66	1	41.1	52.8	11.7	No
142-1	B	66	1	41.1	52.2	11.1	No
142-2	B	66	1	41.1	52.8	11.7	No
143-1	B	66	1	41.1	52.3	11.2	No
143-2	B	66	1	41.1	53.1	12.0	No
144-1	B	66	1	41.1	52.4	11.3	No
144-2	B	66	1	41.1	53.2	12.1	No
145-1	B	66	1	41.1	52.7	11.6	No
145-2	B	66	1	41.1	54.3	13.2	No
146-1	B	66	1	41.1	53.0	11.9	No
146-2	B	66	1	41.1	55.3	14.2	No
147-1	B	66	1	41.1	52.2	11.1	No
147-2	B	66	1	41.1	53.7	12.6	No
148-1	B	66	1	41.1	52.2	11.1	No
148-2	B	66	1	41.1	53.7	12.6	No
149-1	B	66	1	41.1	52.7	11.6	No
149-2	B	66	1	41.1	54.5	13.4	No
150-1	B	66	1	41.1	52.9	11.8	No
150-2	B	66	1	41.1	54.7	13.6	No
151-1	B	66	1	41.1	53.8	12.7	No
151-2	B	66	1	41.1	56.1	15.0	Yes
152-1	B	66	1	41.1	54.0	12.9	No
152-2	B	66	1	41.1	56.4	15.3	Yes



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
153-1	B	66	1	41.1	55.9	14.8	No
153-2	B	66	1	41.1	58.5	17.4	Yes
154-1	B	66	1	41.1	56.5	15.4	Yes
154-2	B	66	1	41.1	59.1	18.0	Yes
155	C	66	1	41.1	49.9	8.8	No
156	B	66	1	43.3	54.9	11.6	No
157	B	66	1	43.3	53.6	10.3	No
158	E	71	1	55.8	62.9	7.1	No
159	B	66	1	55.8	60.0	4.2	No
160-1	B	66	1	43.9	56.5	12.6	No
160-2	B	66	1	45.9	59.6	13.7	No
160-3	B	66	1	47.7	61.8	14.1	No
160-4	B	66	1	49.7	66.7	17.0	Yes
161-1	B	66	1	43.9	57.0	13.1	No
161-2	B	66	1	49.1	67.0	17.9	Yes
161-3	B	66	1	47.3	62.9	15.6	Yes
161-4	B	66	1	44.1	60.2	16.1	Yes
162-1	B	66	1	43.9	56.1	12.2	No
162-2	B	66	1	43.9	59.6	15.7	Yes
162-3	B	66	1	46.4	62.5	16.1	Yes
162-4	B	66	1	48.7	67.1	18.4	Yes
163-1	B	66	1	43.9	57.7	13.8	No
163-2	B	66	1	43.9	61.1	17.2	Yes
163-3	B	66	1	45.0	63.2	18.2	Yes
163-4	B	66	1	48.1	67.3	19.2	Yes
164-1	B	66	1	43.9	59.3	15.4	Yes
164-2	B	66	1	43.9	62.7	18.8	Yes
164-3	B	66	1	44.0	64.2	20.2	Yes
164-4	B	66	1	47.7	67.5	19.8	Yes
165-1	B	66	1	43.9	60.0	16.1	Yes
165-2	B	66	1	43.9	63.5	19.6	Yes



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
165-3	B	66	1	43.9	64.8	20.9	Yes
165-4	B	66	1	47.4	67.5	20.1	Yes
166-1	B	66	1	43.9	60.4	16.5	Yes
166-2	B	66	1	43.9	64.0	20.1	Yes
166-3	B	66	1	43.9	65.1	21.2	Yes
166-4	B	66	1	47.1	67.6	20.5	Yes
167-1	B	66	1	43.9	60.0	16.1	Yes
167-2	B	66	1	43.9	64.1	20.2	Yes
167-3	B	66	1	43.9	65.2	21.3	Yes
167-4	B	66	1	46.6	67.9	21.3	Yes
168-1	B	66	1	43.9	60.6	16.7	Yes
168-2	B	66	1	43.9	65.0	21.1	Yes
168-3	B	66	1	43.9	65.9	22.0	Yes
168-4	B	66	1	46.4	68.1	21.7	Yes
169-1	B	66	1	43.9	61.8	17.9	Yes
169-2	B	66	1	43.9	66.3	22.4	Yes
169-3	B	66	1	43.9	67.0	23.1	Yes
169-4	B	66	1	46.1	68.7	22.6	Yes
170-1	B	66	1	43.9	62.8	18.9	Yes
170-2	B	66	1	43.9	67.3	23.4	Yes
170-3	B	66	1	43.9	67.9	24.0	Yes
170-4	B	66	1	45.8	69.0	23.2	Yes
171-1	B	66	1	43.9	63.8	19.9	Yes
171-2	B	66	1	43.9	68.5	24.6	Yes
171-3	B	66	1	43.9	69.0	25.1	Yes
171-4	B	66	1	45.4	69.6	24.2	Yes
172-1	B	66	1	43.9	49.4	5.5	No
172-2	B	66	1	43.9	49.9	6.0	No
172-3	B	66	1	43.9	52.7	8.8	No
172-4	B	66	1	45.8	57.0	11.2	No
173-1	B	66	1	43.9	49.8	5.9	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
173-2	B	66	1	43.9	50.3	6.4	No
173-3	B	66	1	43.9	53.3	9.4	No
173-4	B	66	1	46.4	58.8	12.4	No
174-1	B	66	1	43.9	49.9	6.0	No
174-2	B	66	1	43.9	50.2	6.3	No
174-3	B	66	1	43.9	53.1	9.2	No
174-4	B	66	1	45.8	58.6	12.8	No
175-1	B	66	1	43.9	50.0	6.1	No
175-2	B	66	1	43.9	50.2	6.3	No
175-3	B	66	1	43.9	53.2	9.3	No
175-4	B	66	1	45.0	58.5	13.5	No
176-1	B	66	1	43.9	50.0	6.1	No
176-2	B	66	1	43.9	50.1	6.2	No
176-3	B	66	1	43.9	53.1	9.2	No
176-4	B	66	1	44.5	58.5	14.0	No
177-1	B	66	1	43.9	50.2	6.3	No
177-2	B	66	1	43.9	50.1	6.2	No
177-3	B	66	1	43.9	53.3	9.4	No
177-4	B	66	1	44.0	58.6	14.6	No
178-1	B	66	1	43.9	50.3	6.4	No
178-2	B	66	1	43.9	50.1	6.2	No
178-3	B	66	1	43.9	53.5	9.6	No
178-4	B	66	1	43.9	58.9	15.0	Yes
179-1	B	66	1	43.9	50.2	6.3	No
179-2	B	66	1	43.9	49.8	5.9	No
179-3	B	66	1	43.9	53.0	9.1	No
179-4	B	66	1	43.9	57.6	13.7	No
180-1	B	66	1	43.9	50.1	6.2	No
180-2	B	66	1	43.9	49.8	5.9	No
180-3	B	66	1	43.9	53.2	9.3	No
180-4	B	66	1	43.9	57.8	13.9	No



Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
181-1	B	66	1	43.9	50.8	6.9	No
181-2	B	66	1	43.9	51.1	7.2	No
181-3	B	66	1	43.9	54.2	10.3	No
181-4	B	66	1	43.9	58.2	14.3	No
182-1	B	66	1	43.9	51.2	7.3	No
182-2	B	66	1	43.9	52.2	8.3	No
182-3	B	66	1	43.9	55.1	11.2	No
182-4	B	66	1	43.9	58.7	14.8	No
183	B	66	1	36.2	58.1	21.9	Yes
184	B	66	1	36.2	58.0	21.8	Yes
185	B	66	1	36.2	58.0	21.8	Yes
186	B	66	1	36.2	58.9	22.7	Yes
187	B	66	1	36.2	58.6	22.4	Yes
188	B	66	1	36.2	58.4	22.2	Yes
189	B	66	1	43.8	61.1	17.3	Yes
190	B	66	1	59.0	63.6	4.6	No
191	B	66	1	59.0	59.0	0.0	No
192	B	66	1	54.2	54.9	0.7	No
193	B	66	1	42.8	61.5	18.7	Yes
194	B	66	1	42.8	62.0	19.2	Yes
195	B	66	1	42.8	62.0	19.2	Yes
196	B	66	1	42.8	62.0	19.2	Yes
197	B	66	1	42.8	62.3	19.5	Yes
198	B	66	1	42.8	62.5	19.7	Yes
199	B	66	1	42.8	62.7	19.9	Yes
200	B	66	1	42.8	62.8	20.0	Yes
201	B	66	1	43.3	54.6	11.3	No
202	B	66	1	43.3	53.9	10.6	No



5.1 Existing Conditions Summary

Under existing conditions, modeled noise levels at 337 receivers range from 36.2 to 59.0 dBA. Figure 4 shows the locations of all modeled receivers. Table 10 shows the modeled noise level at each receiver.

5.2 Proposed Action Summary

Under the Proposed Action (2050), modeled noise levels at 337 receivers range from 46.4 to 69.6 dBA. 18 receivers, representing 18 receptors, would exceed the NAC. 107 receivers, representing 107 receptors, would experience a substantial noise increase of at least 15 dB. Some receivers exceed both the NAC and experience a substantial noise increase. Therefore, a total of 107 receivers, representing 107 receptors, would be impacted during the design year worst-hour noise period (see Figure 5). Table 10 shows the modeled noise level at each receiver.

6.0 Noise Abatement Evaluation

As described in Chapter 5, 107 receptors in the Noise Study Area would be impacted by noise in the design year under the Proposed Action. Therefore, abatement for the impacted receptors was evaluated in accordance with guidelines from The SDDOT NAAG and FHWA's Guidelines. Although abatement was required to be evaluated, it is only recommended for inclusion in the project when determined to be both feasible and reasonable.

Abatement is feasible if it:

- Provides at least 5 dB of noise reduction for a minimum of 60% of front row receptors directly behind the noise wall (noise wall must extend entirely across receptor's property line).
- Does not have any design and construction factors that are "fatal flaw" issues (e.g., safety, barrier height, topography, drainage, utilities, abatement maintenance, maintenance access to adjacent properties, and access to adjacent properties [i.e., arterial widening projects])

If abatement is not feasible, further evaluation is not needed. However, if it is feasible, reasonableness is evaluated. Abatement is reasonable if it:

- Meets the minimum noise reduction design goal of at least 7 dB for a minimum of 40% of benefited receptors
- The Cost Benefit (\$/receptor) equals or is less than the Cost Benefit Index (\$25,000/receptor) using \$52/ft² for barrier costs.
- Has support from the potentially benefited receptors²

² Support determined through Benefited Receptor Preference Survey, which may be conducted after the NEPA process and is documented in a separate report.



6.1 Noise Abatement Options Considered

Noise barriers (walls and, to a lesser extent, berms) are commonly used as noise abatement and must be evaluated when doing a mitigation analysis for impacted receptors, per 23 CFR 772.13(c)(1). Other mitigation measures may also be considered, including traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations); alteration of horizontal and vertical alignments; and acquisition of real property or interests therein to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise. However, these mitigation measures are generally not feasible and/or reasonable. For this project, noise walls were the only abatement evaluated.

6.2 Noise Abatement: Noise Insulation

The Noise Study Area does not have any Activity Category D receptors. Therefore, noise insulation was not considered as abatement for this project.

6.3 Noise Barrier Evaluation – Proposed Action

The Proposed Action has 6 impacted areas. Barrier placement for each impacted area was considered in multiple locations. The location determined to be the best performer for each set of impacted receivers was optimized, and those results are described in Table 11. Figure 6 shows the best performing evaluated barrier location, as determined by modeling. Of these 6 evaluated noise barriers, none were found to be feasible and reasonable, as described in Table 11.



Table 11. Noise Barrier Evaluation

Barrier ID	A	B1	B2	B3	C	D	E	F
Barrier Location (general)	North of SVP, west of Western Ave along ROW line.	North of SVP, between 85 th St and Cliff Ave	North of SVP, between 85 th St and Cliff Ave	North of SVP, between 85 th St and Cliff Ave	South of SVP, east of 85 th St	North of SVP, west of Cliff Ave along ROW line.	North of SVP, east of Southeastern Ave along ROW line.	North of E 69 th Street
Barrier Location: Distance from Proposed Edge of Roadway (feet)	≈ 37 feet	≈ 37 feet	≈ 37 feet	≈ 37 feet	≈ 16 feet	≈ 61 feet	≈ 37 feet	≈ 22 feet
Impacted Receiver IDs	12	15-18, 23-28, 36, 52-58, 63-64, 66-69, 80-86, 193-200	15-18, 23-28, 36, 52-58	68-69, 80-86, 193-200	89-1, 89-2, 90-1, 90-2, 97-1, 97-2, 98-1, 98-2, 99-2, 100-2, 101-2, 102-2, 151-2, 152-2, 153-2, 154-1, 154-2	160-4, 161-2, 161-3, 161-4, 162-2, 162-3, 162-4, 163-2, 163-3, 163-4, 164-1, 164-2, 164-3, 164-4, 165-1, 165-2, 165-3, 165-4, 166-1, 166-2, 166-3, 166-4, 167-1, 167-2, 167-3, 168-1, 168-2, 168-3, 168-4, 169-1, 169-2, 169-3, 169-4, 170-1, 170-2, 173-3, 170-4, 171-1, 171-2, 171-3, 171-4, 178-4	183-188	189
Benefited Receiver IDs	11 & 12	19, 23-43, 52-59, 61-87, 193-200	19, 23-43, 52-58	69, 72-87, 193-200	89-1, 89-2, 90-1, 90-2, 91-2, 92-2, 97-1, 97-2, 98-1, 98-2, 99-1, 99-2, 100-1, 100-2, 101-1, 101-2, 102-1, 102-2, 103-1, 103-2, 104-1, 104-2, 113-1, 113-2	163-1, 164-1, 164-2, 165-1, 165-2, 166-1, 166-2, 167-1, 167-2, 168-1, 168-2, 169-1, 169-2, 170-1, 170-2, 170-3, 171-1, 171-2, 171-3	183-188	Not Applicable
Figure #	6	6	6	6	6	6	6	6
Fatal Flaw(s)?	No	No	No	No	No	No	No	No



Barrier ID	A	B1	B2	B3	C	D	E	F
Reduces Noise ≥ 5.0 dB for a minimum of 60% of front row receptors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Reduces Noise ≥ 7.0 dB for a minimum of 40% of benefited receptors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not Applicable
Recommended Barrier Height & Length (feet)	14 high x 1,300 long	16 high x 3,790 long	16 high x 1,517 long	16 high x 1,913 long	18 high x 1,388 long	20 high x 1,650 long	20 high x 2,450 long	Not Applicable
Barrier Area (square feet)	18,200	59,096	22,731	30,603	24,984	33,000	49,000	Not Applicable
Unit Cost	\$52/ft ²	\$52/ft ²	\$52/ft ²	\$52/ft ²	\$52/ft ²	\$52/ft ²	\$52/ft ²	Not Applicable
Total Cost	\$946,400	\$3,072,992	\$1,182,012	\$1,591,356	\$1,299,168	\$1,716,000	\$2,548,000	Not Applicable
No. Benefited Receptors	2	65	29	25	24	19	6	Not Applicable
Cost Benefit(\$/receptor)	473,200	47,277	40,759	63,654	54,132	90,316	424,667	Not Applicable
Design year Leq Range Without Abatement (dBA)	63.7 to 65.3	46.4 to 64.3	46.4 to 64.3	55.9 to 62.8	47.8 to 64.0	49.4 to 69.6	58.0 to 58.6	Not Applicable
Design year Leq Range With Abatement (dBA)	56.7 to 58.9	43.6 to 57.0	43.7 to 57.0	50.3 to 55.9	44.9 to 57.6	47.8 to 67.9	51.4 to 52.9	Not Applicable
Feasible?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Reasonable?	No	No	No	No	No	No	No	Not Applicable
Recommended?	No	No	No	No	No	No	No	No



7.0 Statement of Likelihood

The noise abatement evaluation for the Proposed Action is described in Chapter 6. 107 receivers, representing 107 receptors, were determined to be impacted by traffic noise in 2050 for the Proposed Action.

Noise abatement at 6 locations for 107 impacted receptors were determined not to be feasible and/or reasonable, as described in Section 6.3 and Table 11.

A final decision of the installation of noise abatement measure(s) will be made upon completion of the project's final design and the public involvement processes.

8.0 Construction Noise

This chapter describes construction noise implications, construction noise mitigation strategies, and whether the project is in an area that is subject to local noise ordinances.

8.1 Construction Noise Implications

Properties adjoining project construction may be exposed to noise caused by construction activities of the Proposed Action. Examples of construction equipment noise are shown in Table 12. Construction noise differs from traffic noise in several ways:

- Construction noise lasts only for the duration of construction, with most construction activities in noise-sensitive areas being conducted during hours that are least disturbing to most nearby residents, when feasible.
- Construction activities generally are short term and, depending on the nature of the construction operations, last from seconds (e.g., a truck passing a receptor) to months (e.g., bridge construction).
- Construction equipment noise is intermittent and depends on the type of operation, location, and function of the equipment, as well as the equipment usage cycle.
- As opposed to operational traffic noise, construction noise is not analyzed; there are no FHWA or SDDOT construction NACs. However, construction noise is subject to relevant local regulations and ordinances.

Table 12. Typical Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet) ¹
Scraper	89
Dozer (Bulldozer)	85
Truck (Heavy Truck)	88 ²
Pickup Truck	55
Concrete Pump Truck	82
Backhoe	80
Pneumatic Tools	85

¹ Noise levels are from Table 9.1 of FHWA's 2006 Construction Noise Handbook (FHWA, 2006), unless otherwise noted.



² This noise level is from Table 9.9 of FHWA's 2006 Construction Noise Handbook (FHWA, 2006), which is taken from Chapter 12 of the FTA Transit Noise and Vibration Guidance Handbook.

8.2 Construction Noise Mitigation Strategies

To minimize construction noise levels, typical best management practices will be incorporated into construction contracts, plans, and specifications where it is appropriate to do so. The determination of practices weighs the benefits achieved and the overall adverse social, economic, and environmental effects and costs of abatement measures. These may include:

- Notify neighbors in advance when construction noise may occur.
- Keep noisy activities as far from sensitive receptors as possible.
- Keep exhaust systems on equipment in good working order. It should be subject to inspection by the construction project manager to ensure maintenance is being conducted.
- Use properly designed engine enclosures and intake silencers, if appropriate.
- Place stationary equipment as far from sensitive receptors as possible.
- Perform construction activities in noise sensitive areas during hours that are least disturbing to nearby residents, generally daytime hours, as feasible.
- Locate haul roads so that that are as least disruptive as possible
- Eliminate tail gate banging
- Provide mechanisms for complaints

9.0 Information for Local Officials

Local officials will be provided with information on noise compatible planning techniques that can be used to prevent future highway traffic noise impacts. To assist local officials within whose jurisdiction a Type I highway project is located, SDDOT will provide information on future noise levels for each Activity Category located along the Project. This is accomplished by providing a copy of the noise analysis report to the local official. The local official will also be provided with an estimation of future noise levels at various distances from the highway (Figure 7).

10.0 Sources and References

FHWA. 2006. *Construction Noise Handbook*, August.

FHWA. 2010. *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, 23 C.F.R. § 772.

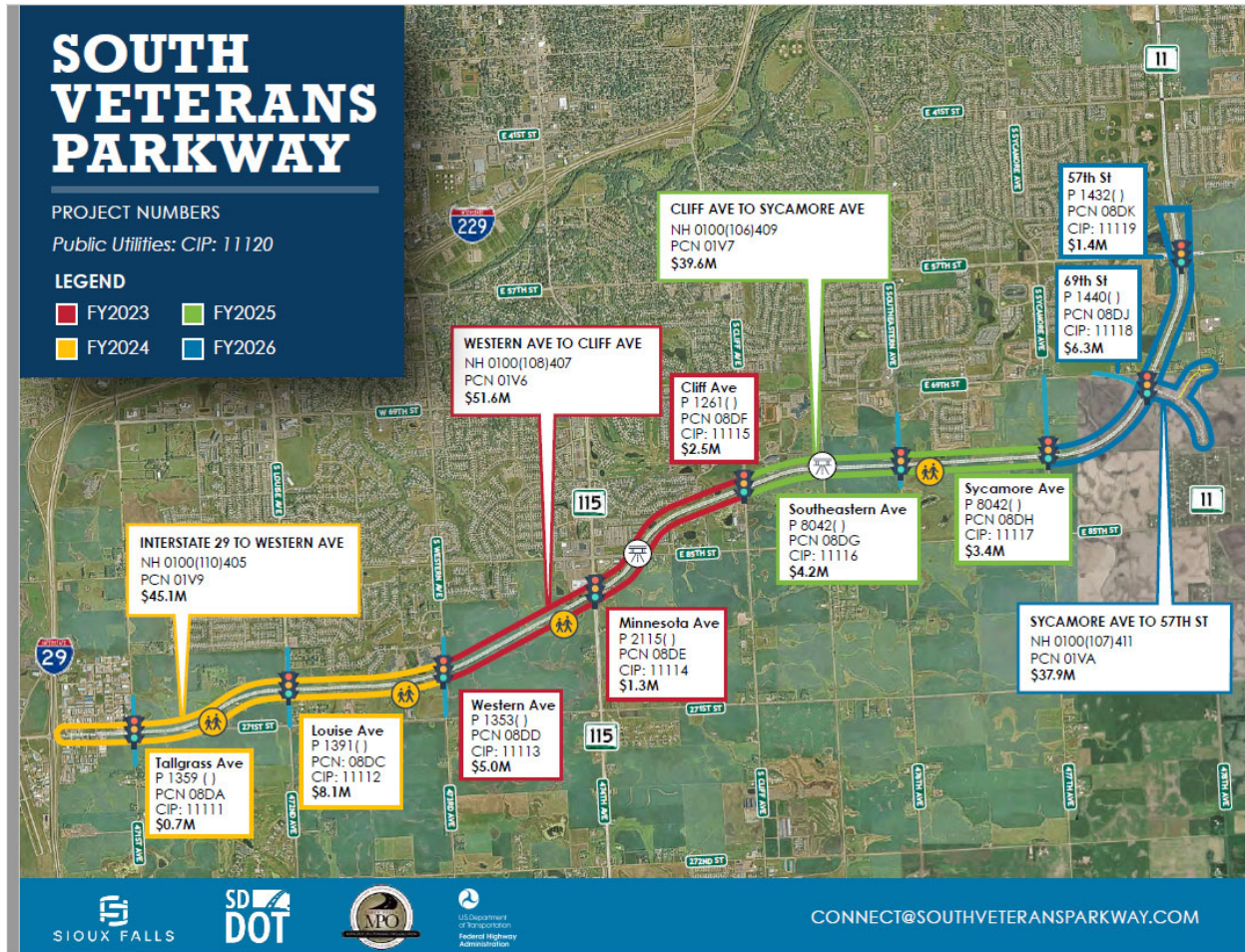
FHWA. 2011. *Highway Traffic Noise: Analysis and Abatement Guidance*, December.

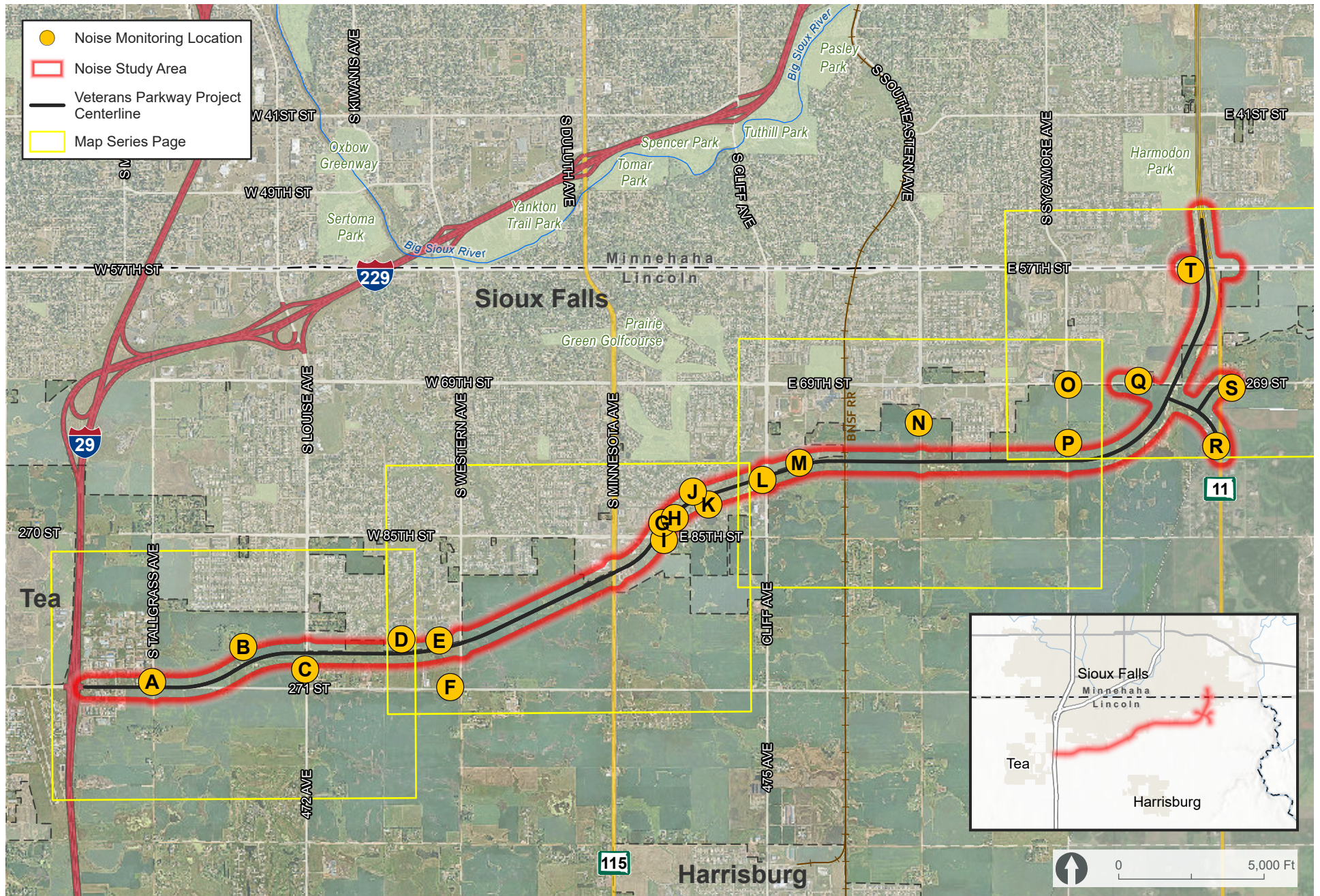
FHWA. 2018. *Noise Measurement Handbook*, FHWA-HEP-18-065, June.

SDDOT. 2011. *Noise Analysis and Abatement Guidance*, July.



Figure 1. South Veterans Parkway Project Vicinity



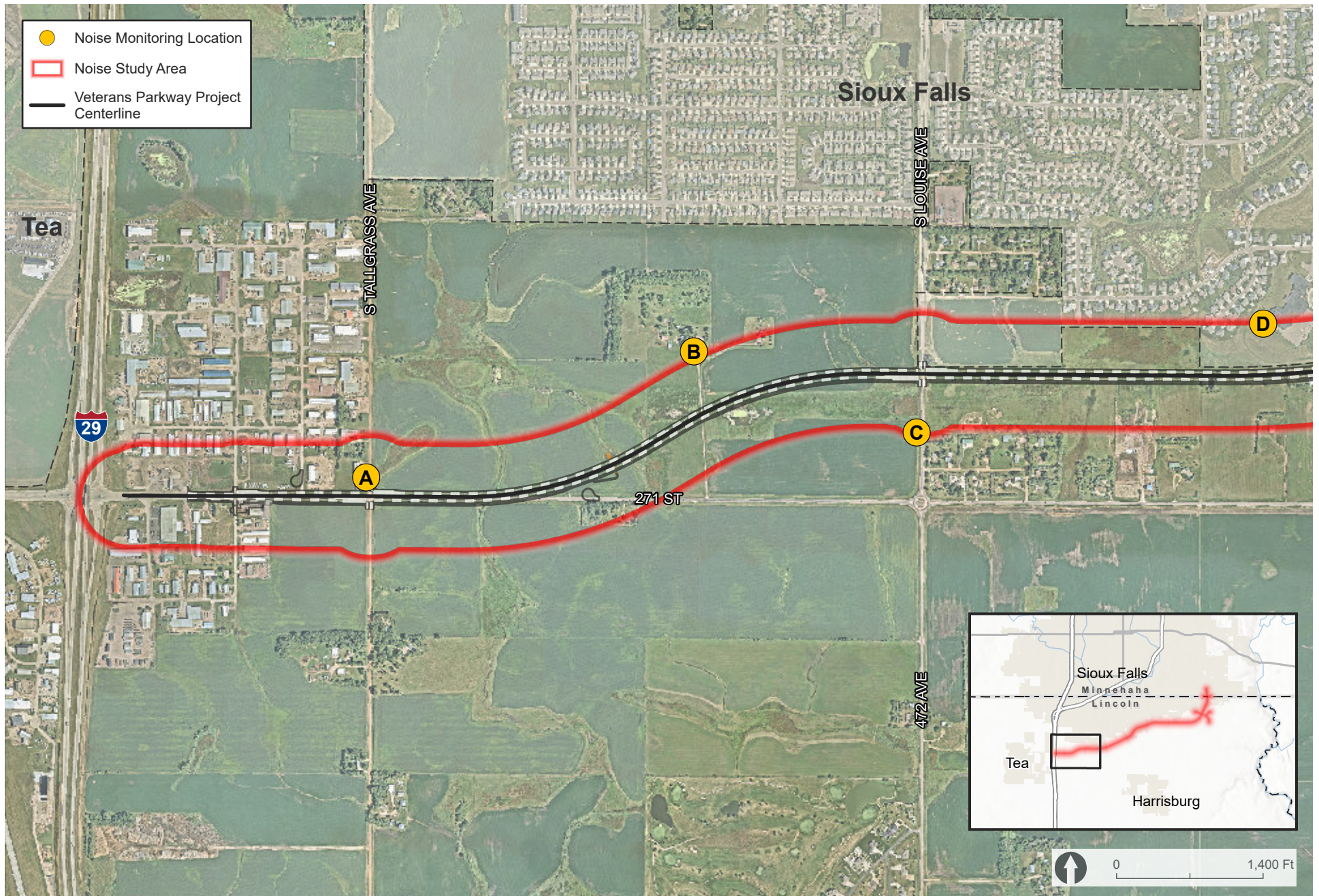


NOISE STUDY AREA AND NOISE MEASUREMENT LOCATIONS

Figure 2

SOUTH VETERANS PARKWAY



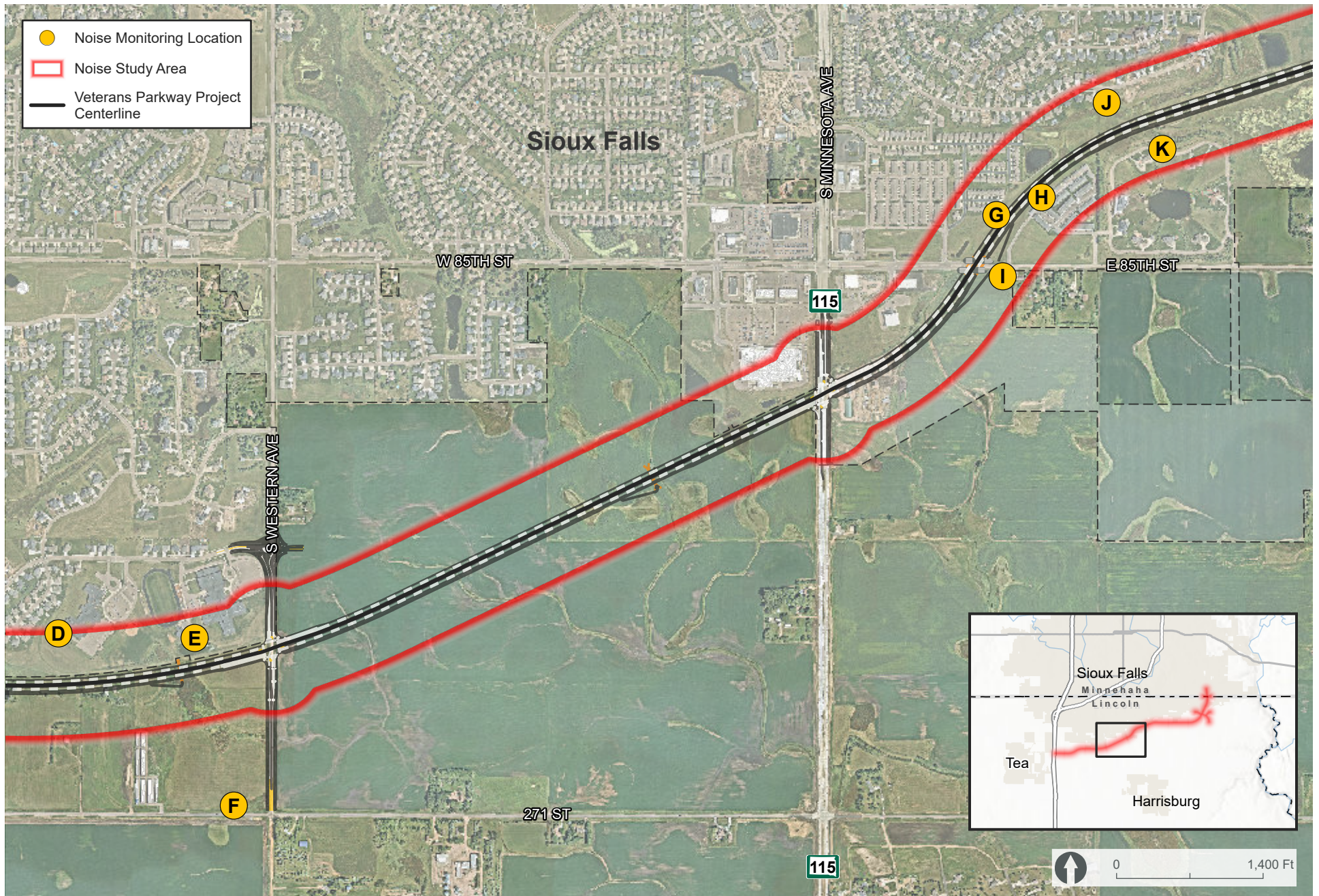


NOISE STUDY AREA AND NOISE MEASUREMENT LOCATIONS

Figure 2-1

SOUTH VETERANS PARKWAY

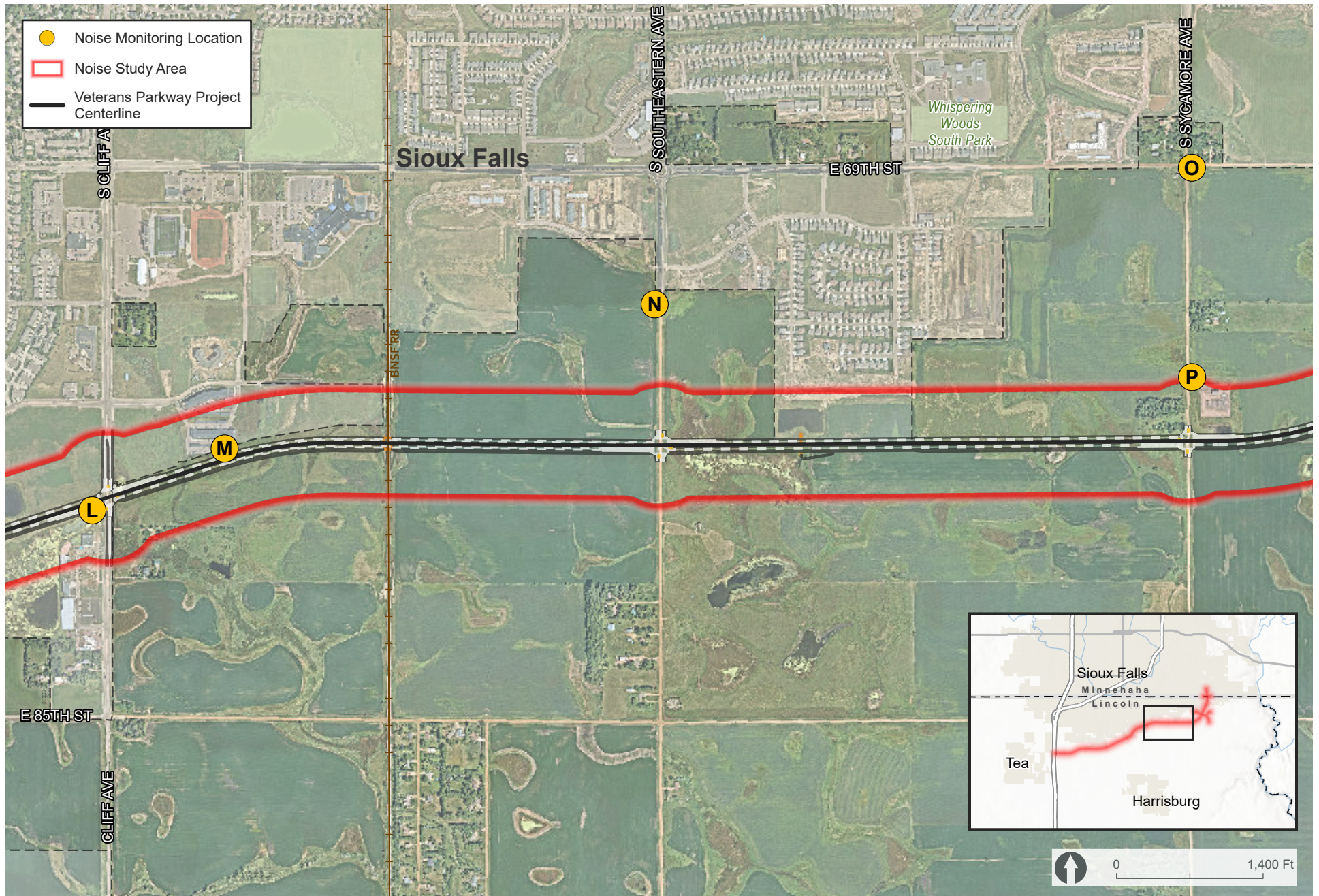




NOISE STUDY AREA AND NOISE MEASUREMENT LOCATIONS

Figure 2-2

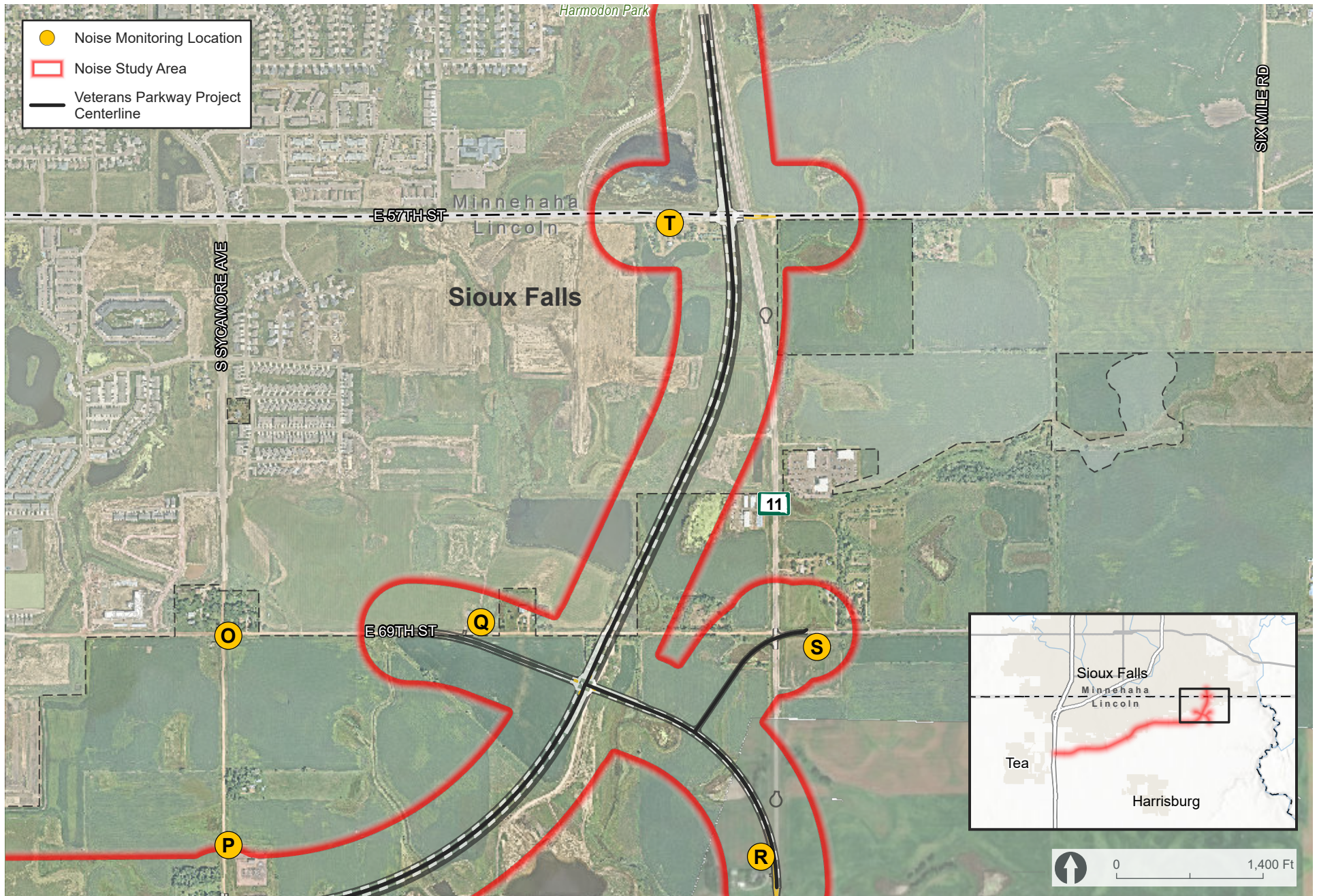
SOUTH VETERANS PARKWAY



NOISE STUDY AREA AND NOISE MEASUREMENT LOCATIONS

Figure 2-3

SOUTH VETERANS PARKWAY



NOISE STUDY AREA AND NOISE MEASUREMENT LOCATIONS

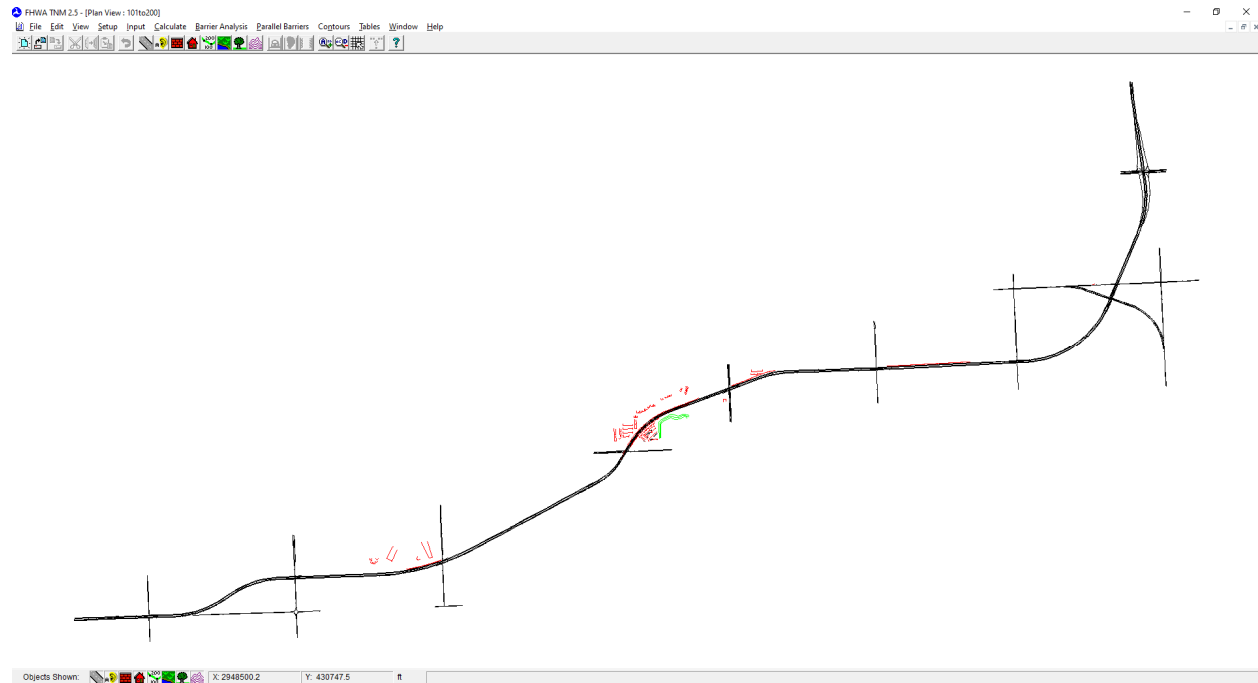
Figure 2-4

SOUTH VETERANS PARKWAY



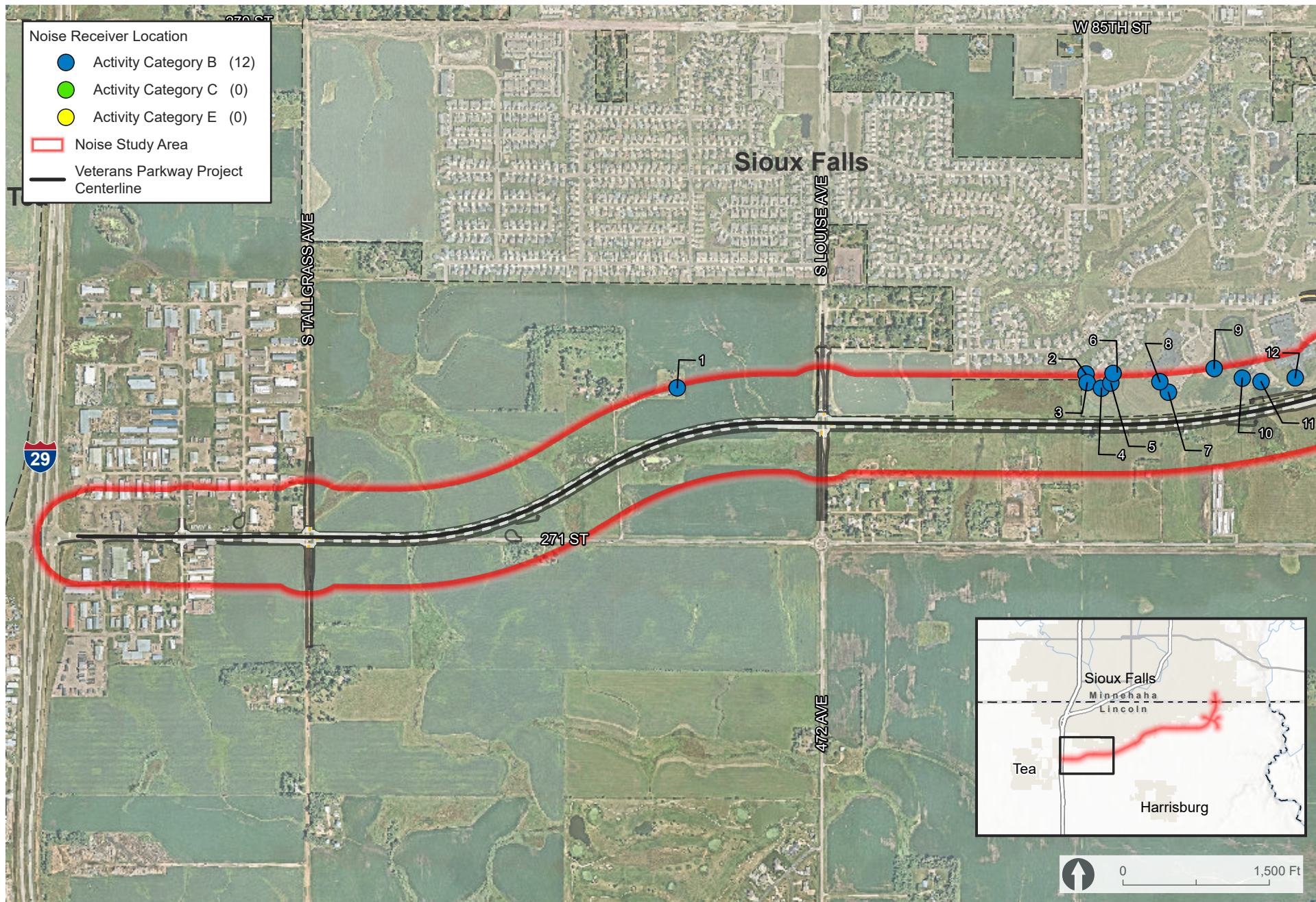


Figure 3. TNM Model Objects for Design Year (2050) Proposed Action





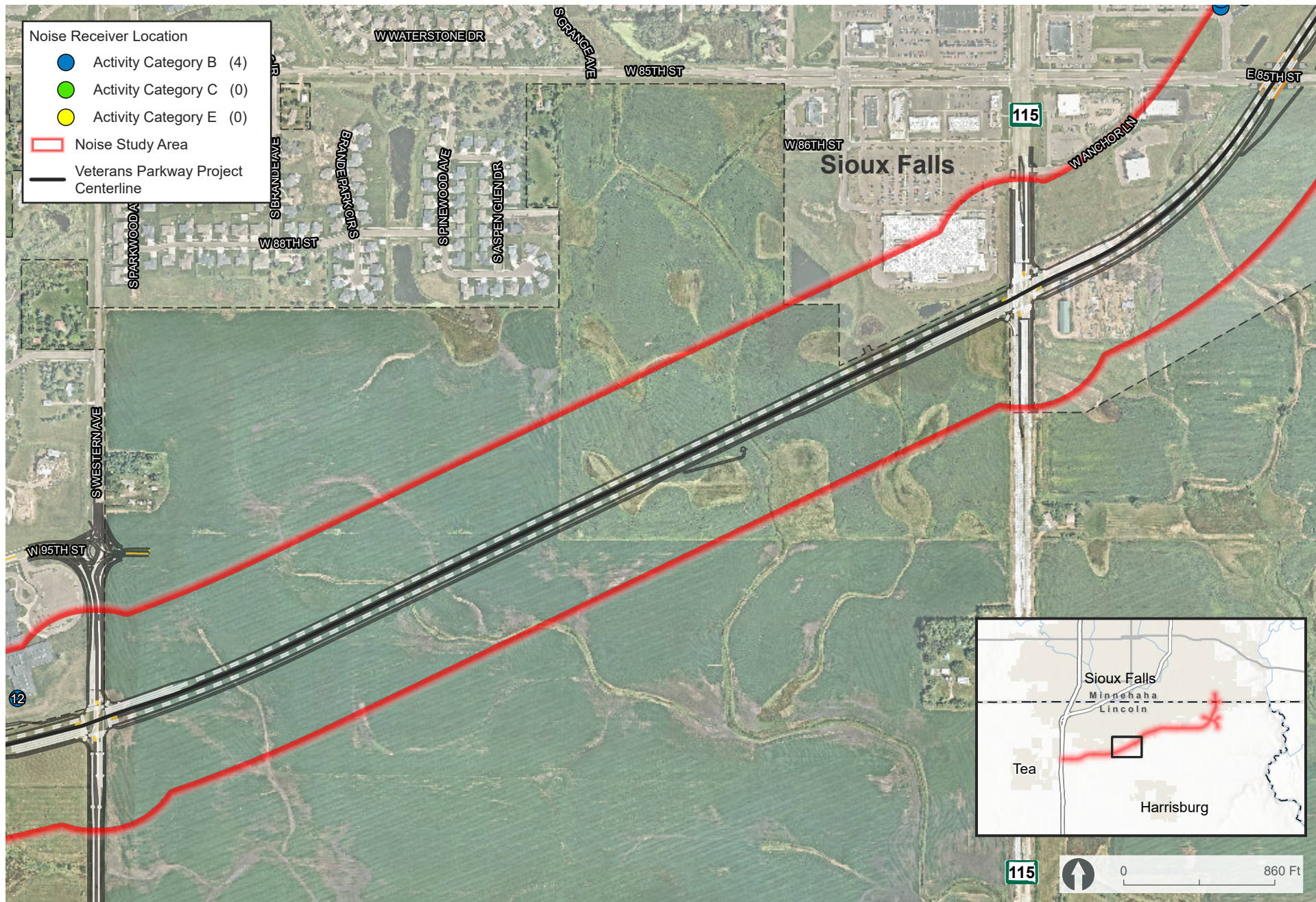
SOUTH VETERANS PARKWAY



ROADWAYS AND RECEIVER LOCATIONS FOR EXISTING CONDITIONS

Figure 4-1

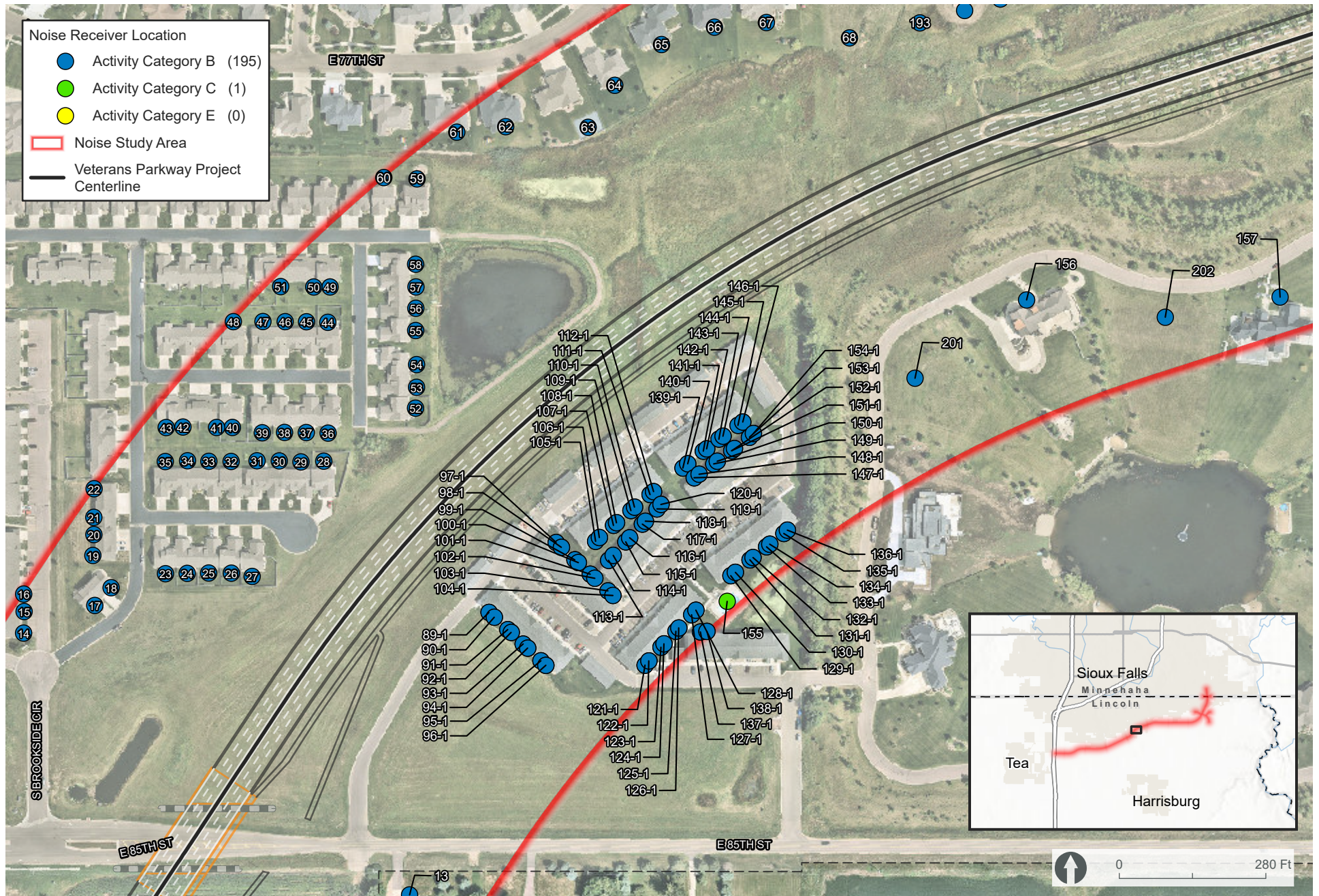
SOUTH VETERANS PARKWAY



ROADWAYS AND RECEIVER LOCATIONS FOR EXISTING CONDITIONS

Figure 4-2

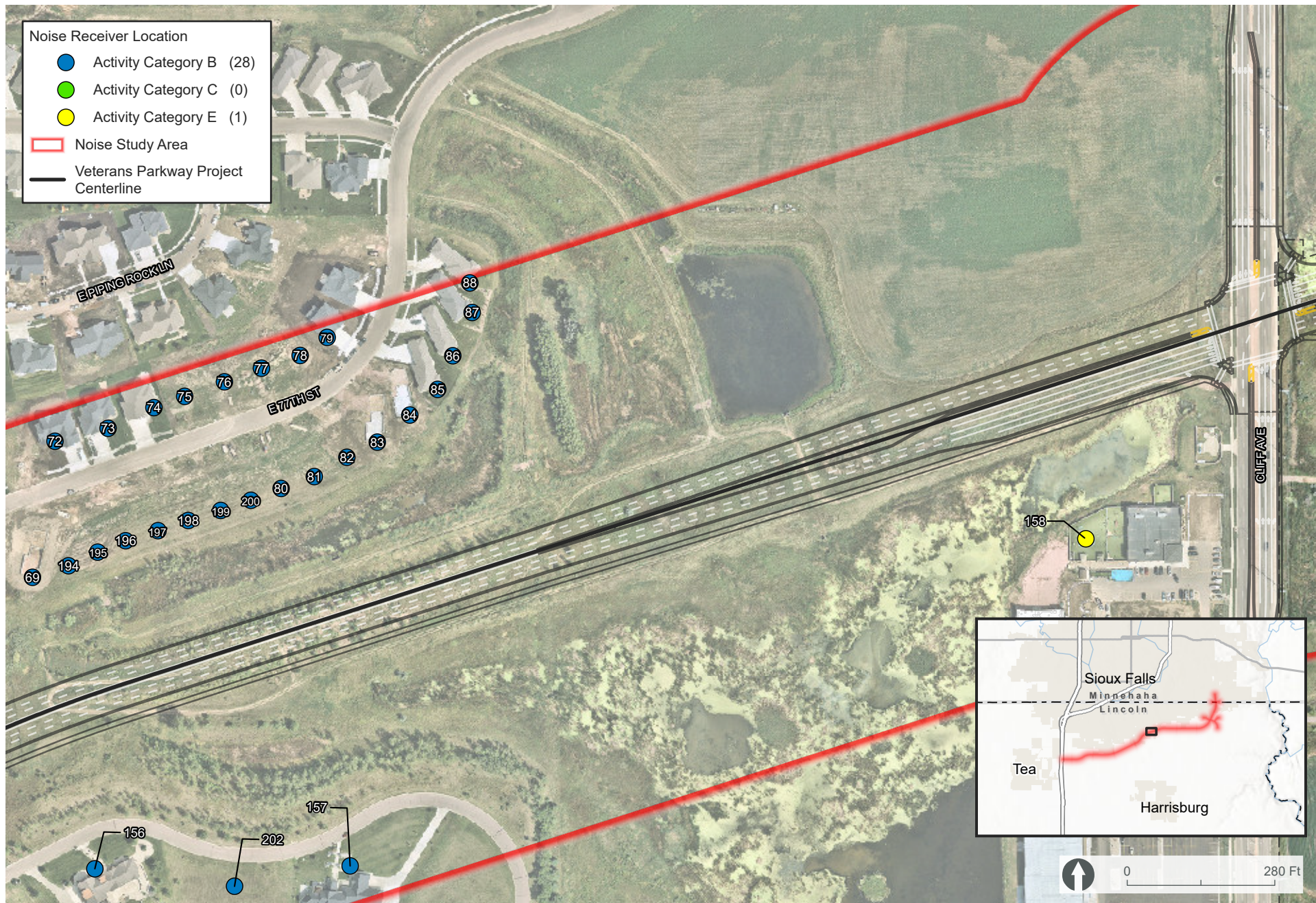
SOUTH VETERANS PARKWAY



ROADWAYS AND RECEIVER LOCATIONS FOR EXISTING CONDITIONS

Figure 4-3

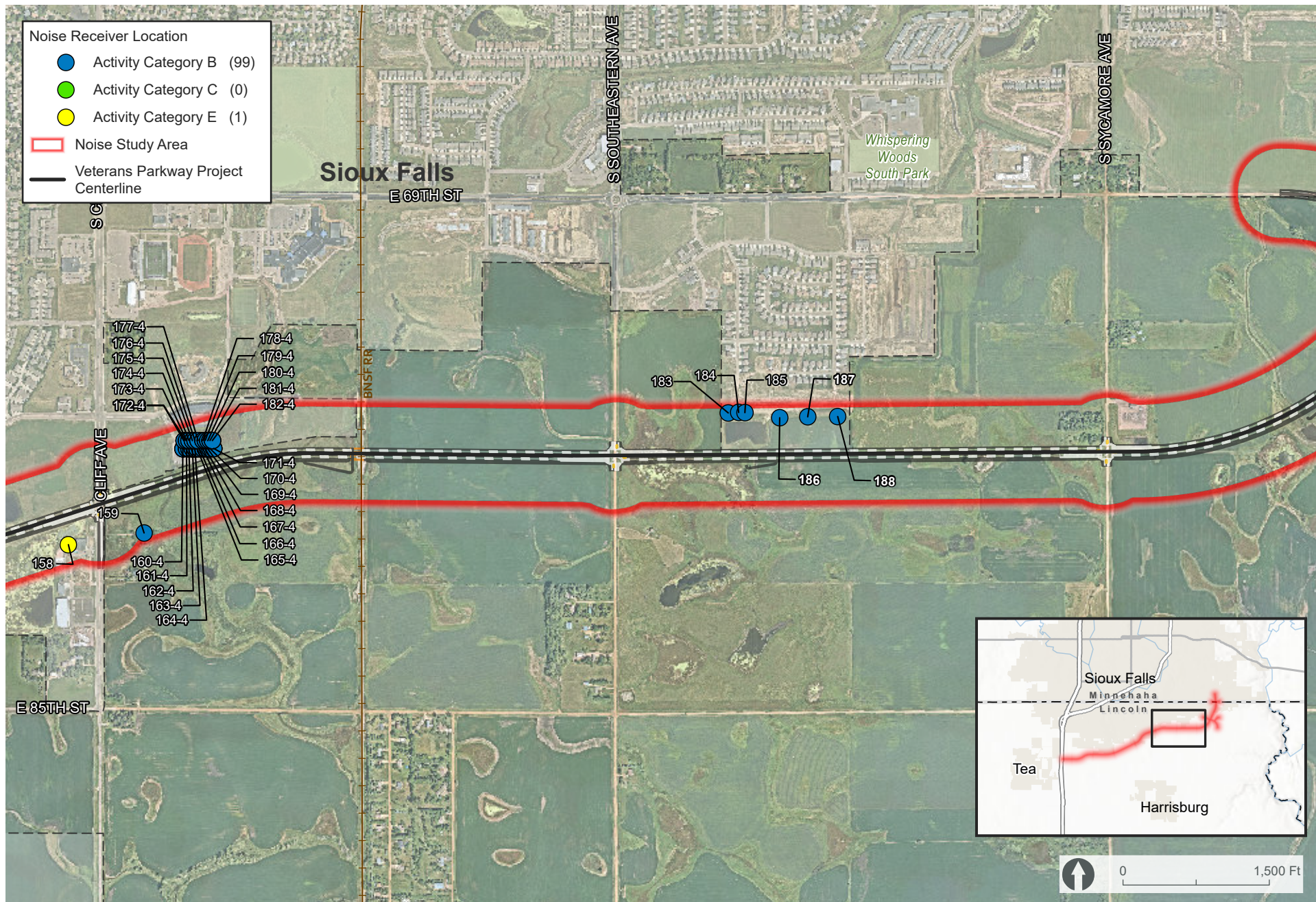
SOUTH VETERANS PARKWAY



ROADWAYS AND RECEIVER LOCATIONS FOR EXISTING CONDITIONS

Figure 4-4

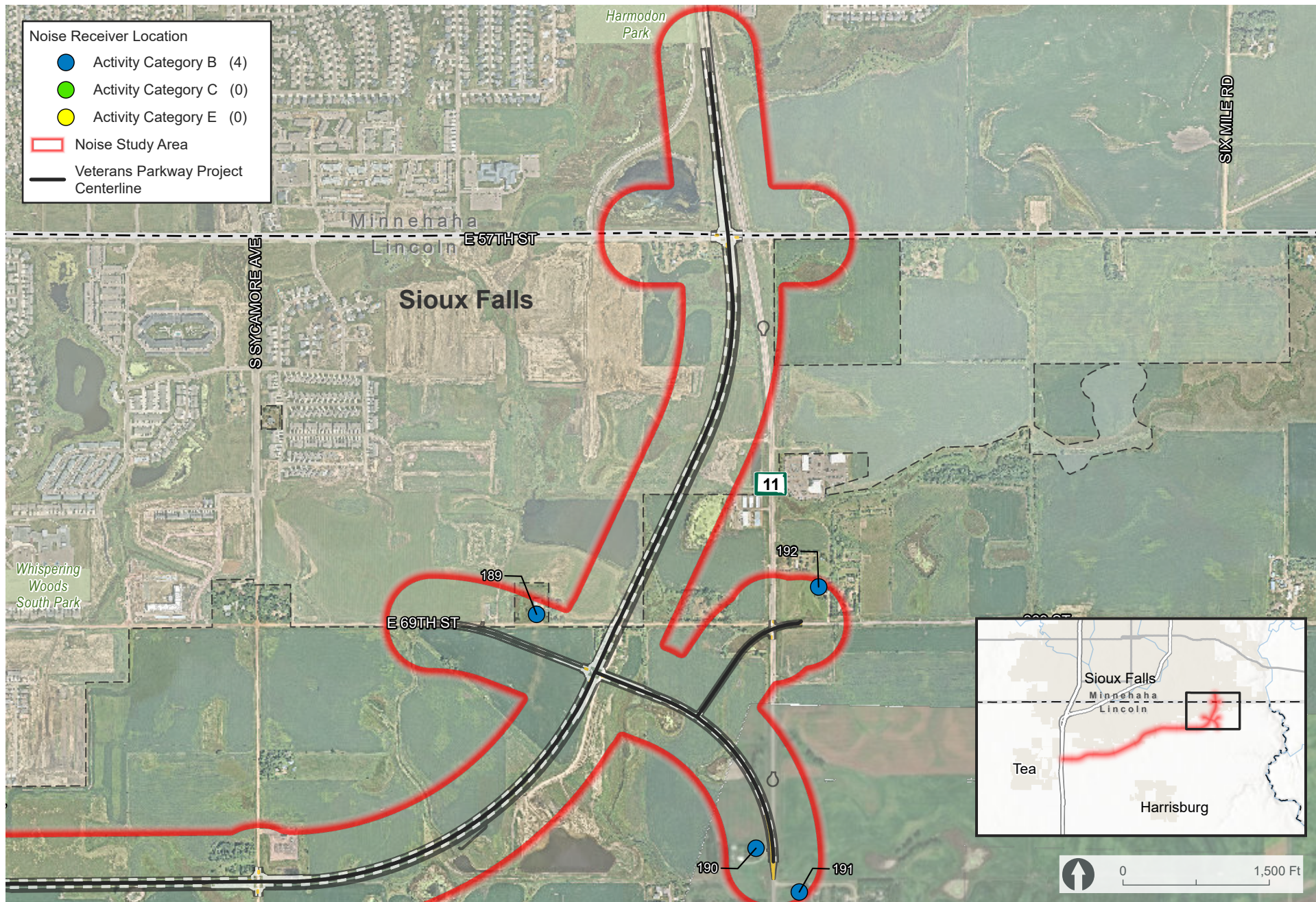
SOUTH VETERANS PARKWAY



ROADWAYS AND RECEIVER LOCATIONS FOR EXISTING CONDITIONS

Figure 4-5

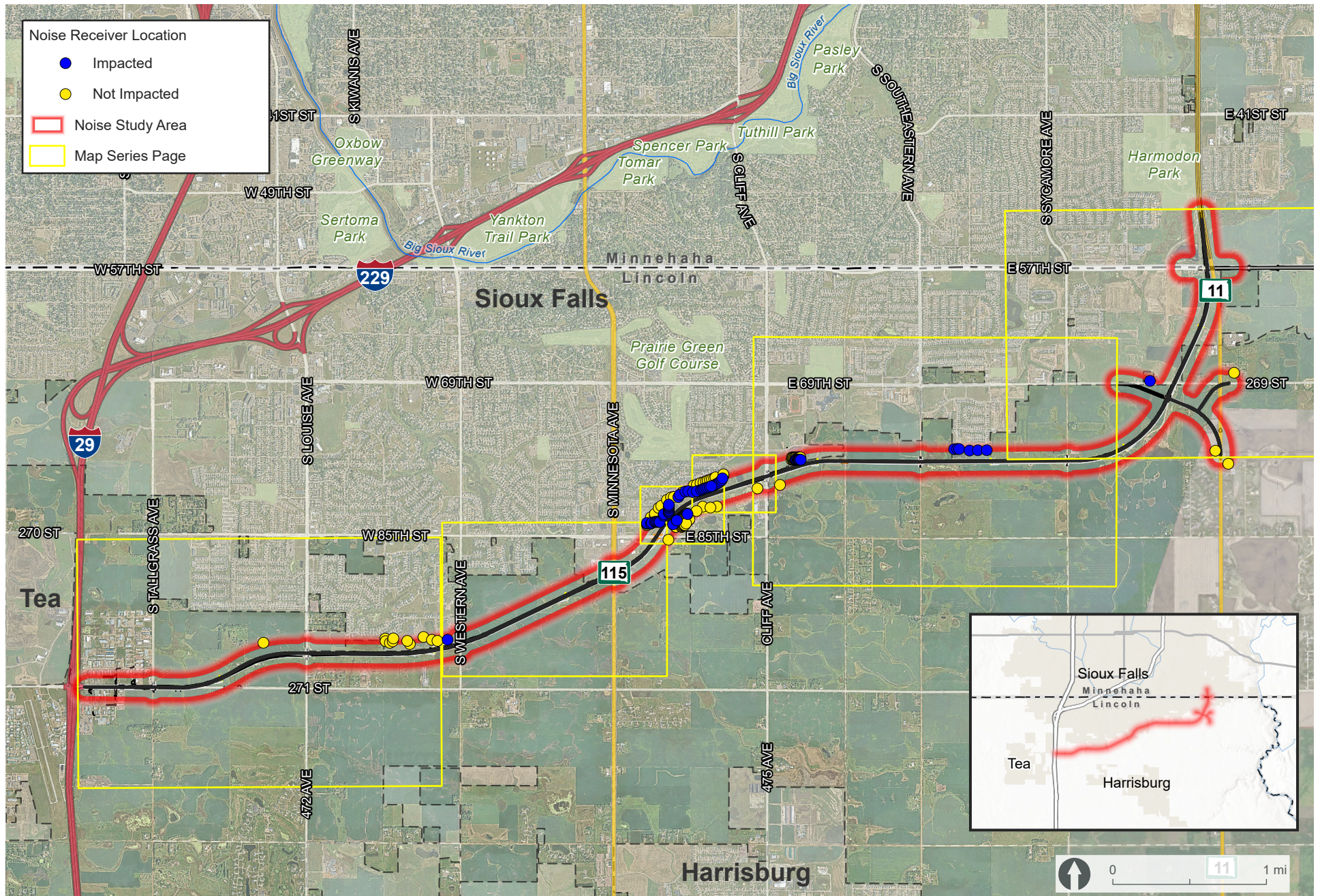
SOUTH VETERANS PARKWAY



ROADWAYS AND RECEIVER LOCATIONS FOR EXISTING CONDITIONS

Figure 4-6

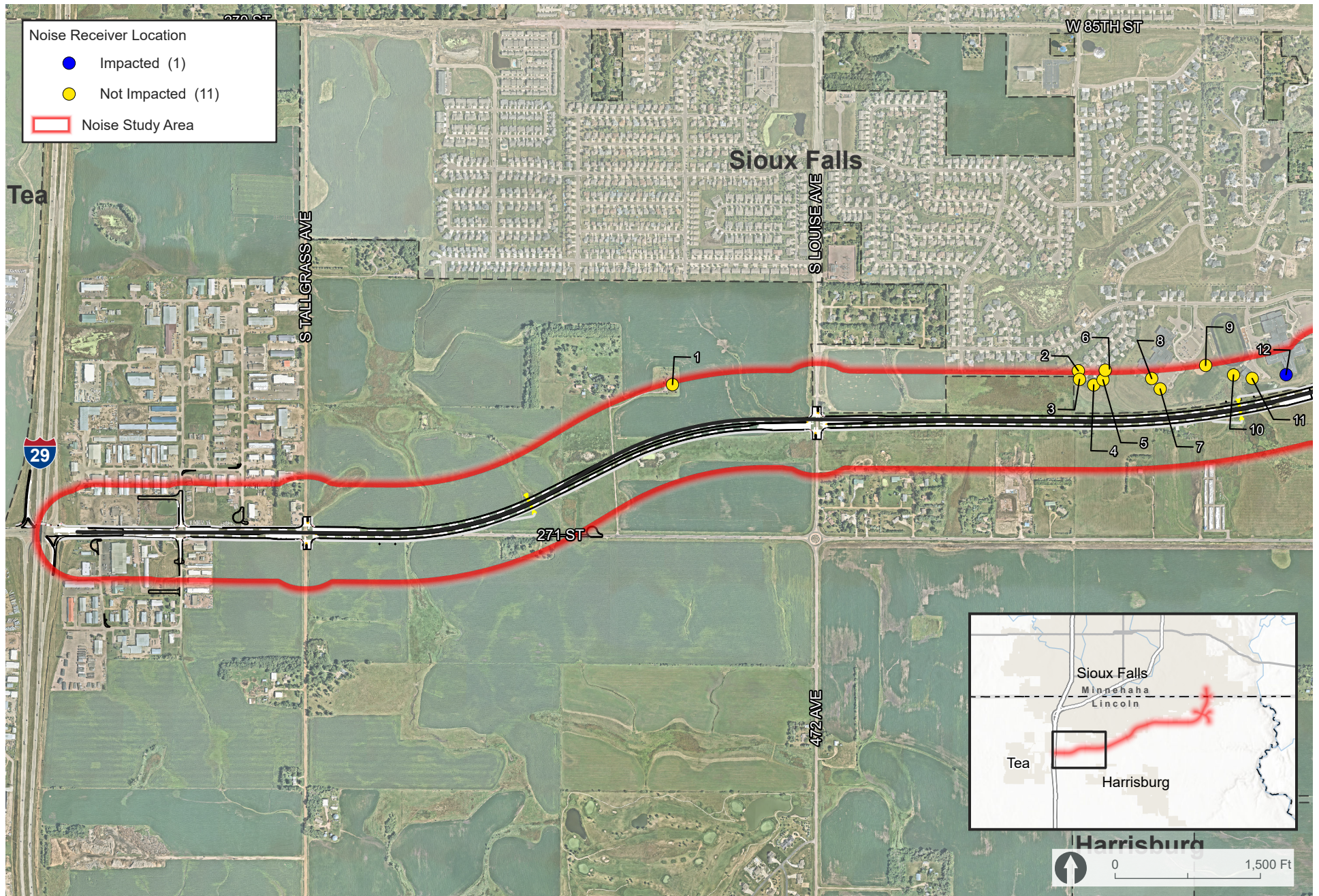
SOUTH VETERANS PARKWAY



**ROADWAYS AND RECEIVER NOISE LEVELS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

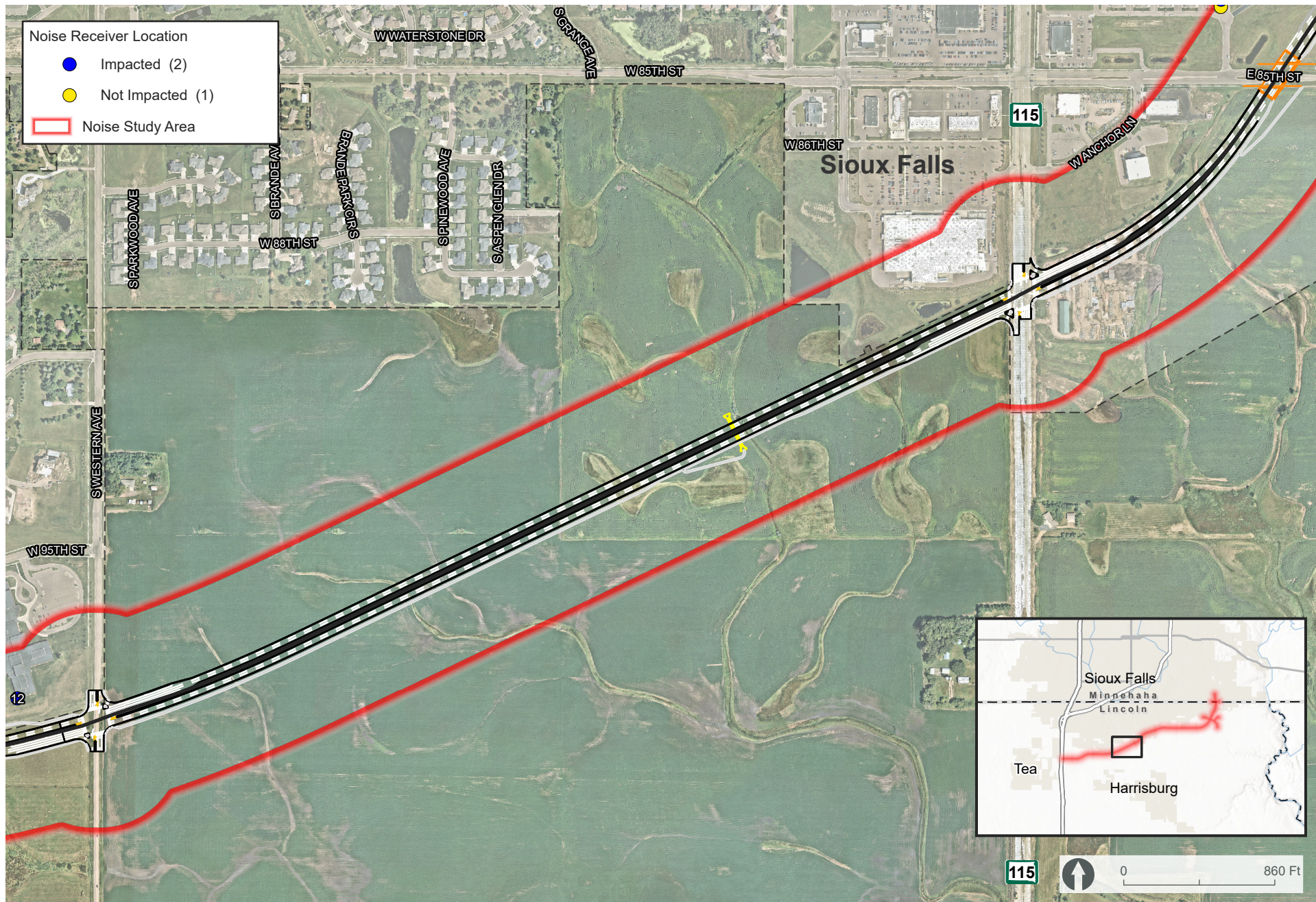
Figure 5

SOUTH VETERANS PARKWAY

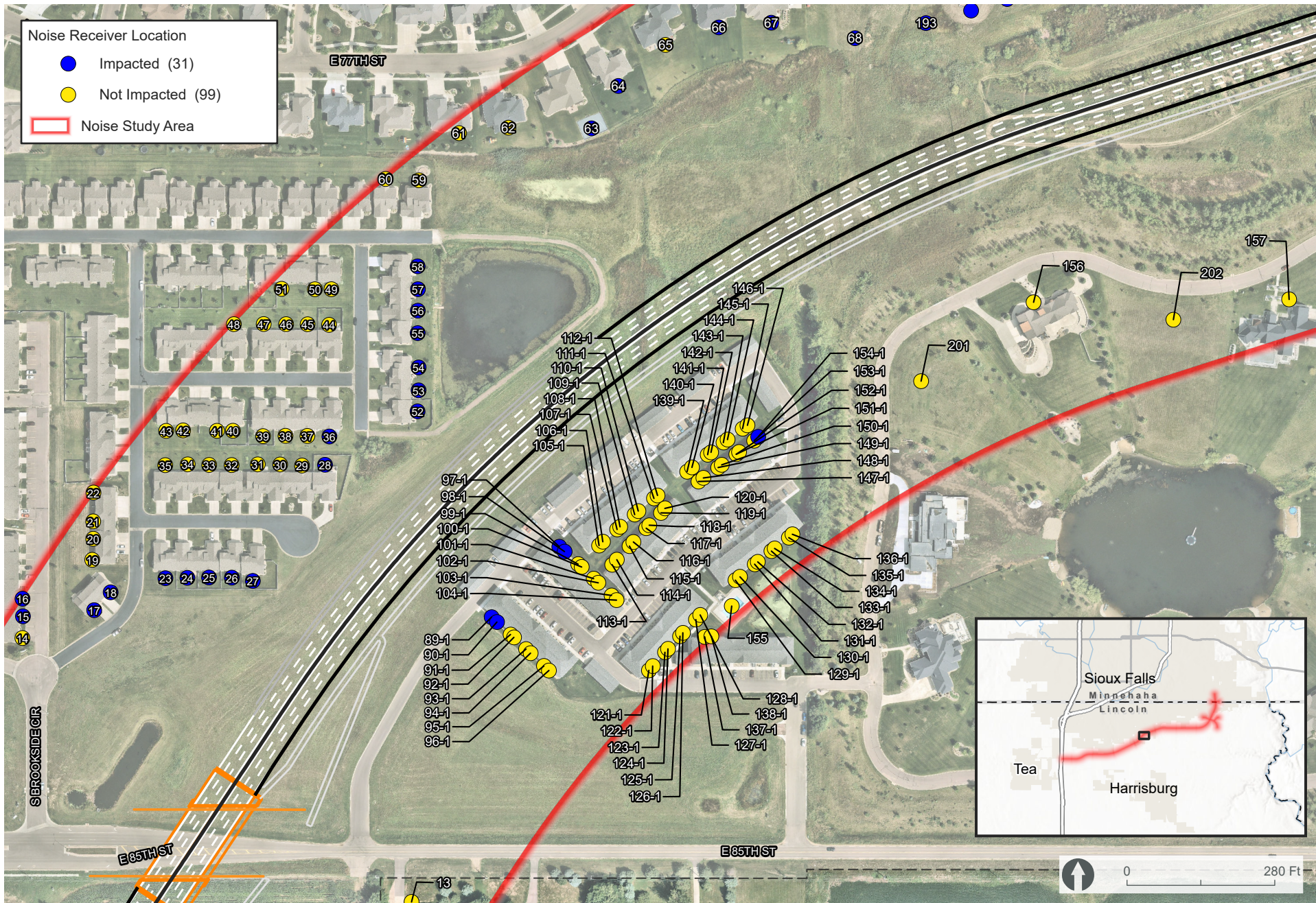


**ROADWAYS AND RECEIVER NOISE LEVELS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**
Figure 5-1

SOUTH VETERANS PARKWAY

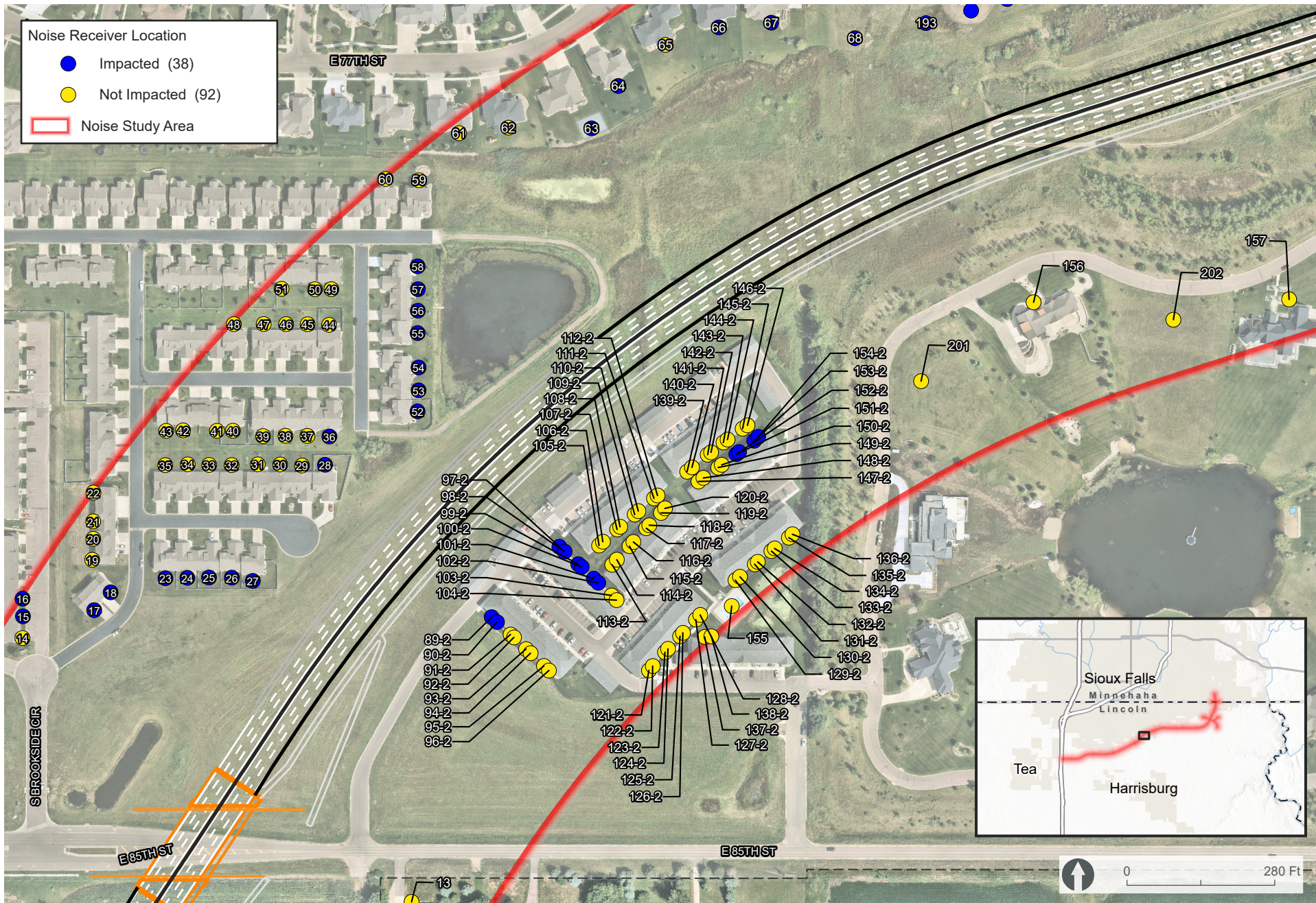


**ROADWAYS AND RECEIVER NOISE LEVELS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**
Figure 5-2

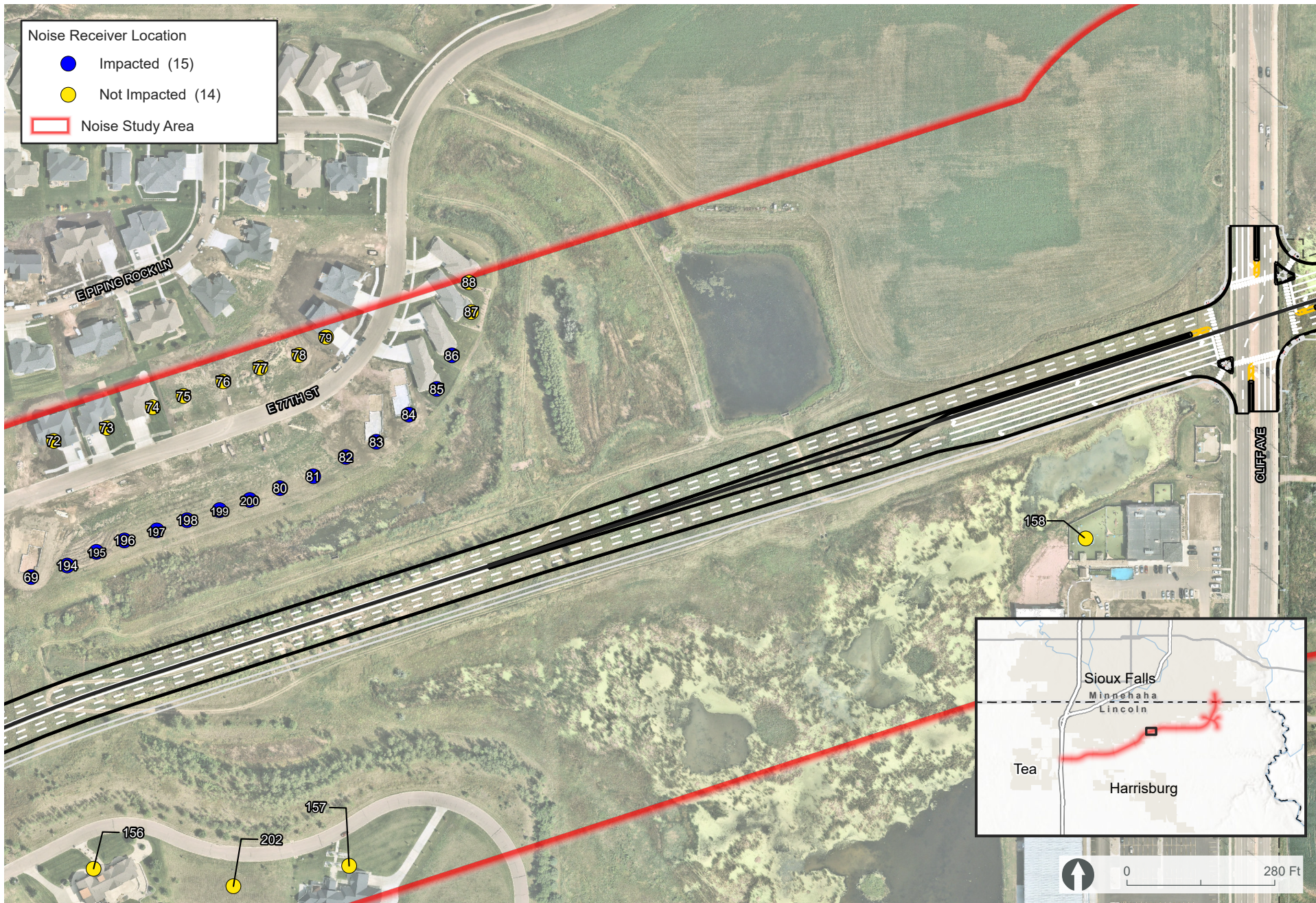


**ROADWAYS AND RECEIVER NOISE LEVELS : 1ST FLOOR APARTMENTS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

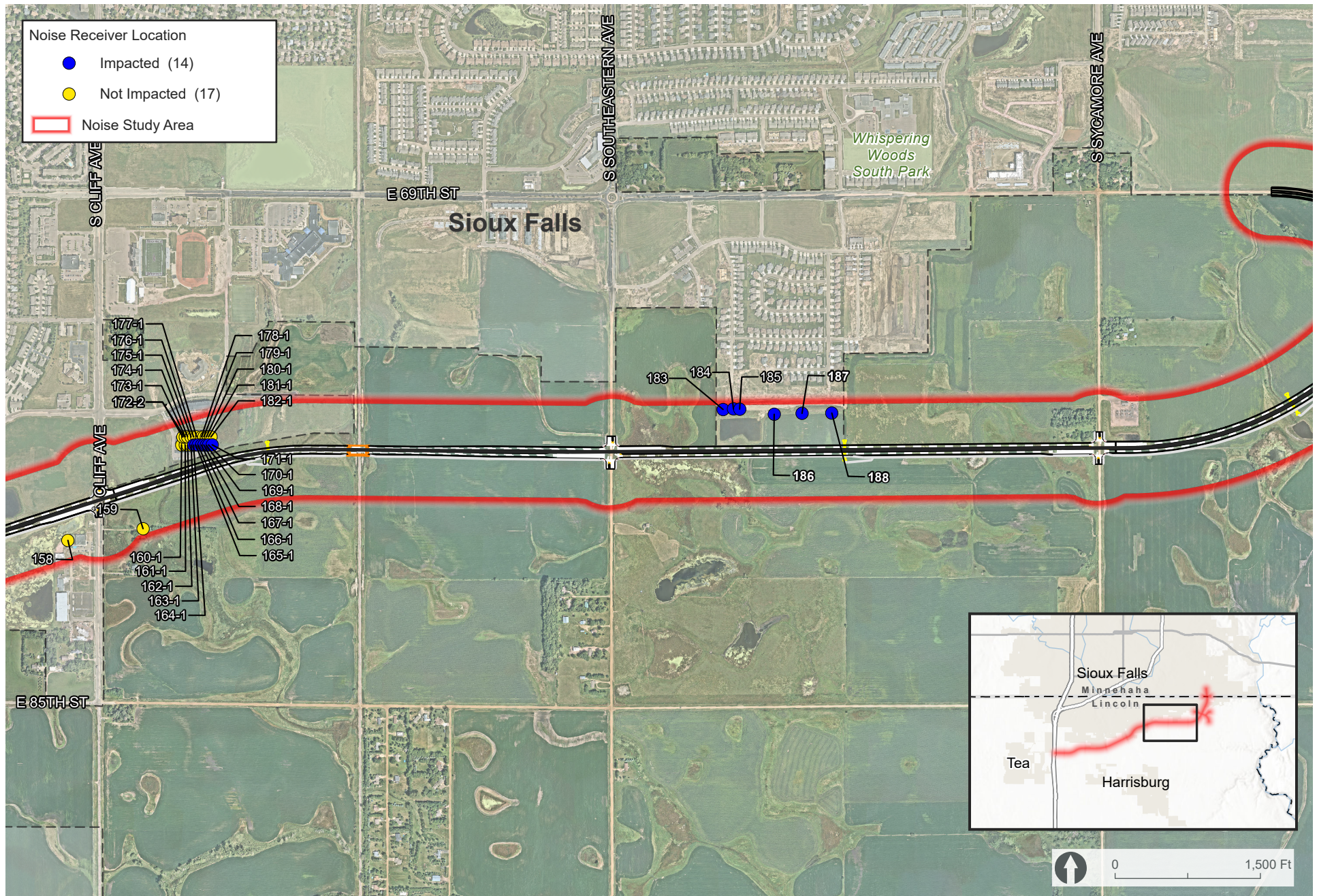
Figure 5-3-1



**ROADWAYS AND RECEIVER NOISE LEVELS : 2ND FLOOR APARTMENTS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**
Figure 5-3-2

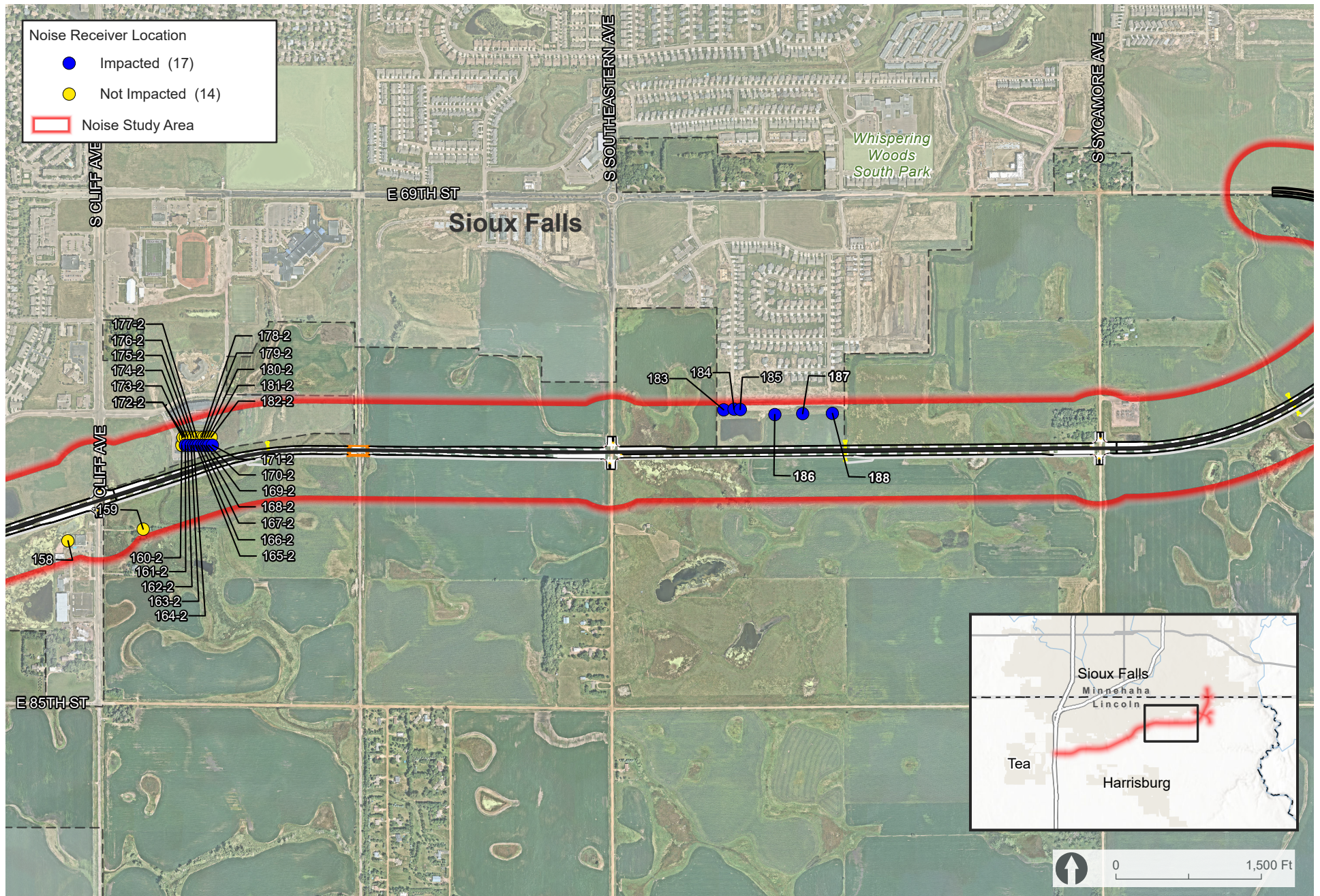


**ROADWAYS AND RECEIVER NOISE LEVELS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**
Figure 5-4



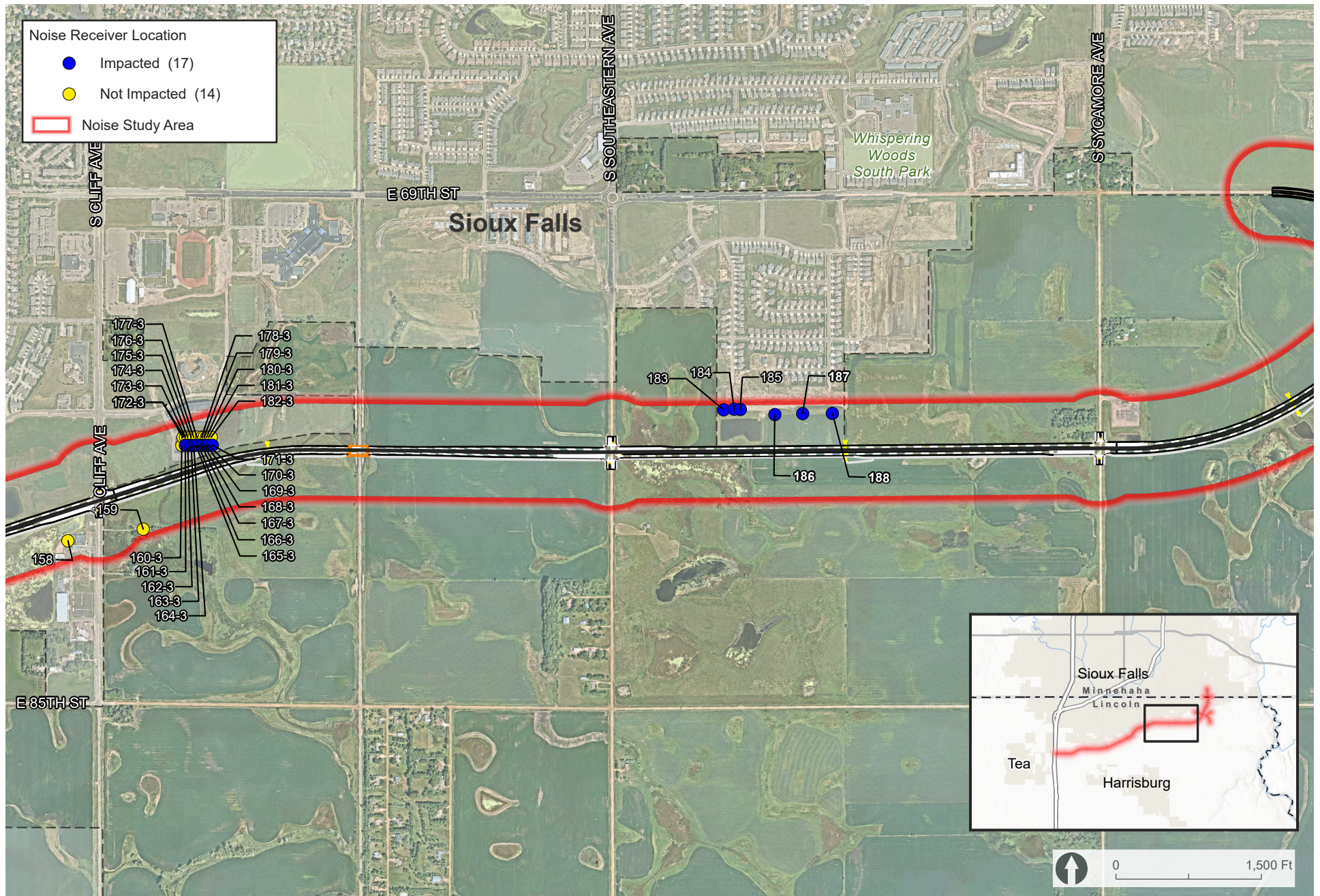
**ROADWAYS AND RECEIVER NOISE LEVELS : 1ST FLOOR APARTMENTS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

Figure 5-5-1



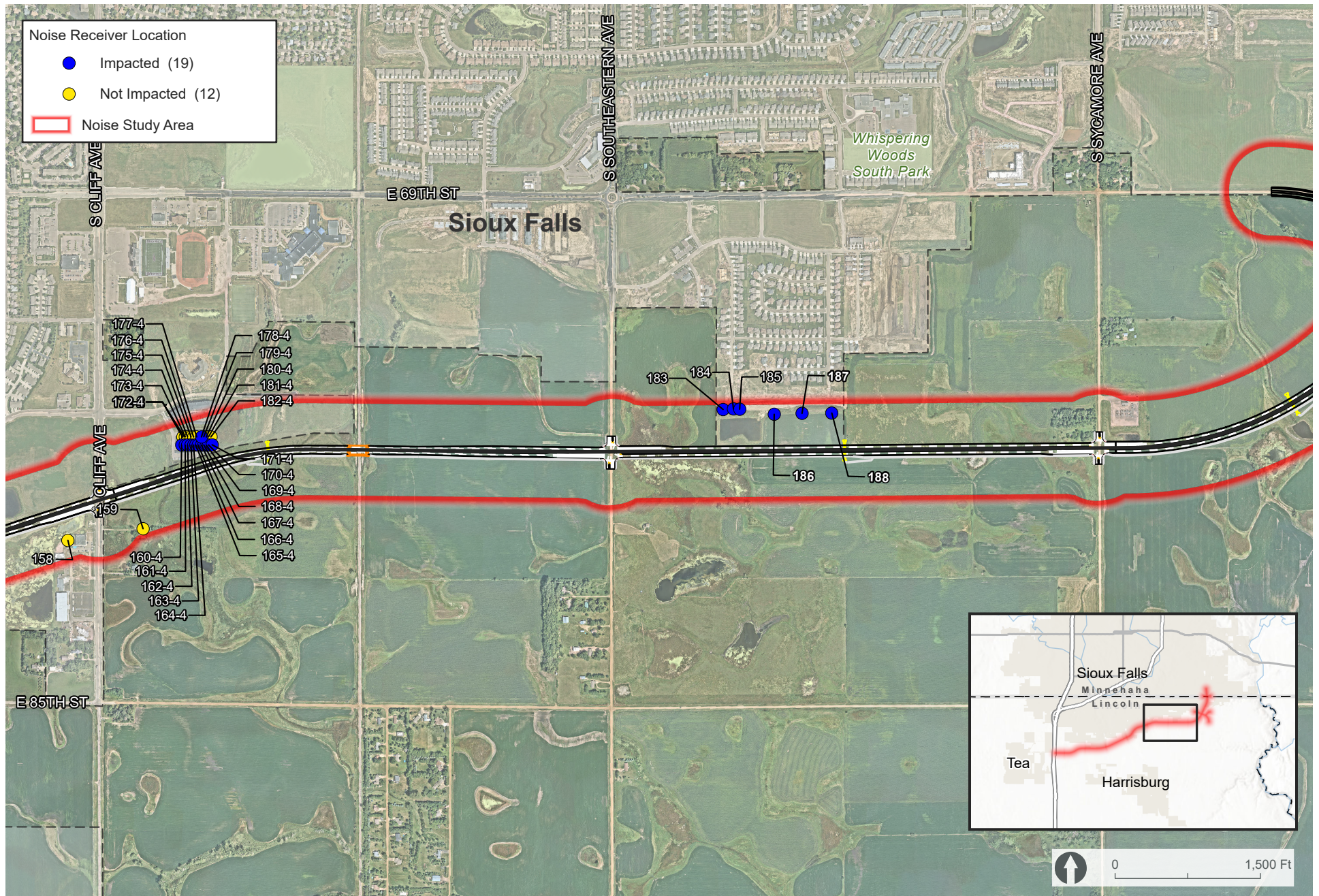
**ROADWAYS AND RECEIVER NOISE LEVELS : 2ND FLOOR APARTMENTS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

Figure 5-5-2



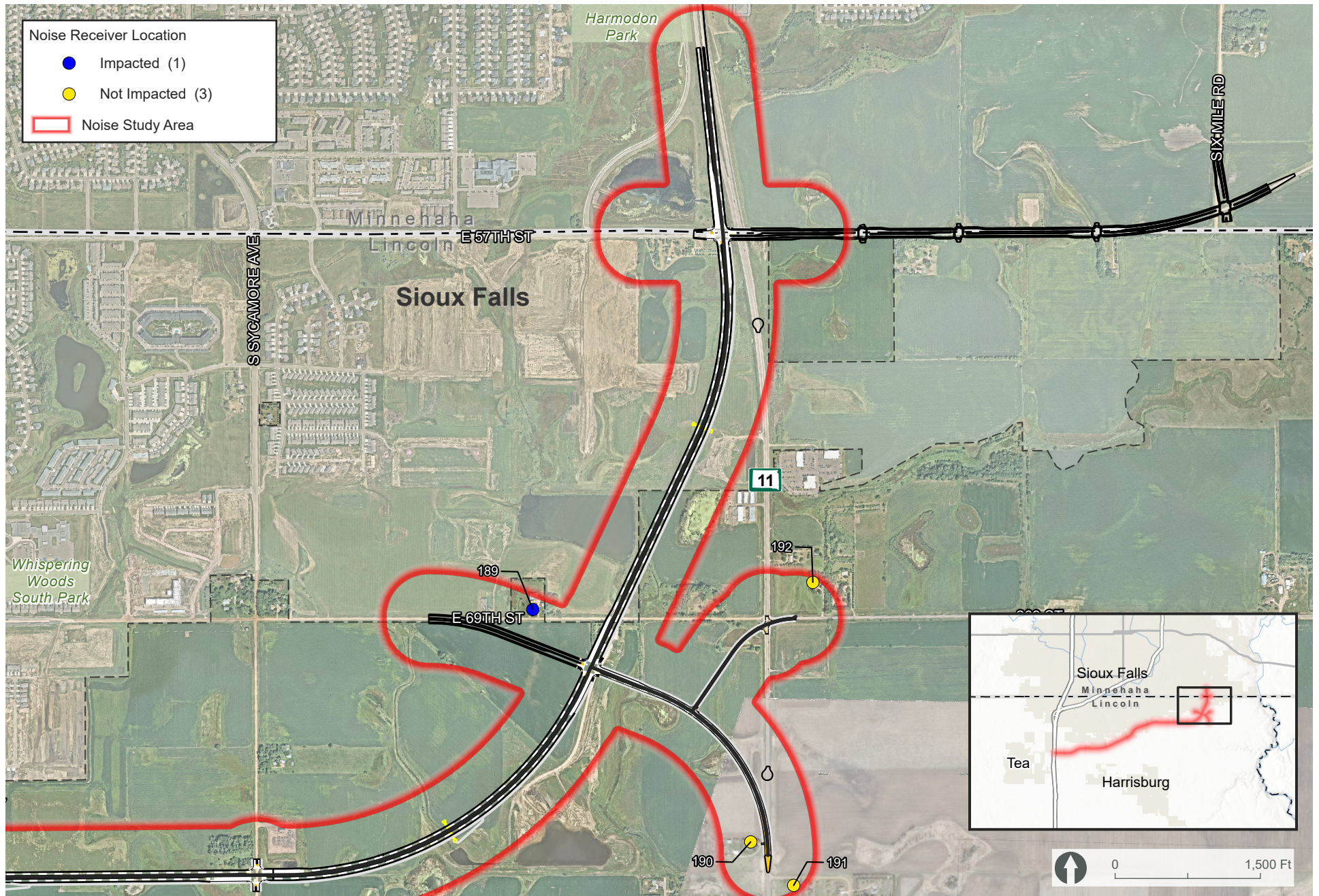
**ROADWAYS AND RECEIVER NOISE LEVELS : 3RD FLOOR APARTMENTS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

Figure 5-5-3

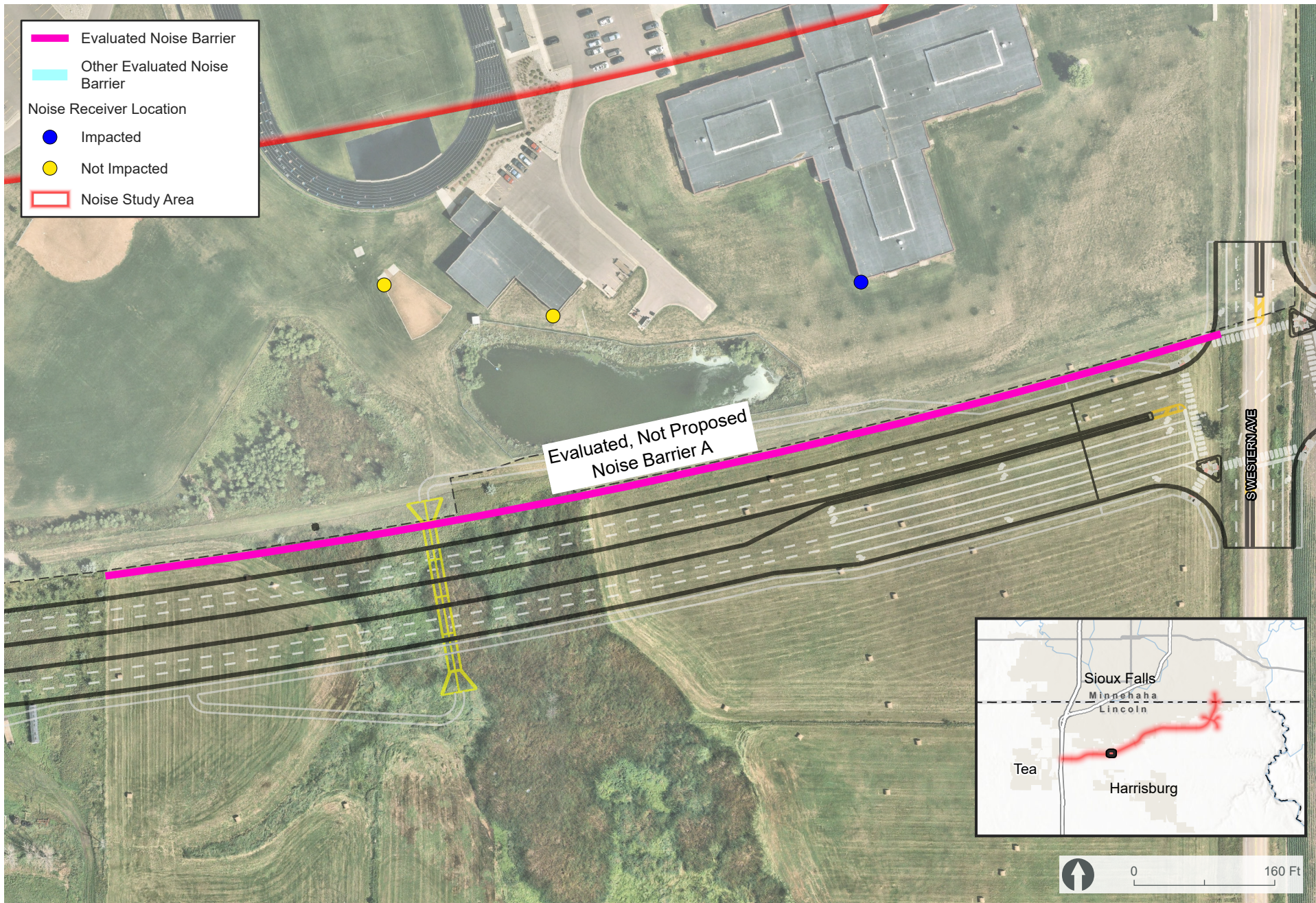


**ROADWAYS AND RECEIVER NOISE LEVELS : 4TH FLOOR APARTMENTS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

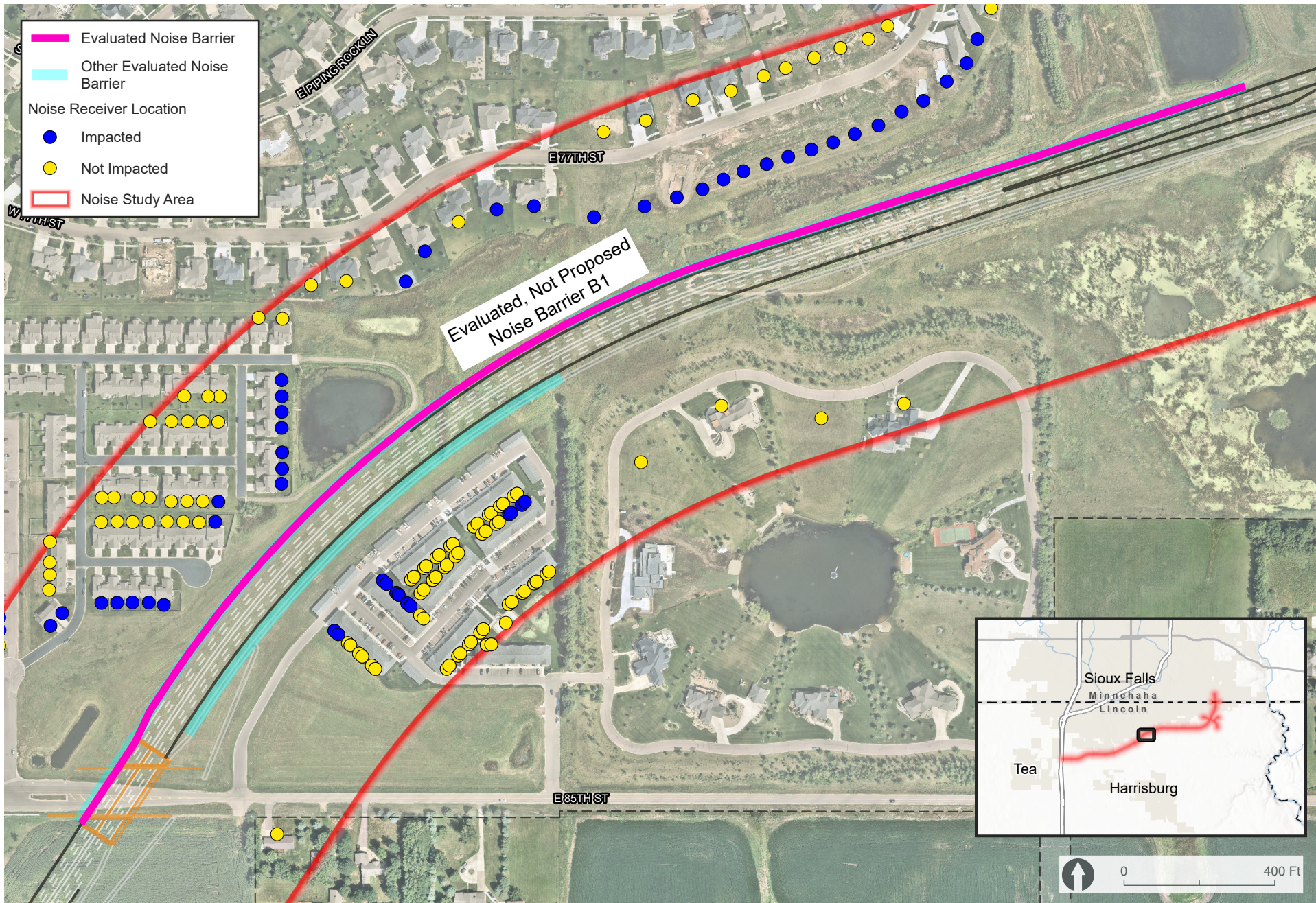
Figure 5-5-4



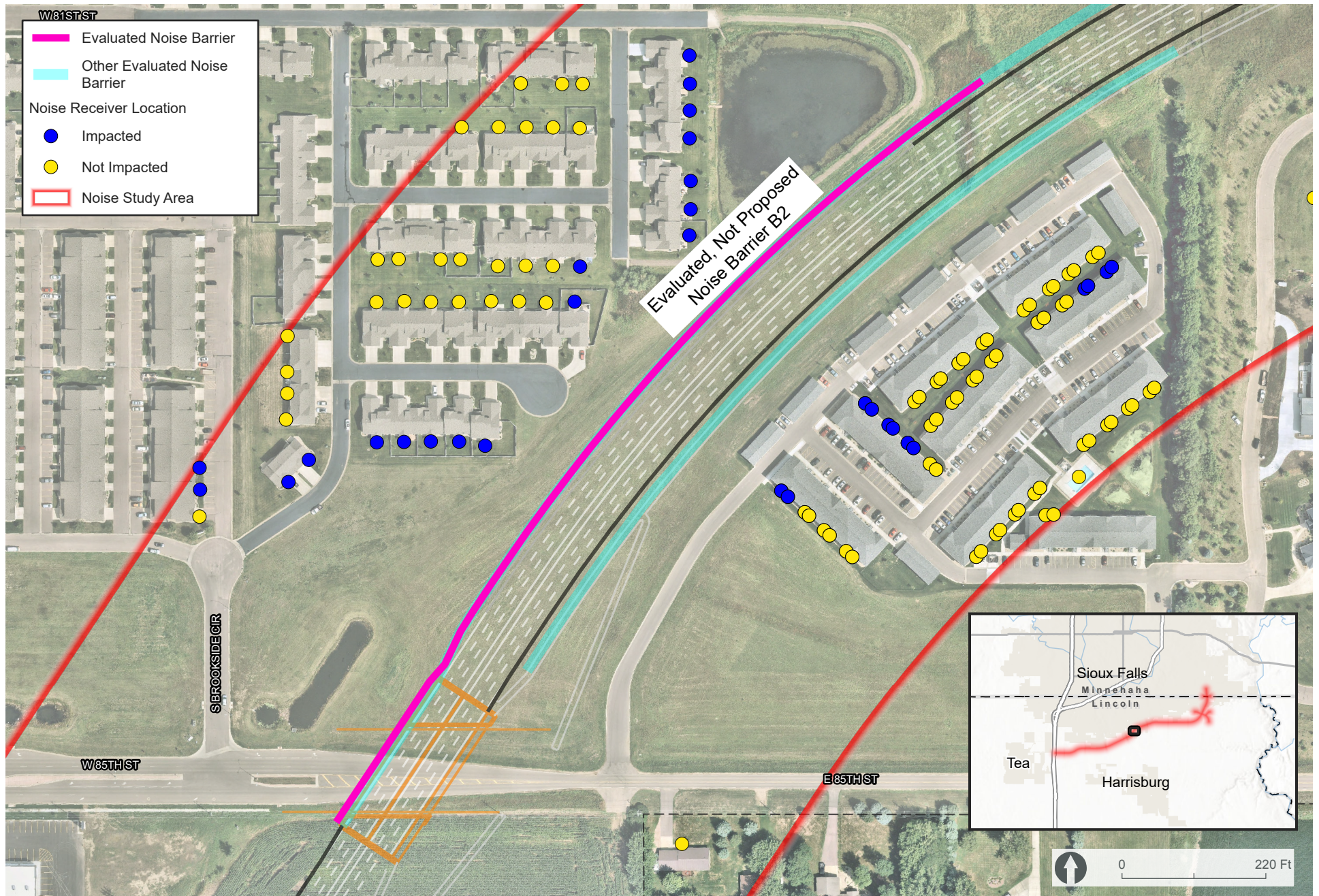
**ROADWAYS AND RECEIVER NOISE LEVELS
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**
Figure 5-6



**EVALUATED, NOT PROPOSED NOISE BARRIER A
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

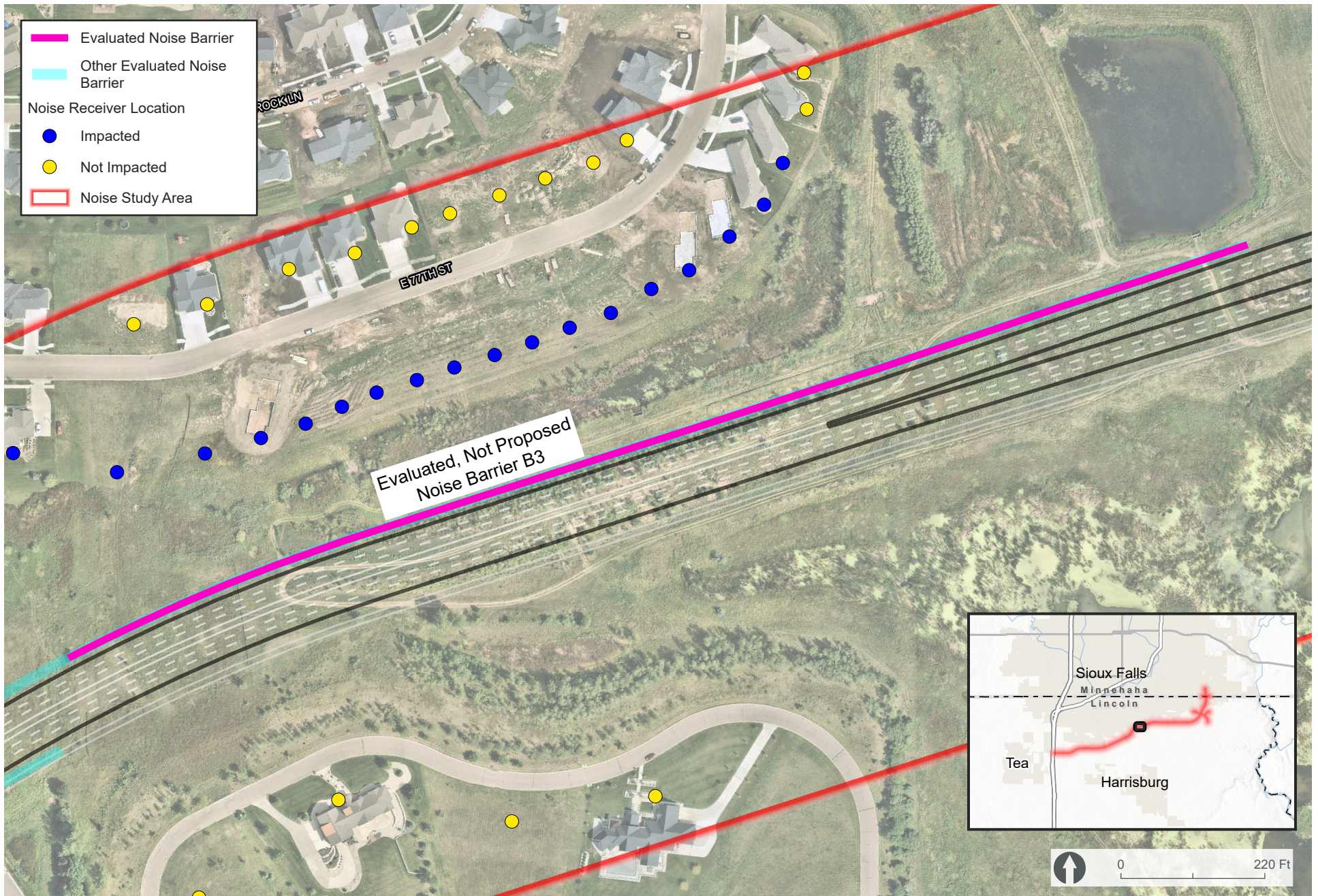


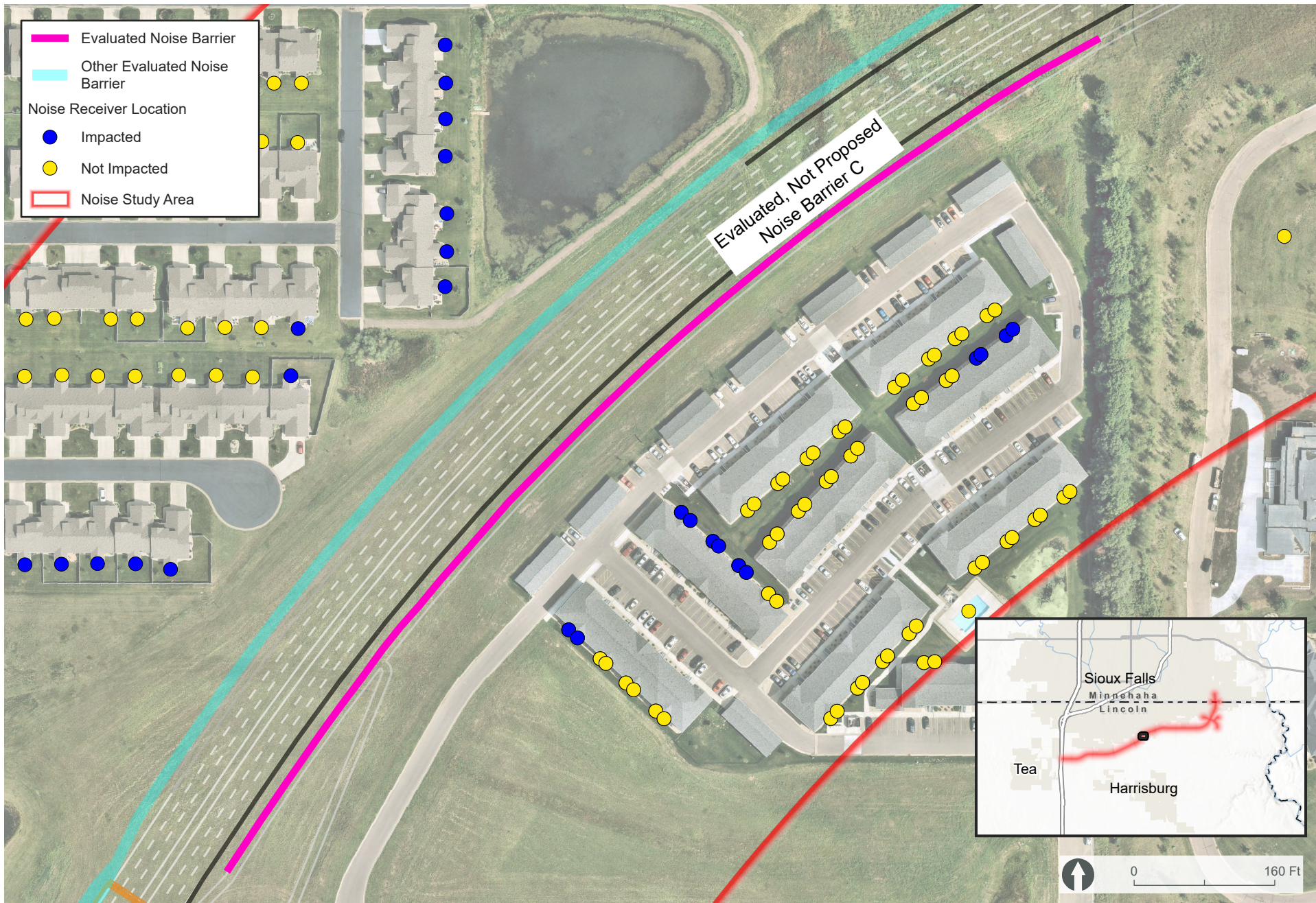
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FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**



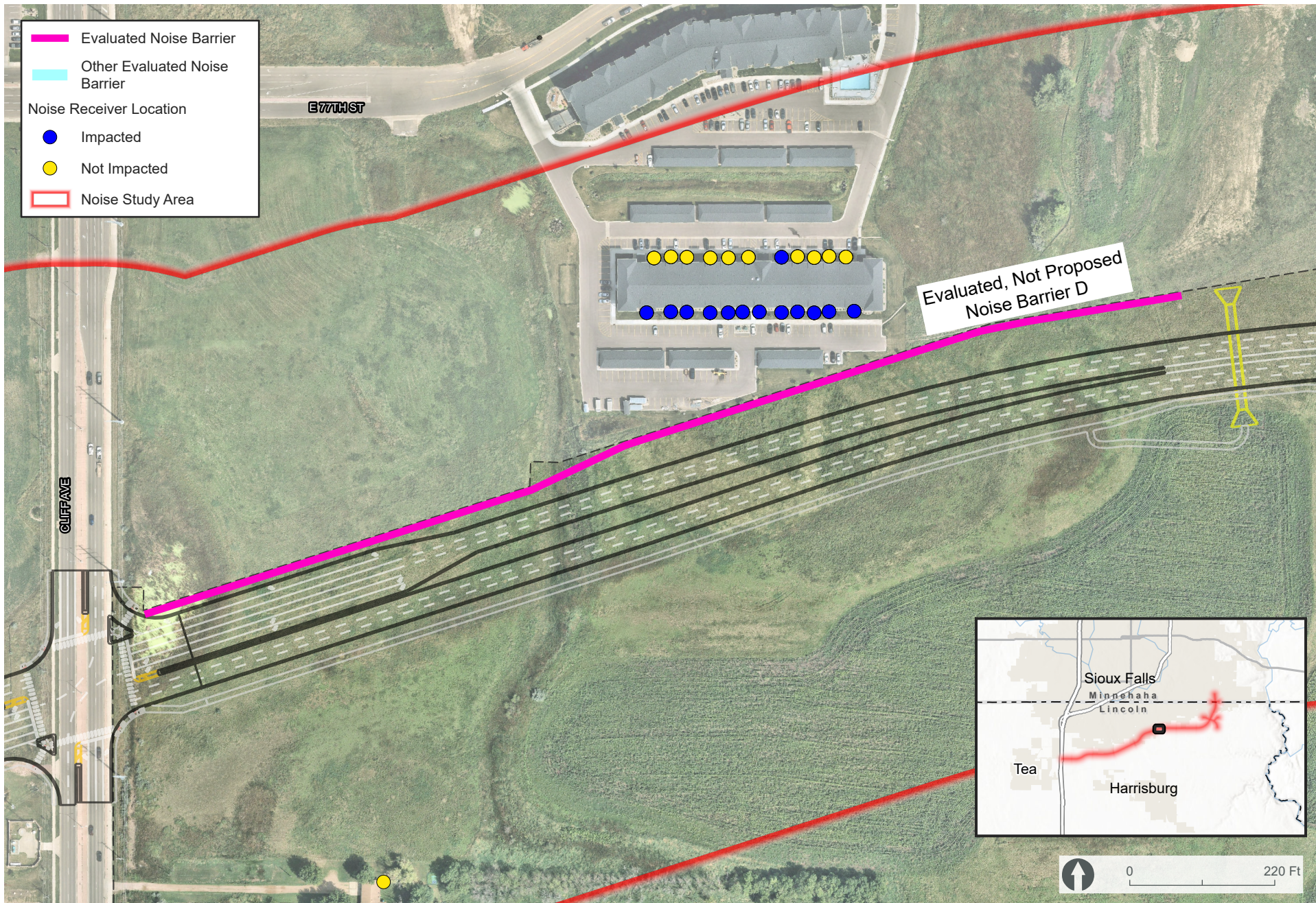
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FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**

SOUTH VETERANS PARKWAY



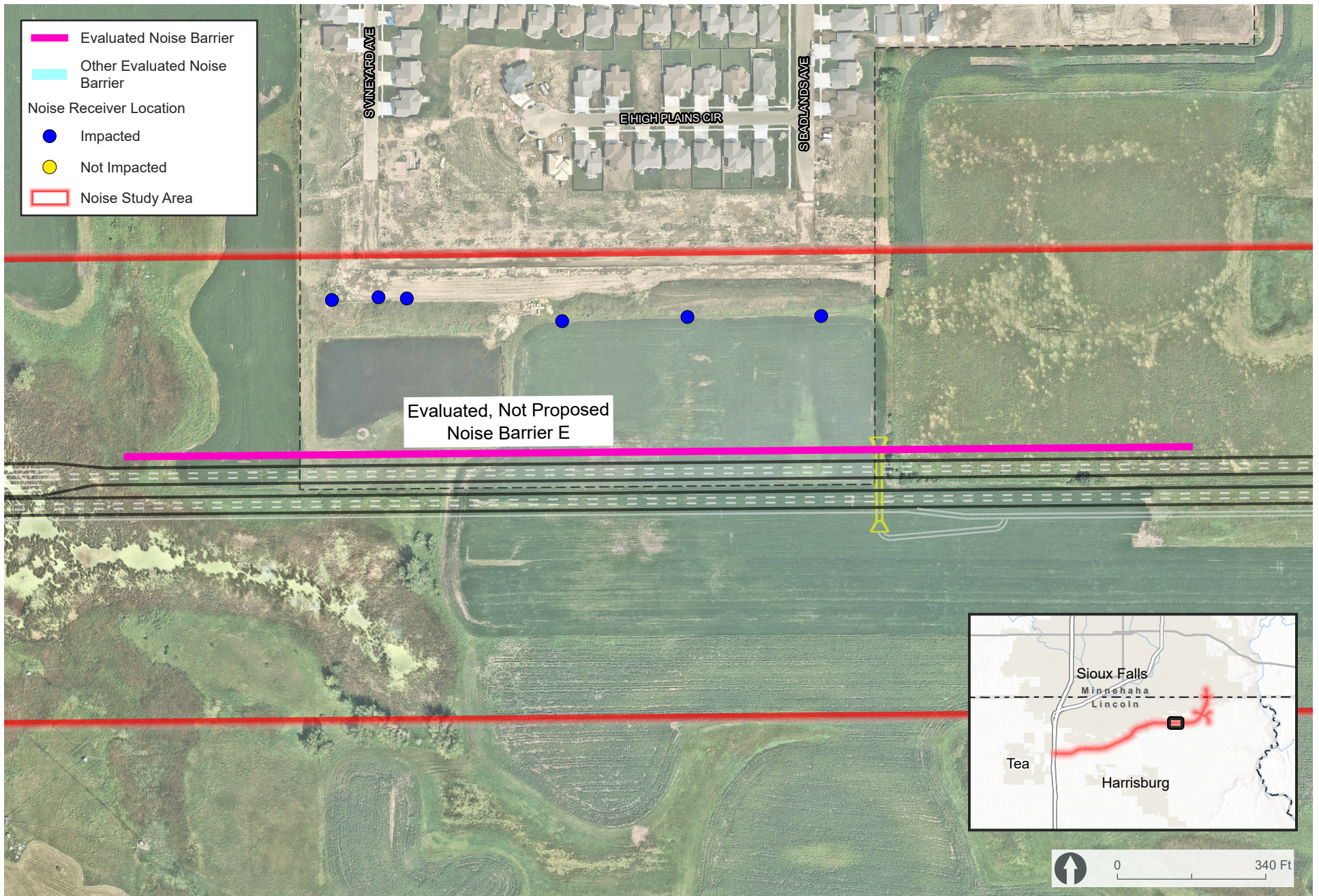


**EVALUATED, NOT PROPOSED NOISE BARRIER C
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**



**EVALUATED, NOT PROPOSED NOISE BARRIER D
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**





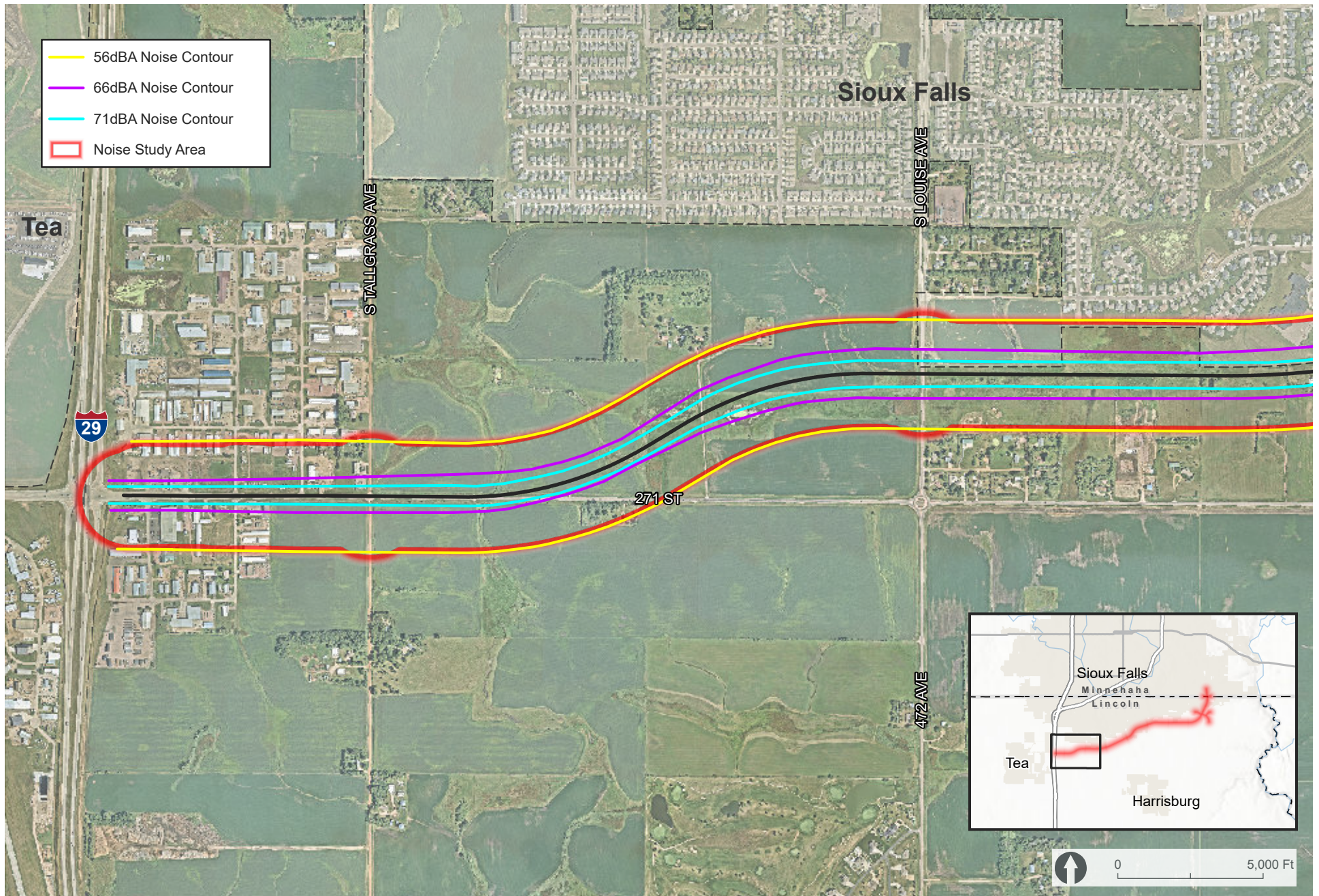
**EVALUATED, NOT PROPOSED NOISE BARRIER E
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**



**EVALUATED, NOT PROPOSED NOISE BARRIER F
FOR DESIGN YEAR (2050) PROPOSED ACTION WITH IMPACTS IDENTIFIED**



CITY OF
SIOUX FALLS



DESIGN YEAR (2050) PROPOSED ACTION NOISE LEVEL CONTOURS

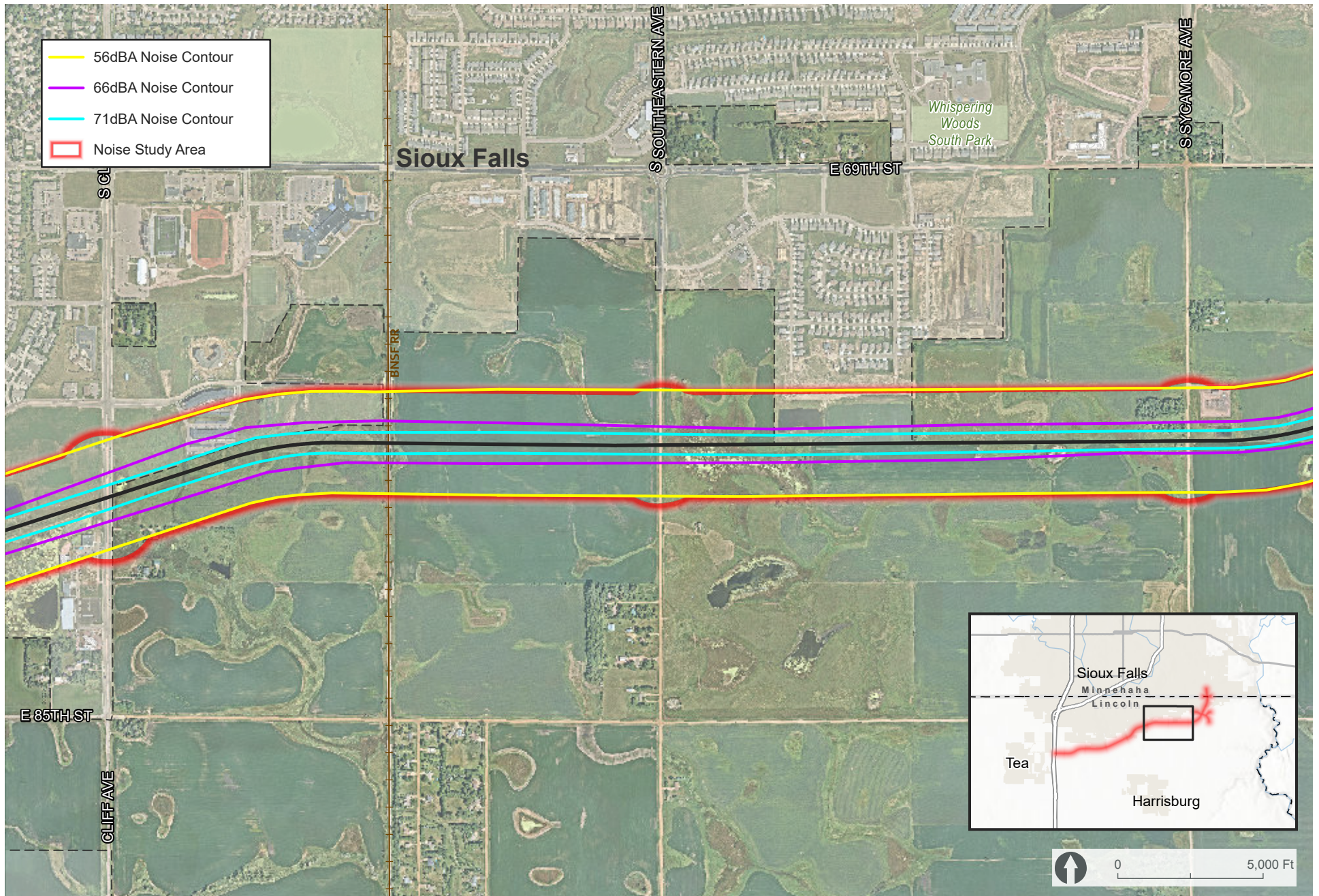
Figure 7-1

SOUTH VETERANS PARKWAY





SOUTH VETERANS PARKWAY

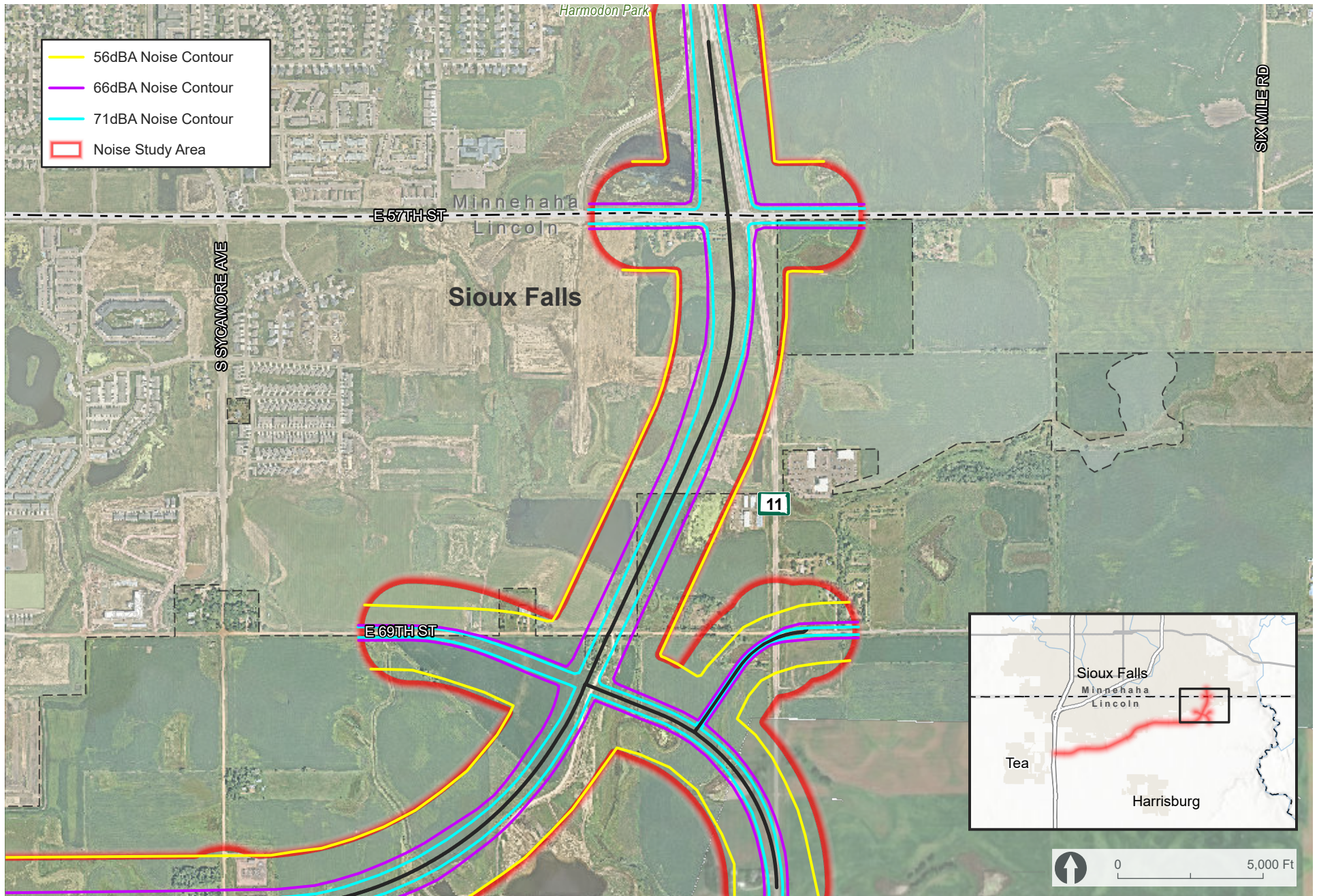


DESIGN YEAR (2050) PROPOSED ACTION NOISE LEVEL CONTOURS

Figure 7-3

SOUTH VETERANS PARKWAY





DESIGN YEAR (2050) PROPOSED ACTION NOISE LEVEL CONTOURS

Figure 7-4

SOUTH VETERANS PARKWAY



Appendix A: Field Noise Measurement Data



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SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: A
File 3

Project Description: 10295334; South Veterans Parkway

Noise Source: 271 St Date: 6/8/21 Personnel: BJC
airplanes

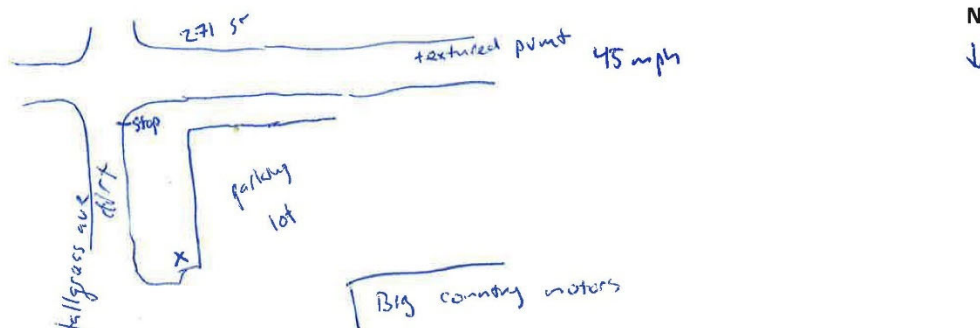
Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one) FAST SLOW

WEIGHTING (circle one) A Lin.

Location Description: Big Country Motors

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 2:16 AM PM Stop Time: 2:30 AM PM Duration: 15 min

Wind Speed/Direction: 5-11 mph S Percentiles: _____

Temperature: 93° Humidity: 38%

Calibration results before: 114.1 dBA and after 114.0 dBA

Traffic Count Roadway: 271 St

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
EB	47	5	2	0	1
WB	57	6	2	0	1

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: A, reading 1 (Anta file 3)

PERSONNEL: BJC

LOCATION/ADDRESS: Big Country Motors

DATE: 6/8/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	v or X	Other Noise Sources	COMMENTS
					cars on Tallgrass ave
1	2:16	56.7			11
2	17	71.0		jet overheard	
3	18	63.1			1
4	19	62.6			
5	20	62.1			1
6	21	68.7		plane	11
7	22	72.6		jet	
8	23	59.3			1
9	24	60.7			
10	25	60.2			111 MT
11	26	63.4			1
12	27	60.3			
13	28	57.8			
14	29	63.2			11 MT
15	30	58.1			1
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

v = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: B
File 4

Project Description: 10295334; South Veterans Parkway

Noise Source: 271 St Date: 6/8/21 Personnel: BJC

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one) **FAST** SLOW

WEIGHTING (circle one) **A** Lin.

Location Description: 4715th/58th 271 St

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 2:47 AM (PM) Stop Time: 3:03 AM PM Duration: 17 min

Wind Speed/Direction: 5-10 mph S Percentiles: _____

Temperature: 91°F Humidity: 38%

Calibration results before: 114.0 dBA and after 114.1 dBA

Traffic Count Roadway: N/A - road too distant

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

43° 27.884' N
96° 46.529' W

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: 13

PERSONNEL: BJC

LOCATION/ADDRESS:

DATE: 6/8/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	2:47	53.4	✓	van on driveway	constant flow of traffic on 271 st.
2	48	52.7	✓	↓	
3	49	49.5			
4	50	49.1			
5	51	50.9			
6	52	50.1			
7	53	46.7			
8	54	47.8			
9	55	48.9			
10	56	50.2		gust	
11	57	48.8			
12	58	48.2			
13	59	47.1			
14	3:00	48.0			
15	01	48.3			
16	02	48.2		gusts	
17	03	51.3		↓	
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: C
File 5

Project Description: 10295334; South Veterans Parkway

Noise Source: Louise Ave Date: 6/8/21 Personnel: BJC

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

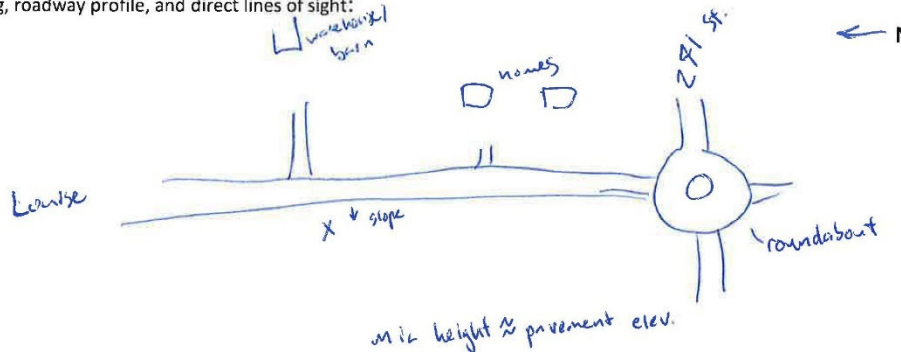
WEIGHTING (circle one)

A

Lin.

Location Description: across from 77086 Louise

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

3:16 AM PM

3:30 AM PM

15 min

Wind Speed/Direction: 3-5 mph SE

Percentiles: _____

Temperature: 91°F

Humidity: 37%

Calibration results before: 114.1 dBA and after 114.0 dBA

Traffic Count Roadway: Louise

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	<u>65</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>
SB	<u>67</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: C

PERSONNEL: BJC

LOCATION/ADDRESS:

DATE: 6/8/21

NB

M

#	1 Minute Period Starting	Meas'd Leq (dBA)	v or X	Other Noise Sources	COMMENTS
1	3:16	59.0			
2	17	64.3			
3	18	60.9			
4	19	59.8			
5	20	59.5			
6	21	64.2			
7	22	59.5			
8	23	61.7			
9	24	63.0		small plane	
10	25	59.6			
11	26	62.3			
12	27	65.7		dump truck	
13	28	63.9			
14	29	61.6			
15	30	59.3			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

SB

TOTAL Leq =

SUBSET Leq =

v = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 7.6

Project Description: 10295334; South Veterans Parkway

Noise Source: birds Date: 6/8/21 Personnel: BJC

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

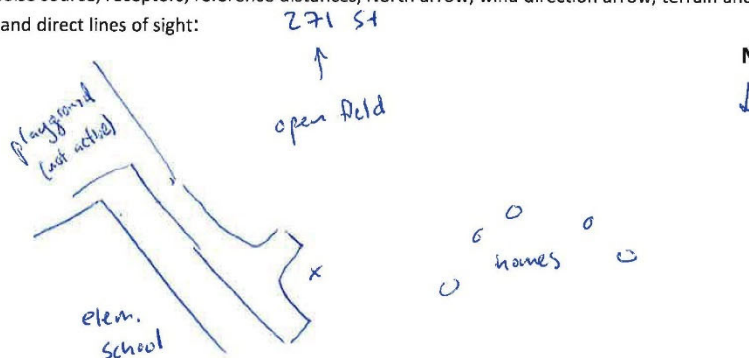
WEIGHTING (circle one)

A

Lin.

Location Description: Endeavor Elementary School

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

3:52 AM PM

Stop Time:

4:06 AM PM

Duration:

15 min

Wind Speed/Direction: 7 mph SE

Percentiles: _____

Temperature: 92°F

Humidity: 34%

Calibration results before: 114.0 dBA and after 114.1 dBA

Traffic Count Roadway: N/A - too distant

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: D File 6

PERSONNEL: BJC

LOCATION/ADDRESS: Endeavor Elem. Sch.

DATE: 6/8/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	3:52	47.8			constant flow of traffic on 271 St.
2	53	46.8			
3	54	49.4			
4	55	51.9			
5	56	51.2			
6	57	50.8			
7	58	49.2			
8	59	47.7			
9	4:00	51.0		just	
10	01	56.1		land dump truck	
11	02	49.9			
12	03	49.3			
13	04	48.1		birds	
14	05	49.8			
15	4:06	52.7		just	
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: E
File 7

Project Description: 10295334; South Veterans Parkway

Noise Source: S Western Ave, 271 St Date: 6/8/21 Personnel: BJC

Buildings

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

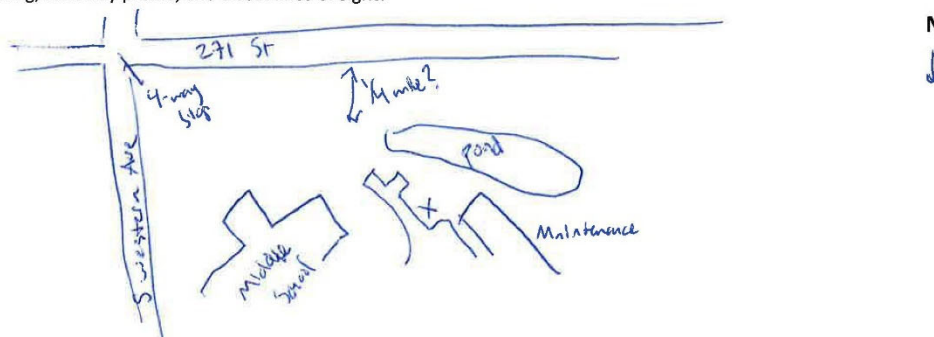
WEIGHTING (circle one)

A

Lin.

Location Description: Harrisburg N Middle School

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

4:21 AM PM

4:35 AM PM

15 min

Wind Speed/Direction: 5-10 mph S

Percentiles: _____

Temperature: 92°F

Humidity: 34%

Calibration results before: 114.1 dBA and after 114.0 dBA

Traffic Count Roadway: N/A - too distant

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: E (File 7)

PERSONNEL: BJC

LOCATION/ADDRESS: Harrison N Middle School

DATE: 6/8/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	4:21	48.1			birds throughout
2	22	45.9			
3	23	47.7			steady flow through 4-way stop
4	24	48.6			
5	25	51.1			
6	26	49.5			
7	27	47.5			
8	28	50.0			
9	29	50.0		small plane	
10	30	48.0			
11	31	53.2			
12	32	47.2			
13	33	47.3			
14	34	48.0			
15	35	46.5			
16					
17					
18					
19					
20					
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22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: F
File 8

Project Description: 10295334; South Veterans Parkway

Noise Source: 271 St
S Western Ave

Date: 6/8/21

Personnel: BJC

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

WEIGHTING (circle one)

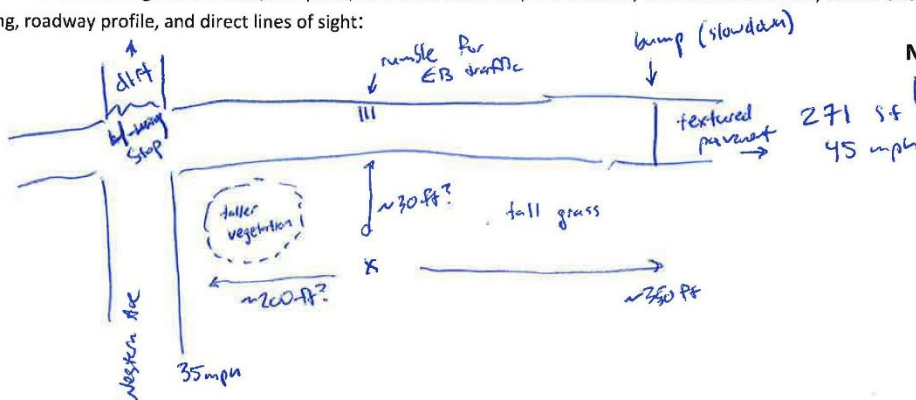
A

Lin.

43° 27.055 N
96° 44.923 W

Location Description: intersection of 271 St & S Western Ave (473 Ave)

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

5:06 AM (PM)

5:20 AM (PM)

15 min

Wind Speed/Direction: 0-6 mph S

Percentiles: _____

Temperature: 93°F

Humidity: 33%

Calibration results before: 114.0 dBA and after 114.1 dBA

Traffic Count Roadway: 271 St, Western Ave

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
<u>EB</u>	<u>139</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WB</u>	<u>102</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>

Western Ave
52 Autos SB
32 Autos NB

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: F (file 8)

PERSONNEL: BJC

LOCATION/ADDRESS: 271st + S Western Ave

DATE: 6/8/21

60

#	1 Minute Period Starting	Meas'd Leq (dBA)	v or X	Other Noise Sources	S Western Ave COMMENTS	
1	5:06	59.2			43	43
2	07	63.0			41	41
3	08	60.8			41	41
4	09	63.0			41	41
5	10	57.4			41	41
6	11	61.4		horn		
7	12	62.6			52	32
8	13	63.1			(all autos)	(all autos)
9	14	60.8				
10	15	58.6		gyrocopter		
11	16	70.0		gyrocopter + 2 HT		
12	17	64.7				
13	18	62.6				
14	19	63.7		gyrocopter		
15	20	61.1				
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

60

WB

TOTAL Leq =

SUBSET Leq =

v = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: G
RW 18'

Project Description: 10295334; South Veterans Parkway

Noise Source: 270th St Date: 6/9/21 Personnel: BJC
birds

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

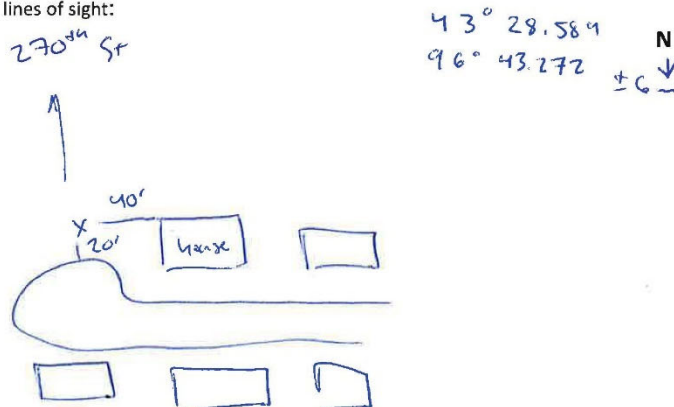
WEIGHTING (circle one)

A

Lin.

Location Description: end of 77th St culdesac

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

6:02 AM (PM)

6:17 AM (PM)

15 min

Wind Speed/Direction: 5-10 mph S

Percentiles: _____

Temperature: 94°

Humidity: 33%

Calibration results before: 114.2 dBA and after 114.1 dBA

Traffic Count Roadway: 270th St

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
EB	47	0	0	0	2
WB	47	0	0	0	2

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: G file 18

PERSONNEL: BJC

LOCATION/ADDRESS: 77th St cul-de-sac

DATE: 6/9/21

M
M

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	0:02	44.7			
2	03	44.0			
3	04	42.4			
4	05	44.8			
5	06	42.9			
6	07	41.8			
7	08	41.7			
8	09	42.3			
9	10	48.4		2 motorcycles	
10	11	45.3			
11	12	40.6			
12	13	41.9			
13	14	43.6			
14	15	42.7			
15	16	42.7			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: M
File 17

Project Description: 10295334; South Veterans Parkway

Noise Source: distant traffic Date: 6/9/21 Personnel: BJC
A/C unit

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

WEIGHTING (circle one)

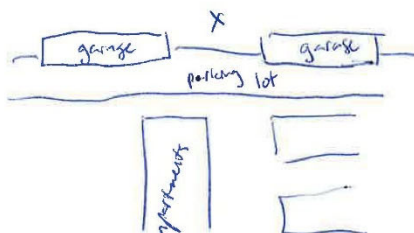
A

Lin.

Location Description: Edgewater Villas apartments

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

43° 28.611 N
96° 43.176 W
±4m
N



Start Time:

5:31 AM (PM)

Stop Time:

5:50 AM (PM)

Duration:

20 min

Wind Speed/Direction: calm

Percentiles: _____

Temperature: 94°F

Humidity: 34%

Calibration results before: 114.1 dBA and after 114.2 dBA

Traffic Count Roadway: N/A - too far / not visible

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: H File 17

PERSONNEL: BJC

LOCATION/ADDRESS: Edgewater Villas apartments

DATE: 6/9/21

2

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	5:31	39.7			
2	32	40.5			
3	33	43.5			
4	34	42.9			
5	35	42.1			
6	36	46.4		car in parking lot	
7	37	42.5			
8	38	47.6		loud accel on road	
9	39	52.0		cars in parking lot	
10	40	43.6			
11	41	44.5		talking on phone in lot / car doors	
12	42	43.6			
13	43	44.9		car in lot	
14	44	45.4		car in lot	
15	45	46.4		small plane	
16	46	42.9			
17	47	42.8			
18	48	44.8		car in lot	
19	49	41.4			
20	50	45.5		2 cars in lot	
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: I
File 9

Project Description: 10295334; South Veterans Parkway

Noise Source: 85th St Date: 6/9/21 Personnel: BJC
(construction)

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

WEIGHTING (circle one)

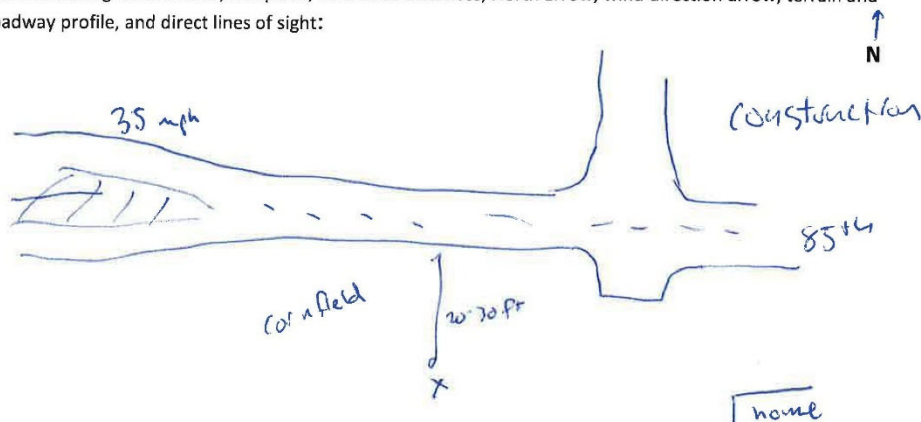
A

Lin.

43° 24.490 N
96° 43.200 W

Location Description: W 85th St

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

8:38 AM PM

8:52 AM PM

15 min

Wind Speed/Direction: 5-7 mph S

Percentiles: _____

Temperature: 79°F

Humidity: 62%

Calibration results before: 114.0 dBA and after 114.0 dBA

Traffic Count Roadway: 85th

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
EB	28	2	0	0	0
WB	40	1	0	0	1

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway
JOB NO.: 10295334

SITE/READING NO.: I
LOCATION/ADDRESS:

PERSONNEL: BJC
DATE: 6/19/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	8:38	55.4		crickets	
2	39	51.3			
3	40	53.0			
4	41	47.3			
5	42	48.7			
6	43	49.5			
7	44	54.9			
8	45	49.6			
9	46	49.0			
10	47	52.2			
11	48	50.5			
12	49	55.0			
13	50	50.2			
14	51	48.5			
15	52	59.0		↓ motorcycle	
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: J

File 16

Project Description: 10295334; South Veterans Parkway

Noise Source: distant traffic Date: 6/9/21 Personnel: BJC

blades

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

WEIGHTING (circle one)

A

Lin.

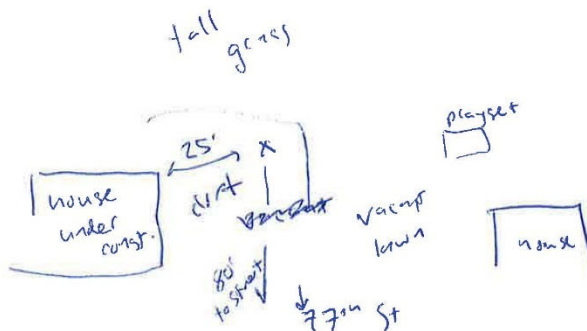
43° 29.76° N

96° 43.035° W

Location Description: under construction house on 77th

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N



Start Time:

Stop Time:

Duration:

5:00 AM **PM**

5:15 AM **PM**

15 min

Wind Speed/Direction: 3-5 mph S

Percentiles: _____

Temperature: 93°F

Humidity: 35%

Calibration results before: 114.1 dBA and after _____ dBA

Traffic Count Roadway: N/A - none visible

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: J

PERSONNEL: BJC

LOCATION/ADDRESS: 77th St

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	5:00	41.1			
2	01	39.4			
3	02	39.8			
4	03	39.1			
5	04	40.2			
6	05	43.9		cars on 77th	
7	06	41.4			
8	07	45.2			
9	08	45.5	✓	dumptruck rear	
10	09	42.1			
11	10	47.5	✓	dumptruck	
12	11	43.1	✓	lawnmower	
13	12	44.4	✓	↓	
14	13	45.6	✓	↓	
15	14	48.3	✓	↓ + yelling	
16	15	47.0	✓	↓ ↓	
17	16	46.3	✓	↓	
18	17	45.2	✓	↓	
19	18	45.9	✓	↓	
20	19	44.3	✓	↓	
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 1K
File 10

Project Description: 10295334; South Veterans Parkway

Noise Source: birds, insects, Date: 6/9/21 Personnel: BJC
distant traffic

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

43° 28.687' N

WEIGHTING (circle one)

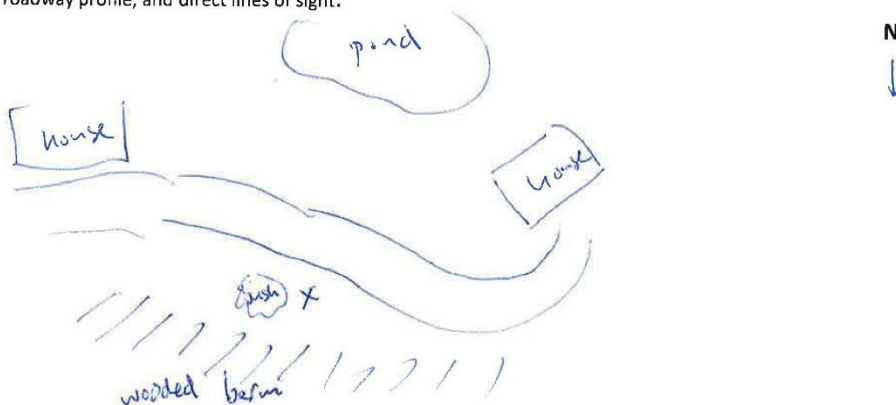
A

Lin.

96° 42.915' W

Location Description: Silver Pond PI

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 9:23 AM Stop Time: 9:38 AM Duration: 15 min

Wind Speed/Direction: 2-5 mph S Percentiles: _____

Temperature: 81°F Humidity: 60%

Calibration results before: 114.0 dBA and after 114.0 dBA

Traffic Count Roadway: N/A - too distant, no sightline

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: K file 10

PERSONNEL: BJC

LOCATION/ADDRESS: Silver Pond Place

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	9:23	41.6			
2	24	42.3			
3	25	43.3			
4	26	43.8			
5	27	43.5			
6	28	43.1			
7	29	43.5			
8	30	43.5			
9	31	43.8			
10	32	45.3		pleasant	
11	33	45.3			
12	34	42.3			
13	35	42.9			
14	36	43.3			
15	37	43.2			
16					
17					
18					
19					
20					
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23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: L
file 12

Project Description: 10295334; South Veterans Parkway

Noise Source: Cliff Ave Date: 6/9/21 Personnel: BJC

birds
doggie daycare

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

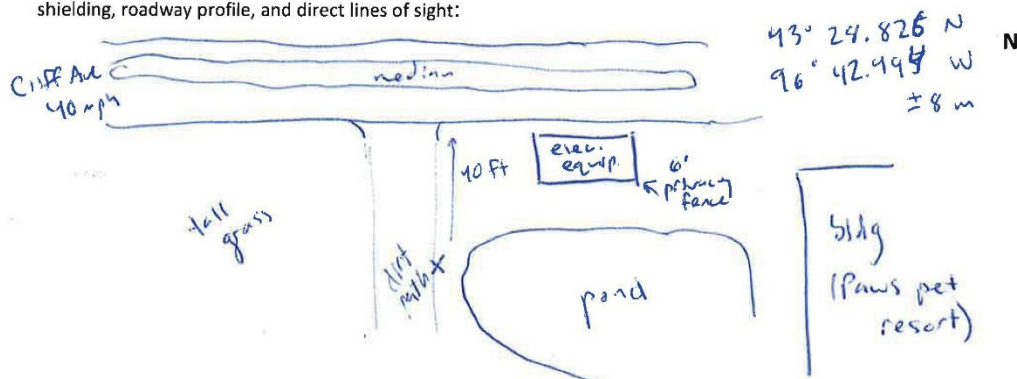
WEIGHTING (circle one)

A

Lin.

Location Description: new Paws Pet Resort

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

10:54 AM PM

Stop Time:

11:13 AM PM

Duration:

20 min

Wind Speed/Direction: 7-11 mph E

Percentiles:

Temperature: 86°F

Humidity: 49%

Calibration results before: 114.1 dBA and after 114.1 dBA

Traffic Count Roadway: Cliff Ave

NB

SB

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
<u>NB</u>	<u>99</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>SB</u>	<u>96</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: L

PERSONNEL: BJC

LOCATION/ADDRESS:

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	10:54	56.2			
2	55	57.2			
3	56	53.4			
4	57	54.3			
5	58	52.8			
6	59	57.5		lawnmower	wind also picked up noise gusts to 14 mph
7	11:00	58.4		↓	
8	01	57.5		↓	
9	02	56.4		↓	
10	03	60.1		↓ train horn	
11	04	56.8			
12	05	57.0			
13	06	54.9			
14	07	54.1			
15	08	57.6		train horn + gusts	
16	09	60.8		↓	
17	10	55.9			
18	11	58.3			
19	12	58.0			
20	11:13	56.2			
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: M
File: 11

Project Description: 10295334; South Veterans Parkway

Noise Source: CLIFF Ave

Date: 6/9/21

Personnel: BJC

51125
A/C noise

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

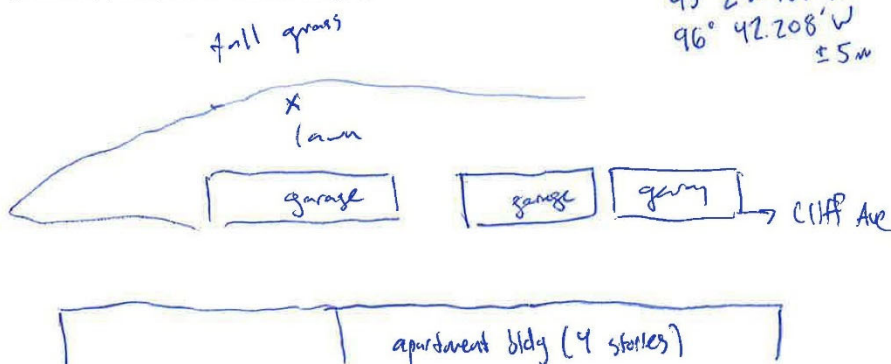
WEIGHTING (circle one)

A

Lin.

Location Description: Spring Creek Luxury Living Apartments

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

10:22 AM PM

10:38 AM PM

15 min

Wind Speed/Direction: 3-5 mph SE

Percentiles:

Temperature: 84°F

Humidity: 52%

Calibration results before: 114.0 dBA and after 114.1 dBA

Traffic Count Roadway: N/A - too distant

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: M (File 11)

PERSONNEL: BJC

LOCATION/ADDRESS: Spring Creek Luxury Living (Apartments)

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	v or X	Other Noise Sources	COMMENTS
1	10:22	43.4			
2	23	42.7			
3	24	44.9			
4	25	42.3			
5	26	42.9			
6	27	43.7			
7	28	43.1			
8	29	44.7			
9	30	43.4			
10	31	44.1			
11	32	43.3			
12	33	43.9			
13	34	43.8			
14	35	43.5			
15	36	46.6		wind picked up	
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

v = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: N
Blue 19

Project Description: 10295334; South Veterans Parkway

Noise Source: birds, SE ave (reverse) Date: 6/10/21

Personnel: BJC

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

WEIGHTING (circle one)

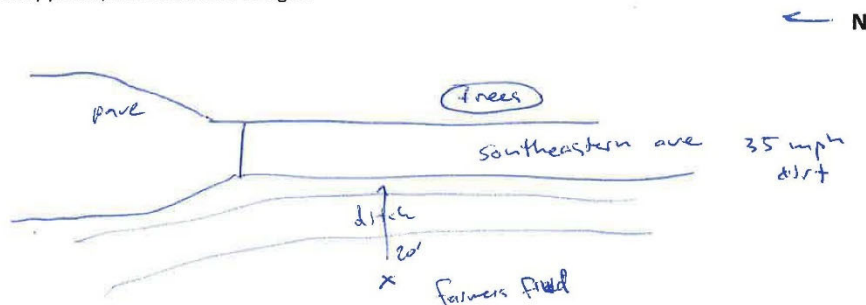
A

Lin.

43° 29.149 N
96° 41.278 W

Location Description: Southeastern ave south of 69th

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

8:34 AM PM

Stop Time:

8:48 AM PM

Duration:

15 min

Wind Speed/Direction: 0-3 mph S

Percentiles:

Temperature: 81°F

Humidity: 58%

Calibration results before: 114.0 dBA and after 114.0 dBA

Traffic Count Roadway: Southeastern ave

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
<u>NB</u>	<u>9</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>SB</u>	<u>6</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: N

PERSONNEL: BJC

LOCATION/ADDRESS: Southeastern ave S of 6th

DATE: 6/10/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	8:34	48.3			
2	35	52.9			
3	36	55.0			
4	37	57.1		small plane	
5	38	53.4		small plane	
6	39	39.7			
7	40	53.6			
8	41	53.7			
9	42	46.7			
10	43	50.2			
11	44	58.1		dump truck @ constr. site	
12	45	48.0			
13	46	53.9		return of dump truck	
14	47	54.8			
15	48	57.5			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: P
File 15

Project Description: 10295334; South Veterans Parkway

Noise Source: substation Date: 6/9/21 Personnel: BJC
birds

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

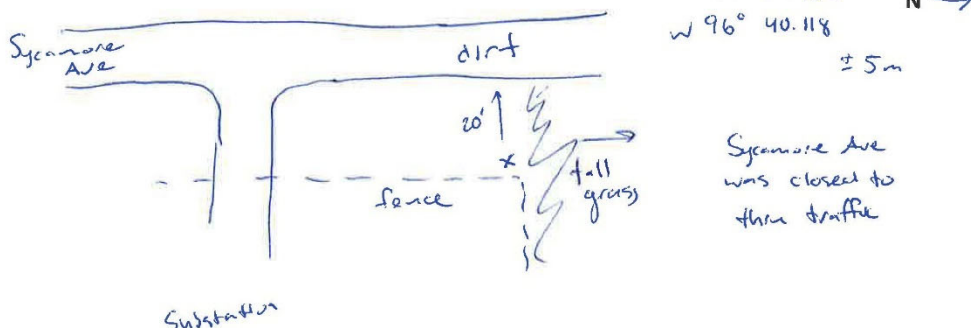
WEIGHTING (circle one)

A

Lin.

Location Description: Sycamore Ave near substation

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

4:22 AM (PM)

4:36 AM (PM)

15 min

Wind Speed/Direction: calm

Percentiles: _____

Temperature: 93°F

Humidity: 34%

Calibration results before: 114.0 dBA and after 114.1 dBA

Traffic Count Roadway: N/A - no roadways nearby

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: P - Pin 15

PERSONNEL: BJC

LOCATION/ADDRESS: Substation on Sycamore Ave

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	4:22	34.2			
2	23	35.5			
3	24	33.9			
4	25	35.1			
5	26	36.0			
6	27	35.7			
7	28	34.5			
8	29	35.7			
9	30	36.1			
10	31	36.6			
11	32	37.8			increasing wind (cloudy)
12	33	38.8			
13	34	38.2			
14	35	36.2			
15	36	35.1			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 9+0
Site 14

Project Description: 10295334; South Veterans Parkway

Noise Source: birds Date: 6/9/21 Personnel: BJC
distant construction

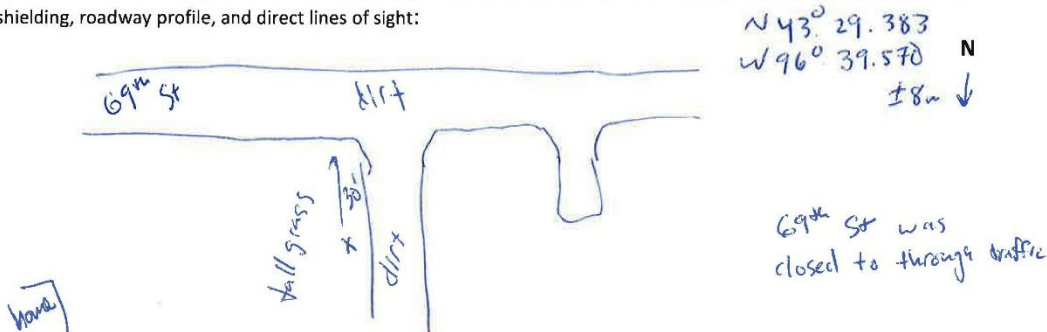
Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

* Site 0 was inaccessible due to construction. It appears to have a similar noise environment to 0

SLM SETTINGS (circle one) FAST SLOW
WEIGHTING (circle one) A Lin.

Location Description: 69th St

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 3:40 AM (PM) Stop Time: 3:54 AM (PM) Duration: 15 min

Wind Speed/Direction: 6 mph S Percentiles: _____

Temperature: 93°F Humidity: 34%

Calibration results before: 114.1 dBA and after 114.0 dBA

Traffic Count Roadway: N/A - too distant, no sight line

Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: Q file 14

PERSONNEL: BJC

LOCATION/ADDRESS: 69th St

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	v or X	Other Noise Sources	COMMENTS
1	3:40	44.0			
2	41	45.0			
3	42	44.1			
4	43	45.6			
5	44	40.8			
6	45	42.4			
7	46	39.9			
8	47	38.4			
9	48	41.4			
10	49	34.8			
11	50	45.1		1 car on 69th	
12	51	39.9		return of car	
13	52	47.5		return of car	
14	53	40.1			
15	54	48.0		truck	
16	5			truck	
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

v = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: R
File 21

Project Description: 10295334; South Veterans Parkway

Noise Source: SD 11 Date: 6/10/21 Personnel: BJC

yardwork

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

43° 29.013 N

WEIGHTING (circle one)

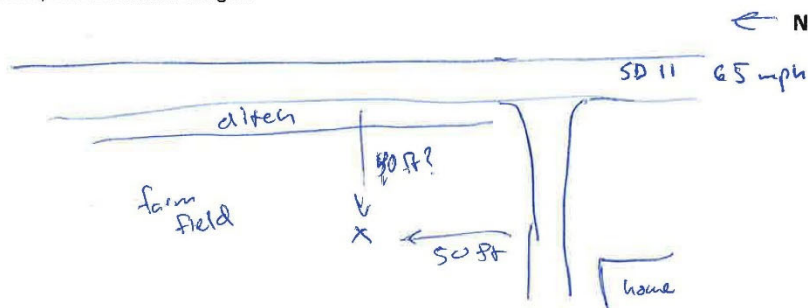
A

Lin.

90° 38.966 V ± 6 N

Location Description: SD 11

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:

Stop Time:

Duration:

9:57 **AM** PM

10:11 **AM** PM

15 min

Wind Speed/Direction: calm

Percentiles: _____

Temperature: 87°F

Humidity: 50%

Calibration results before: 114.1 dBA and after 114.1 dBA

Traffic Count Roadway: SD 11

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	34	2	1	0	1
SB	41	2	4	0	1

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: R - PK 21

PERSONNEL: BJC

LOCATION/ADDRESS: SD11

DATE: 6/10/21

B
2

M
C
2

#	1 Minute Period Starting	Meas'd Leq (dBA)	✓ or X	Other Noise Sources	COMMENTS
1	9:57	60.3			
2	58	58.7			
3	59	59.3			
4	10:00	55.3			
5	01	54.4			
6	02	63.6		2 motorcycles	
7	03	56.0			
8	04	57.5			
9	05	58.7			
10	06	55.1			
11	07	60.2			
12	08	53.0			
13	09	61.4			
14	10	57.2			
15	11	56.7			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

✓ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: S
File 20

Project Description: 10295334; South Veterans Parkway

Noise Source: SD 11 Date: 6/10/21 Personnel: BJC
birds

Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one)

FAST

SLOW

WEIGHTING (circle one)

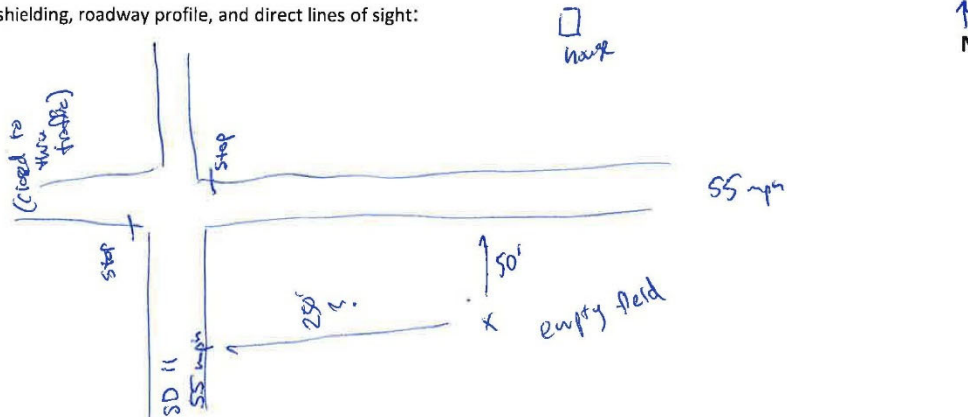
A

Lin.

43° 29.343' N
96° 38.844' W

Location Description: across from

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 9:25 AM Stop Time: 9:39 AM Duration: 15 min

Wind Speed/Direction: 3-6 mph S Percentiles: _____

Temperature: 85°F Humidity: 54%

Calibration results before: 114.2 dBA and after 114.1 dBA

Traffic Count Roadway: SD 11

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
<u>NB</u>	<u>45</u>	<u>3</u>	<u>6</u>	<u>0</u>	<u>0</u>
<u>SB</u>	<u>50</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>1</u>

69th St

EB 10 autos

WB 15 autos + 1 MT

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: 5 Dec 20

PERSONNEL: BJC

LOCATION/ADDRESS: across from 69th St

DATE: 6/10/21

Σ

#	1 Minute Period Starting	Meas'd Leq (dBA)	v or X	Other Noise Sources	COMMENTS
1	9:25	54.5			EB 69th WB
2	26	52.5			EB 69th WB
3	27	55.8			EB 69th WB
4	28	56.7			EB 69th WB
5	29	55.9			EB 69th WB
6	30	53.9			EB 69th WB
7	31	49.8			EB 69th WB
8	32	51.0			EB 69th WB
9	33	52.4			EB 69th WB
10	34	54.4			EB 69th WB
11	35	56.7			EB 69th WB
12	36	55.7			EB 69th WB
13	37	53.0			EB 69th WB
14	38	51.8			EB 69th WB
15	39	51.4			EB 69th WB
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

v = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: T
13

Project Description: 10295334; South Veterans Parkway

Noise Source: 57th St & SB 11 Date: 6/9/21 Personnel: BJC

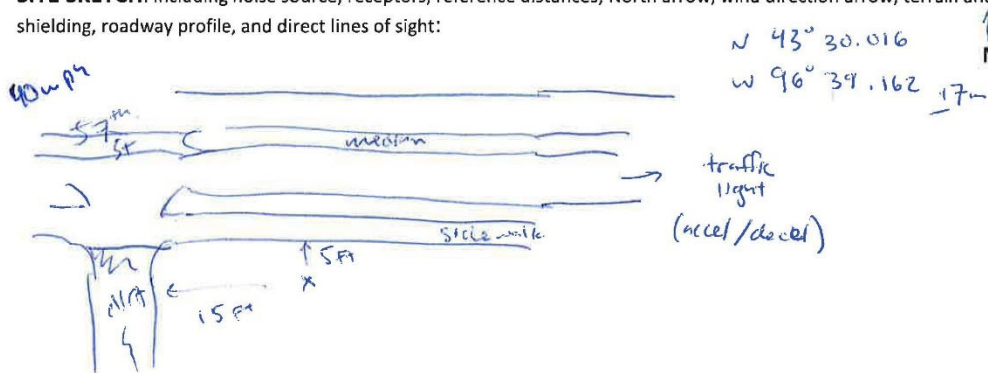
Equipment	Type	Serial #
Sound Level Meter	LD 824	0764
Microphone/Preamp	LD 2541/LD PRM902	1207/4185
Calibrator	LD Cal 200	4467

SLM SETTINGS (circle one) **FAST** SLOW

WEIGHTING (circle one) **A** Lin.

Location Description: E 57th St

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 3:11 AM (PM) Stop Time: 3:25 AM (PM) Duration: 15 min

Wind Speed/Direction: calm Percentiles: _____

Temperature: 92°F Humidity: 35%

Calibration results before: 114.1 dBA and after 114.1 dBA

Traffic Count Roadway: 57th St

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
EB	78	3	8	0	0
WB	88	1	6	0	1

*Note roadway direction in table



SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: South Veterans Parkway

JOB NO.: 10295334

SITE/READING NO.: T File 13

PERSONNEL: BJC

LOCATION/ADDRESS: 57th St

DATE: 6/9/21

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	3:11	65.5			
2	12	67.0			
3	13	63.9			
4	14	72.3		2 very loud HT	
5	15	69.6			
6	16	68.9			
7	17	62.9			
8	18	66.1			
9	19	67.8			
10	20	67.8			
11	21	70.2			
12	22	62.5			
13	23	68.3			
14	24	63.5			
15	25	61.3			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq =

SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<



Appendix B: Traffic Volumes



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Table B-1. Existing Traffic Input Data

ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
EB 271st Street (W of 472nd) out	45	185	250	96.5%	0.4%	3.1%	241	0	1	8
EB 271st Street (W of 472nd) in	45	185	250	96.5%	0.4%	3.1%	241	0	1	8
EB 271st Street (W of 472nd)	55	369	500	96.5%	0.4%	3.1%	483	0	2	16
WB 271st Street (W of 472nd)	55	514	533	98.1%	0.1%	1.8%	523	0	1	10
WB 271st Street (W of 472nd) out	45	257	267	98.1%	0.1%	1.8%	261	0	0	5
WB 271st Street (W of 472nd) in	45	257	267	98.1%	0.1%	1.8%	261	0	0	5
EB 271st Street (E of 472nd)	55	259	280	96.5%	0.4%	3.1%	270	0	1	9
WB 271st Street (E of 472nd)	55	345	230	98.1%	0.1%	1.8%	338	0	0	6
NB 471st Street (S of 271st)	45	17	17	80.0%	1.3%	18.7%	14	0	0	3
SB 471st Street (S of 271st)	45	26	10	95.6%	0.0%	4.4%	25	0	0	1
NB 471st Street (N of 271st)	45	88	39	80.0%	1.3%	18.7%	70	0	1	16
SB 471st Street (N of 271st)	45	56	61	95.6%	0.0%	4.4%	58	0	0	3
NB 472nd Street (S of 271st)	55	225	270	98.5%	0.3%	1.2%	266	0	1	3
SB 472nd Street (S of 271st)	55	165	190	98.4%	0.3%	1.3%	187	0	1	2
NB 472nd Street (N of 271st)	55	290	230	98.5%	0.3%	1.2%	286	0	1	3
SB 472nd Street (N of 271st)	55	305	325	98.4%	0.3%	1.3%	320	0	1	4
NB 472nd Street (N of 271st) out	45	145	115	98.5%	0.3%	1.2%	143	0	0	2
NB 472nd Street (N of 271st) in	45	145	115	98.5%	0.3%	1.2%	143	0	0	2
SB 472nd Street (N of 271st) out	45	153	163	98.4%	0.3%	1.3%	160	0	0	2
SB 472nd Street (N of 271st) in	45	153	163	98.4%	0.3%	1.3%	160	0	0	2
EB 271st (W of Western Ave)	55	259	280	94.9%	1.0%	4.2%	265	0	3	12
WB 271st (W of Western Ave)	55	345	230	96.0%	0.6%	3.4%	331	0	2	12
EB 271st (E of Western Ave)	55	201	477	94.9%	1.0%	4.2%	452	0	5	20
WB 271st (E of Western Ave)	55	360	226	96.0%	0.6%	3.4%	346	0	2	12
NB Western Ave (S of 95th Street)	35	225	192	97.8%	0.0%	2.2%	220	0	0	5
SB Western Ave (S of 95th Street)	35	200	155	97.6%	0.3%	2.1%	195	0	1	4
NB Western Ave (N of 95th Street)	35	382	303	97.8%	0.0%	2.2%	374	0	0	8
SB Western Ave (N of 95th Street)	35	344	345	97.6%	0.3%	2.1%	337	0	1	7
EB (85th Street) out	35	178	238	98.5%	1.5%	0.0%	234	0	4	0
EB (85th Street) in	35	178	238	98.5%	1.5%	0.0%	234	0	4	0
EB (85th Street)	35	356	475	98.5%	1.5%	0.0%	468	0	7	0
WB (85th Street)	35	373	485	98.5%	1.5%	0.0%	478	0	7	0
WB (85th Street) out	35	187	243	98.5%	1.5%	0.0%	239	0	4	0
WB (85th Street) in	35	187	243	98.5%	1.5%	0.0%	239	0	4	0
NB Cliff Ave out	55	305	241	98.5%	1.5%	0.0%	300	0	5	0
NB Cliff Ave in	55	305	241	98.5%	1.5%	0.0%	300	0	5	0
SB Cliff Ave out	55	149	375	98.5%	1.5%	0.0%	369	0	6	0
SB Cliff Ave in	55	149	375	98.5%	1.5%	0.0%	369	0	6	0



ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
NB Southeastern Avenue	55	110	83	96.5%	3.5%	0.0%	106	0	4	0
SB Southeastern Avenue	55	48	96	96.5%	3.5%	0.0%	93	0	3	0
NB 478th Ave (S of 69th St)	55	394	347	98.5%	1.5%	0.0%	388	0	6	0
SB 478th Ave (S of 69th St)	55	188	528	98.5%	1.5%	0.0%	520	0	8	0
NB 478th Ave (N of 69th St)	55	467	419	98.5%	1.5%	0.0%	460	0	7	0
SB 478th Ave (N of 69th St)	55	219	596	98.5%	1.5%	0.0%	587	0	9	0
EB 268th St (W of 11) out	45	140	270	67.1%	2.4%	0.0%	263	0	6	0
EB 268th St (W of 11) in	45	140	270	67.1%	2.4%	0.0%	263	0	6	0
WB 268th St (W of 11) out	45	297	252	67.1%	2.4%	0.0%	289	0	7	0
WB 268th St (W of 11) in	45	297	252	67.1%	2.4%	0.0%	289	0	7	0



Table B-2. Build Traffic Input Data

ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
EB 271st Street (W of 472nd)	45	45	45	96.5%	0.4%	3.1%	43	0	0	1
WB 271st Street (W of 472nd)	45	65	45	98.1%	0.1%	1.8%	64	0	0	1
EB 271st Street (E of 472nd)	55	330	330	96.5%	0.4%	3.1%	318	0	1	10
WB 271st Street (E of 472nd)	55	410	275	98.1%	0.1%	1.8%	402	0	0	7
NB 471st Street (S of 271st)	45	315	300	80.0%	1.3%	18.7%	252	0	4	59
SB 471st Street (S of 271st)	45	190	245	95.6%	0.0%	4.4%	234	0	0	11
NB 471st Street (N of 271st)	45	770	570	80.0%	1.3%	18.7%	616	0	10	144
SB 471st Street (N of 271st)	45	420	745	95.6%	0.0%	4.4%	712	0	0	33
NB 472nd Street (S of 271st)	55	400	395	98.5%	0.3%	1.2%	394	0	1	5
SB 472nd Street (S of 271st)	55	380	545	98.4%	0.3%	1.3%	536	0	2	7
NB 472nd Street (N of 271st)	55	540	395	98.5%	0.3%	1.2%	532	0	2	6
SB 472nd Street (N of 271st)	55	460	600	98.4%	0.3%	1.3%	590	0	2	8
NB 472nd Street (N of 271st) out	45	270	198	98.5%	0.3%	1.2%	266	0	1	3
NB 472nd Street (N of 271st) in	45	270	198	98.5%	0.3%	1.2%	266	0	1	3
SB 472nd Street (N of 271st) out	45	230	300	98.4%	0.3%	1.3%	295	0	1	4
SB 472nd Street (N of 271st) in	45	230	300	98.4%	0.3%	1.3%	295	0	1	4
EB 271st (W of Western Ave)	55	330	330	94.9%	1.0%	4.2%	313	0	3	14
WB 271st (W of Western Ave)	55	410	275	96.0%	0.6%	3.4%	394	0	2	14
EB 271st (E of Western Ave)	55	330	330	94.9%	1.0%	4.2%	313	0	3	14
WB 271st (E of Western Ave)	55	410	275	96.0%	0.6%	3.4%	394	0	2	14
NB Western Ave (S of 95th Street)	35	550	420	97.8%	0.0%	2.2%	538	0	0	12
SB Western Ave (S of 95th Street)	35	460	555	97.6%	0.3%	2.1%	542	0	2	12
NB Western Ave (N of 95th Street)	35	550	420	97.8%	0.0%	2.2%	538	0	0	12
SB Western Ave (N of 95th Street)	35	460	555	97.6%	0.3%	2.1%	542	0	2	12
EB (85th Street) out	35	300	490	98.5%	1.5%	0.0%	483	0	7	0
EB (85th Street) in	35	300	490	98.5%	1.5%	0.0%	483	0	7	0
EB (85th Street)	35	600	980	98.5%	1.5%	0.0%	965	0	15	0
WB (85th Street)	35	1120	945	98.5%	1.5%	0.0%	1103	0	17	0
WB (85th Street) out	35	560	473	98.5%	1.5%	0.0%	552	0	8	0
WB (85th Street) in	35	560	473	98.5%	1.5%	0.0%	552	0	8	0
NB Cliff Ave out	55	483	400	98.5%	1.5%	0.0%	476	0	7	0
NB Cliff Ave in	55	483	400	98.5%	1.5%	0.0%	476	0	7	0
SB Cliff Ave out	55	563	643	98.5%	1.5%	0.0%	633	0	10	0



ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
SB Cliff Ave in	55	563	643	98.5%	1.5%	0.0%	633	0	10	0
NB Southeastern Avenue	55	1035	850	96.5%	3.5%	0.0%	999	0	36	0
SB Southeastern Avenue	55	1025	1010	96.5%	3.5%	0.0%	989	0	36	0
NB Sycamore (S of 69th Street)	55	275	270	96.5%	3.5%	0.0%	265	0	10	0
SB Sycamore (S of 69th Street)	55	360	265	96.5%	3.5%	0.0%	347	0	13	0
NB Sycamore (N of 69th Street)	55	725	750	96.5%	3.5%	0.0%	724	0	26	0
SB Sycamore (N of 69th Street)	55	525	415	96.5%	3.5%	0.0%	507	0	18	0
EB 69th Street (W of 478th Ave)	35	340	325	96.5%	3.5%	0.0%	328	0	12	0
WB 69th Street (W of 478th Ave)	35	465	475	96.5%	3.5%	0.0%	458	0	17	0
EB 69th Street (E of 478th Ave)	55	470	435	96.5%	3.5%	0.0%	454	0	16	0
WB 69th Street (E of 478th Ave)	55	255	275	96.5%	3.5%	0.0%	265	0	10	0
NB 478th Ave (S of 69th St)	55	500	495	98.5%	1.5%	0.0%	493	0	8	0
SB 478th Ave (S of 69th St)	55	405	655	98.5%	1.5%	0.0%	645	0	10	0
NB 478th Ave (N of 69th St)	55	610	615	98.5%	1.5%	0.0%	606	0	9	0
SB 478th Ave (N of 69th St)	55	730	935	98.5%	1.5%	0.0%	921	0	14	0
EB SVetPkw (I29 to Albers Ave) mid	45	580	630	93.0%	7.0%	0.0%	586	0	44	0
EB SVetPkw (I29 to Albers Ave) in	45	580	630	93.0%	7.0%	0.0%	586	0	44	0
WB SVetPkw (I29 to Albers Ave) mid	45	575	468	93.0%	7.0%	0.0%	535	0	40	0
WB SVetPkw (I29 to Albers Ave) in	45	575	468	93.0%	7.0%	0.0%	535	0	40	0
EB SVetPkw (Albers to 471st) mid	45	562	633	93.0%	7.0%	0.0%	589	0	44	0
EB SVetPkw (Albers to 471st) in	45	562	633	93.0%	7.0%	0.0%	589	0	44	0
WB SVetPkw (Albers to 471st) mid	45	582	545	93.0%	7.0%	0.0%	541	0	41	0
WB SVetPkw (Albers to 471st) in	45	582	545	93.0%	7.0%	0.0%	541	0	41	0
EB SVetPkw (471st to 472nd) mid	55	543	653	93.0%	7.0%	0.0%	608	0	46	0
EB SVetPkw (471st to 472nd) in	55	543	653	93.0%	7.0%	0.0%	608	0	46	0
WB SVetPkw (471st to 472nd) mid	55	638	488	93.0%	7.0%	0.0%	594	0	45	0



ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
WB SVetPkwy (471st to 472nd) in	55	638	488	93.0%	7.0%	0.0%	594	0	45	0
EB SVetPkwy (472nd to 473rd) mid	55	563	650	93.0%	7.0%	0.0%	605	0	46	0
EB SVetPkwy (472nd to 473rd) in	55	563	650	93.0%	7.0%	0.0%	605	0	46	0
WB SVetPkwy (472nd to 473rd) mid	55	673	478	93.0%	7.0%	0.0%	626	0	47	0
WB SVetPkwy (472nd to 473rd) in	55	673	478	93.0%	7.0%	0.0%	626	0	47	0
EB SVetPkwy (473rd to 474th) mid	55	588	667	93.0%	7.0%	0.0%	620	0	47	0
EB SVetPkwy (473rd to 474th) in	55	588	667	93.0%	7.0%	0.0%	620	0	47	0
WB SVetPkwy (473rd to 474th) mid	55	697	480	93.0%	7.0%	0.0%	648	0	49	0
WB SVetPkwy (473rd to 474th) in	55	697	480	93.0%	7.0%	0.0%	648	0	49	0
EB SVetPkwy (474th to 475th) mid	55	405	522	93.0%	7.0%	0.0%	485	0	37	0
EB SVetPkwy (474th to 475th) in	55	405	522	93.0%	7.0%	0.0%	485	0	37	0
WB SVetPkwy (474th to 475th) mid	55	647	412	93.0%	7.0%	0.0%	601	0	45	0
WB SVetPkwy (474th to 475th) in	55	647	412	93.0%	7.0%	0.0%	601	0	45	0
EB SVetPkwy (475th to 476th) mid	55	293	412	93.0%	7.0%	0.0%	383	0	29	0
EB SVetPkwy (475th to 476th) in	55	293	412	93.0%	7.0%	0.0%	383	0	29	0
WB SVetPkwy (475th to 476th) mid	55	563	297	93.0%	7.0%	0.0%	524	0	39	0
WB SVetPkwy (475th to 476th) in	55	563	297	93.0%	7.0%	0.0%	524	0	39	0
EB SVetPkwy (476th to 477th) mid	55	258	333	93.0%	7.0%	0.0%	310	0	23	0
EB SVetPkwy (476th to 477th) in	55	258	333	93.0%	7.0%	0.0%	310	0	23	0
WB SVetPkwy (476th to 477th) mid	55	415	222	93.0%	7.0%	0.0%	386	0	29	0
WB SVetPkwy (476th to 477th) in	55	415	222	93.0%	7.0%	0.0%	386	0	29	0
EB SVetPkwy (477th to 69th) mid	55	288	350	93.0%	7.0%	0.0%	326	0	25	0
EB SVetPkwy (477th to 69th) in	55	288	350	93.0%	7.0%	0.0%	326	0	25	0
WB SVetPkwy (477th to 69th) mid	55	357	213	93.0%	7.0%	0.0%	332	0	25	0



ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
WB SVetPkw (477th to 69th) in	55	357	213	93.0%	7.0%	0.0%	332	0	25	0
EB SVetPkw (69th to 57th off R) mid	55	412	500	93.0%	7.0%	0.0%	465	0	35	0
EB SVetPkw (69th to 57th off R) in	55	412	500	93.0%	7.0%	0.0%	465	0	35	0
EB SVetPkw (btn 57th ramps) mid	55	412	500	93.0%	7.0%	0.0%	465	0	35	0
EB SVetPkw (btn 57th ramps) in	55	412	500	93.0%	7.0%	0.0%	465	0	35	0
EB SVetPkw (N of 57th ramps) mid	55	487	555	93.0%	7.0%	0.0%	516	0	39	0
EB SVetPkw (N of 57th ramps) in	55	487	555	93.0%	7.0%	0.0%	516	0	39	0
WB SVetPkw (N of 57th ramps) mid	55	587	598	93.0%	7.0%	0.0%	556	0	42	0
WB SVetPkw (N of 57th ramps) in	55	587	598	93.0%	7.0%	0.0%	556	0	42	0
WB SVetPkw (btn 57th ramps) mid	55	587	598	93.0%	7.0%	0.0%	556	0	42	0
WB SVetPkw (btn 57th ramps) in	55	587	598	93.0%	7.0%	0.0%	556	0	42	0
WB SVetPkw (69th to 57th off R) mid	55	560	520	93.0%	7.0%	0.0%	521	0	39	0
WB SVetPkw (69th to 57th off R) in	55	560	520	93.0%	7.0%	0.0%	521	0	39	0
EB SVetPkw (off Ramp to 57th)	45	450	535	96.5%	3.5%	0.0%	516	0	19	0
EB SVetPkw (off Ramp to 57th LT)	45	215	250	96.5%	3.5%	0.0%	241	0	9	0
EB SVetPkw (off Ramp to 57th RT)	45	235	285	96.5%	3.5%	0.0%	275	0	10	0
EB SVetPkw (on Ramp from 57th LT)	45	320	450	96.5%	3.5%	0.0%	434	0	16	0
EB SVetPkw (on Ramp from 57th RT)	45	355	250	96.5%	3.5%	0.0%	343	0	12	0
EB SVetPkw (on Ramp from 57th)	45	675	700	96.5%	3.5%	0.0%	676	0	25	0
WB SVetPkw (off Ramp to 57th)	45	705	730	96.5%	3.5%	0.0%	704	0	26	0
WB SVetPkw (off Ramp to 57th LT)	45	280	280	96.5%	3.5%	0.0%	270	0	10	0
WB SVetPkw (off Ramp to 57th RT)	45	425	450	96.5%	3.5%	0.0%	434	0	16	0
WB SVetPkw (on Ramp from 57th LT)	45	380	300	96.5%	3.5%	0.0%	367	0	13	0
WB SVetPkw (on Ramp from 57th RT)	45	245	195	96.5%	3.5%	0.0%	236	0	9	0



ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
WB SVetPkw (on Ramp from 57th)	45	625	495	96.5%	3.5%	0.0%	603	0	22	0
EB 57th (W of SVetPkw) out	45	228	308	96.5%	3.5%	0.0%	297	0	11	0
EB 57th (W of SVetPkw) in	45	228	308	96.5%	3.5%	0.0%	297	0	11	0
EB 57th (W of SVetPkw) LT out	45	160	225	96.5%	3.5%	0.0%	217	0	8	0
EB 57th (W of SVetPkw) LT in	45	160	225	96.5%	3.5%	0.0%	217	0	8	0
EB 57th (E of SVetPkw) out	45	363	493	96.5%	3.5%	0.0%	475	0	17	0
EB 57th (E of SVetPkw) in	45	363	493	96.5%	3.5%	0.0%	475	0	17	0
WB 57th (E of SVetPkw) out	45	315	250	96.5%	3.5%	0.0%	304	0	11	0
WB 57th (E of SVetPkw) in	45	315	250	96.5%	3.5%	0.0%	304	0	11	0
WB 57th (E of SVetPkw) LT out	45	190	150	96.5%	3.5%	0.0%	183	0	7	0
WB 57th (E of SVetPkw) LT in	45	190	150	96.5%	3.5%	0.0%	183	0	7	0
WB 57th (W of SVetPkw) out	45	458	475	96.5%	3.5%	0.0%	458	0	17	0
WB 57th (W of SVetPkw) in	45	458	475	96.5%	3.5%	0.0%	458	0	17	0
EB 69th (W of SVetPkw) out	55	173	163	96.5%	3.5%	0.0%	166	0	6	0
EB 69th (W of SVetPkw) in	55	173	163	96.5%	3.5%	0.0%	166	0	6	0
EB 69th (E of SVetPkw) out	55	365	468	96.5%	3.5%	0.0%	451	0	16	0
EB 69th (E of SVetPkw) in	55	365	468	96.5%	3.5%	0.0%	451	0	16	0
WB 69th (E of SVetPkw) out	55	305	308	96.5%	3.5%	0.0%	297	0	11	0
WB 69th (E of SVetPkw) in	55	305	308	96.5%	3.5%	0.0%	297	0	11	0
WB 69th (W of SVetPkw) out	55	233	238	96.5%	3.5%	0.0%	229	0	8	0
WB 69th (W of SVetPkw) in	55	233	238	96.5%	3.5%	0.0%	229	0	8	0
EB 69th (LT to EB SVetPkw) out	--	--	--	--	--	--	--	--	--	--
WB 69th (LT to WB SVetPkw) out	--	--	--	--	--	--	--	--	--	--
EB SVetPkw (I29 to Albers Ave) out	45	580	630	93.0%	7.0%	0.0%	586	0	44	0
WB SVetPkw (I29 to Albers Ave) out	45	575	468	93.0%	7.0%	0.0%	535	0	40	0
EB SVetPkw (Albers to 471st) out	45	562	633	93.0%	7.0%	0.0%	589	0	44	0
WB SVetPkw (Albers to 471st) out	45	582	545	93.0%	7.0%	0.0%	541	0	41	0
EB SVetPkw (471st to 472nd) out	55	543	653	93.0%	7.0%	0.0%	608	0	46	0
WB SVetPkw (471st to 472nd) out	55	638	488	93.0%	7.0%	0.0%	594	0	45	0
EB SVetPkw (472nd to 473rd) out	55	563	650	93.0%	7.0%	0.0%	605	0	46	0



ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	HT	BUSES	AUTOS	MT	HT	BUSES
WB SVetPkw (472nd to 473rd) out	55	673	478	93.0%	7.0%	0.0%	626	0	47	0
EB SVetPkw (473rd to 474th) out	55	588	667	93.0%	7.0%	0.0%	620	0	47	0
WB SVetPkw (473rd to 474th) out	55	697	480	93.0%	7.0%	0.0%	648	0	49	0
EB SVetPkw (474th to 475th) out	55	405	522	93.0%	7.0%	0.0%	485	0	37	0
WB SVetPkw (474th to 475th) out	55	647	412	93.0%	7.0%	0.0%	601	0	45	0
EB SVetPkw (475th to 476th) out	55	293	412	93.0%	7.0%	0.0%	383	0	29	0
WB SVetPkw (475th to 476th) out	55	563	297	93.0%	7.0%	0.0%	524	0	39	0
EB SVetPkw (476th to 477th) out	55	258	333	93.0%	7.0%	0.0%	310	0	23	0
WB SVetPkw (476th to 477th) out	55	415	222	93.0%	7.0%	0.0%	386	0	29	0
EB SVetPkw (477th to 69th) out	55	288	350	93.0%	7.0%	0.0%	326	0	25	0
WB SVetPkw (477th to 69th) out	55	357	213	93.0%	7.0%	0.0%	332	0	25	0
EB SVetPkw (69th to 57th off R) out	55	412	500	93.0%	7.0%	0.0%	465	0	35	0
EB SVetPkw (btn 57th ramps) out	55	412	500	93.0%	7.0%	0.0%	465	0	35	0
EB SVetPkw (N of 57th ramps) out	55	487	555	93.0%	7.0%	0.0%	516	0	39	0
WB SVetPkw (N of 57th ramps) out	55	587	598	93.0%	7.0%	0.0%	556	0	42	0
WB SVetPkw (btn 57th ramps) out	55	587	598	93.0%	7.0%	0.0%	556	0	42	0
WB SVetPkw (69th to 57th off R) out	55	560	520	93.0%	7.0%	0.0%	521	0	39	0



Appendix C: TNM Noise Modeling Results



TNM files, which contain model inputs and outputs, were submitted electronically to SDDOT.



Addendum to South Veterans Parkway Noise Study Technical Report

SUMMARY OF RESULTS

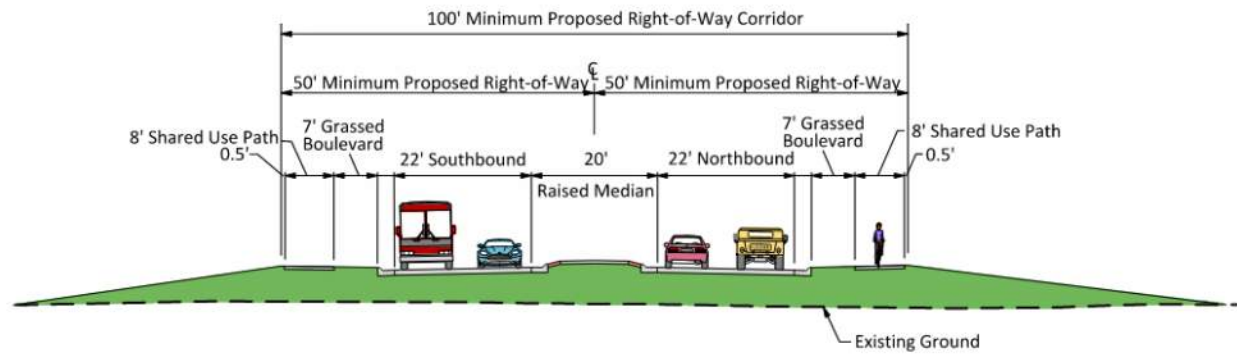
Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the nine arterial project noise study areas.

INTRODUCTION

Nine intersecting City of Sioux Falls arterials at one-mile spacing have been identified as reasonably foreseeable projects within the Supplemental EA Study Area that have been determined to need improvements concurrent with South Veterans Parkway. These arterial projects include Tallgrass Avenue (08DA), Louise Avenue (08DC), Western Avenue (08DD), Minnesota Avenue (08DE), Cliff Avenue (08DF), Southeastern Avenue (08DG), Sycamore Avenue (08DH), 69th Street (08DJ), and 57th Street (08DK).

The intersecting arterials would consist of extending urbanized roadways through South Veterans Parkway and constructing the intersection configuration necessary to accommodate projected traffic. Federal funding is being used for completing these arterial roadways which are also listed in the current budgetary planning documents for the City of Sioux Falls. The Study Area for the Supplemental EA has been modified to encapsulate the area along each of the arterials to the next major intersection in order to evaluate indirect and cumulative impacts. Due to the change in scope to the Supplemental EA, an addendum to the noise report has been completed to inventory noise receptors, evaluate potential noise impacts to receptors that are adjacent to the arterial improvements being made as part of the project, and to assess the feasibility and reasonability of mitigation strategies for impacted receptors if necessary.

Intersecting arterial road segments would be comprised of a four-lane urbanized road section with two lanes in each direction with a raised median. Key improvements include surfacing, grading, installation of public and private utilities, streetscaping, traffic signal / IT conduit, street lighting, pavement markings, permanent street signs, topsoil and seeding and landscaping. Intersections with South Veterans Parkway would include additional lanes for left and right turning movements.



Typical sections for intersecting City arterial segments^[1]

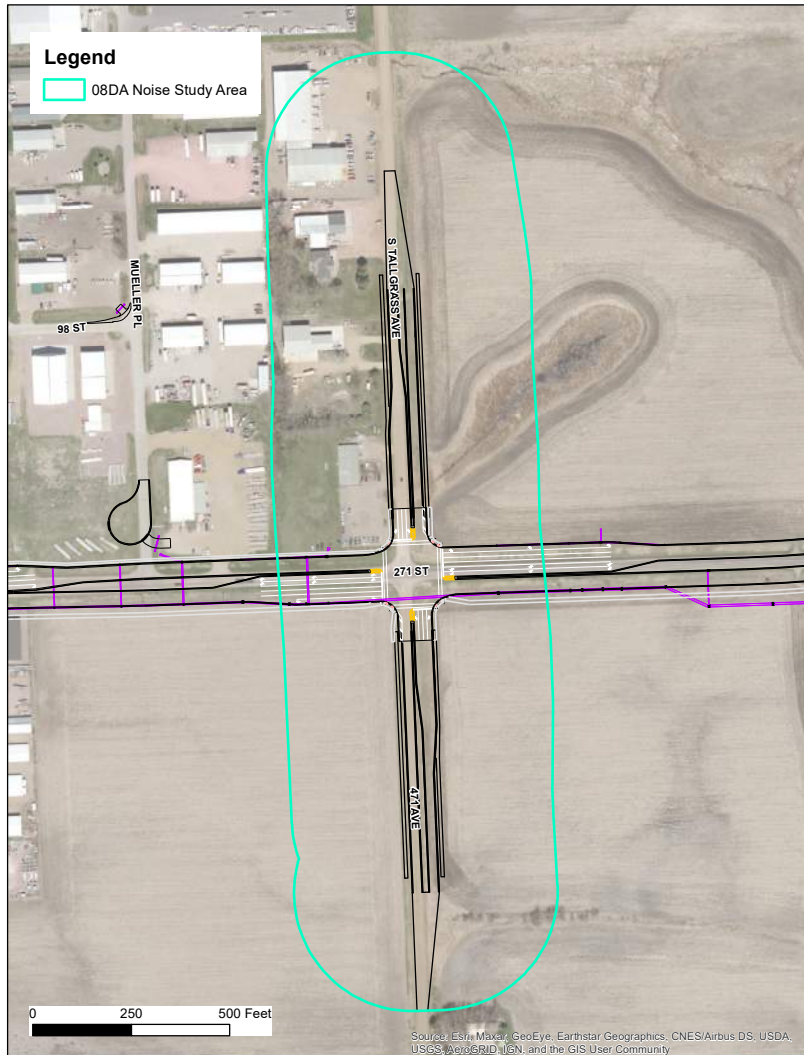
¹Tallgrass Ave, Western Ave Cliff Ave, and 69th St will have dedicated right and left turn lanes onto South Veterans Parkway and two through lanes in each direction (6 total lanes); Sycamore Ave will have a dedicated left turn lane, a combined through / right turn lane onto South Veterans Parkway, and a combined a through lane in each direction (5 total lanes); Louise Ave, Minnesota Ave, Southeastern Ave, and 57th St will have two dedicated left turn lanes and a dedicated right turn lane onto South Veterans Parkway as well as two through lanes in each direction (7 total lanes).

[1] Tallgrass Ave, Western Ave Cliff Ave, and 69th St will have dedicated right and left turn lanes onto South Veterans Parkway and two through lanes in each direction (6 total lanes); Sycamore Ave will have a dedicated left turn lane, a combined through / right turn lane onto South Veterans Parkway, and a combined a through lane in each direction (5 total lanes); Louise Ave, Minnesota Ave, Southeastern Ave, and 57th St will have two dedicated left turn lanes and a dedicated right turn lane onto South Veterans Parkway as well as two through lanes in each direction (7 total lanes).

Tallgrass Avenue (08DA)

A 300' buffer was drawn around the proposed improvements at Tallgrass Avenue to establish the noise study area to evaluate. No sensitive receptors with frequent exterior outdoor activity were identified within the noise study area (Figure 1).

Figure 1 – Tallgrass Avenue Noise Study Area



Louise Avenue (08DC)

A 300' buffer was drawn around the proposed improvements at Louise Avenue to establish the noise study area to evaluate. Six sensitive receptors with frequent exterior outdoor activity were identified within the noise study area (Figure 2).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the Louise Avenue Noise Study Area (Table 1)

Figure 2 – Louise Avenue Noise Study Area

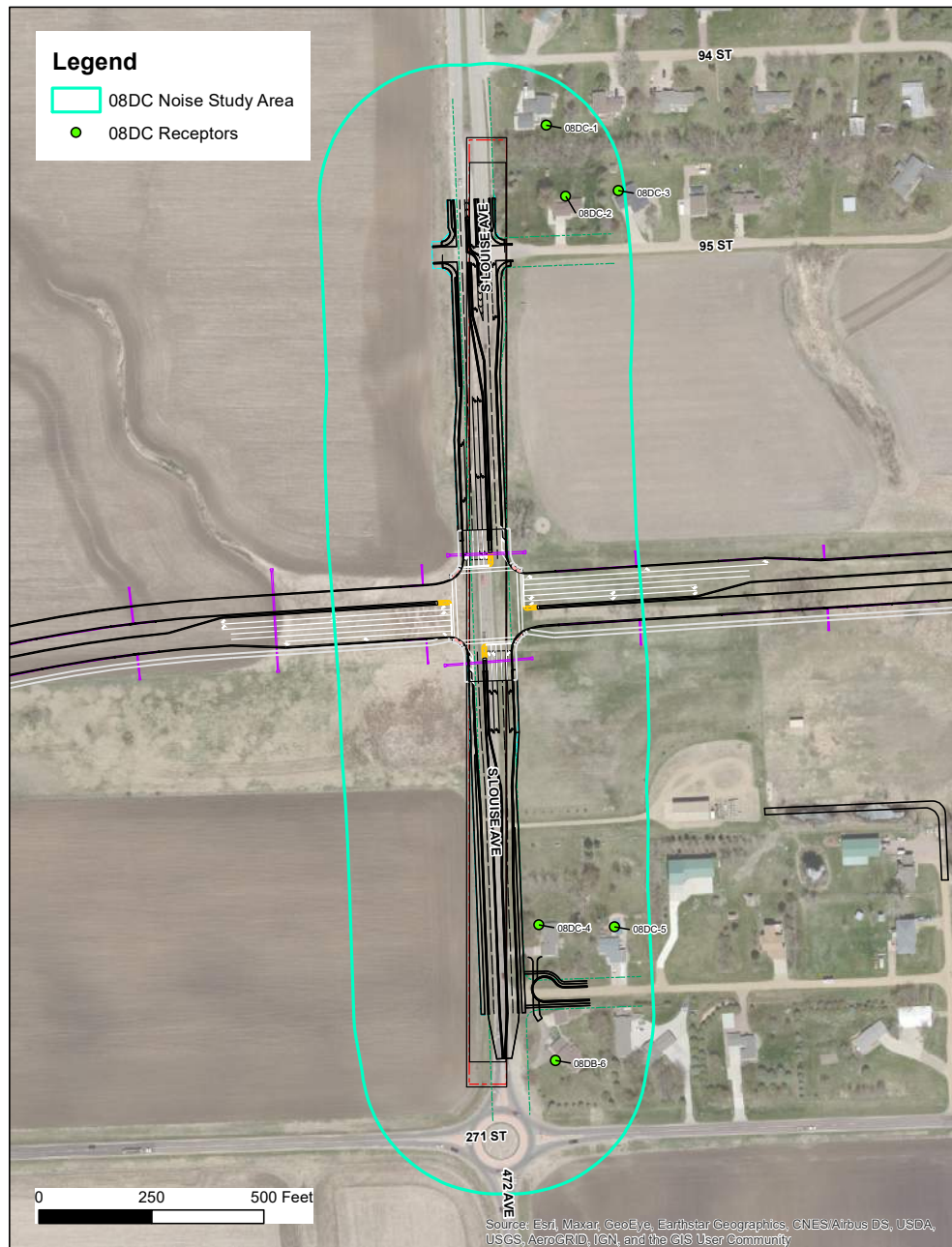


Table 1. Louise Avenue Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L _{eq} (dBA)	Proposed Action (2050) L _{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DC-1	B	66	1	61.6	61.6	0.0	No
08DC-2	B	66	1	61.6	61.6	0.0	No
08DC-3	B	66	1	61.6	61.6	0.0	No
08DC-4	B	66	1	61.6	64.5	2.9	No
08DC-5	B	66	1	61.6	61.6	0.0	No
08DC-6	B	66	1	61.6	62.8	1.2	No

Western Avenue (08DD)

A 300' buffer was drawn around the proposed improvements at Western Avenue to establish the noise study area to evaluate. Seven sensitive receptors with frequent exterior outdoor activity were identified within the noise study area (Figure 3).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the Western Avenue Noise Study Area (Table 2)

Figure 3 – Western Avenue Noise Study Area

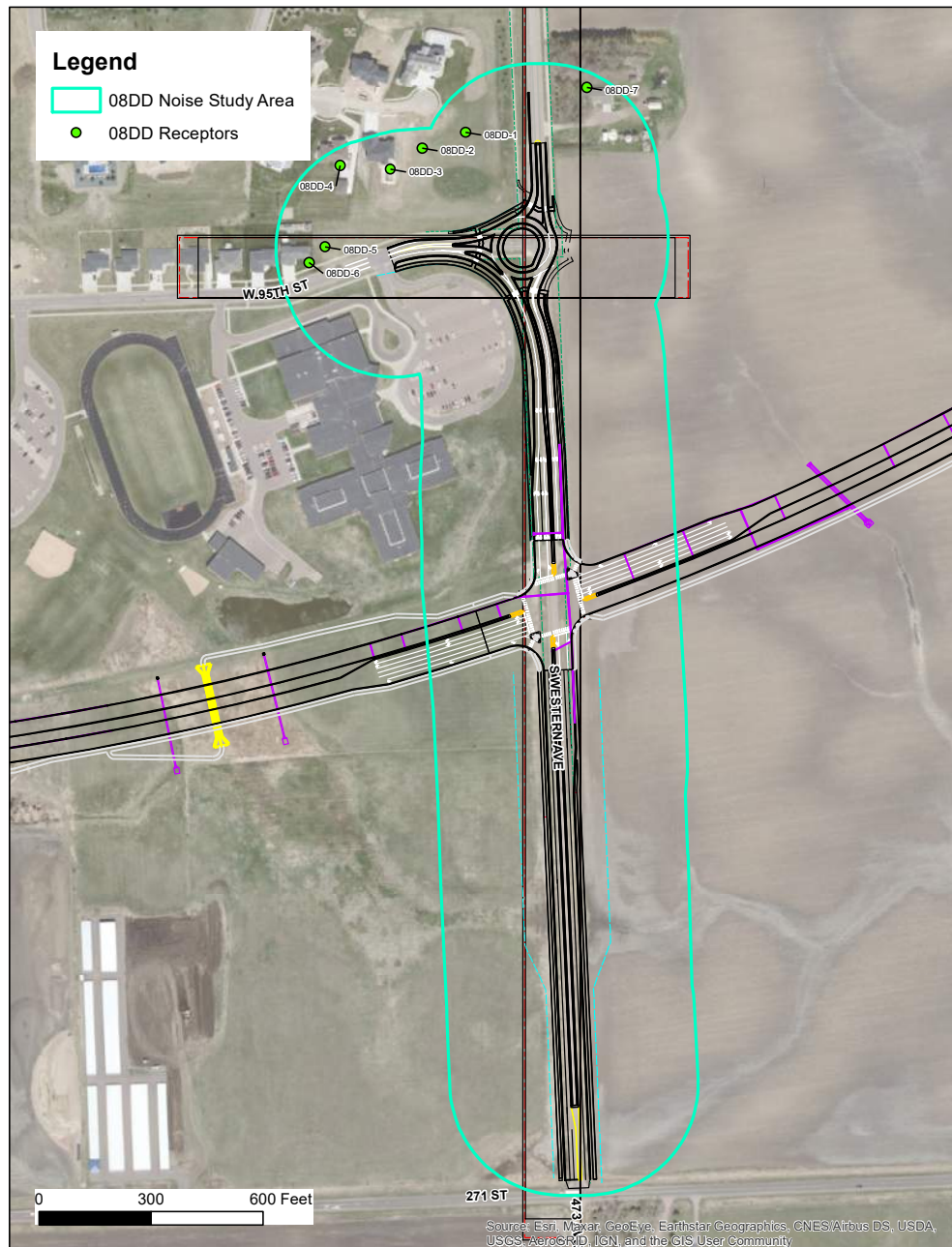


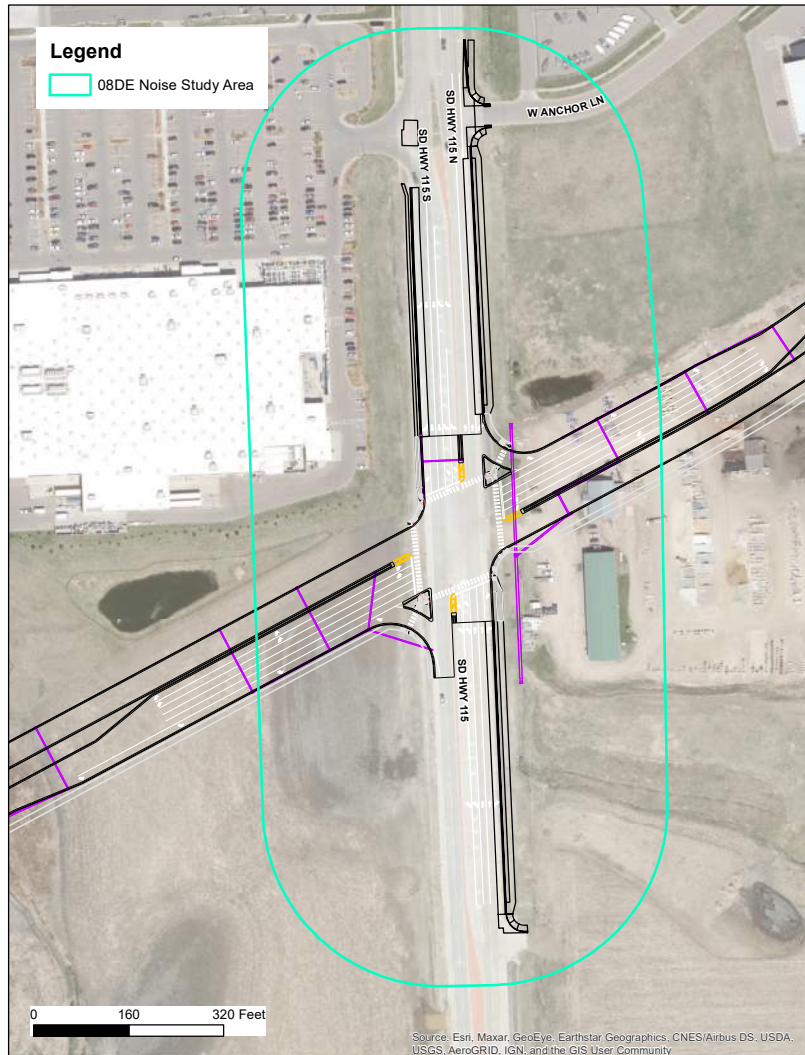
Table 2. Western Avenue Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L _{eq} (dBA)	Proposed Action (2050) L _{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DD-1	B	66	1	53.7	58.5	4.8	No
08DD-2	B	66	1	49.7	56.5	6.8	No
08DD-3	B	66	1	49.7	56.9	7.2	No
08DD-4	B	66	1	49.7	55.2	5.5	No
08DD-5	B	66	1	49.7	61.8	12.1	No
08DD-6	B	66	1	49.7	64.6	14.9	No
08DD-7	B	66	1	56.1	60.0	3.9	No

Minnesota Avenue (08DE)

A 300' buffer was drawn around the proposed improvements at Minnesota Avenue to establish the noise study area to evaluate. No sensitive receptors with frequent exterior outdoor activity were identified within the noise study area (Figure 4).

Figure 4 – Minnesota Avenue Noise Study Area



Cliff Avenue (08DF)

A 300' buffer was drawn around the proposed improvements at Cliff Avenue to establish the noise study area to evaluate. One sensitive receptor with frequent exterior outdoor activity was identified within the noise study area (Figure 5).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the Cliff Avenue Noise Study Area (Table 3)

Figure 5 – Cliff Avenue Noise Study Area

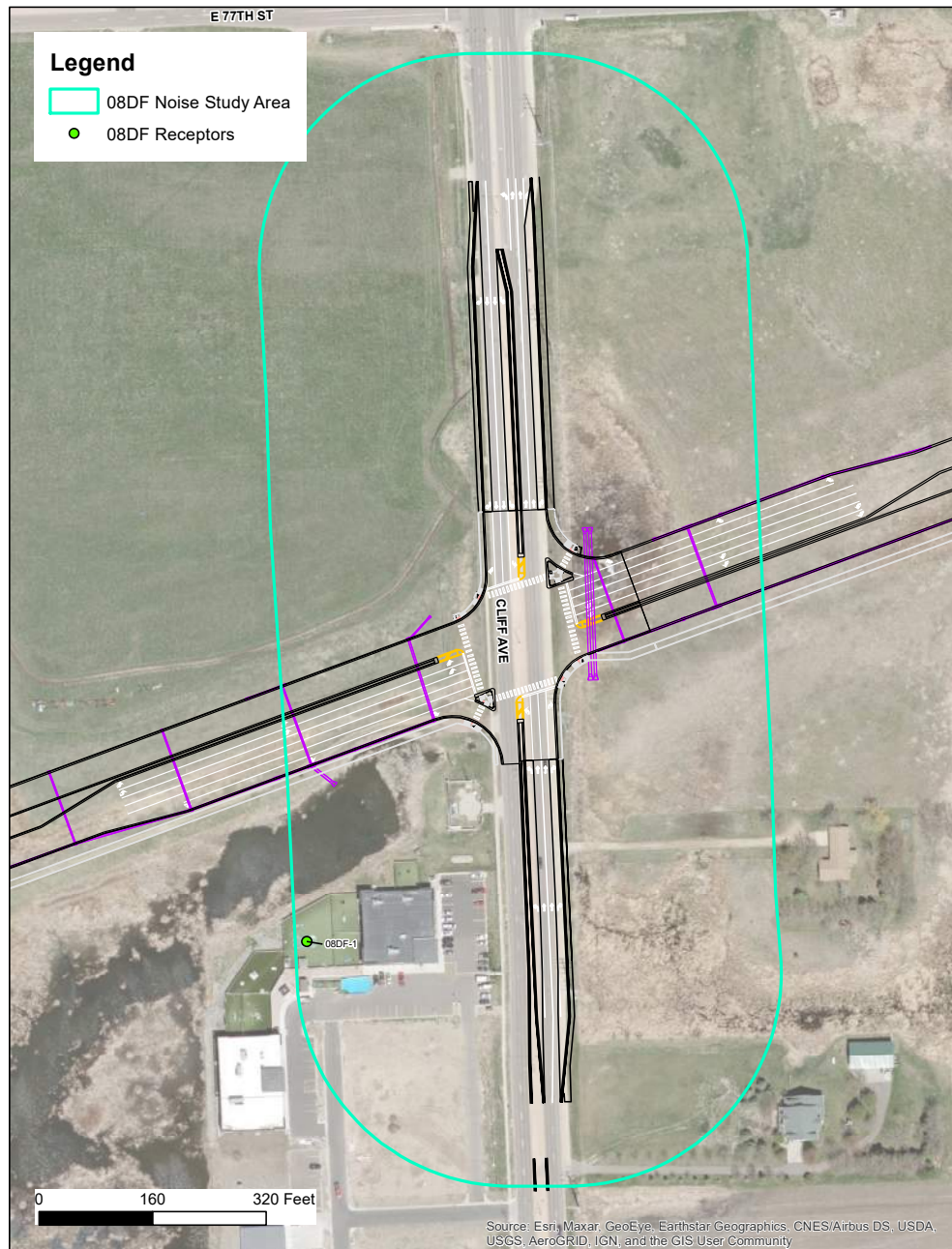


Table 3. Cliff Avenue Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DF-1	E	71	1	55.8	62.8	7.0	No

Southeastern Avenue (08DG)

A 300' buffer was drawn around the proposed improvements at Southeastern Avenue to establish the noise study area to evaluate. Three sensitive receptors with frequent exterior outdoor activity were identified within the noise study area (Figure 6).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the Southeastern Avenue Noise Study Area (Table 4)

Figure 6 – Southeastern Avenue Noise Study Area

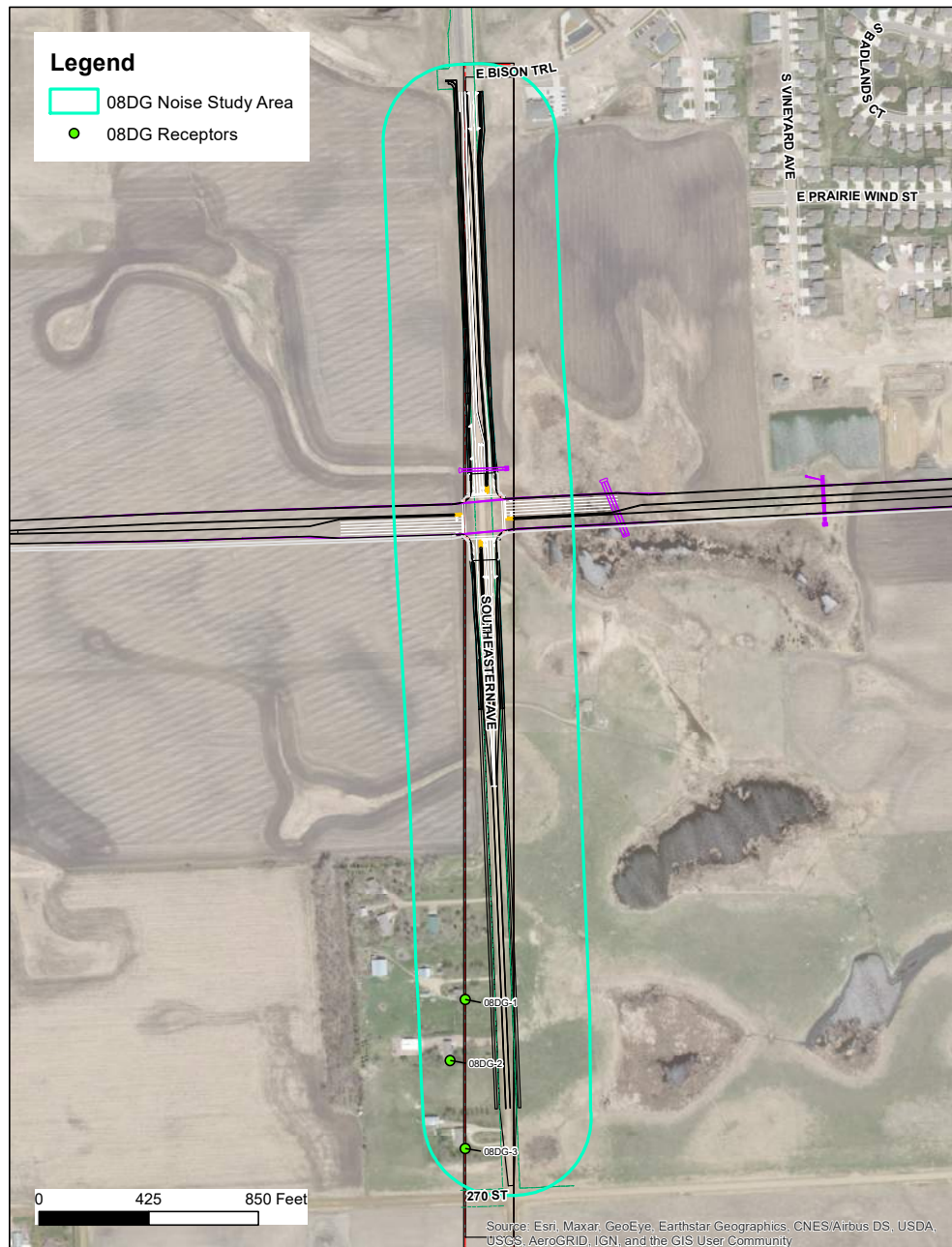


Table 4. Southeastern Avenue Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L _{eq} (dBA)	Proposed Action (2050) L _{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DG-1	B	66	1	54.0	59.7	5.7	No
08DG-2	B	66	1	54.0	56.9	2.9	No
08DG-3	B	66	1	54.0	58.0	4.0	No

Sycamore Avenue (08DH)

A 300' buffer was drawn around the proposed improvements at Sycamore Avenue to establish the noise study area to evaluate. One sensitive receptor with frequent exterior outdoor activity was identified within the noise study area (Figure 7).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the Sycamore Avenue Noise Study Area (Table 5)

Figure 7 – Sycamore Avenue Noise Study Area

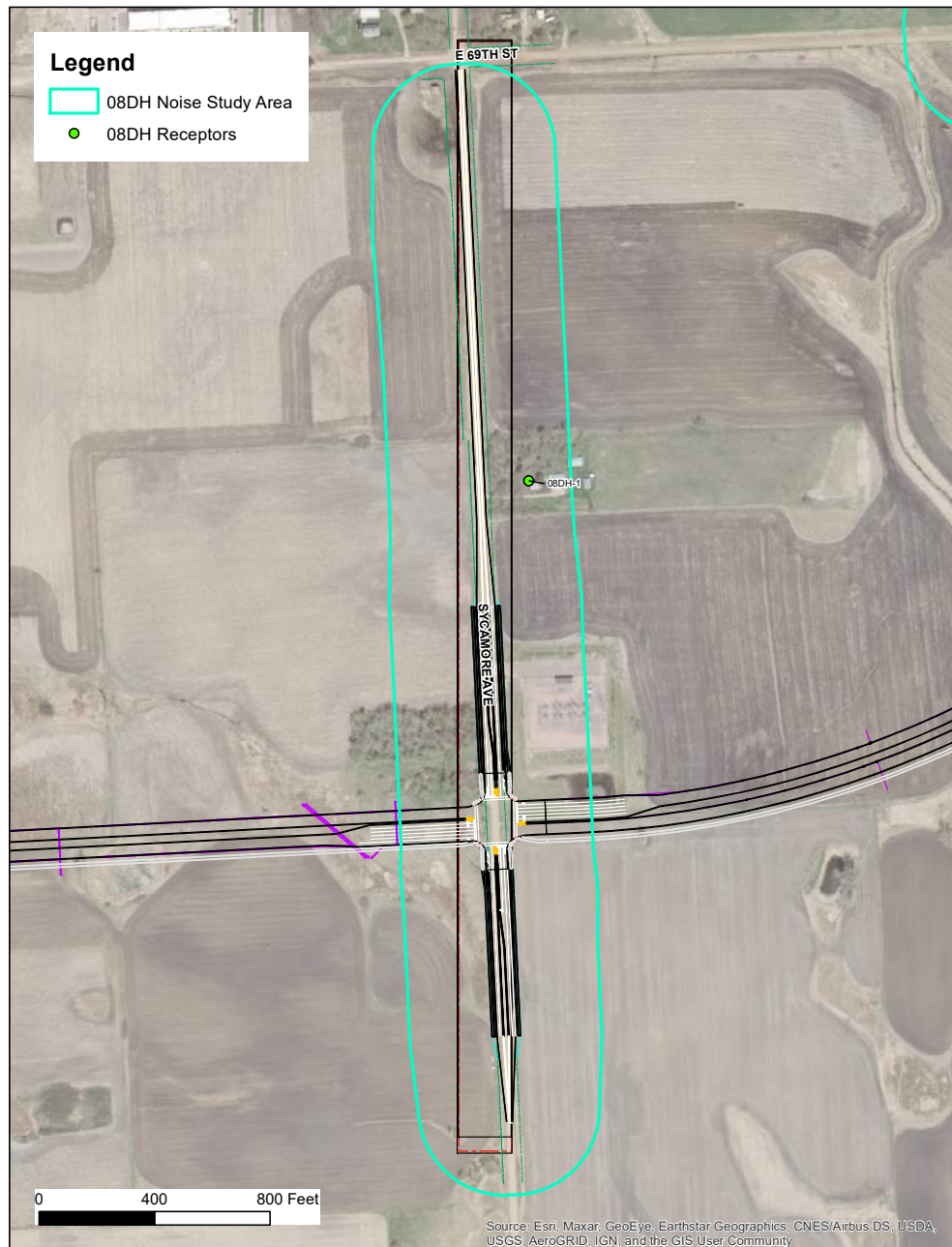


Table 5. Sycamore Avenue Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L_{eq} (dBA)	Proposed Action (2050) L_{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DH-1	B	66	1	52.4	57.3	4.9	No

69th Street (08DJ)

A 300' buffer was drawn around the proposed improvements at 69th Street to establish the noise study area to evaluate. One sensitive receptor with frequent exterior outdoor activity was identified within the noise study area (Figure 8).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the 69th Street Noise Study Area (Table 6)

Figure 8 – 69th Street Noise Study Area

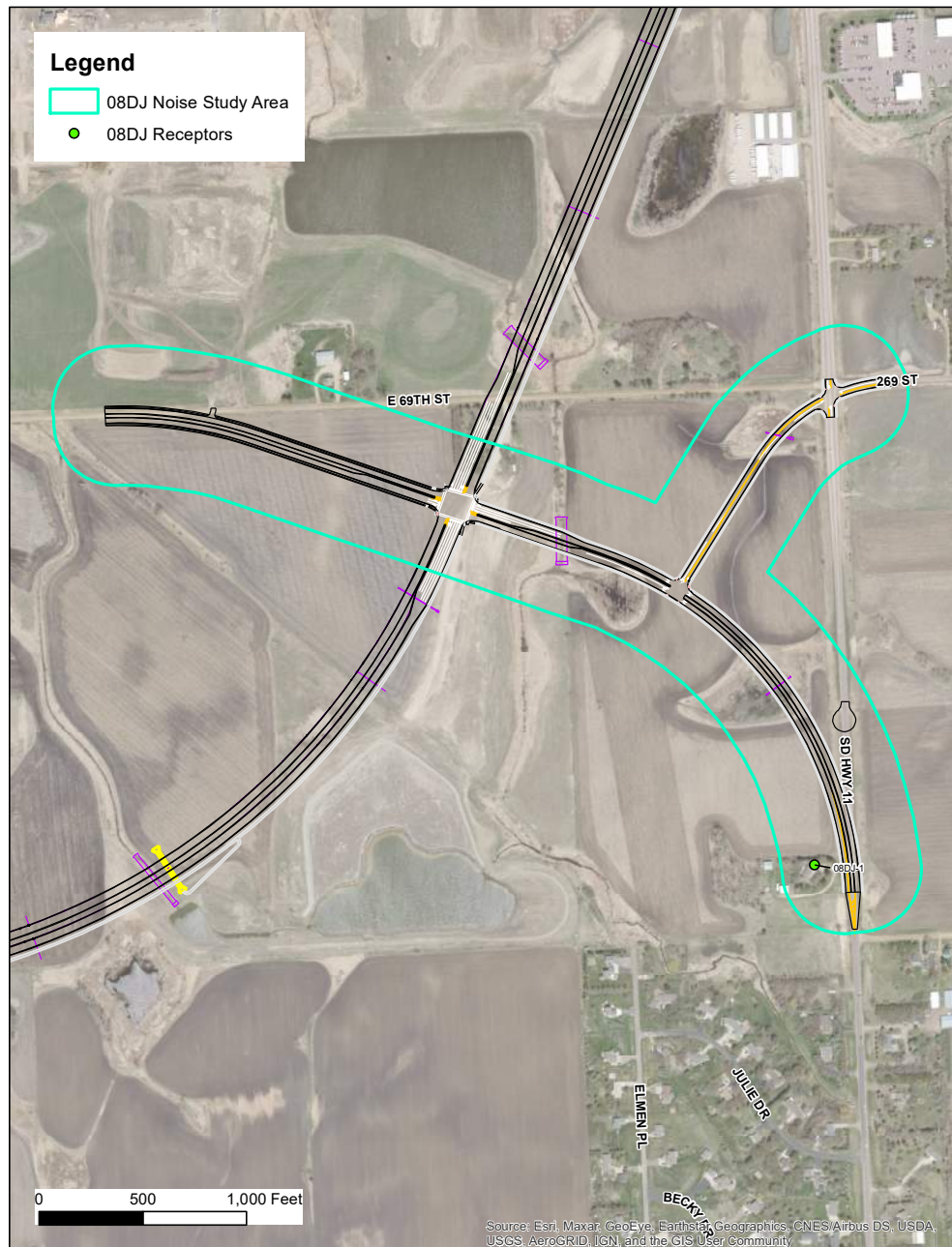


Table 6. 69th Street Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L _{eq} (dBA)	Proposed Action (2050) L _{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DJ-1	B	66	1	59.5	60.8	1.3	No

57th Street (08DK)

A 300' buffer was drawn around the proposed improvements at 57th Street to establish the noise study area to evaluate. One sensitive receptor with frequent exterior outdoor activity was identified within the noise study area (Figure 9).

Similar noise analysis methods were followed as explained in Section 4.0 of the South Veterans Parkway Noise Study Technical Report. Existing and future noise levels were modeled, and impacts were not predicted at any receptors present in the 57th Street Noise Study Area (Table 7)

Figure 9 – 57th Street Noise Study Area

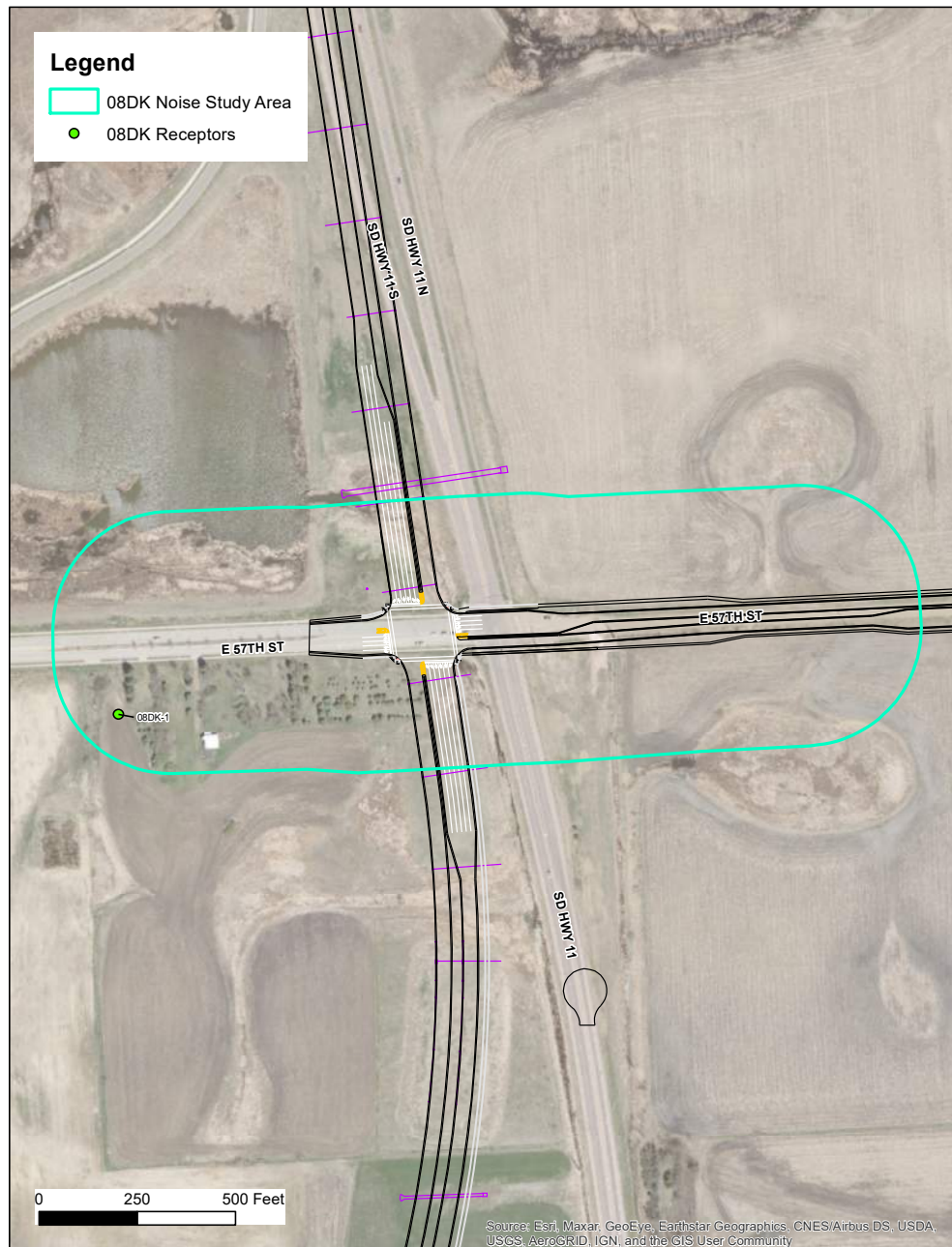


Table 7. 57th Street Noise Study Area Modeled Noise Levels

Receiver ID	Activity Category	SDDOT NAC (dBA)	Number of Receptors Represented by Receiver	Existing Condition L _{eq} (dBA)	Proposed Action (2050) L _{eq} (dBA)	Proposed Action Change From Existing (dB)	Proposed Action Causes Impact? (Yes or No)
08DK-1	B	66	1	57.0	61.0	4.0	No

Traffic Data

08DC EXISTING													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
EB 271st Street (W of 472nd) out	45	138	165	92.0%	2.0%	5.0%	0.0%	1.0%	152	3	8	0	2
EB 271st Street (W of 472nd) in	45	138	165	92.0%	2.0%	5.0%	0.0%	1.0%	152	3	8	0	2
EB 271st Street (W of 472nd)	55	275	330	92.0%	2.0%	5.0%	0.0%	1.0%	304	7	17	0	3
WB 271st Street (W of 472nd)	55	440	195	92.0%	2.0%	5.0%	0.0%	1.0%	405	9	22	0	4
WB 271st Street (W of 472nd) out	45	220	98	92.0%	2.0%	5.0%	0.0%	1.0%	202	4	11	0	2
WB 271st Street (W of 472nd) in	45	220	98	92.0%	2.0%	5.0%	0.0%	1.0%	202	4	11	0	2
EB 271st Street (E of 472nd)	55	255	280	92.0%	2.0%	5.0%	0.0%	1.0%	258	6	14	0	3
WB 271st Street (E of 472nd)	55	345	230	92.0%	2.0%	5.0%	0.0%	1.0%	317	7	17	0	3
NB 471st Street (S of 271st)	45	17	17	92.0%	2.0%	5.0%	0.0%	1.0%	16	0	1	0	0
SB 471st Street (S of 271st)	45	26	10	92.0%	2.0%	5.0%	0.0%	1.0%	24	1	1	0	0
NB 471st Street (N of 271st)	45	88	39	92.0%	2.0%	5.0%	0.0%	1.0%	81	2	4	0	1
SB 471st Street (N of 271st)	45	56	61	92.0%	2.0%	5.0%	0.0%	1.0%	56	1	3	0	1
NB 472nd Street (S of 271st)	40	225	270	92.0%	2.0%	5.0%	0.0%	1.0%	248	5	14	0	3
SB 472nd Street (S of 271st)	40	165	190	92.0%	2.0%	5.0%	0.0%	1.0%	175	4	10	0	2
NB 472nd Street (N of 271st)	40	290	230	92.0%	2.0%	5.0%	0.0%	1.0%	267	6	15	0	3
SB 472nd Street (N of 271st)	40	305	325	92.0%	2.0%	5.0%	0.0%	1.0%	299	7	16	0	3
NB 472nd Street (N of 271st)out	40	145	115	92.0%	2.0%	5.0%	0.0%	1.0%	133	3	7	0	1
NB 472nd Street (N of 271st)in	40	145	115	92.0%	2.0%	5.0%	0.0%	1.0%	133	3	7	0	1
SB 472nd Street (N of 271st)out	40	153	163	92.0%	2.0%	5.0%	0.0%	1.0%	150	3	8	0	2
SB 472nd Street (N of 271st)in	40	153	163	92.0%	2.0%	5.0%	0.0%	1.0%	150	3	8	0	2

08DC BUILD													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
NB 472nd Street (271st to Veterans)	40	540	395	92.0%	2.0%	5.0%	0.0%	1.0%	497	11	27	0	5
NB 472nd Street (271st to Veterans)out	40	270	198	92.0%	2.0%	5.0%	0.0%	1.0%	248	5	14	0	3
NB 472nd Street (271st to Veterans)in	40	270	198	92.0%	2.0%	5.0%	0.0%	1.0%	248	5	14	0	3
NB 472nd Street (N of Veterans)out	40	513	443	92.0%	2.0%	5.0%	0.0%	1.0%	472	10	26	0	5
NB 472nd Street (N of Veterans)in	40	513	443	92.0%	2.0%	5.0%	0.0%	1.0%	472	10	26	0	5
SB 472nd Street (N of Veterans)out	40	450	555	92.0%	2.0%	5.0%	0.0%	1.0%	511	11	28	0	6
SB 472nd Street (N of Veterans)in	40	450	555	92.0%	2.0%	5.0%	0.0%	1.0%	511	11	28	0	6
SB 472nd Street (271st to Veterans)out	40	230	300	92.0%	2.0%	5.0%	0.0%	1.0%	276	6	15	0	3
SB 472nd Street (271st to Veterans)in	40	230	300	92.0%	2.0%	5.0%	0.0%	1.0%	276	6	15	0	3
SB 472nd Street (271st to Veterans)	40	460	600	92.0%	2.0%	5.0%	0.0%	1.0%	552	12	30	0	6

08DD EXISTING													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
EB 271st (W of WesternAve)	55	259	280	92.0%	2.0%	5.0%	0.0%	1.0%	258	6	14	0	3
WB 271st (W of WesternAve)	55	340	231	92.0%	2.0%	5.0%	0.0%	1.0%	313	7	17	0	3
EB 271st (E of WesternAve)	55	294	316	92.0%	2.0%	5.0%	0.0%	1.0%	291	6	16	0	3
WB 271st (E of WesternAve)	55	360	226	92.0%	2.0%	5.0%	0.0%	1.0%	331	7	18	0	4
NB WesternAve (S of 95th Street)	35	225	192	92.0%	2.0%	5.0%	0.0%	1.0%	207	5	11	0	2
SB WesternAve (S of 95th Street)	35	200	155	92.0%	2.0%	5.0%	0.0%	1.0%	184	4	10	0	2
NB WesternAve (N of 95th Street)	35	370	268	92.0%	2.0%	5.0%	0.0%	1.0%	340	7	19	0	4
SB WesternAve (N of 95th Street)	35	344	345	92.0%	2.0%	5.0%	0.0%	1.0%	317	7	17	0	3

08DD BUILD													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
NB Western (271st to Veterans)out	35	270	235	92.0%	2.0%	5.0%	0.0%	1.0%	248	5	14	0	3
NB Western (271st to Veterans)in	35	270	235	92.0%	2.0%	5.0%	0.0%	1.0%	248	5	14	0	3
NB Western (Veterans to 95th)out	35	275	210	92.0%	2.0%	5.0%	0.0%	1.0%	253	6	14	0	3
NB Western (Veterans to 95th)in	35	275	210	92.0%	2.0%	5.0%	0.0%	1.0%	253	6	14	0	3
NB Western (N of 95th)	35	595	405	92.0%	2.0%	5.0%	0.0%	1.0%	547	12	30	0	6
SB Western (N of 95th)	35	520	590	92.0%	2.0%	5.0%	0.0%	1.0%	543	12	30	0	6
SB Western (Veterans to 95th)out	35	230	278	92.0%	2.0%	5.0%	0.0%	1.0%	255	6	14	0	3
SB Western (Veterans to 95th)in	35	230	278	92.0%	2.0%	5.0%	0.0%	1.0%	255	6	14	0	3
SB Western (271st to Veterans)out	35	223	280	92.0%	2.0%	5.0%	0.0%	1.0%	258	6	14	0	3
SB Western (271st to Veterans)in	35	223	280	92.0%	2.0%	5.0%	0.0%	1.0%	258	6	14	0	3
EB 95th Street	35	380	170	92.0%	2.0%	5.0%	0.0%	1.0%	350	8	19	0	4
WB 95th Street	35	327	200	92.0%	2.0%	5.0%	0.0%	1.0%	301	7	16	0	3

08DF EXISTING													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
NB Cliff Ave out	40	305	241	92.0%	2.0%	5.0%	0.0%	1.0%	280	6	15	0	3
NB Cliff Ave in	40	305	241	92.0%	2.0%	5.0%	0.0%	1.0%	280	6	15	0	3
SB Cliff Ave out	40	200	303	92.0%	2.0%	5.0%	0.0%	1.0%	279	6	15	0	3
SB Cliff Ave in	40	200	303	92.0%	2.0%	5.0%	0.0%	1.0%	279	6	15	0	3

08DF BUILD													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
NB Cliff Ave out	40	593	523	92.0%	2.0%	5.0%	0.0%	1.0%	545	12	30	0	6
NB Cliff Ave in	40	593	523	92.0%	2.0%	5.0%	0.0%	1.0%	545	12	30	0	6
SB Cliff Ave out	40	495	513	92.0%	2.0%	5.0%	0.0%	1.0%	472	10	26	0	5
SB Cliff Ave in	40	495	513	92.0%	2.0%	5.0%	0.0%	1.0%	472	10	26	0	5

08DG EXISTING													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
NB Southeastern Avenue	35	101	83	92.0%	2.0%	5.0%	0.0%	1.0%	93	2	5	0	1
SB Southeastern Avenue	35	48	96	92.0%	2.0%	5.0%	0.0%	1.0%	88	2	5	0	1

08DG BUILD													
ROADWAY	Speed Limit (mph)	AM PHV	PM PHV	AUTOS	MT	HT	BUSES	MC	AUTOS	MT	HT	BUSES	MC
NB Southeastern (N of Veterans)out	35	533	543	92.0%	2.0%	5.0%	0.0%	1.0%	499	11	27	0	5
NB Southeastern (N of Veterans)in	35	533	543	92.0%	2.0%	5.0%	0.0%	1.0%	499	11	27	0	5
SB Southeastern (N of Veterans)out	35	513	505	92.0%	2.0%	5.0%	0.0%	1.0%	472	10	26	0	5
SB Southeastern (N of Veterans)in	35	513	505	92.0%	2.0%	5.0%	0.0%	1.0%	472	10	26	0	5
NB Southeastern (S of Veterans)out	35	435	308	92.0%	2.0%	5.0%	0.0%	1.0%	400	9	22	0	4
NB Southeastern (S of Veterans)in	35	435	308	92.0%	2.0%	5.0%	0.0%	1.0%	400	9	22	0	4
SB Southeastern (S of Veterans)out	35	285	378	92.0%	2.0%	5.0%	0.0%	1.0%	347	8	19	0	4
SB Southeastern (S of Veterans)in	35	285	378	92.0%	2.0%	5.0%	0.0%	1.0%	347	8	19	0	4